THE ROLE OF LIGHT VERBS IN WORD ORDER VARIATION: EVIDENCE FROM CODE-SWITCHING*

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1. Introduction

This study aims to provide a principled account of word order variation in code-switching (CS) under the assumption that monolingual and bilingual grammars are subject to the same principles. Cross-linguistic CS data show that not only can a switch occur between languages with different canonical word orders, such as an OV language (e.g., Korean, Japanese) and a VO language (e.g., English), but the internal order of a code-switched constituent may also vary, exhibiting either order of the two languages involved in CS. One immediate question arises as to how these different word orders are distributed and derived.

Taking the view into consideration that linguistic parameterization is attributed to the morphosyntactic contents of functional categories rather than lexical categories (Borer 1984; Chomsky 1995), the study asks the fundamental question of how these functional categories in typologically different languages play a role to derive the various word orders in CS. More specifically, the role of functional or light verbs was investigated in comparison with that of lexical or heavy verbs in various code-switched phrases with respect to their contribution to OV~VO order variation in Korean-English and Japanese-English CS, which were tested against Korean-English and Japanese-English bilingual speakers’ introspective judgments of the CS patterns that were presented to them. In addition, the study also investigated various idiomatic expressions in English and how they contributed to word order variation in Korean-English and Japanese-English CS, assuming that not all idioms are frozen, but syntactically flexible idioms are derived in the syntax while inflexible idioms may be stored in the lexical as a chunk. These two research questions were explored in an experimental study on Korean-English and Japanese-English CS, and the following hypotheses were made primarily based on the results from the earlier version of the study (Shim 2011).

(1) Under the assumption that word order is determined by feature specifications on a functional category, as proposed in the Minimalist Program, feature specifications on a light verb in Korean, Japanese, and English and how these features are valued in syntactic derivations will determine word order in CS.

(2) Syntactically flexible phrases and inflexible phrase will behave differently with respect to word order derivation in CS: while the internal argument of the syntactically flexible phrase is subject to CS, the syntactically inflexible phrase is frozen and undergoes CS as a unit, maintaining the internal order of the phrase throughout the derivation.

2. Experiment

* This paper is based on my dissertation, and I would like to thank my committee, Marcel den Dikken, Dianne Bradley, William McClure, and Peter Sells, and others for their invaluable comments and feedback. All remaining errors are mine.
The three subparts of the study utilized (a) a CS judgment task, (b) a syntactic flexibility judgment task, and (c) an idiom familiarity task. Working definitions of various terms for the study are provided in Section 2.1.

2.1. Background

The light verb and light verb constructions were distinguished and defined for the purpose of the study in the following way.

(3) a. A light verb never has idiosyncratic lexical meaning of its own, but only lexicalizes an abstract functional head.
   b. In a light verb construction, the verb does not contribute any lexical-semantic information, but its complement does. Both heavy and light verbs may participate in light verb constructions.

Based on the definitions given in (3), the 8 English verbs listed in (4) were considered as light verbs (however, the list does not mean to be exhaustive).

(4) have = BE + TO  
    give = CAUS [BE + TO]  
    get = BECOME or INCH\(^1\)  
    take = BECOME or INCH  
    make = CAUS + exist  
    keep = CAUS + BE  
    hold = CAUS + BE\(^2\)  
    raise = CAUS + GO (up)

The contribution of light verbs in contrast to that of heavy or lexical verbs to the determination of word order in code-switches was investigated in various phrase types, including light verb constructions. That is, although as noted in (3b), light and heavy verb types differ in status, both may participate in light verb constructions, as in have a look (with a light verb have) and pay a visit (with a heavy verb pay).

In addition to light verb constructions, heavy and light verbs were examined in literal and non-literal or idiomatic expressions. Since there is little consensus in the literature on what constitutes idioms or even compositionality, a working definition of idioms in the domain of VP was adopted in the present study. This is spelled out in (5).

(5) The term VP idiom refers to a VP in which the verb takes an object, and the two together deliver a non-literal, idiosyncratic reading.

2.2. Code-switching Judgment Task

For each of a series of items, the CS judgment task asked participants to select between two utterances that were considered as a (near-)minimal pair. Both utterances included an English-sourced VP, which took OV order in one utterance and VO order in the other. The participant’s task was to select the utterance that “sounded natural.” Because many of the critical items incorporated VP idioms or light verb constructions, the protocol was designed to provide strong contextual support of the intended interpretation. Each item presentation therefore had three parts:

(a) A short scenario introduction, mentioning two standard characters (Kibo and Donna)

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\(^1\) INCH stands for inchoativity (Shim 2006).

\(^2\) Results in the CS judgment task revealed that the verb hold behaved differently from other light verbs on the list, suggesting that this verb may be a heavy or lexical verb rather than a light verb. Detailed discussions of the verbs listed in (4) are provided in Shim (2013).
to establish a discourse context. This introduction material was always presented, in written form, in English, and always closed by asking what Donna would say in the situation sketched.

(b) A cartoon depicting the content of Donna’s statement. This was presented in an advance of the statement, and remained visible while two versions of that statement were heard.

(c) The code-switched pair of utterances, presented in spoken form.

By presenting each code-switched sentence not only in an appropriate context but also with a matching cartoon, the intended meaning of the code-switched phrase in the sentence, whether literal or non-literal, was delivered without ambiguity. As in illustration of this protocol, (6a) below offers an example scenario introduction, and (6b) and (6c) show in turn the accompanying cartoon and Korean-English CS pair between which the participant was asked to choose.

(6a) Kibo told Donna that his roommate had an extra iPod to give away, and later asked Donna whether she called and got it. What does Donna say?

(6b)

(6c) i. nwu-ka mence cenhahayse, boat-lul miss hayss-e
    someone-NOM before call.because -ACC DO.PAST-DECL

ii. nwu-ka mence cenhahayse miss the boat hayss-e
    someone-NOM before call.because DO.PAST-DECL

“Someone else called first, so (I) missed the boat.”

2.2.1. Method

To assess the role of heavy vs. light verb status in CS in both literal and non-literal phrases, materials were constructed in accordance with a 2 × 2 factorial design, combining Verb Type (heavy vs. light) and Interpretation (literal vs. non-literal).

(7) a. Heavy verb, literal interpretation  
   Miss the bus

b. Heavy verb, non-literal interpretation  
   Miss the boat

c. Light verb, literal interpretation  
   Have a small head

d. Light verb, non-literal interpretation  
   Have a big mouth

For each verb within a given type, items instantiating literal vs. non-literal interpretations were constructed as a closely matched pair, with only those changes necessary made to the introductory scenario, the interpretation-supporting cartoon, and the code-switched sentences between which a choice was to be made.
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The function of heavy vs. light verbs in CS was also evaluated in light verb constructions, and materials were constructed in accordance with a 2 x 1 factorial design, combining Verb Type (heavy vs. light) and Construction (light verb construction).

(8) a. Heavy verb, light verb construction pay a visit/a compliment
    b. Light verb, light verb construction have a look/have a try

All code-switched VPs of English were constructed in two orders, OV and VO, and followed by either the Korean light verb ha ‘do’ or the Japanese light verb su ‘do’.

A total of 28 Korean-English bilingual speakers (age range 18-27; mean age 21.1; 19 female) and 8 Japanese-English bilingual speakers (age range 25-38; mean age 31.9; 7 female) successfully completed the experiment. The onset of learning Korean and English was 0.9 and 4.6 years old, and the onset of learning Japanese and English was 0 and 5.3 years old, respectively.

2.2.2. Results and Discussion

Figures 1 graphically shows the percentage of VO order preference by Verb Type (heavy vs. light) and Interpretation (literal vs. non-literal) and in Korean-English CS.

In the overall analysis, a main effect of verb type (heavy vs. light verbs) was found. The preference of VO order of the code-switched phrase involving a heavy vs. a light verb was 44.0% and 57.4%, respectively (F(1,26)=25.49, p<.001; F(2,128)=3.07, .05<p<.10). A main effect of interpretation (literal vs. non-literal) was also found. The preference of VO order of the code-switched phrase in literal vs. non-literal interpretations was 33.9% and 67.4% (F(1,26)=25.49, p<.001; F(2,128)=52.35, p<.001). These results replicate the previous findings in Shim (2011) that both verb types and interpretations play a role in word order variation in code-switching. In addition, an interaction between Verb Type and Interpretation was found (F(1,26)=8.95, p<.01; F(2,128)=5.36, p<.05).

The sub-analyses revealed that with heavy verbs, the percentage of VO order preference was significantly lower in literal interpretation than in non-literal interpretation, 21.9% vs. 66.1% (F(1,26)=86.73, p<.001; F(2,14)=41.88, p<.001). A similar pattern has emerged with light verbs; the percentage of VO order preference was significantly lower in literal interpretation than in non-literal interpretation, 46.0% vs. 68.8% (F(1,26)=25.21, p<.001; F(2,14)=13.29, p<.005).

The difference between heavy and light verbs was also found in light verb constructions, presented in Figure 2.
The Role of Light Verbs in Word Order Variation: Evidence from CS (J. Y. Shim)

A one-way ANOVA analysis of heavy vs. light verbs in light verb constructions showed that while the preference of VO order was 40.6% with heavy verbs, it was 63.8% with light verbs ($F_1(1,26)=29.10, p<.001$; $F_2(1,14)=6.51, p<.025$).

In general, the results from the Japanese-English CS data were not supported at a statistically significant level due to the small number of subjects. Nonetheless, there was a clearly emerging pattern found between Korean-English and Japanese-English CS, illustrated in Figure 3.

Similar to the results obtained from Korean-English CS, the overall results from the CS judgment experiment with Japanese-English bilinguals revealed that the preference of VO order was higher with light verbs than heavy verbs both in literal interpretations and light verb constructions, while this difference disappeared in non-literal interpretations, in which VO order was strongly preferred regardless of verb type.

In sum, the overall pattern of results found in the CS judgment task provides evidence to support the hypothesis that the selection between English light verbs and heavy verbs within a code-switched phrase would lead to word order variation in code-switching; while light verbs lead to VO order, heavy verbs derive OV order. Yet, this difference was only observed in the VPs with literal interpretations light verb constructions, not in non-literal or idiomatic interpretations.

The present findings are in accordance with the results reported in Shim (2011) that both the selection of heavy vs. light verbs within a code-switched constituent and the idiomaticity of the code-switched phrase play a role in deriving word order in CS.
2.3. Syntactic Flexibility Judgment Task

The syntactic flexibility judgment task was designed to see whether word order variation in CS is related to the syntactic flexibility of the code-switched phrase, especially in non-literal interpretations.

2.3.1. Method

To see whether different degrees of syntactic flexibility of idiomatic expressions would play a role in deriving different word orders in CS, VP idioms (16 heavy verbs, Non-literal and 16 light verbs, Non-literal) included in the CS judgment task were selected as critical materials. The items were inserted in an appropriate sentential context and syntactically manipulated with three different operations: (a) passivization, (b) relative clause formation, and (c) *wh*-question formation, as shown in (9).

(9) At a conference participants can rub shoulders with many leading figures in the field.
   a. At a conference shoulders can be rubbed with many leading figures in the field.
   b. Naïve participants are only interested in the shoulders that they rub with famous people at a conference.
   c. How many shoulders did you rub with famous people at the conference?

The experiment was a self-paced pencil-and-paper task. Participants were instructed to read each sentence and judge to what extent the meaning associated with the underscored phrase is available in the following three sentences, using a 4-point Likert scale.

2.3.2 Results and Discussion

Figure 4 below shows the mean syntactic flexibility scores for different types of code-switched phrases by Speaker group.

![Figure 4](image)

Figure 4. Mean syntactic flexibility rating, overall, as a function of phrase type and speaker group. Overall’ rating collapses individually scored passivization, relativization, and *wh*-question formation tests.

The results showed that the idioms (heavy verb, non-literal and light verb, non-literal) were judged less syntactically flexible than the non-idiomatic expressions (heavy verb, light verb construction and light verb, light verb construction), as predicted, by all the English monolingual and the Korean-English and Japanese-English bilingual groups. To see whether syntactic flexibility plays a role in deriving word order in CS, the results obtained from the Korean-English and the Japanese-English bilingual speakers in the syntactic flexibility judgment task was compared to the results from the CS judgment task, illustrated in Figure 5.
Figure 5. Percentages of VO order preference predicted by syntactic flexibility scores assigned by Korean-English and Japanese-English bilingual speakers

Figure 5 shows that the more flexible the phrase was judged, the less it was favored in VO order in CS in both bilingual groups. For instance, the syntactic flexibility score for the idiom take a hike, meaning ‘leave’, was 1.44, which was much lower than the mean syntactic flexibility score 2.75, thus showing that the phrase was judged much less flexible than most phrases included. And it was preferred in VO order 100% in the CS judgment task by Korean-English bilinguals. On the other hand, when the same phrase take a hike was interpreted literally, it was judged much more flexible and scored 3.32 in the syntactic flexibility judgment task. And the VO preference of the literal phrase take a hike was 64% by the same group of bilinguals. In other words, the more syntactically flexible code-switched phrase was preferred in OV order in CS.

The overall pattern of results found in the task supports the hypothesis that syntactically flexible and inflexible phrases behave differently with respect to word order derivation in CS, leading to OV and VO, respectively. This can be further corroborated by the argument that while the internal argument of the syntactically flexible phrase is subject to CS, the syntactically inflexible phrase is frozen and undergoes CS as a unit. Hence, the internal order of the phrase is maintained throughout the derivation.

3. Deriving OV~VO in Code-switching

The overall outcome of the experimental study on Korean-English and Japanese-English CS supports the hypothesis that the selection between English heavy verbs and light verbs within a code-switched phrase would lead to OV~VO variation, replicating the findings of Shim (2011). However, this difference was only observed in the phrases of literal interpretations and in light verb constructions, but not in those of non-literal or idiomatic interpretations. Given these results, the present section proposes a grammatical account of OV~VO variations in Korean-English and Japanese-English in the framework of the Minimalist Program.

I propose (10) as the underlying structure for deriving OV and VO order in Korean-English and Japanese-English CS, in which the OV~VO variation is explained as a result of object raising to Spec, AspP: when object shift occurs, OV order is derived within Asp; if the object stays in situ, VO is derived. Regardless of object shift, the entire AspP always raises to Spec, vP whenever v is Korean or Japanese, and the surface word order would be either OV-ha/su or VO-ha/su in Korean-English and Japanese-English CS. All these movements are as a
consequence of feature checking and EPP specification on a functional head, as assumed in the Minimalist Program.

\[(10)\]

\[
\begin{array}{c}
\text{vP} \\
\text{raised ASPP} \\
\text{h}a^{\text{KR}}/su^{\text{JP}} \\
\text{ASPP} \\
\text{(raised OBJ)} \\
\text{ASPP'} \\
\text{OBJ raises to Spec, ASPP} \\
\text{LV_{ENG}} \\
\text{HV_{ENG}} \\
\text{VP} \\
\text{OBJ}
\end{array}
\]

\[\rightarrow \text{ASPP raises to Spec, vP} \]

3.1 OV with an English Heavy Verb in Literal Interpretation

In the code-switched phrase in which an English lexical verb takes an object in a literal interpretation, such as *miss the bus*, OV order was strongly preferred. The structure in (11) represents the underlying structure for the phrase *miss the bus*, for instance, which was favored in OV order, [((the) bus-ACC miss]-hal/su, in Korean-English and Japanese-English CS.

\[(11)\]

\[
\begin{array}{c}
\text{vP} \\
\text{h}a^{\text{KR}}/su^{\text{JP}} \\
\text{ASPP} \\
\text{ASPP} \\
\text{VP} \\
\text{OBJ [ϕ, D]}
\end{array}
\]

\[
\text{[uϕ, uD^{EPP}, uD_{EPP}]} \\
\text{[ϕ, T]} \\
\text{miss} \\
\text{the bus}
\]

The null headed ASPP does not bear any formal features of its own and is selected by \( v = h a^{\text{KR}}/su^{\text{JP}} \), which is a Case-checking light verb with EPP specifications. Via feature inheritance, ASPP is endowed with \([uϕ, uD^{EPP}]\) from \( v = h a^{\text{KR}}/su^{\text{JP}} \). The uninterpretable \(ϕ\) and D features on ASPP are valued against the interpretable \(ϕ\) and D features on the object, and the object raises to Spec, ASPP caused by the EPP property of \([uD]\) on ASPP and gets accusative Case; D feature is Case feature.

3 The account is based on Shim (2013), in which feature inheritance (Chomsky 2001, 2008) was developed into a full-fledged mechanism to account for various theoretical issues, such as word order and Case. Shim proposes that feature inheritance is regulated by two principles and three operational rules, provided below.

(i) Principles of Feature Inheritance
   a. Feature Selection: Features may be selectively inherited.
   b. Feature Expiration: Inherited features are only active on the heir (T, ASPP) and lose their probing capability on the donor (C, v).

(ii) Operational Rules of Feature Inheritance
   b. Economy: Minimize the number of feature checking operations.
   c. Multiple Agree under Antisymmetry: Only one goal can be spelled-out at the specifier of a probe in multiple agree relations.
While \([u_\phi, uD^{\text{EPP}}]\) transferred from \(v\) to ASP are no longer active as probing features on \(v\), \([u\text{ASP}^{\text{EPP}}]\) on \(v\) still needs to be valued. \(v = ha^{\text{KR}}/su^{\text{JP}}\) enters into a probe-goal relationship with \(V\), and movement of VP is triggered by the EPP specification of the aspect feature on \(v = ha^{\text{KR}}/su^{\text{JP}}\). However, movement of VP, the projection of a lexical root, is not possible and ASP is pied-piped by VP and raises to Spec, \(vP\), which correctly derives the surface order OV-\(ha/su\) in Korean-English and Japanese-English CS.\(^4\)

### 3.2. VO with an English Heavy Verb in Non-literal Interpretation

While OV order was strongly preferred when an English heavy verb included in the phrase of literal interpretation, VO order was favored, by contrast, in the environment where an English heavy or lexical verb takes an object in non-literal or idiomatic interpretations (e.g., *miss the boat* meaning ‘miss the opportunity’) in Korean-English and Japanese-English CS (66% for the former and 63% for the latter group). Since the same set of English verbs were included both in literal and non-literal interpretations, thus the OV-VO contrast between them can be only explained by the fact that object shift fails to occur in non-literal interpretations. What prevents the object from raising to Spec, ASP in non-literal interpretations?

Similar to (11), the null ASP head in (12) may inherit \([u_\phi, uD^{\text{EPP}}]\) from \(v = ha^{\text{KR}}/su^{\text{JP}}\) via feature inheritance and trigger object shift. Yet, the object resists being extracted out of the VP due to the syntactic inflexibility of the VP. The EPP property on ASP still needs to be satisfied; otherwise, the derivation crashes. One way to save the derivation from crashing is for the object to pied-pipe the VP and for the entire VP to raise to Spec, ASP. However, VP severed from its selecting functional category ASP cannot undergo phrasal movement and must pied-pipe ASP, as discussed in Section 3.1. Thus, the smallest unit that is pied-piped by object movement is ASP. Since ASP raising to Spec, ASP is not a possible derivation, the derivation crashes. Then how do we derive VO-\(ha/su\) order in (12)?

\(^4\) Under the perspective from Distributed Morphology towards functional and lexical categories, projections of lexical roots are incapable of undergoing syntactic movement arguably because the root would be severed from the functional category that determines its category and with the aid of which it can be subjected to Vocabulary Insertion at PF (den Dikken, p.c.). Assuming that the determination of a lexical category is not done derivationally in the syntax but representationally in the PF component, Vocabulary Insertion for any lexical roots requires the local presence of a functional category in the PF representation, which can determine the lexical root’s categorial status. As a consequence, movement of VP severing it from its selecting functional head ASP cannot occur, but the entire ASP pied-piped by VP must be raised to Spec, \(vP\) to satisfy the EPP property on \([u\text{ASP}]\) of \(v\).
Feature inheritance system is designed to value uninterpretable features on a phase head in a more efficient and economical way, and it happens automatically as long as a derivation converges. Put another way, while feature inheritance from v to Asp is otherwise spontaneous, it is blocked in (12), for it leads to a derivational crash. Instead, \( v = ha^{KR}/su^{JP} \) may not transmit any of its features to Asp and v itself enters into a probe-goal relationship, so all of its features can be valued. Thanks to the fact that the VP is inflexible and both V-raising, which satisfies the EPP-specification on \([uAsp]\) of \( v = ha^{KR}/su^{JP} \), and object raising, which fulfills the EPP-requirement on \([uD]\) of \( v = ha^{KR}/su^{JP} \), must target AspP. AsPP raising can perform its dual role to satisfy both EPP-specifications of \([uAsp]\) and \([uD]\) on \( v = ha^{KR}/su^{JP} \): movement of both VP and the object pied-pipe AsPP, whose effect is “killing two birds with one stone.” Thus, the entire AspP raises to Spec, vP, delivering VO-ha/su.

### 3.3. VO with an English Light Verb in Literal Interpretation

The results from the CS judgment task shows that the occurrence of VO order with an English light verb in literal interpretation (e.g., *have a small head*) is 46% for Korean-English CS (and 36% for Japanese-English CS). At first glance, this seems to suggest that OV and VO orders are more or less equally distributed in Korean-English CS. However, a main effect of verb types, heavy vs. light verbs, was found, revealing a higher preference of VO order with light verbs than heavy verbs in literal interpretations, which should be accounted for. In addition, an item-based analysis suggests that with some of the light verbs, VO order was exceptionally high in literal interpretations, above and around 80%, exhibiting a stark contrast with heavy verbs in literal interpretations, most of which were preferred in OV higher than 90%. Based on this, I conclude that VO order is derived with light verbs in literal interpretation.

With the assumption that the English light verb lexicalizes Asp in place, the fact that preverbal object placement does not happen when an English light verb is code-switched can be explained. In (13), for example, *have* qua light verb lexicalizes Asp and it prevents Asp from inheriting probing features from \( v = ha^{KR}/su^{JP} \). Feature inheritance will take place successfully if and only if the functional head of the complement of the phase head is empty (cf. Richards 2007). If it is already equipped with idiosyncratic lexical properties, as filled by a lexical item such as an English light verb, for example, feature inheritance does not occur. As a consequence, none of v’s features are discharged to Asp, lexicalized by an English light verb in (13). v enters into a probe-goal relationship and all of its features need to be valued.

(13)

![Diagram](image-url)

In (13), the two of v’s features, \([uD, uAsp]\), are EPP-specified and induce a goal to raise to the specifier of vP. Since no multiple specifiers are spelled-out via movement (See fn. 3), the EPP property on both \([uD]\) and \([uAsp]\) cannot be satisfied unless there is a goal available that satisfies the EPP-property of both \([uD]\) and \([uAsp]\) on \( v = ha^{KR}/su^{JP} \). This was possible in (12), in which both the movement of VP and the object pied-pipe AsPP, satisfying the EPP-specifications on \([uD]\) and \([uAsp]\) on \( v = ha^{KR}/su^{JP} \) via one single movement. Unlike the VP
in (12), however, the VP in (13) is flexible and the extraction of the object is not prohibited. Thus, object shift does not induce AspP pied-piping. Then how does $v = ha^{KR/JP}$ get its features valued and EPP specifications fulfilled in (13)?

The answer is found in the empty status of V head. Normally, when $V$ is filled and fully featurally specified, the features of the object do not manifest themselves on VP because the presence of contradictory features on V (and hence VP) prevents these features from manifesting themselves on VP. But when $V$ is empty and arguably only specified for an aspect feature, not for any other features that make a verb a verb (including, perhaps, a $[-D]$ feature indicating that it is not a noun), the object’s features can be represented on VP without penalty. Thus, in (13), all the features on V head and the object percolate onto VP, as in (14).

\[(14)\]

\[
vP \\
\quad \text{AspP} \\
\quad [u\phi, uAsp^{EPP}, uD^{EPP}] \\
\quad \text{have} \\
\quad [Asp, T, \phi, D] \\
\quad \text{VP} \\
\quad [Asp, T, \phi, D] \\
\quad \text{OBJ} [\phi, D] \\
\quad \text{a small head} \\
\]

The VP has an aspect feature thanks to percolation from its head and also phi- and D-features thanks to percolation from the non-head, the object. Now all the uninterpretable features on $v$ and their EPP properties can be valued and satisfied via feature matching between $v$ and VP that pied-pipes AspP and AspP raises to Spec, $vP$, fulfilling the EPP-specifications on both $[uAsp]$ and $[uD]$ on $v$. Consequently, the final surface order VO-$ha/su$ is derived after AspP raises to the left of $v = ha^{KR/JP}$.

3.4. VO with an English Light Verb in Non-literal Interpretation

When an English light verb takes an object in a non-literal or idiomatic interpretation (e.g., have a big mouth), VO order was preferred both in Korean-English and Japanese-English CS (69% and 72%, respectively), similar to non-literal phrases with an English heavy verb. In (15), Asp head filled by an English light verb does not inherit probing features from $v = ha^{KR/JP}$, and all of $v$’s features need to be valued against a goal with corresponding features. Thanks to the fact that V is null, the VP gets all of the formal features from its head and non-head via feature percolation and is equipped with all of matching features of $v = ha^{KR/JP}$. Thus, $v$ and VP enter into feature matching and AspP pied-piped by VP raises to Spec, $vP$, satisfying the EPP property on $v$. As a result, the surface VO-$ha/su$ order is derived.

\[(15)\]

\[
vP \\
\quad \text{AspP} \\
\quad [u\phi, uAsp^{EPP}, uD^{EPP}] \\
\quad \text{have} \\
\quad [Asp, T, \phi, D] \\
\quad \text{vp} \\
\quad [Asp, T, \phi, D] \\
\quad \text{OBJ} [\phi, D] \\
\quad \text{a big mouth} \\
\]
Both English idioms with a heavy verb and a light verb were supported in VO order alike, yet the syntactic derivations for deriving VO order with a heavy verb and a light verb slightly differ from each other under the current proposal that lexical verbs merge under V and light verbs merge as ASP. With a VP idiom including a heavy verb, ASP can in principle inherit v’s features and value v’s features as soon as possible. However, feature inheritance is blocked because of the failure of object shift caused by the inflexibility of the VP idiom. The inflexibility of the VP results in A SP P pied-piping by object shift, and the EPP-specifications on both aspect and D-features on v = haKR/suJP are satisfied by A SP P raising; movement of both VP and the object pied-pipe A SP P.

With the idiom with a light verb, on the other hand, feature inheritance cannot happen from v to lexically filled ASP by an English light verb. Thus, v = haKR/suJP keeps all of its features, [uϕ, uAspEPP, uDEPP], with it. Thanks to the fact that V is empty, all the features of V and the object percolate onto VP, and VP enters into a probe-goal relation with v = haKR/suJP. The EPP-specifications on both aspect and D-features on v = haKR/suJP are satisfied by VP movement, which pied-pipes A SP P. What is common between VP idioms with a heavy verb and a light verb is that VO order is derived in Korean-English and Japanese-English CS, which is accounted for by no feature inheritance from v = haKR/suJP to ASP and A SP P raising without object shift.

3.5. Either OV or VO with an English Heavy Verb in a Light Verb Construction

In a light verb construction with a heavy verb, the verb may have a choice between merging as V, following its lexical root, and merging as ASP, based on its “light” use in a light verb construction. If the verb maintains its identity as a lexical verb and merges under V despite its light use in a light verb construction, as in (16), OV order is derived; the null headed ASP inherits [uϕ, uDEPP] from v = haKR/suJP and triggers the object to move to its specifier position.

(16)

```
  |     | ASP          | VP
  | vP  |             |    |
  |     | ASPP         |    |
  |     | [uϕ, uAspEPP, uDEPP] |    |
  |     | hₕaKR/suJP  |    |
```

Alternatively, the verb may merge under as ASP, following its function similar to the light verb in a light verb construction, despite the fact that it is originally a lexical verb. If the verb merges as ASP, feature inheritance from v = haKR/suJP to the lexically filled ASP does not take place, as in (16). VP bears all the matching features of v via feature percolation from V and the object, and A SP P pied-piped by VP moves to the specifier of vP, delivering VO order.
So the proposal that the heavy verb in a light verb construction may merge either as V or as ASP accounts for the results from the Korean-English and Japanese-English CS judgment task, showing the preferred word order of most examples was not biased towards either OV or VO order and both orders are possible derivations in a light verb construction with a heavy verb.

3.6. VO with an English Light Verb in a Light Verb Construction

The proposal that an English light verb is base-generated as ASP correctly accounts for the surface VO-\( ha/su \) order; feature inheritance from \( v = ha^{KR}/su^{JP} \) to the lexically filled ASP is blocked, and the object remains in situ. Thanks to feature percolation from V and the object to VP, VP bears all of \( v \)'s features. The EPP property on \( v = ha^{KR}/su^{JP} \) induces phrasal movement of a goal with the matching features, and VP pied-pipes ASP and moves left to \( v = ha^{KR}/su^{JP} \), resulting in VO-\( ha/su \) order. An example is provided in (18).

(18)

4. Conclusion

The main purpose of this study was to investigate word order variation in code-switching, especially OV vs. VO in two typologically similar language pairs, Korean-English and Japanese-English CS. The results from an experiment eliciting judgments of the word order patterns of CS from Korean-English and Japanese-English bilingual speakers suggests that what crucially determines OV~VO variations in Korean-English and Japanese-English CS is feature specification on \( v \) in Korean and Japanese and feature inheritance from \( v \) to ASP. When the null headed ASP is endowed with \([u\phi, uD^{EPP}]\), object shift occurs within ASP due to the feature matching between ASP and the nominal head of the object. By contrast, if ASP is overtly realized by an English light verb, feature inheritance is blocked and all of \( v \)'s features are valued and its specifications are satisfied by ASP raising to Spec, VP.

I assume that feature inheritance is obligatory whenever possible. When an English light verb or a lexical verb in a light verb construction merges under ASP, it prevents feature inheritance from \( v = ha^{KR}/su^{JP} \). When an English lexical root merges under ASP, ASP cannot inherit probing features and cannot be specified for EPP specification from \( v \), since lexical roots are by definition ineligible for being a probe and EPP specification, which is restricted to functional categories. So, whenever ASP is filled by an English lexical root, there is no
feature inheritance from $v = ha^{KR}/su^{JP}$ to ASP. On the other hand, when ASP is null, nothing prevents feature inheritance, for feature inheritance is obligatory whenever possible. Nonetheless, feature inheritance is inhibited if it leads to derivational failure, as we have seen in the case of an idiomatic phrase with a heavy verb. After all, feature inheritance is a system to help a syntactic derivation to proceed faster and more economically, reflecting the spirit of the Minimalist Program.

References