Object movement and its implication for A-scrambling in Japanese

**Introduction:** In Japanese, object quantifier phrases (QPs) can take scope either over or under negation [1], which contrasts with English [2], where the universal object QP is trapped inside the scope of the negation:

[1] Taroo-wa gakusee-zen’o/go-nin-o sikan-at-ta. (obj.>neg; neg>obj.)
   ‘lit. Tarō didn’t scold all/five students.’

[2] John didn’t scold everyone. (*obj.>neg; neg>obj.)
   As Japanese is assumed to lack optional quantifier raising, ‘obj.>neg’ reading has led to assuming Japanese negation is different from English one. Authors like Han et al. (2004), Kataoka (2006) assume there are several positions for negation; in one of them, negation is below objects. I claim the difference in [1-2] is not the position of negation but the existence of object movement in [1], which provides a new account for Japanese A-scrambling.

**Scope relation with negation:** English QP subjects are scopally ambiguous with respect to negation [3]:

[3] All/A student(s) didn’t come. (subj.>neg; neg>subj.)
   When focused or disjunctive phrases appear in subject position, they must scope over negation [4]:

[4] Only John/John or Tom didn’t come. (subj.>neg; neg>subj.)
   The same thing happens in Japanese; focused or disjunctive phrases in subject position allow only wide scope [5]:

   ‘lit. All/Five or more students didn’t come.’
   all-GEN/5-CL-or.more-GEN student-NOM come-NEG-PAST (subj.>neg; neg>subj.)
   ‘lit. Also/Only Tarō/Taro or Ziro didn’t come.’ (subj.>neg; neg>subj.)
   Taro-also/only Taro-or Ziro-NOM come-NEG-PAST

Thus, I propose the generalization [6] regarding the scope of focused and disjunctive phrases:


**Object position in Japanese:** Significantly, when focused or disjunctive phrases are placed in object position in Japanese, the availability of ‘neg>obj.’ reading disappears [7]:

   ‘lit. Tarō didn’t eat [only/also vegetable] / [vegetable or fruit].’ (obj.>neg;* neg>obj.)
   Taro-top vegetable-also/only / vegetable-or fruit -ACC tabe-NEG-PAST

Note that these phrases do not seem to be positive polarity items (PPIs) (contra Hasegawa 1991 and Goro 2007). PPIs can scope under local negation when another downward-entailing (DE) operator is added [8], while Japanese focused and disjunctive phrases in object position still cannot scope under local negation in such contexts [9]:

[8] I don’t think that John didn’t call someone. (ok: neg>neg>some)
   John-top Taro-NOM bread-also/only/[bread-or-rice-ACC] eat-NEG-PAST that think-NEG-PAST
   ‘lit. John didn’t think Tarō didn’t eat also/only bread/[bread or rice].’ (*neg>neg>obj.; neg>obj;neg)

Nor these phrases seem to undergo some focus movement to the higher domain (contra Aoyagi 1999, Miyagawa 2010), for adding a focus particle does not affect the scope relations among arguments [10]:

   ‘lit. Tarō introduces four or more male students to three or more teachers.’ (dat.>acc.;??acc.>dat.)
   Taro-NOM 3-CL-or.more-GEN teacher-DAT 4-CL-or.more-GEN male student-ACC introduce-PAST

b. Taroo-ga [san-nin-nizyou-no sensee-ni] [yo-nin-nizyou-no dansi gakusee-mo] syookaisi-ta.
   ‘lit. Tarō introduced also four or more male students to three or more students.’ (dat.>acc.;??acc.>dat.)
   Taro-NOM 3-CL-or.more-GEN teacher-DAT 4-CL-or.more-GEN male student-also introduce-PAST

If the generalization [6] is correct, these phrases reflect their surface scope, and it follows that the objects are in fact above negation in the syntax in [7]. Thus, I argue that Japanese objects must move above NegP.

**Why objects move?** I argue that objects move for formal licensing reasons. Assume that NegP is above vP, which means objects move into the TP-domain. I assume that this is related to case particles. In Japanese, case particles affect the distribution of objects; without a case particle, objects must be adjacent to the verb (i.e. Case-drop), while with it, they can appear even above subjects (i.e. scrambling). Thus, I claim that objects with a case particle have an uninterpretable ‘particle’ feature besides abstract Case feature, and that although abstract Case is checked within vP, objects with a particle still need to move into the TP-domain for licensing case particle. (This means case particles are not a mere morphological realization of abstract Case.) I assume the particle licensing head X is above NegP:

[11] [\x [X [C_{CaseP} ([Neg P Neg)] \& \& \& \& \& v \& \& [P V Obj-\& -\& -\& -\& -\& CaseP]]]]

This predicts that when a case particle is absent, objects stay inside the vP-domain, so the scope relation with
negation should be opposite of the cases of objects with a case particle. Surprisingly, this seems correct [12]:


Taro-TOP 3-CL-or.more-GEN student-ACC know-NEG-PAST (prominent reading: obj.>neg)


Taro-TOP 3-CL-or.more-GEN student know-NEG-PAST (prominent reading: neg>obj.)

\textit{‘lit. Taro didn't know three or more students.'}

With an accusative case particle, the prominent reading is 'obj.>neg' (cf. Han et al. 2004), while without it, the prominent reading is reversed. The prominence of 'obj.>neg' in [12a] can be explained straightforwardly under the current analysis since these objects undergo movement above NegP, hence 'obj.>neg' reading is a surface scope reading (note that surface scope readings are often stronger than inverse scope ones). By contrast, since objects without a case particle do not have the motivation for movement into the TP-domain, they stay low, so the 'neg>obj.' becomes strong. (Why 'obj.>neg' reading is still weakly possible in [12b] seems related to the fact that Case-drop is marginally possible in non-adjacent-to-to-contexts, that is, there seems to be a distinction between cases where case particles are absent from the beginning of the derivation and cases where case particles are present in the syntax but deleted at PF.) Thus, I argue that objects with a case particle move for particle licensing.

**A-scrambling:** This provides a new account for why object scrambling over subjects can be A-movement in Japanese. In Japanese, objects can be scrambled over subjects without Weak Crossover (WCO) violations [13]:

[13] [mi-tu-izuyo-no kaisya-o], [soko-no ookuno zyuugyooin-ga] ṭ hihansi-ta.

3-CL-or.more-GEN company-ACC if-GEN many employee=NOM criticize-PAST

\textit{‘lit. Three or more companies, many of its employees criticized.’} (bound variable reading of \textit{soko} is ok)

The status of Japanese A-scrambling is unclear; it is scrambling, so it seems optional, but in general, A-movement is obligatory. Also, if all A-related features of objects are checked within vP, why can object movement above subjects be A-movement? This can be explained under the current analysis. I adopt Bošković (2007, 2008), where elements requiring check must function as a probe, which deducts generalized EPP effects. He claims that XP with an uninterpretable feature (uF) moves, to probe down a head with the relevant interpretable feature (iF) [14]:

\begin{center}
\hspace{1cm}
\[
\text{[VP Y [TP \ldots XP \ldots] (XP with uF moves, to probe down Y with iF)]}
\]
\end{center}

Then, a hint to solve Japanese A-scrambling puzzle is obtained from West Ulster English (WUE):

[15] a. Wha\textsubscript{t} \ was arrested all t\textsubscript{i} in Duke Street? \quad b. *They\textsubscript{t} were arrested all t\textsubscript{i} last night. (McCloskey 2000)

In WUE, \textit{wh}-movement allows Q-float but movement to [Spec,TP] does not. Bošković (2008) argues that in [15a], \textit{who} directly moves to [Spec,CP] and probes both C and I, checking both its Case and Op-features; otherwise, [15a] should be ill-formed on a par with [15b]. I claim that Japanese A-scrambling over subjects is basically the same as [15a].

Objects move to a position above subjects, and from there, probe heads with the relevant features.

Since this involves case particle licensing, which I assume is A-related, the movement can be A-movement. Note that this differs from Miyagawa (1997), where A-scrambling involves IP-adjunction for accusative Case checking with I. The current approach claims that A-scrambling involves multiple-feature-checking. Then, as for another head above subjects, I argue that it is related to topicality/definiteness. As evidence, I provide [16], which has been unnoticed in the literature. In Japanese, NPs are basically ambiguous regarding specificity/definiteness, but in the form '[NP-Case-Numerical-CL]', only non-specific/indefinite reading is possible. Surprisingly, when scrambled objects occur in this form, scrambling cannot be A-movement, hence the WCO effect is observed:


company-ACC 3-CL-or.more it-GEN many employee=NOM criticize-PAST

\textit{‘lit. Three or more companies, many of its employees criticized.’} (bound variable reading of \textit{soko} is bad)

Thus, I propose [17] for the mechanism enabling object scrambling over subjects to be A-movement:

\begin{center}
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\[
\text{[TP Obj.-o Y\textsubscript{[topic/definite]} \ldots [TP Subj. \ldots [XP X\textsubscript{[Case]}\textsubscript{[prt]} \ldots \text{probe both features}}}
\]
\end{center}

This means that A-scrambling is not optional; rather, A-scrambling is a feature-driven movement. It moves above subjects to check its [topic/definite] feature (say, in TopP) and from there, it also checks its case particle feature. In [16], as the object is indefinite, i.e., lacks a [topic/definite] feature, the movement in [17] cannot be applied. Thus, the current study not only resolves the scope issue of objects but eliminates possibility in Japanese A-scrambling.