

## C-5 A Phase-based Approach to the High and Low Behaviors of Adverbs in Japanese

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### Abstract

It has been widely observed that subject-oriented adverbs in English exhibit clausal vs. manner ambiguity (Jackendoff 1972, Ernst 2002). Differing from English, clausal and manner adverbs are morphologically distinct in Japanese: when a manner adverb is attached with *-mo* (e.g., *orokani-mo* ‘stupidly’), it is always interpreted as a clausal adverb (Sawada 1978, Kubota 2015). In this paper, we show that several facts indicate that *mo*-attached subject-oriented adverbs must be located above vP while others indicate that they must be located below vP. We attempt to reconcile the two apparently conflicting observations by appealing to a locality condition imposed on subject-oriented adverbs and T, with the aid of Chomsky’s (2000 and subsequent works) Phase Impenetrability Condition.

### 1. Introduction

In Japanese, adverbials suffixed by focus or quantificational particle *mo* ‘also’ (abbreviated ‘Adv-*mo*’ henceforth) are forced to have a clausal reading even though they allow a manner reading when they occur without the suffix (Sawada 1978; Nakau 1980; Kubota 2015). The reading in (1a) is only available for the *mo*-attached version, while the reading in (1b) only admitted to its counterpart without *mo*.

- (1) Taroo-wa {a. **sinsetuni-mo** / b. *sinsetuni*} seki-o yuzutta.  
Taro-TOP kindly-<sub>MO</sub> kindly seat-ACC offered
- a. ‘Kindly, Taro offered the seat.’ (Clausal only; e.g. It is kind of Taro to offer the seat, rather than choosing not to offer it, etc.)
- b. ‘Taro offered the seat kindly.’ (Manner only; e.g. Taro chose a kind manner of offering the seat among a number of ways of offering it, etc.)

This fact is explained rather nicely by Kubota (2015), who proposes a semantics of *mo* that determines in a specific way the standard of comparison with respect to the gradable adjective underlying Adv-*mo*, building on Ernst’s (2002) predicational theory of adverbs. The present paper argues that

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evidence suggests that *Adv-mo* can be attached to *v'* or higher, obeying a locality condition that can be cashed out in terms of the Phase Impenetrability Condition of Chomsky (2000 and subsequent works).

## 2. Apparently Conflicting Properties

There is ample evidence that *Adv-mo* must be attached high in clause structure. First, as the example in (2) (from Ernst 2015) shows, *Adv-mo* cannot follow a manner adverbial such as *riroseizen-to* ‘articulately’.

- (2) a. Taro-wa **orokani-mo** riroseizen-to situmon-ni kotaeta.  
 Taro-TOP stupidly-MO articulately answers-to answered  
 ‘Taro stupidly answered the questions articulately.’  
 b. \*/??Taro-wa riroseizen-to situmon-ni **orokani-mo** kotaeta.  
 Taro-TOP articulately answers-to stupidly-MO answered

This fact indicates that there is a lower domain in sentence structure inside which manner adverbs can but *Adv-mo* cannot occur. Although it is not clear at this point precisely where manner adverbs can (or cannot) occur, the fact suggests that at least VP constitute a domain where *Adv-mo* cannot be attached.

- (3) High Behavior 1: [TP ... [vP ... [VP ... \***Adv-mo** ... ]]]

Furthermore, *Adv-mo* cannot easily modify certain embedded clauses. Causative vP complements (Murasugi and Hashimoto 2004, Harley 2008) are one of those complements, as shown in (4). The reading shown in (4a), where *Adv-mo* is construed with the causer *Taroo*, is easy to obtain, while the reading shown in (4b), where kindness is attributed to the cause *musuko* ‘his son’, is at least hard.

- (4) Taroo-wa musuko-ni **sinsetuni-mo** seki-o yuzur-aseta.  
 Taroo-TOP his.son-DAT kindly-MO seat-ACC offer-CAUSE.PAST  
 a. ‘It was kind of Taro to have his son offer the seat.’  
 b. \*‘Taro had his son offer the seat and it was kind of his son to do it.’

- (5) High Behavior 2: [TP ... ✓**Adv-mo** ... [VP [vP ... \***Adv-mo** ... ] *sase*] T]

There is, however, a case in which *Adv-mo* behaves as if it were attached as low as *v'*. It has to do with passive sensitivity. Before discussing Japanese data, let us review a standard analysis of the phenomenon. Consider the English examples in (6), which illustrate passive-sensitivity of subject-oriented adverbs (McConnel-Ginet 1982, Ernst 2002). In (6a), reluctance can only be attributed to Joan. In (6b), the adverb can be construed with either Mary or Joan. Note that, as McConnel-Ginet

(1982) and other works observe, when the adverb occurs in-between the passive auxiliary and passivized verb as in (6c), it can be interpreted as either patient-oriented (*Mary*) or agent-oriented (*Joan*).

- (6) a. Joan reluctantly instructed Mary.  
 b. Mary reluctantly was instructed by Joan.  
 c. Mary was reluctantly instructed by Joan.

One explanation of these facts can be found in Ernst (2002), where the condition in (7) is proposed (p.107). The DP “denoting subject-oriented adverbs’ agentive argument” is *Joan* in (6a), *Mary* in (6b), and *Mary* or *Joan* in (6c). Ernst assumes that subject-oriented adverbs contain PRO and that the null element is controlled by an argument DP via c-command.

- (7) Ernst’s Structural condition on subject-oriented interpretation: The DP (in an A-position) denoting subject-oriented adverbs’ agentive argument must c-command the adverb.

A version of the Ernst-style account of the ambiguity of passives like (5) runs as follows. Let’s assume as Ernst does, that in passives, the patient argument moves to Spec,TP through Spec,PassP while the agent argument or null element associated with the *by*-phrase is located in Spec,vP. If we further assume (contra Kubota 2015) that an adverb can be adjoined to T’, Pass’ or v’, then the passive clause at least has three positions for the adverb, as shown in (8).

- (8) [TP Patient<sub>i</sub> [T’ \_\_\_\_ T [PassP *t*<sub>i</sub> [Pass’ \_\_\_\_ Pass [vP Agent [v’ \_\_\_\_ v V *t*<sub>i</sub> ]]]]]]

Under (7), the ambiguity of (6c) follows if the sentence is structurally ambiguous between a structure where *reluctantly* is attached to Pass’ and one where it is attached to v’. The former structure gives rise to the surface-subject-oriented reading and the latter the deep-subject-oriented reading, respectively.

This said, observe that *orokani-mo* ‘stupidly’ can be construed with either a surface subject or a *by*-phrase. In (9a), the active sentence only supports a surface-subject-oriented reading. In its passive counterpart, (9b), however, stupidity can be attributed to the same institutional agent. The reason why (9b) is not ambiguous is because the surface subject in the passive, *eki* ‘station’, does not semantically qualify as an agent of adverbs of this class.

- (9) a. Seihu-wa **orokani-mo** atarasii eki-o inakamati-ni tukutta.  
 government-TOP stupidly-MO new station-ACC rural.town-in made  
 ‘The government stupidly constructed a new station in the rural town.’  
 b. Atarasii eki-ga **orokani-mo** seihu-niyotte inakamati-ni tukur-areta.  
 new station-NOM stupidly-MO government-by rural.town-in make-PASS.PAST

‘A new station has been stupidly made in the rural town by the government.’

(10) Low Behavior: [TP ... [PassP ... [vP Agent [v' ✓ **Adv-mo** VP v] Pass] T]

It is true that the grammaticality of (9b) can be regarded as strong evidence for *Adv-mo*'s ability to support deep-subject, but one caveat is in order. Kubota (2005) claims that *Adv-mo* exhibits obligatory surface-subject-orientation, observing that the underlying subject of passive constructions such as (11) cannot be construed as *orokani-mo*'s agent. We essentially agree with Kubota, who claims that it is hard to attribute stupidity to the agent of the hugging event in (11).

(11) Mary-wa **orokani-mo** John-ni dakishime-rareta.  
 Mary-TOP stupidly-MO John-by hug-PASS.PAST  
 ‘Stupidly, Mary was hugged by John.’

- a. ✓It was stupid of Mary to have been hugged by John. (Surface-Subject-Oriented reading)
- b. \*It was stupid of John to have hugged Mary. (Agent-Oriented reading)

This judgment may make it look like subject-oriented adverbs are always construed with a surface subject, as Kubota claims. The fact found in (9b), however, suggests that the lack of ambiguity in (11) not be regarded as a general property of *Adv-mo* in Japanese; see Section 3.4 for further discussion.

In summary, the word order effect with multiple adverbs and the inability to modify causative complements suggest that *Adv-mo* must be attached high. The passive-sensitivity paradigm, however, seems to suggest otherwise: their attachment site does not always have to be so high.

### 3. A Solution

The state of affairs observed so far can be summarized as in (12).

- (12) a. [TP ... [vP ... [VP ... \***Adv-mo** ... V] v] T]
- b. [TP ... ✓**Adv-mo** ... [VP [vP ... \***Adv-mo** ... ] *sase*] T]
- c. [TP ... [PassP ... [vP Agent [v' ✓ **Adv-mo** VP v] Pass] T]

The guiding intuition here is that *Adv-mo* is licensed by being close enough to T. In (12a), vP and VP are located between *Adv-mo* and local T. In (12b), *Adv-mo* is embedded inside a complement clause that lacks T. In (12c), finally, there are some maximal projections intervening between *Adv-mo* and T but they don't seem to constitute a clause boundary. A technical proposal is made in (13), which builds on Chomsky's (2000 and subsequent works) Phase-Impenetrability Condition (PIC), given in (14).

(13) *Adv-mo* must be in the same Transfer domain as T.

(14)PIC: A phase complement (e.g., VP complement for vP-phase) undergoes Transfer as soon as the

next higher head (e.g., T for vP-phase) is introduced. (Chomsky 2000)

In what follows, we demonstrate that (13), together with the PIC, explains the puzzling properties of *Adv-mo* aforementioned in (12) straightforwardly.

### 3.1 Low Behavior, (12c)

Let us begin with (12c), which is a schema for the passive construction where *Adv-mo* occurs below Spec,vP. The current proposal explains the fact that it is possible to interpret *by*-phrases as *Adv-mo*'s agent arguments. (15) is the derivation of example (9b), where *Adv-mo* is attached to v'. According to the PIC, the VP must undergo Transfer. The next higher Transfer domain is the one underscored in (15), where *Adv-mo* has T as an element that might be called a *Transfer-domain-mate*. (The underscored portion in (15) and other structural descriptions in what follows indicate relevant Transfer domains.)

(15) [CP [TP Theme<sub>2</sub> [PassP t<sub>2</sub> [vP Agent<sub>1</sub> [v' **Adv-mo** [VP ... t<sub>2</sub> ... ] v ] Pass] T] C]

Note that if *Adv-mo* is attached to Pass' or T', it can be controlled by Spec,PassP or Spec,TP, respectively. This is a welcome effect, given passive-sensitivity of *Adv-mo* found in (11).

### 3.2 High Behavior 1, (12a)

Our analysis immediately predicts that *Adv-mo* is prevented from adjoining inside VP. This analysis accounts for why *mo*-attached adverbs cannot be preceded by manner adverbs. Since the VP is closed off and transferred, *Adv-mo* becomes “inaccessible” to T as required.

(16) [CP [TP Subj<sub>i</sub> [vP t<sub>i</sub> [VP ... **Adv-mo** ...] v] T] C]

### 3.3 High Behavior 3, (12b)

Let us move onto another high behavior of *Adv-mo*. As mentioned earlier, Japanese causative morpheme *-sase* is assumed to take a vP complement as its object (Murasugi and Hashimoto 2004, Harley 2008). The underscored portion in (17) is a Transfer domain. This configuration, however, clearly renders the locality condition violated: T is outside of the Transfer domain for the matrix phase-head v, as demonstrated in (17).

(17) [CP [TP CAUSER [vP v [vP [vP CAUSEE **Adv-mo** [VP ...] v] sase] v] T] C]

### 3.4 On the Apparent Ban on Deep-Subject Construal

Our final concern of this section is Kubota's (2015) core data. The sentence discussed in (11) shows that *Adv-mo* cannot be construed with the underlying subject that is surfaced as a *ni*-phrase of this type of passives. At first glance, this fact does not seem to follow from the present analysis. As is well

known, however, Japanese has two types of direct passives: the *niyotte* direct passive and the *ni* direct passive (Kuroda 1965, 1979; Inoue 1976). Kuroda (1979) proposes that the passive verb (*rare*) of the *ni* direct passive imposes a selectional restriction on the surface subject of the passive; thus it ‘assigns an external theta-role and requires that the subject be an affectee’ (Hoshi 1994: p.150). We take (11) as instantiating the *ni* direct passive where the surface subject receives an external theta role as an affectee. This means that (11) can be analyzed as involving vP-complementation by *rare* as a full-fledged verb, as in (18). In other words, we argue that (11) should receive a biclausal analysis, like the causative discussed in (4) but not like the monoclausal *niyotte*-passive discussed in (9b).

(18) [CP [TP NP-NOM [VP v [VP [VP-NP-DAT **Adv-mo** [VP... ] v] rare] v] T] C]

Here the Transfer domain containing *Adv-mo* does not contain T. Hence, the adverb is not licensed.

#### 4. A Note on Identity of the Licensing Head

Before concluding the paper, it should be noted that there exist slightly different variants of the proposed locality requirement and that the data presented so far are compatible with either of them, e.g. that the licenser is T, whether finite or infinite, that it is finite T only, or that it is C.

Observe (19a) and (19b). The adverb is construed with the embedded subject of a complement clause taken by *nozom-* ‘wish’ or *hosi-* ‘want’. In (19a), the embedded subject *Hanako* can be interpreted as the agentive argument of *orokani-mo*. The data in (19b) shows that the same adverb can be construed with the embedded subject *Hanako* of a non-finite *te*-clause. The embedded-subject-oriented reading in (19b) might sound slightly degraded, compared to that in (19a). We, however, find that (19b) sounds clearly better than its causative counterpart in (19c).

- (19) a. Taroo-wa [Hanako-ga **orokani-mo** yakubutu-ni te-o someru]-no-o nozom-anakatta.  
 Taro-TOP Hanako-NOM stupidly-MO drug-DAT hand-ACC dye-C-ACC wish-NEG.PAST  
 ‘Taro didn’t hope that Hanako would stupidly get involved in drug.’
- b. ?Taroo-wa Hanako-ni **orokani-mo** yakubutu-ni te-o some-te hosiku-nakatta.  
 Taro-TOP Hanako-NOM stupidly-MO drug-DAT hand-ACC dye-TE hope-NEG.PAST  
 ‘Taro didn’t want it to happen that Hanako stupidly would get involved in drug.’
- c. \*Taroo-wa Hanako-ni **orokani-mo** yakubutu-ni te-o some-sase-nakat-ta.  
 Taro-TOP Hanako-DAT stupidly-MO drug-DAT hand-ACC dye-CAUS-NEG.PAST  
 ‘Taro didn’t make it happen that Hanako stupidly would get involved in drug.’

If *te*-clauses are bare TPs (Nakatani 2013, Hayashi and Fujii 2015), the contrast between the a- and b-examples on the one hand and the c-example on the other is naturally derived from the locality condition in (14). Since *-te* is non-finite, we may argue that *Adv-mo* must be a Transfer-domain mate of non-finite T, as stated in (13). However, if one found (19b) unacceptable, this would suggest that

Adv-*mo* must be licensed as a Transfer-domain-mate of C or finite T. Further research is necessary.

## 5. Conclusion

In this paper we have discussed the rather complex nature of *mo*-attached adverbs in Japanese. We argue that these subject-oriented adverbs carrying particle *mo* obey a locality condition that requires that they be in the same Transfer domain as T.

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