The argument structure of Turkish verbal reflexives*

Abstract

This paper investigates the syntax of Turkish verbal reflexives (TVRs). We leverage a wide range of diagnostic possibilities made available by the details of Turkish syntax to probe the fine details of the argument structure of TVRs, which turns out to show a set of properties not readily diagnosable in the verbal reflexives of many previously investigated languages. We first demonstrate that TVRs are syntactically intransitive and semantically unary predicates; the surface subject is the sole syntactic argument. Probing the properties of this sole argument, we observe that it behaves like an internal argument for various diagnostics, suggesting a VP-internal base position on a par with the surface subject of unaccusatives and passives. Interestingly, the sole argument also passes positional diagnostics targeting the presence of Spec,VoiceP, thus patterning with active transitives/unergatives and differently from passives. This mixed behavior of the surface subject suggests that it occupies two positions in the VoiceP: although generated low, it undergoes internal merge to Spec,VoiceP. We argue that a special kind of the external argument introducing Voice head, $\text{Voice}_{\text{REFLEXIVE}}$, derives the reflexive interpretation, effectively reflexivizing the Agent role through a process in which movement of the sole, basically internal argument is crucial. The results suggest that a *bona fide* syntactic process, movement, can be crucially implicated in deriving verbal reflexives; we discuss the implications of this analysis for the cross-linguistic patterning of verbal reflexives, and for theories of reflexivization more broadly.

1 Introduction

This paper is concerned with the way in which reflexivity emerges in the verbal domain, in the absence of an (obvious) pronominal source. Our focus is on Turkish verbal reflexives (TVRs), exemplified by (1). This example shows that verbs like *wash* can, under particular circumstances, take on a reflexive interpretation of the kind that can be otherwise expressed with the use of a reflexive pronoun (2).[1]

(1) Leyla soğuk su-yla yıka-**n**-dı-Ø.
Leyla.NOM cold water-with wash-NACT-PST-3SG
'Leyla washed with cold water.' OR 'Leyla was washed with cold water.'

*Glossing follows Leipzig conventions with these additions: ABIL = abilitative, ADJ = adjectivizer, ANAPH = anaphor, AOR = aorist, CM = compound marker, F.REFL = figure reflexive, G.REFL = ground reflexive, IMPERS = impersonal, NACT = nonactive, OBLG = obligation, OPT = optative, PLRC = pluractional, REDUP = reduplication. Acknowledgments to be added.

[1] It is common in many languages for naturally reflexive verbs taking a reflexive object to yield inferences that distinguish them from intransitive natural reflexives. For instance, English *John shaved himself* is readily interpreted to mean that John shaved some body part other than his face (cf. e.g. Lidz 1996, 26 for 'disembodiment' readings in Kannada verbal reflexives). Such inferences may obtain with certain Turkish verbs as well, but this is orthogonal to our main points below; whenever possible, we use Turkish verbs that do not readily yield such inferences.

(2) Leyla **kendin-i** soğuk su-yla yıka-dı-Ø.
Leyla.NOM self-ACC cold water-with wash-PST-3SG
'Leyla washed herself with cold water.'

In (2), the reflexive pronoun *kendi* 'self' is crucially implicated in deriving the reflexive interpretation. Here, *Leyla* can be shown to unambiguously originate as a deep subject, and to be interpreted as an agent of the washing event; by contrast, the reflexive pronoun is an internal argument, and is associated with the theme role. Because the reflexive pronoun is interpreted under identity with its antecedent, (2) receives a reflexive interpretation, denoting events where *Leyla* is both the agent and the theme of washing.

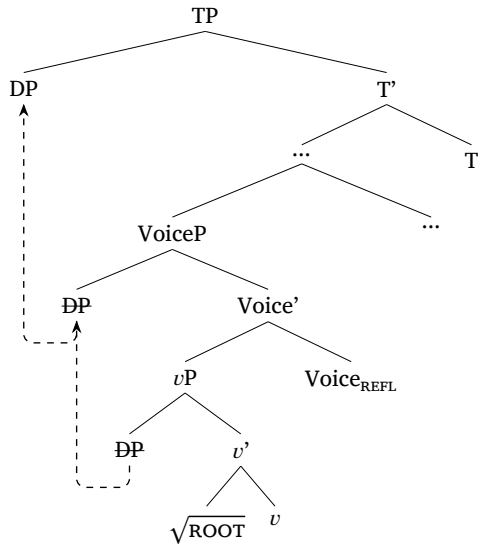
Unlike (2), (1) achieves a reflexive reading without an overt pronominal element; instead of a reflexive pronoun, we find a piece of voice morphology, here *-n*, that, in Turkish, is also found in passives, among other structures; and indeed, (1) also supports a passive reading, though as we show below, passives and reflexives have structures that are similar but distinct. We gloss this exponent as NACT here to draw attention to the syncretism; later, when our focus is on the reflexive interpretation proper, we shift to glossing the same exponent as REFL. In all cases we are able to independently ensure we are dealing with a reflexive and not a passive by applying the many tests below that tease apart the syntax of reflexives from that of passives. Morphologically *active* verb forms are never interpreted reflexively. For instance, omitting the exponent *-n-* from the verb of (1) would give an active form interpretable at most as a null object structure ('Leyla washed something salient in the context'), but never as a reflexive or a passive. Moreover, the verbal suffix and the pronominal reflexive are in complementary distribution.

Our starting contention in this paper is that TVRs instantiate a case of misalignment between the morphosyntax and thematic interpretation of argument structure: we first show that examples like (1) involve a single syntactic argument, here *Leyla*, but two thematic roles (agent and theme) which are effectively identified with each other. Our language of choice, Turkish, is of interest because it offers a surprisingly clear view of how this identification is effected in the syntax, by making available a cluster of phenomena that help pinpoint with unusual precision the placement of the surface subject of intransitive verbal reflexives. In particular, we can clearly discern both the original position of the surface subject, and any intermediate positions it may have occupied between this base position and its eventual destination as grammatical subject in Spec,TP. The conclusions that result are both novel for Turkish – whose verbal reflexives receive close attention here for the first time – and probative as to the theory of syntactic reflexivity more generally.

These diagnostics show that the surface subject is associated with two distinct positions inside VoiceP. It demonstrably originates low, on a par with the surface subject of passives and unaccusatives; but it also passes external argumenthood diagnostics, of the kind that cannot be attributed only to the agentive interpretation of reflexives or to grammatical subjects elsewhere. As such, though resembling passives in bearing a single argument that originates VP-internally, TVRs minimally differ from passives in having the single argument

occupy an intermediate landing site within VoiceP, as schematized in (3).

(3)



This precise view of the syntax of verbal reflexives allows us to probe how Voice is able to derive a reflexive interpretation from a structure with a single argument. We take it not to be an accident that we find movement between two positions, one canonically associated with the theme role, and one with the agent role; and that this type of movement is attested just with verbal reflexives, but not with other structures such as passives. We propose that the external argument introducer, Voice, is crucial in deriving a reflexive interpretation from a basic passive-like structure. Verbal reflexives are formed with a reflexivizing flavor of Voice, one that shares certain key ingredients with the Voice head of passives (cf. Ahn 2015; Paparounas 2023; McGinnis 2022; Labelle 2008; Oikonomou and Alexiadou 2022; Kallulli and Roberts 2025). Reflexive Voice contributes a free variable, one that comes to be bound through A-movement of the internal argument to the VoiceP-internal intermediate landing site. Together, the free variable on Voice and the displacement of the internal argument effectively reflexivize the agent role, yielding a reflexive interpretation.

Turkish thus sharpens our understanding of the range of pathways to reflexivity in syntax. Verbal reflexivity is understood, to put things maximally neutrally, as a dependency between two thematic roles (see e.g. Reuland 2018 for a recent survey). Turkish shows that this dependency is established on the basis of a single-argument structure by strictly syntactic means, namely, via movement. Our investigation thus supports movement as a possible route to syntactic reflexivity in natural language. The potential interest of our analysis lies as much in the precise mechanics of the derivation of reflexivity as much in the empirical finding that movement of the relevant type is an unavoidable reality in the case of TVRs. Though movement-based derivations of different kinds of reflexives have been envisaged variously in prior literature, Turkish furnishes an unusually clear empirical argument in favor of this type of derivation. In particular, the movement derivation finds clear precedents in two strands of work: analyses that posit movement between thematic positions as the

mechanism deriving construal phenomena more generally (e.g. Hornstein, 2001; Boeckx et al., 2008), and analyses of verbal reflexives more specifically that posit movement to grammatical subject to derive reflexive interpretations (e.g. Kastner, 2017; Spathas et al., 2015). Despite the parallels, our analysis differs in important respects. Neither strand of prior work provides empirical diagnostics for the movement step, which is instead motivated largely on conceptual grounds—either as the general mechanism for construal, or as the derivation of reflexive semantics. By contrast, we show empirically that movement is necessary for verbal reflexives specifically (because it occurs in verbal reflexives but not passives), and that the crucial movement step targets the edge of VoiceP rather than the grammatical subject position. This matters theoretically because we cannot extend the movement derivation to pronominal reflexives, given the divergent behaviors we document between pronominal and verbal reflexives. Crucially, under our analysis, movement enables the theme nominal to bind a free variable on Voice that saturates the agent role, rather than the same nominal directly saturating two roles, as the first strand of work above assumes.

Since our primary focus is on Turkish, our goal is to offer what we believe is the appropriate analysis of TVRs. But our discussion of Turkish also allows us to reframe various points, both analytical and empirical, from the broader literature on verbal reflexives; we pursue these developments in the second half of the paper.

On the analytical front, we contrast lexical and syntactic views of verbal reflexivization. Prominent instantiations of lexicalist analyses of verbal reflexives hold that reflexivization can be carried out either lexically or syntactically as a matter of parametric choice (Reinhart and Siloni, 2005). We first argue that, on any conception of the grammar, Turkish must be treated syntactically, and that it offers an unusually clear view of what it means, exactly, to build intransitive reflexives syntactically – a possibility admitted, but rarely specified, by work assuming a lexicon/syntax parameter. We then re-examine the lexicon/syntax parameter itself, showing that the diagnostics originally used to argue in its favor do not track each other intra- or cross-linguistically. In arguing against a lexicon/syntax parameter, we follow the spirit of recent work such as Marelj and Reuland (2016), though the details and conclusions differ substantially.

We then cast our Turkish findings in a cross-linguistic perspective, offering a set of focussed comparative points tracking what is the same and what is different between TVRs and oft-cited reflexivization strategies in other languages. A key question for theories of (verbal) reflexivity is to account for the range of cross-linguistic variation in this domain; see Marelj and Reuland (2016) for a prominent recent example, locating variation in the functional inventory of syntax (see also Kallulli and Roberts 2025). Our approach, making substantial use of Reflexive Voice, converges with this enterprise insofar as this functional head is a natural locus to associate with different kinds of verbal reflexivity. While we are not in a position to claim that every structure that has been labeled a verbal reflexive crosslinguistically is built using Reflexive Voice, we believe answers to the question of whether such a broad reduction is possible can only follow from detailed studies of individual

languages, of the kind we pursue here for Turkish.

A related terminological note is in order. We use the term *verbal reflexive* as a descriptive label, to refer to reflexive structures that do not involve pronominal anaphors; as far as we can tell, this usage is more-or-less standard with some variation (Reinhart and Siloni 2005 refer to *reflexive verbs*). As just mentioned, we consider an open question the extent to which different reflexivization 'strategies' derive from the same grammatical source, and thus do not wish to attach theoretical status to the term 'verbal reflexive'.

The paper is structured as follows. Section 2 provides essential background to our discussion, outlining the structural descriptions of TVRs we aim to decide between and the theoretical toolkit on which our analysis is based. In section 3 we demonstrate that TVRs are syntactically intransitive and semantically unary. Then, in section 4, we show that the single argument starts out low, as an internal argument. Section 5 puts forth a mechanism of reflexivization that derives the reflexive interpretation from a single-argument structure, making use of a variant of the Voice head, $\text{Voice}_{\text{REFL}}$. Section 6 then provides a range of diagnostics suggesting that there exists a movement dependency between the surface subject's low basic position and a separate, higher position inside VoiceP. Crucial at this juncture are a range of contrasts between verbal reflexives and passives: though both structures involve agentivity at the interpretive level, and though both involve a theme promoted to surface subject, they behave differently along various diagnostics we examine in this section, suggesting that the two are distinguished in the syntax, namely by means of movement to an intermediate position that takes place in reflexives, but not passives. Section 7 accordingly outlines the second component of the analysis, implementing this intermediate movement step. Section 8 provides empirical and theoretical comparisons, discussing crosslinguistic variation in the syntactic and semantic ingredients of verbal reflexives, and comparing our approach with different conceivable analyses. Section 9 summarizes and concludes the paper. The Online-only Appendix contains additional examples for most of the diagnostics used in the paper.

2 Background

2.1 On the range of analyses

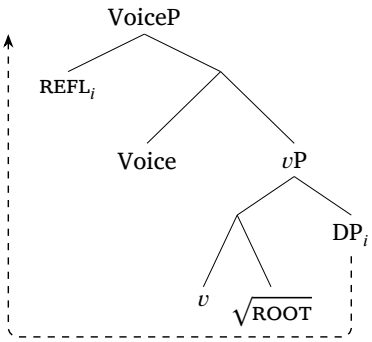
What is described as a reflexive verb could be syntactically intransitive or transitive, and its surface subject could originate as an external or an internal argument. These two binary choices define four basic structural descriptions for verbal reflexives; we take this coarse division as a starting point here, and consider finer distinctions between possible analyses as they arise. For now, and in the interest of keeping other factors constant, we will phrase our discussion as if the choice between the four starting structures is entirely independent of other details of particular analyses. In practice, particular theories of reflexivization impose boundary conditions on what constitutes an admissible analysis: in the context of a particular lexical theory,

for example, unaccusative verbal reflexives might be excluded *a priori* (e.g. Reinhart and Siloni, 2004). We reserve discussion of these theories for the second half of the paper.

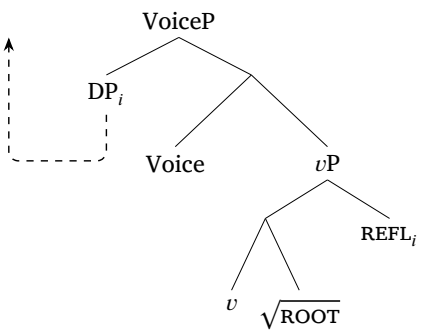
Consider the structure that is often referred to as the *unaccusative* analysis of reflexives, as often applied to Romance. The term 'unaccusative' sometimes evokes a single-argument structure, but what is standardly termed the unaccusative analysis of Romance reflexives posits a *two-argument* structure, one where the reflexivizing element (the clitic anaphor *se/si* in Romance) is merged in the external argument position, which we notate as Spec,VoiceP (e.g. Marantz 1984; Kayne 1988; Pesetsky 1995; McGinnis 2004; Embick 2004b; Sportiche 2005; see Burzio 1981, 426ff for a related perspective). This clitic is co-indexed with the deep object DP, which raises across the clitic anaphor to Spec,TP to bind it. Because the surface subject originates as a deep object, the structure is termed unaccusative; for reasons that will become clear, we will depart from this convention and refer to this analysis as a *transitive* one, to highlight the fact that, even though the surface subject is a deep object, there is also another argument in the structure.

The overall analysis is schematized in (4), where the element REFL would be identified with *se/si*. Clearly, there is no reason to rule out this type of analysis for Turkish verbal reflexives without further examination. It could be the case, for example, that, in the structure involving the relevant Turkish roots, the place of REFL is taken by either a null reflexive pronoun (cf. e.g., Baker 2022 on Shipibo), or the morphology which we gloss as reflexive/nonactive (cf. e.g. Baker et al., 1989).

(4) *Transitive Type A*



(5) *Transitive Type B*



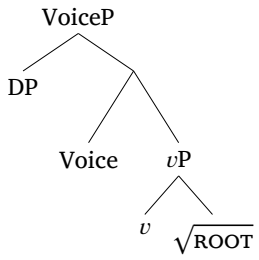
It is equally possible in principle to reverse the argument relations of Transitive Type A. Doing so would yield an analysis where the surface subject originates externally, and the other element (null anaphor or voice morphology) internally, as in (5). The result is thus a different type of transitive analysis; see e.g. Wood 2014, 2015 for this basic syntax applied to Icelandic figure reflexives.

In the next section, we show that the transitive analyses do not extend to Turkish, whose verbal reflexives pattern as intransitive and monadic for all conceivable syntactic and interpretive diagnostics.

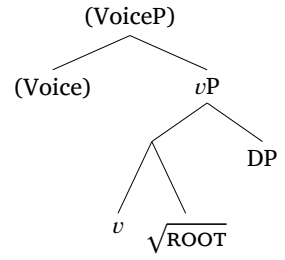
Once the transitive analyses have been eliminated, we will turn to the remaining two analytical possibilities –the intransitive analyses in (6) and (7). The unergative analysis would place the sole argument in the external

argument position, as has been proposed for various languages (see e.g., Chierchia 2004; Bruening 2006; Reinhart and Siloni 2004, 2005; Labelle 2008; Jo 2019); the unaccusative analysis places the argument in the internal argument position. This type of analysis has precedents for languages with Voice systems similar in many respects to Turkish, e.g. Hebrew (Kastner 2017) and Greek (e.g. Spathas et al. 2015; Oikonomou and Alexiadou 2022; Alexiadou and Schäfer 2013; Paparounas 2023).

(6) *Unergative*



(7) *Unaccusative*



Since these structures do not employ two distinct syntactic arguments, they cannot resort to syntactic binding of an anaphor to derive a reflexive interpretation. Some of the literature proceeds to posit that reflexivization takes place presyntactically by means of lexical rules, with the already-reflexive verb entering one of the structures in (6)-(7) (see e.g. Reinhart and Siloni 2004, 2005; Bouchard 1982; Wehrli 1986; Grimshaw 1982). An alternative, which we will eventually adopt and make precise here, would postulate that reflexivization is effected by a functional head that is implicated more generally in the introduction of thematic relations; that is, intransitive structures such as (6) and (7) can yield a reflexive interpretation effected by a given head (in particular, Voice; e.g., Labelle 2008; McGinnis 2022; Raghotham 2022; Oikonomou and Alexiadou 2022; Paparounas 2023; Kallulli and Roberts 2025; cp. Ahn 2015; Kratzer 2009; Paparounas and Akkuş 2024 for the possible role of Voice in the binding of *pronominal* reflexives).

It should be noted that diagnosing the argument structure of verbal reflexives has proven to be a challenge cross-linguistically. Many languages lack reliable positional diagnostics for the arguments of intransitive verbs that can be straightforwardly extended to reflexive verbs, leaving researchers with limited means to diagnose the syntax of their surface subject; see Kastner (2017) on Hebrew, or a long literature on Greek (e.g., Spathas et al. 2015; Alexiadou and Schäfer 2013; Embick 1998, 2004b; Rivero 1992; see Paparounas 2023 for recent discussion). Moreover, disentangling the syntactic properties of reflexive verbs from thematic considerations is not trivial. Many tests distinguishing unergatives from unaccusatives in different languages test whether the surface subject is interpreted as an agent or not; but for verbal reflexives, whose surface subjects by definition bear some thematic role alongside that of agent, such thematically oriented tests are not necessarily probative. Concretely, it seems possible in principle that a DP originating internally, such as that in (7), can eventually come to be associated with the agent role. If this possibility is admitted, deploying an agentivity-sensitive interpretive diagnostic will do little by way of helping us distinguish between analyses like those in (6) and

(7). If this possibility is denied by assumption, then this assumption itself must be justified (see Embick 2004b on Reinhart and Siloni 2004 as well as footnote 22).

The general diagnostic complexities we have just identified apply also to Turkish. TVRs have been the focus of only a small number of studies; the most in-depth study of TVRs, Key (2023, 2024), focusses on other aspects of their syntax and leaves the provenance of the surface subject largely open. Many of the generalizations we draw are thus novel, and we are careful to adduce numerous convergent diagnostics for each step of the derivation we propose. In the interest of space, we provide a small number of examples for each diagnostic, and give additional examples in the Online-only Appendix.

Before we proceed, a general note is in order concerning the apparent lexical restrictedness of verbal reflexivization. TVRs are typically described as being formed only from a relatively small set of Roots (see e.g. Kornfilt 1997:140). This description matches what is arguably the received view on so-called 'natural' reflexives in other languages, often taken to be formed only from a few Roots identifiable as encyclopedically self-oriented (Kemmer, 1993); grooming predicates, such as *shave* in (1), are typical examples. Our investigation has revealed that, for Turkish at least, the class of verbal reflexive-forming Roots is neither small nor clearly lexicosemantically constrained, e.g., by encyclopedic self-orientedness, even on a generous conception of this notion (see also Arslan 2022). Given such facts, any approach will have to list, one way or another, the class of predicates that can appear as verbal reflexives, and the present theory bears no special burden in this respect. On our analysis, there must be selectional restrictions regulating what vPs the $\text{Voice}_{\text{REFL}}$ head can combine with. Such restrictions between Roots and the functional environments they can combine with are far from unheard of in other subdomains of argument structure (for Voice specifically, see e.g. Schäfer 2008 on (un)marked unaccusatives, Alexiadou and Doron 2012 for some passives).[2]

2.2 The toolkit

The toolkit we use to develop our analysis makes use of ingredients familiar from recent literature on argument structure; they are all independently argued for, and the present analysis, if successful, reinforces their status. We outline these ingredients here to anticipate the development of our analysis in sections 5-7, reserving detailed comparison with different analytical assumptions for section 8.

Firstly, we take all word formation to begin with the syntax, following Halle and Marantz (1993) and much subsequent work in Distributed Morphology (DM). This conception of the grammar precludes any presyntactic combination of morphemes; the syntax is responsible for much of the combinatorics involved in the con-

[2]The degree of 'productivity' of reflexivization is sometimes used as a diagnostic for the status of reflexivization as a syntactic or a lexical operation (e.g., Reinhart and Siloni 2005). Putting aside broader concerns with 'productivity' in the relevant sense as a basis for locating processes in the grammar's architecture (see e.g. Anderson 1992, 78 and Alexiadou et al. 2006, 2015), we note that 'productivity' does not track other putative diagnostics of the 'lexicalness' of reflexivization, in Turkish or elsewhere; see section 8.1 for discussion.
See also Atlamaz and Öztürk 2023, with whom we agree that the issue of relative restrictedness/productivity is not necessarily probative as to where in the grammar to locate the formation of verbal reciprocals in Turkish.

struction of complex expressions, and may be followed by postsyntactic operations that themselves crucially operate on representations derived from the hierarchical structure assembled by the syntax. We highlight the role that syntactic word formation plays in our analysis to anticipate the comparison with different kinds of architectural premises in section 8.1. Significant advancements in our understanding of the properties of verbal reflexivity have been made by work assuming lexical rules instead of, or in addition to, syntactic word formation (see e.g. Reinhart and Siloni, 2004, 2005; Marelj and Reuland, 2016). This line of work typically assumes a modular divide between lexical and syntactic processes in the tradition of Wasow (1977), and is thus distinguished from accounts of verbal reflexivity focussed on the role of syntax only (e.g. Embick, 2004b; Kastner, 2017; Wood, 2014; Broekhuis, 2021; Paparounas, 2023). Our contention in this paper is that verbal reflexivity can be insightfully assigned a syntactic treatment, much like other phenomena taken in earlier work to be the outcome of lexical rules (e.g. different kinds of nominalization, see a.m.o. Chomsky 1970; Alexiadou 2001; Marantz 1997; Embick and Marantz 2008; Wood 2023).

Secondly, we assume that the introduction of external arguments is *delexicalized*, that is, carried out by a functional projection separate from the lexical layer of the verb phrase (see e.g. Bowers, 1993; Kratzer, 1996; Harley, 1995; Chomsky, 1995; Hale and Keyser, 1993, 2002; Pylkkänen, 2002; Embick, 1997). We label the external argument introducer *Voice*, following recent work distinguishing the introduction of external arguments from causation (e.g. Legate, 2014; Harley, 2013; Alexiadou et al., 2006; Schäfer, 2008; Pylkkänen, 2008). Voice is one of a series of argument introducers, including Applicative heads (e.g. Pylkkänen 2008).

The combination of these two ingredients – a DM-style architecture, and a delexicalized syntax for the introduction of at least some arguments – is more-or-less standard in much current work on argument structure. We accordingly do not rehash here the many arguments adduced for each of these positions in the literature. But because verbal reflexivity is a phenomenon on which progress has been made on the basis of substantially different assumptions, we elaborate in section 8.1 on why Turkish seems to demand a syntactic treatment; one reason is that Turkish verbal reflexives seem to crucially involve a *bona fide* syntactic process, movement.

Argument-introducing heads bear formal features that trigger particular syntactic operations; such features are found in much work in the Minimalist tradition. In particular, Voice heads vary as to whether they trigger External Merge of a nominal (into a 'specifier' position) or not (see e.g. Schäfer, 2008; Alexiadou et al., 2015; Legate, 2014); we take this factor to be governed by a feature [•±D], whose positive value forces External Merge of a DP, and whose negative value prohibits it (see Müller 2010, a.o., for the bullet notation). Voice heads may also require or prohibit Internal Merge of a DP to their specifier; we implement this by means of a distinct feature [◁±D], noting that the use of distinct features for External and Internal Merge has precedents in recent literature; see esp. Hewett (2023, 45-48), from where the ◁ diacritic is adopted, with the same idea having been argued for elsewhere (see Hopperdietzel 2024; Deal 2019; Lee 2024, as well as Müller 2010; Abels

2012; Georgi 2017).

Argument-introducing heads are also responsible for the introduction of thematic roles. We take thematic roles to be functions from events to individuals in a neo-Davidsonian event semantics (see e.g. Parsons, 1990). Particular heads introduce particular functions: crucially for the analysis below, Voice introduces the function Agent. Crucially, thematic roles come to exist only at LF, as part of the denotation of functional heads (see e.g. Myler 2016; Wood 2015; Bruening 2013; Legate 2014; see also Reinhart 2016, 3); we thus depart from a conception of thematic roles as entities in the syntax (or the lexicon-syntax mapping, as in Chomsky 1981). As a result, the theory we assume in this paper has no thematic positions in the strict sense. Since a given functional head will very often introduce both some thematic function at LF and, in the syntax, a DP specifier contributing an entity that comes to saturate that function, we fully expect there to be correlations between syntactic position and thematic interpretation. But if the introduction of a DP is dissociated from the introduction of a thematic role, we also deviations, of two kinds: either a thematic role is introduced but not saturated by anything at LF, being instead existentially closed (see Bruening 2013; Legate 2014; Legate et al. 2020 for passives); or a role is introduced by a functional head, but comes to be saturated by a nominal introduced by a distinct higher functional head (yielding *delayed saturation* effects; Myler 2016; Wood 2014; Kastner 2017; Wood and Marantz 2017). In principle, nothing prohibits a denotation of a functional head to fail to introduce a thematic function; indeed, so-called *expletive* (identity-function-introducing) *Voice* heads have been fruitfully exploited in the literature (see esp. Schäfer 2008, 2025; Alexiadou et al. 2015; Wood 2015).

3 Are Turkish reflexive verbs 'intransitive' or not?

We begin by diagnosing the transitivity of TVRs, contrasting them with their *bona fide* transitive counterparts, i.e. transitive verbs taking a pronominal anaphoric argument. A range of diagnostics characterize the former as syntactically intransitive and semantically monadic, and the latter as syntactically transitive and semantically dyadic. In particular, transitive verbs reflexivized by means of a reflexive anaphor involve two syntactic arguments, the anaphor and its antecedent; though the two arguments are linked to each other by means of syntactic binding, each contributes a distinct event participant, such that the second may be manipulated independently of the first. As we will see, this possibility gives rise to interpretive flexibility of various kinds: for instance, the pronominal reflexive may be read as not strictly identical to its antecedent, or be interpreted under either semantic binding or coreference, giving rise to strict/sloppy ambiguities. TVRs never display this kind of interpretive flexibility; we take this clear-cut difference as evidence against a transitive analysis thereof. Crucially, we find these interpretive diagnostics to march in lockstep with a strongly syntactic diagnostic, concerning the case borne by the causee in causativized reflexives.[3]

[3]The Turkish data for this study come from multiple sources: these include judgments of the native speaker co-author, examples attested in online sources and examples taken from published studies. Regardless of their source, all examples have been confirmed with

3.1 Interpretive diagnostics

Numerous interpretive diagnostics distinguish verbal and pronominal reflexives in Turkish. We outline the crucial contrasts here; additional examples can be found in the Online-Only Appendix.

A first interpretive diagnostic distinguishing verbal from pronominal reflexives comes from ambiguities under ellipsis, a commonly applied test (Sells et al. 1987; Rooryck and Vanden Wyngaerd 2011; McKillen 2016; Bruening 2021a; Bassi 2021; Bassel 2024, a.m.o).

We observe that VP ellipsis treats pronominal and verbal reflexives differently in Turkish: an ellipsis site anteceded by the verb *hazırla-* 'prepare' taking a pronominal reflexive object, (8a), licenses both strict and sloppy readings as we would expect given that the reflexive pronoun is obligatorily reconstructed at the ellipsis site. But (8b) paints a different picture for its verbal reflexive counterpart: here, only the sloppy reading is available. If the verbal reflexive were secretly a transitive, this contrast should not arise.[4]

(8) a. Ali kendin-i hazırla-dı, Ayşe de (öyle yap-tı).
Ali self-ACC prepare-PST Ayşe too so do-PST
'Ali prepared himself, and Ayşe did so too.' ✓strict ✓sloppy

b. Ali hazırla-n-dı, Ayşe de (öyle yap-tı).
Ali prepare-REFL-PST Ayşe too so do-PST
'Ali prepared, and Ayşe did so too.' ✗strict ✓sloppy

The differential availability of strict/sloppy ambiguities can also be examined via the different denials available to assertions modified by *only* (Dahl 1973; Sauerland 2013; Sportiche 2014). In (9), we observe that *only*-modified sentences built with a pronominal reflexive can be felicitously denied in two different ways, suggesting two different association possibilities for *only*. But this is not so for the verbal reflexive in (10): here, only the bound reading is available, and the free-reading-denying (10b) is thus infelicitous.

(9) Sadece Ali kendin-i salla-dı.
only Ali self-ACC swing-PST
'Only Ali swung himself (in the swing).'

a. Hayır, Ayşe de kendin-i salla-mış.
no Ayşe too self-ACC swing-PST
'No, Ayşe swung herself too.'

b. Hayır, Ayşe de o-nu salla-mış.
no Ayşe too he-ACC swing-PST
'No, Ayşe swung him too.'

(10) Sadece Ali salla-n-dı.
only Ali swing-REFL-PST
'Only Ali swung.'

a. Hayır, Ayşe de salla-n-mış.
no Ayşe too swing-REFL-PST
'No, Ayşe swung too.'

b. #Hayır, Ayşe de o-nu salla-mış.
no Ayşe too he-ACC swing-PST
'No, Ayşe swung him too.'

a large number of Turkish speakers at multiple academic venues; we estimate this number to be around 80 speakers. For the data in section 6.4, we initially conducted an informal social media (Facebook) questionnaire with nine speakers, whose judgments have also been confirmed by other speakers.

[4]More examples of VP ellipsis and comparative ellipsis are available in Appendix A.1. Many of the tests we implement throughout this section work similarly for English *shave*-type verbs, clarifying that these, too, are intransitive even though their argument structure is different, viz. unergative (see Reinhart and Siloni 2005).

Once again, we can conclude that facts like these are precisely what we do not expect to find if the verbal reflexive is somehow reducible to a structure resembling its pronominal counterpart.

Another diagnostic allowing us to distinguish between pronominal and verbal reflexives in Turkish involves the behavior of reflexives embedded under propositional attitude verbs (Sportiche, 2023; Heim, 1994; Charlow, 2010). Consider the examples in (11). The context here, borrowed from Charlow (2010), favors a situation where the subject is about to undertake an event which they do not realize is reflexive. Ali does not wish to shave himself; his wish is rather to shave the oldest member of the community, and it so happens, in the case at hand, that this is Ali himself.

(11) *[Ali, the community's high priest, must once a year ceremonially shave the oldest member of the community. He hasn't realized that, as of this year, he himself is the oldest member. On the day, he announces: 'I must now shave the oldest member of the community!'.]*

a. Ali kendin-i tıraş et-mek isti-yor.
Ali self-ACC shave do-INF want-PROG
'Ali wants to shave himself.'

b. #Ali tıraş ol-mak isti-yor.
Ali shave become-INF want-PROG
'Ali wants to shave.'

If verbal reflexives are interpretively monadic, these contrasts follow straightforwardly,[5] as argued also in Sportiche (2023). In particular, the reason for the infelicity of (11b) is the fact that the embedded clause has an interpretation like that in (12). Here, *PRO* is (ultimately) the only semantic argument of *shave*. In turn, since *PRO* is interpreted *de dicto*, (11b) is correctly predicted to only be able to describe situations where Ali thinks 'I want to shave myself', and to thus be infelicitous in the context given.

(12) $[\lambda x.shave(x)(x)](PRO)$

Another diagnostic comes from a type of *deferred reference* (e.g. Fauconnier, 1985; Jackendoff, 1992; Reinhart and Reuland, 1993; Abusch, 1989). Under particular circumstances, the identity relation between a reflexive element and its antecedent can be non-exact: instead of picking out the antecedent itself, the reflexive element can instead pick out a contextually salient proxy for the antecedent. Such cases of relaxed identity – termed proxy readings – have been noted to differentiate between pronominal and verbal reflexives cross-linguistically (see Reuland and Winter 2009; Lidz 2001b, a.m.o.). In Turkish, too, proxy readings distinguish between pronominal and verbal reflexives: the pronominal anaphor *kendi* in (13a) felicitously picks out the proxy in the given context, while the verbal reflexive in (13b) is infelicitous.

[5] Heim (1994) noted that English counterparts of (11a) reveal a scope paradox: in the English translation of (11a), for example, the anaphor is read *de re* while its local binder PRO is read *de dicto*, even though it is presumably the case that both are in the scope of *want*. What is crucial here is that, although pronominal reflexives in Turkish, too, are capable of supplying these apparently exceptional scope relations, verbal reflexives are not. Thus, a verbal reflexive in the same context is typically judged as infelicitous (11b). There are different proposed solutions to this puzzle, and the choice between them is independent of the diagnostic utility of such examples for our purposes. For instance, it could equally be that these instances actually involve long-distance anaphora (Heim, 1994); or that binding is relativized to attitude holders/sensitive to the *de dicto/de re* distinction (see Sportiche 2020; Charlow 2010, with some differences between them).

(13) *Context: Kıvanç sees that his wax statue is getting very dusty, and decides to dust it off.*

a. Kıvanç kendin-i silkele-di.
Kıvanç self-ACC shake-PST
'Kıvanç shook himself off.'

b. #Kıvanç silkele-n-di.
Kıvanç shake-REFL-PST
'Kıvanç shook (himself) off.'

These facts furnish a further interpretive argument against assimilating verbal reflexives to their pronominal counterparts. Pronominal reflexives inarguably involve a transitive syntax, one where the reflexive is syntactically distinct from its antecedent, even though it eventually comes to be interpretively identified with it. If verbal reflexives similarly involved a transitive syntax with two distinct DPs, we would expect them, too, to give rise to human-acts-on-proxy interpretations, contrary to fact. We point readers to recent investigations of the distribution of proxy readings for more on how the fine distribution of proxy readings partitions verbal from pronominal reflexives (Raghotham, 2022; Reuland and Winter, 2009; Paparounas, 2023).

3.2 Syntactic diagnostic: Indirect causatives

The previous section diagnosed TVRs as monadic predicates. Turkish makes available a phenomenon that shows that this monadic interpretation arises from an intransitive, single-argument syntactic structure; this diagnostic comes from causativization.

Both verbal and pronominal reflexives can be causativized with an *indirect causative* interpretation, which is allowed in Turkish only with predicates that have an external argument (Akkuş 2021, 2023; see also Zimmer 1976). Crucially, in Turkish the case of the Causee depends on the transitivity of the causativized base. When a transitive predicate is causativized, the causee bears Dative case, whereas in causativization of an unergative intransitive the causee carries Accusative case (Lewis 1967; Kornfilt 1997; Göksel and Kerslake 2005; Çetinoğlu et al. 2008; Akkuş 2021, a.m.o).

Predicates with pronominal reflexives pattern as regular transitives: the causee bears dative, (14). But when a verbal reflexive is causativized, the causee bears accusative case, (15) (cf. Kayne 1975 for French *se* reflexives, discussed in section 8.2, and see Appendix A.3 for more examples of causativization in TVRs).

(14) a. Çocuk kendin-i besle-di.
child self-ACC feed-PST
'The child fed himself.'

b. Ebeveynler-i {*çocuğ-a* / **çocuğ-u*} kendin-i besle-t-ti.
parents-3POSS {child-DAT / *child-ACC} self-ACC feed-CAUS-PST
'His parents made the child feed himself.'

(15) a. *pro* bu ara berbat besle-n-iyor-um.
this while terrible feed-REFL-PROG-1SG
'I feed (myself) terribly these days.'

b. *[The speaker complains that his wife doesn't cook, and they have been ordering large amounts of take-out:]*
Merve {ben-i / *ban-a} bu ara berbat besle-n-dir-iyor.
Merve {I-ACC / *I-DAT} this while terrible feed-REFL-CAUS-PROG
'Merve is making me feed (myself) terribly these days.'[6]

That TVRs always appear with an accusative-marked causee is the behavior expected if they are intransitive.

3.3 Summary

We have shown that TVRs behave as monadic predicates interpretively and as intransitives for the syntactic causativization diagnostic; they thus pattern distinctly from pronominal reflexives, which are interpretively dyadic and syntactically transitive. We summarize the results of this section in Table 1.

	Pronominal reflexive	**Verbal reflexive**
VP ellipsis/*only*	strict and sloppy	only sloppy
Comparative ellipsis	three readings	only one reading
***De dicto* readings**	✓	✗
Proxy readings	✓	✗
Causee Case	DAT	ACC

Table 1: *Summary of intransitivity diagnostics*

It is important to stress that the diagnostics we have just deployed are sensitive to valence, but indifferent as to the position of arguments. They classify TVRs as unary and intransitive, but are not probative as to the position of their surface subject. Turning to this remaining issue, we find a striking mixed behavior: the surface subject behaves as a deep object for some syntactic diagnostics, and as a deep subject for others.

4 Internal argumenthood

Various tests show that the surface subject of TVRs originates as an internal argument. These tests distinguish unaccusatives/passives from unergatives/transitives in the language. With respect to these tests, TVRs pattern consistently only with unaccusatives and passives, and not with unergatives; whenever they pattern with transitives, their surface subject patterns with the object, not the subject, of the transitives.

4.1 Resultatives

Resultatives crosslinguistically serve as a strong indicator of deep objecthood (e.g., Simpson 1983; Levin and Rappaport Hovav 1995).[7] In Turkish, resultatives display the same baseline behavior. Firstly, they can only

[6] https://www.youtube.com/watch?v=JMZC32JcAp8&ab_channel=OrkunI%C5%9F%C4%B1tmak 12'40".

[7] Ostensible counterexamples to this generalization have been insightfully reanalyzed; see e.g. Biggs 2019a,b on Wechsler 1997. We limit discussion here to adjectival secondary predicates, since PP ones are known to sometimes behave differently; see Pitteroff and Schäfer (2019) for depictives.

be predicated of direct objects of transitives, as well as surface subjects of passives and unaccusatives (16); crucially, resultatives predicated of subjects of unergatives are systematically impossible (17).

(16) a. Leyla masa-yı (ter-temiz) sil-di.
Leyla table-ACC REDUP-clean wipe-PST
'Leyla wiped the table (completely clean).' (Turgay 2013:(27a)) *transitive*

b. Masa (Leyla tarafından) ter-temiz sil-in-di.
table (Leyla by) REDUP-clean wipe-PASS-PST
'The table was wiped completely clean (by Leyla).' *passive*

c. Nehir kas-katı don-du.
river REDUP-solid freeze-PST
'The river froze solid.' (Turgay 2013:112,(51a)) *unaccusative*

(17) *Ceren yop-yorgun koş-tu.
Ceren REDUP-tired run-PST
'Ceren ran tired.' (based on Turgay 2013:69, (24b)) *unergative (predicate OK as depictive)*

Secondly, they cannot be predicated of unprojected elements. In out-of-blue contexts, resultatives predicated of missing objects are not licit, (18); they are nonetheless licit in *pro*-dropped contexts, (19).

(18) a. Q: Ne ol-du?
what happen-PST
'What happened?'

b. A: Leyla *(masa-yı) ter-temiz sil-di.
Leyla table-ACC REDUP-clean wipe-PST
'Leyla wiped *(the table) completely clean.'

(19) a. Q: Leyla masa-ya ne yap-tı?
Leyla table-DAT what do-PST
'What did Leyla do to the table?'

b. A: Sadece pro_{obj} ter-temiz sil-di.
only REDUP-clean wipe-PST
'She just wiped it completely clean.'

Overall, the baseline distribution of Turkish resultatives tracks the presence of projected deep objects.[8]

Crucially, resultatives can be freely predicated of the surface subject of verbal reflexives; see next (20), with its pronominal reflexive counterpart given in (21). TVRs thus pattern as having an internal argument position, one occupied by the element that comes to be the surface subject.

(20) Ter-temiz yıka-n-dı-m.
REDUP-clean wash-REFL-PST-1SG
'I washed myself clean.' (Gürkan 2019:(24))

(21) Kendi-m-i ter-temiz yıka-dı-m.
self-1SG.POSS-ACC REDUP-clean wash-PST-1SG
'I washed myself clean.'

[8]Turkish resultatives appear to be more restricted in their distribution than English ones. For example, resultatives involving transitivized unergative verbs, (Turgay 2013:68-69) or unselected objects (Turgay 2013:89) are not available in Turkish, and resultatives impressionistically seem somewhat harder to come by in Turkish. These observations do not soffice to call into question the diagnostic utility of resultatives, since when they *are* available, they obey the cross-linguistically robust restrictions outlined in the main text.

An anonymous reviewer asks if the availability of resultatives with TVRs could be taken to follow merely from the presence of a theme entailment with TVRs, and not necessarily from the presence of a deep object in their structure. This is not a tenable point of view. Turkish-internally, this approach would fail to make the right cut between transitives, passives, unaccusatives and TVRs on the one hand, and structures that demonstrably involve a theme entailment but lack a projected direct object (18b) on the other. Similar observations have been made in foundational studies on resultatives; see Simpson 1983; Levin and Rappaport Hovav 1995 and footnote 7. See Appendices B.1 and B.2 for more data.

The resultatives-diagnose-theme-entailments view would also fail to make sense of minimal differences between Turkish and other languages. English is a case in point. If it were themehood that licensed resultatives in English, we would expect a reflexive verb like (22) below to allow the resultative secondary predicate, given that the surface subject of this verb is read a theme as well as an agent.

(22) John shaved (*smooth).

We clearly need something beyond thematic interpretation to account for the fact that resultatives are good with verbal reflexives in Turkish, but not in English: we believe the idea that these verbs have different syntactic derivations between the two languages supplies just this missing piece. For more notes on crosslinguistic syntactic variation in verbal reflexives, see sect. 8.2. See also the discussion of other low origin diagnostics in the rest of this section, and their extensions in Appendices B.1 and B.2; the mere presence of a theme entailment does not suffice to capture the patterns in these cases either.

4.2 Adjectival Participles

A further diagnostic suggesting a low origin for the surface subject of TVRs comes from two types of stative ('adjectival') participles in Turkish. Studies of stative participles propose two kinds of analyses of their argument structure. One kind of analysis posits a low origin for the DPs appearing with stative participles, such that a participle is (minimally) a stativized υP that includes an internal argument (e.g. Anagnostopoulou, 2003; Embick, 2004a; Bešlin, 2022). A different type of analysis posits that stative participles have their arguments introduced externally to the υP, on a par with adjectival predication (e.g. Embick 2023, McIntyre 2013, Paparounas 2023, ch. 4). It is crucial in what follows that the participles of Turkish can be independently shown to instantiate the former structure, with a υP that includes an internal argument. Indeed, they do; for instance, both the *-mIş* and *-Ik* participles of Turkish form verb-object idioms, suggesting the DPs appearing with participles originate inside the verbal core (see baseline examples in the Appendix B.2). We accordingly follow much previous work in employing participle formation as a low origin diagnostic for Turkish (Nakipoğlu-Demiralp, 1998, 2002; Acartürk, 2005; Gürer, 2014) and languages like it in the relevant respects (Bhatt and Embick,

2004/2017; Alexiadou and Schäfer, 2013). See Gürer (2014) for evidence that the formations we examine here are genuine adjectival participles both in attributive and predicative positions, and not reduced relatives.

The pairs in (23) show that the *-mIş* participle is compatible with Roots that typically form unaccusatives (23a), but not unergatives (23b).

(23) a. {bozul-muş / çürü-müş / eri-miş / kok-muş} yiyecek
decomposed-PTCP / rot-PTCP / melt-PTCP / smell-PTCP food
'the {decomposed/rotten/melted/smelling} food'

b. {*koş-muş / *yüz-müş / *çalış-mış / *bağır-mış} çocuk
run-PTCP / swim-PTCP / work-PTCP / shout-PTCP child
Intended: 'a {run/swum/worked/shouted} child' (Nakipoğlu-Demiralp 2002:7a-b)

Moreover, typical transitive-forming Roots allow the formation of participles in *-mIş*:

(24) a. özensizce kes-il-miş kağıt-lar
sloppily cut-PASS-PTCP paper-PL
'sloppily cut papers' (Gürer 2014:29a')

b. giy-il-miş pantolon
dress-PASS-PTCP pants
'dressed/put on pants.'

Importantly, TVRs are perfectly compatible with *-mIş*. In (25), we show that it is possible to produce a stative that appears outside the nonactive/reflexive morpheme, and produces a stative-of-a-reflexive-event interpretation. Since we know independently that the *υ*Ps that form the input to stativization are those *υ*Ps that involve internal arguments, the grammaticality of these examples speaks in favor of a low origin analysis for those *υ*Ps that come to be reflexivized before they are stativized. See Appendix B.2 for more examples.

(25) a. ört-ün-müş kadın
cover-REFL-PTCP woman
'a self-covered woman'

b. yatak-ta uza-n-mış bir adam
bed-LOC lie.down-REFL-PTCP a man
'a man lying down in the bed'

The language's other participial formation, formed with the stativizer *-Ik*, yields the same result (Nakipoğlu-Demiralp 1998; Acartürk 2005; Acartürk and Zeyrek 2010; Neu 2024). In (26a) the participle *-Ik* combines with unaccusative-forming Roots, while it fails to do so in (26b) with unergative-forming ones.

(26) a. kır-ık bardak
break-ADJ glass
'the broken glass'

b. *uyu-k bebek
sleep-ADJ baby
Intended: 'the slept baby'

TVRs can again be the input to the formation of stative passives (27); see Appendix B.2.2 for more examples.

(27) Herkes bedence cıbıl, ruhça *ört-ün-ük*.
everybody bodily naked soul-wise cover-REFL-ADJ
'Everybody is bodily naked but soul-wise self-covered.' (Kaynak 2012:75)

4.3 *Again*

A final observation that speaks in favor of a low origin for the surface subject of TVRs comes from the behavior of the adverb *tekrar* 'again' in reflexives (see Turgay 2013; Tonyalı 2015 for background on this adverb). A long literature beginning with Von Stechow (1995, 1996) has used the different readings of repetitive adverbs as a probe for the internal composition of predicates (see among others Beck and Johnson 2004; Bale 2007; Smith and Yu 2021). We will assume following this literature that the availability of these different readings is syntactically modulated, in a way that will allow us to diagnose the base position of an argument relevant to the adverb's attachment site.

Consider some basic facts on Turkish *tekrar* 'again'. (28) is ambiguous in the same way as its English translation. If we understand the eventuality presupposed by *tekrar* to be one of Kemal's having opened the door previously, then (28) describes a repetition of the same kind of event; this is the so-called repetitive reading. If, on the other hand, we understand the presupposed eventuality to be one of the door's merely having been open, without it necessarily being the case that it was Kemal who opened it, then (28) merely describes the restitution of a previously held state; this is accordingly labeled the restitutive reading. In (28), both readings are possible, and we observe an entailment relation between them: any case in which the repetitive reading is true is also a case in which the restitutive reading is true. But these are indeed two distinct readings that can come apart: placing *tekrar* before the subject as in (29) yields a restitutive reading that excludes the repetitive reading. See Turgay 2013; Tonyalı 2015 for more discussion, including examples showing that placing the adverb after the object equally maintains both readings.

(28) Kemal tekrar kapı-yı aç-tı.
Kemal again door-ACC open-PST
'Kemal opened the door again.'
(both repetitive and restitutive ok)

(29) Tekrar Kemal kapı-yı aç-tı.
again Kemal door-ACC open-PST
'Kemal opened the door again.'
(restitutive only)

Turning now to TVRs, consider (30): the context clarifies that the temporally anterior eventuality presupposed by *tekrar* is not another event of self-washing carried out by Kemal, but rather an event of Kemal being washed by a disjoint agent (or perhaps merely the resultant state of a Kemal-washing). We are dealing, in other words, with a context forcing the restitutive interpretation. In this context, the order in (30a) where *tekrar* follows the subject is perfectly felicitous, showing that a restitutive reading that excludes the repetitive reading is possible. Yet in cases where *tekrar* precedes the subject, such a reading ceases to be possible (30b).[9]

(30) *On Monday, his mother washed Kemal. The next day, he washed on his own.*

[9]This sentence could be made grammatical by placing contrastive focus on Kemal, in which case it ceases to be a licit follow-up sentence in this particular context. We thank Kyle Johnson for discussion of this diagnostic.

a. Salı Kemal tekrar yıka-n-dı.
Tuesday Kemal again wash-REFL-PST
'On Tuesday Kemal washed again.'

b. #Salı tekrar Kemal yıka-n-dı.
Tuesday again Kemal wash-REFL-PST
'On Tuesday Kemal washed again.'

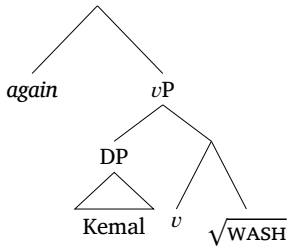
For completeness, (31) provides a repetitive-facilitating context in which, the adverb before the subject is licit.

(31) *On Monday, his mother washed Kemal. The next day, she washed him again.*

Salı (tekrar) anne-si (tekrar) Kemal-i yıka-dı.
Tuesday again mother-his again Kemal-ACC wash-PST
'On Tuesday his mother washed Kemal again.'

The interpretation of the adverb *tekrar* is thus crucially modulated by its syntactic placement; thus, the facts are probative as to the base position of the surface subject of TVRs. The restitutive reading in (30a) suggests the existence of a constituent, modified by *again*, that includes the verb and *Kemal* but excludes the locus where the agent entailment is introduced, as schematized in (32). If *Kemal* had originated above the low attachment site for *again*, there would simply be no such constituent.

(32)



These observations militate not just in favor of a low base position for the surface subject, but also in favor of a higher locus for the reflexive entailment. If the association of the agent role with the surface subject were either part-and-parcel of reflexivized $\sqrt{\text{WASH}}$, or if this association took place below the attachment site for *again*, then the eventuality presupposed by *again* would necessarily have to be a reflexive one, contrary to fact. If, by contrast, the reflexive entailment enters higher up – on the analysis we present below in section 5, this would be the same head that normally introduces agents – we can make sense of the full range of facts.

The interpretive possibilities found when *again* modifies TVRs is fully consistent with related observations both Turkish-internally and cross-linguistically. Within Turkish, restitutive readings of *tekrar* are found, all things being equal, when an object is syntactically projected; this includes objects of transitives, and surface subjects of passives and unaccusatives. Structures lacking projected direct objects do not license restitutive readings.[10] (33) makes the point for the (unprojected) implicit indefinite object of *eat*.

(33) Ne-yi$_i$ piş-ir-ir-se-m piş-ir-e-yim, #tekrar e_{*i} ye-me-z.
what-ACC cook-AOR-COND-1SG cook-AOR-OPT-1SG again eat-NEG.AOR-1SG
'No matter what I cook, s/he doesn't eat again.'

[10]Agent-excluding readings have been claimed to be available with only a proper subset of the verbs that are standardly analyzed as having severed agents (Bale, 2007; Smith and Yu, 2021); Asami and Bruening (2025) respond that the empirical claims in these studies are incorrect.

Cross-linguistically, we expect the presence/absence of restitutive readings of *again* to track independent diagnostics of the low/high position, respectively, of the surface subject of verbal reflexives. A quick look suggests this may well be the case: languages with unergative reflexives serve to make this point, as they behave in the opposite way to Turkish for both the *again* test and our other diagnostics.

Consider verbal reflexives in Sason Arabic, an understudied variety of Arabic spoken in southeastern Turkey. Verbs appearing with nonactive morphology can carry both passive and reflexive readings.[11]

(34) Kemal ın-xasal.
Kemal NACT-wash.PST
'Kemal {washed / was washed}.'

Interestingly, in this language, only the passive interpretation survives under a restitutive reading of *ırce* 'again'. Consider (35), which is intended to be read in the same context as the earlier (30). Here, the nonactive-prefixed form of $\sqrt{\text{WASH}}$ modified by *again* is felicitous under the restitutive reading, but only as a passive: (35) cannot be read reflexively under a restitutive reading, although it can be read reflexively otherwise (34). Importantly, Sason Arabic does allow a *repetitive* reading of an *again*-modified verbal reflexive (36).

(35) Imm-u xasal-e Kemal ams. Lome *pro* ırce ın-xasal.
mother-his wash.PST-3F Kemal yesterday today again NACT-wash.PST.3M
YES: '... today Kemal was washed again (by someone else).'
NO: '... today Kemal washed again.'

(36) *Kemal washed himself yesterday. After a long run this morning that left him sweaty, he washed again.*
Kemal xasal rou ams. ... Lome *pro* ırce ın-xasal.
Kemal wash.PST.3M himself yesterday ... today again REFL-wash.PST.3M
'Kemal washed himself yesterday. ... Today he washed again.'

This intricate state of affairs can be made sense of if, unlike the passive and perhaps contrary to the expectations raised by nonactive morphology, the reflexive in (34) does not have a surface subject that originates low. Independent diagnostics of argument placement applied to Sason reflexive verbs confirm this conjecture. For instance, verbal reflexives in Sason Arabic cannot host resultative secondary predicates, (37a); in this they are unlike their pronominal counterparts, and also crucially unlike TVRs, as well as passives and unaccusatives in both Turkish and Sason Arabic, (37b).

(37) a. *Nobody else washed Kemal. Instead, on his own...*
#Kemal ın-xasal nazzif.
Kemal REFL-wash.PST.3M clean
Intended: #'Kemal washed clean.'

[11] Data for Sason Arabic come from one of the co-authors, Naze Akkuş, Murat Yıldırım, and Izmir Zengil.

b. potad ın-xasal-o nazzif (mı Leyla).
clothes PASS-wash.PST-3PL clean by Leyla
'The clothes were washed clean (by Leyla).'

Though delving further into Sason Arabic reflexives is clearly beyond our scope here, the contrast between these and TVRs strengthens our credence in the result of the *again* test, which seems to march in lockstep with independent diagnostics of argument height.[12]

5 Analysis, Part I: Reflexive Voice

The Turkish facts we have surveyed up to this point call for a mechanism of reflexivization capable of deriving a reflexive interpretation from a single-argument structure, one where the single argument in question has a basic position VP-internally.

We note also that in Turkish, as in other languages with similar voice systems, this mechanism seems strongly tied to grammatical voice: in particular, TVRs surface with a particular voice morphology, and that morphologically (and syntactically) active verbs never yield verbal reflexives, as noted in section 1.

We accordingly propose to link reflexivity to the encoding of Voice distinctions in the clause. In the toolkit we introduced in section 2.2, the determination of grammatical voice is carried out in large part by the head Voice, which determines the properties of the external argument. We posit a reflexive variant of Voice (following Labelle 2008; McGinnis 2022; Raghotham 2022; Oikonomou and Alexiadou 2022; Paparounas 2023; Kallulli and Roberts 2025; cf. Spathas et al. 2015; Alexiadou 2014; and for partially related ideas in anaphor binding, see e.g. Ahn 2015; Kratzer 2009; Paparounas and Akkuş 2024 and footnote 16). This Voice head will appear with those Roots, or Root + v combinations, capable of forming verbal reflexives in Turkish; in this it resembles other Voice heads (see section 2.1 as well as Alexiadou et al. 2006; Schäfer 2008). The move here is to treat 'verbal' reflexivity as a kind of external argument introduction; effectively, if active Voice introduces an agent function as well as a DP that saturates it, and passive Voice an existentially closed agent function, reflexivity can also be understood as a kind of agent introduction, one where the agent role ultimately comes to be identified with a distinct role. We develop in what follows a fairly detailed account of how reflexivization comes about on Voice; in doing so, we advance ideas on the precise interpretation of Reflexive Voice originally suggested to us by Kyle Johnson (p.c.), to whom we are indebted.

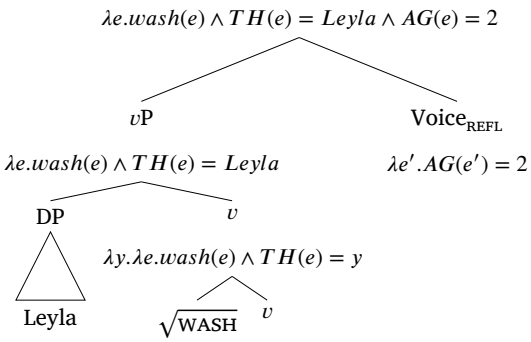
We begin by remarking that deriving a reflexive denotation from a basic unaccusative structure is a domain that poses various technical challenges on the interpretive front – an underappreciated problem, we believe. Unlike in an unergative analysis, where a Voice head can use the predicate denotation of a vP to effectively

[12] English is another language whose reflexives appear to have an unergative syntax, witness the lack of resultatives (see footnote 20 and Reinhart and Siloni 2005, 398). English-speaking linguists we have consulted do report a contrast between intransitive *shave* versus transitive *shave oneself*, noting that *again* is either 'not possible' or 'pretty odd, forced' with the intransitive one under a restitutive reading.

'pull out' the unsaturated theme role and identify it with a distinct element (see e.g. Labelle, 2008), in an unaccusative structure the vP has, by definition, a saturated theme function. Identifying the entity already mapped to theme with a distinct element in a non-stipulative way is thus a non-trivial problem; we refer the reader to Paparounas (2023, 115ff) for a more detailed exposition of the issue. Existing unaccusative analyses, when explicit on the semantics, resort to positing exceptional placements of lambda abstracts (see e.g. Spathas et al. 2015, cf. Barker 2007); departing from standard assumptions on the interpretation of movement (e.g. Kastner 2017, on which see fn. 6); or identifying thematic roles directly (Paparounas, 2023; Oikonomou and Alexiadou, 2022), a move unclear in its formal details.[13]

(38) shows a vP with an internal argument that has combined with a particular type of Voice head. A first move is to propose that the denotation of $\text{Voice}_{\text{REFL}}$ introduces an Agent function, like other (non-expletive) Voice heads; and also introduces a free variable, represented as a numerical index feature 2 (Heim and Kratzer 1998, Kratzer 2009). This free variable saturates the Agent function, providing an $< s, t >$ denotation for the Voice head that can combine with the vP meaning via Predicate Modification.

(38)



For the denotation being constructed in (38) to ultimately be well-formed, the index 2 will have to be interpreted. We propose that this index can only be interpreted under semantic binding (see Altshuler et al. 2019 for a concrete separation of indices into discourse-related and trace-related; also see Kratzer 2009); and that movement of the internal argument to a higher position fulfills this function. Our analysis is inspired by the Binder Index Evaluation Rule (BIER) of Büring (2005). In that system, quantified NPs come with an index acting as an indicator that, within the c-command domain of that NP, pronouns bearing the same index are

[13] The approach in question would involve a denotation such as the following, invoked for Greek verbal reflexives in Paparounas (2023) and Oikonomou and Alexiadou (2022) (albeit separately and under different syntactic assumptions):

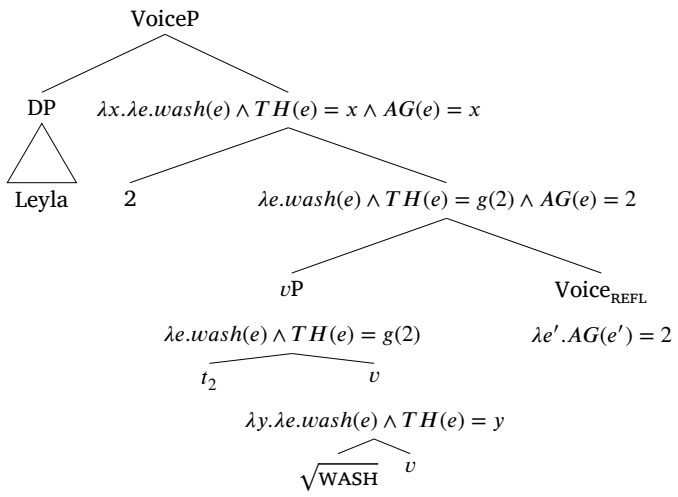
(i) $[\![\text{Voice}_{\text{REFL}}]\!] = \lambda P_{<s,t>}.\lambda e'.P(e') \wedge AG(e') = TH(e')$

There are serious questions concerning *a)* what it means to equate thematic role functions in the first place, and *b)* whether the denotation (i) in fact allows us to identify what the agent is supposed to be. It is not clear how a single head, Voice, would have the Agent role in its denotation without introducing an individual variable associated with it, and how this head can manipulate/make reference to multiple roles, one of which (Theme, in this case) is introduced by a separate lower head in the structure. A further rather serious problem is posed by verbal reflexives whose single argument is quantified, as in *No child shaved*. For languages where *no child* would originate vP internally, (i) will run into serious issues, effectively identifying the agent with the denotation of *no child*, and possibly failing to yield the right variable binding configuration, unless supplemented by movement. This is arguably as much a problem for the specific approach in (i) as it is a general issue regarding quantification in event semantics.

necessarily bound pronouns. This forces their value to be determined by the argument slot filled by the NP, with the implementation having both semantic and syntactic components. For TVRs, our approach similarly suggests that the index *2* on $\text{Voice}_{\text{REFL}}$ is to be interpreted as a bound variable.

This proposal brings us to the final step of the semantics: once *Leyla* moves, it binds both its trace and the free variable introduced on Voice. We schematize below using the convention in Heim and Kratzer (1998), where the landing site of movement involves an index that triggers lambda abstraction:

(39)



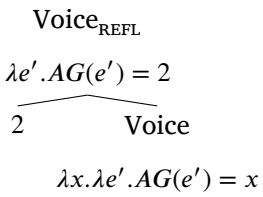
The lambda abstract triggered by the index 2 in (39) comes to bind both the trace bearing that index and the free variable 2. Situations like this are by no means uncommon; consider (40).

(40) {Every boy_2 / John_2} seems to himself_2 [t_2 to have t_2 passed the exam].

In (40), the surface subject originates in the embedded clause, and A-moves to the matrix Spec,TP in a way that allows it to bind both its trace and index on the reflexive pronoun located in the matrix clause (see e.g. Reinhart 2006, 165ff, Reuland 2011, 348; note that this is usually implemented for quantified expressions, but naturally all A-movement should have this property). The Transitive Type A structure (4) often proposed for Romance clitic reflexives posits a similar state of affairs; what is different about our analysis, of course, is that there is no pronominal reflexive argument (and thus no syntactic binding), but only semantic binding of the free variable contributed by Voice. In this regard, what is crucial is that the particular configuration builds what ends up looking like a unary predicate out of the verb phrase by means of how the index on reflexive Voice is interpreted (cp. bundling in e.g. Marelj and Reuland 2016), and the interpretive asymmetries between pronominal and verbal reflexives observed above follow from this point. Whereas pronominal reflexives (and pronouns more generally) can interpreted either via coreference or via binding (thus allowing both strict vs sloppy readings, for instance), the free variable on reflexive Voice can only be interpreted via binding, similar to traces/lower copies.

It is important to clarify that, on the particular implementation offered here, representations like (39) are LF trees: we are assuming that they result from a set of principles mapping syntactic movement chains to configurations of semantic binding (see e.g. Büring 2005, and for brief discussion linked directly to verbal reflexives see Reuland 2018, 90-91). In particular, we are assuming that LF translates lower copies of movement into variables (or an articulated structure embedding a variable; see e.g. Fox 1999; Sauerland 2004; Poole 2024), and that lambda-abstraction-triggering indices are effectively sprouted at the landing site of movement, yielding configurations like (39). In other words, though elsewhere adhering to the program in Heim and Kratzer (1998), we treat a substantial part of the machinery developed therein as existing at LF; in particular, we do not take indices to be present in the syntax proper (Chomsky, 1995; Reuland, 2011). Our account could easily be translated, however, into a framework where indices and variables are assigned a narrow-syntactic life. Such an approach to our structures would look as in (41):[14]

(41)



Simple enough as it is, our approach successfully captures a range of intricate facts that we have uncovered in Turkish. Firstly, it successfully derives a reflexive interpretation from an unaccusative/passive-like structure; a non-trivial task, as outlined above.

Secondly, the approach successfully captures the interpretive properties of TVRs, diagnosed in §3. The structure in (39) includes only a single syntactic argument, the DP *Leyla*; the index 2, like the trace of *Leyla*, is non-distinct from *Leyla* for the purposes of the interpretive phenomena in §3.1. In particular, (39) does not employ an anaphoric argument to saturate a thematic role, as the derivation of a transitive verb with a pronominal reflexive would; rather, the inclusion of the free variable derives the effect of reflexivizing the agent role, once semantic binding of this variable takes place. The assumption that the free variable can be interpreted only under binding, and not coreference, derives the lack of strict/sloppy ambiguities with TVRs, as mentioned immediately above. That the predicate derived in (39) is unary also guarantees the obligatory *de dicto* interpretation as well as the absence of proxy readings in TVRs discussed in section 3.1.

The association of reflexivity with Voice straightforwardly captures the important fact that reflexivization in Turkish goes hand in hand with a particular kind of voice morphology. The fact that reflexives are voice-selective would be mysterious if reflexivization were orthogonal to Voice: concretely, we would have no

[14]This move has precedents in the literature; for example, Bruening (2021b) implements such a system to account for the contrast between verbs like 'watch' whose unspecified object is interpreted as a pragmatically recoverable definite versus verbs like 'eat' whose unspecified objects are interpreted existentially. The former has a functional head ι, while the latter $\exists$, with both represented as separate nodes in the syntax as sisters to the relevant verb. We do not take this path, and such a move would have wide-ranging architectural consequences discussed at length elsewhere, but our account would just as easily be articulated in a framework of this sort.

explanation for why a morphologically active verbal form cannot be interpreted reflexively.[15]

Our analysis also has clear connections to what is arguably the standard analysis of Romance clitic reflexives, while at the same time allowing us to correctly capture crucial differences between Romance and Turkish. For one analysis of Romance, reviewed in section 2.1 and developed in e.g., Marantz 1984; Kayne 1988; Pesetsky 1995; McGinnis 2004; Embick 2004b, the agent is saturated by a true pronominal anaphoric argument introduced in the specifier of Voice, *se/si*; movement of the internal argument across the clitic anaphor feeds binding. Our analysis bears similarities to the Romance situation insofar as movement and reflexivization are linked. At the same time, only in Romance does the structure involve a real syntactic argument that saturates the agent role. We thus expect that, unlike TVRs, Romance clitic reflexives are dyadic, and indeed they can be shown to behave in the opposite way to TVRs with respect to the interpretive diagnostics of section 3 (see section 8.2 for more crosslinguistic discussion, including on French. See also Marelj and Reuland (2016).

This analysis – one which locates the locus of reflexivization on Voice – thus parsimoniously explains the range of facts about Turkish verbal reflexives we have established thus far. But note that the analysis as just developed requires a piece we have not yet seen explicit evidence for – movement of the internal argument, taken above to target a VoiceP-internal position.

We will now show that, in fact, this movement is clearly evidenced in the structure of TVRs, providing support for the analysis as just sketched.[16]

6 External argumenthood

The single, internal argument of Turkish reflexives undergoes A-movement to the specifier of VoiceP. We arrive at this conclusion by examining the behavior of verbal reflexives with respect to phenomena sensitive to the syntactic presence of an argument in this position.footnoteThe external argument properties of Turkish verbal reflexives suggest that an analysis along the lines of Kastner's (2017) analysis of Hebrew reflexives cannot extend to Turkish. Kastner adjoins to nonactive Voice an agentive modifier $\sqrt{\text{ACTION}}$; the agent role contributed by this modifier is saturated by movement of the internal argument to a higher position. This analysis requires a non-standard view of the interpretation of movement, one where the moving element is

[15] As shown in Key (2023, 2024), not all verbal reflexives syncretize with passives in Turkish (see also Kornfilt 1997; Göksel 1993, a.o. for this observation): Key insightfully connects the presence or absence of syncretism to the different structures of reflexives in Turkish: ground reflexives, which have a subtly different structure to theme/figure reflexives, are realized with a dedicated exponent not shared with the passive. This observation exists on top of, and not alongside, the basic picture we discuss in the main text: any account will have to do justice to the systematic identity in form between passives and figure reflexives, and also account for the distinct realization of ground reflexives. Since the latter have a distinct argument structure, this distinction can be made in different ways.

[16] Our analysis obviously bears a direct relation to other Voice-based analyses of verbal reflexivity; see the works cited throughout this section. Voice has also been found to demonstrate a crucial role in the licensing of *pronominal* reflexivity in certain cases. Ahn (2015) argues for a reflexive Voice head that attracts anaphors to a medial position in English; while Kratzer (2009) takes Voice to mediate Agree-based binding, a position empirically supported in later work (see esp. Paparounas and Akkuş, 2024; Murphy and Meyase, 2022). We thus clarify that our assertion that Voice is implicated in verbal reflexivity does not entail that the same head cannot be implicated in other kinds of reflexivity; and that, given this much, the two heads (e.g. our Reflexive Voice, and what Paparounas and Akkuş (2024) call $\text{Voice}_{\text{minimal}}$) must be recognized as distinct entities.

interpreted as a definite description in both its base position and landing site; we consider this view in need of further elaboration, since it cannot be the analysis of the interpretation of movement elsewhere. Our analysis does not require a modifier of the $\sqrt{\text{ACTION}}$ type.

Some of these tests are traditionally used to contrast transitives and unergatives from unaccusatives in Turkish. With respect to the tests in this section, the behavior of TVRs breaks with the patterns established in section 4: here, TVRs pattern with unergatives as opposed to passives/unaccusatives, and their surface subject patterns with the subject, not the object, of transitives. Crucially, for several diagnostics below, passives and reflexives behave differently. We take these patterns to suggest that there must be a syntactic difference between the two, such that the fact that reflexives sometimes pattern as external-argument-bearing verbs, and distinctly from unaccusatives, is not attributable solely to the presence of agentive semantics, a trait that reflexives share with passives but not with unaccusatives (cf. Key 2023). Instead, the surface subject of TVRs must originate low in the υP, like that of passives, but must also transit through Spec,VoiceP, thereby sharing traits with 'real' external arguments for the purposes of the diagnostics in this section. Importantly, we show in section 7.1 that the surface subject of TVRs passes internal and external argumenthood diagnostics in the same example, clarifying that what we are detecting is indeed a case of movement, and not structural ambiguity.

When considered along with the internal argumenthood properties of §4, the discussion in this section indicates that different phenomena may be sensitive to different portions of the derivational history of the same argument: the diagnostics in §4 are sensitive only to the low origin of the surface subject, while those discussed in this section are indifferent to this position, tracking only the intermediate position Spec, VoiceP.[17]

6.1 Episodic Impersonals

A first piece of evidence comes from impersonals. For a majority of Turkish speakers, the addition of the 'passive' morpheme to any predicate besides transitives with a thematic subject and a structurally case-marked object leads to an *impersonal* construction (Akkuş 2021; Legate et al. 2020). Unergatives and transitives can form impersonals in both generic and episodic contexts (42)-(43) (Nakipoğlu-Demiralp 2001; Acartürk 2005; Acartürk and Zeyrek 2010; Akkuş 2021; Legate et al. 2020).

(42) *Unergative*

a. Her gece dans ed-il-ir.
every night dance do-**IMPERS**-AOR
'People/one dance(s) every night.'

b. Konser boyunca uyu-n-du.
concert during sleep-**IMPERS**-PST
'People/one slept during the concert.'

(43) *Transitive with oblique object*

a. Otobüs-e bin-il-ir.
bus-DAT board-**IMPERS**-AOR
'People/one board the bus.'

b. Otobüs-e bin-il-di.
bus-DAT board-**IMPERS**-PST
'People/one boarded the bus.'

[17] In the interest of space, we leave out discussion of two further convergent diagnostics: causativization (see the end of section 6.4) and long object movement.

On the other hand, impersonals of unaccusatives, while felicitous under a habitual reading, (44a), cannot receive an episodic interpretation (44b).

(44) a. Türkiye-de her gün trafik kaza-lar-ın-da öl-**ün**-ür.
Turkey-LOC every day traffic accident-PL-CM-LOC die-**IMPERS**-AOR
'In Turkey people die in traffic accidents every day.' (Nakipoğlu-Demiralp 2001:140,(22b))

b. *Dün burada öl-**ün**-dü.
yesterday here die-**IMPERS**-PST
Intended: 'People/one died here yesterday.' (*Unaccusative*)

As noted in Akkuş 2021 and Legate et al. 2020, impersonals involve an unpronounced impersonal pronoun (IMP) filling an argument position (they thus lack argument 'demotion', descriptively speaking), be it the thematic subject, as in (42)-(43) or thematic object (44). Crucially, the availability of an episodic interpretation is modulated by the syntactic position of IMP: episodic interpretations are allowed with IMPs in Spec,VoiceP, but disallowed with IMPs surfacing as internal arguments.

TVRs pattern with unergatives and transitives in being compatible with both habitual and episodic aspects. Consider the examples in (45) (see Appendix C.1 for more examples):

(45) a. Bu çim-ler-e uza-n-ıl-mış.
this grass-PL-DAT lie.down-REFL-IMPERS-PST
'Apparently people/one laid (themselves) down on the grass.'

b. Büyük-ler-in ön-ün-de saygı-yla eğ-il-in-di.
elder-PL-GEN front-POSS-LOC respect-with bend-REFL-IMPERS-PST
'People/one bowed respectfully in front of the elder people.'

To repeat, verbal reflexives pattern with 'active' structures for the purposes of impersonals, in which a syntactically projected argument is found in Spec,VoiceP.

6.2 Agent nominalization

The availability of agent/external argument nominalization has sometimes been used as a diagnostic of the argument structure of verbal reflexives; see e.g. Reinhart and Siloni (2005); Alexiadou and Schäfer (2013); Amato (2024). Turkish provides the appropriate baseline to apply the test: agent nominalization is sensitive to the unergative/unaccusative distinction, independently of verbal reflexives. Thus, Roots that typically form unergatives/transitives freely form agent nominals in *-IcI*, (46a). Unaccusative-forming Roots, however, resist agent nominalization, (46b) (see Nakipoğlu-Demiralp 1998; Acartürk 2005). (46c) is a particularly probative example: it shows that a typical unaccusative-forming Root, in this case $\sqrt{\text{FINISH}}$, can only yield an agent nominal if it is first transitivized.

(46) a. koş-ucu
run-NMLZ
'runner'

b. *düş-ücü
fall-NMLZ
Int: 'faller'

c. bit-*(ir)-ici
finish-CAUS-NMLZ
'finisher'

Consider now the following attested examples showing that TVRs can be the input to agent nominalization (see Appendix C.2 for many more examples of TVRs with the agent nominalizer).

(47) a. "... eğer padişahlığ-a er-ecek ol-ur-sa-n haram-dan *sak-ın-ıcı* ol."
if sultanate-DAT reach-FUT be-AOR-COND-2SG sin-ABL save-REFL-NMLZ be
'If you reach the sultanate, be an avoider of sin [lit. a self-protector-from sinning].' (Şahin 2019:79)

b. Putin Hindistan-da. Seri *sar-ıl-ıcı* Modi tabii on-u da kucakla-dı.
Putin India-LOC serial wrap-REFL-NMLZ Modi of.course he-ACC also embrace-PST
'Putin is in India. The serial hugger (lit: self-wrapper) Modi of course gave him a hug too.' (Twitter, @OmerFarukGorcin, 10/5/18)

c. Koru-yucu hekimlik-ten, "*koru-n-ucu*" hekimliğ-e....
protect-NMLZ doctorhood-ABL protect-REFL-NMLZ doctorhood-DAT
'from protective (i.e., protecting others) doctorhood to self-protecting doctorhood.... (Twitter, @dralicihat, 12/8/16)[18]

Previous literature has sometimes claimed that agent nominalizations of TVRs are impossible (e.g., Gündoğdu 2017). As far as we can tell, such claims result from individual examples having been judged in isolation and without context. We have provided attested examples here, additionally judged as grammatical by our consultants, to help control for the kinds of pragmatic factors that are known to affect the acceptability of derived nouns elsewhere. Agent nominalizations in Turkish are perfectly acceptable when at least one of the following conditions is met (as is the case in all our examples here and in the Appendix C.2). Firstly, the agent nominal must be afforded a specialized usage in lexicosemantic space; this is often achieved via modification (e.g. *serial hugger* in (47b); cf. e.g. Embick and Marantz 2008 on English *#stealer* versus *base-stealer*). Secondly, agent nominals must denote entities that are *name-worthy* in a sense familiar from the literature on noun incorporation (see e.g. Carlson, 2006, 10ff) and implicit indefinites (see e.g. Martí, 2015): they are felicitous when describing activities institutionalized enough to be worthy of a label (e.g. *dile-n-[i]ci* 'beggar'). We thus take it that TVRs can, in fact, undergo agent nominalization in the general case, though judgments on individual formations are often modulated by grammar-external conditions of appropriateness of use.

The capacity to form agent nominals is thus another trait that TVRs share with unergatives, deviating from passives and their ilk. Finally, various examples with agent nominals further highlight the dissociation between passives and reflexives. For example, the verb *sar-ıl* 'wrap-NACT' in (47b) is ambiguous between a passive and reflexive interpretation in finite contexts. But the addition of the agent nominalizer *-IcI* leaves behind only the

[18]This is a slogan referring to violence against doctors, and how they are now forced to protect themselves, and instead of their actual job of protecting others.

reflexive interpretation: the form *sar-ıl-ıcı* cannot mean 'one who gets hugged/wrapped around', but only 'one who hugs/wraps oneself around (someone)'.

6.3 Adverbial gerundive *-ArAk*

In this section we consider adverbial gerundives with the verbal suffix *-ArAk* (Özkaragöz 1980, Knecht 1985, Biktimir 1986, Kornfilt 1997, Legate et al. 2020, Akkuş 2021, Akkuş and Paparounas 2024). *-ArAk* clauses display intricate matching restrictions that place verbal reflexives in the same natural class as active transitives/unergatives, distinct from passives or unaccusatives. We note that the nature of these matching effects are worthy of investigation in their own right; here, we content ourselves with outlining the relevant baseline contrasts and using them diagnostically for TVRs. Briefly, *-ArAk* gerunds necessitate that the matrix and gerundive clause match in voice, in the status of the subject as underlying or derived, or a combination of both. Table 2 summarizes the relevant patterns.[19]

Transitive/unergative + transitive/unergative	✓
Unaccusative + unaccusative	✓
Unergative + unaccusative	✗
Passive + passive	✓
Passive + transitive/unergative	✗
Passive + unaccusative	✗
Verbal reflexive + transitive/unergative	✓
Verbal reflexive + unaccusative	✗
Verbal reflexive + passive	✗

Table 2: *Patterns of combinations with -ArAk*

Verbal reflexives behave like unergatives/transitives, (48a-48b), in being able to combine with each of these classes but not with unaccusatives, (48c).

(48) a. Kız [söyle-n-erek] yürü-dü.
girl say-REFL-ARAK walk-PST
'The girl walked (while) complaining.' (reflexive + unergative; Nakipoğlu-Demiralp 2002, 13c)

b. Adam [söyle-n-erek] bulaşık-lar-ı yıka-dı.
man say-REFL-ARAK dish-PL-ACC wash-PST
'The man did the dishes (while) complaining.' (reflexive + transitive)

c. *Adam [buna-yarak] yıka-n-dı.
man go.senile-ARAK wash-REFL-PST
'The man washed (while) going senile.'
The man was washed (while) going senile. (unaccusative + reflexive)

[19]Most of the baseline generalizations on *-ArAk* are found as bits and pieces in various studies; the behavior of TVRs in these gerunds is noted here for the first time. See Appendix C.3 for references, baseline examples, and more examples involving TVRs. Here we focus solely on examples with TVRs in the interest of space.

Moreover, reflexives are not compatible with passives, clarifying that the mere presence of an agentive entailment in reflexives does not suffice to explain why reflexives do not combine with unaccusatives.

(49) a. *Manken [giy-in-erek] öp-ül-dü.
model dress.up-REFL-ARAK kiss-PASS-PST
'The model was kissed (while s/he was) getting dressed up.'

b. *Çocuk [okşa-n-arak] söyle-n-di.
child caress-PASS-ARAK say-REFL-PST
'The child complained (while s/he was) being caressed.'

In terms of *-ArAk* clauses then, reflexives pattern with unergatives and transitives (which have a filled Spec,VoiceP), and distinctly from both unaccusatives (which lacks a thematic Voice layer altogether), and from passives (which have a thematic Voice, albeit one lacking a specifier).

6.4 Non-passivization

Verbal reflexives may not be passivized in Turkish, and instead result in impersonals (Legate et al. 2020; Akkuş 2021) - a fact again expected if they behave, for the purposes of this diagnostic, like active Voice with an argument occupying Spec,VoiceP, and not passive Voice.

Sequences of Refl + 'Pass' (observed in the prior literature, e.g., Göksel 1993) are ungrammatical in Turkish when a *by*-phrase is added, (50). The addition of the 'passive' morpheme leads to an *impersonal* interpretation, and we accordingly translate the relevant examples as 'People/one self-Verb'.

(50) a. Dün dere-de (*adamlar tarafından) yıka-n-ıl-dı.
yesterday river-LOC men by wash-REFL-**IMPERS**-PST
'People/one self-washed in the river yesterday (*by some men).'

b. Sıcak ol-duğ-u için (*tatilciler tarafından) soy-un-ul-du.
hot be-NMLZ-POSS for vacationers by undress-REFL-**IMPERS**-PST
'People/one self-undressed (*by the vacationers) since it was hot.'

Further confirmation of the impersonal reading comes from the fact that TVRs with the 'passive' morpheme require a human interpretation.

(51) a. Bu orman-da {çocuk-lar / fil-ler } dere-de yıka-n-ır-lar.
this forest-LOC {child-PL / elephant-PL } river-LOC wash-REFL-AOR-PL
'In this forest, {children / elephants} wash (themselves) in the river.'

b. Bu orman-da dere-de yıka-n-ıl-ır.
this forest-LOC river-LOC wash-REFL-**IMPERS**-AOR
'In this forest, {people / #elephants} wash (themselves) in the river.'

A further indication of the impersonal comes from the fact that only third-singular agreement is allowed, (52).

(52) *Hamam-da yıka-n-ıl-dı-m.
Turkish bath-LOC wash-REFL-PASS-PST-1SG
Intended: 'Self-washing was done by me in the Turkish bath.'

The non-passivizability of verbal reflexives is instructive, providing another indication for the presence of an argument in Spec,VoiceP. The crucial observation is that verbal reflexives behave in the same way as impersonals. Following the analysis of impersonals in Akkuş 2021 and Legate et al. 2020 (cf. section 6.1 for a summary), the absence of passivization straightforwardly follows if the IMP occupies the specifier of VoiceP, such that TVRs pattern like active transitives or unergatives for this test. Otherwise, if the IMP remained in the VP-internal position, it would be surprising that TVRs are not compatible with passive Voice.

The patterns in this section also highlight that the behavior of TVRs in causatives, leveraged in section 3.2 as an intransitivity diagnostic, in fact also provides an additional external argumenthood test. Since indirect causatives embedding verbal reflexives are only possible with structures that have a filled Spec,VoiceP in Turkish (see Akkuş and Paparounas 2024), the fact that verbal reflexives form indirect causatives yields another argument that their surface subject, which is originally low in the υP, transits through Spec,VoiceP.

7 Analysis, Part II: Movement

Over the course of sections 4 and 6, we accumulated evidence for a representation where the sole argument occupies two distinct positions: though demonstrably having a low origin in the υP, the sole argument of TVRs also patterns as an external argument for diagnostics sensitive to the presence of a filled spec, VoiceP. In this section, we zoom in on this instance of movement in TVRs. We begin by ensuring that we are indeed dealing with a single structure involving movement, and not structural ambiguity. We then elaborate on the implementation of the movement step in the context of our analysis as developed thus far.

7.1 External-Internal properties combined

The surface subject of TVRs can simultaneously pass internal and external argument diagnostics in the same example. In (53a) below, the reading of an arbitrary human impersonal in the episodic context is reserved for external arguments; but the resultative suggests the presence of an internal argument. Likewise, in (53b), causativization signals the presence of an argument in embedded Spec,VoiceP (see section 3.2 and 6.4), and the resultative again targets the internal argument. (53c) combines the restitutive interpretation of *tekrar* 'again' with causativization.

(53) a. Dün bu dere-de ter-temiz yıka-n-ıl-dı.
yesterday this river-LOC REDUP-clean wash-REFL-IMPERS-PST
'People/one washed clean yesterday.'

b. *pro* [çocuğ-u ter-temiz yıka-n]-dır-dı-m.
[child-ACC REDUP-clean wash-REFL]-CAUS-PST-1SG
'I caused [the child to wash _ clean].'

c. *Pazartesi, annesi Kemal'i yıkadı. Salı günü... (On Monday, his mother washed Kemal. On Tuesday, ...)*
ben [Kemal-i tek başına tekrar yıka-n]-dır-dı-m.
I [Kemal-ACC on.his.own again wash-REFL]-CAUS-PST-1SG
'I made Kemal wash again on his own.'

Such combinations call for a structure that can accommodate the internal and external argument properties of the same argument in the same example; they thus rule out the possibility that our generalizations thus far can be explained by positing that TVRs are ambiguous between unergative and unaccusative structures. Lability of this kind of course arises quite generally elsewhere (for unergative/unaccusative alternations, see e.g. Perlmutter 1978; Burzio 1981, 1986; Sorace 2000; Krejci 2020; Holisky 1987; Neu 2024) and arguably with reflexives specifically (see esp. McGinnis 2022 for *se* reflexives); but it does not suffice to explain our data.

Besides suggesting the necessity of a movement analysis as opposed to mere structural ambiguity, examples like (53) reinforce a conclusion already made in our discussion up to this point: different phenomena can be sensitive to distinct positions forming part of the same movement chain. In (53), it suffices for the licensing of the resultative that a deep object is present in the structure, even though that is not the position where the relevant argument ends up being pronounced. For the purposes of impersonals and causatives, by contrast, it suffices that the relevant argument ended up occupying Spec,VoiceP on its way to becoming the grammatical subject. This type of differential sensitivity of particular phenomena to particular positions linked by movement is of course familiar from other domains (see e.g. McCloskey 1997 on the base position of 'subjects'; Levin and Rappaport Hovav 1995, 17ff for the surface subjects of unaccusatives; and cf. Kastner 2017, 17ff for relevant discussion with specific reference to reflexives).

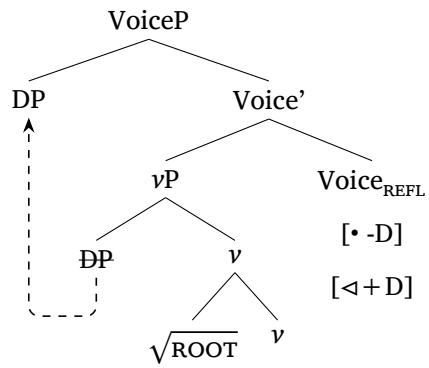
7.2 Movement to Spec,VoiceP

Recall again that the sole argument is base-generated in a low position, but also patterns like elements occupying spec, VoiceP, as confirmed by various diagnostics sensitive to that position. For instance, we saw that TVRs can undergo episodic impersonal formation, match unergatives/active transitives in the gerundive -ArAk construction and agent nominalizer *-IcI*, causativize on a par with unergatives.

Importantly, these diagnostics were shown to treat reflexives, transitives and unergatives together, distinct from passives. The reflexive/passive contrasts here are crucial; they clarify that common behavior of reflexives with unergatives/transitives cannot be attributed merely to the presence of an agentive entailment in the interpretation of reflexives. Rather, there must be a structural commonality between reflexives, unergatives,

and transitives not shared by passives. We propose that the presence of a VoiceP-internal intermediate landing site for the sole argument is the crucial factor here, as schematized in (54), before its final landing site, Spec,TP.

(54)



Movement thus emerges as an unavoidable reality in the structure of Turkish reflexives. Once we are convinced of this much, we must make precise what the trigger and role of movement is; Reflexive Voice gives us a locus with which to associate both. Recall from section 5 that we posited a free variable on Reflexive Voice, one that, upon being bound by movement of the internal argument, derives the effect of reflexivizing the agent role. In concluding that section, we noted that this analysis is only as good as any independent evidence for the existence of a local movement step of the appropriate kind. We have now seen independent evidence of precisely this kind.

To implement this movement in the syntax, we endow Voice$_{REFL}$ with an Internal-Merge-triggering feature [◅D] (Hewett 2023); as outlined in section 2.2, we take this type of feature to be satisfied only by movement of a DP to the specifier of the head bearing it. This type of EPP feature has been posited independently in recent work on different phenomena (see e.g. Hopperdietzel 2024 for Mandarin, Deal 2019 for Nez Perce, Lee 2024 for Korean, Sundaresan 2012 for Tamil; cf. Ahn (2015) for movement of reflexive anaphors in English).

It is important to be precise on what the role of movement is on the analysis we propose. The sole argument of the reflexive verb occupies a derived position in the VoiceP alongside its basic position low in the vP. This looks similar to structures proposed for movement-driven reflexivization elsewhere (Hornstein, 2001; Boeckx et al., 2008), but the specifics differ in important ways. In our system, there is no technical sense in which the moving element has picked up an Agent role via movement. While this statement is perhaps an appropriate description of the outcome of the derivation, it does not describe the mechanism by which this outcome has been arrived at. Concretely, the moving internal argument in our analysis only ever saturates one function, that introduced by v and labeled as Theme, and no other thematic function at any point. A distinct element, the free variable on Voice, saturates the function introduced by Voice and labeled Agent. The moving internal argument ends up semantically binding the variable, and this step of semantic binding leads to identification; while the final denotation ends up having the same definite description appearing as the argument of both Theme and Agent, this result has been arrived at through semantic binding, not by the same element saturating

one function in its base position and one in its landing site.[20]

8 Comparisons

With the core empirical observations on Turkish and our analysis thereof in place, we turn to comparative issues, along both theoretical empirical dimensions. We first situate our analysis with respect to conceivable alternatives, focussed on possible predictive differences between lexical and syntactic accounts of reflexivization. We then examine issues of crosslinguistic variation in the syntax and semantics of reflexive verbs, asking how our conclusions on Turkish might bear on the analysis of other systems.

8.1 Lexical versus syntactic

Analyses making use of lexical rules have figured prominently in the literature on verbal reflexives. A large-scale architectural comparison between such theories and our toolkit, surveyed in section 2.2, is neither possible nor appropriate here; we instead offer a focussed discussion centered on particular aspects of the analyses presented in Reinhart and Siloni (2004, 2005), and in Marelj and Reuland (2016). These analyses are embedded within the general approach to reflexivity articulated in the Theta System (Reinhart 2002, 2016 and much related work); for reasons that will become clear immediately, we will refer to this family of analyses to reflexivization as the Bundling framework.

In this section, we first note that recent iterations of the Bundling framework countenance the possibility of syntactic reflexivization as a parametric option, albeit without always spelling out what the relevant operation looks like. At a minimum, our analysis could be viewed as instantiating exactly the option of syntactic reflexivization that such analyses admit but do not always make explicit. Crucially, even if we were to otherwise assume the Bundling framework, Turkish cannot be a 'lexicon language', in the terms of such theories. Secondly, we identify problems with the empirical basis for the lexicon-syntax parameter posited in the Bundling framework. At the heart of this approach to reflexivity is the idea that a battery of diagnostics picks out two classes of languages with respect to the properties of verbal reflexives. We contend that this two-way division is, in fact, not supported by the diagnostics originally adduced in its favor. Tests fail to march in lockstep within individual languages, much less across them; many of them are also premised upon entirely theory-internal presuppositions, making their diagnostic utility unclear.

[20] Hornstein (2001, 41) considers a derivation of English *shave*-type verbs as in (i), where movement of *John* between internal and external positions causes the same argument to receive both the theme and the agent roles, respectively.

(i) John$_i$ [$_{VP}$ shaved t_i].

The issue with a derivation like (i) for the case of English is that the surface subject of verbs like *shave* in English never passes low origin diagnostics; for instance, resultatives are never licensed (**John shaved smooth*). Note also that, while (i) resembles the derivation we have proposed for TVRs, certain analytical details are crucially different, as discussed in sections 1 and 7.2.

8.1.1 Background

The lexical theory of reflexivization articulated in most detail is Reinhart and Siloni (2004, 2005), based on the system in Reinhart (2016); see also e.g. Marelj and Reuland (2016); Siloni (2012); Papangeli (2004), and compare earlier lexical analyses of reflexivization (Bresnan, 1982; Grimshaw, 1982; Wehrli, 1986; Bouchard, 1982). A starting assumption in this line of work maintains that intransitives are derived by the application of lexical operations on transitive entries. Unaccusatives are the product of an operation, Reduction, eliminating the external role of a basic transitive predicate, as schematized in (55) (see also Chierchia 2004). Many[21] lexical theories take verbal reflexives to be formed by a distinct operation, Bundling, whose effect is to combine the two roles of a basic transitive into a single composite role, (56).

(55) *Reduction: General schema*

$$\text{VERB}(\underline{\text{AGENT}},\text{THEME}) \xrightarrow{\text{Reduction}} \text{VERB}(\text{THEME})$$

(56) *Bundling: General schema*

$$\text{VERB}(\underline{\text{AGENT}},\text{THEME}) \xrightarrow{\text{Bundling}} \text{VERB}(\underline{\text{AGENT} + \text{THEME}})$$

In (56), the identified thematic roles are bundled into a composite role pre-syntactically; this composite role is in turn assigned to a single argument in the syntax. The output of Bundling involves (by assumption) a single role, and this single role is assigned to a single argument.[22]

To this intrinsically lexicalist picture, the Bundling framework adds the proviso that (56) does not, in fact, exhaust the range of reflexivization operations available to the grammar, because some reflexivization operations must be carried out syntactically. Consider, for example, the well-known observation that Icelandic *-st* reflexives can link the Agent role of the reflexivized verb to the ECM subject of a lower predicate (Marantz, 1984, 164); the identified roles belong to different predicates, a situation prohibiting any reasonable lexical treatment. Bundling accounts for such situations by proposing that the Lexicon/Syntax parameter, governing whether reflexivization is lexical or syntactic, is set to the Syntax setting in Icelandic and languages like it.

How does a theory countenancing *both* lexical *and* syntactic reflexivization distinguish itself from stricter alternatives limiting reflexivization to just one component of the grammar? In two ways: firstly, by specifying

[21] As far as we can tell, the analyses in Reinhart and Siloni (2004) and Reinhart and Siloni (2005) differ from each other with respect to whether verbal reflexives are derived by Reduction or a distinct operation; see Reinhart and Siloni (2005, 400: fn. 9).

[22] Some bundling-based accounts seek to always assign the composite role to an external argument, and thus rule out on principle the possibility of unaccusative reflexives (see esp. Reinhart and Siloni, 2004). This position seems both empirically untenable and theoretically unnecessary. Empirically, single-argument verbal reflexives whose sole argument originates vP-internally exist; Turkish is a case in point, and not the only one (see e.g. Paparounas, 2023; Spathas et al., 2015; Embick, 2004b; Kastner, 2017). Theoretically, the ban on unaccusative reflexives does not follow, internally to these theories, from anything specific to verbal reflexives, and can thus be dispensed without loss of insight. Briefly, the ban is imposed because reducing a basic transitive's *external* argument is reserved for the creation of unaccusatives, which must be distinguished from reflexives, and thus the latter are taken to result from reduction of internal arguments (perhaps combined with bundling). But this move *a)* is voided as soon as we decide not to derive unaccusatives from transitives (a move made widely since at least Alexiadou et al. 2006); *b)* does not follow from anything else in this particular theory, which needs to distinguish e.g. unaccusatives from passives anyway (see also Reinhart and Siloni 2005, sect. 6); and *c)* seems in any case to conflate the position that reflexives and unaccusatives can share aspects of their structure with the expectation that the two must accordingly behave alike in every respect (see Embick 2004b).

clearly what the two pathways to reflexivity – lexical and syntactic – look like; and secondly, by showing that the purported lexicon/syntax parameter reliably partitions languages in two groups based how their reflexives behave in diagnostics whose results march in lockstep, all pointing for a given language to one parameter setting. We argue in what follows that the parametric approach in Reinhart and Siloni (2004, 2005) falls short of meeting either aim.

8.1.2 Why Turkish must be treated syntactically

We can first ask whether, according to Bundling framework, Turkish would be considered a language that builds verbal reflexives lexically or syntactically. We have adduced numerous pieces of evidence to the effect that the surface subject of TVRs shares properties with both external and internal arguments. The syntactic movement analysis directly accounts for these observations; a lexical analysis does not. If Turkish were a 'lexicon language', the surface subject of TVRs would be assigned a single, composite role by the presyntactically reflexivized verb. It would then be utterly mysterious why this argument moves within the VoiceP; why the positions it moves between are those canonically associated with the roles Agent and Theme, roles which, on the lexical analysis, it has already been assigned by the verb; and why this movement takes place just when bundling has occurred (i.e. in verbal reflexives) but never otherwise (e.g. in unaccusatives and passives).

Moreover, particular diagnostics directly speak against the position that the verb in TVRs enters the syntactic structure already reflexivized. For instance. recall from section 4.3 that Turkish verbal reflexives modified by *tekrar* 'again' show agent-excluding readings; how this observation would fall out if the Agent role were bundled with the Theme role before the verb enters the syntax is wholly unclear. More broadly, any analysis that posits a single argument receiving bundled roles will miss the range of observations clearly speaking to the central role of syntax in delivering the properties of TVRs. Thus, even if the Bundling framework is otherwise accepted, TVRs must be treated as the output of a syntactic operation, exactly as we have proposed in this paper. But while bundling accounts rarely specify what it means to do reflexivization in the syntax in the absence of a pronominal anaphor, the analysis in this paper offers substance to this notion. That we make explicit an option often left unspecified on the bundling account is a positive step, on our view.

8.1.3 Revisiting diagnostics for bundling

We now turn to more general points regarding the lexicon/syntax parameter which, we argue, raise questions for the distinction between lexically and syntactically reflexivizing languages altogether. We first discuss shortcomings of individual diagnostics of the lexicon versus syntax setting of the putative parameter; we then show that, viewed next to each other, the results of different diagnostics are rarely consistent with each other.

A first test taken in Reinhart and Siloni (2005) to diagnose a given system as a 'lexicon language' or a 'syntax language' with respect to reflexivization is the availability of ECM reflexives. The basis for this distinction was

already mentioned above in connection to Icelandic: since lexical reflexivization must, on any conceivable account, operate on the thematic grid of a single verb, lexical analyses will undergenerate whenever the identified roles belong to distinct predicates. R&S elevate this observation to a two-way diagnostic: if a language allows ECM reflexives, it is a syntax language; if it does not, it is a lexicon language.

This last step simply does not follow. At most, ECM reflexivization is a one-way diagnostic: it is true that languages allowing ECM reflexives demand a syntactic treatment, but it is not clear why the *absence* of ECM reflexivization should allow us to conclude anything. Note incidentally that the precise syntax of 'ECM' in the language at hand matters for evaluating the relevance of ECM to reflexivity. For example, Akkuş (2022) shows that ECM subjects in Sason Arabic stay in the embedded clause. One consequence of this is that it is not possible to reflexivize an ECM verb even with a pronominal anaphor: since ECM subjects are in a lower binding domain, they surface as pronouns and not anaphors when co-indexed with a matrix argument (thus the grammatical examples are effectively *Ali$_i$ expects him(*self)$_i$ to win*). Clearly, the precise syntax of ECM can affect baseline expectations for the availability of reflexives broadly construed in ECM, in a way that should crucially inform the putative ECM diagnostic.

A second diagnostic meant to determine the setting of the lexicon/syntax parameter in a given language is nominalization. Reinhart and Siloni (2005) take it that, because nominalization is a strictly lexical process, only lexically built reflexives can appear in nominalizations. But the premise that nominalization must be a uniquely lexical process raises several issues. Firstly, this is a purely theory-internal assumption that risks bringing the overall diagnostic enterprise close to circular reasoning: one seeks to diagnose where the grammar places a given operation (reflexivization) by taking for granted the placement within the grammar of another operation (nominalization). But a lexical analysis of nominalization cannot simply be assumed, witness the fact that lexical and syntactic analyses of (different kinds of) nominalizations have co-existed since the earliest work on the issue (see. e.g., Chomsky 1970; Marantz 1997; Grimshaw 1990; Alexiadou 2001; Wood 2023; Williams 2007; Embick and Marantz 2008; Bruening 2018; Lees 1968; Rosenbaum 1967). It is thus unclear what the basis for the putative diagnostic is in the first place. Secondly, given other properties of the theory in Reinhart and Siloni (2005), the assumption that nominalization must be uniquely lexical is at best mysterious: it makes nominalization unlike other argument structure-changing processes which, in this framework, are allowed in principle to occur either in the lexicon or in the syntax, reflexivization being a case in point. Finally, nominalization is not a monolithic phenomenon; 'nominalizations' broadly construed split into types differing substantially in their structural properties (e.g. Lees, 1968; Chomsky, 1970; Grimshaw, 1990). Conclusions on the properties of reflexives can thus not be reliably premised on simple surface inspection of whether a form like *self-washing* exists in a given language, as Reinhart and Siloni (2005, 409-410) seems to posit; at a minimum, one needs to know if what is being nominalized is deverbal or not, among other crucial questions.

Yet another diagnostic concerns what θ-role can be identified with the Agent role in a given language; the discussion here is related to the issue of 'productivity' (on which see sect. 2.1 and fn. 2). The proposal is that, if reflexivization can identify a role other than Theme (e.g. beneficiary) with Agent, we are dealing with a syntax language. The proposal is that, since a 'theme role is never realized as a dative argument' (Reinhart and Siloni, 2005, 412), we do not expect lexicon languages to allow dative arguments to participate in reflexivization; we assume that this statement will have to be qualified to take into account, e.g., Themes that do receive 'dative' as a lexical case in the sense of Woolford (2006). Importantly, it is not clear to us what the basis for this diagnostic is internally to the Bundling framework: if peripheral roles such as beneficiary are introduced by the verb in this framework, it is unclear what gives rise to the expectation that such roles cannot be targeted by lexical reflexivization. The tentative nature of the diagnostic seems to be acknowledged in the statement that 'if it turns out that there are lexicon languages that allow dative reflexivization, the definition of the set of reflexive verbs would, of course, have to take this into consideration' (Reinhart and Siloni, 2005, 412).

Having highlighted inherent issues with some of the diagnostics posited by Reinhart and Siloni (2005), we further point out that these diagnostics fail to line up; we highlight several mismatches here. First, following Papangeli (2004), Reinhart and Siloni (2005) take Greek verbal reflexives to be built syntactically (apparently because they are 'productive'; see above), even though Greek reflexives are not formed on the basis of ECM verbs (see e.g. Paparounas 2023:109 for *afto-* reflexives, and cp. the discussion of 'natural' reflexives in Papangeli 2004, 69-71, where no clear conclusion is reached). Second, Reinhart and Siloni (2005, fn. 16) note that Czech reflexives, otherwise patterning as 'syntactic' on their account, do freely participate in nominalization. The ensuing suggestion in this work that nominalization in Czech must thus be syntactic strikes us merely amplifying the concern on circularity we raised above. Third, Icelandic patterns as a 'syntax' language with respect to the availability of ECM reflexives, but lacks the counterpart of 'dative' reflexivization, where Agents would be bundled with roles other than Theme (Wood 2015). Fourth, Turkish shows a dissociation in the other direction, being classified as lexical with respect to some diagnostics (the absence of ECM and the existence of reflexive nominalizations) but nonetheless allowing reflexivization of non-core arguments under particular circumstances. Key (2023, 2024) shows that Turkish allows the agent of a verb to be identified with locations, beneficiaries or experiencer theta roles, forming *ground reflexives*. Additionally, Key notes that the availability of ground reflexivization is structurally modulated: if the verb embeds a structure bearing both a ground and a lower figure (≈ Theme), it is possible to form an agent-ground reflexive, but it is not possible to identify the agent with the figure across the ground, even though agent-figure reflexives are possible otherwise. This state of affairs is easily accommodated under the analysis of Turkish advocated here: if A-movement plays a crucial role in the formation of reflexives, then reflexivization will obey standard constraints on A-movement, identifying the agent nominal with the closest nominal without being able to skip interveners. But if reflexivization

in Turkish is carried out in the lexicon, the absence of agent-figure reflexives in sentences that also include a ground is unexpected.

Overall, we do not find the lexicon/syntax parameter to be well-motivated. Putting aside the fact that Turkish would require a syntactic treatment even according to the parametric theory itself, we have cast doubt on the original empirical basis for a two-way distinction between 'lexicon' versus 'syntax' languages.

8.2 Beyond Turkish

The diagnostic toolkit we used in this paper has helped us arrive at an analysis that we believe does justice to the empirical intricacies of Turkish reflexive verbs. In this section, we ask how what we learn from Turkish may bear on the analysis of other systems. Turkish-internally, key observations – verbal reflexives that share their morphology with passives and do not include a pronominal anaphor, whose surface subject is basically vP-internal and transits to a derived subject position within the VoiceP – have given way to the basic ingredients of our account, namely a Reflexive Voice head contributing a free variable, and a step of movement within the VoiceP that leads to that variable being bound.

The extent to which these ingredients will extend to other systems is an empirical question. It could be that verbal reflexives cross-linguistically are species of Reflexive Voice (see e.g. Kallulli and Roberts 2025 for a proposal in fact not limited to verbal reflexives); or it could be that 'verbal reflexive' is merely a descriptive category, perhaps on a par with 'passive' (see Legate 2021), and that verbal reflexivity can be derived with a variety of means across languages (as in Alexiadou and Schäfer 2013); and Kastner 2017; Wood 2015 are works deriving reflexive readings 'emergently', i.e. from ingredients that are not inherently reflexive. We cannot settle the matter here; instead, we offer a first cross-linguistic discussion pinpointing various dimensions of variation in the morphology-syntax of verbal reflexives for future comparative work to take into account. We consider it a sign of progress that our account raises questions of this kind.

These focussed comparisons highlight at least two points. Firstly, two dimensions of variation in the formation of verbal reflexives are those that we have considered throughout this paper and summarized in the four trees in section 2.1: the arity of reflexive verbs, and the position of their argument(s). As expected, we find below both that there are languages that employ transitive structures, and that there are intransitive structures with basically external arguments (i.e. 'unergative' reflexives). Importantly, comparisons of TVRs with other systems along these two first dimensions can only proceed safely once we establish the basic syntax of the systems being compared; we endeavor to briefly do this where necessary below, but for languages where a diagnostic effort of the kind we have undertaken here has simply not been carried out to the same level of detail, comparisons will necessarily be tentative. Secondly, we find that these two dimensions far from exhaust the space of cross-linguistic variation in the formation of verbal reflexives. Instead, independent differences

in the inventory of functional elements between languages also play a role in driving some of the variation we observe: the availability of expletive elements, reflexivizing adverbials or perspectival phrases sets apart other systems from Turkish even once we account for variation in arity and argument placement. Comparisons between different systems must thus be multidimensional, rather than piecemeal, and we find repeatedly below that language-specific properties play an important role in determining the plausibility of extending a particular syntactic and semantic analysis from one language to another. Overall, our survey reveals that even if one wishes to assume a single notion of reflexivity, its surface encoding must be allowed to vary substantially.

With the above in mind, consider firstly the verbal reflexives of Greek, exemplified in (57), which appear to match their Turkish counterparts in terms of their basic syntax (Alexiadou, 2014; Alexiadou and Schäfer, 2013; Spathas et al., 2015; Paparounas, 2023). Greek evidences two verbal reflexivization strategies: some Roots, including grooming predicates and those denoting other typically self-oriented events, can receive reflexive readings merely by appearing with nonactive morphology; the relevant forms are in principle ambiguous, also supporting a passive reading (57). Greek also has a prefixal reflexivizing morpheme that obligatorily co-occurs with nonactive morphology and forms reflexive verbs from other Roots quite productively (58).

(57) O Janis ksiris- θ- ik- e.
the.NOM John.NOM shave PFV.**NACT** PST 3SG
'John was shaved' OR 'John shaved'

(58) Simfona me ti miθolojia, afti i θeotita **afto**- ðimiurɣi- θ- ik- e
according.to with the mythology this.NOM the.NOM deity.NOM REFL create PFV.**NACT** PST 3SG
apo to miðen.
from the zero
'According to mythology, this deity self-created out of nothing.'

Paparounas (2023, ch. 3) shows that both types of reflexive verbs in Greek have a basic passive syntax: they are interpretively monadic, and their surface subject originates as a deep object (see also Alexiadou and Schäfer 2013). In other words, Greek and Turkish have the same basic syntax for their reflexive verbs.

While this is an important point of convergence between the two languages, it does not exhaust the range of comparisons that can be made between Greek and Turkish. In particular, the Greek example that appears to resemble TVRs most closely is (57): a restricted (but, as in Turkish, in fact not small in any sense) list of Roots can be reflexivized in the context of nonactive morphology. If the analysis of Turkish is to be extended to Greek as-is, one expects to find evidence not just of the basic passive syntax of such examples, but also of an intermediate landing site inside VoiceP. Whether such evidence can be marshaled remains to be seen: since Greek allows postverbal subjects more generally (Alexiadou and Anagnostopoulou 1998), and many of the phenomena we leveraged to diagnose the existence of the intermediate position in Turkish are simply not present in Greek, this is not an easy task. This illustrates a first analytical challenge: even if the next

language over employs the same structure as we have identified for Turkish, there is no reason to expect that this language will evidence this analysis as transparently as Turkish does.

A second point of variation arises by examining (58): what is the role of *afto–*? Paparounas (2023) suggests that this exponent indexes the presence of Reflexive Voice; but other analyses exist (e.g. a low incorporated adverb in Embick 2004a; an anti-assistive adverb in Spathas et al. 2015, who argue against a Reflexive Voice analysis). Regardless of the precise analysis chosen, any approach to the Greek cases must capture the fact that Greek avails itself of a strategy that Turkish lacks: whatever role *afto–* performs, Turkish seems to lack a comparable element. Thus, even though Greek seems to be a language very close in details to Turkish with respect to the basic structure of reflexive verbs, we find differences even in this first comparison: in this case, the range of reflexivization strategies admitted by a language seems to be affected by the inventory a language has at its disposal. More specifically, the presence/absence of a morpheme like *afto–* seems to be a low-level difference with wide-ranging effects; this kind of inventory difference has been noted to differentiate reflexivization strategies across languages elsewhere (see especially Marelj and Reuland 2016).

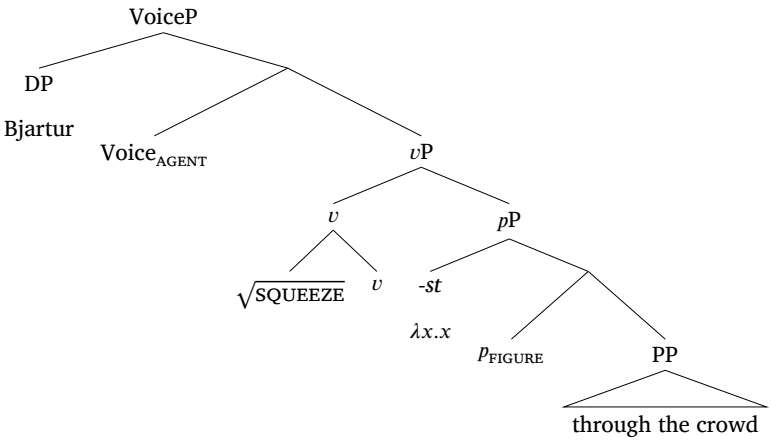
Beyond this level, any complete analysis of the Greek must contend both with (57) and with (58); we evidently cannot pursue this here, but we note that what we have found for Turkish is likely to inform and help sharpen the analysis of Greek.

Consider now the analysis of Icelandic *-st* reflexives presented in Wood (2014, 2015). Wood's discussion is focussed on unifying the diverse contexts in which the clitic *-st* appears in the language; one part of this enterprise focuses on so-called *figure reflexives* as in (59a), where *-st* seems to have the effect of identifying the agent, here the surface subject *Bjartur*, with the external argument (the figure) of a prepositional phrase. Wood argues for an analysis with the key properties in (59b), where *a) Bjartur* saturates the agent role; *b) -st* is syntactically the external argument of the *p*P; and *c)* interpretively, *-st* does not contribute a variable saturating the figure role, but is rather an expletive element, which Wood captures by assigning it the denotation of the identity function (Wood 2015: 176) (in the spirit of the *expletive* Voice of Schäfer 2008, 2025; Alexiadou et al. 2015).[23] Wood shows how this approach to *-st*, coupled with standard assumptions on how the rest of the structure is interpreted, yields a semantic derivation where the figure function effectively percolates up the tree, eventually composing with the Agent function and being assigned along with it to *Bjartur* (a *delayed saturation* effect; see sect. 2.2).

(59) a. Bjartur tróð-*st* gegnum mannþröngina.
Bjartur.NOM squeezed-REFL through crowd.the.ACC
'Bjartur squeezed himself through the crowd.'

[23]Wood introduces non-reflexive figure constructions, e.g., 'Bjartur squeezed the pencils into the bag' in the same manner; 'the pencils' occupies the same position as *-st*, i.e., spec,pP (Wood 2015:183,(28)). The difference is that since an internal argument like 'the pencils' is not expletive, it contributes a definite description saturating the figure function, and no delayed saturation effect obtains. Of interest for our purposes is that the direct object in regular transitives would also be in the same configuration, mainly because in Wood's analysis, the figure role also is dissociated from *v*+*Root*.

b.



Assuming a version of (59b) as the analysis of Icelandic figure reflexives yields a new dimension of cross-linguistic variation for the syntax of verbal reflexives. The verb in (59b) is transitive, since the internal argument *p*P is distinct from the surface subject *Bjartur*. But the interpretation of the reflexive element *-st* as expletive raises the expectation that this transitive structure will pattern as monadic for the interpretive diagnostics we developed here: since *-st* does not contribute an event participant, but rather an identity function, we expect Icelandic to pattern with Turkish in not exhibiting the kind of interpretive flexibility that marks a dyadic/polyadic predicate, as discussed in section 3.

Extending the interpretive diagnostics we used for Turkish to Icelandic, we find that *-st* reflexives indeed pattern as interpretively monadic, as predicted by the analysis in Wood (2015).[24] For example, *-st* reflexives do not allow strict readings of comparatives, (60).

(60) Bjartur tróð-*st* gegnum mannþröngina, og Pétur gerði það líka.
Bjartur.NOM squeezed-REFL through crowd.the.ACC and Peter did so too
'Bjartur squeezed himself through the crowd, and Peter did so too.' ✗strict ✓sloppy

Unlike the complex reflexive *sjálfan*, *-st* reflexives only allow denials of bound readings under *only* (61).

(61) Aðeins Bjartur tróð-st gegnum mannþröngina.
only Bjartur.NOM squeezed-REFL through crowd.the.ACC
'Only Bjartur squeezed himself through the crowd.'

[24] The patterns we report for *-st* reflexives here also hold for Icelandic's simplex reflexive pronoun, e.g., *troða sér* 'squeeze self'. Our consultants have reported that some examples are more natural with *sig* (or its appropriate case-marked form), which has been argued to be a syntactic argument (Jónsson 2011) instead of *-st*, although both are possible and the results do not change. For space reasons, we only illustrate it for VP-ellipsis in (i), which further shows that more than syntactic transitivity is at play.

(i) a. Jón$_i$ rakaði sig$_i$ og Pétur$_j$ gerði það líka.
John shaved REFL.ACC and Peter did so too
'John shaved himself and Peter did so too.' (from Reuland and Everaert 2001) ✗strict ✓sloppy

b. Bjartur tróð sér$_i$ gegnum mannþröngina, og Pétur gerði það líka.
Bjartur.NOM squeezed REFL.DAT through crowd.the.ACC and Peter did so too
'Bjartur squeezed himself through the crowd, and Peter did so too.' ✗strict ✓sloppy

Thanks to Iris Edda Nowenstein, Jóhannes Gísli Jónsson, Einar Freyr Sigurðsson, and Anton Karl Ingason for the Icelandic data and/or discussion.

a. Nei, María tróð-st gegnum mannþröngina líka.
no María.NOM squeezed-REFL through crowd.the.ACC too
'No, María squeezed herself (through the crowd) too.'

b. #Nei, María tróð honum gegnum mannþröngina líka.
no María.NOM squeezed him through crowd.the.ACC too
'No, María squeezed him (through the crowd) too.'

The infelicity of *-st* reflexives in a proxy-favoring context is also informative.

(62) *Context: Bjartur sees that his wax statue is getting very harmed due to the large crowd, so he finds a way to get it through the crowd without him going through the crowd.*

#Bjartur tróð-*st* gegnum mannþröngina.
Bjartur.NOM squeezed-REFL through crowd.the.ACC
'Bjartur squeezed himself through the crowd.'

This dissociation between syntactic transitivity and interpretive arity constitutes a first instance where looking cross-linguistically forces us to enrich the scope of our comparisons: the two traveled together in the case of Turkish, but we find languages where they part ways. Moreover, given the syntactic ingredients available in Icelandic, verbal reflexivity can be derived in a different manner than the reflexive voice posited for Turkish (for how the predictions of a Reflexive Voice account can be teased apart from those of a Wood-style expletive account, see McGinnis 2022, 338ff).

Once we countenance the possibility of a dissociation between interpretive arity and syntactic transitivity, more differences between Turkish and other systems may well fall into place. For instance, while German *sich* reflexives and Dutch *zich* reflexives may be both syntactically transitive, parallel to the *-st* reflexives in Icelandic, only the former behave as dyadic predicates interpretively, with Dutch *zich* reflexives patterning with TVRs and Icelandic *-st* (and unlike the language's *zichzelf* reflexives) for the interpretive arity tests we discussed in this paper (see e.g., Dimitriadis and Everaert 2014).

If German and Dutch differ minimally in the semantic contribution made by their reflexive elements, we can understand this state of affairs: on the resulting account, both languages would have syntactically transitive reflexive verbs, but in Dutch the reflexive element *zich* would be interpreted as not an event participant, by virtue of being either an expletive element (*à la* Wood 2014 on Icelandic; cp. Schäfer 2008 on German), or an arity reducer.[25] In fact, Everaert 1986 suggests that simplex reflexives are not anaphoric elements but unaccusativity markers (an idea revived in Rooryck and Vanden Wyngaerd (2011) in terms of inalienable possession), which is potentially compatible with devoiding *zich* from any semantic content. That said, even a cursory look at the literature on German or Dutch reveals the co-existence of widely varied analyses that

[25]Note that *sich* in German has been treated as a syntactic argument of category XP, including for marked anticausatives, where it occupies the specifier of expletive VoiceP (Schäfer 2008; **?**).

range from approaches based on or modifying the theta-system (e.g., Reinhart and Siloni 2005; Reuland 2011 or Marelj and Reuland 2016) to purely syntactic analyses (see e.g. Rooryck and Vanden Wyngaerd 1998; Broekhuis 2021; Everaert 1986 for different analyses). We cannot devote any more space to the issue.

This discussion suggests that the interpretation of a syntactic argument as a true event participant or not is a further dimension of variation, beyond the two crucial dimensions that Turkish enabled us to probe.

To buttress these points on the basis of a second comparison, consider the clitic reflexives of Romance, on which much has been written. Consider French below. Given the presence of an overt clitic surfacing in (ostensibly) the same position as non-anaphoric object clitics in these languages, verbs with anaphoric clitics must be transitive for at least some interpretation of this term. And indeed, verbs with reflexive *se* in French have been shown to pass various dyadicity diagnostics; for instance, they support proxy readings (63) (see also Labelle 2008, 855-856), allow bound variable interpretations under focus (Sportiche 2014, 311-312) (but see Labelle (2008, 858ff) on comparatives, and refinements based on verb class in Haiden 2019), and are acceptable in the *de re* contexts (Sportiche 2023:8).

(63) *Ringo Starr decided his wax statue was looking a little dirty. Thus, armed with a soapy sponge...*

Ringo s'=est lavé.
Ringo REFL=AUX wash.PTCP

'Ringo washed himself.' (adapted from Haiden 2019, fn. 19)

At the same time, it has been known since at least Kayne (1975) that Romance verbs with reflexive clitics also behave unlike verbs with non-reflexive clitic objects. The preeminent observation in this domain concerns causatives, where verbs with non-reflexive clitic objects pattern as transitive in having causes marked with *à*, whereas verbs with reflexive *se* pattern as intransitive in having bare causees:

(64) a. Il a fait partir (*a) son amie.
3SG.M.NOM AUX.3SG make.PTCP leave.INF to 3SG.POSS friend.F
'He made his friend leave.' (Kayne, 1975, 203)

b. Il a fait visiter la ferme *(à) ses parents.
3SG.M.NOM AUX.3SG make.PTCP visit.INF the farm to 3SG.POSS.PL parent.PL
'He made his parents visit the farm.' (Kayne, 1975, 204)

c. Je ferai se laver (*à) Jean.
1SG.NOM make.1SG.FUT REFL wash.INF to Jean
'I will make Jean wash himself.' (based on Reinhart and Siloni, 2005, 393)

Clearly, then, while French reflexives with *se* are dyadic, unlike their Turkish counterparts, they are like their Turkish counterparts in patterning as intransitive with respect to causativization. Once again, once we countenance the possibility of interpretive arity being dissociated from syntactic transitivity, this state of affairs should not surprise us: at least descriptively, French seems to be patterning as the mirror image of Icelandic,

possibly instantiating a system where verbs with reflexive clitic objects are syntactically intransitive but interpretively dyadic. Whether this conclusion holds is a question for work on the language to address further. At a minimum, the facts may suggest that *se* is syntactically not a pronoun, but rather a Voice head (with McGinnis, 2022; Labelle, 2008), thereby not yielding syntactically transitive verbs. But other possibilities exist too: for instance, reflexive clitics could be taken to be structurally smaller than non-reflexive ones, in a way that affects the calculation of transitivity for the purposes of the causativization diagnostic (cf. e.g., Cardinaletti and Starke 1999; Déchaine and Wiltschko 2002; Deal 2023). We cannot hope to sort between such alternatives here; instead, we wish to highlight that these questions arise once syntactic tests like causativization are put side-by-side with the interpretive diagnostics we have collected here. Thus, yet again, we believe our discussion opens fruitful pathways for the investigation of other languages.

We also touch upon some Dravidian languages, with a view to further highlight the low-level variation in functional domains that is bound to affect how reflexivity is derived in the syntax. Even a cursory look at Dravidian languages with relatively well-studied strategies of reflexivity (e.g., Tamil, Telugu or Kannada) reveals a variety of competing analyses, with previous work often discussing disjoint sets of diagnostics for either the valency of verbal reflexives or the placement of their arguments.

An interesting property of these languages is that reflexivity is perspectivally regulated (see esp. Jayaseelan 1998; Sundaresan 2016, 2018), bringing in its own complications: as Sundaresan notes, it is difficult to study these systems without making decisions on how perspective is to be encoded and how it interacts with the representation of reflexivity. Moreover, Tamil anaphor *ta(a)n* cannot be locally bound as is, without *ko*̩ on *ta(a)n*'s clausemate verb, often classified as a kind of middle marker, (65) (see also Lidz 2001a for Kannada).

(65) a. *Kalpana$_i$ tann-æ$_i$ kiḷḷ-in-aaḷ.
Kalpana ANAPH-acc pinch-PST-3SG.F
'Maya pinched herself.'

b. Kalpana$_i$ tann-æ$_{\{i,*j\}}$ kiḷḷ-i-ko-ṇḍ-aaḷ.
Kalpana ANAPH-acc pinch-ASP-*ko*̩-PST-3SG.F
'Kalpana$_i$ pinched herself$_{\{i,*j\}}$.' (Tamil; Sundaresan 2016:2-3)

This construction raises many interesting questions, including those related to the roles of *ta(a)n* and *ko*̩. For example, Jayaseelan (1998) argues that rather than being coindexed with its overt antecedent, *ta(a)n* is explicitly coindexed with the perspective-holder of the utterance, which happens to correspond to the overt antecedent (see Sundaresan 2012 for a similar analysis). Furthermore, Sundaresan 2012, 2016, 2018 gives a syntactic analysis according to which, in languages with perspectival anaphora, the anaphor must be syntactically bound within its local Perspectival Phrase or PerspP (a binding domain with the additional restriction that the binder has to denote a perspective-holder). The antecedent, on the other hand, must be outside the perspectival domain. According to Sundaresan, reflexives are unique in that they instantiate the only struc-

ture where the intended antecedent is also a co-argument of the anaphor. This has the consequence that, in reflexives, the antecedent is also contained inside the local PerspP of the anaphor, which Sundaresan argues yields an anti-locality effect. Sundaresan argues that languages like Tamil modify the offending configuration by the addition of *ko|:* this element takes a PerspP as its complement, creates additional clausal structure and splits the binding domain, allowing perspectival reflexivity to obtain after all.

Abstracting away from the details of analyses, we observe that Dravidian languages have syntactic ingredients that are not available to other languages. Even though Sundaresan 2018 treats *ko|* as a kind of middle marker that obviates the anti-locality effect, the way it works would be different from what we are suggesting for Turkish reflexive Voice, simply because of the number of functional projections involved, the anti-local binding associated with *ta(a)n* in the absence of *ko|*, etc.[26] Moreover, other studies advocate for the view that *ta(a)n* is a pronoun, and not an anaphor (e.g., Aravind 2024). Given these properties of Dravidian languages and the unresolved issues, we do not assimilate them into the Reflexive Voice analysis; whether this is completely impossible or not could be a topic of future research. On the flip side, the analyses given for Dravidian languages are not expected to extend to languages like Turkish or Greek because of their specific functional inventories. Regardless, we hope that our findings here may incentivize this kind of comparative work.

To complete the paradigm, it could very well be the case that languages like English and Sason Arabic are genuinely unergative reflexives (being both syntactically intransitive and semantically unary), and could be given a syntactic treatment that captures their syntactic and interpretive properties.

Finally, given that reflexivity can encoded in multiple ways in the syntax given the divergences in the functional domain, as this section has demonstrated, we believe that the examination of verbal reflexives in other languages is likely to benefit from the type of diagnostic endeavor we have undertaken here concerning the argument structure of such verbs, and that such endeavors are crucial in circumscribing the range of analyses that deserve to be considered for each language. For instance, Baker (2022) proposes an Agree-based analysis of (what appear to be) verbal reflexives in Shipibo. The analysis deploys Agree-based binding as a way of deriving the reflexive interpretation; this mechanism is in turn crucially predicated on the assumption that these verbs are actually transitive, with a null reflexive anaphor in their structure. This analysis may well be correct for Shipibo (Baker does not directly probe the valency of these verbs). Such an analysis is simply not available for a language like Turkish.

To conclude, this section has given a brief overview over the diverging properties of verbal reflexives in languages beyond Turkish, focusing on some key points of comparison (arity, argument position, expletive vs.

[26] On the surface this would look like a configuration that involves reflexive verbs in addition to a genuine anaphoric pronoun; but the relevant literature shows that this is not the case. An option that is worth investigating is whether *ko|* could be treated as a reflex of the head mediating the binding of minimal pronouns in analyses like Kratzer (2009).

Some Turkish ground reflexives also allow the reflexive morpheme on the verb to co-occur with a common DP (Key 2023). However, in this context, it is not the theme/figure theta-role that bundles with the agent, but the higher ground/benefactive role.

semantically contentful arguments, etc.). While we do not claim that all verbal reflexives cross-linguistically are amenable to the very same analysis that we have developed here for Turkish, we hope that by mixing and matching the different components of our proposal, it will be possible to cover a lot of typological ground. At the very least, we believe that our paper has provided valuable diagnostics and analytic machinery that can be used in future work to further investigate the nature of verbal reflexives.

9 Conclusions

This paper has investigated the argument structure of Turkish verbal reflexives (TVRs).

We first demonstrated that TVRs are syntactically intransitive and semantically monadic. Thus, there is only a single argument around syntactically, the surface subject. Probing the properties of this sole argument, we have observed that it behaves like an internal argument for various tests.

Interestingly, we have also found that the single argument passes positional diagnostics targeting the presence of the Spec,VoiceP, which we captured by a movement dependency. In other words, the sole argument is generated low, and undergoes internal merge to Spec,$\text{Voice}_{\text{REFL}}$P. In this regard, TVRs pattern like active transitives/unergatives and differently from passives.

That Turkish wears on its sleeve a syntactic derivation of reflexivity along these lines has allowed us to develop a precise analysis of syntactic reflexivization of a single-argument structure. We have argued that a special kind of the agent-introducing Voice head, i.e., $\text{Voice}_{\text{REFL}}$, derives the reflexive interpretation, effectively reflexivizing the Agent role through a process in which movement of the sole, internal argument is crucial. That Turkish allows us to discern with surprising precision that movement-derived reflexivization is a possible way of deriving reflexivity in natural language is a new discovery, one that is as important as the precise mechanics we use to state our analysis, in our view.

We have also provided empirical and theoretical comparisons, discussing crosslinguistic variation in the syntactic and semantic ingredients of verbal reflexives, and comparing our approach with different conceivable analyses. We leave the elaboration of these more tentative but interesting avenues for future work.

The Online-only Appendix contains additional examples for many of the tests used in the paper.

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The argument structure of Turkish verbal reflexives

Online-Only Appendix

A (In)transitivity

A.1 Ambiguity under VP ellipsis and Comparative ellipsis

(1) a. Ali kendin-i ört-tü, Ayşe de (öyle yap-tı).
Ali self-ACC cover-PST Ayşe too so do-PST
'Ali covered himself, and Ayşe did so too.' ✓strict ✓sloppy

b. Ali ört-ün-dü, Ayşe de (öyle yap-tı).
Ali cover-REFL-PST Ayşe too so do-PST
'Ali covered, and Ayşe did so too.' ✗strict ✓sloppy

(2) a. Ali kendin-i toparla-dı, Ayşe de (öyle yap-tı).
Ali self-ACC pull.together-PST Ayşe too so do-PST
'Ali pulled himself together, and Ayşe did so too.' ✓strict ✓sloppy

b. Ali toparla-n-dı, Ayşe de (öyle yap-tı).
Ali pull.together-REFL-PST Ayşe too so do-PST
'Ali pulled (himself) together, and Ayşe did so too.' ✗strict ✓sloppy

(3) a. Ali kendin-i tart-tı, Ayşe de (öyle yap-tı).
Ali self-ACC weigh-PST Ayşe too so do-PST
'Ali weighed himself, and Ayşe did so too.' ✓strict ✓sloppy

b. Ali tart-ıl-dı, Ayşe de (öyle yap-tı).
Ali weigh-REFL-PST Ayşe too so do-PST
'Ali weighed, and Ayşe did so too.' ✗strict ✓sloppy

(4) This barber shaves himself faster than the customer.

✓object comparison: '....than the barber shaves the customer.'

✓subject comparison, sloppy: '...than the customer shaves the customer.'

✓subject comparison, strict: '...than the customer shaves the barber.'

(5) This barber shaves faster than the customer.

✗object ✓subject-sloppy ✗subject-strict

(6) a. Ali kendin-i Ayşe-den daha çabuk ört-tü.
Ali self-ACC Ayşe-ABL more quick cover-PST
'Ali covered himself faster than Ayşe.'

✓object comparison: '....than Ali covered Ayşe.'

✓subject comparison, sloppy: '...than Ayşe covered Ayşe.'

✓subject comparison, strict: '...than Ayşe covered Ali.'

b. Ali Ayşe-den daha çabuk ört-ün-dü.
Ali Ayşe-ABL more quick cover-REFL-PST
'Ali covered faster than Ayşe.' ✗object ✓subject-sloppy ✗subject-strict

(7) a. Ali kendin-i Ayşe-den daha çabuk temizle-di.
Ali self-ACC Ayşe-ABL more quick clean-PST
'Ali cleaned himself faster than Ayşe.' ✓strict ✓sloppy

b. Ali Ayşe-den daha çabuk temizle-n-di.
Ali Ayşe-ABL more quick clean-REFL-PST
'Ali cleaned faster than Ayşe.' ✗strict ✓sloppy

A.2 De dicto and Proxy readings

(8) *[Ali, the leader of a religious cult, must once a year ceremonially wash the oldest member of the community using what is considered holy water. He hasn't realized that, as of this year, he himself is the oldest member. On the day, he announces: 'I must now wash the oldest member of the community!'.]*

a. Ali kendin-i yıka-mak istiyor.
Ali self-ACC wash-INF want-PROG
'Ali wants to wash himself.'

b. #Ali yıka-n-mak isti-yor.
Ali wash-REFL-INF want-PROG
'Ali wants to wash.'

(9) *[Ali, the leader of a cult, must once a year prepare the oldest member of the community for a special ceremony. He hasn't realized that, as of this year, he himself is the oldest member. On the day, he announces: 'I must now prepare the oldest member of the community!'.]*

a. Ali kendin-i hazırla-mak isti-yor.
Ali self-ACC prepare-INF want-PROG
'Ali wants to prepare himself.'

b. #Ali hazırla-n-mak isti-yor.
Ali prepare-REFL-INF want-PROG
'Ali wants to prepare.'

(10) *Context: The sculptor charges Kıvanç Tatlıtuğ for 80 kilos' worth of wax for his statue. Kıvanç suspects he's being ripped off, so decides to weigh the statue to see if the price is right.*

a. Kıvanç kendin-i tart-tı.
Kıvanç self-ACC weigh-PST
' Kıvanç weighed himself.'

b. #Kıvanç tart-ıl-dı.
Kıvanç weigh-REFL-PST
'Kıvanç weighed.'

(11) *Context: Kıvanç sees that his wax statue is about to be destroyed by the rain, and decides to cover it.*

a. Kıvanç kendin-i ört-tü.
Kıvanç self-ACC cover-PST
'Kıvanç covered himself.'

b. #Kıvanç ört-ün-dü.
Kıvanç cover-REFL-PST
'Kıvanç covered.'

A.3 Indirect causatives

(12) a. Aile-m ben-i zorla {kapa-n-dır-dı / ört-ün-dür-dü}.
family-1SG.POSS I-ACC by.force {close-REFL-CAUS-PST / cover-REFL-CAUS-PST}
'My family forced me to cover myself.'[1]

b. (ben) çocuğ-u giy-in-dir-di-m.
I child-ACC wear-REFL-CAUS-PST-1SG
'I caused the child to dress (himself).' (Kornfilt 1997:141,(543))

c. Reyting uğru-na liseli-ler-i soy-un-dur-du-lar.
rating sake-DAT high schooler-PL-ACC undress-REFL-CAUS-PST-PL
'They made the high schoolers undress (themselves) for the sake of ratings.' https://www.aydinlik.com.tr/haber/duy-beni-dizi-konusu-oyuncu-kadrosu-liseli-zorbalik-taciz-sahnesi-star-tvde-skandal-sahne-reyting-ugru

d. Bütün bu sivrisinek ısırık-lar-ı ben-i kaşı-n-dır-ıyor.
all this mosquito bite-PL-CM I-ACC scratch-REFL-CAUS-PROG
'All these mosquito bites are causing me to scratch myself/itch.'

[1] All these examples also speak against Gündoğdu's (2017) claim that Turkish verbal reflexives cannot be causativized.

e. Kapı-nın kilid-in-in ver-diğ-i endişe ve nefes al-a-ma-ma,
door-GEN lock-POSS-GEN give-REL-POSS worry and breath take-ABIL-NEG-INF
bazı-lar-ımız-ı kapı-ya yükle-n-dir-di.
some-PL-1PL.POSS-ACC door-DAT heave-REFL-CAUS-PST
'The worry the door lock gave us and not being able to breathe made some of us heave (ourselves)
onto the door.'

https://tr.linkedin.com/posts/kemalbasaranoglu_kemalbasaranoglu-ko%C3%A7luk-coaching-activity-6811534699660357632-WX

trk=public_profile_like_view

f. ... günahkar-lar-ı secde-ler-e kapa-n-dır-dı.
sinner-PL-ACC praying rug-PL-DAT close-REFL-CAUS-PST
'... [it] caused the sinners to lay (themselves) onto the praying rugs [to atone and pray].'
(based on https://dosyalar.semazen.net/DivaniKebirdenSecmelercilt_1.pdf, p76)

B Internal argumenthood

B.1 Resultatives

English

(13) a. Maria dyed her hair blonde. (transitive object)

b. The river froze solid. (unaccusative)

c. The floor was swept clean. (passive)

d. *Jordan laughed sick. (unergative)

(14) a. I was hammering all day.

b. I was hammering the metal all day.

c. I was hammering the metal flat all day.

d. *I was hammering flat all day.

Turkish

(15) a. Omo çamaşırlar-ınız-ı bem-beyaz yıka-r.
Omo clothes-2PL.POSS-ACC REDUP-white wash-AOR
'Omo washes your clothes snow white.' (Schroeder 2008:(88))

b. Kim Kardashian saç-ın-ı sarı-ya boya-dı.
Kim Kardashian hair-3POSS-ACC yellow-DAT dye-PST
'Kim Kardashian dyed her hair blonde.' (Gürkan 2019:(4))

c. Ali vazo-yu mor-a boya-dı.
Ali vase-ACC purple-DAT paint-PST
'Ali painted the vase purple.' (Gürkan 2019:(17))

d. Vazo mor-a boya-n-dı.
vase purple-DAT paint-PASS-PST
'The vase was painted purple.'

e. Egzersiz-den yorgun düş-tü-m.
exercise-ABL tired fall-PST-1SG
'I fell (i.e., became) tired as a result of exercise.'

(16) a. Avustralyalı manken Miranda Kerr, koala-lar için kendin-i çırıl-çıplak soy-du.
Australian model Miranda Kerr koala-PL for self-ACC REDUP-naked undress-PST
'The Australian model Miranda Kerr undressed herself naked for koalas.'[2]

b. Adam çırıl-çıplak soy-un-du.
man REDUP-naked undress-REFL-PST
'The man undressed naked.' (example due to Greg Key (p.c.))

(17) a. Kendi-m-i mavi-ye boya-dı-m.
self-1SG.POSS-ACC blue-DAT paint-PST-1SG
'I painted myself blue.'

b. Sen-in için mavi-ye boya-n-dı-m.
you-GEN for blue-DAT paint-REFL-PST-1SG
'I painted myself (i.e., my whole body) blue for you.'

(18) *"...Bir sürü Himba insanı görebiliyorsunuz, özellikleri ... (you can see a number of Himba folks, their distinctive feature is ...)"*

... kıp-kırmızı-ya boya-n-mış ol-ma-lar-ı.
... REDUP-red-DAT paint-REFL-PTCP be-INF-PL-POSS

' (their distinctive feature is) them having been self-painted completely red.'[3]

B.2 Stative passivization

B.2.1 Baseline

(19) a. Sonunda bakla-yı ağız-dan çıkar-dı.
finally bean-ACC mouth-ABL take.out-PST
'S/he finally disclosed the secret.'

b. B20 toplantı-sın-da bakla ağız-dan çıkar-ıl-dı
B20 meeting-CM-LOC bean mouth-ABL take.out-PASS-PST
'The secret was disclosed at the B20 meeting.' (Akkuş 2021:253,(533))

[2] https://blog.milliyet.com.tr/kendi-kendini-soydu/Blog/?BlogNo=183873
[3] The Youtuber talks about a custom by the Himba tribe in which people paint themselves red using clay. https://www.youtube.com/watch?v=PHULr9eXK34&t=2209s&ab_channel=gezmekenkolay 15'45".

(20) Ağız-dan çıkar-ıl-mış bakla-lar huzur-u boz-du.
mouth-ABL take.out-PASS-PTCP bean-ACC peace-ACC spoil-PST
'The disclosed secrets have upset the peace.'

(21) a. Adam-ın öd-ü kop-tu.
man-GEN bile-POSS break-PST
'The man got very scared.' (Lit: 'the man's bile broke'; see Göksel and Öztürk 2019, 165)

b. Adam-ın öd-ü kop-uk i-di.
man-GEN bile-POSS break-ADJ COP-PST
'The man was very scared.' (Lit: 'the man's bile was broken.')

B.2.2 More data

Other examples illustrating the compatibility of TVRs with the adjectival participles in *-mIş* and *-Ik* are below:

(22) a. dere-de yıka-n-mış adam
river-LOC wash-REFL-PTCP man
'a man who has washed in the river'

b. soy-un-muş hatun
undress-REFL-PTCP lady
'a self-undressed lady'

c. yırt-ın-mış kadın
tear-REFL-PTCP woman
'the struggled/self-torn woman'

d. *İçi boş vatanseverlik, slogan milliyetçiliği, küçük burjuva devrimciliği ile kendimizi avutuyoruz. (We are comforting ourselves with a hollow patriotism, sloganist nationalism and low-level bourgeois revolutionism...*

Bu av-un-muş hal-imiz biz-im için çok değerli.
this Root-REFL-PTCP state-1PL.POSS we-1PL.GEN for very valuable
'This state of self-comforting is very valuable for us.' (... fake happiness gives us comfort)

https://www.gunisigigazetesi.net/makale/15567446/murat-unal/aslinda-biz-neyiz

e. ?döv-ün-müş adam
hit-REFL-PTCP man
'the self-hit man'

f. tartı-da tart-ıl-mış adam
scale-LOC weigh-NACT-PTCP man
'the man self-weighed on the scale'
(OR 'the man weighed on the scale')

g. eğ-il-miş çocuk
bend-REFL-PTCP child
'the self-bowed child'

(23) a. koltuk-ta 1-2 saat *uza-n-ık* dur-mak...
couch-LOC 1-2 hour lie.down-REFL-ADJ remain-INF
'To stay lying down on the couch for 1-2 hours.'

https://forum.donanimhaber.com/mezarda-da-cikan-disler-resimli-videolu--15794979-3

b. Pip Boy-a *eğ-il-ik* vaziyet-te iken bak-a-m-ıyor-um.
Pip Boy-DAT bend-REFL-ADJ state-LOC while look-ABIL-NEG-PROG-1SG
'I can't look at Pip Boy while (I am) bended/bowed (to the ground).'[4] https://www.technopat.net/sosyal/konu/fallout-4-karakterde-beliren-yara-izleri.512026/

c. Herkes *giy-in-ik*, hatta şal-lar-la *sar-ın-ık* vaziyet-te ol-unca ...
everyone dress-REFL-ADJ even shawl-PL-with wrap-REFL-ADJ state-LOC be-while
'Since everyone was self-dressed and even wrapped with shawls...' https://blog.milliyet.com.tr/gokova--mavi-deniz--yesil-ufuk/Blog/?BlogNo=245214

d. alg-ler-e *tut-un-uk* olarak ...
algae-PL-DAT hold-REFL-ADJ state ...
'in a state of holding onto the algaes' (Albayrak and Balkıs 2001:17)

e. Bu şebeke, kuzu post-u-nun alt-ın-a *sakla-n-ık* kurt-lar yumağ-ı
this gang lamb skin-CM-GEN underneath-CM-DAT hide-REFL-ADJ wolf-PL flock-CM ...
'This gang is a pack of wolves hidden in sheep's clothing...' https://yorukanatolian.com/Home.php

f. Korku-lar-ımız-a *sığ-ın-ık* yaş-ıyor-uz.
fear-PL-1PL.POSS-DAT squeeze-REFL-ADJ live-PROG-1PL
'We live self-refuged in our fears.' (Twitter, @hulyakrt, 9/23/21)

g. Polis maktul-ü üst-ü {*soy-un-uk* / *giy-in-ik*} bir vaziyet-te bul-du.
police victim-ACC top-ACC {undress-REFL-ADJ / dress-REFL-ADJ} a state-LOC find-PST
'The police found the murder victim self-undressed/self-dressed.'

h. Osmanlıca-dan Türkçe-ye Karşılıklar Kılavuzun-da eskiden kullan-dığ-ımız mülteci
Ottoman.Turkish-ABL Turkish-DAT synonyms dictionary formerly use-NMLZ-1PL.GEN refugee
kelime-si-nin yerine '*sığ-ın-ık*', muhacir-in yerine 'göçmen' kelime-si
word-CM-GEN instead squeeze-REFL-ADJ muhajir-GEN instead immigrant word-CM
yaz-ıl-mış.
write-PASS-EVID
'In the Ottoman Turkish to Modern Turkish Synonyms Guide, the word 'refugee' is used instead of the previously-used word 'asylum-seeker', and 'immigrant' instead of the word 'muhajir'.' (Twitter, @dunyabizim, 10/18/18)

i. Bir amac-a *bağla-n-ık*, mus-mutlu dinamik bir hafta ol-sun bu hafta
a goal-DAT attach-REFL-ADJ REDUP-happy dymanic a week be-OPT this week
'May this week be a week attached to a goal (i.e. one having attached to a goal), very happy and dynamic'

[4] Gündoğdu (2017) provides the reflexive form in (27) and *süslenik* 'dolled up' in isolation and marks them as ungrammatical.

https://www.facebook.com/478368785598146/photos/bir-amaca-ba%C4%9Flan%C4%B1k-musmutlu-dinamik-bir-hafta-olsun-bu-haf

1286960788072271/

j. *Biz o yalanlarla avunur, oyalanır ve o yalanların gölgesinde mutlu oluruz... (we console and stall ourselves with lies, and become happy under the shade of those lies ...)*

... İnsanoğlu yalan adres-ler-le *av-un-uk*.
humanity lie address-PL-with Root-REFL-ADJ

'Humanity is self-consoled with wrong areas.'[5]

https://www.turkiyegazetesi.com.tr/kose-yazilari/gurbuz-azak/bizi-buyuten-guzel-yalanlar-104907

(24) a. Anne, çocuğ-un-u moloz-lar-dan koru-mak için üzeri-n-e kapa-n-mış.
mother child-3POSS-ACC rubble-PL-ABL protect-INF for on.top.of-POSS-DAT close-REFL-PST
'In order to protect her child from the rubbles, the mother covered/laid (herself) onto the child.'

b. *İnsanlar kadınlı erkekli ellerini yüzlerine, bu taşa sürüyorlar (all people, men and women, are rubbing their hands to their faces, to this stone) ...*

... üzeri-n-e *kapa-n-ık* dua ed-iyor-lar.
top-POSS-DAT close-REFL-ADJ pray do-PROG-3PL
'They are praying, laid on the stone (i.e., their bodies covering the stone).'

https://www.kirmizilar.com/kudus-u-gezi-yorum-ii-kubbetu-s-sahra/

c. Kurtarma ekipleri kadın-ı bebeğ-in üzeri-n-e *kapa-n-ık* bir hal-de bul-du.
rescue teams woman-ACC baby-GEN top-POSS-DAT close-REFL-ADJ a state-LOC find-PST
'The rescue teams found the woman in a state of covering her baby (i.e., her body bracing over the baby).'

(25) a. Ev-e kapa-n-dı-k.
house-DAT close-F.REFL-PST-1PL
'We shut ourselves in the house.' (Key 2023:14)

b. Yeni nesil ev-e *kapa-n-ık*.
new generation house-DAT close-F.REFL-ADJ
'The new generation is shut-in-the-house.'

C External argumenthood

C.1 Episodic impersonal

(26) a. Misafir-ler-in göz-ü ön-ün-de giy-in-il-di, süsle-n-il-di.
guest-PL-GEN eye-POSS front-POSS-LOC dress.up-REFL-IMPERS-PST doll.up-REFL-IMPERS-PST
'People/one dressed up, dolled up in front of all the guests.'

[5]This term and its reflexive use is from Uygun 2009:245.

b. Dün bu nehir-de yıka-n-ıl-mış.
yesterday this river-LOC wash-REFL-IMPERS-PST
'Yesterday people/one washed in this river.'

c. Aynı ırmak-ta iki kez yıka-n-ıl-ma-z, o ırmak-ta bir kez
same river-LOC two time wash-REFL-IMPERS-NEG-AOR that river-LOC one time
yıka-n-ıl-dı.
wash-REFL-IMPERS-PST
'People/one don't wash (themselves) twice in the same river, (thus) people/one washed themselves once in that river.' https://www.tihek.gov.tr/upload/file_editor/2019/04/Sempozyum1.pdf, p.14

d. Haziran ay-ı enflasyon rakam-ın-ın gerile-miş ol-ma-sı ile
June month-CM inflation number-CM-GEN go.down-PTCP be-NMZ-POSS with
oyala-n-ıl-dı.
occupy-REFL-IMPERS-PST
'People/one occupied themselves/stalled with the decrease of June inflation numbers.' https://psikolojidunyasi.com.tr/upload/dosyalar/E-Bu%CC%88ltenDikey_PD_Sayi3.pdf

(27) a. *Impersonal of passive ('double passive')*

Harp-te vur-ul-un-ur.
war-LOC shoot-PASS-**IMPERS**-AOR
'One is shot (by one) in the war.' (Özkaragöz 1986, 77)

b. *Harp-te vur-ul-un-du.
war-LOC shoot-PASS-**IMPERS**-PST
Intended: 'One was shot (by one) in the war.' (adapted from Dikmen et al. 2022:50b)

(28) Bu çim-ler-e uza-n-ıl-mış, ama kim-ler (*tarafından)-dı bil-mi-yor-um.
this grass-PL-DAT lie.down-REFL-IMPERS-PST but who-PL (*by)-PST know-NEG-PROG-1SG
'Apparently people/one laid (themselves) down on the grass, but I don't know exactly (*by) who.'

C.2 Agent nominalization

(29) a. Kendim-e *sar-ıl-ıcı* kirala-mak isti-yor-um ay-da elli kağıd-a.
myself-DAT wrap-REFL-NMLZ hire-INF want-PROG-1SG month-LOC fifty lira-DAT
İste-diğ-im zaman ban-a sar-ıl-acak biri var mı?
want-NMZ-1SG.POSS time I-DAT wrap-REFL-NMZ.FUT someone exist Q
'I want to hire myself a hugger (lit: wrapping self around me) for fifty liras a month. Is there anyone who would hug me whenever I want?' (Twitter, @kronikmamachita, 12/16/18)

b. Charlie harika bir *giy-in-ici*, asla utanç verici görün-m-üyor, bu bir erkek için zor.
Charlie great a dress-REFL-NMLZ never embarrassing look-NEG-PROG this a man for hard
'Charlie is a great self-dresser, he never looks embarrassing, and this is very hard for a man.'

https://celebrity.fm/tr/did-charlie-cheat-in-marriage-story/

c. sahiplen-ici ve mülk *ed-in-ici* bir yaklaşım geliştir-me-si
own-NMLZ and possession acquire-REFL-NMLZ a approach develop-NMZ-POSS
'his developing a possessive and property-acquiring approach...'

https://www.karasaban.net/gida-krizi-karsisinda-agroekoloji-umut-kocagoz/

d. DNA-ya *bağla-n-ıcı* protein-ler
DNA-DAT attach-REFL-NMLZ protein-PL
'proteins that attach themselves to the DNA' (lit: 'self-attacher to DNA proteins') https://biyologlar.com/kan-hastaliklari/dnaya-baglanici-proteinler-nelerdir-

e. profesyonel *söyle-n-ici*
professional say-REFL-NMLZ
'a professional complainer' (a Pinterest account name) https://ru.pinterest.com/didemanik/?amp_client_id=CLIENT_ID(_)&mweb_unauth_id=

(30) a. *Tık-ın-ıcı*-yız biz arkadaş-ım-la.
stuff-REFL-NMLZ we friend-1SG.POSS-with
'My friend and I are gluttons, greedy eaters.' https://madeinbursa.blogspot.com/2016/05/

b. Simetri hastalığı ol-an biri dağınık ortam-da ister istemez *söyle-n-ici* ve
symmetry disease be-REL someone messy environment-LOC inevitably say-REFL-NMLZ and
düzenle-yici konum-a geç-er.
organize-NMLZ position-DAT pass-AOR
'Someone with symmetry disorder turns to a complaining and organizing position in a messy environment. ' https://yavuzdizdar.com/ruh-emicilikten-nasil-korunulur/

c. ahahah şu *söyle-n-ici* hal-ler-in-in hasta-sı-yım!
ahahah that say-REFL-NMLZ attitude-PL-2SG.POSS-GEN sick-POSS-1SG
'ahahah I am a fan [sarcastically] of your complaining attitudes!' (Twitter, @felikeli, 7/25/12)

d. Allah-a karşı yalvar-ıcı, kalbi kırık ve O'-na her an *sığ-ın-ıcı*
Allah-DAT towards beg-NMLZ heart broken and he-DAT every moment refuge-REFL-NMLZ
ol-alım.
be-OPT.1PL
'Let's always be as imploring/praying towards Allah, heart-broken/humble and sheltering (taking refuge in).' https://1000kitap.com/uzak-duralim-giybetten--595413/alintilar

e. Terbiye *tak-ın-ıcı-lar*, nerde-siniz?
manner put.on-REFL-NMLZ-PL where-2PL
'Those who (pretend to) put on good manners (to oneself), where are you?' (Twitter, @felikeli, 7/25/12)

f. Sen de biz-i herhangi bir parti-ye körü körüne *bağla-n-ıcı* mı san-ıyor-sun?
you also we-ACC some a party-DAT blindly attach-REFL-NMLZ Q think-PROG-2SG
Değil-iz. Biz hakk-ın yanı-nda-yız.
not-1PL we right-GEN side-LOC-1PL
'Do you also think that we are blind-attachers to some political party? We are not. We are on the side of the God.' (Twitter, @hayatibice, 6/13/13)

(31) *yükle-n-ici* şirket
heave-REFL-NMLZ company
'the undertaking/contractor company ' (lit. the company that heaves some task onto itself)

(32) ... mısri kılıç-lar *tak-ın-ıcı* şah-lar-ın düşman-ın-dan *sak-ın-ıcı*
... mısri sword-PL put.on-REFL-NMLZ shah-PL-GEN enemy-POSS-ABL protect-REFL-NMLZ
el-ler-in-e kına yi[e]rine düşman kan-ı yak-ıcı ...
hand-PL-POSS-DAT henna instead.of enemy blood-CM apply-NMLZ ...
'those who put on mısri swords, and apply blood [i.e., those who put on mısri swords and apply blood] instead of henna to the hands which avoid the shah's enemies...' (Alptekin and Şenocak 2019:140)

(33) a. *Havada bulunan lifler solunum yolu ile vücuda girer ve akciğer zarına yapışabilir, (fibers found in the air enter the body through the respiratory tract and can stick to the lung membrane), ...*
tut-un-ucu bir yapı-ya sahip ol-an lif-ler
attach-REFL-NMLZ a structure-DAT possessing be-REL fiber-PL
'... fibers which have a clinging (lit: attaching themselves onto) structure.' https://volkanatabey.com.tr/insaat-yikinti-atiklari-ve-asbest-sokumu/

C.3 Adverbial gerundive *-ArAk*

(34) a. Çocuk [sakız çiğne-yerek] anne-sin-i öp-tü.
child gum chew-ARAK mother-3SG.POSS-ACC kiss-PST
'The child kissed his mother (while) chewing gum.'

b. Kız [(top) oyna-yarak] şarkı söyle-di.
girl ball play-ARAK song sing-PST
'The girl (while) playing (ball), sang.' (Özkaragöz 1980, 417)

(35) a. Adam [sayıkla-yarak] öl-dü.
man rave-ARAK die-PST
'The man died raving.' (Biktimir 1986, 62-63)

b. Çocuk [okşa-n-arak] öp-ül-dü.
child caress-PASS-ARAK kiss-PASS-PST
'The child was kissed (while) being caressed.' (Biktimir 1986, 62-63)

(36) a. *Dondurma [ıs-ıt-ıl-arak] boz-ul-du.
ice.cream heat-CAUS-PASS-ARAK spoil-NACT-PST
'The ice cream got spoiled (while) it was being heated.'

b. *Elma [çürü-yerek] {ye-n-di / ağaç-tan kop-ar-ıl-dı}.
apple rot-ARAK eat-PASS-PST / tree-ABL pick-CAUS-PASS-PST
'The apple was {eaten / picked from the tree} (while it was) rotting.'[6]

[6] As noted by a reviewer, this example becomes grammatical when the matrix predicate is not passive, in a way that results in an *unaccusative + unaccusative* combination.

(37) a. * Tatlı [don-dur-arak] ye-n-di.
desert freeze-CAUS-ARAK eat-PASS-PST
'The desert, (while pro) freezing (it), was eaten.'

b. * Gazete [anla-yarak] oku-n-du.
newspaper understand-ARAK read-PASS-PST
'The newspaper, (while pro) understanding (it), was read.' (Özkaragöz 1980, 414)

c. * Bu hayvan [koş-arak] kes-il-me-meli.
this animal run-ARAK slaughter-PASS-NEG-OBLG
'This animal, (while it is) running, shouldn't be slaughtered.'

(38) * Adam çorba-yı [kayna-yarak] servis et-ti.
man soup-ACC boil-ARAK service do-PST
'The man served the soup (while it was) boiling.' (Legate et al. 2020, 41)

(39) a. unergative initiator + unergative initiator

Adam [konuş-arak] koş-tu.
man talk-ARAK run-PST
'The man ran (while) talking.' (Nakipoğlu-Demiralp 2002, 8a)

b. unergative initiator + unergative initiator

Emre [ağla-yarak] konuş-tu.
Emre cry-ARAK talk-PST
'Emre talked (while) crying.' (Nakipoğlu-Demiralp 2002, 10b)

c. unaccusative theme + unaccusative theme

Adam [takıl-arak] düş-tü.
man trip.over-ARAK fall-PST
'The man fell tripping over.' (Nakipoğlu-Demiralp 2002, 8b)

d. unaccusative theme + unaccusative theme

Su [kayna-yarak] buharlaş-tı.
water boil-ARAK evaporate-PST
'The water evaporated boiling.' (Nakipoğlu-Demiralp 2002, 12f)

(40) a. unaccusative theme + unergative initiator

*Adam [takıl-arak] koş-tu.
man trip.over-ARAK run-PST
'The man ran (while) tripping over.' (Nakipoğlu-Demiralp 2002, 9a)

b. unaccusative theme + unergative initiator

(i) Elma [çürü-yerek] ağaç-tan düş-tü.
apple rot-ARAK tree-ABL fall-PST
'Rotting, (the apple) fell from the tree.'

*Adam [düş-erek] gül-dü.
man fall-ARAK laugh-PST

'The man laughed (while) falling.'

c. unergative initiator + unaccusative theme

*Adam [çalış-arak] hastalan-dı.
man work-ARAK get.sick-PST

'The man got sick working.' (Nakipoğlu-Demiralp 2002, 9b)

d. unergative initiator + unaccusative theme

*Adam [yürü-yerek] takıl-dı.
man walk-ARAK trip.over-PST

'The man tripped over (while) walking.'

(41) a. reflexive + unergative

Adam [giy-in-erek] zıpla-dı.
man dress-REFL-ARAK jump-PST

'The man jumped (while) dressing up.'

b. unergative + reflexive

Kadın [zıpla-yarak] {tart-ıl-dı / süsle-n-di}.
woman jump-ARAK weigh-REFL-PST / doll.up-REFL-PST

'The woman {weighed / dolled up} (while) jumping.'

c. reflexive + unaccusative

*Kız [süsle-n-erek] düş-tü.
girl doll.up-REFL-ARAK fall-PST

'The girl fell (while) dolling up.'

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