Turkish verbal reflexives and movement[*]

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1.   Introduction

This paper is concerned with the argument structure of Turkish verbal reflexives (henceforth TVRs), and specifically with the way in which reflexivity emerges in the verbal domain, in the absence of an (obvious) pronominal source. Consider (1a), which is descriptively speaking, a paraphrase of (1b): both expressions can be used to describe events where Leyla undertook an event of washing herself.

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

      b.   Leyla **kendi-ni** soğuk su-yla   yıka-dı-Ø.
           Leyla self-ACC cold   water-with wash-PST-3SG
           'Leyla washed herself with cold water.'

Our investigation reveals that TVRs exhibit an intriguing constellation of properties that differ from many previously investigated languages. We first show that TVRs are syntactically intransitive, and that their surface subject originates as a theme: in this respect, Turkish resembles other languages where verbal reflexives that morphologically overlap with passives can be shown to be syntactically passive-like as well (see e.g. Paparounas 2023:ch. 3 on Greek). We then show that the internal argument of TVRs moves to a peripheral position within the VoiceP, crucially unlike the surface subject of passives. We develop an analysis making sense of the totality of facts by combining a Reflexive-Voice-based analysis with a particular view of what A-movement of the internal argument accomplishes in an intransitive reflexive.

2.   Intransitivity and monadicity

A variety of tests, both syntactic and interpretive, suggest that TVRs are syntactically intransitive and that they denote monadic predicates. We have applied to Turkish the full range of tests applied to Greek in (Paparounas 2023:ch.3), building on much previous literature; we report on just two of these here.

 Firstly, consider the fact that, unlike their pronominal counterparts, verbal reflexives in Turkish do not give rise to strict/sloppy ambiguities. This difference can be diagnosed with reference to a diverse range of phenomena. For instance, when embedded under the focus-sensitive operator *only* (see esp. Sportiche 2014), the Turkish reflexive pronoun felicitously supports two kinds of denials, suggesting that it derives both free and bound readings.

(2) Sadece Ali kendi-ni yıka-dı.
  only Ali self-ACC wash-PST
  'Only Ali washed himself.'

  a. Hayır, Ayşe de kendi-ni yıka-mış.
    no Ayşe too self-ACC wash-PST
    'No, Ayşe washed herself too.'

  b. Hayır, Ayşe de o-nu yıka-mış.
    no Ayşe too he-ACC wash-PST
    'No, Ayşe washed him too.'

TVRs, on the other hand, admit just one denial, targeting the bound reading. Similar effects are observed in other contexts, including VP ellipsis and comparative ellipsis.

(3) Sadece Ali yıka-n-dı.
  only Ali wash-REFL-PST
  'Only Ali washed.'

  a. Hayır, Ayşe de yıka-n-mış.
    no Ayşe too wash-REFL-PST
    'No, Ayşe washed too.'

  b. #Hayır, Ayşe de o-nu yıka-mış.
    no Ayşe too him-ACC wash-PST
    'No, Ayşe washed him too.'

Secondly, consider a profound syntactic difference. In Turkish, the Causee of underlyingly transitive predicates receive Dative case, whereas that of intransitive ones receive Accusative (Kornfilt 1997, Akkuş 2021a).As (4) shows, pronominal reflexives behave as transitives, whereas TVRs as intransitives, (5), with respect to causativization:

(4) a. Çocuk kendi-ni besle-di.
    child self-ACC feed-PST

'The child fed himself.'

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

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

b. 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.'

3.   The positions of the single argument

Next we probe whether intransitives have an unaccusative syntax or unergative syntax. Diagnosing the position of this sole argument, we find a striking mixed behavior: the sole argument behaves as internal for some syntactic diagnostics, and as external for others.

3.1   Internal argumenthood

3.1.1   Resultatives

Resultative secondary predicates serve as a strong indicator of deep objecthood: they obey the so-called Direct Object Restriction, modifying only syntactically projected deep objects (Simpson 1983, Levin and Rappaport Hovav 1995). Though lexically restricted, Turkish resultatives can be found to display these baseline properties too.

Firstly, resultatives in Turkish unproblematically modified *bona fide* deep objects.

(6)   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 object*

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*

Secondly, resultatives are not compatible with unergative predicates.

(7)   *Ceren yop-yorgun koş-tu.
      Ceren REDUP-tired run-PST
      'Ceren ran tired.'   (based on Turgay 2013:69, (24b); ok as depictive)

Finally, resultatives in Turkish cannot be predicated of unprojected elements. As such, resultatives modifying unprojected implicit arguments are not licit in out-of-the-blue contexts such as (8), but they are in contexts where the relevant argument is *pro*-dropped, (9).

(8)   Q: Ne   ol-du?
          what happen-PST
          'What happened?'

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

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

      A: Hiç,   sadece *pro*$_{\text{object}}$ ter-temiz   sil-di.
          nothing only   REDUP-clean wipe-PST
          'Not much, she just wiped it completely clean.'

Crucially, when applicable, resultatives can also be used with verbal reflexives. Consider (10), with its pronominal anaphora counterpart given in (11); similar examples can be constructed for a plethora of other TVRs.

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

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

3.1.2 Stative passives

Stative (or 'adjectival') participles often serve as a further indicator of deep objecthood (see e.g. Bhatt and Embick 2004/2017, Alexiadou and Schäfer 2013). Indeed, in Turkish they provide an unaccusativity diagnostic, being formed from unaccusative- and transitive-forming Roots, but not unergative-forming ones (Nakipoğlu-Demiralp 1998, Neu 2023):

(12) a. kır-ık   bardak   (13) a. *uyu-k   bebek
          break-ADJ glass   sleep-ADJ baby
          'the broken glass'   Intended: 'the slept baby'

      b. bit-ik   pil   b. *koş-uk   adam
          finish-ADJ battery   run-NMLZR man
          'the finished battery'   'Intended: 'the run man'

Verbal reflexive-forming Roots also freely form stative passives; crucially, it is possible to derive a strictly reflexive interpretation ('self-VERBed'), and to do so, the reflexive morpheme must appear before the stativizer:

(14) a. Herkes   bedence cıbıl, ruhça   *ört-ün-ük*.
          everybody bodily   naked soul-wise cover-REFL-ADJ
          'Everybody is bodily naked but soul-wise self-covered.'

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

3.2 External argumenthood

The single, internal argument of Turkish reflexives passes through the external argument position by A-movement. We demonstrate this using diagnostics sensitive to the syntactic presence of an argument in Spec,VoiceP. These tests contrast transitives and unergatives from unaccusatives; some of them tease apart active from passive transitives, showing that TVRs behave the way they do not just because of the presence of an agentive entailment.

3.2.1 Impersonals

Unergatives, (15), and transitives can form episodic impersonals; but unaccusatives cannot, (16), only licensing impersonals under habitual readings (Nakipoğlu-Demiralp 2001, Akkuş 2021a, Legate et al. 2020).

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

      b. Dün   burada uyu-**n**-du.
          yesterday here   sleep-**IMPERS**-PAST
          'People/one slept here yesterday.'   *unergative*

(16) a. Türkiye-de her gün trafik kaza-lar-ı-nda   öl-**ün**-ür.
          Turkey-LOC every day traffic accident-PL-CM-LOC die-**IMPERS**-AOR

'In Turkey it is died in traffic accidents every day.' (Nakipoğlu-Demiralp 2001:140)

b. *Dün   burada öl-**ün**-dü.
   yesterday here   die-**IMPERS**-PAST
   Intended: 'People/one died here yesterday.'   *unaccusative*

We adopt the analysis of impersonals developed by Akkuş 2021a and Legate et al. 2020: Impersonals do not involve argument demotion (unlike passives); instead an *unpronounced impersonal pronoun* (IMP) fills the argument position, be it the thematic subject, or thematic object position. IMP is licensed by the Impers head (see Akkuş 2021a, Legate et al. 2020 for more discussion). Crucially, the presence of an episodic interpretation is sensitive to the syntactic position of the IMP. Whereas episodic context is allowed with IMPs in spec,VoiceP, it is disallowed with IMPs that are in internal argument position.[1]

TVRs freely form episodic impersonals, patterning with unergatives and transitives:

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

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

Thus, the sole argument behaves as if it occupies the external argument position, SpecVoiceP, which allows it to receive the episodic interpretation.

3.2.2 Adverbial gerundive *-ArAk*

The gerundive *-ArAk* clause exhibits intricate restrictions: examples need to match in voice and in the status of the subjects as underlying or derived (or a combination of both) (see Özkaragöz 1980, Knecht 1985, Biktimir 1986, Kornfilt 1997, Legate et al. 2020, Akkuş 2021a). The table below summarizes the relevant patterns, where the order is irrelevant.

(18)   *Summary of patterns in -ArAk gerunds*

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[1]Similar effects are observed in Romance impersonals. See e.g., Ordóñez (2021:155) for a a very similar analysis that attributes the presence or absence of episodic interpretation to whether an argument is available in spec,VoiceP or not. The analysis places transivites and unergatives on one side, and passives, unaccusatives and copulas on the other, by means of *v** à la Chomsky (2008).

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	✗

ArAk clauses are also significant as they place verbal reflexives in the same natural class as active transitives/unergatives, as opposed to passives or unaccusatives.

(19) a. 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.' (*unergative + reflexive*)

      b. *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*)

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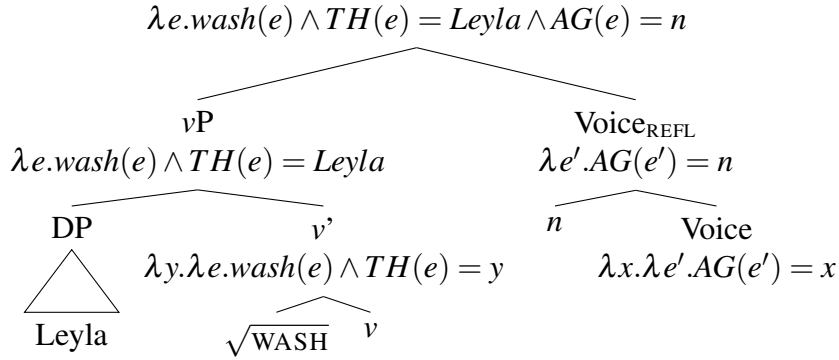   'The child complained (while s/he was) being caressed.'

4.   Analysis

The Turkish facts 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 must also make sense of the movement step we have identified, that displaces that internal argument to a higher position in the verbal projection. A final explicandum is that in Turkish, as in other languages with similar systems, said mechanism of reflexivization is strongly sensitive to grammatical voice: in particular, we have seen that Turkish verbal reflexives always surface with a particular voice morphology, and that morphologically (and syntactically) active verbs never yield verbal reflexives.

Our analysis has two parts. Firstly, we propose a reflexive variant of the head Voice (following among others Labelle 2008, McGinnis 2022, Raghotham 2022, Oikonomou and Alexiadou 2022, Paparounas 2023). We then propose that Voice$_{REFL}$ is not monolithic.[2] It corresponds instead to the output of adjoining to a regular 'transitive' Voice head a free variable, represented in the syntax as a numerical index feature *n* (20) (Kratzer 2009; see also Akkuş 2021a,b). This free variable is associated with the AGENT function, provid-

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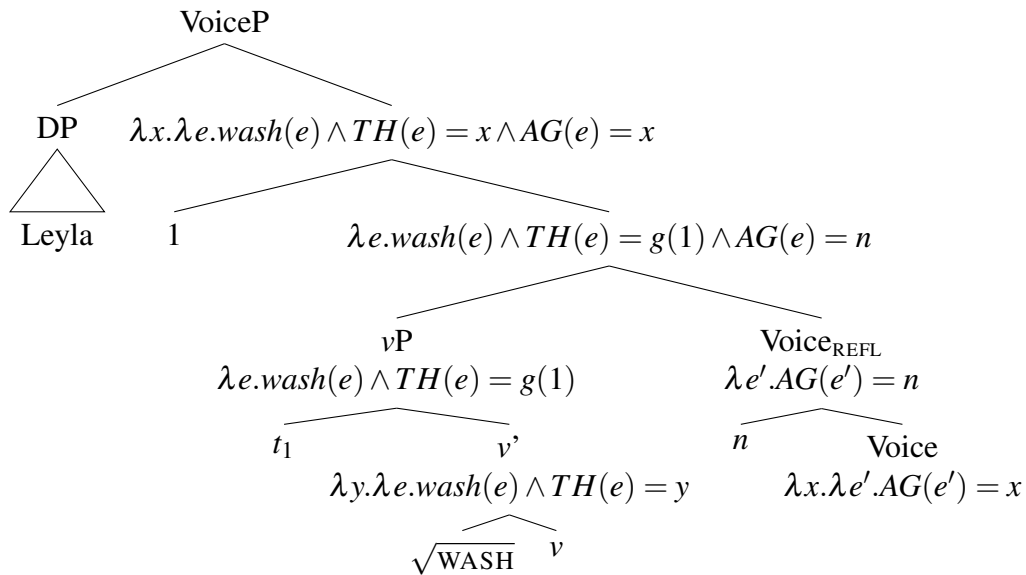[2]We are indebted to Kyle Johnson (p.c.) for suggesting this move to us.

ing an $<s,t>$ denotation for the Voice head that can combine with the vP meaning via Predicate Modification.

(20)

$$\lambda e.wash(e) \wedge TH(e) = Leyla \wedge AG(e) = n$$

vP
$\lambda e.wash(e) \wedge TH(e) = Leyla$

Voice$_{\text{REFL}}$
$\lambda e'.AG(e') = n$

DP

v'
$\lambda y.\lambda e.wash(e) \wedge TH(e) = y$

n

Voice
$\lambda x.\lambda e'.AG(e') = x$

Leyla

$\sqrt{\text{WASH}}$ v

The free variable n will have to be interpreted. We propose that n can only be interpreted under semantic binding (see Altshuler et al. 2019 for a concrete separation of indices into discourse-related and trace-related); and that movement of the internal argument to a higher position local to n fulfils this role (cf. the so-called 'unaccusative' analysis of Romance reflexives in e.g. Pesetsky 1995, Embick 2004, Kayne 1988). From its higher position, *Leyla* will have to bind both its trace and the free variable introduced on Voice; we leave open what precisely ensures this.

(21)

VoiceP

DP $\lambda x.\lambda e.wash(e) \wedge TH(e) = x \wedge AG(e) = x$

Leyla   1 $\lambda e.wash(e) \wedge TH(e) = g(1) \wedge AG(e) = n$

vP
$\lambda e.wash(e) \wedge TH(e) = g(1)$

Voice$_{\text{REFL}}$
$\lambda e'.AG(e') = n$

t_1

v'
$\lambda y.\lambda e.wash(e) \wedge TH(e) = y$

n

Voice
$\lambda x.\lambda e'.AG(e') = x$

$\sqrt{\text{WASH}}$ v

5. Conclusions and Outlook

TVRs are syntactically intransitive and semantically monadic. Thus, there is only a single argument around syntactically, the surface subject. Probing its properties, we have observed

that it is merged VP-internally, thereby behaving like an internal argument for various diagnostics. Interestingly, it also passes positional diagnostics targeting the presence of Spec,VoiceP. We have argued that a special flavor of the external argument introducing Voice head, i.e., 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.

The current analysis has the potential to enable insightful views into two areas of cross-linguistic interest. A first important domain concerns the typology of thematic restrictions on verbal reflexivization: effectively, languages with Voice-based reflexives differ with respect to the range of thematic roles that Voice$_{\text{REFL}}$ identifies with the agent. The present account opens a straightforward path towards explaining such differences: if to be identified with the Agent is to A-move and bind the free variable on Voice$_{\text{REFL}}$, then language-particular restrictions on A-movement will constrain the reflexivization possibilities. Secondly, the recasting of Reflexive Voice as regular 'transitive' Voice compounded with a free variable raises the more general possibility that flavors of Voice are not primitive, instead emerging from the way a basic Voice denotation combines with distinct elements that reflect different manipulations of the agent that Voice introduces.

The elaboration of these interesting avenues is undertaken in the full paper.

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