

P-5 Japanese psychological adverbs in the scope-based theory of adverb licensing*

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Abstract:

It has been widely observed that interpretations of English predicational adverbs (e.g. subject-oriented adverbs) are sensitive to where they appear in a clausal spine (Jackendoff 1972; McConnell-Ginet 1982; Ernst 2002, 2007, 2015). In spite of the surface (rather) free word order, Miura and Fujii (2021) argue that there is evidence that Japanese subject-oriented adverbs follow the same condition. Focusing on the relative position of Japanese Psychological Adverbs (PAs) (e.g. *tanosiku* ‘with.fun’) with respect to negation and manner adverbs, this study proposes that they lose their otherwise available Mental State (MS) readings when non-veridical operators (e.g. negation) or adverbials attaching VP c-command them in the same clause.

1. Introduction

➤ English predicational adverbs such as subject-oriented adverbs (e.g. *stupidly*, *calmly*, *reluctantly*) are sensitive to where they appear in a clausal spine (Jackendoff 1972; McConnell-Ginet 1982; Ernst 2002, 2007, 2015).

- 1) a. Rudely, she has left the room. (sentence initial position: clausal reading)
b. She has left the room rudely. (sentence final position: manner reading)
- 2) a. Clausal reading for (1): she is judged rude in a leaving event compared to other possible events (e.g. non-leaving event) that she could have done.
b. Manner reading for (1): she is judged rude in a way of carrying out a leaving-event (e.g. slamming the door) compared to other potential manners of leaving that she could have done.
- 3) **Fact-Event Objects (FEOs) Hierarchy** (Ernst 2002, 2007, 2015)
Speech-Act > Fact > Proposition > External Event (=Event) > Internal Event (=Specified Event),
where > is “higher than”
- 4) a. Clausal readings: when an adverb c-commands External Event (=Event) = vP, PredP
b. Manner readings: when an adverb c-commands Internal Event (=Specified Event) = VP

➤ To what extent, do Japanese adverbs follow the same condition? Their surface order with respect to heads and arguments is rather free. No significant difference is observed in acceptability depending on the position of adverbs in a clause as shown in (5).

- 5) (orokanimo) Taro-wa (orokanimo) masukomi-ni (orokanimo) sono koto-o
stupidly Taro-TOP stupidly media-DAT stupidly that thing-ACC
(orokanimo) morasi-ta.
stupidly leak-PST
‘Taro stupidly leaked the information to the media.’ (Miura & Fujii 2021: 25)

➤ Ernst (2015) in particular argues that adverbs in any language can entertain the ordering restriction shown in (7). For example, the distribution of a subject-oriented adverb *orokanimo* in Japanese against a manner adverb *riroseizen-to* ‘articulately’ follows (7). In the order (6), the adverb is interpreted as a clausal adverb, whereas in the order (6b), there is a contradiction and in particular, the clausal reading is suppressed.

- 6) a. Taro-wa orokanimo riroseizen-to situmon-ni kotaeta.
Taro-TOP stupidly articulately answers-to answered
‘Taro stupidly answered the questions articulately.’
b. * Taro-wa riroseizen-to orokanimo situmon-ni kotaeta.¹

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¹ In Miura and Fujii (2021), we take this example marginally acceptable, although we agree that it loses a clausal reading.

Taroo-TOP articulately stupidly answers-to answered

‘Taro stupidly answered the questions articulately.’

(Ernst 2015: 1050, (3))

7) Ernst’s (2002, 2007, 2015) generalization

Subject-oriented adverbs lose their otherwise available clausal readings when manner adverbs c-command them in the same clause.

- Miura & Fujii (2021), following (7), propose that Japanese adverbs, or at least their subject-oriented class (e.g. *orokanimo* ‘stupidly’, *iyaiya* ‘reluctantly’) are hierarchically organized similarly to their English counterpart.
- This study provide further supports of the same line of argument. Psychological Adverbs (PAs, alternatively, predicates of personal-taste) in Japanese is also hierarchically structured in the clause structure with the assumption (3) and (7). Thus, I propose (8).

8) **Generalization proposed:** PAs lose their otherwise available Mental State readings when i) non-veridical operators (e.g. the ability verb, verbs of desire), or ii) VP-adjuncts c-command them in the same clause.

2. When the MS reading is lost

- PAs (e.g. *oisiku* ‘tastily’, *tanosiku* ‘with.fun’, *kimotiyoku* ‘comfortably’) represent a mental state or a personal evaluation by the subject/experiencer referent toward the on-going or resulted event in which it is involved as (9a) and (9b) show.

9) a. Watasi-wa sono ryoori-o oisiku tabeta. (transitive)

I-TOP the dish-ACC tastily ate

‘I ate a fish dish and found it tasty.’

b. Watasi-wa kimotiyoku hasitta. (intransitive)

I-TOP comfortably ran

‘I ran and felt good.’

- PAs can be associated with two readings: **non-comparable/absolute (subjective)** and **comparable/gradable (objective)** readings (Nagatani 2015). We call the former **Mental State (MS)** reading. Between two, the former, the reading (10a), is the robust reading in the canonical sentence like (9).

10) a. Non-comparable/absolute (subjective): PAs represent a certain emotional feeling of the experiencer at the time of the utterance. They cannot be modified by degree modifiers like *motto* ‘more’.

b. Comparable/gradable (objective): PAs represent a comparable sense of a certain sensation. They can be modified by degree modifiers and an actual feeling or emotion is not required.

11) a. # Watasi-wa motto kimotiyoku hasitta. (non-comparable sense)

I-TOP more comfortably ran

‘I ran and felt better.’

b. Watasi-wa motto kimotiyoku hasiritai. (comparable sense)

I-TOP more comfortably run.want

‘I want to run more comfortably.’

2.1 PAs vs. negation

- However, the robust reading (e.g. (9a)) become contradictory when a PA is in a clause-mate negation as in (12), and it sounds awkward when PAs appear in an imperative sentence such as (13a), and it is weakly detectable in question and conditional clauses as in (13b) and (13c), respectively.

12) a. *Watasi-wa sono ryoori-o (#oisiku) tabe-nakatta.*

I-TOP the dish-ACC tastily eat-NEG.PST

‘I ate the dish and didn’t find it tasty.’

b. *Watasi-wa (#kimotiyoku) hasira-nakatta.*

I-TOP comfortably run-NEG.PST

‘I ran and didn’t feel good.’

13) a. # *Omosiroku hanasi-o ki-ke!*

interestingly story-ACC listen.to-IMP

‘Listen to the story and find it interesting!’

b. ? *John-wa omosiroku sono hanasi-o kii-ta no.*

John-TOP interestingly the story-ACC listen.to-PST Q

‘I will listen to the story and find it interesting.’

c. ? *Mosi watasi-ga omosiroku sono hanasi-o kii-tara, mina uresii-daroo.*

if I-NOM interestingly the story-ACC listen.to-COND everyone happy-FUT

‘Everyone will be happy, if I listen to the story and find it interesting.’

- These contexts are where Positive Polarity Items (PPIs) are not licensed (Yoshimura 1999, Ernst 2009, Watanabe 2013, Sawada, Kishimoto and Imani 2019), thus PAs may be polarity sensitive.

- In Serbo-Croatian, a PPI *neko* ‘someone’ can take scope under negation when they are separated by a clause boundary as in (14a) (Watanabe 2013). This holds true with Japanese indeterminate items *nani-ka* ‘what-NOM’, according to Hasegawa (1991) as in (14b). PAs are not exceptional here as in (15).

14) a. *Mira ne tvrdi [da Milan voli neko-ga].*

Mira NEG claims that Milan loves someone-ACC

‘Mira does not claim that Milan loves someone.’

(Watanabe 2013: 190, (2c))

b. [*John-ga sono mise-de nani-ka kat-ta-to*]-wa boku-wa omowa-nai.²

John-NOM the store-LOC what-KA buy-PST-C-TOP I-TOP think-NEG

‘I don’t think that John bought something at that store.’

(Watanabe 2013: 195, (11b))

15) [*Taro-ga sono ryouri-o oisiku tabeta to*]-wa watasi-wa omowa-nai.

Taro-NOM the dish-ACC tastily ate C-TOP I-TOP think -NEG

‘I don’t think that Taro ate the dish and found it tasty.’

- PAs can also scope under negation when they are in a clause of the ability predicate *-e* ‘can’, as in (16).

16) a. *Watasi-wa sono ryoori-o oisiku taber-e-nakatta.*

I-TOP the dish-ACC tastily eat-ABILITY-NEG.PST

‘I {failed/did not manage} to eat the dish while feeling it tasty.’

b. *Watasi-ta kimotiyoku hasir-e-nakatta.*

I-TOP comfortably run-ABILITY-NEG.PST

‘I {failed/did not manage} to run comfortably.’

² (11b) are cited from Watanabe (2013).

- Notice that the MS reading of PAs is lost in (16), but rather, the scalable sense of tastiness in (16a) and the scalable sense of comfort in (16b), respectively are more clearly observed.

2.2 PAs vs. manner adverbs

- The similar phenomenon can be observed in a sentence where a manner adverb such as *yukkuri* ‘slowly’ precedes a PA in the same clause.

- 17) a. Watasi-wa kimotiyoku yukkuri hasitta. (PA > manner) (MA reading is robust)
 I-TOP comfortably slowly ran
 ‘I ran slowly while feeling comfortable.’
- b. # Watasi-wa yukkuri kimotiyoku hasitta. (manner > PA) (MA reading is less clear)
 I-TOP slowly comfortably ran
 ‘I ran slowly while feeling comfortable.’

- In the PA-manner order like (17a), the MA reading is clearly available while in the reverse order (manner-PA) in (17b), it is less likely so, or it rather results in contradiction.³

3. Interpreting PAs in the SB theory

3.1 Proposal

- Ernst (2002, 2007, 2015) claims that the adverb interpretation is hierarchically organized, which is schematically represented by the **Fact-Event Objects hierarchy** such as (3), repeated in (18).

18) Fact-Event Objects (FEOs) hierarchy = (3)

Speech-Act > Fact > Proposition > External Event (=Event) > Internal Event (=Specified Event), where > is “higher than”

- Suppose there are two FEOs. When FEO₁ is higher than FEO₂ in (18), an adverb that combines with FEO₂ cannot c-command an adverb that combines with FEO₁.
- In (4), English predicational adverbs can be interpreted as the semantic object of External Event (Event) or as the Internal Event (Specified Event). In other words, they can be combined with two different FEOs. When they c-command FEO₁ (or vP/PredP), a clausal reading is created, whereas when they c-command FEO₂ (or VP), a manner reading is created.
- Crucially, a clausal reading of predicational adverbs disappears when a manner adverb c-commands an adverb in question in the same clause as in (7). In section 2, we have observed that the MS reading of PAs cannot be obtained when they are in a clause-mate negation. Similarly, when PAs appear lower than the manner adverb, their MS reading becomes obscured. Thus, the relative order of PAs with respect to negation or the manner adverb strongly correlates with their interpretation in a clause. I argue that these facts can be captured by the tentative generalization like (19), developed under (7).

19) Generalization proposed (preliminary):

PAs lose their otherwise available mental state readings when negation or manner adverbs c-command them in the same clause.

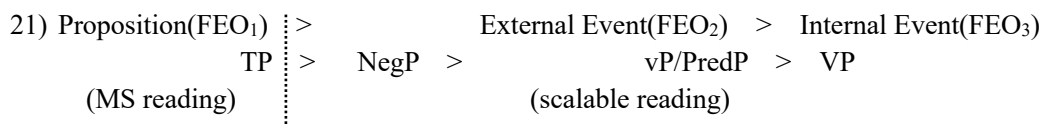
- (19) explains why PAs cannot be read off as an MS adverb when they are c-commanded by Neg. In other words, they are associated with the particular reading only when it is higher than NegP. When PAs precede manner

³ Some native speakers accept the MS reading. But this may be so when it is read off with the intonation boundary (or pause) between the manner adverb and the PA. But without a pause, the MA reading hardly maintains.

adverbs, they are interpreted as MS adverbs.

- 20) a. PA > (Neg, manner adverb), where the MS reading of PAs is robust.
 b. (Neg, manner adverb) > PA, where the MS reading of PAs is in contradictory.

- Assuming that NegP comes between vP and TP, I argue that (21) is a potential FEO hierarchy for the distribution of PAs in combination with syntactic mapping.



- When a PA is combined with Proposition(FEO₁), we have no contradictory reading, since it is higher than NegP. Likewise, it can be interpreted as a subjective, non-comparable meaning when it is construed with Proposition(FEO₁) and the manner adverb is construed with Internal Event(FEO₃), so long as the hierarchy is respected. However, when the negation c-commands the PA, forcing an External Event(FEO₂) reading to its sister, the PA will lose its MS reading as it cannot go down to External Event modifier in the hierarchy once it is attached to Proposition (Ernst 2002). Similarly, when a manner adverb c-commands the PA, forcing a scalable Event reading to its sister (since it is a pure manner adverb), the PA has to be interpreted as Internal Event (FEO₃) thereby losing its MS reading. I argue that this is the cause of the contradictory reading of (17b).⁴
- This precedence relation is structural in deed. Consider (22b) where the VP-preposing (Yatsushiro 1998) is possible. It retains the MS reading. (23) is the rough analysis of (22b) in which the empty element *e* is reconstructed with the moved element *yukkuri hasiru* ‘run slowly’.

- 22) a. Taro-wa kimotiyoku yukkuri hasiri-sae sita.
 Taro-TOP comfortably slowly run-even did
 ‘Taro ran even comfortably.’
 b. Yukkuri hasiri-sae Taro-wa kimotiyoku sita.
 slowly run-even Taro-TOP comfortably did
- 23) [*yukkuri hasiri*]_i-sae Taro-wa [TP kimotiyoku [VP *e*_i]] sita

3.2 Revisiting polarity-sensitive nature of PAs

- Why does a sentence sound contradictory when PAs scope under NegP? In general, the experiencer’s emotion is asserted as true in his/her brief set (Ernst 2009). For example, *watasi* ‘I’ in (9a) asserted the dish was tasty and there is no question of this personal-taste for others to evaluate it against the outside information (e.g. someone’s taste). Thus, MS readings are simply subjective and non-comparable to other emotional activity. The use of negation in (12a) and (12b) renders such an emotion be false while it is asserted as true simultaneously. This may be why they are judged as contradictory.
- Ernst (2009) argues that English adverbs can be classified in terms of polarity-sensitivity. (24) is abstracted away from his argument.

- 24) a. Strong PPIs (Strong evaluative): Subjective; blocked in all non-veridical contexts
 (*unfortunately, luckily, amazingly, unbelievably, sadly, oddly, bizarrely*)
 b. Weak PPIs: Subjective or objective; blocked in antiveridical contexts, sometimes OK in strictly

⁴ When a speaker put a pause between two adverbs, it is not quite clear what is happening in the structure. But it may be the case that two adverbs are interpreted separately in a different hierarchy.

nonveridical contexts (*probably, possibly, certainly, maybe, perhaps, assuredly, surely*)
 (from Ernst 2009: 512)

- PAs exhibit the Strong PPI nature, being excluded in a clause-mate negation, whereas they also show the Weak PPI nature as they may appear in non-veridical contexts (e.g. questions and conditionals). In non-veridical contexts, we view that the personal sensation in question is more objectively interpreted, since it is not necessarily asserted as true in the subject's brief set.
- Now, I add the ability predicate *-e* and verbs of desire such as *-tai, moraitai, hosii* 'want' to the category of non-veridical operators (Watanabe 2013). PAs are licensed in the ability construction as in (25a) and (25b), and in the clause of verbs of desire as in (25c) or in the complement of verbs of desire *hosii* or *moraitai* as in (25d).

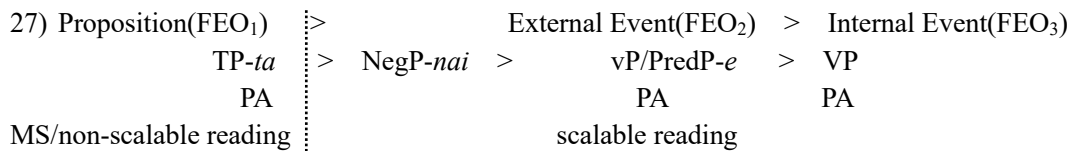
- 25) a. *Watasi-wa sono ryoori-o oisiku taber-e-ta.*
 I-TOP the dish-ACC tastily eat-ABILITY-PST
 'I managed to eat the dish in a good condition.'
- b. *Watasi-wa kimotiyoku hasir-e-ta.*
 I-TOP comfortably run-ABILITY-PST
 'I managed to run comfortably.'
- c. *Watasi-wa kokuritu-de kimotiyoku hasiri-tai.*
 I-TOP national.stadium-at comfortably run- ABILITY-PST
 'I want to run comfortably at the national stadium.'
- d. *Watasi-wa John-ni kokuritu-de kimotiyoku hasit-te {hosii/moraitai}.*
 I-TOP John-DAT national.stadium-at comfortably run-TE want
 'I want John to run comfortably at the national stadium.'

26) **Generalization proposed (final):**

PAs lose their otherwise available mental state readings when non-veridical operators or manner adverbs (or potentially VP-attaching adverbials) c-command them in the same clause, where non-veridical contexts are questions, conditionals, ability clauses, desire clauses.

3.3 Two potential analyses

- We have reached an empirical observation like (27), and we notice that PAs can be combined to three different positions (Proposition, External Event and Internal event) in the FEO hierarchy. On the External Event attachment, a few words are in order. In (28a) and (28b) in which the ability verb is attached to the main verb, a PA can scope under the ability verb. I assume that the ability verb is attached to vP/PredP between the main verb and NegP. Hence in principle the PA can be combined with External Event.



- Alternatively, we may argue the PA has a solo position to attach to in the clause that is TP, and the scope interaction between the PA and functional heads is determined via the head movement (Kishimoto 2007). The comparison of these approaches is beyond the scope of this study and needs a further investigation. In either case, the generalization (26) must be considered in order to explain the distribution and interpretation of PAs.

3.4 On PAs that are inherently negative in meaning

- Finally, I suggest that the present analysis may solve a long-standing puzzle concerning the PA construction. The PA whose meaning is inherently negative such as *mazuku* 'awfully' cannot be licensed in the construction

as in (28) (Doragana 2005). The intended reading of PAs here is the MS-reading.

- 28) a. # Taro-wa sono ryouri-o mazuku tabeta.
Taro-TOP the dish-ACC awfully ate
'Taro ate the dish and found it awful.'
- b. # Watsi-wa sono hanasi-o tumanaku kiita.
I-TOP the story-ACC uninterestingly heard
'I heard the story and found it uninteresting.'
- c. # Noriko-wa sono hi hukaini hasitta.
Noriko-TOP the day uncomfortably ran
'Noriko ran and found herself uncomfortable on that day.'

- To hold this analysis, we may posit that (i) the lexical decomposition of PAs, thus, they can be divided into [Neg + Positive PA] and (ii) the internal structure of PAs is also hierarchical structured. Then we may argue that PAs in (28) cannot be licensed under a clause-mate negation.

4. Conclusion

This study presents a novel account for the distribution and interpretation of Japanese Psychological Adverbs (PAs) with respect to other type of adverbs and negation. I have shown that PAs can be associated with an MS reading (subjective) and a scalable reading (objective). Against the backdrop of Ernst's generalization, I have proposed that when PAs are combined with Proposition FEO they exhibit an MS adverb, while when they are c-commanded by a manner adverb or non-veridical operators, this reading becomes less obvious. Namely, PAs lose their otherwise available MS readings when manner adverbs or non-veridical operators c-command(s) them in the same clause.

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