ANOTHER LOOK AT VERB MOVEMENT IN JAPANESE

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ABSTRACT

This paper is a response to Hatakeyama et al (2008), who argue for V-to-I in Japanese mainly on the basis of the distribution of the particle *mo*. I retest their data and reach a different result: Japanese verbs stay in situ at all times, and the relevant linearizations arise from phrasal versus head movement around *mo*, a particle that I define as a functional head (versus XP clitic in the cited study).

Key words: Japanese, verb movement, *mo*, aspectual head, modal head.

This paper revisits the debate on verb movement in Japanese: does the verb stay in-situ at all times (Kobayashi 2016) or may it also move to T (Hatakeyama et al 2008)? Analyses defending the option for movement rely in most part on the position of the particle *mo*: considering that *mo* is an Infl related element, the order *verb* > *mo* indicates the verb in situ, whereas the order *mo* > *verb* indicates V-to-T (Hatakeyama et al 2008).

In this paper, I take a closer look at the location of *mo*, and show that this particle is merged in a functional head lower than T, which interferes with V-to-T. This is a different result from Hatakeyama et al (2008), where *mo* is defined as an XP clitic that adjoins to vP.

The paper is organized as follows: Section 1 summarizes the arguments for verb movement in Japanese such as proposed in previous studies. Section 2 introduces the theoretical framework for my analysis, which consists of the cartographic representation of the clause hierarchy (Cinque 1999). In section 3, I argue for the merge of *mo* as a functional head, and consider the position of the verb in relation to *mo*. In section 4, I falsify the arguments put forth in Hatakeyama et al, based on the results of section 3. Section 5 concludes by favouring the non-movement hypothesis.

1. PREVIOUS STUDIES

Whether verb movement in Japanese takes place or not has been discussed for many years, and it is still uncertain. For example, Koizumi (2000), Fukui et al (2003), and more recently Hatakeyama et al (2008), argue for verb movement in Japanese, whereas Kobayashi (2016) concludes that only V in situ is available in this language. The latter bases his arguments on the Non-Constituent Coordination test, which falsifies the verb raising approach since it yields incorrect predictions when it comes to affirmative polarity items and negation.

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While I subscribe to Kobahashi's arguments, I would also like to point out that the verb movement hypothesis failure also comes from morphosyntax, more precisely, the key empirical evidence brought to support it, namely, the distribution of the particle *mo*.

In this section, I briefly present the verb movement hypothesis for Japanese, such as proposed in Hatakeyama et al (2008), and I point out the problems for their data and their inferences.Their main argument concerns the location of the particle *mo*, which has an additive meaning (e.g., 'also', 'in addition to').

Note that Japanese is a strictly right headed language, so the verb and the inflectional markers are stuck at the end of the sentence, with the markers following the verb stem. The inflectional markers are merged as heads and may be free or bound morphemes. Thus, the free morphemes are expected to block V-to-T, whereas the bound morphemes trigger phonological support, spelled out through the morpheme *si/su*.

Hatakeyama et al (2008) argue that, in the absence of free standing inflectional morphemes, verb movement takes place. Their key example is shown in (1): in (1a) the verb provides phonological support to the tense marker, which is a bound morpheme; whereas in (1b), the same is not possible because *mo* intervenes between the verb and the tense marker. Instead, we see *si*-support.

(1) a. *Taro-ga susi-o tabe-ta.*
Taro-NOM suhsi-ACC eat-PAST
'Taro ate susi.'
b. *Taro-ga susi-o tabe-**mo** si-ta.*
Taro-NOM sushi-ACC eat-also SI-PAST
'Taro also ate sushi'

Following Aoyagi (2006), Hatakeyama et al (2008) assume that *mo* is an XP particle that adjoins to vP, and provide data as in (2) for support.

(2) a. *John-wa [susi-o tabe]-te mi-ta.*
John-TOP sushi-ACC eat-ASP try-PAST
'John tried eating sushi '
b. *John-wa [susi-o tabe]-**te-mo** mi-ta.*
John-TOP sushi-ACC eat-ASP-also try-PAST
'John tried also eating sushi'
c. **John-wa [susi-o tabe]-**ni-mo** mi-ta.*
John-TOP sushi-ACC eat-ASP-also try-PAST (Aoyagi 1998: 20)

Since Aoyagi considers both *ni* and *te* as some sort of aspect, the difference in (2b) and (2c) is whether the verb *mi-ta* (<*mi-ru*, 'try') selects *te* or *ni*. The examples show that this particular verb goes for *te* instead of *ni*. Therefore, semantic selection applies with respect to functional heads (i.e., the verb selects *te* versus *ni*), which entails that, were *mo* also a head, the selectional relation between *te* and *mi-ta* could not be implemented, because *mo* would be an intervener. This leads Aoyagi to claim that *mo* is not a head but an adjunct (XP) clitic.

Along these lines, Hatakeyama et al (2008) provide examples as in (3) to argue for V-to-T: since *mo* is not a head in (3), the verb can move across it to T, and support the tense marker.

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(3) *Taro-ga susi-o-**mo** tabe-ta.*
Taro-NOM sushi-ACC-also eat-PAST
'Taro ate [not only something but] also sushi'

So, the underlying structure can be represented as in (4).

(4) Taro-ga [$_{vp}$ [$_{vp}$ susi-o t_v] **mo**] [$_{v/T}$ tabe-ta].

In (4), the verb *tabe* 'eat', which is originally in vP, can move across the particle *mo* into the head T, where it supports the bound past marker *ta*. As already mentioned, in the absence of the verb stem, this marker needs *si* support, as shown in (1b).

When it comes to the interpretations, Hatakeyama et al consider that the raising and the non-raising options may converge to two similar readings. That is, for the non-raising option that contains *mo* above vP, three readings are available (as also pointed out in Kuroda 1965, 1992), according to the scope domain for *mo*, as shown in (5).

(5) *Taro-ga susi-o tabe-**mo** si-ta.*
Taro-NOM susi-ACC eat-also SI-PAST
a. Taro (not only [drank beer] but) also [$_{vP}$ ate sushi].
b. Taro ate (not only grilled [meat] but) also [$_{NP}$ sushi].
c. Taro (not only [served] but) also [$_{V}$ ate] sushi.

In (5a), the entire vP falls under scope of *mo* 'also'. In (5b), only the object *sushi* falls under scope of *mo*, while in (5c) only the verb *tabe* falls under the scope of *mo*. Furthermore, considering that scope entails c-command, and that the subject never falls in the scope of *mo*, Hatakeyama et al (2008) assume that what goes up is the subject, not the verb, the latter remaining in vP.

On the other hand, they point out that the verb may also surface higher than *mo*, as in (3)/(4). When that happens, only two out of the three interpretations above are possible, which are (5a) and (5b) (scope of *mo* over vP and NP, respectively). Reading (5c) is excluded because the verb does not stay in situ, under the scope of *mo*. For further evidence, Hatakeyama et al provide the example in (6).

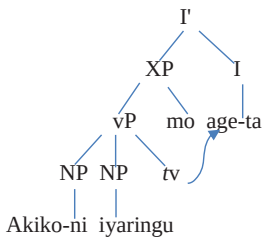
(6) *Ki-ga ooi Taro-wa,*
playboy Taro-TOP
a. *Haruko-ni Yubiwa-o age-ta bakari-de naku,*
Haruko-DAT ring-ACC give-PAST only not
b. *Natuko-ni nekkuresu**mo** age,*
Natuko-DAT necklace-also give
c. *sarani Akiko-ni iyaringu-**mo** age-ta.*
furthermore Akiko-DAT earrings-also give-PAST
'A playboy Taro not only gave Haruko a ring, but also gave Natuko a necklace, and furthermore gave Akiko earrings.'

The verb *age* 'give' requires two arguments, and (6c) has a set reading: 'Taro gave (not only Haruko a ring) but also Akiko earrings, and also…'. If *mo* is adjoined to NP *earrings*, this interpretation fails. From this fact, Hatakeyama et al assume that *mo* is adjoined to vP, which ends up c-

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commanding both NPs. Hence, the verb has moved from V to T with *mo* adjoined not to the object, but to the top of vP, as in (7).

(7)



This approach to the distribution of *mo* led Hatakeyama et al (2008) to conclude that there are two underlying clause structures in Japanese, at all times (irrespective of whether *mo* is present or not): one that allows for V-to-T, as in (8a), and one that keeps the verb in situ, as in (8b).

(8) a. $[_{XP}\ [_{vP}$ susi-o $[_{V}$ tabe]]-**mo**$]\ [_{T}$ ta$]$ (Underlying Structure)
→ $[_{XP}\ [_{vP}$ susi-o *t*v$]$ **mo**$]\ [_{V/T}$ tabe-ta$]$ (verb movement)
b. $[_{XP}\ [_{vP}$ susi-o $[_{V}$ tabe]]-**mo**$]\ [_{T}$ ta$]$ (Underlying Structure)
→ $[_{XP}\ [_{vP}$ susi-o tabe$]$ **mo**$]\ [_{T}$ ta$]$ (without verb movement)
↑
si (su)-support

For (8b), they assume insertion of *si* support, since *ta* is a bound morpheme and needs a phonological host. Accordingly, the prediction is that every time we see the string verb + *ta* versus *si* + *ta*, it means that we have V-to-T.

There are several problems with this analysis, some of which have been noticed in recent studies, and others that I point out here:

The most salient problem is that this analysis entails free optionality, which is theoretically undesirable. In particular, the interpretations in (5a, b) equally arise from derivations with V-to-T and from derivations with V in situ. Thus, the option for (non)movement has no semantic justification. Why would a gratuitous operation apply?

Another problem arises from the alternation between verb stem and *si* as phonological support for the bound tense morpheme, as indicated in (8b). The authors consider that *si*-support has the same function as English *do*-support, therefore, in my understanding, it must be the last resort to save the tense element. However, Hatakeyama et al suggest to insert *si* iff Morphological Merger does not apply. In their sense, it means that if verb movement does not take place, Morphological Merger cannot occur, so a dummy auxiliary *si* is inserted to save the tense marker. The question is: If the verb could move to IP and thus support the tense marker, why doesn't it always happen? I believe that the true sense of last resort does not fit with their approach. Note that for English *do*, its merge is lexically motivated (i.e., only *have* or *be* may move to C, whereas other verbs cannot), while in Japanese this cannot be the case.

Since verb movement is a mechanical process, it should not be sensitive to the thematic grid of the verb. That is, if a language has verb movement, that operation applies blindly, to all

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types of verbs. However, in Japanese, unergative verbs cannot occur higher than *mo*, as shown in (9). A language with verb movement, such as French, does not display this class discrimination. For examples, French unergatives allow for verb movement on a par with the transitives, as shown in (10b).

(9) a. *Taro-ga ne-**mo** si-ta.*
Taro-NOM sleep-also SI-PAST
'Taro (not only studied but) also went to bed'
b. **Taro-ga t_V **mo** neta.* [1]
c. *Taro-ga hasiri-**mo** si-ta.*
Taro-NOM run-also SI-PAST
'Taro (not only jumped but) also ran'
d. **Taro-ga t_V **mo** hasit-ta.*

(10) a. *Marie ne pas [$_{vp}$ dort].* INITIAL MERGE OF V
Marie not sleep
'Marie does not sleep'
b. *Marie ne [$_{vp}$ dort] pas [$_{vp}$ tv].* DERIVED STRUCTURE (V-MOVT)

These inconsistencies signal that there are fundamental problems with the V-to-T proposal for Japanese, and the contrast for the verb location in relation to *mo* may be unrelated to head-to-head movement. Crucial in this respect is the distribution of *mo* in (11), which is not mentioned in Hatakeyama et al (2008).

(11) a. *Taro-ga susi-o tabe-**mo**-si-tei-ta.*
Taro-NOM sushi-ACC eat-also-SI-ASP-PAST
'Taro was [not only doing something but] also eating sushi'
b. *Taro-ga susi-o tabe-te-**mo**-i-ta.*
Taro-NOM sushi-o eat-ASP-also-ASP-PAST.
'Taro was [not only doing something but] also eating sushi'
c. **Taro-ga susi-o tabe-tei-ta-**mo***
Taro-NOM sushi-ACC eat-ASP-PAST-also

In (11a), *mo* occurs low, adjacent to the verb stem, followed by the aspectual clitic *te* supported by *si*. In (11b), we see that *tei* arises from the fusion of two functional heads (when they are adjacent), so it is possible for *mo* to merge in-between. This throws doubt on the XP status of *mo*, since it occurs inside a string of inflectional markers (i.e., not only between the lexical verb and its inflectional morphemes). What we cannot have is a high location for *mo*, as shown in (11c),

[1] An anonymous reviewer points out that the presence of an adverb improves the grammaticality of (9b), e.g. (i). Note however that the interpretation is different: in (9b) *mo* takes scope over the verb, while in (i) it takes scope over the adverb.
(i) *Taro-ga [kokode tv]-mo ne-ta.*
Taro-NOM here also sleep-PAST
'Taro slept (not only at other places but) also here'

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which again would have to be explained if *mo* were an XP – why can't this XP adjoin to IP (for wide scope), as it does to vP (for narrow scope)?

In the remainder of this paper, I argue that *mo* is a functional head, of an aspectual nature. Then I'll derive the effects pointed out in Hatakeyama et al (2008) on independent grounds.

2. THEORETICAL FRAMEWORK

For the analysis, I use cartographic representations because they allow for fine-grained distinctions among clausal functional projections. In particular, I am interested in the location of mode and aspect heads within TP, so I adopt Cinque's (1999) hierarchy reproduced in (12).

(12)

[$\text{Mood}_{\text{speech act}}$ [$\text{Mood}_{\text{evaluative}}$ [$\text{Mood}_{\text{evidential}}$ [$\text{Mod}_{\text{epistemic}}$ [T(Past) [T(Future) [$\text{Mood}_{\text{irrealis}}$ [$\text{Mod}_{\text{aleth neccessity}}$ [$\text{Mod}_{\text{aleth possibility}}$ [$\text{Mod}_{\text{volition}}$ [$\text{Mod}_{\text{obligation}}$ [$\text{Mod}_{\text{ability/permission}}$ [$\text{Asp}_{\text{habitual}}$ [$\text{Asp}_{\text{repetive(1)}}$ [$\text{Asp}_{\text{frequentative(1)}}$ [$\text{Asp}_{\text{celerative(1)}}$ [T(Anterior) [$\text{Asp}_{\text{terminative}}$ [$\text{Asp}_{\text{continuative(1)}}$ [$\text{Asp}_{\text{perfect}}$ [$\text{Asp}_{\text{retrospective}}$ [$\text{Asp}_{\text{proximative}}$ [$\text{Asp}_{\text{durative}}$ [$\text{Asp}_{\text{progressive}}$ [$\text{Asp}_{\text{prospective}}$ [$\text{Asp}_{\text{CompletiveSg}}$ [$\text{Asp}_{\text{CompletivePl}}$ [Voice [$\text{Asp}_{\text{Celerative(2)}}$ [$\text{Asp}_{\text{repetitive(2)}}$ [$\text{Asp}_{\text{frequentative(2)}}$ [$\text{Asp}_{\text{completive(2)}}$

When we reduce this hierarchy to the main fields they detail, we obtain (13), while making provisions for the exceptions in the linearization presented in (12). Those provisions are not crucial for the analysis proposed in this paper, whereas the more compact representation in (13) is more convenient for the presentation and often adopted in the cartografic literature.

(13) V →VOICE →ASP →MOD →T → MOOD

Feature distribution and checking within this hierarchy is assessed in terms of the Minimalist theory (Chomsky 1995 and subseq), where movement is triggered by uninterpretable features that need to be deleted before Spell Out. In particular, functional features act as probes on items that have matching lexical features. Feature checking may be implemented in three ways: direct merge in the functional projection containing the probe, movement to that location, or distance Agree between the feature probe and the relevant matching feature on an item that remains lower in the clause hierarchy.

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3. THE LOCATION OF *MO*

In the first part, this section provides a short introduction of aspectual and modal morphemes in Japanese. In the second part, it proposes word order tests that aim to identify the location of *mo* in a hierarchy organized as in (13).

3.1. FUNCTIONAL HEADS

Cinque's hierarchy can be realized in Japanese through a variety of particles functioning as either bound or free morphemes. For example, voice can be marked by *re* when it has a passive versus active value, as in (14).

(14) *Taro-ga* *nagura-**re**-ta.*
Taro-NOM hit-VOI-PAST
'Taro was hit'

For aspect, there are two main particles located higher than voice in linear order: *te* and *ni*, already introduce in example (2). They are both relevant for determining the location of *mo*.

In Japanese, modal verbs (merged in Mod heads in Cinque's hierarchy) select a certain type of aspect. For example, modal *mi* 'try', which is compatible with either realis or irrealis modality, selects *te*, which is underspecified for telicity. The existential modal *i* has an intrinsic realis feature and also selects *te*. On the other hand, the modal (versus the lexical verb) *ik* 'go' brings an obligatory irrealis modality and selects *ni*, which is specified for atelicity. Thus, *te* and *ni* occur in complementary distribution, as mentioned for (2) and as further illustrated in (15).

(15) a. *tabe-te/(*ni)-mi-ru*
eat-ASP-try-PRES
'try to eat'
b. *tabe-te/(*ni)-i-ru*
eat-ASP-be-PRES
'be eating'
c. *tabe-ni/(*te)-ik-u*
eat-ASP-go-PRES
'go to eat(i.e go in order to eat)'

As shown in (15), the hierarchy of the inflectional field in Japanese follows Cinque's hierarchy of functional fields in (13), with modals above aspectual particles, and tense clitics above modals. In this hierarchy, the element *tei* arises from the fusion of two items under adjacency: the aspectual *te* and the existential modal *i*.[2]

[2] Existential *i* tends to be deleted in the modern colloquial Japanese, as shown in (i), with no impact on the interpretation.
(i) *tabe-rare-te-(i)-ru*
eat-VOI-ASP-be-PRES
'is/are being eaten'

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3.2. MERGING *MO*

Taking into consideration the hierarchy in (14)/(15), we should reconsider the merge location for *mo*. In particular, *mo* occurs between the aspectual *te* and the existential *i*, as shown in (16a),as well as between the aspectual *ni* and the modal *ik* 'go', as shown in (16b). Merging *mo* between a modal and the tense marker yields ungrammaticality, as in (16c), and so does the attempt to merge it above the tense marker, as in (16d).

(16) a. *Taro-ga susi-o tabe-**te**-**mo**-**i**-ta.*
Taro-NOM sushi-o eat-ASP-also-MOD-PAST
'Taro was [not only doing something but] also eating sushi'
b. *okora-re-**ni**-**mo**-iku*
scold-VOI-ASP-also-go
'go also to be scolded'
c. *Basu-ga ki-te-(*i)-**mo**-**i**-ru.*
bus-NOM come-ASP-be-also-be-PRES
'The bus is also coming'
d. **Taro-ga nagura-re-**ta**-**mo**.*
Taro-NOM hit-VOI-PAST-also

This indicates that *mo* merges higher than AspP and lower than ModP. Thus, *mo* cannot be adjoined to vP, as proposed in Hatakeyama et al (2008), but has to be higher, in the functional domain. However, the phrasal or head nature of *mo* is still unclear, since either status may disrupt the adjacency necessary for the fusion of *tei* in (16a).

A first clue for the status of *mo* comes from the selection properties of modals. Since existential *i* in (16a) and modal *ik* 'go' in (16b) have strict selectional properties with respect to the type of aspectual feature, it is imperative that Mod must be adjacent to AspP. In such configuration, a phrasal *mo* would be possible only in the Spec, AspP, but not as an XP adjoined to AspP. However, *mo* cannot be interpreted in relation to the telicity effect of the aspectual particle, which excludes the merging of *mo* in the Spec of *te/ni*. On the other hand, if *mo* is a head in the Asp field, the selection is licit, since the adjacent Asp heads can fuse, yielding te-mo, as in (16a).[3]

A second clue in this respect comes from the word order between *mo* and aspectual *te*, which may vary. That is, under selection by a modal, we can see not only the order *te* > *mo* but also *mo* > *(si) te*. This optionality is illustrated in (17), where the symbol # signals awakwardness, but not ungrammaticality. There is no difference in interpretation between (17a) and (17b).

(17) a. *#Taro-ga susi-o tabe-**mo**-**si**-**tei**-ta.*
Taro-NOM sushi-ACC eat-also-SI-ASP-PAST
'Taro was [not only doing something but] also eating sushi'

[3] An anonymous reviewer suggests that *mo* is a low focus head, resembling Belletti's (2008) information focus. This assumption is problematic for two reasons: (i) semantically, *mo* does not indicate contrast, exclusivity or alternatives, and does not introduce new information – it only indicates additional possibilities; (ii) Beletti's low focus (which is information focus) is directly above vP and has no effect on the linearization of inflectional endings on verbs, whereas *mo* occurs in-between aspectual endings and may affect their linearization.

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b. *Taro-ga susi-o tabe-**te**-**mo**-**i**-ta.*
Taro-NOM sushi-o eat-ASP-also-ASP-PAST
'Taro was [not only doing something but] also eating sushi'

The possible free reordering between *te* and *mo* indicates that these two items are of the same kind and are equidistant from the selecting modal. Since *te* is an aspectual head, it follows that *mo* is also an aspectual head, and their reordering is free when the AspP field is split for finer articulation. The modal selects AspP, no matter how the spell out is implemented within this field. In (17b), the verb stem supports the clitic cluster of inflectional heads, whereas in (17a), the verb stem supports *mo*, whereas *si* support is introduced for the rest of the cluster.

A final piece of evidence for the head status of *mo* comes from certain contexts where CPs are interpreted in the local domain of *mo*, as in (18b). This configuration indicates a Spec-head relation between CP and *mo*.

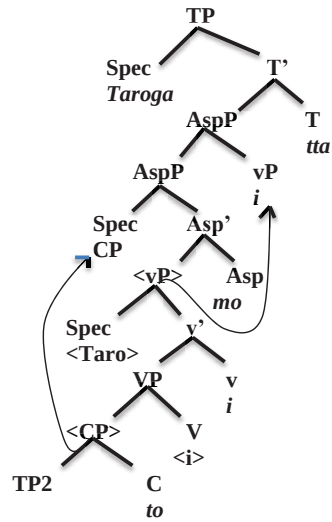
(18) a. *Taro-ga [$_{CP}$ [$_{IP}$ Hanako-ga sore-o si-ta] **to**] i-tta.*
Taro-NOM Hanako-NOM it-ACC SI-PAST that say-PAST
'Taro said that Hanako did it'
b. *Taro-ga [$_{CP}$ [$_{IP}$ Hanako-ga sore-o si-ta] **to**]-**mo** i-tta.*
Taro-NOM Hanako-NOM it-ACC SI-PAST that-also say-PAST
'Taro said [not only something but] also that Hanako did it'
c. **Taro-ga [$_{CP}$ [$_{IP}$ Hanako-ga sore-o si-ta]] **mo**-**to**] i-tta.*
Taro-NOM Hanako-NOM it-ACC SI-PAST also-that say-PAST

In (18a), the verb 'say' selects a CP complement. In (18c), we see ungrammaticality if we try to situate *mo* in the TP field of the CP complement, that is, lower than the complementizer *to* 'that'. Hence, it is clear that in the grammatical (18b) *mo* belongs to the matrix TP, not to the embedded CP, so it is in Asp head of the 'say' inflectional field. The CP complement moves to Spec, AspP related to *mo*, and that is why the additive reading applies to the entire clausal complement.

If we accept that *mo* is a functional head, namely Asp, the variation of the items that fall under the scope of *mo* can be reduced to the ways in which feature checking is implemented. That is, assuming that there is an uninterpretable [add] feature associated with an aspectual head whose spell out is *mo*, the checking requirement of this feature can be implemented in the relevant configurations either through long distance Agree (i.e., with the verb head or with the vP) or through phrasal movement to the Spec, AspP. The latter applies to (18b), in the configuration shown in (19).

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(19)



In Japanese, movement to Specifiers proceeds on the left (e.g., DP subjects), whereas any other type of movement proceeds on the right. The additive reading on the CP can follow only from a local relation between CP and *mo*, since otherwise the vP is an intervener between *mo* and CP. This is obtained through CP movement to Spec, AspP. In other words, the CP checks the [add] feature, instead of the vP. The vacated vP right adjoins to AspP, and is, thus, out of the scope of *mo*. Right adjunction situates vP containing the verb *i* in an adjacent position to the tense morpheme, to which it lends support at PF. The vP adjunction in (19) yields the same effect pointed out in Hatakeyama et al, but for a different reason that does not involve head-to-head movement of the verb to T.

Further confirmation for (19) comes from the observation in (9), namely that the verb cannot occur higher than *mo* with unergatives. The analysis proposed here derives that peculiarity from the lack of vP adjunction to AspP, so that the verb stem cannot be higher than *mo* and adjacent to the T morpheme. Lack of vP adjunction to AspP follows from the main property of unergatives, namely, they do not have a direct object that *mo* can probe and attract to Spec, AspP. Thus, *mo* needs the vP in place with unergatives, for feature checking (through long distance Agree) at all times.

To conclude this section, the data tested here suggest that *mo* is a functional head in the Asp field of the inflectional domain. Although this analysis may need further refinement and discussion in terms of theoretical consequences,[4] at this time it is sufficient to invalidate a phrasal and adjunct analysis for *mo*. As the phrasal and adjunct analysis of *mo* was the central piece of evidence for V-to-T in Hatakeyama et al (2008), it follows that their conclusion is unsupported.

[4] An anonymous reviewer pointed out that Cinque's hierarchy does not provide for an Asp head with an [add] feature, and recommended a discussion of this theoretical consequence of the present analysis. This is work in progress, and the point is not very relevant to the purpose of this paper: the objective here is simply to show that *mo* is a head in the functional domain, versus a phrase adjoined to vP.

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4. VERB MOVEMENT REVISITED

This section aims to reconcile the definition of *mo* as an aspectual head with the effects discussed in Hatakeyama et al (2008). This concerns not only the word order but also the possible readings arising from the use of *mo*.

Concerning the word order, the example in (2), repeated as (20), shows *mo* lower than the modal verb. So the idea is that the modal verb functions as a matrix verb and raises across *mo*.

(20) *John-wa [susi-o tabe]-te-**mo** mi-ta.*
John-TOP sushi-ACC eat-ASP-also try-PAST
'John tried also eating sushi'

In light of Cinque's hierarchy, modals are directly merged in the inflectional domain. The modal *mi* is definitely a candidate for this analysis since it is grammaticalized to such extent that its original meaning 'see' has disappeared – it stands now for volition or intention. Thus, the linear order in (20) only indicates that *mo* is lower than ModPs. The verb 'eat' is in situ, lower than the aspectual *te*.

Another key argument for V-to-T was the exclusion of the reading options in the scope of *mo*. Let us consider these options again by repeating (5) as (21).

(21) *Taro-ga susi-o tabe-**mo** si-ta.*
Taro-NOM susi-ACC eat-also do-PAST
a. Taro (not only [drank beer] but) also [$_{vP}$ ate sushi].
b. Taro ate (not only [grilled meat] but) also [$_{NP}$ sushi].
c. Taro (not only [served] meat but) also [$_{V}$ ate] sushi.

The configurations deemed to display V-to-T may obtain in (21a, b), but not in (21c). The idea is that (21c) is excluded because the verb raised to T, out of the scope of *mo*.

In light of the analysis proposed in this paper, *mo* probes one item only, which can be the vP as a whole, an XP argument (DP or CP) or the verb itself.[5] Only the XP argument moves to Spec, *mo*, whereas the other options keep the lexical material in situ. If the verb is higher than *mo*, it means that its feature is checked by the XP complement, which allows for vP adjunction to AspP after the vP is vacated. This ends up with the same result as in Hatakeyama et al, that is, the verb is outside the scope of *mo*, but for different reasons, not because of V-to-T.

When it comes to (21b), the analysis in Hatakeyama et al is inconsistent with the data. They provide the example in (22) to justify the movement of the verb across *mo* adjoined to vP, as in (7).

(22) *Ki-ga ooi Taro-wa,*
playboy Taro-TOP
a. *Haruko-ni Yubiwa-o age-ta bakari-de naku,*
Haruko-DAT ring-ACC give-PAST only not
b. *Natuko-ni nekkresu**mo** age,*
Natuko-DAT necklace-also give

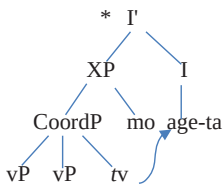
[5] The assumption is that the option for the goal depends on the location of the relevant feature, in the same way as, for example, [focus] is either on an XP or V and thus becomes visible to a focus operator (Horvath 1995 a.o.).

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c. *sarani* *Akiko-ni* *iyaringu-**mo*** *age-ta.*
furthermore Akiko-DAT earrings-also give-PAST
'A playboy Taro not only gave Haruko a ring, but also gave Natuko a necklace, and furthermore gave Akiko earrings.'

If the list reading in (22) follows from the adjunction of *mo* to vP, as proposed in (7), the question is why should it be repeated. That is, if *mo* is adjoined to vP, then iterated vPs must come as a coordinated structure (CoordP), under *mo*, as in (23). Each vP contains a direct and an indirect object, and the repetition of *mo* for each vP is not expected. However, if we do that, we fail to obtain the list reading intended.

(23)



Furthermore, the effect of a set reading as in (22) can be found even if we attach *mo* to the indirect object or to the verb – see (24).

(24) a. *sarani* *Akiko-ni* *iyaringu-**mo*** *age-ta.*
furthermore Akiko-DAT earrings-also give-PAST
b. *sarani* *Akiko-ni-**mo*** *iyaringu-o* *age-ta.*
furthermore Akiko-DAT-also earrings-ACC give-PAST
c. *sarani* *Akiko-ni* *iyaringu-o* *age-**mo**-si-ta.*
furthermore Akiko-DAT earrings-ACC give-also-do-PAST

If the effect of a set reading arises from V-to-I movement, (24) should not be possible, contrary to the fact, and especially in light of (24c), where *mo* occurs by the verb in situ. Note that in Hatakeyama et al's account, the verb form in (24c) must have the verb in situ since *si* support for the tense marker is possible only in such configurations. But if the set reading is evidence for V-to-T, then it should not be possible in (24c).

5. CONCLUSIONS

This paper reconsidered the V-to-T hypothesis for Japanese from a cartographic perspective. The focus fell on the particle *mo*, whose linearization in relation to the verb was used as main empirical evidence for verb movement.

The cartographic analysis proposed in this paper indicated that *mo* is a functional head, not a phrasal particle, and it is merged in the Asp field, not adjoined to vP. Its adjacency to vP is only coincidental, when other aspectual markers are absent. This was established by distribution tests in relation to modal auxiliaries, aspectual markers and the constituents that fall under the scope of *mo*.

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The consequences of this new definition of *mo* concern not only the reformalization of the hierarchical configurations containing this particle, but also the justification of the possible reading options. Thus, while previous studies claim that the possible interpretations arise from the adjunction of *mo* to vP, followed by V-to-T, the analysis proposed here derives the same effects from the variation in the type of goal probed by *mo*: it may be a vP, a DP/CP or the verb, which further entails either long distance Agree or phrasal movement to Spec, *mo*. The linearizations with the verb higher than *mo* follow, in this analysis, from vP adjunction, not from the movement of the verb, which remains in situ at all times. This new analysis avoids the theoretical and empirical pitfalls of the V-to-T analysis.

The main advantages of the analysis proposed here compared to Hatakeyama et al (2008) are the following:

- It can explain why *mo* is not possible with unergative verbs.
- It can explain how a CP can fall in the scope of *mo* (a question that was not raised before)
- It can predict when verb + tense marker adjacency may arise (while this was optional and unpredictable in the above study)

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