

## Syntax–semantics discrepancy in dejectival verbs and inherently- directed motion verbs in Japanese

Yoko Sugioka  
(Keio University)  
sugioka@keio.jp

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### ➤ Issues:

- (1) Semantics of CoS verbs (degree achievement vs. result entailment) and morphosyntactic structure
- (2) Status of Causer in internally-caused CoS

(Levin & Rappaport-Hovav 1995, Grimshaw 1982, Koonz-Garboden 2009, Rappaport-Hovav & Levin 2012, a.o.)

### ➤ Data: Transitivity alternation in Japanese CoS verbs

- dejectival verbs
- verbs of inherently-directed motion / calibratable change

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### Outline:

1. Two types of inchoativization in Japanese CoS verbs
2. Two types of transitivity alternation in dejectival verbs
3. Self-controlled CoS constructions with non-dejectival verbs
4. Peculiarities of inchoative transitive constructions
5. Two conditions for pseudo-reflexive structure
6. Summary

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### 1. Two types of inchoativization in Japanese verbs ( cf. Kageyama 1996)

#### a. anticausativization : Causer = Theme

- (1) a. *kabin o war -u* 'break a vase'      b. *kabin ga war -e -ru* 'a vase breaks'  
           vase ACC break-PRES                         vase NOM break-INTR-PRES  
 [ x CAUSE [ BECOME [ y BE AT-z ] ] ]    →    [ x = y CAUSE [ BECOME [ y BE AT-z ] ] ]  
 (1b) internally-caused inchoative ( ok: *hitoride ni* 'by itself, naturally' )

#### b. decausativization : Causer → 0

- (2) a. *e o kake -ru* 'hang a painting'      b. *e ga kak -ar -u* 'a painting is hung'  
           painting ACC hang-PRES                         painting NOM hang-INTR-PRES  
 [ x CAUSE [ BECOME [ y BE AT-z ] ] ]    →    [ ( 0 CAUSE ) BECOME [ y BE AT-z ] ]  
 (2b) Causer (x) deleted but implied (ok: *nan-naku* 'without effort')

### ➤ Dejectival verbs exhibit both types

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## 2. Two types of transitivity alternation in deadjectival verbs

### 2.1. Formation of verb from adjective (A)

- Verbal affix for A (tr./intr.): *-me / -mar, -ge / -g(ar)*

ex. *yowa-i* 'weak-PRES' → *yowa-me* 'weaken (Vt)'  
*yowa-mar* 'weaken (Vi)'

- Default verbal affix: *-r* ex. *kumo<sub>N</sub>* 'cloud' *-r* 'to get cloudy' CoS  
*guti<sub>N</sub>* 'complaint' *-r* 'to complain' Activity  
 semi-productive in new coinages: *kopi-r* 'to copy (Vt)' *gugu-r* 'to search on Google (Vt)'  
 a handful of A: *yowa-r* 'weaken (Vi)', *huto-r* 'get fat (Vi)'

- Periphrastic form (adverbial *A-ku + V*): causative: *yowa-ku su* 'to make weak'  
 inchoative: *yowa-ku nar* 'to become weak'

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## 2.2. Inchoativization of externally-caused deadjectival verbs (*A-me/-mar*)

- (3) a. *Ken ga suupu o atata-me-ru.* 'Ken warms up the soup.'  
*Ken NOM soup ACC warm-me-PRES*  
 b. *Suupu ga atata-mar-u.* (ok: *nan-naku*) 'The soup warms up' (ok: without effort)  
*soup NOM warm-mar-PRES effort-not*
- (4) a. *Ken ga konro no hi o yowa-me-ru.* 'Ken lowers the flame of the gas stove.'  
*Ken NOM stove GEN flame ACC weak-me-PRES*  
 b. *Konro no hi ga yowa-mar-u.* (ok: *nan-naku*) 'The flame of the gas stove gets lowered.'  
*stove GEN flame NOM weak-mar-PRES* (ok: without effort)
- (5) a. *Sensei ga siken o haya-me-ru.* 'The teacher makes the exam hour earlier.'  
*teacher NOM exam ACC early-me-PRES*  
 b. *Siken ga haya-mar-u.* (ok: *nan-naku*) 'The exam hour gets earlier.'  
*exam NOM early-mar-PRES* (ok: without effort)  
 Cf. \**Siken ga hitoride.ni haya-mar-u.* 'The exam hour gets earlier by itself.'  
*exam NOM by-itself early-mar-PRES*

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- (3b)-(5b) *A-mar*: **telicity** (entailed result state)

→ **decausativization** properties : [ ( 0 - CAUSE ) [ BECOME [ y BE AT-z ] ] ]

- (6) time adverbials: *for* (duration of change) vs. *in* (the end point)

\**5 hun-kan / 5 hun de suupu ga atata-mar-ta* 'the soup got warm \*for 5 minutes / in 5 minutes'  
*5 min.-long 5 min. in soup NOM warm-mar-PAST*

- (7) *-te.i* 'be' : (telic V) result state vs. (atelic V) progressive interpretation (Kindaichi 1950)

*suupu ga atata-mar-te.i-ru* 'the soup is warm / has been heated' (result state)  
*soup NOM warm-mar-be-PRES*

- (8) \**saityuu ni* 'in the middle of V (atelic)

\**suupu ga atata-mar-u saityuu ni* 'in the middle of the soup warming up'  
*soup NOM warm-mar-PRES middle in*

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## 2.3. Internally-caused deadjectival verbs : *A-mar*

- (9) a. *Kaze no ikioi ga yowa-mar-u.* 'The force of the wind weakens/drops.'  
*wind GEN force NOM weak-mar-PRES*  
 b. *Sharin no kaiten ga haya-mar-u.* 'The spin of the wheel quickens.'  
*wheel GEN spin NOM quick-mar-PRES*
- Internal control**, no external cause implied:  
 (9ab) ok: *hitoride ni* 'by itself' / \**nan-naku* 'without effort' (agentive reading only)
  - Mixed telicity** :  
 (10) a. *Kaze ga 1 zikan / 1 zikan de yowa-mar-ta.* 'The wind dropped for 1 hour / in 1 hour.'  
*wind NOM 1 hour-long 1 hour in weak-mar-PAST*  
 b. *Kaiten ga 1 zikan / 1 zikan de haya-mar-ta.* 'The (wheel's) spin quickened for 1 hour / in 1 hour.'  
*spin NOM 1 hour-long 1 hour in quick-mar-PAST*  
 c. *-te.i* 'be' form: both result state and progressive interpretation

→ degree achievement verbs (e.g. *cool*, Dowty 1979) : [ y GO TO [ Property ] ] (Jackendoff 1990)

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➤ **Proposal:**

• **GO TO function for internally-caused deadjectival V (A-mar):**

(11) [y GO TO [y BE AT-z\* ]]

z\* : a higher point on the degree scale inherent in A ( cf. Kennedy and Levin 2008)

ex. (9a) *yowa-mar* 'weaken (Vi) : movement toward a higher point on the scale of 'weakness'

→ Mixed telicity (10ab) *kaze ga yowa-mar* 'the wind weakens'

atelic interpretation: moving toward a higher degree

telic interpretation: moving to an endpoint / result state fixed by the context

• **Internal control : self-controlled CoS**

(12) [y CAUSE [y GO TO [y BE AT-z\* ]]]

Causer = Theme Cf. (1b) anticausativization [x = y CAUSE [ BECOME [y BE AT-z ]]]

Two events: causation and CoS

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**2.4. Two syntactic structures (intransitive / transitive) for self-controlled CoS**

(13) a. *Kaze no ikioi ga yowa-mar-u.* (=9a) 'The wind force weakens (drops).'

*wind GEN force NOM weak-mar-PRES*

b. *Kaze ga ikioi o yowa-me-ru.* 'The wind weakens its force.'

*wind NOM force ACC weak-me-PRES*

(14) a. *Sharin no kaiten ga haya-mar-u.* (=9b) 'The spin of the wheel quickens.'

*wheel GEN spin NOM quick-mar-PRES*

b. *Sharin ga kaiten o haya-me-ru.* 'The wheel quickens its spin.'

*wheel NOM spin ACC quick-me-PRES*

➤ (13ab) (14ab): **Same semantic properties** (cf. Sugioka 2001)

- Internal control : *hitoride ni* 'by itself' / *\*nan-naku* 'without effort'

- Mixed telicity : *1 zikan* 'for one hour' (duration of change) / *1 zikan de* 'in one hour'

*-te.iru* 'be' form has both progressive and result interpretation (cf. (7))

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➤ **Pseudo-reflexive semantic structure for self-controlled CoS deadjectival verbs**

(15) [x - y CAUSE [y GO TO [y BE AT-z\* ]]] (Cf. (12))

y: inherent property of x (Section 5)

(13) *kaze no ikioi* 'force of the wind'

• **Two possible projections to argument structure**

**V < x-y >** → **intransitive** morphology (-mar) and syntax (no accusative case) – (13a) (14a)

**V x < y >** → **transitive** morphology (-me) and syntax (accusative case) – (13b) (14b)

• Decausativized inchoative verbs cannot yield the same type of transitive construction:

(16) a. *Konro no hi ga yowa-mar-u.* (=4b) 'The flame of the gas stove gets lowered.'

*stove GEN flame NOM weak-mar-PRES*

b. *\*Konro ga hi o yowa-me-ru.* 'The gas stove lowers its flame.'

*stove NOM flame ACC weak-me-PRES*

→ [x-y CAUSE ... : x-y composite has **internal control for change** (Section 5)

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**3. Self-controlled CoS constructions with non-deadjectival verbs**

Cf. Verbs of inherently-directed motion *fall, rise* as atelic unaccusative verbs (L&RH 1995: 172-)

• The same type of transitivity alternation and semantic properties of pseudo-reflexive structure (15):

No external cause (ok: *hitoride ni* 'by itself'), mixed telicity

(17) a. *Kabu no ne ga sagar-u.* 'The stock price drops.'

*stock GEN price NOM drop-PRES*

b. *Kabu ga ne o sage-ru.* 'The stock drops its price.'

*stock NOM price ACC drop-PRES*

(18) a. *Seitoo no hyoo ga her-u.* 'The votes for the party decreases.'

*party GEN vote NOM decrease-PRES*

b. *Seitoo ga hyoo o heras-u.* 'The party decreases (=gets less) votes.'

*party NOM vote ACC decrease-PRES*

(19) a. *Kawa no mizu-kasa ga mas-u.*(Vi) 'The volume of water in the river increases.'

*river GEN water-volume NOM increase-PRES*

b. *Kawa ga mizu-kasa o mas-u.*(Vt) 'The river increases its volume of water.'

*river NOM water-volume ACC increase-PRES*

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#### 4. Peculiarities of inchoative transitive constructions

Pseudo-reflexive structure for self-controlled CoS

(15) [ x - y CAUSE [ y GO TO [ y BE AT-z\* ] ] ] (Cf. (12))

y: property of x (13) *kaze no ikioi* 'force of the wind', (17) *kabu no ne* 'price of the stock'

Theme (y) is also Cause as part of the composite x - y

→ **No passivization** of the direct object in inchoative transitive : (13b) (14b) (17b-19b)

(20) a. \**Ikioi ga kaze ni.yotte yowa-me-rare-ta.* < (13b) 'The force was weakened by the wind.'  
force NOM wind by weak-me-PASS-PAST

Cf. External Cause :

<sup>ok</sup> *Hi ga Ken ni.yotte yowa-me-rare-ta.* < (4a) 'The flame was lowered by Ken.'  
flame NOM Ken by weak-me-PASS-PAST

b. \**Ne ga kabu ni.yotte sage-rare-ta.* < (17b) 'The price was dropped by the stock.'  
price NOM stock by drop-PASS-PAST

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- Synthetic compounding (internal argument + V) (Sugioka 2001)

internal argument + Vt : *raise the price* > *price raising, price raise*

*ne o age* 'raise the price' > *ne-age* 'price raising'

internal argument + Vi : the price rises > \**price rising* cf. *price increase*

*ne ga agar* 'the price rises' > *ne-agari* 'price increase'

→ **No synthetic compound formation** (Theme (y) + Vt) for (17b) (18b)

(21) a. \**kabu no ne-sage* (Vt) 'price-dropping of the stock' – ok: Agentive reading only

stock GEN price-drop

ex. *syoohin* 'goods' *no ne-sage*

Cf. *kabu no ne-sagari* (Vi) 'price drop of the stock'

stock GEN price-drop

b. \**seitoo no hyoo-herasi* (Vt) 'vote-reducing of the party' – ok: Agentive reading only

party GEN vote reduce

Cf. *seitoo no hyoo-heri* (Vi) 'vote drop of the party'

party GEN vote reduce

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#### 5. Two conditions for pseudo-reflexive structure and inchoative transitive constructions

##### 5.1. Semantics of the verb : no entailed result state (Issue (1))

internally-controlled deadjectival verb (*A-mar*) → no entailed result state

inherently-directed motion / calibratable change 'rise' 'fall' → no endpoint

Cf. **default verbal affix (-r)** / **root verbs** : result state entailed [BECOME [ y BE AT-z ] ]

(22) a. *Taihuu no seiryoku ga yowa-r-u.* 'The power of the typhoon gets weak.'  
typhoon GEN power NOM weak-r-PRES

b. *Suupu no ondo ga same-ru.* 'The temperature of the soup gets cold.'  
soup GEN temperature NOM cool-PRES

Telicity: *1 zikan de 'in 1 hr' / \*1 zikan* 'for 1 hr' (duration of change); \**saiyuu ni* 'in the middle of'

→ No inchoative transitive construction:

(23) a. \**Taihuu ga seiryoku o yowa-r-as-u.* (cf. \**yowa-me-ru*) 'The typhoon weakens its force.'  
typhoon NOM power ACC weak-r-TR-PRES weak-me-PRES

b. \**Suupu ga ondo o samas-u.* 'The soup cools its temperature.'  
soup NOM temperature ACC cool-PRES

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#### Cf. Periphrastic causative / inchoative: Result state entailed

adverbial *A-ku + su* 'cause' / *nar* 'become'

(24) a. *Sharin no kaiten ga hayaku nar-u.* 'The spin of the wheel gets quick.'  
wheel GEN spin NOM quick become-PRES

b. *Taihuu no seiryoku ga yowaku nar-u.* 'The power of the typhoon gets weak.'  
typhoon GEN power NOM weak become-PRES

Telicity: *1 zikan de 'in 1 hr' / \*1 zikan* 'for 1 hr' (duration of change); \**saiyuu ni* 'in the middle of'

→ No inchoative transitive construction:

(25) a. \**Sharin ga kaiten o hayaku su-ru.* 'The wheel quickens its spin.'  
wheel NOM spin ACC quick cause-PRES

b. \**Taihuu ga seiryoku o yowaku su-ru.* 'The typhoon weakens its power.'  
typhoon NOM power ACC weak cause-PRES

Cf. External Cause:

c. *Sui-on ga taihuu no seiryoku o yowaku su-ru.* 'Low sea temperature weakens the power of the typhoon.'  
sea-temp. NOM typhoon GEN power ACC weak cause-PRES

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**Cf. Two deadjectival verbs from the same A: *hiro-gar* vs. *hiro-mar* 'broaden'**

- *hiro-gar* 'broaden' Vi [- result state ]

(26) a. *Seitoo no sizi ga hiro-gar-u.* 'The party's support broadens / expands.'  
 party GEN support NOM broad-gar-PRES  
 b. *Seitoo ga sizi o hiro-ge-ru.* 'The party broadened its support.' (inchoative)  
 party NOM support ACC broad-ge-PRES

- *hiro-mar* 'spread, get well-known' [+ result state ]  
 -- lexicalized (no periphrasis by *hiroku su* 'make broad', Saito 1990)

(27) a. *Burando no namae ga hiro-mar-u.* 'The brand name gets spread.'  
 brand GEN name NOM broad-mar-PRES  
 b. \**Burando ga namae o hiro-me-ru.* 'The brand spreads its name.'  
 brand NOM name ACC broad-me-PRES

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- Sino-Japanese verb for *hiro-gar* / *hiro-ge* 'broaden, expand' [- result state ]:  
*kakudai-su* (Vi / Vt) (-su: light verb attached for inflection)

(28) a. *Seitoo no sizi ga kakudai-su-ru.* 'The party's support base broadens / expands.'  
 party GEN support NOM broaden -PRES  
 b. *Seitoo ga sizi o kakudai-s-ase-ru.* 'The party broadened its support base.'(inchoative)  
 party NOM support ACC broaden -cause -PRES

Cf. *Seitoo ga sizi o kakudai-su-ru.* 'The party broadened its support base.' (agentive)  
 party NOM support ACC broaden -PRES

- (28b): *kakudai-su* (Vi) + causative affix -(s)ase  
 [ x - y CAUSE [ y GO TO ]

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**5.2. The nature of the argument NPs (Issue (2))**

(15) [ x - y CAUSE [ y GO TO [ y BE AT-z\* ] ] ]

- **Subject NP ( x ): [+ internal control ] for change** (or so perceived)

- natural force (e.g. wind (13), river (19))
- self-moving object (e.g. spinning wheel (14))
- fluctuating entity (e.g. stock (17), political party base (18) (26))

Cf. Hasegawa (2004: 311) proposes a possessor-raising analysis for psychological and 'self-change' unaccusative transitive verbs (Appendix) and cases like (17):

'it [the possessor] does not have any particular control over the occurrence of the event itself, but it merely is the main entity undergoes the change'

But: (29) a. \**Konro ga hi o yowa-me-ru.* (=16b) 'The gas stove lowers its flame.'  
 stove NOM flame ACC weak-me-PRES  
 b. \**Heya ga ondo o age-ru.* 'The room raises its temperature.'  
 room NOM temp. ACC raise-PRES

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- **Direct object NP: [+measurable property ]**

denotes or implies concrete values on a monotonic scale

- strength (force of nature, e.g. wind (13))
- speed (e.g. spinning of the wheel (14))
- number (e.g. stock price (17), vote count (18))
- volume (e.g. water in river (19))

(30) a. *Kawa no sui-i / sui-men ga agar-u.* 'The level / surface of water in the river rises.'  
 river GEN water-level / w.-surface NOM rise-PRES  
 b. *Kawa ga sui-i / \*sui-men o age-u.* 'The river raises its water level / water surface.'  
 river NOM water-level / w.-surface ACC raise-PRES (cf. (19))

- **Subject NP [ +internal control ] – Direct object NP [ + measurable property ]**

**Q:** What is special about the subject-object relation that can form the pseudo-reflexive structure?

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Cf. Rappaport-Hovav & Levin (2012) on unexpected causative variants of Vs of calibratable change (31) *Solving this issue / \*My mother skyrocketed my personal growth* (p.168 (28))

- 'Verbs of calibratable CoS *skyrocket*, *drop* form causative constructions with interdependent subject-object relation of inherently possessed properties' (p.163)
  - 'their tendency to select themes that are abstract measurable entities, representing properties of entities with scalar values [...] not physical objects' (p.168)
  - 'Changes in the values of properties inherently possessed by animates are like internally caused changes of state: they are generally only under the control of the possessor' (p.168)
- 'x-y composite' in [ x - y CAUSE [ [ y GO TO [ y BE AT-z\* ] ] ] ]
- x-y : interdependent subject-object relation
  - inanimate x [ + internal control ] has control over y [ +measurable property ]
  - pseudo-reflexive CoS structure
  - transitive morphosyntax

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## 6. Summary

**Data:** Transitivity alternation in internally-caused deadjectival and inherently-directed verbs in Japanese

**Proposal:** Pseudo-reflexive semantic structure [ x - y CAUSE [ y GO TO [ y BE AT-z\* ] ] ]  
→ intransitive and transitive morphosyntactic structure

- **Issue (1)** : Not having entailed result state yields atelic interpretation of degree achievement / inherently-directed motion (GO TO)
- **Issue (2)** : Subject-object interdependence in self-controlled CoS  
Causer [ +internal control ] has control over Theme [+measurable property]  
→ Pseudo-reflexive structure → Inchoative intransitive / transitive construction  
Cf. anticausativization and reflexive constructions in French, Spanish, German, etc.

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## Appendix

'unaccusative transitive' constructions with animate subjects in Japanese  
(cf. Hasegawa 2004, a.o.)

[ + result state ] → telic / punctual events

- |                             |                         |                                    |
|-----------------------------|-------------------------|------------------------------------|
| - Experiencer :             | <i>kokoro o ita-me</i>  | 'hurt (one's own) heart (feeling)' |
|                             | <i>kodomo o nakus</i>   | 'lose a child'                     |
| - Possessor (inalienable) : | <i>hone o or</i>        | 'break (one's own) bone'           |
| - Animate Source :          | <i>tane ga me o das</i> | 'a seed puts out a bud'            |
| - Animate Location :        | <i>ki ga mi o tuke</i>  | 'a tree bears a fruit'             |

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