

The Syntax of Sino-Japanese Reflexive Verbs*

Yosuke Sato, University of Arizona, Tucson
yosukes@email.arizona.edu

Maki Kishida, University of Maryland, College Park
mkishida@umd.edu

1. Introduction

In this talk, we discuss the internal syntax of Sino-Japanese reflexive verbs known as *zi*-verbs such as *zi-ritu-suru* ‘become independent’ and *zi-kai-suru* ‘demolish itself’

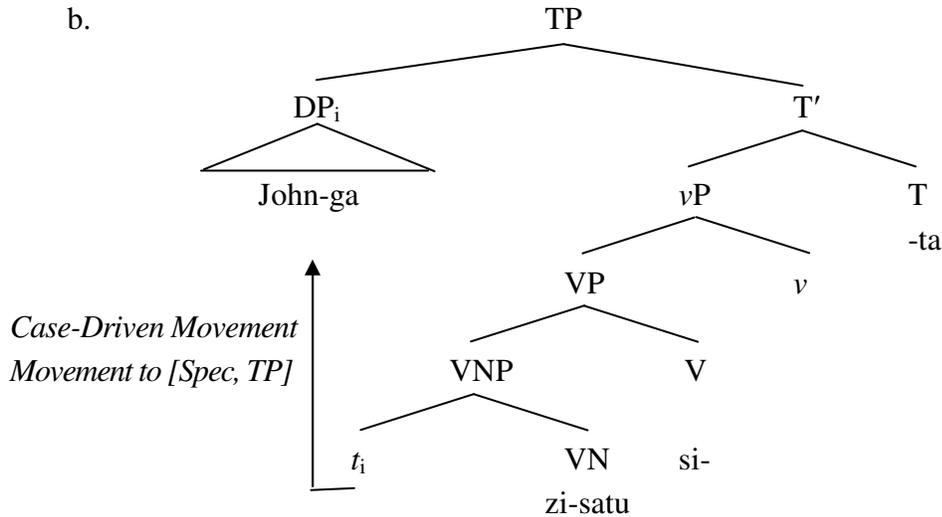
Roadmap:

- Tsujimura and Aikawa 1999 analyze those *zi*-verbs that cannot take direct objects as unaccusative reflexive verbs (object-less reflexive verbs).
- Both transitive and intransitive analyses must be admitted for the correct description of the argument and syntactic structures of object-less Sino-Japanese reflexive verbs.
- In fact, all types of argument structures are attested in *zi*-verbs: transitive *zi*-verbs, unergative *zi*-verbs, and unaccusative *zi*-verbs (cf. note 4).
- Several syntactic and morphological arguments from Kageyama 1993 and Kishimoto 2005 are applied to *zi*-verbs to show that:
 - *zi-ritu-suru* ‘become independent’ and *zi-satu-suru* ‘kill oneself’
⇒ a hidden transitive syntactic structure.
 - *zi-baku-suru* ‘explode oneself’ and *zi-kai-suru* ‘demolish itself’
⇒ a hidden unaccusative syntactic structure
 - *zi-si-suru* ‘commit suicide, *zi-soo-suru* ‘run on its own’
⇒ a hidden unergative syntactic structure

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- (4) a. John-ga zi-satu-sita.¹
 John-Nom self-killing-did
 ‘John killed himself.’

b.



- Two traditional diagnostics suggest that the object-less verbs are unaccusative verbs.

Test 1: Direct Object Restriction (Simpson 1983; Levin and Rappaport Hovav 1995)

- (5) a. Ziroo-ga [VP **pan-o** makkuroni yaita.] (Transitive verb)
 Jiro-Nom bread-Acc black burned
 ‘Jiro toasted the bread black.’
- b. *Ziroo-ga [VP kutakutani hasitta.] (Unergative verb)
 Jiro-Nom exhausted ran
 ‘Jiro ran exhausted.’
- c. **Pan_i-ga** [VP makkuroni t_i yaketa.] (Unaccusative verb)
 bread-Nom black burned
 ‘The bread burned black.’
- d. **Furui tatemono-ga** [VP t_i konagonani zi-kai-sita.] (Zi-verb)
 old building-Nom into pieces self-demolish-did
 ‘Old buildings demolished (themselves) into pieces.’ (Tsujimura and Aikawa 1999: 31, 32)

¹ Tsujimura and Aikawa 1999 do not make it explicit what is the syntactic structure of *zi*-verbs such as *zi-satu-suru* ‘kill oneself’ as in (4a). Thus, what is given in (4b) is what *we* take to be the unaccusative syntactic structure based on their discussion of the unaccusative status of object-less *zi*-verbs (pp. 29-35). We will see in the next section, however, that their unaccusative analysis has several shortcomings, whatever syntactic structure may be adopted for examples such as (4a).

Test 2: Floating Numeral Quantifiers (Miyagawa 1989a)

- (6) a. *Gakusei-ga san-nin* [VP ie-o katta]. (Transitive verb)
student-Nom three-Cl house-Acc bought
'Three students bought a house.'
- b. **Gakusei-ga* [VP ie-o *san-nin* katta].
student-Nom house-Acc three-Cl bought
'Three students bought a house.'
- (7) a. *Gakusei-ga san-nin* [VP ie-e hasitta]. (Unergative verb)
student-Nom three-Cl house-toward ran
'Three students ran toward the house.'
- b. **Gakusei-ga* [VP ie-e *san-nin* hasitta].
student-Nom house-toward three-Cl ran
'Three students ran toward the house.'
- (8) a. *Gakusei_i-ga san-nin* [VP ie-ni *t_i* kita]. (Unaccusative verb)
student-Nom three-Cl house-to came
'Three students came to the house.'
- b. *Gakusei_i-ga* [VP ie-ni *san-nin t_i* kita].
student-Nom house-to three-Cl came
'Three students came to the house.'
- (9) a. *Gakusei_i-ga san-nin* [VP ie-de *t_i* zi-satu-sita]. (*zi*-verb)
student-Nom three-Cl house-Loc self-killing-did
'Three students killed themselves in the house.'
- b. *Gakusei_i-ga* [VP ie-de *san-nin t_i* zi-satu-sita].
student-Nom house-Loc three-Cl self-killing-did
'Three students killed themselves in the house.'

4. Against the Unaccusative Analysis

This section provides five arguments that some of the object-less *zi*-verbs such as *zi-ritu-suru* ‘become independent’ and *zi-satu-suru* ‘kill oneself’ are more properly analyzed as having a hidden transitive structure, contrary Tsujimura and Aikawa’s 1999 claim.

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|---|---|----------------|
| → V + V compounds headed by <i>naosu</i> ‘redo’ | } | Kageyama 1993 |
| → accusative case-marked light verb constructions | | |
| → indirect passivization | | |
| → passivized causativization | | |
| → <i>de</i> -marked instrumental subject construction | } | Kishimoto 2005 |

In what follows, we apply these five tests developed by Kageyama 1993 and Kishimoto 2005 to identify the verb class of object-free zi-verbs.

Argument 1: V + V compounds headed by *naosu* ‘redo’

Kageyama 1993: 51

The argument structure of the first verb is restricted by the argument structure of the second verb in V + V compounds (i.e., *the Transitivity Harmony Principle*).

- (10) a. *ake-naosu* ‘open again’, *tukuri-naosu* ‘make again’ (V1 = Transitive)
b. *asobi-naosu* ‘play again’, *ne-naosu* ‘sleep again’ (V2 = Unergative)
c. * *korobi-naosu* ‘tumble again’, * *oti-naosu* ‘fall again’ (V3 = Unaccusative)
- (11) John-ga *zi-ritu-si-naosi-ta.* (V1 = *zi*-verb)
John-Nom self-establish-do-redo-Past
‘John became independent again.’

Argument 2: accusative case-marked light verb constructions

Kageyama 1993: 52 (see also Miyagawa 1989b; Dubinsky 1989; Tsujimura 1990)

The accusative case marker *-o* can be attached to only transitive and unergative verbs.

- (12) a. Daigaku-de kenkyu(-o) suru hito-ga hueteiru. (Transitive verb)
university-Loc research-Acc do person-Nom increase
'The number of people who do research at universities is increasing.'
- b. Roo huuu-ga rikon(-o) sita. (Unergative verb)
old couple-Nom divorce-Acc did
'The old couple got divorced.'
- c. *Kaityoo-ga kinoo sikyo(*-o) sita. (Unaccusative verb)
CEO-Nom yesterday death-Acc did
'The CEO died yesterday.'

(13) Burzio's Generalization (Burzio 1986: 178)

All and only verbs that can assign a θ -role to the subject can assign Accusative Case to an object.

- (14) John-wa oya-ni sinpai-o kake-mai-to zi-ritu(-o) sita. (zi-verb)
John-Top parent-Dat worry-Acc incur-won't-C self-establish-Acc did
'John became independent in order not to incur worries on his parents.'

Argument 3: indirect passivization

Kageyama 1993: 59, 60

One well-known generalization about indirect passives in Japanese is that only the external argument of a base verb can be marked with the Dative Case marker *-ni* in this construction.

- (15) a. **Tuma-ga** hooseki-o katta. (Transitive verb)
wife-Nom jewelry-Acc bought
'His wife bought jewelry.'
- b. John-wa **tuma-ni** hooseki-o kaw-are-ta.
John-Top wife-Dat jewelry-Acc buy-Pass-Past
'John was adversely affected by having his wife buy jewelry.'

- (16) a. *Tuma-ga* rikon-si-ta. (Unergative verb)
 wife-Nom divorce-do-Past
 ‘His wife got divorced.’
 b. John-wa *tuma-ni* rikon-s-are-ta.
 John-Top wife-Dat divorce-do-Pass-Past
 ‘John was adversely affected by having his wife getting divorced.’
- (17) a. *Yasai-ga* kusa-tta. (Unaccusative verb)
 vegetable-Nom rot-Past
 ‘Vegetables rot.’
 b.*John-wa *yasai-ni* kusa-rare-ta.
 John-Top vegetable-Dat rot-Pass-Past
 ‘John was adversely affected by having vegetable rot.’
- (18) a. *Tuma-ga* zi-satu-si-ta. (Zi-verb)
 wife-Nom self-killing-do-Past
 ‘His wife killed herself.’
 b. John-wa *tuma-ni* zi-satu-s-are-ta.
 John-Top wife-Dat self-killing-do-Pass-Past
 ‘John was adversely affected by having his wife kill herself.’

Argument 4: passivized causativization

Kageyama 1993: 60-62 (based on Inoue 1976)

The embedded external argument, not the embedded internal argument, of a causative construction can be promoted to the grammatical subject of the derived passive construction.

- (19) a. Sensei-ga *seito-ni* kookana hon-o (muriyari) kaw-ase-ta. (Transitive V)
 teacher-Top student-Dat expensive book-Acc forcibly buy-Caus-Past
 ‘The teacher forcibly made the students buy an expensive book.’
 b. *Seito-ga* sensei-ni kookana hon-o (muriyari) kaw-ase-rare-ta.
 student-Top teacher-Dat expensive book-Acc forcibly buy-Cause-Pass-Past
 ‘The students were made forcibly to buy an expensive book by the teacher.’
 c.*Kookana hon-ga sensei-niyotte seito-ni (muriyari) kaw-ase-rare-ta.
 expensive book-Nom teacher-by student-Dat forcibly buy-Cause-Past-Past
 ‘An expensive book was made to be forcibly bought by the students by the teacher.’

- (20) a. Karera-no ryosin-ga **hutari-o** rikon-s-ase-ta. (Unergative V)
 they-Gen parent-Nom two-Acc divorce-do-Caus-Past
 ‘Their parents made the two get divorced.’
 b. **Hutari-ga** karera-no ryosin-niyotte rikon-s-ase-rare-ta.
 two-Nom they-Gen parent-by divorce-do-Caus-Pass-Past
 ‘The two were made to get divorced by their parents.’
- (21) a. John-ga **mizu-o** joohatu-s-ase-ta. (Unaccusative V)
 John-Nom water-Acc evaporate-do-Caus-Past
 ‘John made the water evaporate.’
 b. ***Mizu-ga** John-niyotte joohatu-s-ase-rare-ta.
 water-Nom John-by evaporate-do-Caus-Pass-Past
 ‘The water was made to evaporate by John.’
- (22) a. Ryosin-ga **John-o** zi-ritu-s-ase-ta. (Zi-verb)
 parent-Nom John-Acc self-establishing-do-Caus-Past
 ‘His parents made John become independent.’
 b. **John-ga** ryosin-niyotte zi-ritu-s-ase-rare-ta.
 John-Nom parent-by self-establishing-do-Caus-Pass-Past
 ‘John was made to become independent by his parents.’

Argument 5: de-marked instrumental subject construction

Kishimoto 2005: 145-151:

Only the (agentive) external argument can be optionally marked with the locative *-de*.²

- (23) a. Watasi-tachi-**ga/-de** kore-o yari-masu. (Transitive verb)
 I-Pl-Nom/Loc this-Acc do-Pol
 ‘We will do this work.’
 b. John-to-Mary-**ga/-de** isshoni asonda. (Unergative verb)
 John-and-Mary-Nom/-Loc together played
 ‘John and Mary played together.’
 c. *Atusa-notame John-to-Mary-**ga/*-de** taoreta. (Unaccusative verb)
 heat-for John-and-Mary-Nom/-Loc fell
 ‘John and Mary collapsed due to heat.’

² Kishimoto observes that this construction has the plurality requirement on *de*-marked subjects.

- (24) Oya-ni sinpai-o kake-taku-nai-node boku-tachi-*ga/-de* ji-ritu-si-masu.
 parent-Loc worry-Acc incur-want-Neg-since I-PL-Loc self-establishing-do-Pol
 ‘We will become independent since we don’t want to incur worries on our parents.’

Interim Summary:

- Five syntactic and morphological arguments from Kageyama 1993 and Kishimoto 2005 show that certain object-less verbs such as *zi-ritu-suru* ‘become independent’ and *zi-satu-suru* ‘kill oneself’ has an external argument.
- At the same time, these results pose empirical difficulties for Tsujimura & Aikawa’s 1999 unaccusative analysis of object-less verbs since this analysis erroneously predicts that these verbs should not have an external argument in their argument/syntactic structures.

5. The Syntax of Sino-Japanese Reflexive Verbs:

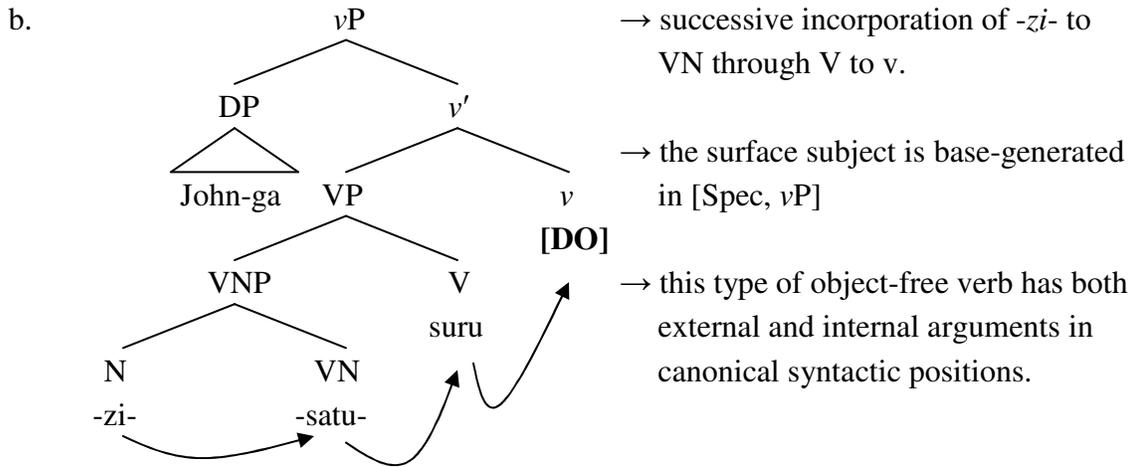
CORE IDEAS

- ✚ All types of argument structure are available for Sino-Japanese reflexive verbs.
- ✚ Transitive *zi*-Verbs, Unergative *zi*-Verbs, and Unaccusative *zi*-Verbs

- ⇒ *zi-ritu-suru* ‘become independent’, *zi-si-suru* ‘do autocide’, *zi-kai-suru* ‘demolish itself’
 (transitive *zi*-verb) (unergative *zi*-verb) (unaccusative *zi*-verb)

5.1. A Hidden Transitive Structure for *Zi-Satu-Suru* Object-Less Verbs

- (25) a. John-ga zi-satu-si-ta.³ (=4a)
 John-Nom self-killing-do-Past
 ‘John killed himself.’



How about the two arguments made by Tsujimura and Aikawa 1999 for unaccusativity of object-less *zi-* verbs? They are predicted as a direct consequence of the proposed transitive account.

Test 1: Direct Object Restriction--- satisfied by the presence of *-zi-* in direct object position.

- (26) Dora shouted *herself* hoarse. (Levin and Rappaport Hovav 1995: 35)

Test 2: Floating Numeral Quantifiers --- satisfied by the VP-internal presence of *-zi-*.

- (27) a. **Gakusei_i-ga** [_{VP} ie-de **san-nin** *t_i* zi-satu-sita]. (=9b)
 student-Nom house-Loc three-Cl self-killing-did
 ‘Three students killed themselves in the house.’
 b. **Gakusei_i-ga** [_{VP} ie-de **san-nin** **zi-satu-sita**].
 student-Nom house-Loc three-Cl self-killing-did
 ‘Three students killed themselves in the house.’
 c. **Gakusei_i-ga** [_{VP} ie-de **san-nin** **zibun-o** semeta].
 student-Nom house-Loc three-Cl self-Acc condemn
 ‘Three students condemned themselves in the house.’

³ Another possibility is to generate the light verb *suru* ‘do’ as an underspecified entry whose meaning is realized as DO or BECOME (see later discussion) depending on whether it takes an external argument or not along the lines of recent approaches to argument structure within the theory of Distributed Morphology as in Harley and Noyer 2000. We leave this possibility aside for the purposes of this talk. See Kishida and Sato 2007 for more detailed discussion.

5.2. A Hidden Intransitive Analysis of Zi-Kai-Suru-Type and Zi-Si-Suru-Type Object-Less Verbs

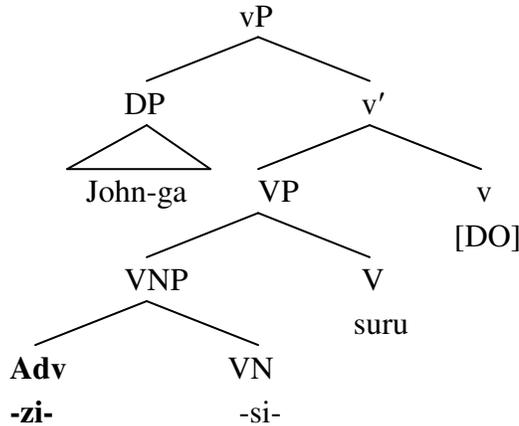
- (28) John-ga zi-si-si-ta. (29) Tatemono-ga zi-kai-si-ta.
 John-Nom self-death-do-Past building-Nom self-destruction-do-Past
 ‘John committed suicide.’ ‘The building destroyed itself.’

The two verbs diverge with respect to the five diagnostics we introduced above:

- (30) a (zenkai misui datta node) Mary-ga zi-si-si-naosi-ta.
 last time attempted Cop since Mary-Nom self-death-do-redo-Past
 ‘Mary committed suicide again (since it was only attempted last time).’
 b. *(Zenkai hankai datta node) tatemono-ga zi-kai-si-naosi-ta.
 last time half-collapsed Cop since building-Nom self-destroy-do-redo-Past
 ‘The building got destructed again (since it was only half-destroyed last time).’
- (31) a. Isyo-o nokosite Mary-ga zi-si-(o) sita.
 note-Acc leaving Mary-Nom self-death-Acc did
 ‘Mary committed suicide after leaving a note.’
 b. *(Tuyoi zisin-notame) tetamono-ga zi-kai>(*-o) sita.
 strong earthquake-for building-Nom self-destruction-Acc did
 ‘The building got destructed due to a strong earthquake.’
- (32) a. John-ga *tuma-ni* zi-si-s-are-ta.
 John-Nom wife-Dat self-death-do-Pass-Past
 ‘John was adversely affected by having his wife do autocide.’
 b. *John-ga *ie-ni* zi-kai-s-are-ta.
 John-Nom house-Dat self-destruction-do-Pass-Past
 ‘John was adversely affected by having his house get destroyed.’
- (33) a. *Tuma-ga* John-niyotte zi-si-s-ase-rare-ta.
 wife-Nom John-Dat self-death-do-Caus-Pass-Past
 ‘His wife was made to do autocide by John.’
 b. **Ie-ga* John-niyotte zi-kai-s-ase-rare-ta.
 house-Nom John-by self-destruction-do-Cause-Pass-Past
 ‘The house was made to get destroyed by John.’

- (34) a. Hukushu-notame John-to-Mary-*ga/-de* zi-si-si-ta.
 revenge-for John-and-Mary-Nom/-Loc self-death-do-Past
 ‘John and Mary did autocide to revenge themselves.’
- b. Ano hoteru-de-wa honkan-to-bekkan-*ga/*de* zi-kai-si-ta.
 that hotel-Loc-Top main building-and-annex-Nom/-Loc self-destruction-do-Past
 ‘As for that hotel, the main building and annex got destructed.’

(35) The Unergative Analysis of *Zi-Si-Suru* Type Object-Less Verbs



What is unergative about zi-verbs such as zi-si-suru ‘commit suicide’?

⇒ The reflexive morpheme *-zi-* means ‘on his/her/its own’ in this type of verb rather than the direct object of other *zi-*verbs such as *zi-satu-suru* ‘kill oneself’.⁴

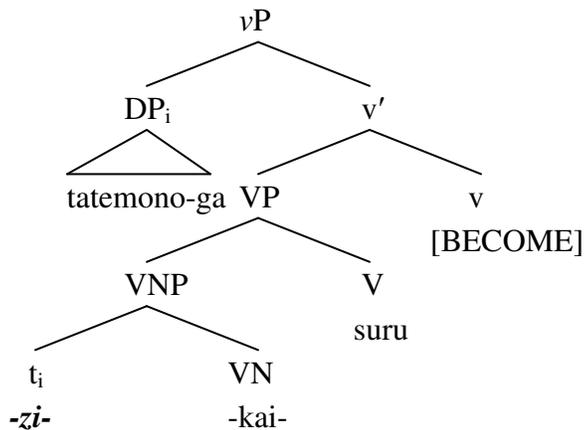
- (36) a. John-ga zi-si-si-ta. (=28)
 John-Nom self-death-do-Past
 ‘John committed suicide.’
- b. John-ga *mizukara* sin-da.
 John-Nom on his own die-Past
 ‘John died on his own.’

⇒ This use of *-zi-* seems similar to the use of the English reflexive morpheme *-self-* as in examples like *self-made man* or *self-motivated*, where the morpheme means ‘on his own’ (Chapin 1967; see also Kageyama 1996 for related discussion on the notion of CONTROL).⁵

⁴ In fact, this possibility seems to us to be hinted at by Tsujimura and Aikawa 1999: 40, who remark that “there is at least one other type in which *zi-* plays a role as an adjunct. Included in this class are *zi-sui-suru* ‘do one’s own cooking’, *zi-syuu-suru* ‘study for oneself’, *zi-doku-suru* ‘read for oneself’, and *zi-kyuu-suru* ‘supply for oneself.’”

⁵ We thank Heidi Harley (personal communication) for suggesting these English examples.

(37) The Unaccusative Analysis of *Zi-Kai-Suru* Type Object-Less Verbs



⇒ We maintain tentatively here that the reflexive morpheme *-zi-* here is a trace/copy left by the movement of the internal argument *tatemono* ‘building’.

6. Concluding Remarks

CONCLUSIONS:

- Certain types of object-less Sino-Japanese reflexive verbs must be analyzed as having a hidden transitive argument/syntactic structure, contrary to Tsujimura and Aikawa 1999’s claim.
- All types of argument structures are instantiated in object-less Sino-Japanese reflexive verbs.

- ⇒ *zi-satu-suru* ‘kill oneself’ = Transitive *Zi*-Verb
- ⇒ *zi-si-suru* ‘commit suicide’ = Unergative *Zi*-Verb
- ⇒ *zi-kai-suru* ‘demolish itself’ = Unaccusative *Zi*-Verb

REMAINING QUESTIONS

- What is the precise characterization of the reflexive morpheme *-zi-* in each case?
 - ➔ Is it really polysemous between the (copy of) internal argument and adverb?
- What is the grammatical role of the light verb *suru* ‘do’ in Sino-Japanese reflexive verbs?
 - ➔ Is it an underspecified morpheme? If so, is it generated under the big V or little *v*?

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