On Syntactic Head Movement in Japanese and Its Interpretive Consequences: A New Perspective from Verb-Echo Answers and Negative Scope Reversal

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The theoretical status of head movement (HM), once a mainstay of generative syntax in the 1980s (Travis 1984; Baker 1988), has been the subject of considerable debate within the more recent minimalist literature: some researchers (Roberts 2010) analyse it as a syntactic operation whereas others (e.g., Chomsky 2001) propose that it be analysed as a post-syntactic PF operation. One of the central heuristic tools to settle this debate is whether HM is tied with appreciable semantic consequences. The issue regarding the proper architectural locus of HM is aggravated further in languages such as Japanese, for one must show not only that HM, if any, is associated with detectable LF-effects, but also that it exists in Japanese, to begin with, a point which has proven difficult to come by since the effect of such an movement, if any, is strictly string-vacuous due to its head-final character (Koizumi 2000; Fukui and Sakai 2003). The aim of this paper is to contribute to these debates from the previously unexplored angle of verb-echo answers (VEAs), as shown in (1A).

(1) Q: Moo tuki-masi-ta-ka? A: Tuki-masi-ta-yo. (VEA)
already arrive-POL-PAST-Q arrive-POL-PAST-PRT
'Did you arrive already?' 'Intended: Yes, I arrived already.'

More concretely, we will first demonstrate that there are certain cases of VEAs in Japanese which critically involves V-to-T-to-C movement. Then, we will show that the HM in this construction yields a new interpretive consequence which we will dub *Negative Scope Reversal* shortly below.

Adopting Holmberg's (2016) clausal-ellipsis analysis of VEAs, we will first establish that VEAs are best analysed in terms of V-to-T-to-C movement, followed by TP-ellipsis at PF, as shown in (2a), arguing against the most likely *pro*-based (Kuroda 1965) or argument ellipsis (AE)-based (Oku 1998) alternative analyses, as shown in (2b) and (2c), respectively.

(2) a. $[_{CP}\ [_{TP}$ ~~Subj Obj *tv* t_T~~ $]$ V-T-C] (V-to-T-to-C movement + TP-ellipsis)
b. $[_{TP}$ *pro*$_{subj}$ *pro*$_{object}$ verb] (*Pro*-drop)
c. $[_{TP}$ ~~Subject~~ ~~Object~~ verb] (Argument ellipsis)

There are three arguments for our analysis of VEAs, only two of which we can outline here for reasons of space. First, Takahashi (2018a, b) and Sakamoto (2016) independently point to the availability of the *quantificational* and *disjunctive* and interpretations of null arguments as solid litmus tests for ellipsis (be it AE or VP-ellipsis) instead of *pro*'s, given that overt pronouns cannot yield these interpretations, whereas Oku (1998) shows that AE, targeting an argument itself instead of a larger constituent containing it, cannot accept the *adverb-inclusive* interpretation, unlike VP-ellipsis which does (e.g., *John washed his car carefully, but Bill didn't* ~~*[$_{VP}$ wash his car carefully]*~~). Given these independent observations, consider (3). The VEA in (3A) allows both quantificational and adverb-inclusive interpretations, an interpretive combination that argues against the small-scale ellipsis analysis in terms of *pro*/AE. On the other hand, our analysis straightforwardly derives this observation since (3A) involves TP-ellipsis. The same point can be made on the basis of example (4A), which simultaneously allows disjunctive and adverb-inclusive interpretations.

(3) Q: Anata-no daigaku-de-wa kotosi gonin-izyoo-no gakusei-ga zibun-no
you-GEN university-in-TOP this year five-more than-GEN student-NOM self-GEN
yarikatade Google Japan-no saiyoo-siken-ni ukat-ta-no?
way Google Japan-GEN recruitment-exam-to pass-PAST-Q
'In your university, did more than five students pass the recruitment exam of Google Japan in their own way this year?'
A: Ukat-ta-ne. Sugoi-yo-ne. (✓quantificational + ✓adverb-inclusive)
pass-PAST-PRT terrific-PRT-PRT
'lit. Passed. Terrific news, isn't it?' → 'In my university, more than five students passed their recruitment exam of Google Japan in their own way this year.'

(4) Q: Taroo ka Ziroo-ga zibun-no yarikatade todai-ni ukat-ta-no?
Taro or Jiro-NOM self-GEN way Univ. of Tokyo-to pass-PAST-Q
'Did Taro or Jiro pass the entrance exam to the University of Tokyo in their own way?'
A: Uka-ta-ne. (✓disjunction + ✓adverb-inclusive)
pass-PAST-PRT
'lit. Passed.' → 'Either Taro or Jiro passed the entrance exam to the University of Tokyo in their own way.'

Our theory of VEAs assumes HM as its central analytical premise for TP-ellipsis to apply at PF, as in (2a). The examples in (3–4), thus, indicate that Japanese possesses V-to-T-to-C movement. Second, sluicing, an instance of TP-ellipsis, cannot tolerate voice mismatches in English or Japanese (Chung 2013; Merchant 2001, 2008, 2013; Sugisaki 2014). Our analysis, then, correctly predicts that VEAs, analysed as TP-ellipsis, are allergic to this mismatch, as in (5A2). The grammaticality of examples (6A2) show that *pro*-drop and AE do permit voice mismatches. The contrast in (5A1, A2), together with the lack thereof in (6A1, A2), then, suggests that the syntax of VEAs involves TP-ellipsis, and by extension, V-to-T-to-C raising, in the manner depicted in (2a).

(5) Q: Anata-no kaisya-wa kotosi gonin-izyoo-no gakusei-o
you-GEN company-TOP this year five-more than-GEN student-ACC
konede saiyoosi-masi-ta-ne?
through personal connection recruit-POL-PAST-PRT
'Did your company recruit more than five students this year through personal connections?'
A1: Saiyoosi-masi-ta-yo. 'lit. Recruited.' A2: * Saiyoos-are-masi-ta-yo. 'lit. Was recruited.'
recruit-POL-PAST-PRT recruit-PASS-POL-PAST-PRT

(6) Q: Watasi-no gakusei-ga/ Gonin-izyoo-no gakusei-ga kotosi
I-GEN student-NOM five-more than-GEN student-NOM this year
anata-no kaisya-ni oobosi-ta-yoo-desu-ga, kekka-wa doo-nari-masi-ta-ka?
you-GEN company-to apply-PAST-seem-POL-but result-TOP how-become-POL-PAST-Q
'It seems that my student/more than five students applied to your company. How was the result?'
A1: Uti-no kaisya-ga saiyoosi-masi-ta-yo. 'Our company recruited him/.'
our-GEN company-NOM recruit-POL-PAST-PRT more than five students.'
A2: Uti-no kaisya-ni saiyoos-are-masi-ta-yo. 'He/More than five students were
our-GEN company-NOM recruit-PASS-POL-PAST-PRT recruited by our company.'

Having established that VEAs involve head movement, we will now furnish evidence to show that the head movement in question occurs in syntax. In Japanese, quantified objects in the direct object position can take scope either above or below negation, as illustrated in (7). By contrast, DPs marked with focus-sensitive particles such as *mo* 'also', *dake* 'only' or disjunctive markers such as *ka* 'or' can only take wide scope above negation. This point is illustrated in (8) with *ka* 'or'.

(7) Taroo-wa gonin-izyoo-no gakusei-o sikar-anakat-ta. (5 » Neg, Neg » 5)
Taro-TOP five-more than-GEN student-ACC scold-NEG-PAST
'Taro didn't scold five or more students.'

(8) Taroo-wa pan ka kome-o kaw-anakat-ta. (or »Neg, *Neg » or)
Taro-TOP bread or rice-ACC buy-NEG-PAST
'Taro didn't buy bread or rice.'

Shibata (2015) takes the scope ambiguity in (7) vis-à-vis the obligatory wide scope of the *ka*-marked direct DP in (8) to indicate that the DP object must undergo overt movement out of the *v*P to a position above negation within the TP and that the attachment of a focus-related or disjunctive particle blocks the reconstruction process available to regular quantified expressions as in (7) – a pattern which Shibata derives from Fox's (2003) Trace Conversion (with details immaterial for our present purposes). Keeping Shibata's analysis in mind, consider now the VEA in (9A). Interestingly, (9A) only has the wide scope reading of negation with respect to the *dake*-phrase, and, in fact, blocks the opposite reading that was available to (8). This is what we call *Negative Scope Reversal*.

(9) Q: Taroo-wa pan ka kome-o kat-ta-no? A: Kawa-nakat-ta-yo. (?? or »Neg, Neg » or)
Taro-TOP bread or rice-ACC buy-PAST-Q buy-NEG-PAST-PRT
'Did Taro buy either bread or rice?' 'lit. Didn't buy'.

We will present further data showing that this scope reversal effect obtains quite generally under VEAs to questions with DP marked by all the afore-mentioned particles, regardless of the grammatical functions (e.g., subjects or indirect objects) that they occupy in the antecedent questions. The existence of scope reversal under VEAs suggests that the verbal complex containing negation must undergo head movement in syntax into a position, such as Cs, which is high enough to take scope over the expressions which vacated out of the *v*P into the TP. Since the movement in question undeniably changes the resulting scope interpretation, we can conclude that it occurs in syntax.

To recapitulate, we have tackled two interrelated issues – the existence of HM in Japanese and its proper locus in the grammatical architecture – from the novel perspective of VEAs. We have presented new evidence that this type of answer is best analysed through V-to-T-to-C movement, followed by TP-ellipsis. We have further established a new generalization that otherwise obligatory wide scope of DPs marked by *dake* or *ka* with respect to negation is reversed under VEAs, a pattern which cuts across various grammatical positions. This generalization, in turn, lends powerful support to the conclusion that head movement involved in VEAs is syntactic (Roberts 2010), contrary to the recent conjecture expressed in Chomsky (2001) that it is essentially a PF phenomenon.

Selected References [1] Holmberg, A. 2016. *The syntax of yes and no*. CUP. [2] Oku, S. 1998. *A theory of selection and reconstruction in the minimalist perspective*. PhD Dissertation, Uconn. [3] Shibata, Y. 2015. *Exploring syntax from the interfaces*. PhD Dissertation, Uconn.