

# OV and VO variation in code-switching

Ji Young Shim

Current Issues in Bilingualism 1



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Ji Young Shim



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# Abstract

This monograph is intended as a contribution to the field of bilingualism from a generative syntax perspective at a variety of levels. It investigates code-switching between Korean and English and also between Japanese and English, which exhibit several interesting features. Due to their canonical word order differences, Korean and Japanese being soV (Subject-Object-Verb) and English sVO (Subject-Verb-Object), a code-switched sentence between Korean/Japanese and English can take, in principle, either OV or VO order, to which little attention has been paid in the literature.

On the contrary, word order is one of the most extensively discussed topics in generative syntax, especially in the Principles and Parameters approach (P&P) where various proposals have been made to account of various order patterns of different languages. By taking the generative view that linguistic variation is due to variation in the domain of functional categories rather than lexical roots (e.g. Borer 1984; Chomsky 1995), this monograph investigates word order variation in Korean-English and Japanese-English code-switching, with particular attention to the relative placement of the predicate (verb) and its complement (object) in two contrasting word orders, OV and VO, which was tested against Korean-English and Japanese-English bilingual speakers' introspective judgments.

The results provide strong evidence indicating that the distinction between lexical and functional verbs plays a major role in deriving different word orders (OV and VO, respectively) in Korean-English and Japanese-English code-switching, which supports the hypothesis that parametric variation is attributed to differences in the features of a functional category in the lexicon, as assumed in minimalist syntax. In particular, the explanation pursued in this monograph is based on *Feature Inheritance*, a syntactic derivational process, which was proposed in recent developments of the Minimalist Program.

The monograph shows that by studying diverse and creative word order patterns of code-switching, we are at a better disposal to understand how languages are parameterized similarly or differently in a given domain, which is the very topic that generative linguists have pursued for a long time.



# Abbreviations

A(dj)	adjective	GEN	genitive
Ad	adverbials	HON	honorific
ACC	accusative	HV	heavy verb
ADH	adhortative	HVC	heavy verb construction
ADJ	adjective	Id	idiom
ADV	adverbial	JP	Japanese
APPL	applicative	IMP	imperative
ASP	aspect	I(nfl)	inflection
CAUS	causative	INCH	inchoative
CLF	classifier	INF	infinitive
COH	cohortative	INT	interrogative
C(OMP)	complementizer	INSTR	instrumental
CONJ	conjunction	IO	indirect object
CP	complementizer phrase	KR	Korean
CS	code-switching	LCA	Linear Correspondence Axiom
DAT	dative	LF	Logical Form
DECL	declarative	LIT	literal
DM	Distributed Morphology	LNK	linker
DO	direct object	LOC	locative
DP	determiner phrase	LV	light verb
ENG	English	LVC	light verb construction
EPP	Extended Projection Principle	M	masculine
F	feminine	MP	Minimalist Program
FI	Feature Inheritance	N	noun
FOC	focus	NEG	negation
FUT	future	NON-LIT	non-literal

## *Abbreviations*

NM	nominalizer	SG	singular
NOM	nominative	SPEC	specifier
NP	noun phrase	S	subject
OBJ	object	SOV	subject object verb
OV	object verb	SUB	subject
P	preposition	SVO	subject verb object
P&P	Principles and Parameters	T	tense
PERF	perfective	TOP	topic
PF	Phonological Form	TP	tense phrase
PIC	Phrase Impenetrability Condition	UG	Universal Grammar
PL	plural	V	verb
PP	prepositional phrase	VN	verbal noun
PRES	present	VO	verb object
PRT	particle	VOC	vocative
REL	relative (clause)	VP	verb phrase
RES	resultative	∅	zero morpheme
QUO	quotative	*	ungrammatical

# 1 Introduction

## 1.1 Code-switching

*Code-switching* (CS) refers to the concurrent use of more than one language in a conversation, which is commonly observed in bilingual speech. Bilingual speakers may alternate from one language to another when they converse with other bilingual speakers. The term *bilingual speakers* or *bilinguals* in this monograph is defined as people who speak more than one language, and given this definition there is no distinction made between *bi*-linguals and *multi*-linguals. Under this view, CS may occur in any subset of the languages that the bilingual speaks, and it minimally involves two languages.

Much of the literature on CS, especially in earlier years, focused on various social and pragmatic functions of CS (e.g. Auer 1995; Barker 1972; Gumperz 1977; Zentella 1995), centering around the inquiry of social motivations for switching. Some of the earlier sociolinguistic research (e.g. Labov 1970, Lance 1975) characterizes CS as a random occurrence and does not explain why switching may occur between sentences (*inter-sentential* CS) as in (1) or within a single sentence (*intra-sentential* CS) as in (2).

- (1) I'm not very much in a hurry. *Nuva noveye na khasoda khmbe.*  
'I'm not very much in a hurry. If you have some soda to offer, let me have it.'  
English-*Lwidakho*<sup>1</sup>

Adapted from Myers-Scotton (1982); quoted in Myers-Scotton (2007)

- (2) a. Right to 104th Street *donde tenía una casa* which were furnished rooms.  
'Right to 104th Street where I had a house which were furnished rooms.'  
English-*Spanish* (Sankoff & Poplack 1981: 35)
- b. Ka-yxxes bezzaf Dyal *generaties voorbijgaan.* Arabic-*Dutch*  
it-must much of generations pass  
(Nortier 1990: 139, quoted in Muysken 1995)

---

<sup>1</sup>Lwidakho is a dialect of the Luyia language, which is spoken in Kenya and Uganda.

## 1 Introduction

Over the years, linguists have observed that CS is not distributed randomly in the utterance: on the contrary, while CS is possible in certain places, it seems to be forbidden in other positions in the utterance. Based on this observation, they have tried to identify the sites where switching is possible and impossible and why this is the case. It has been agreed that there are restrictions on CS and different proposals have been put forth to formulate these constraints imposed on the patterns of CS. Proposals that were mostly made in the 1980s and 1990s are best understood as language-pair specific rules or CS-specific constraints: there are specific rules applied to or constrained in CS (e.g. ‘the free morpheme constraint’ in Poplack 1980, ‘the equivalence constraint’ in Poplack 1980; Sankoff & Poplack 1981, ‘the dual structure principle’ in Sridhar & Shridhar 1980, ‘the closed class constraint’ in Joshi 1985, ‘the government constraint’ in Di Sciullo et al. 1986, ‘the matrix code principle’ in Kamwangamalu 1989, and ‘the functional head constraint’ in Belazi et al. 1994). Yet, most of these proposals have been challenged by empirical data offered in subsequent work (e.g. Li et al. 2018).

On the other hand, more recent proposals hypothesize that both monolingual and bilingual grammars are subject to the same grammatical principles, which I will call *the universal approach to CS*. Researchers who adopt the universal approach to CS have offered grammatical accounts that explain the patterns of CS, and most of these accounts are claimed to be universal in the sense that the proposed accounts can be applied to any language pairs in CS, therefore universal (e.g. Belazi et al. 1994; Chan 2003; 2008; González-Vilbazo & López 2011; 2012; López 2020; MacSwan 1999; Mahootian 1996; Shim 2013; 2016; Woolford 1983). Nonetheless, the claimed status of universality of most of these accounts has been questioned by cross-linguistic data, and there is little agreement of the precise nature regarding the rules involved in CS.

Despite this, the universal approach has several advantages over the proposal of CS-specific rules or constraints. At the theoretical level, the universal model assumes the same underlying grammar for both monolinguals and bilinguals. Hence, we do not have to postulate a new theory or a set of rules that are specifically applied to CS. This sense of ‘economy’ or ‘parsimony’ at the theoretical level also seems to be appealing in terms of language acquisition and language processing. Should there be an additional set of rules imposed on switching, a bilingual child who code-switches would be required to acquire a maximum set of grammars, such as his/her first language grammar, second language grammar and the rule of switching that may differ from the grammars of his/her two languages. Even if we assume that bilingual acquisition does not involve two separate gram-

mars but one grammar with two sets of lexical/vocabulary items,<sup>2</sup> the view of having a separate CS grammar predicts that the bilingual child's language acquisition is predicted to slow down due to mandatory learning of the maximum set of rules available in his/her language repertoire. Under these circumstances, it is not clear why CS prevails among many, if not all, bilingual speakers. Thus, the universal approach, which provides a unified account of monolingual and bilingual speech, seems to be a better approach than CS specific rules or constraints both at the theoretical level and at the acquisition level. To put it differently, there is no fundamental difference between monolingual and bilingual speakers in terms of their linguistic competence. By advocating the universal approach to CS, López (2020: 6) says the following:

When bilinguals code-switch, they do not simply go back and forth from one language to another. Nor is code-switching about inserting words of one language into the other or alternating from one language to the other. These shallow descriptions do not provide us with insight into the properties of code-switching because code-switching involves establishing a network of dependencies among the disparate constituents that conform a sentence structure.

Taking the universal approach to CS, this monograph investigates CS between two language pairs, Korean and English and Japanese and English, which exhibit several common linguistic features that need to be explained. Due to their canonical word order differences, Korean and Japanese being subject object verb (SOV) and English subject verb object (SVO), a code-switched sentence between Korean and English and between Japanese and English can take, in principle, either object verb (OV) or verb object (VO) order, following the grammars of the two languages of switching, as exemplified in (3) and (4) respectively.

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<sup>2</sup>This is the view taken up by MacSwan (1999), who assumes that a bilingual speaker has access to two sets of lexicons from his/her two languages (L1 and L2) and constructs a sentence by drawing lexical items from them. The selected lexical items then feed one syntactic computational system, as a result of which CS manifests. López (2020), on the other hand, adopts the framework of Distributed Morphology, in which there is no real lexicon and what feeds the syntax is roots, not lexical items. According to this view, bilinguals have one linguistic competence just like monolinguals. In this monograph, I adopt the view proposed by MacSwan and assume that a bilingual speaker has access to a composite set of lexicons in his languages, and structure is built via one computational system using these lexical items.

## 1 Introduction

(3) OV-ordered code-switched sentences:

a. Wonderful ideas-*lul mani naynoh-un kes kath-ayo*. Korean-English  
-ACC a.lot present-REL thing seem-DECL

‘(They) seem to present many wonderful ideas.’ (Park 1990)

b. Only small prizes *moratta-ne*. Japanese-English  
get-PAST

‘(We) got only small prizes.’ (Nishimura 1986)

(4) VO-ordered code-switched sentences:

a. I like koki. Koki ’s good. Korean-English  
meat meat

‘I like meat. Meat’s good.’ (Choi 1991)

b. We never knew *anna koto nanka*. Japanese-English  
such thing sarcasm

‘We never knew such a thing as sarcasm.’ (Nishimura 1986)

To account for OV-VO variation in CS, several researchers have proposed similar structural analyses, whose main claim is summarized in (5).

(5) The language of the verb determines the position of the object in both monolingual and bilingual contexts (MacSwan 1999; Mahootian 1993; Nishimura 1997).<sup>3</sup>

The claim in (5) predicts that in Korean-English and Japanese-English CS, word order would be determined by the language of the verb: if the verb comes from either Korean or Japanese, OV order would be obtained, following their respective grammars. On the other hand, if the verb is provided from English, VO order would be expected, reflecting the default order of the language. This is confirmed by the above-mentioned Korean-English and Japanese-English CS examples in (3) and (4). In (3), the verb comes from either Korean (*naynoh* ‘present’ in (3a)) or Japanese (*moratta* ‘get’ in (3b)), thus exhibiting OV order. If the verb comes from English as in (4), the code-switched sentences show VO order.

However, the proposal in (5) fails to account for the order of the examples in (6), where the verb comes from English (*apply* in (6a) and *mark* in (6b)). It is predicted

---

<sup>3</sup>MacSwan (1999) adopts the Minimalist Program as a theoretical framework for his analyses, but he does not take the view that functional categories are considered as the locus of word order variation, as proposed in the Minimalist Program. Instead, he proposes that the lexical verb determines the placement of the object in CS, which is the view by the head parameter approach. The head parameter approach will be explained in Chapter 2.

that the sentence would be linearized in VO order, following the language of the verb, which is English. Contrary to predictions, the surface order is OV in (6).

- (6) a. assistantship apply *hay* *noh-ass-eyo* Korean-English  
           do.LNK put-PAST-DECL  
       ‘(I) applied for an assistantship.’ (Park 1990)
- b. one algebra question-o mark-*shite* Japanese-English  
           -ACC           -do  
       ‘(You) mark one algebra question.’ (Nishimura 1995)

The limitations of the proposal in (5) has been noted by Chan (2003; 2008), who argues that the problematic cases that are not explained by (5) involve light verbs. For example, we see the Korean light verb *ha* in (6a) and the Japanese light verb *su* in (6b).<sup>4</sup> Chan refers to the constructions of the type in (6) as ‘mixed compound verbs’ in which the complex verb consists of a host verb and a light verb provided from different languages in CS: the host verb is in English (*apply* and *mark*) and the light verb comes from Korean or Japanese in (6). With this observation, Chan proposes the following:

- (7) The complex verb of the light verb constructions behaves the same way as a simplex or a compound verb from the language of the light verb.

However, as Chan questions himself, whether the complex verbs in (6) are genuine compounds is a controversial issue. For example, (sentential) negation *an* ‘not’ can intervene between the lexical verb *apply* and the Korean light verb *ha* in (6a), which is shown in (8a). In fact, the only possible position of the negation marker *an* is between the two verbs, *apply* and *ha*; the negation marker *an* cannot precede the verb *apply*, as shown in (8).<sup>5</sup>

- (8) a. assistantship apply *an hay* *noh-ass-eyo*  
           NEG do.LNK put-PAST-DECL
- b. \* assistantship *an* apply *hay* *noh-ass-eyo*  
           NEG           do.LNK put-PAST-DECL
- ‘(I) did not apply for an assistantship.’

<sup>4</sup>Korean and Japanese light verbs will be discussed in §1.2.1.2.

<sup>5</sup>All Korean-English bilingual speakers that I have consulted unanimously agreed on their judgments of the sentences in (8).

## 1 Introduction

The placement of *an* with respect to the lexical verb *apply* in an example of Korean-English CS in (8) contrasts with the placement of *an* in (9), which is a serial verb construction in Korean where two verbs, *ssip* ‘chew’ and *mek* ‘eat’, form a compound and share the argument structure. Unlike the example in (8a), the two verbs cannot be separated by the negation marker *an* in (9a), which must appear before the compound verb as in (9b). This subsequently disproves Chan’s claim that the complex verb of a light verb construction acts similarly to a compound verb from the language of the light verb.

- (9) a. \*Joa-ka koki-lul ssip-e an mek-see-ta  
Joa-NOM meat-ACC chew-LNK NEG eat-PAST-DECL
- b. Joa-ka koki-lul an ssip-e mek-see-ta  
Joa-NOM meat-ACC NEG chew-LNK eat-PAST-DECL  
‘Joa did not chew-and-eat meat.’

Chan (2008) further proposes that the language of functional categories determines the position of their complements and light verbs instantiate the functional category *I(nfl)* and the position of its verb phrase (VP) complement. In other words, if the light verb comes from Korean or Japanese, the VP complement will be placed before the light verb, which correctly describes the patterns in (6): the VP in English precedes either the Korean light verb *ha* in (6a) or the Japanese light verb *su* in (6b).<sup>6</sup> Yet, this account does not explain why the object also appears before the English lexical verb inside the VP in (6). One may argue that the language of the light verb also determines the position of the object, therefore, the Korean and Japanese style OV order is derived in (6). However, this does not seem to be the case.

In (10), the Korean light verb *ha* and the Japanese light verb *su* take the VP complement to their left, but the object follows the verb, exhibiting the English style VO order, which is in contrast with the OV order inside the VP in (6). To summarize, when a VP is code-switched into English in Korean-English and Japanese-English CS, the VP precedes the Korean light verb *ha* or the Japanese light verb *su* and the linear order between the object and the verb inside the VP may alternate between OV and VO orders.

- (10) a. catch up cold *ha-myen*<sup>7</sup> Korean-English  
do-if  
‘If (you) catch up a cold ...’(Park 1990)

---

<sup>6</sup>In the Minimalist Program, *I(nfl)* takes *vP*, not VP as its complement.

- b. *yooshi*                      keep an eye *suru-zo*                      Japanese-English  
 well I'm going to                      do-PRT  
 'Well, I'm really going to keep an eye on you.' (Namba n.d.)

Chan treats examples such as (10) as exceptional cases whose word order is not predicted by his proposal in (7). For such exceptional examples, he reasons that corpus CS data between OV and VO languages show that the VO sequence in light verb constructions in CS is rarer than the OV pattern in a similar environment. However, lower frequency of VO order *per se* does not justify Chan's decision that they are not subject to universal principles. The CS literature clearly shows that both OV and VO orders exist in various OV-VO language pairs in CS (e.g. Hindi-English, Punjabi-English, Tamil-English), and OV-VO variation in CS should be accounted for, which is the aim of this monograph. Although Chan's analysis fails to correctly account for the OV-VO variation documented in the CS literature, he rightly points out that code-switched sentences that vary between OV and VO orders involve a light verb in diverse language pairs, which was not noticed in the earlier studies.

The role of light verbs in CS was investigated in great detail in a few subsequent studies (e.g. González-Vilbazo & López 2011; 2012 for Spanish-German; CS Shim 2011; 2013; 2016 for Korean-English and Japanese-English CS). For instance, in German the object is normally placed before the verb in a construction involving an auxiliary or a modal verb, as shown in (11). However, when Spanish-German CS involves the Spanish light verb *hacer* 'do' as in (12), the object cannot precede the verb but must follow it, thus exhibiting Spanish-style VO order.

- (11) a. Hans hat die Bücher verkauft.                      German  
       Hans has the books sold  
       b. \* Hans hat verkauft die Bücher  
       Hans has sold the books  
       'Hans has sold the books.'  
       c. Hans muss die Bücher verkaufen.  
       Hans must the books sell

---

<sup>7</sup>The phrase 'catch up cold' is ungrammatical in English, which must be 'catch a cold'. Perhaps the speaker who uttered the sentence may not be a balanced bilingual speaker but a second language (L2) learner of English. The detailed description of the bilingual speakers included in the study is not provided in Park (1990).

## 1 Introduction

- d. \* Hans muss verkaufen die Bücher.  
Hans must sell the books  
'Hans has to sell the books.' Modified from González-Vilbazo & López (2012: 42, (15))
- (12) a. *Juan hizo* verkaufen die Bücher. Spanish-German  
Juan did sell the books
- b. \* *Juan hizo* die Bücher verkaufen  
Juan did the books sell  
'Juan sold the books.'
- c. *Juan ha hecho* verkaufen die Bücher.  
Juan has done sell the books
- d. \* *Juan ha hecho* die Bücher verkaufen.  
Juan has done the books sell  
'Juan has sold the books.' Modified from González-Vilbazo & López (2012: 42, (16))

González-Vilbazo & López analyze the Spanish verb *hacer* 'do' as a light verb lexicalizing  $v$ , and the order of VP in (12) is determined by  $v$  in Spanish, which is parameterized to take the object to the right of the verb.<sup>8</sup> The claim that González-Vilbazo & López make is summarized below.

- (13) The order of the verb and its complement/direct object is determined by  $v$ , which has a binary feature that decides whether the object should be linearized to the left or to the right of the verb.

They further argue that if  $v$  comes from the lexicon of an OV language, the order will be OV. By contrast, if  $v$  is extracted from the lexicon of a VO language, the constituents in the VP will surface in VO order. The account by González-Vilbazo and López is similar to Chan's (2008) in the sense that the functional category represented by a light verb ( $v$  in González-Vilbazo and López and I in Chan) is parametrized and determines word order. However, their proposal is different from Chan's: what determines word order is not the *language* of the light verb, but the feature specification of  $v$ , which may be parameterized differently across languages. In this respect, the proposal by González-Vilbazo and López is grounded on the fundamental concepts assumed in minimalist syntax: the locus of linguistic variation is due to (morphosyntactic) features specified on

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<sup>8</sup>In the Minimalist Program, a syntactic category  $v$  represents a *light verb* to which V(erb) overtly raises (Chomsky 1995: 315).

functional categories. Yet, they do not discuss how these features play a role in deriving different word orders. Instead, they claim that features on  $v$  are binary, taking either a preverbal object (e.g. German) or a post verbal object (e.g. Spanish). Interestingly, in *hacer* constructions of Spanish-German CS, one may find OV order in addition to VO order, as exemplified in (14), which seems to challenge their proposal.

- (14) a. *Juan hizo* verkaufen die Bücher. Spanish-German  
 Juan did sell the books  
 b. [<sub>VP</sub> *Juan*  $v_{SP} = hizo$  [<sub>VP</sub> verkaufen die Bücher]]  
 c. *Juan hizo* ... die Bücher verkaufen.  
 Juan did ... the books sell  
 d. [<sub>CP</sub> *Juan hizo* ...] [<sub>VP</sub> [<sub>VP</sub> die Bücher verkaufen]  $v_{GR} = \emptyset$ ]  
 Modified from González-Vilbazo & López (2012: 52, (59))

The Spanish-German CS examples in (14a) and (14c) have the same lexical material from the two languages, including the Spanish light verb *hacer*. Nonetheless, the exhibited word order of the VP differs: VO and OV, respectively. González-Vilbazo and López argue that the VO vs OV contrast found in Spanish-German CS in (14) is due to the selection of  $v$  from different languages:  $v$  comes from Spanish in (14a) and from German in (14c), which are parameterized differently. The Spanish light verb *hacer* lexicalizes  $v$  in (14a) and the object is linearized to the right of the verb. In (14c), on the other hand,  $v$  is null (which is not spelled out/pronounced by a lexical item) and comes from German, as a result of which the object is linearized to the left of the verb. They analyze the code-switched sentence in (14b) as a  $vP$ , which is separate from the main clause complementizer phrase (CP) and includes an elided site. They call this hanging  $vP$  ‘an orphan’, which is not integrated as a constituent into a larger clause structure (cf Haegeman 1991, Shaer 2003). Thus, the underlying structure of the sentence in (14a) and that in (14c) differ from each other, as indicated in (14b) and (14d).

To support their analysis, González-Vilbazo and López show that the prosodic structure of the VO-ordered *hacer*-construction in (14a) and that of the OV-ordered *hacer*-construction in (14c) are different. While it is not allowed to pause between *hizo* (*hacer*) and the following VP in (14a), the sentence in (14c) is only acceptable when there is a pause between *hizo* and the VP. Based on this, they argue that the prosodic isolation of the VP reflects the syntactic isolation of the VP in (14c), justifying the structure proposed in (14d). According to them, the structure in (14d) is the only possible structure for OV-ordered *hacer* light verb constructions



## (16) VO-ordered code-switched sentences

- a. catch up cold *ha-myen* Korean-English  
do-if  
'If (you) catch up a cold ...' (Park 1990)
- b. put the burden on myself *ha-ketunyo* Korean-English  
do-DECL  
'(I) put the burden on myself.' Park (1990)
- c. *yooshi* keep an eye suru-zo Japanese-English  
well I'm going to do-PRT  
'Well, I'm really going to keep an eye on you.' (Namba n.d.)

Shim suggests that the distribution of OV-VO orders in Korean-English and Japanese-English CS is closely related to the *heavy* vs *light* distinction of the verb within the code-switched constituent; while the verbs in (15) are *heavy* in the sense that they deliver lexical semantic information to their clausal structure (e.g. *spend* in 15a, *own* in 15b, *order* in 15d), the verbs in (16) (e.g. *catch* in 16a, *keep* in 16c) are *light* and have little semantic content of their own. She also postulates that OV-VO variation in Korean-English and Japanese-English CS could also be related to the size of the code-switched constituent: the verb and the internal argument/object are separately code-switched into English in (15) without changing the OV order of Korean or Japanese. In contrast, idioms such as *catch a cold*, *keep an eye (on)* in (16) may be listed in the lexicon and switched as a unit, thus, the internal VP structure is intact and preserves the VO order of English during switching. These two hypotheses, namely (i) selection of light verbs and (ii) idiomaticity, were tested against the judgments solicited from a small number of Korean-English and Japanese-English bilingual speakers. Based on the results from the questionnaires, she argues that the distribution of OV and VO orders in Korean-English and Japanese-English CS is related to (a) the status of the verb (heavy vs light) within a code-switched constituent and (b) the compositionality of the code-switched constituent. Based on this, she concludes the following:

- (17) a. Selection of light verbs results in OV-VO variation in both non-idiomatic (literal) phrases and compositional idioms. More specifically, when light verbs are selected from Korean or Japanese, OV is generated, following the grammar of Korean or Japanese. On the contrary, selection of English light verbs results in the English-style VO order in the derivation.

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- b. Compositional idioms undergo aspectual composition, similar to non-idiomatic phrases, while non-compositional idioms do not undergo aspectual composition in the syntactic derivation.<sup>9</sup>
- c. Non-compositional idioms undergo code-switching as a unit, and the internal order of the code-switched phrase is maintained throughout the derivation.

### 1.2 The present study

The present study is an updated version of Shim's (2011) case study with a series of modification. Prior to explaining how the present study has been modified from Shim (2011), let us begin by providing two research questions that were explored in Shim (2011).

(18) **Research Question 1**

What is the role of light verbs in CS? How is OV-VO variation in Korean-English and Japanese-English CS related to the choice between heavy/lexical verbs and light/functional verbs?

Lexical categories are also called 'content words' or 'open class' or 'substantive morphemes', and bear a specific semantic content of their own (e.g. nouns, verbs, adjectives). Functional categories, on the other hand, do not bear such idiosyncratic meaning but carry out various grammatical functions (e.g. tense), which are also referred to as 'abstract words' or 'closed class' or 'grammatical morphemes'. As mentioned before, the locus of linguistic variation is claimed to be functional categories rather than lexical categories in the minimalist framework. Also, a syntactic functional category *v* represents a *light verb* and the precise syntax of light verbs differs from language to language (Adger 2003; Butt 2003 etc.), which leads to linguistic variation, including word order. Adopting these views, this study explored how light verbs from typologically different languages, such as English, Korean, and Japanese, play a role in deriving OV and VO orders

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<sup>9</sup>Shim proposes a *vP* structure where the *v* head selects an *AspP* (aspect phrase) and the Korean light verb *ha* and the Japanese light verb *su* lexicalize *v*. She also argues that the aspectual feature on *v*, [ $\pm$ stative], must match the corresponding feature on aspect (*Asp*). Although she does not provide a clear definition of aspectual composition, she explains that the aspect of a predicate is not determined by the feature on the *Asp* head per se, but it is composed within the domain of the projection of *Asp*, including its complement. In this monograph, I differ from my own earlier view in Shim (2011) and argue that it is the *VP*, not the *AspP*, where the aspectual properties of the predicate is determined. This will be discussed in detail in Chapter 3 (§3.2.1).

in Korean-English and Japanese-English CS. The following hypothesis was made with respect to the first research question.

(19) **Research Hypothesis 1**

Assuming that linguistic variation is determined by the way features are parameterized in functional categories and how these features are valued in syntactic derivations, OV-VO variation in Korean-English and Japanese-English CS will be determined by feature specifications on functional categories represented by light verbs in Korean, Japanese and English and how these features are valued in syntactic derivations.

In addition to the role of light verbs in CS, this study also examined various idiomatic expressions in English and how they contributed to the distribution of OV and VO orders in Korean-English and Japanese-English CS. Since there is little consensus in the literature on what constitutes idioms or even compositionality, a working definition of VP idioms was made.

(20) The term *VP idiom* refers to a VP where the verb takes a complement and the verb and its complement together deliver a non-literal, idiosyncratic reading.

Taking into account that idioms are not stored as a chunk but built in the syntax just like non-idiomatic phrases (Epstein & Seely 2006; Nediger 2017) and they differ with respect to their relative syntactic flexibility, the second research question and the hypothesis were constructed in the following way.

(21) **Research Question 2**

Does syntactic flexibility play a role in OV-VO variation in Korean-English and Japanese-English CS? Are both syntactically flexible phrases and inflexible phrases subject to CS?

(22) **Research Hypothesis 2**

Syntactically flexible phrases and inflexible phrases will behave differently with respect to word order derivation in CS. More specifically, while the internal argument of a syntactically flexible phrase is subject to CS, a syntactically inflexible phrase is frozen and undergoes CS as a unit. Hence, the internal order of the phrase will be maintained throughout the derivation.

In the following, light verbs and idioms, which were investigated in relation to OV-VO order variation in Korean-English and Japanese-English CS, are explained in further detail.

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### 1.2.1 Light verbs and light verb constructions

#### 1.2.1.1 English

The term light verb (LV) was first introduced by Jespersen (1965), who referred to the verbs in English V+NP (noun phrase) constructions such as *have*, *take*, *make*, *give*, *get*, and *do* in *have a look*, *take a walk*, *make a plunge*, *give a sigh*, *get a move on*, *do a bunk* ‘run away’, etc. Jespersen describes a light verb as “an insignificant verb, to which the marks of person and tense are attached, before the really important idea” (1965: 117). As their very name implies, light verbs are “light” in the sense that they have little semantic content of their own, and contrast with *lexical* or *full* or *heavy* verbs which deliver idiosyncratic lexical semantic information to their clausal structure. Examples in (23) illustrate the contrast between heavy and light verbs.

- (23) a. Bibi made a snowman.  
a.’ Bibi made a dash across the puddle.  
b. Bibi took Joa to Bordeaux.  
b.’ Bibi took a walk to Bordeaux.

The verbs in (23a, b) are lexical/heavy/full verbs (*made*, *took*) while the same verbs are used as light verbs in (23a’, b’). For instance, the verb *make* in (23a) has the meaning of creating or bringing about a physical entity out of something, but *make* in (23a’) does not convey this meaning at all. Instead, it combines with the noun phrase *a dash*, and the whole phrase *make a dash* seems to be used as a single predicate in the sentence: *make a dash* and *take a walk* are equivalent to *dash* and *walk*, respectively.

Jespersen identified the following verbs as light verbs in English; *have*, *take*, *make*, *give*, *get*, and *do*, which appear in various light verb constructions productively. In addition, other verbs such as *pay*, *offer*, *put*, *raise*, and *hold* may also participate in light verb constructions (Huddleston & Pullum 2002: 296, 1093), as shown in (24).

- (24) a. offer an apology, a suggestion  
b. pay attention (to), a call (to), a visit (to)  
c. put the blame (on), an end/stop (to)  
d. raise an objection (to)  
e. hold the belief

Huddleston & Pullum refer to light verbs as ‘light uses of verbs’ (2002: 290), which differs from their heavy uses. To put it differently, a verb may be used as a heavy verb or a light verb and participate in a light verb construction. Light verbs are similar to auxiliaries, which lack inherent lexical meaning. In addition, light verbs straddle the divide between a functional and a lexical category since they originate from lexical elements but do not predicate the same way as main verbs do (Butt 2003: 4).

Researchers have also proposed that light verbs should be acknowledged as an independent syntactic category (Adger 2003; Butt 2003, among others) and *v* is argued to represent a light verb to which V(erb) overtly raises (Arad 1999; Chomsky 1995; Harley 1999; Marantz 1997). Yet, the precise syntax of light verbs varies across languages. The idea of *v* goes back to Chomsky (1957), who introduced it for auxiliaries and modals. In recent syntactic analyses, however, auxiliaries and modals have been re-analyzed as an independent syntactic category such as AUX and MOD, which inherently lack any lexical meaning (Butt 2003). LVs, on the other hand, may or may not have an effect on the argument structure of the clause, but they may contribute to the event structure although they do not have full semantic charge as their counterpart heavy/full verbs do.<sup>10</sup> In other words, light verbs remain at an intermediate stage between the full verb and the auxiliary on the cline of grammaticalization (Hook 1974), as (25) shows.

(25) (heavy) verb > light verb > auxiliary > clitic > affix

Assuming that heavy or lexical verbs represent a lexical category V(erb) whereas light verbs lexicalize a functional category such as *v*, as proposed in the Minimalist Program, we may extend this view to the idea that the verbs occurring in light verb constructions normally belong to a syntactic category V, but may also lexicalize *v* in their light uses. However, among those verbs that participate in light verb constructions (e.g. *have*, *take*, *make*, *give*, *get*, *do pay*, *offer*, *put*, *raise*, and *hold*) only a subset of them have been re-analyzed as ‘true light verbs’ by different researchers, which characterize one or more abstract functional heads in all of their uses. Examples are provided in (26).

(26) a. *have* = BE + TO (Benveniste 1966; den Dikken 1995; Kayne 1993)  
       *have* = P<sub>HAVE</sub> (Harley 1997)  
       *have* = *v*<sub>BE</sub> + APPL (Kim 2012)

<sup>10</sup>In this monograph, I will argue that LVs should be distinguished from light verb constructions (LVCs) and inherently light verbs do not contribute to the event structure/aspect of the predicate in English. This will be discussed in Chapter 3 (§3.2.1).

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- b. *get* = BECOME (McIntyre 2005a,b)  
*get* = INCH (Shim 2006)
- c. *give* = CAUSE  $v_{\text{CAUSE}}$  +  $P_{\text{HAVE}}$  (Harley 2003)

All of the syntactic analyses provided in (26) and other similar accounts adopt the so-called lexical decompositional theory in generative semantics, championed by Dowty (1979), in which abstract operators such as CAUS(E), DO, and BECOME are proposed to convey the nuanced meaning of a predicate. Such abstract operators do not directly correspond to the English lexical verbs such as *cause*, *do*, and *become* but stand for abstract semantic units and characterize abstract elements in the syntax as well.<sup>11</sup> Thus, while verbs like *cause*, *do*, and *become* are categorized as V, which is a lexical category, abstract elements such as CAUS, DO, and BECOME instantiate a functional category, variants of  $v$  in the structure.

Assuming that the analyses in (26) are on the right track of capturing the core properties of these verbs as true light verbs, we now face the task of distinguishing verbs like these, which are inherently light verbs, from the verbs that are normally heavy or lexical verbs but have additional light uses. In this regard, we need to clarify the terms *light verbs*, *light uses of verbs*, and *light verb constructions*, which have been used interchangeably in the literature. As Butt (2003) points out, there exist a great diversity of analyses and terminology of light verbs in the literature. Thus, I provide a new working definition of light verbs and light verb constructions for the purpose of the present study.

- (27) a. A **light verb** lacks 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 only its complement does. Both heavy and light verbs may participate in light verb constructions.

Based on the definition in (27a), eight English verbs were selected and included as light verbs in the present Korean-English and Japanese-English CS study, as listed in (28).

- (28) *have* = BE + TO  
*give* = CAUS [BE + TO]  
*get* = INCH  
*take* = INCH

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<sup>11</sup>Instead of Dowty's BECOME operator, Shim (2006) uses INCH, to indicate pure inchoativity, for the reasons argued in her paper.



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Korean and Japanese light verb constructions have been extensively discussed in the literature (e.g. Ahn 1991; Bak 2011; Chae 1996; Choi & Weschler 2001; Dubinsky 1994; Grimshaw & Mester 1988; Jun 2003; Kim 1991; Park 1992; Saito & Hoshi 2000; Shimada & Kordoni 2003), and a large body of the literature on this topic discusses the argument structure of the light verb, focusing on the fact that the verbal noun that the light verb is attached to may be marked with the accusative marker, *-(l)ul* in Korean or *-o* in Japanese.

- (31) a. Bibi-nun Joa-wa hapsek-ul hayss-ta. Korean  
Bibi-TOP Joa-with table.sharing-ACC do.PAST-DECL  
b. Bibi-nun Joa-to aiseki-o shita. Japanese  
Bibi-TOP Joa-with table.sharing-ACC do.PAST  
'Bibi shared a table with Joa.'

As discussed in detail in Shim (2013), researchers differ on how to analyze the contrast between [a bare verbal noun + *ha/su*] in (30) and [an accusative marked verbal noun + *ha/su*] in (31). These analyses can be roughly divided into three different trends: (a) *ha/su* is used as a light verb in both [a bare verbal noun + *ha/su*] and [an accusative-marked verbal noun + *ha/su*] constructions (Jung 2003; Park 1992; 1995; Grimshaw & Mester 1988), (b) *ha/su* is always a heavy/lexical verb in both [a bare verbal noun + *ha/su*] and [an accusative-marked verbal noun + *ha/su*] constructions (Terada 1990), and (c) *ha/su* is a light verb in [a bare verbal noun + *ha/su*] and a heavy verb in [an accusative-marked verbal noun + *ha/su*] constructions (Ahn 1991; Miyamoto 1999; Uchida & Nakayama 1993). To date, there is still a debate among researchers as to whether *ha/su* is a light verb or a heavy verb in the [accusative-marked verbal noun + *ha/su*] form. Yet they have converged on the view that *ha/su* is used as a light verb in the [bare verbal noun + *ha/su*] construction. Thus, we conclude that *ha* in Korean and *su* in Japanese in the [bare verbal noun + *ha/su*] construction are light verbs, and can be included in the present Korean-English and Japanese-English CS study.<sup>12</sup>

### 1.2.2 Idioms

The notion of compositionality of idioms, which Shim (2011) adopts for her analysis of Korean-English and Japanese-English CS, has been contested by a number of researchers despite the fact that it has been widely adopted in many studies.

<sup>12</sup>Having defined *ha* and *su* are light verbs in [bare verbal noun + *ha/su*] constructions, they will be glossed as DO rather than 'do' in corresponding examples in order to indicate their status as a functional category.

According to Nunberg et al. (1994), idioms are divided into two groups based on their semantic compositionality. Most idioms (e.g. *take advantage of*, *pull strings*) are in fact relatively ‘compositional’ in the sense that the idiomatic reading is composed fairly transparently from the component parts. ‘Non-compositional’ idioms (e.g. *kick the bucket*, *shoot the breeze*), on the contrary, do not compose their meanings from their components, but the idiomatic meaning is assigned to the whole phrase.<sup>13</sup> Nunberg et al. propose that while compositional idioms have the syntax of non-idiomatic expressions, non-compositional idioms are stored in the lexicon as complete phrases (1994: 497, 515). Following this distinction, Shim argues that compositional idioms and non-compositional idioms are predicted to behave differently in CS and derive different word orders: while compositional idioms are not frozen as a chunk and thus their internal arguments are subject to CS, similar to non-idiomatic/literal phrases, non-compositional idioms are listed in the lexicon and undergo CS as a whole.

However, the distinction between compositional and non-compositional (or similarly, decomposable vs. non-decomposable) idioms does not seem to hold uniformly among researchers. One example of such controversial cases is *spill the beans* ‘reveal a secret’ or ‘divulge secretive information’, which is categorized either as a compositional/decomposable idiom or a non-compositional/non-decomposable idiom by different researchers (e.g. Cacciari & Glucksberg 1995; Gibbs & Nayak 1989; Nunberg et al. 1994 vs Abeillé 1995; Horn 2003). Those who argue that the idiom *spill the beans* is compositional explain that the idiomatic or figurative meaning is distributed over the parts, with the verb *spill* denoting ‘divulge, reveal’ and the NP *beans* being associated with ‘the information/secret that is divulged’ under the assumption that the availability of these meanings of each constituent depends on the presence of the other item which is imposed by conventionality. On the contrary, others argue that the relationship between the concrete spilling of beans and its figurative reading of releasing the information is not transparent, for *beans* is not directly associated with the meaning ‘a secret’ or ‘information’ in any other contexts. Thus, non-transparent idioms such as *spill the beans* and *break the ice* should be further distinguished from semantically transparent idioms such as *lay down the law*, *pay attention*, etc., in which parts of the idioms have literal meanings in these expressions or they may retain their idiomatic meanings outside of idiomatic phrases.

While the view on the semantic properties of idioms, such as compositionality or analyzability or transparency, varies to a large extent in the literature, it seems

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<sup>13</sup>Instead of *compositional vs non-compositional* idioms, Nunberg et al. (1994) use the terms *idiotically combining expressions vs. idiomatic phrases*.

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that the syntactic behavior of idioms is less of a contentious issue. Researchers converge on the view that idiomatic expressions vary with regard to syntactic versatility (Nediger 2017; Tabossi, Wolf, et al. 2009). Roughly speaking, idioms can be categorized into three groups based on their syntactic behavior: (i) one that is syntactically fully flexible; (ii) one that is syntactically less flexible; and (iii) one that is syntactically inflexible or frozen. Corresponding examples are provided in (32–34), most of which are adapted from Horn (2003) and Schenk (1995). The symbol ‘#’ indicates that the sentence is grammatical, but the idiomatic reading is not available.

- (32) a. Care was taken of all of the orphans.  
b. Great care seemed to be taken of the refugees by the government.  
c. The care that they took of the infants was more than adequate.  
d. How much care did they take of the infants?
- (33) a. The beans were spilled (by Bibi).  
b. The beans appeared to be spilled when he opened his mouth.  
c. # The beans that Bibi spilled caused us a lot of trouble.  
d. # Which beans did Bibi spill?
- (34) a. # The bucket was kicked by all of the bad guys.  
b. # The bucket seems to be kicked by Bibi.  
c. # The bucket Bibi kicked was astonishing.  
d. # Which bucket did Bibi kick?

In (32), the idiom *take care of* undergoes various syntactic operations such as passivization (32a), raising (32b), relativization (32c) and *wh*-question formation (32d), and its meaning also remains the same in all of these examples.

On the other hand, *spill the beans* may partake only in a limited number of syntactic operations such as passivization (33a) and raising (33b), but the DP argument of *spill the beans* does not occur as the head of a relative clause (33c) or in a *wh*-question (33d), where its idiomatic interpretation is no longer available. Finally, the degree of syntactic flexibility of *kick the bucket* is heavily restricted, and none of the sentences in (34) deliver the figurative reading of the phrase ‘(to) die’. Although there seems to exist inter-speaker variation with respect to what extent they accept each sentence in (32–34) on their idiomatic readings, it is clear that the degree of syntactic flexibility varies from idiom to idiom. In fact, it has been proposed that idioms are also built in the syntax just like literal, non-idiomatic phrases (Epstein & Seely 2006; Nediger 2017).

### *1.3 The goal and organization of the monograph*

Several researchers argue that there is a strong correlation between semantic analyzability and syntactic flexibility of idioms and that compositional idioms are more syntactically flexible than non-compositional idioms (e.g. Gibbs & Nayak 1989; Nediger 2017; Nunberg 1978; Nunberg et al. 1994). Especially in the field of psycholinguistics, the notion of semantic compositionality was further developed as the idiom decomposition hypothesis by Gibbs and his colleagues (Gibbs et al. 1989; Gibbs & Nayak 1989), who propose that the processing of semantically compositional idioms differs from non-compositional idioms: compositional idioms are involved in the same mechanism of lexical retrieval and syntactic parsing of literal expressions, whereas non-compositional idioms require lexical recognition and retrieval directly from the lexicon. They also found in an experimental study that participants have a clear intuition about the distinction between compositional and non-compositional idioms and the processing of compositional idioms was faster than that of non-compositional idioms. However, in subsequent research that replicated their studies, these findings were not confirmed or contradicted (Titone & Connine 1994; Tabossi, Fanari, et al. 2009), revealing that people do not share clear and systematic intuitions on the semantic compositionality of idioms and the processing of non-compositional idioms did not differ from or was faster than the processing of compositional idioms. Thus, the notion of semantic compositionality of idioms and its relation to syntactic flexibility has been questioned by a number of linguists and remains subject to further investigation (Abeillé 1995, Ackerman & Webelhuth 1997; Horn 2003; Jackendoff 1997; Ruwet 1991; Libben & Titone 2008).

In light of these considerations, the present study investigated the syntactic flexibility of idioms rather than their semantic compositionality in relation to the distribution of OV and VO orders in Korean-English and Japanese-English CS.

### **1.3 The goal and organization of the monograph**

The major goal of this monograph is to provide a grammatical account which explains how OV and VO orders are systematically distributed in Korean-English and Japanese-English CS. Based on the findings from previous research on this topic (Shim 2011), two potential factors that seemed to contribute to OV-VO variation in Korean-English and Japanese-English CS were identified, namely, the status of a verb (heavy vs light) within a code-switched constituent and the syntactic flexibility of the code-switched phrase, which were constructed as the two research questions of the present study in (18) and (21). These two research questions were investigated in an experimental study, which will be presented in

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Chapter 2. The overall results of the experimental study confirmed the two research hypotheses stated in (19) and (22).

After presenting an experimental study on Korean-English and Japanese-English CS in Chapter 2, I discuss in Chapters 3 and 4 the key theoretical assumptions that are made in this monograph and propose the mechanism of feature inheritance, which will be used to account for OV-VO variation in Korean-English and Japanese-English CS in Chapter 5. I adopt a derivational approach to word order proposed by Kayne 1994, who claims that OV order is derived from VO. After comparing this view against other competing approaches in Chapter 3, I conclude that the difference between OV languages (e.g. Korean and Japanese) and VO languages (e.g. English) is explained by the idea that the object moves to the left of the verb in OV languages whereas the object stays in situ in VO languages. The idea that OV is derived from VO will be implemented in the framework of minimalist syntax, which hypothesizes that linguistic variation is due to the morpho-syntactic contents/features of functional categories.

By taking this line of thought, features on various functional categories will be discussed, and OV order in Korean and Japanese and VO order in English will be explained under the feature inheritance system that is developed in Chapter 4. While feature inheritance was originally proposed for the clausal domain (T inherits features from C), it will be extended to the verbal domain ( $ASp$  inherits features from  $v$ ) to account for OV order in Korean and Japanese and VO order in English. Based on the feature inheritance mechanism developed in Chapter 4, I explain the results of the experimental study reported in Chapter 2 and propose that OV and VO orders in Korean-English and Japanese-English CS are a result of the success or failure of feature inheritance from  $v$  to  $ASp$ . If feature inheritance occurs, object movement ensues, resulting in OV order. If feature inheritance does not take place, the object stays in situ, leading to VO order.

Chapter 6 concludes the monograph.

## 2 Experiment

This chapter presents an experimental study of Korean-English and Japanese-English CS with three inter-related subparts, eliciting judgment data that bear on the two research questions outlined in Chapter 1. Assuming that parametric variation, such as word order, is determined by feature specifications of a functional category as assumed in the Minimalist Program, the study asked how different functional categories in typologically different languages play a role in deriving various word orders in CS. More specifically, the role of light or functional verbs was investigated in comparison with the role of heavy or lexical verbs in different types of code-switched phrases, especially with respect to their contribution to OV and VO order variation in Korean-English and Japanese-English CS.

The study also investigated whether the syntactic flexibility of a code-switched phrase plays a role in word order in CS. Specifically, the syntactic flexibility of an idiomatic phrase in English was tested against the hypothesis that syntactically flexible and less flexible phrases would exhibit different patterns in CS: a flexible phrase is subject to CS whereas less flexible or inflexible phrases may not undergo CS and maintain the internal order of the phrase throughout the derivation.

Data for the quantitative analyses were obtained via (i) a CS judgement task (§2.1), (ii) a syntactic flexibility judgment task (§2.2), and (iii) an idiom familiarity task (§2.3). The study aimed to elicit evidence to shed light on the role of light verbs and syntactic flexibility in determining OV-VO variation in CS where an English VP is incorporated into utterances in Korean or Japanese. The evidence comprises acceptability judgments elicited using contextually appropriate materials from Korean-English and Japanese-English bilingual speakers, whose competence and experience in their two languages made them familiar with CS behavior. The participant populations of interest are exemplified by the bilingual communities of the New York City area, where daily use of each of the speakers' languages is common, as is switching between languages within a conversation (cf the work of Chung 2012). The study, therefore, made crucial use of a language-history questionnaire and an exit interview probing experience in CS in order to screen participants recruited from these communities. All participants gave their informed consent for inclusion before they participated in the study.

## 2.1 Code-switching judgment task

To elicit judgments on OV vs VO ordered code-switched sentences between Korean and English and between Japanese and English, a two-alternative forced choice task was used in this experiment. For each of a series of items, participants were asked to select between two utterances that were considered as a (near-)minimal pair. Both utterances included an English-sourced VP followed by the Korean light verb *ha* or the Japanese light verb *su*, and the VP that is code-switched into English was presented in OV order in one utterance and VO order in the other. The participant's task was to select the utterance that "sounded (more) natural" between the two sentences.

The rationale to use a 2-alternative forced choice method over a Likert scale method, which is more commonly used to elicit judgment/acceptability of test items, was based on the results from a pilot study, which suggested that the acceptance rate of a code-switched sentence may be influenced by other factors (e.g. lexical choice) than the OV-VO order contrast within a code-switched constituent, which the present study aims to investigate. Therefore, a 2-alternative forced choice task was considered more appropriate than a Likert scale method in order to elicit a bilingual speaker's judgment on OV-VO order variation in CS while minimizing the potential influence of other factors in his/her judgment.<sup>1</sup>

Due to the fact that many of the critical items included English VP idioms and 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) 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.

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<sup>1</sup>While an anonymous reviewer disapproves of the use of a two-alternative forced choice task to elicit acceptability considering both choices could be acceptable or unacceptable, a two-alternative forced choice task is proven to be suitable to investigate CS competence by means of acceptability judgments, which provides granular details that remain invisible in a Likert scale experiment (Stadthagen-González et al. 2018).

## 2.1 Code-switching judgment task

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 a sentence, whether literal or non-literal, was successfully delivered without ambiguity. Instructions emphasized that the participants should attend to the cartoon while they were listening to the sentences. As an illustration of this protocol, (1) below offers an example scenario introduction, followed by a cartoon describing the content of Donna's statement and a Korean-English CS pair between which the participant was asked to choose.

- (1) 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?



- a. nwu-ka            mence cenhwahayse, **boat-lul miss** hayss-e  
someone-NOM before call.because            -ACC            DO.PAST-DECL
- b. nwu-ka            mence cenhwahayse **miss the boat** hayss-e  
someone-NOM before call.because            DO.PAST-DECL  
'Someone else called first, so (I) missed the boat.'

### 2.1.1 Materials and methods

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  $2 \times 2$  factorial design, combining Verb Type (heavy vs light) and Interpretation (literal vs non-literal). For light verbs, those listed in (2), which are *have*, *give*, *get*, *take*, *make*, *keep*, *hold* and *raise*, were included.

- (2) a. Heavy verb, literal interpretation            e.g. *miss the bus*  
b. Heavy verb, non-literal interpretation            e.g. *miss the boat*



## 2.1 Code-switching judgment task

- (4) a. Heavy verb, light verb construction      e.g. *pay a visit/a compliment*  
b. Light verb, light verb construction      e.g. *have a look/have a try*

For each construction, 16 items were constructed with 8 verbs. For each verb, two similar items were constructed as a closely matched pair and distributed to form an experiment in two versions, each with 8 items per condition. This allowed the participant taking either version of the experiment to see the same set of verbs for each of the experimental conditions, in closely matched contents. For both the Korean and Japanese versions of the experiment, materials were constructed so as to produce two subsets, each of which included 48 critical items and 24 filler items. An additional set of 10 items, ranging across item types, was constructed to provide practice without the task procedure.

### 2.1.2 Item implementation

As described in (2) and (4), the object within the code-switched phrase included various types of nouns, such as an indefinite noun (e.g. *some money, an ear*), a definite noun (e.g. *the boat, the stairs*), and a bare noun (e.g. *basketball, cold feet*). The definiteness and length of the objects were controlled for in all the closely matched items throughout the conditions to prevent various linguistic and non-linguistic factors, such as definiteness, from influencing the selection of a particular order, either OV or VO. 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'. The final form of the code-switched sentence in OV order was slightly different from that in VO order.

First, various function words preceding the object, such as determiners (*a(n), the*), possessors (*my, your, his, her*, etc), were omitted from the OV order sentences, based on the results of a pilot study that revealed that many Korean-English and Japanese-English bilingual speakers judged the code-switched sentences as sounding more natural without the determiner in the OV order but not in the VO order. Though the exact reason still needs to be investigated, it is speculated that since both Korean and Japanese lack determiners, determiner omission also seems to be preferred, following the grammar of Korean or Japanese, when the code-switched sentence preserves the structure of Korean or Japanese, exhibiting their canonical OV order.<sup>2</sup> *The in spill the beans* was kept both in OV and VO orders.

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<sup>2</sup>One exception was the phrase *spill the beans*, where the determiner is indispensable in order for the phrase to deliver its idiomatic reading, 'to reveal a secret': there is no grammatical constraint imposed on the presence of the determiner in *spill the beans*; a plural noun can occur without an article in English. Thus, while the phrase *spill beans* is grammatical, it does not denote the idiomatic interpretation that is obtained from *spill the beans*. Thus, the definite article

## 2 Experiment

Besides determiners, English-type pronominal possessors also do not exist in either Korean or Japanese. Instead, a possessive pronoun is expressed as a phrasal form in which a personal pronoun or a noun takes a genitive suffix realized as *-uy* in Korean and *-no* in Japanese, respectively. Thus, English-type pronominal possessors were also omitted when the code-switched phrase was constructed in OV order. On the other hand, all other noun-modifying elements such as lexical adjectives (i.e., *big* in *a big present*) and quantifiers (i.e. *a few* in *a few brows*) were kept intact in both OV and VO orders of the code-switched sentences.

In Korean and Japanese, the subject is marked with the subject marker (the normative Case), *i* or *ka* in Korean and *ga* in Japanese, and the object is indicated with the object marker (the accusative Case), *-(l)ul* in Korean and *-o* in Japanese.<sup>3</sup> Following the grammars of Korean and Japanese, the accusative Case marker, *-(l)ul* in Korean and *-o* in Japanese, was inserted after the object when a code-switched phrase was constructed in OV order, but not in VO order, as exemplified in (1) and (3).<sup>4</sup> It has been noted that overt morphological accusative markers, such as Korean *-(l)ul* and Japanese *-o*, may be used as focus particles, hence the presence of the overt accusative marker on the object in OV order, but not in VO order, may cause the participants to choose the focused element in OV order. However, the results showed that VO order was strongly preferred over OV order in certain contexts, despite the systematic presence of the accusative marker. This suggests that the presence of the overt accusative marker in the code-switched phrase in OV order does not seem to lead to a word order bias towards OV in Korean-English and Japanese-English CS.

All the materials were voice-recorded by a fluent Korean-English bilingual speaker (for the Korean-English CS task) and a Japanese-English bilingual speaker (for the Japanese-English CS task).

### 2.1.3 Procedure

The experiment was conducted via a Power Point slide show. At the beginning of the experiment, participants received instructions for the task before the trial began. The trial session included 6 practice questions (out of 10 in total) in order for the participants to familiarize themselves with the task. After half of the test items were presented, the participants were encouraged, but not forced, to take a five-minute break. The experiment either continued or resumed, depending on

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<sup>3</sup>These case markers may be dropped in colloquial speech.

<sup>4</sup>Korean-English and Japanese-English CS data in the literature show that the accusative case marker appears only in the OV order, but not in VO order. Case and case markers will be discussed further in Chapter 6

the needs of each participant. After the break, 4 additional practice items were presented prior to the rest of test materials, allowing the participants to recover their own performance pace after taking a short break. However, participants were not told which were practice items and which were test items.

As described earlier, each question consisted of three subparts framed in two frames; the short scenario introduction (Frame 1) and the interpretation-supporting cartoon and the code-switched pair of utterances (Frame 2). The participants heard each utterance only once, and the pace of the experiment was pre-programmed by the investigator. The duration of each and all frames was preset, and the transition from Frame 1 to 2 was automatic. However, the transition from one question to another (Frame 2 to next Frame 1) was fully controlled by the participants, allowing them to take as much time as needed for answering each question. The next question began only when the participant clicked the mouse.

A separate answer sheet was provided, consisting of an abbreviated version of the scenario, a reduced size of the cartoon, and two checkboxes numbered 1 and 2, corresponding to each code-switched sentence the participant heard. No time limit was imposed on the task, and the participants, on average, took 30 minutes to complete the experiment.

### 2.1.4 Participants

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 acquisition of Korean and English were 0.9 and 4.6 years old, respectively. The onset of learning Japanese and that of English were 0 and 5.3 years old, respectively.

Initially 34 Korean-English and 12 Japanese-English bilingual speakers in total participated in the experiment, but six Korean-English and four Japanese-English participants were excluded from the data analysis after three screening procedures. First, four Korean-English and two Japanese-English bilingual participants were excluded because the information provided in the language history questionnaire revealed that they had begun learning one of their two languages, either English or Korean/Japanese, after the age of 12, suggesting they were not early bilinguals, the target population that is the focus of this study. The rationale for including only early bilingual speakers was based on the fact that code-switching is a property of highly proficient bilinguals, and the delayed acquisition of one of their languages indicates that the speaker may have not reached native or near-native proficiency for one of the languages they speak.

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Second, one Korean-English bilingual speaker was excluded due to the high error rate in her performance (25%) in filler type I, where she chose OV rather than VO as the natural order of a full English sentence, in 4 out of 16 trials. It turned out that this participant also failed to meet the criteria for inclusion based on the information given in the language history questionnaire. In addition, two Korean-English and two Japanese-English bilingual participants were excluded because they exhibited a strongly biased word order preference for the code-switched sentences, either OV or VO, regardless of item types. Except for one Korean-English bilingual who chose OV order in 77% of his trials, the other three participants who were excluded selected VO order predominantly, in 79% to 95% of their responses. Excluding these four participants, the average distribution of VO vs OV word order preference of the 28 Korean-English and 8 Japanese-English bilingual speakers in the study was 47.4% vs 52.6% and 56.7% vs 43.3%, respectively.

In sum, three Korean-English bilinguals and two Japanese-English bilinguals who took Version A of the experiment, and three Korean-English bilinguals and two Japanese-English bilinguals who took Version B of the experiment were excluded from subsequent data analysis.

### 2.1.5 Results

#### 2.1.5.1 Korean-English code-switching

Figure 2.1 graphically shows the percentage of VO order preference by Verb Type (heavy vs light) and Interpretation (literal vs non-literal) 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 ( $F_1(1,26) = 25.49, p < .001$ ;  $F_2(1,28) = 3.07, .05 < p < .10$ ). 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% ( $F_1(1,26) = 25.49, p < .001$ ;  $F_2(1,28) = 52.35, p < .001$ ). These results replicate the previous findings in Shim (2011) that both verb types and interpretations play a role in OV-VO variation in CS. In addition, an interaction between Verb Type and Interpretation was found ( $F_1(1,26) = 8.95, p < .01$ ;  $F_2(1,28) = 5.36, p < .05$ ).<sup>5</sup>

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<sup>5</sup>The source of the interaction between Verb Type and Interpretation is not clear. It could be a ceiling effect of the test, revealing that the percentages of VO preference have reached maximum points in non-literal interpretations for both heavy and light verbs. Alternatively, the interaction could be explained by the fact that not all verbs in Chapter 1 (28), which were ini-

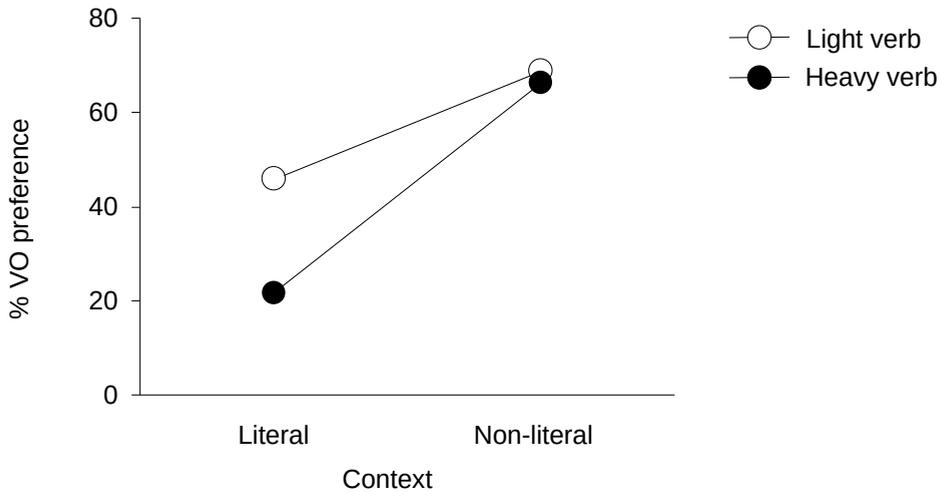


Figure 2.1: %VO preference by Verb Type and Interpretation

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% ( $F_1(1,26) = 86.73, p < .001$ ;  $F_2(1,14) = 41.88, p < .001$ ). A similar pattern 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% ( $F_1(1,26) = 25.21, p < .001$ ;  $F_2(1,14) = 13.29, p < .005$ ). The difference between heavy and light verbs was also found in light verb constructions, presented in Figure 2.2.

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 ( $F_1(1,26) = 29.10, p < .001$ ;  $F_2(1,14) = 6.51, p < .025$ ).

With the filler materials including heavy vs light uses of verbs, the preferred word order seemed to differ by the heavy use of the verb and the light use of the verb (54.5% VO vs 41.1% VO). However, this result was not statistically confirmed due to low item power ( $F_1(1,26) = 5.70, p < .025$ ;  $F_2(1,6) = 1.43, p > .25$ ). With

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tially categorized as English light verbs in this study, behave the same way as the analyses of individual items reveal that a subset of these verbs (e.g. *hold*) or their uses follow the pattern of heavy verbs with respect to word order preference in Korean-English and Japanese-English CS data, showing that OV was strongly preferred. Thus, an inclusion of heavy verbs or heavy uses of light verbs in the group of light verbs may have resulted in a lower percentage of VO preference, as observed in the interaction between heavy and light verbs in non-literal interpretations. A detailed discussion of individual light verbs in English will follow in §5.7.

## 2 Experiment

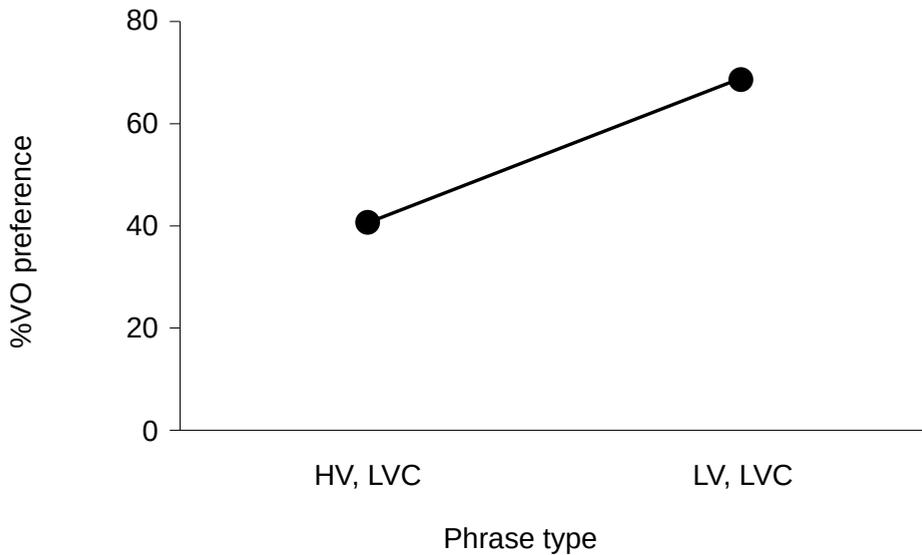


Figure 2.2: %VO preference by Verb Type and Construction

the filler materials with direct object vs indirect objects, the difference of preferred word order was smaller between the verb with the direct object (e.g. *pay the gas bill*) and the verb with the indirect object (e.g. *pay the gardener*), exhibiting 20.5% VO and 27.7% VO occurrence, respectively. Thus, the prediction that the case mismatch found in the triadic verb with the indirect object between English (accusative case) and Korean (dative case) would result in VO order was not borne out. However, it was not confirmed at a statistically significant level either, again due to the low number of items included in the experiment ( $F_1(1,26)=1.30$ ,  $p>.25$ ;  $F_2<1$ ).

### 2.1.5.2 Japanese-English code-switching

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, a clearly emerging pattern was found between Korean-English and Japanese-English CS, which is illustrated in Figure 2.3.

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 (e.g. heavy verb (HV), Lit vs.

## 2.2 Syntactic flexibility judgment task

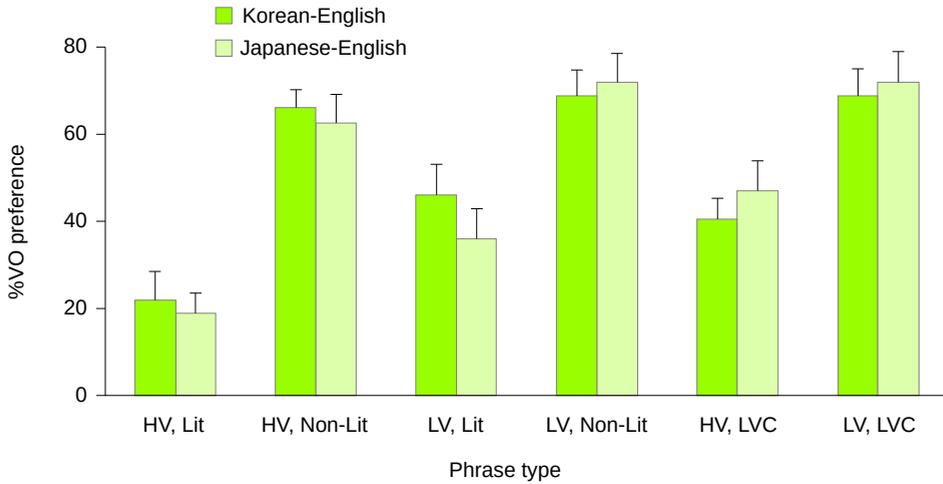


Figure 2.3: %VO preference, overall, as a function of Phrase Type and Speaker Group

LV, Lit and HV, LVC vs. LV, LVC), while this difference disappeared in non-literal interpretations, in which VO order was strongly preferred regardless of verb type (e.g. HV, Non-Lit and LV, Non-Lit).

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 CS: while light verbs lead to VO order, heavy verbs derive OV order. Yet, this difference was only observed in the VPs with literal interpretations and in light verb constructions, not in non-literal or idiomatic interpretations, to which I will return in Chapter 5.

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.

## 2.2 Syntactic flexibility judgment task

The results from the CS judgment task showed that the distinction between heavy and light verbs did not make a difference in non-literal interpretations, both of which were strongly preferred in VO order in Korean-English and Japanese-English CS. Yet, a microscopic analysis of each code-switched phrase in non-literal or idiomatic interpretations revealed that variation still exists among them,

## 2 Experiment

suggesting that not all idioms behave the same way. Under the assumption that the internal argument of the syntactically flexible phrase is subject to CS, while the internal argument of the less flexible or inflexible phrase may not undergo CS, a 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.

### 2.2.1 Materials and methods

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 HVs, non-literal and 16 LVs, 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 displayed in (5).

- (5) 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?

In addition, 32 filler items were added, consisting of a light verb construction with 16 heavy verbs and 16 light verbs from the CS judgment task. The filler items were also inserted in an appropriate sentential context and syntactically manipulated with passivization, relativization, and *wh*-movement, similar to critical materials.

### 2.2.2 Procedure

The experiment was a self-paced pencil-and-paper task. On the first page of the questionnaire, given in (6), participants were instructed to read each sentence and judge to what extent the meaning associated with the underscored phrase was available in the following two or three sentences, using a 4-point Likert scale.

- (6) In this task, sentences are presented in groups. Within each group, the first sentence is the “standard”, and it contains an underscored expression. Two or

## 2.2 Syntactic flexibility judgment task

three further sentences in the group use something similar to that expression, but in slightly varied forms. Your task is to decide whether *the meaning of the underscored expression* in the standard sentence remains available in the sentences that follow.

To give your opinion, please choose the best-fitting value on the scale below. Value 1 is used to say that the expression's meaning is no longer available at all, and Value 4 to say that exactly the original meaning remains available. Values 2 and 3 are used for intermediate judgments.

Meaning not available				Same meaning, exactly
1	2	3		4
Let's practice a few questions first.				
1. Can you <u>get a suntan</u> through a glass window?			<b>1</b>	<b>2</b>
a. That's a great suntan that you've got through a glass window!			<input type="checkbox"/>	<input type="checkbox"/>
b. How much of a suntan can you get through a glass window?			<input type="checkbox"/>	<input type="checkbox"/>
2. The company <u>made a request</u> for the workers to return to their jobs immediately.			<b>1</b>	<b>2</b>
a. A request was made for the workers to return to their jobs immediately.			<input type="checkbox"/>	<input type="checkbox"/>
b. The request the company made to the workers is their immediate return to their jobs.			<input type="checkbox"/>	<input type="checkbox"/>
c. What request did the company make of the workers?			<input type="checkbox"/>	<input type="checkbox"/>

After participants read the written instructions and tried the first two practice items, they were offered a verbal clarification of the instructions from the investigator before the experiment began. The participants were allowed to take a break whenever needed, but no one took a break.

### 2.2.3 Participants

The same 28 Korean-English and 8 Japanese-English bilinguals whose data were analyzed for the CS judgment task were also included for the data analysis of this task. In addition, 7 monolingual English speakers (age range 23–57; mean age 32.6; 3 female) participated as a control group. The results from the bilingual speakers were compared to those obtained from the monolingual native speakers of English. On average, participants finished the task in 60 minutes.

### 2.2.4 Results and discussion

Figure 2.4 shows the mean syntactic flexibility scores for different types of code-switched phrases by Speaker group.

The results showed that the idioms (heavy verb, non-literal interpretation and light verb, non-literal interpretation) were judged less syntactically flexible than the non-idiomatic expressions (heavy verb, light verb constructions and light

## 2 Experiment

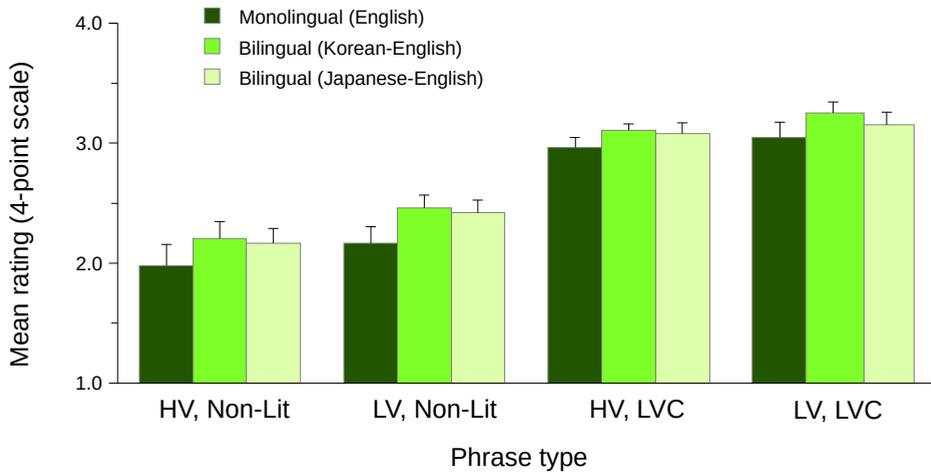


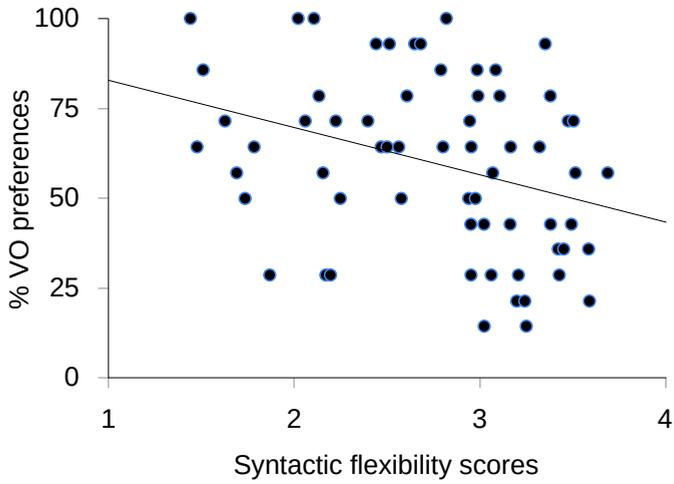
Figure 2.4: Mean syntactic flexibility rating, overall, as a function of Phrase Type and Speaker Group. ‘Overall’ rating collapses individually scored passivization, relativization, and *wh*-question formation tests.

verb, light verb constructions) by all three speaker groups, as predicted. The minor difference between the English monolingual group and the Korean-English and Japanese-English bilingual groups was that the scores for flexibility assigned by the two bilingual groups were slightly higher than those assigned by the monolingual group, regardless of phrase type.

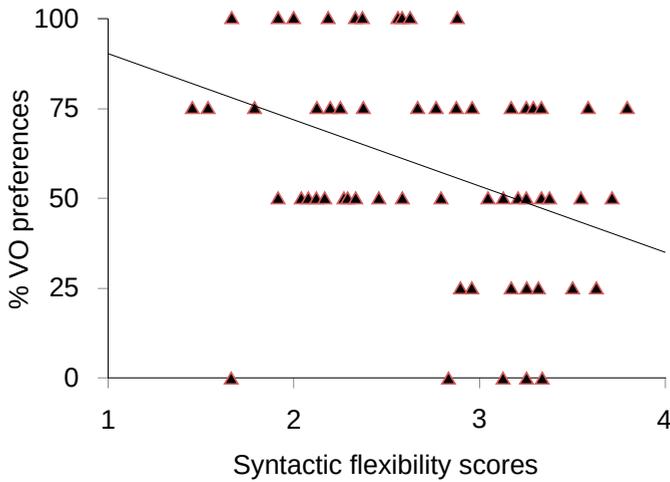
To see whether syntactic flexibility plays a role in deriving word order in CS, the results obtained from the Korean-English and Japanese-English bilingual speakers in the syntactic flexibility judgment task was compared to the results from the CS judgment task, illustrated in Figure 2.5 below.

Figure 2.5 shows that the more flexible the phrase was judged, the less it was favored in VO order in CS in both Korean-English and Japanese-English 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.

2.2 Syntactic flexibility judgment task



(a) Korean-English bilinguals



(b) Japanese-English bilinguals

Figure 2.5: Percentages of VO order preference predicted by syntactic flexibility scores assigned by Korean-English and Japanese-English bilingual speakers

## 2 Experiment

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 variation in CS, leading to OV and VO, respectively. This can be further corroborated by the argument that while the internal argument of a syntactically flexible phrase is subject to CS, a syntactically inflexible phrase is frozen and undergoes CS as a unit. Hence, the internal order of the phrase is maintained throughout the derivation.

However, the correlation between the preferred word order and the syntactic flexibility of a code-switched phrase was found to be rather weak in both groups ( $r = -.033$  for Korean-English bilinguals and  $r = -.038$  for Japanese-English bilinguals), revealing that there is a variation among idiomatic phrases.<sup>6</sup> The weak correlation between the syntactic flexibility of the code-switched phrase and word order variation found in Korean-English and Japanese-English CS may be accounted for by the fact that the three syntactic operations that were involved in the present task, passivization, relative clause formation, and *wh*-question formation, may not be directly related to the syntactic phenomenon that derives OV-VO variation under the assumption that OV is derived from VO via object shift. Although it is true that the results from passivization, relative clause formation, and *wh*-question formation revealed different degrees of syntactic flexibility of the code-switched phrases, the nature of these three syntactic operations is different from that of object shift leading to OV-VO variation in CS, summarized in (7).

- (7)
- a. Object shift is object movement caused by the EPP property on  $v$ <sup>7</sup>  
 $[_{vP} OBJ_i \ v [_{VP} V \ t_i]]$
  - b. Passivization is due to Case: the underlying object is assigned the nominative Case from T, which is specified for EPP  
 $[_{TP} OBJ_i \ T [_{vP} v [_{VP} V \ t_i]]]$
  - c. (Object) Relativization is a syntactic dependency between the head noun in the matrix clause and the gap in the embedded clause (no movement involved)  
 $\dots \text{head noun}_i \ \dots \ [_{CP} C [_{TP} T [_{vP} v [_{VP} V \ \text{gap}_i]]]]]$
  - d. (Object) *Wh*-question is movement caused by a *Wh*-feature on C, which is specified for EPP  
 $[_{CP} OBJ_i \ C [_{TP} T [_{vP} v [_{VP} V \ t_i]]]]]$

<sup>6</sup>An item-based analysis is provided in Chapter 5.

<sup>7</sup>In Chapter 3, it will be argued that the object moves to Spec, ASPP, not Spec,  $vP$ , which does not concern us here. The assumption that the EPP property on  $v$  derives object movement, resulting in OV, will remain constant regardless of the object landing site.

We see in (7) that neither relativization nor *wh*-movement have the same driving force as object shift, whereas syntactic procedures for object shift and passivization appear to be similar; the object raises to a specifier of a functional head, such as *v* and T respectively, due to the EPP specification on the functional head.<sup>8</sup> Yet, there are additional properties present in passive constructions cross-linguistically, which is distinguished from object shift. In an active sentence, the external argument of the verb serves as the grammatical subject of the sentence and gets the nominative Case, whereas the internal argument appears in the object position of the verb and gets the accusative Case. In a passive sentence, on the other hand, the internal argument of the verb becomes the grammatical subject of the sentence, which is assigned the nominative Case, and the external argument of the verb is not projected as an argument but may be realized as an adjunct phrase, such as the *by*-phrase in English and the dative phrase in Korean and Japanese. Most importantly, the demotion of the external argument, coupled with the accusative case absorption, brings about valency decrease, which is reflected in a morphological change in the verb. Examples are provided in (8).<sup>9</sup>

- (8) a. Bibi kicked the dog.  
 a.' The dog was kicked by Bibi.
- b. Bibi-ka kay-lul cha-ss-ta Korean  
 Bibi-NOM dog-ACC kick-PAST-DECL  
 'Bibi kicked the dog.'
- b.' kay-ka Bibi-eykey chai-i-ess-ta  
 dog-NOM Bibi-DAT kick-PASS-PAST-DECL  
 'The dog was kicked by Bibi.'
- c. Bibi-ga inu-o ker-ta Japanese  
 Bibi-NOM dog-ACC kick-PAST  
 'Bibi kicked the dog.'
- c.' inu-ga Bibi-ni ker-are-ta  
 dog-NOM Bibi-DAT kick-PASS-PAST  
 'The dog was kicked by Bibi.'

In this regard, the passive construction differs from object shift: while both constructions involve object raising, the passive construction involves a valency-reducing operation on the verb in addition. It is likely that the valency-changing

<sup>8</sup>As will be discussed in Chapter 3, the EPP property T is not intrinsic to T but is inherited from C via feature inheritance.

<sup>9</sup>Both Korean and Japanese passive constructions are analyzed as a causative construction with an experiencer-reading in Shim (2008) and Shim & Nakajima (2012).

## 2 Experiment

morphological operation involved in passivization is subject to restrictions that constrain the applicability of passive *beyond* the restrictions imposed by DP/object raising *per se*. For that reason, it is to be expected that object shift and passives will not have identical distributions.

Hence, from the fact that none of the three syntactic procedures included in the syntactic flexibility task of the present study, passivization, relativization and *wh*-questions, involve the exactly same syntactic process as object shift, which is the source of OV-VO variation in CS, it is perhaps not surprising that there is no strong correlation between the syntactic flexibility of the code-switched phrase based on the results from these operations and word order patterns obtained in the CS judgment task.

### 2.3 Idiom familiarity task

The test items of the CS judgment task included a number of idiomatic expressions, thus an idiom familiarity task was designed to measure the bilingual participants' familiarity with English idioms included in the CS judgment task and the syntactic flexibility judgment task.

#### 2.3.1 Materials and methods

A total of 32 VP idioms that were included in in the CS judgment task and the syntactic flexibility judgment task were used in this task. In the syntactic flexibility task, each idiom was inserted in an appropriate sentential context and used as an input sentence. These sentences continued to serve as the test items of the present task. Since the idiom familiarity task was originally designed to be used as a screening tool, no additional filler materials were added.

#### 2.3.2 Procedure

The experiment was a self-paced pencil-and-paper task. Each idiom was incorporated in a sentence and underscored. Participants were asked to read each sentence and write down the meaning of the underscored phrase of the sentence in their own words. To prevent the two judgment tasks (i.e. CS and syntactic flexibility) from being affected by lexical and contextual redundancy, the idiom familiarity task was administered *after* the participants completed the two judgment tasks.

### 2.3.3 Participants

The same group of Korean-English and Japanese-English bilinguals, and native speakers of English that participated in the syntactic flexibility task continued to participate in the idiomatic familiarity task. No time limit was imposed on the task, and the participants, on average, took 30 minutes or less to finish it.

### 2.3.4 Results and discussion

All responses provided by the participants were sorted into five categories: (a) a correct description or interpretation of the phrase; (b) no response; (c) a wrong interpretation of the phrase; (d) a literal interpretation of the phrase; and (e) an approximate description of the phrase, yet not correct. For each speaker group, a correct answer response rate was calculated based only on (a) a correct description/interpretation of the phrase, among the answer types.

Overall, the percentages of correct answers provided by the English monolingual, Korean-English bilingual and Japanese-English bilingual speakers were 95%, 84%, and 85% respectively, indicating that the two bilingual groups were slightly *less* familiar with English idioms than the monolingual native speakers of English. However, such a difference between the monolingual and the bilingual speakers was limited to the idioms involving heavy verbs, especially only those in which the usual meaning of a lexical verb is not available at all in the idiomatic phrase. Figure 2.6 shows the correct response rate by Phrase Type and Speaker Group.

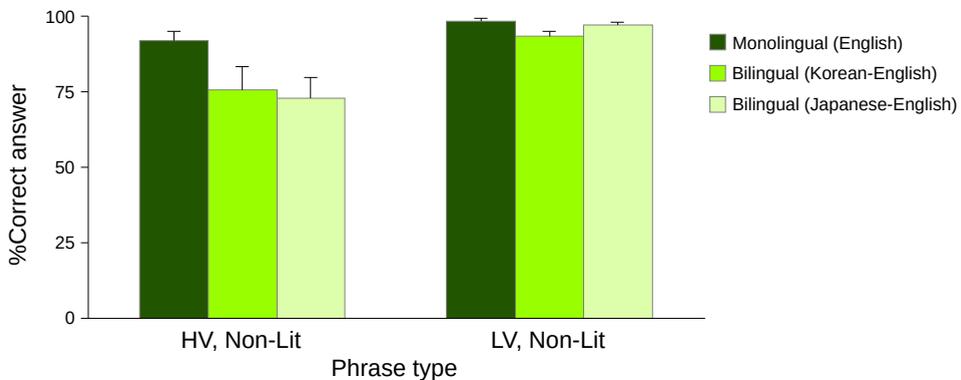


Figure 2.6: Percentages of correct answers by Phrase Type and Speaker Group

## 2 Experiment

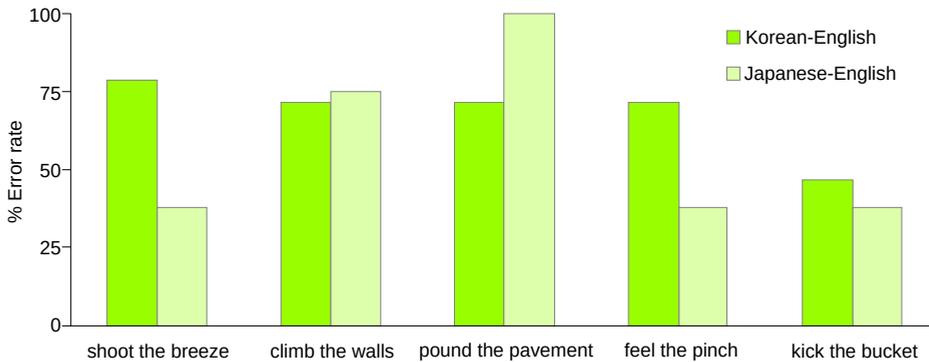


Figure 2.7: Idioms with the highest error rates obtained from the bilingual speakers

Figure 2.7 lists five idiomatic phrases that were most frequently interpreted incorrectly by the Korean-English and Japanese-English bilingual speakers. Among them, the idiom *pound the pavement* ‘to look for a job’ was interpreted literally in its aspectual sense by the majority of Korean-English and Japanese-English bilingual speakers, such as ‘to do something repeatedly’, which preserved the aspectual meaning of the verb, iterativeness. Interestingly, *pound the pavement* was strongly preferred in OV order in the CS judgment task, suggesting the possibility that the emergence of an aspectually literal meaning leads to OV order, parallel to the predominant OV order with a heavy verb in literal interpretations.

However, other idioms interpreted close to their literal meaning do not exhibit a similar pattern as *pound the pavement*. Two idioms *shoot the breeze* ‘to talk aimlessly’ and *climb the walls* ‘to be anxious or frantic’ were interpreted close to their literal sense by some speakers, such as ‘to feel the breeze’ and ‘to promote’, respectively. Nonetheless, they were both favored in VO order in both Korean-English and Japanese-English CS. Thus, it seems that the unexpected order of the idiom *pound the pavement* was not related to the failure of its idiomatic reading.

## 2.4 Chapter summary and conclusion

This chapter presented an experimental study to investigate how OV and VO orders are systematically distributed in Korean-English and Japanese-English CS. Based on the findings of a previous pilot study (Shim 2011), (i) the status of the verb, heavy vs light, within a code-switched constituent and (ii) the syntactic flexibility of a code-switched phrase were identified as two factors that seemed to be

## *2.4 Chapter summary and conclusion*

related to the distribution of OV and VO orders in Korean-English and Japanese-English CS, which were further investigated in the present study.

The pattern of the results found in the CS judgment task and the syntactic flexibility judgment task from 28 Korean-English and 8 Japanese-English bilingual speakers provided supporting evidence that OV-VO variation in Korean-English and Japanese-English CS is related to the above-mentioned two factors. Overall, VO order was preferred when the verb is light and also with idioms, which were judged syntactically less flexible. On the other hand, OV order was favored with a heavy/lexical verb and when the code-switched phrase was non-idiomatic and syntactically flexible.

The results obtained from the CS judgment task will be further explained in Chapter 5 where OV-VO variation in Korean-English and Japanese-English CS will be accounted for against the minimalist framework, especially the feature inheritance mechanism, which will be discussed in the next two chapters.



## 3 Word order

This chapter reviews different accounts of word order which have been proposed in the Principles and Parameters (P&P) framework. In the P&P approach, linguistic universals or common structural features that are found across languages are explained by a set of finite *principles*. On the other hand, linguistic variation can be explained by different parameters, with which a particular language is set. The ultimate goal in the P&P framework is to find such principles and parameters that are unique to human language.

As explained in Chapter 1, the universal approach to CS is advocated in this monograph, which views that both monolingual and bilingual grammars are subject to the same grammatical principles. Thus, an account of OV-VO variation in CS will be also based on existing theories and proposals on OV and VO orders in the linguistics literatures.

To begin with, I provide a brief overview of different approaches to word order in the P&P theory and support a derivational approach proposed by Kayne (1994), who argues that both OV and VO orders share the same underlying VO order and OV order is derived from VO via object movement. This idea will be taken up to describe OV order in Korean and Japanese in contrast with VO order of English, and OV-VO contrast between Korean/Japanese and English is argued to be due to different feature specifications on the functional category *v*: while *v* in Korean and Japanese is specified for EPP, which triggers object movement, *v* in English lacks EPP. Also I propose that the Korean light verb *ha* and Japanese light verb *su* represent the functional category *v*, but English-type light verbs characterize another functional category, Asp(ect), which is projected between *v* and V. The intricate interplay between *v* and Asp will be explained further in the feature inheritance system in Chapter 4.

### 3.1 Non-derivational approach

In early generative grammar, word order was stipulated according to phrase structure rules. With the advent of the notion of *parameters* (Chomsky 1976), which may vary from one language to another, it was assumed that languages

### 3 Word order

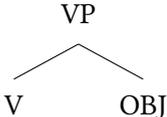
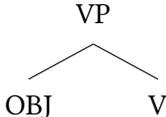
were parameterized according to the directionality of a head: heads may precede or follow its complement (e.g. Chomsky 1981, Stowell 1981). In English, for instance, all heads normally precede their complements, as exhibited in (1).

- (1) a. close the door  
b. on the table  
c. an argument with Bibi  
d. curious about Bibi

The verbal head *close* precedes its complement *the door* in (1a), the prepositional head *on* precedes its complement *the table* in (1b), the nominal head *argument* precedes its complement *with Bibi* in (1c), and the adjectival head *curious* precedes its complement *about Bibi* in (1d). Contrary to the *head-initial* structure in English, Korean shows *head-final* structure, in which all heads uniformly follow their complements and reflect a mirror image of English word order. Korean counterparts to the examples in (1) are provided in (2).

- (2) a. mwun-ul tat-ala  
door-ACC close-IMP  
'close the door'  
b. takca (wi)-ey  
table top-LOC  
'on the table'  
c. Bibi wa-(uy) encayng  
Bibi with-GEN argument  
'an argument with Bibi'  
d. Bibi eytayhay kwungkumha-ta  
Bibi about curious-DECL  
'curious about Bibi'

Under the head parameter approach, the VO sequence reflects head-initial structure where the verbal head precedes its complement/direct object. The OV order, on the contrary, exhibits head-final structure where the verbal head follows its complement. (3a) and (3b) represent the syntactic structure of VO and OV, respectively.

- (3) a.  b. 

In a given language, heads may consistently occur either in the initial position or in the final position within a phrase, regardless of their category, as in English and Korean/Japanese, respectively.<sup>1</sup> However, the positioning of a head may also vary with respect to its complement. For instance, in Chinese, the verbal head precedes its complement, but the nominal head follows its complement (Huang 1982). Similarly, in Dutch and German, verbs canonically follow their complements, but other heads are arguably positioned before their complements in their canonical order (Koster 1975).

One may argue that this is due to the fact that the directionality parameter can be set differently for different heads: in Chinese, for example, the verbal head has the head-initial setting of the parameter, but the nominal head is equipped with the head-final setting. Although the (category-specific) head parameter approach may be descriptively adequate to explain various word order patterns found within a language as well as across languages, it is still problematic. As Dryer (1992) notes, “disharmonic” systems or languages exhibiting a mix of head-initial and head-final orders in fact outnumber harmonic ones or languages with a more rigid word order in the world, thus it raises questions regarding the role of parameter setting in these languages and across languages.

While Dryer’s criticism is concerned with the surface order parameterized by the head parameter, which does not seem to be uniform, the head directionality parameter was identified either as a surface structure condition or a deep structure condition in the Government and Binding theory. At the surface structure level, the directionality parameter was stated over Case assignment. For instance, Koopman (1984) and Travis (1984) argue that Case assignment is directional, which is parameterized differently from language to language. At the deep structure, the directionality parameter was formulated in terms of the directionality of government (Kayne 1983) or theta-role assignment (Koopman 1984; Travis 1984), which was considered to be parameterizable at that time. Under these views, the head-initial vs head-final structure in (3a) and (3b) can be restated that the verbal head governs/Case-assigns/theta-role assigns the object to the right in the former and to the left in the latter, which is subject to parametric variation.

Whether the head directionality is parameterized at the surface structure or the deep structure, such parameterization cannot be sustained in modern syntactic frameworks such as minimalist syntax (Epstein et al. 1996). With the introduction of the Minimalist Program, the notion of government, which played an essential role in Government and Binding theory, has been abolished, thus

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<sup>1</sup>Japanese also exhibits head-final structure, similar to Korean.

the directionality of government is no longer expressible. In addition, Case is no longer viewed to be assigned by a head, but is restated as feature matching between a probe (a functional head) and a goal. Most importantly, the notion of parameters was restricted by Borer (1984) to “the idiosyncratic properties of lexical items” where lexical items are equivalent to grammatical elements such as inflection. This idea was endorsed by Chomsky in the Minimalist Program, which Baker (2008) calls *The Borer-Chomsky Conjecture* (4).

#### (4) The Borer-Chomsky Conjecture

All parameters of variation are attributable to differences in the features of particular items (e.g. the functional heads) in the lexicon.

In other words, parametric variation is confined to morphosyntactic features of functional categories. As a result, the directionality parameter cannot be stated over theta-role assignment either, since theta-roles are assigned by lexical categories and the old head parameter has been modified by setting parameters on functional heads rather than lexical heads. As we will see in subsequent chapters, the Borer-Chomsky Conjecture in (4) will be one of the most important theoretical notions that are adopted in this monograph to explain OV-VO variation across languages as well as in CS.

## 3.2 Derivational approach

With the postulation of deep structure vs surface structure in generative linguistics, linguists started to postulate the possibility to derive surface structure from its deep structure via transformations in order to explain various sentence types. Bach (1962) proposed the VO order of German is derived from OV via a transformation. This suggests that OV and VO orders may share the same underlying structure, which is in this case OV. Bach (1968) extended this idea and proposed the Universal Base Hypothesis, which states that all languages have identical deep structures and surface structures are derived via language-specific transformation. Such a transformational approach can explain unexpected/exceptional word orders besides the orders of cross-linguistic tendencies, which the head parameter approach fails to describe: “Languages are consistent at Deep Structure in having head-initial or head-final characteristics, but transformations may give rise to surface inconsistencies” (Svenonius 2000: 4).

However, due to poor understanding of the exact nature of the so-called language-specific transformations (e.g. What triggers transformations? What constrains them?), the Universal Base Hypothesis faced criticism and was not in vogue for a long time. Yet, transformational grammar has become considerably

more restrictive and principled over the years, and the idea that all languages have the same underlying structure has been revived, especially with the advent of the Minimalist Program.

Researchers who adopt a derivational approach to deriving OV vs VO order are roughly divided into two groups; one who argues that OV is derived from VO (e.g. Kayne 1994) and another who argues that VO is derived from OV (e.g. Haider 1992). There are also a small number of scholars who also take an intermediary position between these two competing views, claiming that surface word order can be base-generated, as the head parameter approach suggests, or one order can be derived from the other (e.g. Vicente 2004). However, as discussed earlier, the head parameter approach is no longer formulable on minimalist assumptions due to the fact that it has lost its theoretical foundations, and the hybrid approach combining the head parameter approach and the derivational approach does not provide any substantial advantage over a pure derivational approach. Thus, I will not discuss the hybrid approach here and will review the two competing views on deriving OV and VO order in the following sub-sections, namely (i) OV is derived from VO and (ii) VO is derived from OV.

### 3.2.1 OV is derived from VO

In his seminal work, *The Antisymmetry of Syntax*, Kayne (1994) proposes, among other things, that the sequence of Specifier-Head-Complement is the universal order in all languages, which is imposed by Universal Grammar (UG). He argues that:

If UG unfailingly imposes s-H-c order, there cannot be any directionality parameter in the standard sense of the term. The difference between so-called head-initial languages and so-called head-final languages cannot be due to a parametric setting whereby complement positions in the latter type precede their associated heads. Instead, we must think of word order variation in terms of different combinations of movements.

(Kayne 1994: 47)

According to Kayne, UG only allows the (Spec)-Head-Complement sequence underlyingly, and the surface Complement-Head order must be derived from it. This proposal is part and parcel of his Linear Correspondence Axiom (LCA), which states that asymmetric c-command invariably maps into linear precedence, and word order is determined by hierarchical syntactic structure. Kayne further argues that surface OV order is derived from its underlying VO structure via object movement; the object raises to the left of the position where the verb ends

### 3 Word order

up (1994: 48). He does not specify where exactly the object raises in the structure, but it is argued to move leftward past the verbal head into some specifier position. On this view, languages exhibiting either OV or VO as their canonical word order have the universal VO structure underlyingly, and OV languages (e.g. Korean, Japanese) invariably involve object movement to a position to the left of the verb (Kayne 2003).

However, researchers note that the object may also move from its base position in VO languages. In Scandinavian languages, for instance, objects can move clause-internally to a position outside VP, which is referred to as *object shift* (Holmberg 1986). The relevant examples are provided in (5) and (6) below.

- |     |   |           |
|-----|---|-----------|
| (5) | nemandinn las ekki bókina                             | Icelandic |
|     | studenten læste ikke bogen                            | Danish    |
|     | naemingurin las ikki bókina                           | Faroese   |
|     | studenten läste inte boken                            | Swedish   |
|     | student-the read not book-the                         |           |
|     | ‘The student didn’t read the book.’                   |           |
| (6) | nemandinn las hana <sub>i</sub> ekki t <sub>i</sub>   | Icelandic |
|     | studenten læste den <sub>i</sub> ikke t <sub>i</sub>  | Danish    |
|     | naemingurin las hana <sub>i</sub> ikki t <sub>i</sub> | Faroese   |
|     | studenten läste den <sub>i</sub> inte t <sub>i</sub>  | Swedish   |
|     | student-the read it not                               |           |

‘The student didn’t read the book.’ adopted from Thráinsson (1996)

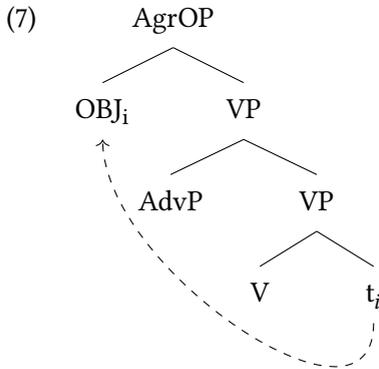
In (5) the full NP object follows the verb and negation.<sup>2</sup> But when the object is realized as an unstressed definite pronoun as in (6), it precedes negation (and adverbs) but follows the subject and the verb. It is generally agreed in the literature that the pronominal object in (6) has moved out of its base position into a position outside the VP along with verb movement, and the landing site of the shifted object is argued to be Spec, AgrOP, a specifier position of a functional projection outside the VP (Deprez 1988; Jonas & Bobaljik 1993; Ferguson 1996; Thráinsson 1996).<sup>3</sup>

<sup>2</sup>The object can appear between the verb and the negation in Icelandic, similar to (5a), whereas this is not possible in the other languages.

<sup>3</sup>Assuming that a sentential adverb or the negation is adjoined to VP, some researchers propose an alternative analysis that the object in object shift constructions in (6) moves to a VP adjoined position, as in (i) (Holmberg 1986; Holmberg & Platzack 1995).

(i) [<sub>VP</sub> OBJ<sub>i</sub> [<sub>VP</sub> AdvP [ V t<sub>i</sub> ]

The derivation in (7) illustrates object shift in VO languages.



In (7) the object moves out of its post-verbal base position, which results in surface OV order in VO languages. Chomsky initially identifies AgrO (Agreement Object) as a functional category that triggers object shift. If the (Case) feature on AgrO is strong, it triggers object shift, resulting in OV order whenever the verb does not raise to a position higher than the landing site of the shifted object. If the (Case) feature of AgrO is weak, the object remains in situ, therefore the underlying VO order surfaces. In other words, the OV-VO distinction results from *overt vs covert* object movement due to the strong vs weak feature on a functional head above VP.

Chomsky argues that syntactic movement is a result of feature checking. Only functional categories could arguably host strong features, thus, a strong feature on a functional head triggers overt movement in the derivation, while weak features of a functional head do not trigger overt syntactic operations, thus movement is covert.<sup>4</sup> According to Chomsky, the term *features* refers to the properties of language that enter into two interface levels, Phonological Form (PF) and Logical Form (LF), and the computational system that generates them (2000: 91).<sup>5</sup>

<sup>4</sup>(Overt) object movement, (overt) object raising, and object shift are used interchangeably in this monograph.

<sup>5</sup>Chomsky adopts Aristotle's view of language as sound with meaning and argues that I(nternal)-language, which is a hierarchically structured expression (syntax), provides instructions to the thought system (or the Conceptual-Intentional system or semantics) and the sound system (or the Articulatory-Perceptual system or phonology). This is often called the Y-model in the field of generative linguistics.

### 3 Word order

The motivation for AgrO (along with AgrS(subject)) was that objects (and subjects) may agree with the finite verb in heavily inflected languages like Xhosa (8a) or Quechua (8b).

- (8) a. u-mama u-ya-wu-phek-a um-ngqsuaho Xhosa  
1a-mother 1a-PRES-3-cook-ASP 3-samp  
'Mother cooks samp.'
- b. *pro* riku-wa-rqa-nki *pro* Quechua  
see-1SG-PAST-2  
'You saw me.' (den Dikken 2016)

Chomsky later replaced AgrO with  $v$  (1995; 1998).<sup>6</sup> In addition, strong vs weak features are formulated in different terms, as is the presence vs the absence of the EPP feature; while a functional category with the EPP feature triggers an overt syntactic operation, a functional category lacking the EPP feature does not do so. The term *EPP* stands for the *Extended Projection Principle*, which originally demanded simply that a clause must have a subject (Chomsky 1982). Since the nineties, generative linguists have extensively subscribed to the view that subjects originate as Specifiers of  $vP$ /VPs (*VP internal subject hypothesis*). Under this view, the EPP requires that the subject that is base-generated at Spec,  $vP$  raises to Spec, tense phrase (TP). Chomsky reformulates the EPP as a morphological property of T with a strong (D-) feature, which forces Spec, TP to be lexicalized by raising an element. The EPP feature was considered as an independent feature on T, triggering syntactic movement of a phrase to its specifier position. However, the application of the EPP feature has been extended, and Chomsky started using the term *EPP feature* to refer the property of a functional head that triggers overt syntactic movement to its specifier position in general.<sup>7</sup>

Although the structure in (7) was originally proposed for object shift in VO languages, we can extend this analysis to OV languages as well, such as Korean and Japanese. Following Kayne's derivational approach that surface OV order is derived from its underlying VO order in OV languages, it is likely that the mechanism that is responsible for object shift in VO languages is similar to, or even quite possibly identical to the mechanism that is responsible for the derivation

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<sup>6</sup>According to Chomsky,  $v$  has two sub-types,  $v$  and  $v^*$ . While  $v$  heads intransitive constructions and does not assign (accusative) Case,  $v^*$  heads transitive constructions and assigns (accusative) Case. Under this view, it is  $v^*$ , not  $v$ , which has a strong feature and triggers object shift. I will not distinguish  $v$  and  $v^*$  in this monograph for the sake of simplicity.

<sup>7</sup>There have been attempts to eliminate the EPP (e.g. Bošković 2002; Grohmann et al. 2000), yet the EPP is widely assumed and in practice in current generative syntax.

of OV order from VO order in OV languages; what is common is that the object leaves its base-generated position and raises to a position higher than the verb both in object shift in VO languages and OV languages. Thus, one can say that the landing site for the derived object proposed for object shift in (7) is also a possible landing site for the moved object for OV languages, which is endorsed by Kayne (2003) and many others.<sup>8</sup> On this assumption, the contrast between OV languages (e.g. Korean and Japanese) and VO languages (e.g. English) can be also explained on the hypothesis that while the EPP feature on *v* triggers object raising in OV languages, in VO languages, the EPP feature is absent on *v*.<sup>9</sup> The tree structures in (9) illustrate overt vs covert object movement, triggered by the [+EPP] vs [-EPP] features on *v*. One cautionary note made here is that ± features indicate the presence and the absence of the features, which does not imply that features are binary.

<sup>8</sup>Ochi (2009), for instance, proposes that the determiner phrase (DP) object overtly raises to Spec, *v*P from its underlying position inside the VP in Japanese.

<sup>9</sup>In all Scandinavian languages, indefinite quantified negative objects move to a pre-verbal position, which Christensen (2004) calls NEG-shift, showing that VO languages may also exhibit OV order on the surface.

- (i) a. \* jeg har faktisk [<sub>NegP</sub> [<sub>vP</sub> set ingenting ] ] ...  
 b. jeg har faktisk [<sub>NegP</sub> ingenting<sub>i</sub> [<sub>vP</sub> set t<sub>i</sub> ] ] ...  
 I have actually nothing seen

...og det har du heller ikke.

...and that have you neither not

Danish

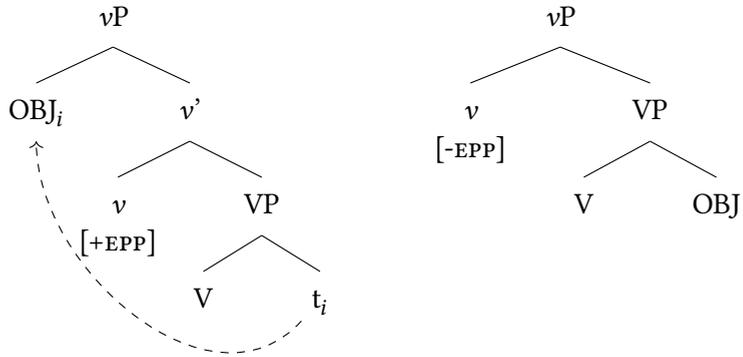
'I haven't actually seen anything and neither have you.' (Christensen 2004: 1, (1))

The fact that VO languages may also exhibit OV order as in Scandinavian languages shown above seems to suggest that the EPP property on *v* may not be entirely absent in all VO languages, especially under the assumption that the mechanisms responsible for object shift in OV languages and VO languages are alike or even identical, as I assumed in this monograph. Under this approach, the key difference of object movement between OV and VO languages is that the object moves along with verb movement in VO languages. However, movement of the bare quantified object in (i) differs from object shift, which depends on verb movement, and the object is generally assumed to move to Spec, NegP (Haegeman 1995; Haegeman & Zanuttini 1991; Jónsson 1996; Kayne 1998; Platzack 1998; Rögnvaldsson 1987; Sells 2000; Svenonius 2002). Christensen (2004) argues that this movement is driven by the EPP of an uninterpretable feature [*u*Quant] on C (more precisely, the Fin head) via Spec, *v*P as an escape hatch. Taking these lines of thought together, it is reasonable to assume that the mechanisms responsible for object shift in OV and VO languages are not identical and the EPP on *v* is absent in VO languages altogether and object shift is triggered by something else in VO languages. I will leave this for future research.

### 3 Word order

(9) a. ov languages

b. vo languages



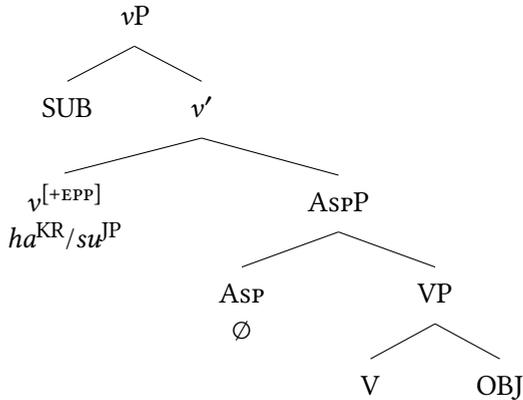
In this monograph, I adopt the original proposal on *v* by Chomsky in the Minimalist Program, in which *v* is regarded as a Case-checking/assigning light verb.<sup>10</sup> I assume that *v* is one of possible functional categories that represent a light verb and besides *v*, other verbal functional categories can or may correspond to light verbs. Also the precise syntax of light verbs differs across languages (Adger 2003; Butt 2003). Based on this, I propose that Korean/Japanese light verbs and English light verbs represent different functional categories in the structure, and their syntax also differs, as described in (10) and (11).

- (10) a. The Korean and Japanese light verbs *ha* and *su* in the [bare verbal noun + *ha/su*] construction lexicalize the functional category *v*.  
 b. In English, *v* is never overtly lexicalized (cf Chomsky 1995: 351). Instead, English light verbs represent a different functional category, ASPECT, which is projected between *v* and V.<sup>11</sup>

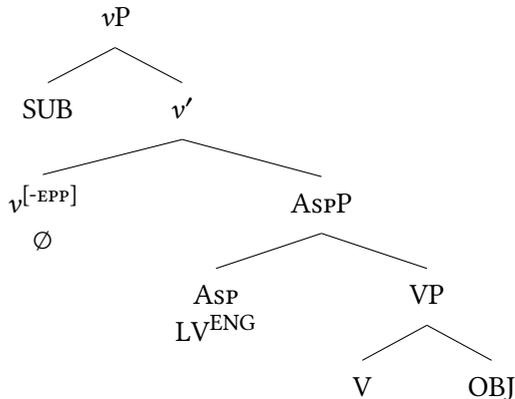
<sup>10</sup>This view is also shared by Hale & Keyser (1993), who consider that light verbs are *i* and lexical verbs are V.

<sup>11</sup>The presence of the functional category ASPECT between *v* and V was also proposed by Richardson (2003) for Russian and by Travis (2000; 2010) as a general VP structure across languages.

(11) a. Korean and Japanese



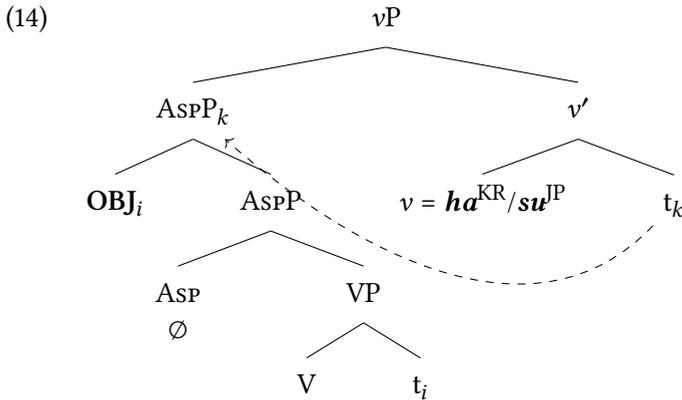
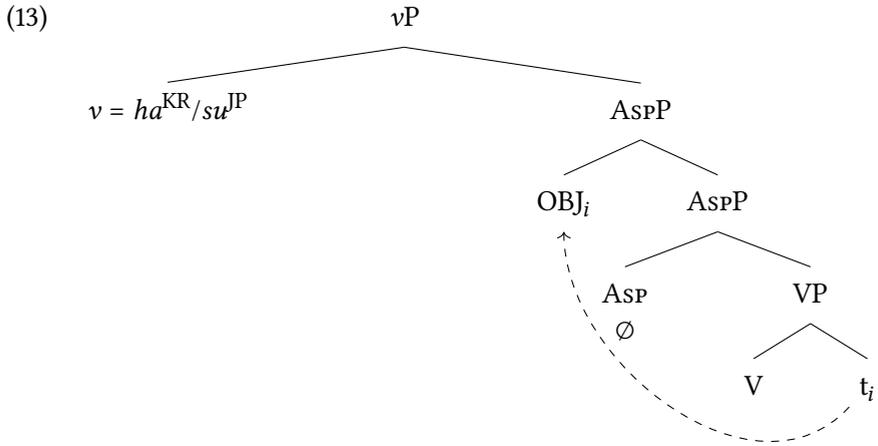
b. English



In (11a) the Korean light verb *ha* and the Japanese light verb *su* lexicalize  $v$ , which takes the  $ASP$  as its complement in which the underlying order is *ha-V-O* in Korean and *su-V-O* in Japanese. However, surface order is *O-V-ha* in Korean and *O-V-su* in Japanese, as indicated in (12). The surface *OV-ha/su* order in Korean and Japanese is derived from the underlying *ha/su-VO* order via two steps: (i) First, the object raises to Spec,  $ASP$ , which results in *OV* order within  $ASP$ , as in (13). After that, (ii) the entire  $ASP$  raises to Spec,  $vP$ , yielding *OV-ha/su* order, as in (14). Both of these movements, object movement and  $ASP$  raising, are a consequence of feature specifications on  $v$  and valuation of these features in a derivation, which will be discussed in detail in Chapter 4.

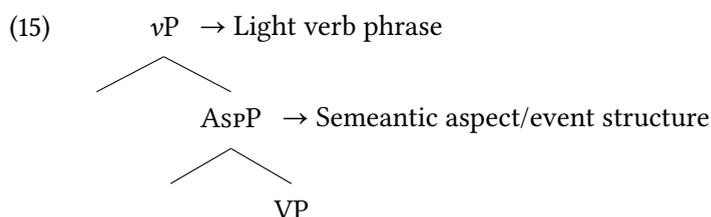
3 Word order

- (12) a. nemwu manh-un ton-ul sopi hayss-eyo Korean  
 too much-REL money-ACC spend DO.PAST-DECL  
 'He spent too much money.'
- b. \* hayss-eyo nemwu manh-un ton-ul sopi  
 DO.PAST-DECL too much-REL money-ACC spend
- c. ichi-mon daisu-no mondai-o saiten site Japanese  
 one-CLF algebra-GEN question-ACC mark DO  
 'You mark one algebra question.'
- d. \* site ichi-mon daisu-no mondai-o saiten  
 DO one-CLF algebra-GEN question-ACC mark



Before we discuss the structure of English light verbs in (11b) where light verbs exemplify the functional category *Asp*, let me say a few words about aspect. The term *aspect* here refers to the properties of the event-structural organization of a verb phrase, and various terms, such *lexical aspect*, *semantic aspect*, *situational aspect*, *inner aspect*, *event structure*, *Aktionsart*, have been proposed in the literature, referring to Vendler's (1957) classification of verb types: states, activities, achievements, and accomplishments.<sup>12</sup> In the past, the event structure of a verb phrase was typically considered to belong to semantics, not syntax. However, as Tenny & Pustejovsky (2000: 18) point out, event structure has been directly encoded in syntax as well with recent developments in syntactic theory, especially with the articulation of extended VPs and functional projections. Although researchers have different opinions about where an aspect node is projected in the syntax, such as above *vP/VP* (Borer 1998), on *vP/AgrOP* (Ritter & Rosen 2000), or between *vP* and *VP* (Richardson 2003; Travis 2000; 2010; cf Ramchand 2008), it is generally agreed that an aspect node is a functional category of the extended verbal projection.

The presence of the functional category *Asp* between *v* and *V*, as proposed in (11), was also suggested by Richardson (2003) for Russian and by Travis (2000; 2010) as a general VP structure across languages. Richardson assumes that VPs in Russian per se are not an aspectual domain and argues that with the projection of *Asp* above *VP*, the event structure of the *VP* is calculated.<sup>13</sup> Richardson's event structure is illustrated in (15) below.

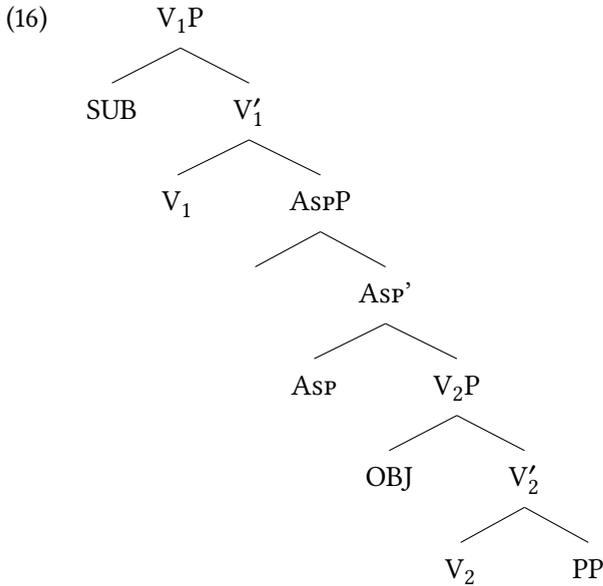


Travis (2000) also provides morphological and syntactic evidence from languages like Tagalog and Navajo, where an aspectual morpheme may appear between the two verbs ( $V_1$  and  $V_2$ ) in reduplication, and proposes the layered VP structure in (16).

<sup>12</sup>This is distinguished from *grammatical aspect*, which has also been referred to as *viewpoint aspect* or *outer aspect* or *morphological aspect*.

<sup>13</sup>However, Richardson also argues that there are inherently telic verbs in Russian, and *AspP* can sometimes merge in a derivation with a telicity feature whose value is not set, therefore having uninterpretable aspectual feature (2003: 59).

### 3 Word order



Travis assumes the VP structure is layered as in Larson (1988), in which the direct object merges at [Spec, VP] while the indirect object that is headed by a preposition appears as the complement of the verb in double object constructions. Within the layered VP in (16), there is a functional category *ASP* between *V*<sub>1</sub> and *V*<sub>2</sub>. Though *V*<sub>1</sub> seems to correspond to *v*, Travis claims that both *V*<sub>1</sub> and *V*<sub>2</sub> are lexical categories, following the more restricted distinction between lexical and functional categories; only lexical categories introduce arguments (Abney 1987). Travis states that “*V*<sub>1</sub>, although lexical, is closer to a light verb” (2000: 12).

Returning to the structure in (11b), now I proceed to explain why English-type light verbs are analyzed as lexical roots corresponding to the functional category *ASP* rather than lexicalizing the verbal head *V* in VP, which was discussed in den Dikken & Shim (2011). Aktionsart or the event structure of a VP is not an inherent property of a verb but is normally determined jointly by the verbal head and its complement (Dowty 1979; Tenny 1994; Van Voorst 1988; Verkuyl 1972; 1993). For instance, while *he ate an apple* is categorized as an accomplishment in Vendler’s term, having both an initial and an end point, *he ate apples*, with a bare-plural object, is categorized as an activity, which is not bounded terminally. However, in a light verb construction with the light verb *take*, for instance, the aspectual properties of the verb phrase are not decided by the light verb and its complement combined. Instead the aspectual constitution of the light verb +

complement combination is the same as that of the corresponding ‘simple’ verb construction where the light verb’s complement is used as a verb. In (17), for example, the object of *take* is systematically an indefinite singular NP (e.g. *a look, a walk, a bath, a decision*), but the aspectual properties of the VP are not constant. In (17a-c) *take*-LVCs (e.g. *take a look, take a walk, take a bath*) denote activities or atelic, which is compatible with a durative temporal *for*-phrase. On the other hand, *take a decision* in (17d) indicates accomplishment or telic, thus incompatible with a *for*-phrase, and an *in*-phrase is an appropriate time-frame adverbial. Such different aspectual properties among *take*-LVCs, (17a-c) vs (17s), are in fact in concert with the aspectual class of their corresponding simple verb constructions as shown in (18): the VPs in (18a-c) are atelic whereas the VP in (18d) is telic.

- (17) a. I took a look at it for/\*in two seconds.  
 b. I took a walk for/\*in half an hour.  
 c. I took a bath for/\*in an hour.  
 d. I took a decision in/\*for one minute.
- (18) a. I looked at it for/\*in two seconds.  
 b. I walked for/\*in half an hour.  
 c. I bathed for/\*in an hour.  
 d. I decided in/\*for one minute.

What is particularly interesting here is the fact that the verb *walk* in (18b) can be made compatible with an *in*-phrase by adding an event-delimiting prepositional phrase (PP) in the complement of *walk* such as *around the block* as in (19a). Likewise, the effect of the PP is the same both in the corresponding in the light verb case, as a comparison of (19a) and (19b) shows.<sup>14</sup>

<sup>14</sup>It seems that the the aspectual properties may not be the same between (19a) and (19b) if the tense is changed into future: (i) I will walk around the block in five minutes(ii) I will talk a walk around the block in five minutes While both (i) and (ii) can mean the speaker will begin to walk around the block in five minutes, there is an additional ‘telic’ meaning in (i), in which the event of walking will be terminated in five minutes. While this was not shared by all four native speakers of English that I consulted, the speaker who suggested this possibility mentioned that in order to get this additional reading, there should be a prosodic emphasis in speech, which indicates that the informational structure may not be the same. While I maintain that English light verbs do not contribute to the event structure, some researchers have argued that light verbs may contribute to the event structure based on languages other than English such as Hindi (Mohanan 2006).

### 3 Word order

- (19) a. I walked around the block in five minutes.  
b. I took a walk around the block in five minutes

We see that the aspect properties of *take* light verb constructions are entirely a function of the aspect properties of the nominal and its complement. The light verb itself takes no controlling part in this. On the assumption that Aktionsart is determined compositionally by material contained in the lexical projection of the predicate head, this informs us that in light verb constructions, the light verb is not contained in the lexical projection of the predicate head.<sup>15</sup> In effect, it tells us that the light verb itself is not the predicate head: instead the noun heading the light verb's complement is. But of course the light verb does have a close relationship with that noun: *take* selects *a walk*. So the light verb must be merged directly with the projection of the noun.<sup>16</sup> This is guaranteed if the light verb realizes *ASP*, the functional head that takes the lexical projection of the predicate head as its complement. The light verb itself does not participate in the determination of the aspectual properties. Rather, it lexicalizes the functional head by whose complement these properties are determined. It is this on this basis that I propose that English-type light verbs lexicalize *ASP*.

#### 3.2.2 VO is derived from OV

While the view that VO is the underlying order for OV (à la Kayne) has prevailed in generative syntax, a small number of researchers proposed an opposite view that VO order is derived from OV order, based on an observation of peculiar properties about word orders across languages. Cross-linguistic data show that not only the direct object but also other verbal complements precede the verb in OV languages while they follow the verb in VO languages, as presented in (20). In (20a), the direct object *Joa*, the indirect object *a present* and the prepositional phrase *to her house* all follow the verb *sent* in a VO language like English whereas they all precede the verb in OV languages such as in Korean (20b) or Japanese (20c).

- (20) a. Bibi sent Joa a present to her house.  
b. Bibi-ka Joa-eykey senmwul-ul cip-ulo ponay-ess-ta  
Bibi-NOM Joa-DAT present-ACC house-LOC send-PAST-DECL

<sup>15</sup>I consider VP to be the domain of aspect computation by assuming that VP has [Asp] feature. This assumption will play an important role in Chapter 4 where the *v*-ASP structure in Korean and Japanese is developed in great detail under the feature inheritance system.

<sup>16</sup>This idea will be reflected in the tree structure later where *ASP* lexicalized by an English light verb directly takes the DP object phrase as its complement without there being the projection of VP in (25).

- c. Bibi-ka Joa-ni purezento-o ie-ni okuta-ta  
 Bibi-NOM Joa-DAT present-ACC house-LOC send-PAST  
 ‘Bibi sent Joa a present to (her) house.’

The placement of verbal complements with respect to the verb in (20) can be predicted by Kayne’s theory: it is a result of raising verbal complements out of VP in the case of OV languages while such movement does not happen in VO languages. In addition to Korean and Japanese, which are typologically unrelated to English, Germanic OV languages such as German and Dutch also support Kayne’s prediction that verbal complements precede the verb in OV languages, as in (21) and (22), respectively.

- (21) ...daß sie jedem ein Paket an seine Privatadresse schicken  
 ...that they everybody a package to his home.address send  
 werden German  
 will  
 ‘...that they will send everybody a package to his home address.’ (Haider 1992)
- (22) a. ... dat Jan het boek aan Marie gaf Dutch  
 ... that John the book to Mary gave  
 ‘... that John gave the book to Mary.’  
 b. ... dat Jan de doos op de tafel zette  
 ... that John the box on the table put  
 ‘... that John put the book on the table.’ (Barbiers 2000)

The fact that all verbal complements precede the verb in various OV languages can be explained as a result of multiple application of raising to the left to the verb in Kayne’s approach.<sup>17</sup> However, Haider (1992; 2000) addresses peculiar properties found in German which challenge Kayne’s analysis. Haider (1992) observed that the linear order of preverbal arguments in German is the same as that of postverbal arguments in English; in (21) the complements of the verb are ordered

<sup>17</sup>Marcel den Dikken (p.c.) points out that the PP in (22b) can optionally surface to the right of the verb in Dutch (and to some extent in German as well). Also CP complements generally must appear to the right of the verb in Dutch and German. The fact that PP complements and CP complements surface to the right of the verb in Dutch and German can be accounted for by the object shift-based analysis: PPs and CPs do not have a Case feature to check against AgrO and hence are expected to stay in situ.

### 3 Word order

with respect to one another in the following order both in German and English: indirect object (IO) - direct object (DO) - prepositional phrase (PP).<sup>18</sup>

If we assume that the ordering of the arguments inside the VP in English is the underlying structure, as Kayne (1994) claims, one must provide further explanation of how this initial order must be preserved after a series of movement operations in German, which is lacking in his proposal. There are proposals in the literature to explain order preservation along with object shift in Scandinavian languages where the initial order inside the VP is preserved after the object raises. Fox & Pesetsky (2005), for instance, propose a mapping mechanism between syntax and phonology, which determines the linear ordering of words. Such linearization is restricted by two constraints; (a) the relative ordering of words is fixed at the end of each phase (or spell-out domain) and (b) ordering established in an earlier phase may not be revised or contradicted in a later phase. According to their proposal, the fact that the initial order V-IO-DO-PP within the VP is preserved can be explained by a combination of object shift and VP-remnant movement. Although their proposal accounts for order preservation along with object shift in Scandinavian languages where the verb still precedes the object after the object raises as exemplified in (5), it fails to describe order preservation in OV languages where the initial order starts as VO but ends up in OV.

To account for the same linear order effect in German and English, Haider proposes as an alternative view that VO is derived from OV via V head movement, which keeps the underlying order of the verbal arguments intact after transformation (23).

- (23) a. [ IO [ DO [ PP V ] ] ]  
b. [ V<sub>i</sub> [ IO t<sub>i'</sub> [ DO t<sub>i'</sub> [ PP t<sub>i</sub> ] ] ] ]

The structure in (23a) is the head-final structure where V takes all of its complements to the left.<sup>19</sup> According to Haider, the head-final structure in (23a), which he calls the right-branching structure, is the only structure that UG allows: the

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<sup>18</sup>The linear order of IO-DO-PP is also observed in Korean and Japanese in (20b, c) and Dutch in (22). In addition, Barbiers (2000: 183) shows that in double object constructions, the only allowed order is IO-DO both in Dutch and English.

- (i) a. dat Jan — Marie het boek gaf.  
a.' that John gave Mary the book —  
b. \* dat Jan — het boek Marie gaf  
b'. \* that John gave the book Mary

<sup>19</sup>Haider (1992) allows V to take its PP argument to the right under his own theory, which does not concern us here.

structural build-up of phrases is universally right branching (Basic Branching Constraint: Haider 1992; 2000). On this proposal, the head-initial structure is not allowed by UG and VO order is derived from leftward movement of the verb as shown in (23b).<sup>20</sup> What is also different between (23a) and (23b) is that the VP structure in OV languages is simpler than that of VO languages, which shows a Larsonian VP shell structure.

In the Minimalist Program, *v* (and its variants) is a place where light verbs appear. On the other hand, *v* has no special status in Haider's proposal; it is one of the V positions in the shell structure of complex head-initial VP and *v* is entirely absent in OV languages. Thus, it is not clear where a light verb is projected in an OV language in (23a), which has a simple VP structure. Since this monograph aims to investigate the role of light verbs in Korean-English and Japanese-English CS in relation to deriving OV and VO orders, I will not consider Haider's model where the position of light verbs of OV languages is not identified in the syntax.<sup>21</sup>

### 3.3 Minimalist approach

Generative linguists agree on the view that one of the most fundamental aspects of human language is its hierarchical structure. Yet, how hierarchical structure built with lexical items is mapped into a linear sequence is still a matter of debate (Barrie 2012). Kayne (1994) proposes that not only the hierarchical structure but also the linear order of combined words is established in syntax, as expressed in the LCA: asymmetric c-command invariably maps into linear precedence and word order is determined by hierarchical syntactic structure. In the Minimalist Program, on the other hand, Chomsky proposes the bare phrase structure where structure is built via *Merge*, which takes two lexical items  $\alpha$  and  $\beta$  and the linear order between them is unspecified but decided later at the syntax-PF (Phonetic Form) interface. In other words, structure is built up hierarchically but actual word order is established after syntax when the lexical items are spelled out/pronounced. Yet, it is not clear how the linearization procedure occurs. Chomsky does not discuss it any further for it is beyond the syntax.

<sup>20</sup>However, linguists implement different mechanisms to derive VO from OV, either via head movement (raising V to the left of its complements: Barbiers 2000; Haider 1992; 2000) or phrasal movement (remnant VP movement: Taraldsen 2000).

<sup>21</sup>Haider (2013) argues that OV and VO orders are not complementary and there is a third category which is underspecified for directionality (Type III), based on the diachronic Germanic word order split between OV and VO orders. As reported in Chapter 2, the distribution of OV and VO orders is not also perfectly complementary in Korean-English and Japanese-English CS. It is especially true in light verb constructions with heavy/lexical verbs, which may alternate between OV and VO orders (Chapter 5), and Haider's proposal might be handy to account for this fact. However, as the reasons stated above, I will not follow this direction in this monograph. I thank the anonymous reviewer who referred to this work.

### 3 Word order

Nonetheless, Chomsky accepts Kayne's idea of the universal head-complement order (SVO) and any deviation from this results from movement (1995: 340). Yet, the core idea of the LCA seems to be incompatible with the bare phrase structure. Chomsky writes, "the bare theory structure lacks much of the structure of the standard X-bar theory that plays a crucial role in Kayne's analysis" (2015: 208): there are no bar levels and no distinction between lexical items and heads projected from them (2015: 228). As mentioned earlier, the LCA dictates that there exists an inherent asymmetry among lexical items. Under this view, it is not clear how a symmetric structure (between  $\alpha$  and  $\beta$ ) is converted into an ordered string in the bare phrase structure (Zwart 2011).<sup>22</sup>

To accommodate the LCA in the bare phrase structure, the LCA has been re-analyzed as an operation that applies to PF and the violation of the LCA (e.g. symmetric relations between two lexical items) must be eliminated before the structure is spelled out at PF (Chomsky 1995; Moro 2000). One way to turn a symmetric relation between two lexical items into an asymmetric relation is to move (or the term *internal merge* in the Minimalist Program) one lexical item, which leaves a trace. The trace of the moved element, which has no phonological value, is ignored/deleted at PF, thus does not violate the LCA: only a moved element, not the trace of it, is spelled out at PF.

Depending on the branch of Minimalism one chooses to employ, one could choose between these two approaches to Merge: either (a) Merge itself imposes a linear order (as well as the hierarchical order) on the constituents it combines or (b) Merge imposes the hierarchical order but not the linear order (Osborne et al. 2011). Between these two options, the first one is more compatible with Kayne's take on deriving word order.

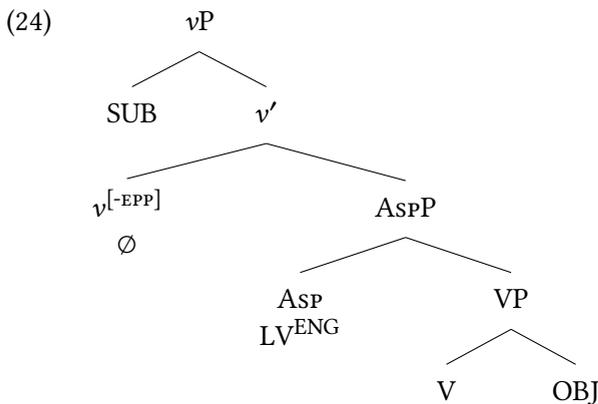
In this monograph, I adopt general assumptions shared in the minimalist work. Although I assume that structure is built via Merge between two lexical items, I will not commit myself to the bare phrase structure in this monograph, but continue to use tree structure as in the X-bar theory. There are a few reasons to do so. First, it is for expository/notational purposes. Following the minimalist view that the locus of linguistic variation is due to different morphological features of a functional category rather than a lexical category (the Borer-Chomsky

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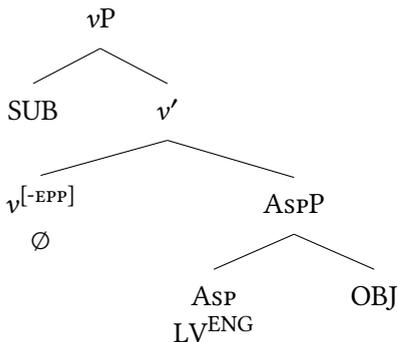
<sup>22</sup>Zwart proposes that Merge itself yields an ordered pair rather than an unordered set, which is expressed in his *structure-to-order conversion*: The structure-to-order conversion is a correspondence rule, and (i) reads that the two lexical items  $\alpha$  and  $\beta$  are ordered as  $\alpha-\beta$ .

(i) Structure-to-order conversion (Zwart 2011: 101)  
 $\langle \alpha, \beta \rangle = / \alpha, \beta /$

Conjecture), it is easy for me to explain if a clear distinction is made between the projection of functional categories (such as C, T,  $v$ ,  $ASP$ ) and that of lexical categories. In addition, if word order/linear order is regarded entirely as the property of PF/phonology, as assumed in the bare phrase structure, it is not clear how parametric variations such as word order can be explained in terms of morphological features of functional categories, which should not play a role at PF. Yet, the assumption that structure is built via Merge, which takes two lexical items, will be reflected in syntactic trees and this has a consequence in representation by dispensing an unnecessary projection of syntactic categories. For instance, the structure in (24), which is repeated from (11b), where an English light verb directly lexicalizes  $ASP$ , not  $V$ , thus leaving the  $V$  head empty, is simplified into the structure in (25) in which the empty  $V$  head is not projected. Instead, the light verb and the object merge, which is depicted in the structure where  $ASP$  takes the DP/NP object as its complement.



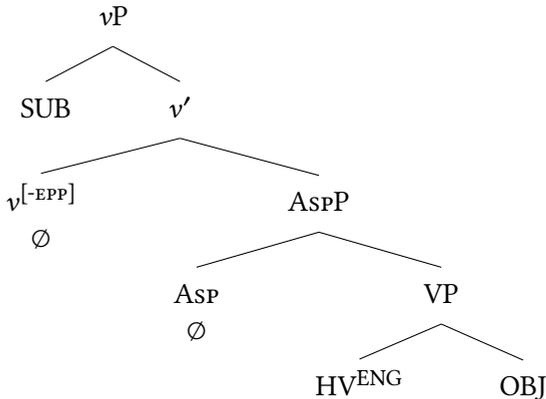
(25)  $vP$  structure with an English light verb (final version)



### 3 Word order

But notice that the functional category  $v$  is empty in (25) and still projected. Likewise, when the functional category  $ASP$  is null, it will be projected as well, as illustrated in (26), which represents the underlying  $vP$  structure with an English heavy verb.

(26)  $vP$  structure with an English heavy verb



In Chapter 4, the special status of these two functional categories,  $v$  and  $ASP$ , will be discussed in detail in the phase theory where  $v$  is defined as a phase head and features are passed down from  $v$  to  $ASP$  via feature inheritance. And it will be argued that how features are specified on  $v$  and valued via feature inheritance will lead to OV and VO variation in monolingual and bilingual grammars alike.

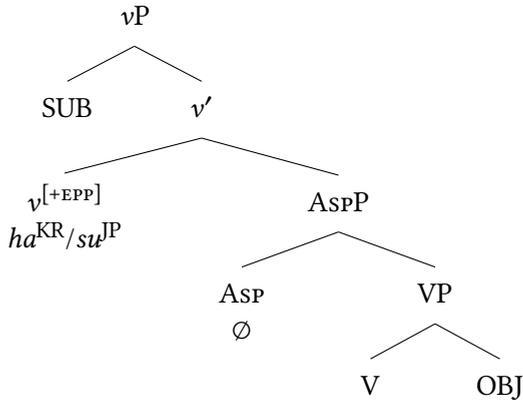
One final comment is in order. Although I take Kayne's approach that the sequence of Specifier-Head-Complement is the universal order in all languages, I adopt the minimalist take on it: the LCA is a constraint at PF. This will provide an important set up for the next chapter, which introduces *Feature Inheritance*.

#### 3.3.1 Chapter summary and conclusion

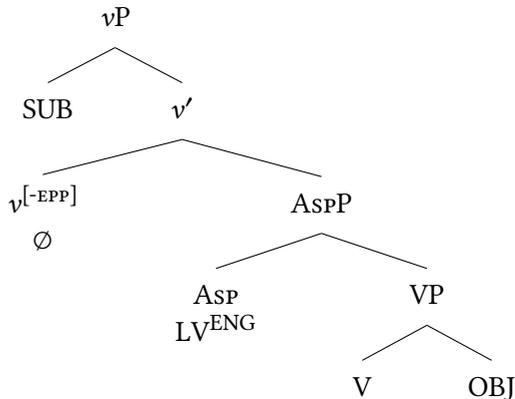
This chapter provided a short overview of different approaches to word order, with particular focus on OV and VO orders. After a close examination of different approaches to OV and VO orders, I have adopted Kayne's proposal that both OV and VO languages have the same underlying VO order and OV order is derived from VO by object movement to the left of the verb.

I have also proposed the syntax of light verbs in Korean, Japanese, and English, where Korean light verb *ha* and the Japanese light verb *su* represent the functional category  $v$  whereas English light verbs exemplify the functional category  $ASP$  as illustrated below.

(27) a. Korean and Japanese



b. English



While the underlying VO order remains in English (27b) in a syntactic derivation, the object raises to the left of the verb, targeting Spec,  $ASP$  in Korean and Japanese (27a), resulting in OV order within  $ASP$ . After the object moves to Spec,  $ASP$ , the entire  $ASP$  moves to Spec,  $vP$ , as a result of which the surface order of O-V-*ha* in Korean and O-V-*su* in Japanese is derived (recall the structures in (13) and (14) for this). I have argued that both object movement and  $ASP$  raising in Korean and Japanese are due to feature specifications on  $v$ , which are different from feature specifications on  $v$  in English. Yet, I have not shown how  $v$ 's features are different in Korean/Japanese and English, and will discuss this in next chapter.



## 4 Word order and feature inheritance

In Chapter 3, OV vs VO order in Korean/Japanese and English was accounted for due to different feature specifications on the functional category  $v$ , based on the view that parametric variation is attributed to differences in the features of functional categories. Then we may ask a question such as why is it  $v$  that determines linguistic variation, not other functional heads for example  $Asp$ ? What is so special about  $v$ ? Can we explain this in a principled account? In fact, this is possible under the notion of *phases* in minimalist syntax, which limits the locus of linguistic variation to certain functional categories, namely C and  $v$ , which are defined as phase heads. In other words, feature specifications on phase heads and how these features are valued in syntactic derivations will lead to linguistic variation such as word order. The process of valuing features on phase heads will be explained in the *feature inheritance* mechanism, which will be developed in this chapter.

### 4.1 Feature Inheritance

In the past few decades, Chomsky (2000; 2001; 2006; 2008) developed fundamental ideas of the Minimalist Program: syntactic derivations are strongly cyclic and proceed phase by phase, a phase being defined as a syntactic object, which is in some sense complete, like CP and  $vP$ . A phase is a cyclic domain of syntactic computation where all LF-uninterpretable features on a probe/target P (or a functional category) must be checked or deleted or valued against the matching interpretable features on a goal via *Agree*. *Agree* removes uninterpretable features on the probe, which allows a derivation to converge at LF in accordance with the principle of Full Interpretation (Chomsky 1986; 1995). Not only is a phase a domain where uninterpretable features on a probe are valued and transferred to LF (for convergence of meaning), but it is also a domain where the computed lexical items are transferred to PF (for convergence of sound) when they are spelled-out/pronounced.

It is generally agreed in the literature that a probe must be a functional category such as C(omplementizer), T(ense),  $v$  or  $Asp$ . While any functional category

#### 4 Word order and feature inheritance

can serve as a probe, it is not the case that all functional categories have ‘probing’ features (or *Agree features* or *edge features* in Chomsky’s term). Chomsky (2000; 2001; 2006; 2008) proposes that C and *v*, which he calls *phase heads*, are core functional categories and feature specifications on phase heads determine linguistic variation. T is also a core functional category according to Chomsky (2000: 102), but it is not a phase head and inherently lacks any probing features in itself, including EPP. In order for T to serve as a probe, it must be selected by the phase head C, from which T must inherit probing features via *Feature Inheritance (FI)*. This implies that T completely lacks any features and all features on T, such as  $\phi$ -features and Tense, are not inherent on T but come from C.<sup>1</sup>

The hypothesis of FI reflects the very idea of Minimalism by strengthening and simplifying the theory of phases, which are arguably a necessary part of any well-designed language system (Richards 2007). A phase is a domain where uninterpretable features on a probe are valued and transferred to LF (for meaning) and PF (for sound). And by assuming that uninterpretable features can only be a property of phase heads, not all functional heads, we can simplify the computational design in an elegant way: phases are the locus of linguistic variation and also a domain where linguistic features on phase heads are valued and transferred to LF and PF.

While the notion of phases provides us with a simplified computational tool to account for linguistic variation, it also leaves us a question; If we can assign all work on phase heads, C and *v*, why do we need other functional categories in a syntactic derivation, such as T and *Asp*, which are non-phase heads and featureless? Having superfluous non-phase heads seems to be non-minimal. Richards (2007) provides an answer to this question on two grounds, (a) a simultaneous value and transfer of uninterpretable features on a phase head and (b) the Phrase Impenetrability Condition (PIC) (1) (Chomsky 2000: 108).

(1) **Phrase Impenetrability Condition**

In Phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , only H and its edge are accessible to such operations.

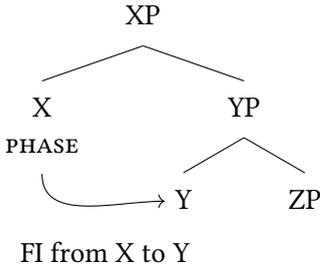
If we interpret the PIC in the X-bar theory, it means that in the  $xP$ , where X is C or *v*, the complement of  $xP$  is not accessible for further syntactic computations, which must be transferred to LF and PF. Only the phase head and the material in its specifier position, which is the edge of X, will continue to participate in a further syntactic derivation up to the next phase level. This has a consequence:

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<sup>1</sup>It is generally agreed that den Besten (1983) is the first linguist who suggested that the tense feature is located on C. Later Pesetsky & Torrego (2001) also proposed that C bears an uninterpretable T feature (with the EPP property).

while the phase head X itself will not be spelled out until the next phase level, its uninterpretable features must be valued and transferred within the XP. Assuming that value and transfer must occur simultaneously, the phase head must discharge all of its features down to the head that will be spelled out for LF and PF convergence. This is demonstrated in (2).

## (2) Feature Inheritance



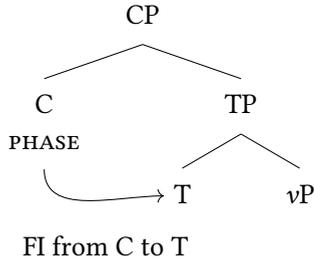
Chomsky (2001) suggests that FI is a general property of all phase heads and should be at play in the domain of  $v$ -V, analogous to that of C-T. However, FI from C to T and FI from  $v$  to V do not seem to be parallel; T is a functional category and V is a lexical (or *substantive* in Chomsky's term) category. Chomsky is aware of this non-parallelism and notes that "T should be construed as a substantive rather than a functional category, falling together with N and V. ...We can regard T as the locus of tense/event structure. The C-T relationship is therefore analogous to the  $v^*$ -V relation" (p 9).<sup>2</sup> Thus, it seems that Chomsky offers a contradictory view on the status of T: on one hand, he says T is a core functional category along with C and  $v$ , but he also argues that T should be regarded as a non-functional, lexical category.

A central premise of research exploring the lexical vs functional distinction is that it is only functional categories can serve as a probe and have parameterized features, which reins in syntactic variation (the Borer-Chomsky Conjecture as stated in (4) in Chapter 3. If we abide strictly by this hypothesis, a lexical category V cannot inherit the features from  $v$  and become a probe, unless V is considered as a functional category. However, this problem disappears if we assume that the complement of  $v$  is not VP but  $AsP$ , as proposed in this monograph, and that the functional head  $AsP$  is the beneficiary of FI from  $v$ , parallel to FI from C to T (3).

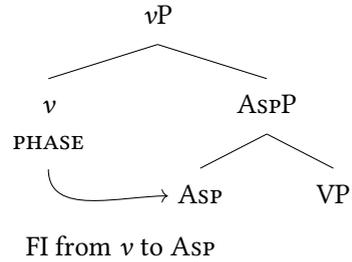
<sup>2</sup>As mentioned in Chapter 3, Footnote 6, the distinction between  $v$  and  $v^*$  is not made in this monograph, since it does not play a role in providing an account of OV-VO variation in Korean-English and Japanese-English CS.

#### 4 Word order and feature inheritance

(3) a. C-T domain



b.  $\nu$ -ASP domain



Analogous to the C-T relation,  $\nu$  selects the ASPP and transmits its probing features to ASP via FI in (3b). All features on ASP, such as  $\phi$ -features and Aspect, are inherited from its selecting phase head  $\nu$ . We have now established FI in the  $\nu$ -ASP domain, which is perfectly parallel to FI in the C-T domain. Based on this, we proceed to explore which features are inherited from C to T and from  $\nu$  to ASP.

##### 4.1.1 Features on C and $\nu$

Chomsky proposes that the formal features on T (e.g.  $\phi$ -features and Tense) belong to C and T inherits them from C via FI. Yet, T seems to have more properties than just  $\phi$ -features and Tense; T assigns the nominative Case (to the subject). Chomsky considers Case to be an uninterpretable feature – the “uninterpretable feature par excellence” (1995: 278-279) and suggests that it should also belong to the phase heads only, C (for the nominative Case) and  $\nu$  (for the accusative Case). On this assumption, T’s  $\phi$ -features, Tense, and (nominative) Case features all come from C via FI.<sup>3</sup> Likewise, I propose that ASP’s  $\phi$ -features, Aspect, and (accusative) Case features are all innate to  $\nu$ , and they are passed down to ASP via FI.<sup>4</sup>

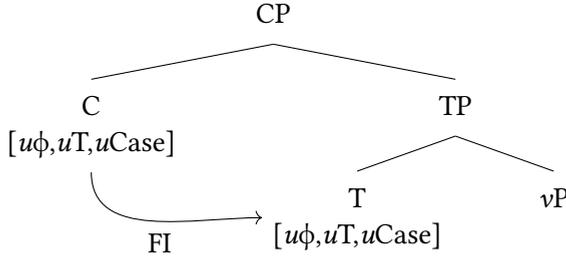
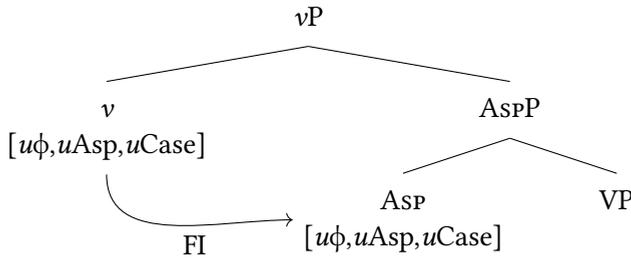
<sup>3</sup>Researchers who work on FI differ in their views on which features are generated on C. For instance, Gallego (2010) assumes that  $\phi$ -features are generated on C, but T and Case features are intrinsic to T.

<sup>4</sup>The Case Filter (Chomsky 1981) states that every overt noun phrase must be assigned (structural) case: the subject is assigned the nominative Case and the object is assigned the accusative Case. In some languages, such as Korean and Japanese, structural case (nominative and accusative) may be marked by a specific morphological case marker. To distinguish between structural case and morphological case, Case, with the capital letter C, refers to structural case, which may or may not be marked by an overt morphological case marker.

- (i) a. Bibi-ka chayk-ul sass-ta  
 Bibi-NOM book-ACC buy.PAST-DECL

Korean

## (4) a. C-T domain

b. *v*-ASP domain<sup>5</sup>

Chomsky does not discuss what happens when C's features are transferred to T: it is not clear whether all of C's features are inherited by T or features are selectively transmitted to T.<sup>6</sup> Also it is not well discussed whether these features disappear from C after they are discharged to T or they remain active on C. To make the FI mechanism transparent, I propose the following four principles that govern FI (5).

## (5) Principles of Feature Inheritance

a. *Obligation*

FI is obligatory whenever possible.

b. *Validation*

FI occurs if and only if the recipient head is a valid head.

b. Bibi-ga hon-o kat-ta  
Bibi-NOM book-ACC buy-PAST

Japanese

'Bibi bought a book'

<sup>5</sup>"uF" stands for "uninterpretable features"; for instance, "uφ" means an uninterpretable φ feature.

<sup>6</sup>Richards (2007), on the other hand, argues that all uninterpretable features on phase heads must be discharged via FI, which does not seem to be the case as we will discuss shortly.

#### 4 Word order and feature inheritance

c. *Selection*

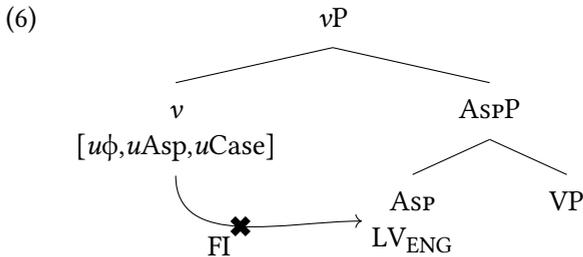
Features may be selectively inherited.

d. *Expiration*

Inherited features are only active on the heir (T, *ASP*) and lose their probing capability on the donor (C, *v*).

The first principle of FI, *Obligation*, is based on the assumption that FI is designed to facilitate a syntactic derivation to proceed economically and efficiently and as long as it does not lead to a derivational crash, FI will automatically happen. But if FI leads to a syntactic crash rather than aiding a syntactic derivation, it will not occur.<sup>7</sup>

The second principle of *Validation* states that FI will take place successfully if and only if the recipient head of FI is a valid head, which must be a featureless non-phase head, following the original idea of Chomsky and the further development of FI made in Richards (2007). In other words, when the recipient head, such as T and *ASP*, is not a featureless head, it is no longer eligible to inherit features from C and *v*, respectively, as a result of which FI does not take place. This is precisely the case when the *ASP* head lexicalized by an English light verb, which has verbal features in it. As we will see in Chapter 5, this will explain why VO order is derived instead of OV when a code-switched constituent includes an English light verb in Korean-English and Japanese-English CS.



<sup>7</sup>A similar view is advocated for in Ouali (2008).

The empirical evidence to support the third principle of *Selection* comes from the fact that not all features of C are inherited by T (*contra* Richards 2007); for instance, C's *wh*-feature is never acquired by T but remains on C.<sup>8</sup>

The principle of *Expiration*, on the other hand, may not be easy to prove on the basis of empirical evidence at this point. However, it is conceptually required for syntactic computation, and I will explain why this is the case. To do so, I take the view that syntactic structure building is a bottom-up process in a familiar fashion and consists of *Merge* and *Move* as proposed in the minimalist framework.

When features are passed down from C to T, all of C's features may be inherited by T, including the T(ense) feature, after which none of the features remain active as probing features on C. As a result, all of C's features, [*u*φ, *u*T, *u*Case], are valued via a probe-goal relationship between T and a goal or multiple goals via *Multiple Agree*.<sup>9</sup> Despite their inactivity, these features are not depleted in C. After all, C is itself specified for tense and gets a vocabulary item inserted under it depending on its specification for tense – for instance, in English finite C is lexicalized as *that* and infinitival C is spelled out as *for*, as in (7).<sup>10</sup>

- (7) a. Bibi expected that Joa would go.  
 b. Bibi expected for Joa to go

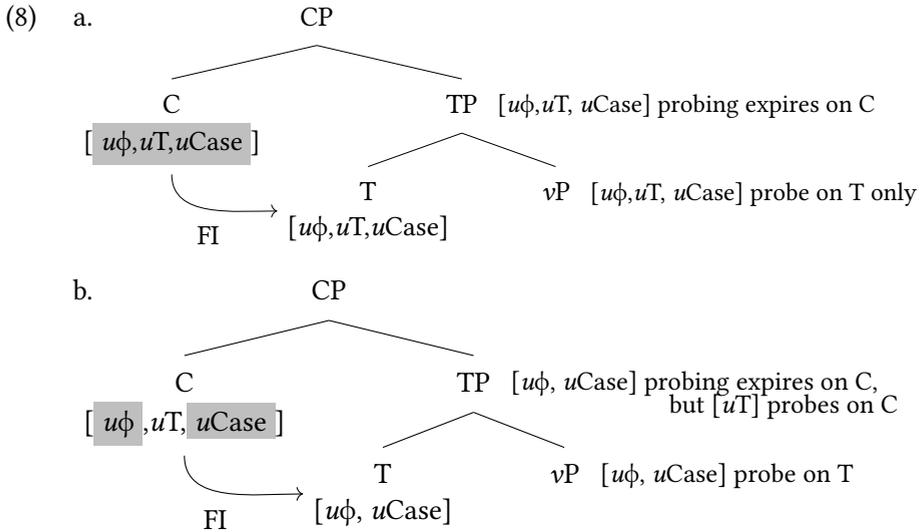
Moreover, the matrix verb can also select the tense (finiteness) of its CP complement, which strongly suggests that the T feature is present on C even after FI from C to T. While the features may be still present on C after being transferred to T, they are no longer need to be valued. If they were, valuation would be reflexive (the features on C that are inherited by T would be valued against the features on T, which are T's own features). In other words, once probing features are transferred from a phase head to the head of its complement (from C to T and from *v* to *Asp*), they no longer act as probing features on the phase head; their probing capability expires on the donor. By contrast, features that are not transmitted retain their probing ability on the phase head. (8) schematically depicts this.

<sup>8</sup>Ouali (2008) proposes that there are three logical possibilities of FI from C to T, which is compatible with the principle of *selection*: (a) all of C's φ-features are transferred to T (Donate), (b) C does not transfer its φ-features (Keep), and (c) C does not transfer but share its φ-features with T (Share). These three options are ranked in the order of Donate > Keep > Share, and if Donate leads to a syntactic crash, Keep is applied. Likewise, if Keep results in a crash, Share will happen. On the other hand, Gallego (2010: 111) advocates the option of Share as the only mechanism of FI by saying that features on C are downloaded to non-phase heads in its complement domain with no subsequent deletion on it.

<sup>9</sup>Multiple Agree will be discussed in §4.2.

<sup>10</sup>I assume that finite C has [*u* φ, *u*T, *u*Case] and non-finite C has [*u*φ, *u*Case] only.

4 Word order and feature inheritance



In (8a), all of C's features are inherited by T, and C no longer acts as a probe. It is T that enters into a probe-goal relation in the derivation. In comparison, only a subset of C's features may be inherited by T in (8b) and both C and T enter into probe-goal relationships with matching goals: while C looks for a goal with the T feature, the T head is engaged in feature matching with a goal or goals with  $\phi$  and Case features.

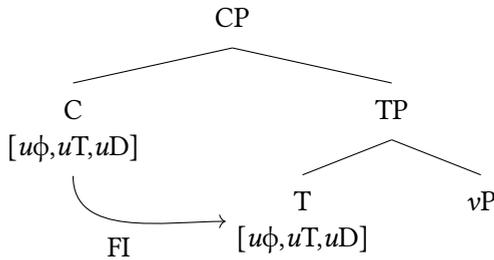
One question might arise as to whether the principle of *Expiration* is equally applied to the domain of  $v$ -ASP. Unlike the C-T relation where T is generally assumed to value the (nominative) Case feature on the subject,  $v$  is generally presumed to value the (accusative) Case feature on the object in the structure of  $v$ -V in Chomsky's original proposal and subsequent work. Thus, it seems that the Case feature on  $v$  is not discharged down to ASP on this assumption. However, it has been proposed in the literature that ASP is responsible for accusative Case checking in the  $v$ -ASP structure (Richardson 2003), and it will be shown in Chapters 5 and 6 that the Case feature on the object may be valued either against ASP or  $v$  in Korean-English and Japanese-English CS, which provides further empirical evidence for the principle of *Expiration* in the  $v$ -ASP domain as well.

One note should be in order: in Richardson's proposal, the accusative Case is not the property of  $v$  but the uninterpretable Aspect feature [ $u$ Asp] on ASP head.<sup>11</sup> Under the mechanism of FI, however, all features on ASP come from  $v$  and there is no feature intrinsic to the ASP head per se. Thus, I claim that the Aspect

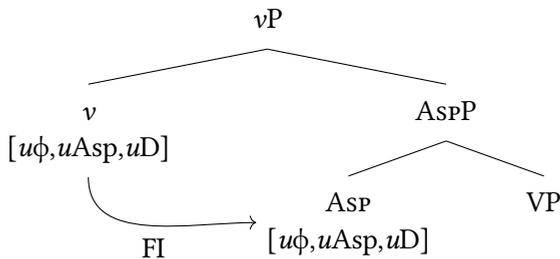
<sup>11</sup>Richardson does not adopt the FI mechanism.

feature on  $ASp$ ,  $[Asp]$ , is innate to  $v$ , not to  $ASp$ , contra Richardson. I also depart from her viewpoint that  $[Asp]$  is the accusative Case feature: the presence of the  $Asp$  feature does not entail the presence of the accusative Case. For instance, unaccusative accomplishment verbs are specified for  $[Asp]$  but they do not assign the accusative Case. So, the accusative Case feature is not the same as the  $Asp$ -feature, but is an additional feature. Instead, I take the stance that Case features are D-features based on the fact that only nominal elements are assigned Case. Thus, I propose Case features are uninterpretable D-features: the D-feature on C-T represents nominative and the D-feature on  $v$ - $ASp$  values accusative Case.<sup>12</sup> Accordingly, (4) is modified into (9).

(9) a. C-T domain



b.  $v$ - $ASp$  domain<sup>13</sup>



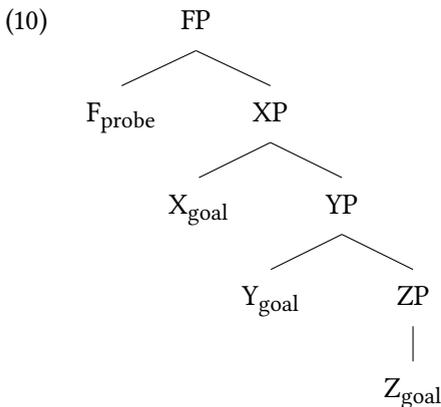
Pesetsky (2012) proposed an analysis of case morphology in Russian, arguing that the nominative Case is a result of the D-feature on a noun phrase assigned by its selecting head, and nominative case morphology is an affixal realization of the D-feature on a noun phrase. The present proposal that the nominative Case is D-feature matching between T and a noun phrase/the subject converges with Pesetsky's analysis. Yet, there are differences: according to Pesetsky, the accusative Case is the V-feature rather than the D-feature on a noun, which is

<sup>12</sup>By extension I also depart from Pesetsky & Torrego's (2001;2004) view that nominative is an  $[uT]$ .

assigned from the verb. This differs from the proposal made in this monograph, which views Case as a D-feature for both nominative and accusative. Although more research is needed to investigate this, I maintain the unified point of view of analyzing Case as a D-feature both on the subject and the object and will show in Chapter 6 that it seems to be a plausible approach to analyze the accusative Case as a D-feature based on various cross-linguistic data.

## 4.2 Agree

In Chomsky's original proposal, the probe-goal relation is one-to-one, limited to a single probe and a single goal and it occurs step by step until all the uninterpretable features on the probe are valued within a phase level. (10) below schematically shows a probe-goal relationship where a probe F enters into an Agree relation with a goal in its c-command domain.



In (10) the probe F may have more than one goal, such as X, Y, and Z, which have (a subset of) matching features of F. According to Chomsky, the operation *Agree* (and *Move*) requires a goal that is both local and active, with locality being limited to the probe's closest c-command domain (Chomsky 2000: 122–123). On this assumption, it is X that enters into an Agree relation with the probe F. If X is an inactive goal, however, feature deletion under matching between F and X is blocked, and the probe searches a goal in its next closest c-command domain. As a result, Y, the goal in the next closest c-command domain of F, enters into an Agree relation with F.

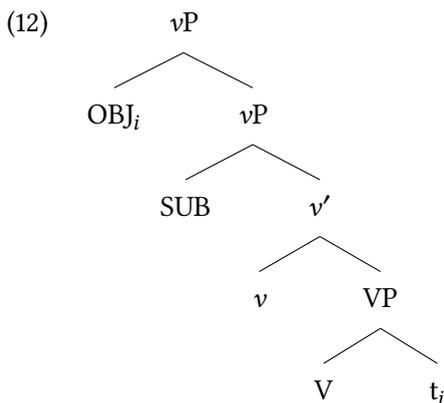
However, based on Japanese multiple nominative constructions, Ura (1996; 2000) and Hiraiwa (2001; 2005) argue that a single probe can agree with more than one goal simultaneously, which is called *Multiple Agree* (11).

(11) **Multiple Agree** (Hiraiwa 2001; 2005)

A probe can agree with more than one goal derivationally simultaneously.

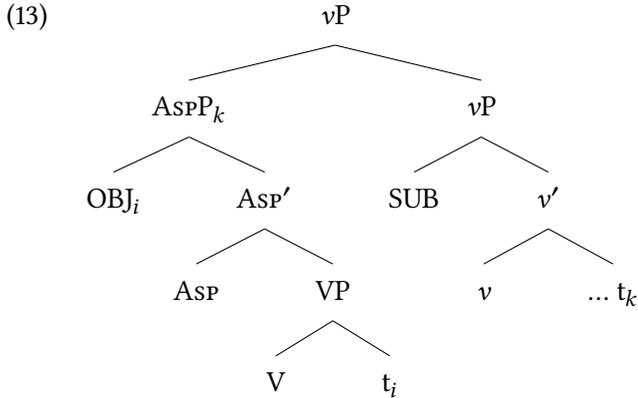
Hiraiwa assumes that the number of goals and the number of specifiers of a probe are both unlimited within a phase level. Many researchers have adopted Hiraiwa's proposals, and both *Multiple Agree* and *Multiple Move* have gained more empirical support from various researchers (Bošković 1999; Boeckx 2004; Henderson 2006; to name a few). Yet, it is still a point of controversy in the literature whether a single probe can agree with multiple goals, and multiple specifiers of a head can be projected at the same time.

In this monograph, I adopt the notion of *Multiple Agree* with some reservation. I assume that a single probe may agree with multiple goals within a given domain/phase. However, I depart from Hiraiwa's idea that the number of specifiers is unrestricted. As said in the precious chapter, I adopt Kayne's (1994) approach to word order, viewing that the sequence of Specifier-Head-Complement is the universal order in all languages imposed by Universal Grammar, which is part of his proposal of the Linear Correspondence Axiom (LCA) stating that asymmetric c-command invariably maps into linear precedence. Accordingly, the number of specifiers and complements are limited: multiple specifiers and complements do not yield to asymmetric c-command relations among the elements. While the number of specifiers (and complements) of a head is limited to only one in Kayne's theory, it has been broadly accepted that Spec,  $vP$  is a position where the subject is base-generated (the VP internal subject hypothesis) and the moved object also lands in the derivation, as shown in (9a). Thus, the structure in (12) is not a possible structure under the LCA where there is no asymmetric relation established between the subject and the moved object.



#### 4 Word order and feature inheritance

If we consider  $v$ -ASP structure proposed for Korean/Japanese light verb constructions in (11a), it is not the object but the ASP that raises to Spec,  $v$ P, as depicted in (13), which is still not allowed in Kayne's model for the same reason: the subject and the moved ASP show a symmetric relation.



As explained in Chapter 3 (§3.3), the LCA has been re-interpreted as an operation applied to PF (Chomsky 1995; Moro 2000), therefore it is possible for multiple specifiers to be projected in the narrow syntax as long as the violation of the LCA is limited before the structure is spelled out at PF, which is the view that I take and also taken by others (e.g. Nagai 2010; Ochi 2009). Supporting this view, the symmetric relation between the object and the subject in (12) and the symmetric relation between the raised ASP and the subject in (13) will not pose a problem. In (12) and (13), the subject at Spec,  $v$ P further moves up to Spec, TP in the course of derivation and leaves a trace at Spec,  $v$ P, and the trace of the subject is not subject to the LCA at PF: the element without any phonological feature is not conditioned by the LCA. In other words, neither (12) and (13) violate the LCA: only the object and the ASP, not the trace of the subject, are spelled out at Spec,  $v$ P at PF in (12) and (13), respectively. Based on this, I propose a revised version of Multiple Agree, which I will call *Multiple Agree under Antisymmetry* (14) as the first operational rule of FI, which allows multiple agree relations but restricts the number of goals to only one that can be spelled out at a specifier position.

- (14) **Multiple Agree under Antisymmetry** (*First Operational Rule of FI*)  
 Only one goal can be spelled out at the specifier of a probe in multiple agree relations.

It is generally agreed in the literature that a probe must be a functional category such as C, T,  $v$ , or *Asp*. However, Chomsky does not specify the nature of a goal except that in order for *Agree* to occur, the goal must bear a feature that is matched to an uninterpretable feature [ $uF$ ] on a probe. Here, I assume that the morphosyntactic features are the properties of a head and either a functional category or a lexical category can be a goal. Thus, a probe-goal relation is defined to be feature matching between functional categories or between a functional category and a lexical category.<sup>14</sup> Also, following the assumptions made in minimalist syntax, I assume that morphological features on phase heads are uninterpretable. On this assumption, all the features on C and  $v$  are uninterpretable, including T(ense) and Asp(ect) features. Conversely, researchers have different views on whether (the matching) features on a goal are interpretable or not. As will be discussed in §4.4.2, I assume that verbs have both T and Asp features and enter into a probe-goal relation with C and  $v$ . Although it is possible to assume that T feature on the verb is interpretable, Asp feature on the verb cannot be interpretable due to the fact that it is not the verb per se that determines the aspect of the VP: the verb and the object together contribute to the aspectual information (recall §3.2.1). Instead, the Asp feature is uninterpretable everywhere, both on the probe and the goal, and aspectual interpretation is not determined by a morphological feature but by something else.<sup>15</sup> Similar to Aspect, I also assume that the T feature is uninterpretable both on the probe and the goal, and temporal semantics may be brought in by a temporal operator. I leave further investigation of the interpretation of morphological features on a goal for future research.

### 4.3 EPP

EPP is generally claimed to be a feature on a functional category (or a probe) that induces syntactic movement. In this respect, the EPP feature is distinguished from other features on a probe. Unlike other probing features, EPP is not stated either as an interpretable or an uninterpretable feature, and only a probe, never a goal, has the EPP feature. In an *Agree* relation, uninterpretable features on a probe are valued via feature matching between a probe and a goal, and valuation does not require a Spec-Head configuration and only involves feature matching between a probe and a goal.

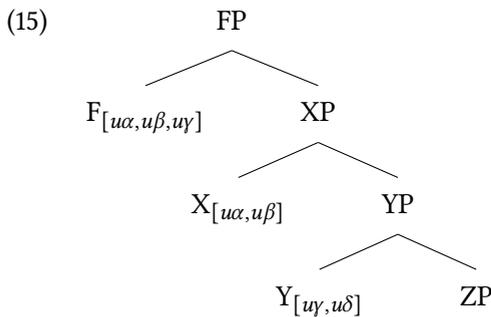
<sup>14</sup>We will see in Chapters 5 and 6 that the functional category *Asp* may serve as a goal for the probe  $v$ .

<sup>15</sup>This means that verbs, whether heavy or light, have Aspect and T features and the presence of [ $uAsp$ ] on the verb does not imply that the verb itself has aspectual properties.

#### 4 Word order and feature inheritance

On the other hand, EPP never involves feature matching (the goal does not have the EPP feature). EPP is not a feature that is valued. It is a feature on a probe that disappears via a Spec-Head relation with a goal: to satisfy the EPP on the probe, the goal must raise to the specifier of the probe. Thus, the nature of EPP seems to be very different from that of other features.

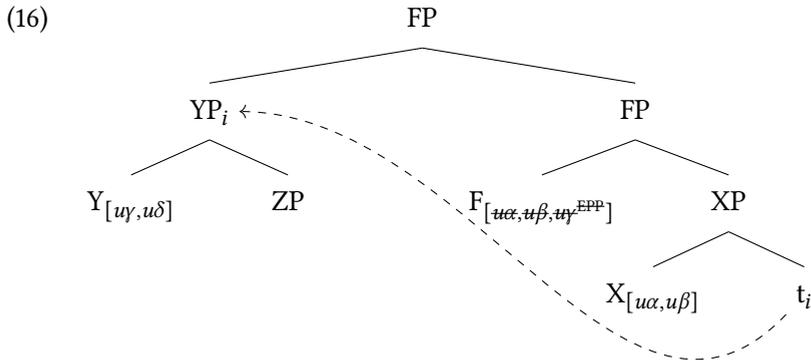
In (15) the probe F enters into multiple Agree relations with X and Y: X has a subset of matching features of F,  $\alpha$  and  $\beta$ , and Y has  $\gamma$  (and another feature). Now suppose that F has the EPP feature triggering a goal to move to the specifier of FP. Which goal, X or Y, moves?



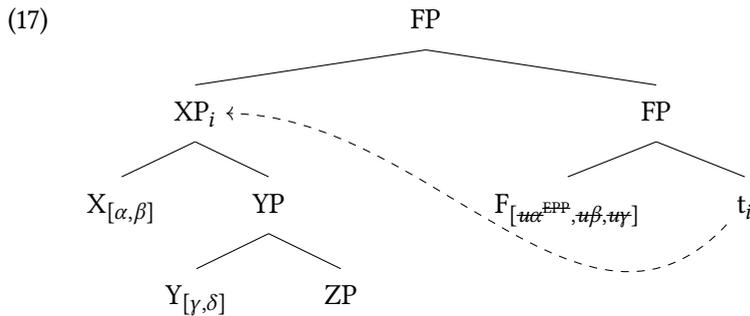
This problem is resolved once we abandon treating the EPP as a feature per se. EPP is a property of a feature rather than a feature on a probe, and a probing feature can be specified for the EPP property (cf. Chomsky 2000). So, when *Multiple Agree* happens, the probe may trigger movement of a goal with a matching feature if and only if that feature on the probe has the EPP property.

Suppose that the feature  $\gamma$  on F is specified for EPP in (15). While both X and Y agree with F, X remains in situ and only Y, which has the matching feature  $\gamma$ , is induced by the EPP property of the feature  $\gamma$  on the probe F. However, Y itself cannot move; a specifier cannot be occupied by a head.<sup>16</sup> The EPP-specified feature  $\gamma$  on F forces syntactic movement of the maximal projection of Y, which is YP, to its specifier position.

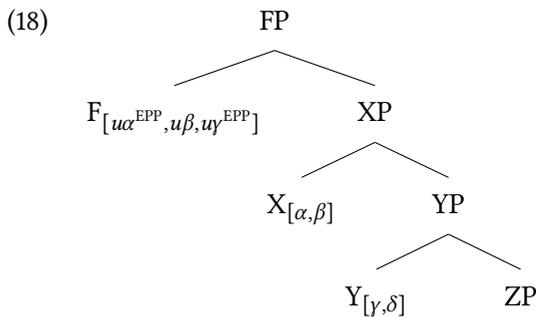
<sup>16</sup>This is the case in the X-bar theory, which this monograph adopts, not in the bare phrase structure.



Suppose instead that it is  $\alpha$ , not  $\gamma$ , which is specified for EPP on F. Then it is XP, not YP raises to Spec, FP, as shown in (17).



What happens if both  $\alpha$  and  $\gamma$  have EPP properties as in (18)? Can both XP and YP raise to Spec, FP simultaneously?



#### 4 Word order and feature inheritance

The rule of *Multiple Agree under Antisymmetry* in (14), which is repeated below, may prevent the raising of XP and YP simultaneously, unless one of them raises further up during the course of derivation.

(19) **Multiple Agree under Antisymmetry** (*First Operational Rule of FI*)

Only one goal can be spelled out at the specifier of a probe in multiple agree relations.

### 4.4 Feature inheritance in Korean and Japanese vs English

I have identified probing features on C and  $v$  and how EPP is set onto these features and operates under a probe-goal relationship. In this section, I will show that languages differ from each other with respect to EPP-specifications on the features on C and  $v$ , and propose different ways of valuing these features via FI. I will explain how FI takes place in the C-T domain and the  $v$ -ASP structure in Korean and Japanese in comparison with English. The detailed mechanism of FI the  $v$ -ASP structure will be applied to account for OV-VO variation in Korean-English and Japanese-English CS in Chapter 5.

#### 4.4.1 Features on C

We have seen in Chapter 1 that Korean and Japanese display head-final structure where all heads uniformly follow all their complements. By contrast, English exhibits head-initial structure, where all complements are followed by their heads. This contrast is also observed in the C-T domain where the C head follows its complement TP in Korean and Japanese, while it precedes TP in English, as exemplified in (20).

(20) a. Korean:

Bibi-ka [CP [TP Joa-ka chayk-ul sass-ta]-ko]  
Bibi-NOM Joa-NOM book-ACC buy.PAST-DECL-COMP  
malhayss-ta  
say.PAST-DECL

b. Japanese:

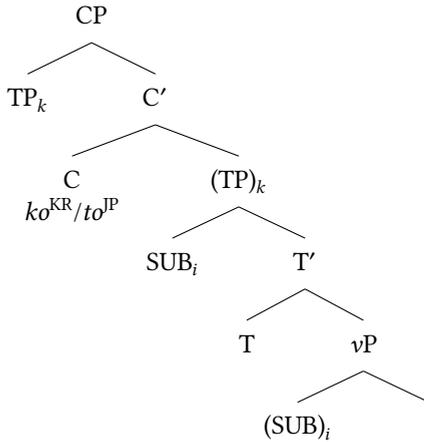
Bibi-ga [CP [TP Joa-ga hon-o kat-ta]-to] it-ta  
Bibi-NOM Joa-NOM book-ACC buy.PAST-COMP say.PAST

c. Bibi said [CP **that** [TP Joa bought a book]]

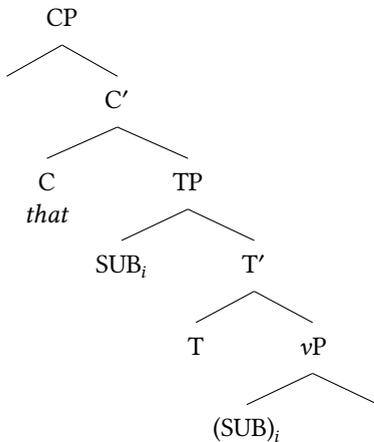
#### 4.4 Feature inheritance in Korean and Japanese vs English

Despite the relative position of C head, before TP in English but after TP in Korean and Japanese, the subject is located at the beginning of a sentence in all of these languages; both the matrix subject *Bibi* and the embedded subject *Joa* are positioned at Spec, TP. All of these empirical facts can be explained if we assume that the subject that is base-generated at Spec, vP moves to Spec, TP in all three languages and the TP further moves up to Spec, CP in Korean and Japanese, whereas it remains in situ in English (21).

(21) a. Korean and Japanese



b. English



Both subject movement and TP raising are induced by the EPP specification on a feature on the probe C. What the structures in (21) reveal is that C in Korean and Japanese and C in English have different EPP specifications. In Korean and

#### 4 Word order and feature inheritance

Japanese, two of the features on C have the EPP property, and each EPP property triggers movement of the subject and movement of the TP, respectively. By contrast, only one feature on C is specified for EPP in English, as a result of which the subject raises. Under this scenario, we ask the following questions: which features on C are specified for EPP in Korean, Japanese, and English and how do they trigger the raising of C's goals?

I assume that C in all these languages share the same features,  $[u\phi]$ ,  $[uT]$ , and  $[uD]$ .<sup>17</sup> I also propose that  $[uD]$  on C in Korean, Japanese and English is all specified for EPP, which is responsible for subject raising to TP. The evidence to support this comes from the fact that in all three languages the only element that can raise to Spec, TP is a noun phrase, which checks the nominative Case/D-feature against T. Also, I claim that  $[uT]$  on C in Korean and Japanese is EPP-specified, triggering TP raising to Spec, CP. (22) shows feature specifications on C in Korean, Japanese, and English.

- (22) a. C  $[u\phi, uT^{EPP}, uD^{EPP}]$  Korean, Japanese  
 b. C  $[u\phi, uT, uD^{EPP}]$  English

It is legitimate to ask why it is  $[uT]$ , not  $[u\phi]$ , is specified for EPP on C in Korean and Japanese. Although I assume that Korean and Japanese have  $\phi$ -features, parallel to English, the presence of  $\phi$ -features in these languages is subject to debate in the literature. Due to the fact that Korean and Japanese do not show any morphological indication of  $\phi$ -features on their nominals (none of the  $\phi$ -features, such as person, number and gender, are morphologically marked in these languages), some researchers argue that  $\phi$ -features may be lacking altogether in Korean and Japanese (Kuroda 1988; Namai 2000; Saito 2007; 2011; Kim & Sells 2007; Şener & Takahashi 2009). On the other hand, other researchers contend that subject (and object) honorification in Korean and Japanese is an instance of subject (or object)-verb agreement. Based on this, they argue for the presence of  $\phi$ -features in these languages (Ahn 2002; Boeckx & Niinuma 2004; Choe 2004; Harada 1976; Hasegawa 2005; Koopman 2005; Takita 2006).

- (23) a. *sensayng-nim-i haksayng-ul kitali-si-n-ta* Korean  
 teacher-HON-NOM student-ACC wait-HON-PRES-DECL  
 'The teacher is waiting for a/the student.'  
 b. *haksayng-i sensayng-nim-ul kitali-(\*si)-n-ta*  
 student-NOM teacher-HON-ACC wait-HON-PRES-DECL  
 'A/The student is waiting for the teacher.'

<sup>17</sup>Sigurdsson (2004) proposes that all languages have the same set of features in narrow syntax.

#### 4.4 Feature inheritance in Korean and Japanese vs English

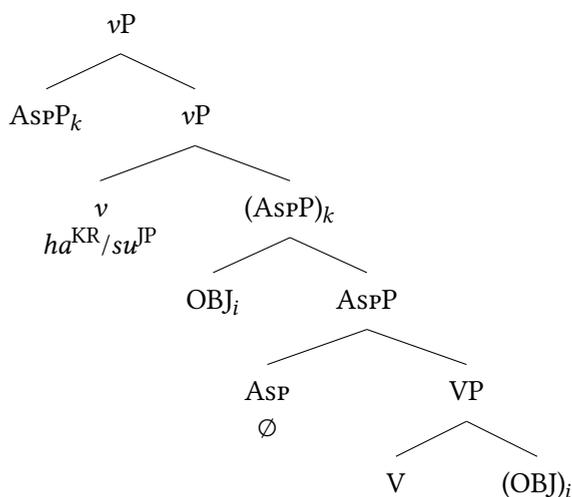
- c. sensei-ga gakusei-o o-mati ni naru Japanese  
 teacher-NOM student-ACC HON-wait HON  
 ‘The teacher waits for a/the student.’
- d. gakusei-ga sensei-o matu/\*o-mati ni-naru  
 student-NOM teacher-ACC wait/HON-wait HON  
 ‘A/The student waits for the teacher.’

Skirting the debate about the absence or presence of  $\phi$ -features in Korean and Japanese, I will assume that [ $uT$ ] on C is EPP-specified in Korean and Japanese and responsible for TP raising to Spec, CP, rather than proposing that the EPP property on [ $u\phi$ ] on C yields to parametric variation, in view of the fact that the presence of  $\phi$ -features is controversial in Korean and Japanese.

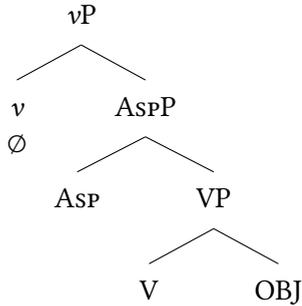
#### 4.4.2 Features on $v$

The contrast between head-final structure in Korean and Japanese and head-initial structure in English is also observed in the verbal domain: the verb follows the complement in Korean and Japanese whereas the verb precedes its complements in English, thus showing OV and VO order, respectively. Thus, the OV-VO contrast between Korean/Japanese and English can be captured in the  $v$ -AspP structure in (24), which is parallel to the CP structure of Korean/Japanese and English in (21).

- (24) a. Korean and Japanese



b. English



In Korean and Japanese, the object first moves to Spec, ASPP and OV order is derived within ASPP. Then the entire ASPP raises to Spec, vP, resulting in OV-*ha* order in Korean and OV-*su* order in Japanese. By contrast, the object remains in situ and ASPP may or may not raise in English; since *v* is null in English, there is no obvious way to tell if ASPP moves to the left of *v*. Absent any indication to the contrary, I assume that ASPP remains in situ in English. The Korean and Japanese *v*-ASP structure in (24a) is entirely parallel to their C-T structure in (21a), and based on this, I propose the following feature specifications on *v* in Korean/-Japanese and English.

- (25) a.  $v [u\phi, uAsp^{EPP}, uD^{EPP}]$  Korean, Japanese  
 b.  $v [u\phi, uAsp, uD]$  English

Notice that none of the features on *v* is EPP-specified in (25b). This means that after ASP inherits features from *v*, no overt movement occurs and the underlying VO order maintains in English.<sup>18</sup> However, several researchers have argued that the (direct) object does not stay in situ but moves out of VP in English (e.g. Johnson 1991; Kawakami 2017; Runner 1995).<sup>19</sup> If we adopt this view, [*uD*] on *v* is EPP-specified, triggering object raising in English. Then we may modify the feature specifications on *v* in English by adding an EPP property on the D-feature, as shown in (26b), where feature specifications on *v* are perfectly parallel to feature specifications on C in English.<sup>20</sup> In this monograph, I will continue to assume (25b) for features on *v* in English unless there is a compelling reason to take (26b).

<sup>18</sup>This is limited to the case of lexical verbs. With a light verb lexicalizing the ASP head, FI from *v* to ASP does not take place. However, whether the verb is heavy or light, VO order remains due to the absence of EPP on any of *v*'s features in English.

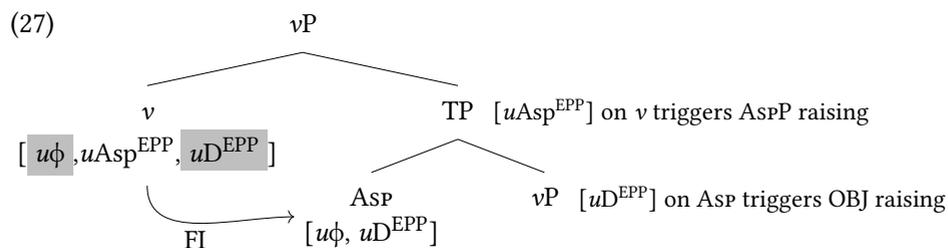
<sup>19</sup>Working in the pre-minimalist framework, Johnson (1991) proposes that the object raises to Spec, VP.

<sup>20</sup>V further raises to *v* (Chomsky 1995), therefore, the underlying VO order maintains.

In fact, whether we take (25b) or (26b), it will not make much of a difference in the discussion of FI in English.

- (26) a. C [ $u\phi$ ,  $uT$ ,  $uD^{EPP}$ ] English  
 b.  $v$  [ $u\phi$ ,  $uAsp$ ,  $uD^{EPP}$ ]

On the other hand, in Korean and Japanese, two of  $v$ 's features are EPP-specified (25a) and trigger object movement and  $AspP$  raising. The  $Asp$  head itself does not bear any features and inherits features from  $v$ . (27) shows that the  $Asp$  head inherits a subset of features of  $v$ , [ $u\phi$ ,  $uD^{EPP}$ ], following the principle of *Selection*, which triggers object shift to Spec,  $AspP$ . Due to the principle of *Expiration*, [ $u\phi$ ,  $uD^{EPP}$ ] on  $v$ , which are inherited by  $Asp$ , no longer function as probing features and remain inactive. On the other hand, [ $uAsp^{EPP}$ ] on  $v$ , which has not been transmitted to  $Asp$ , probes for a goal with the matching feature and triggers  $AspP$  raising to Spec,  $vP$ .<sup>21</sup>



But why does  $Asp$  inherit [ $uD^{EPP}$ ] from  $v$ , not [ $uAsp^{EPP}$ ] in Korean and Japanese? Which features are selectively inherited by  $Asp$  from  $v$ ? The principle of *Selection* in (5) states that features may be selectively inherited, but it does not specify which features are selected from a phase head. Yet, features just cannot be randomly selected and inherited, as we will see that random selection and the inheritance of features may result in a crash in a derivation, which violates the principle of *Obligation*. Thus, I propose that FI must operate for a syntactic derivation to converge and it is regulated by the following three operational rules stated in (29) in addition to the four principles in (5), which are repeated in (28).

(28) **Principles of Feature Inheritance**

a. *Obligation*

FI is obligatory whenever possible.

<sup>21</sup>  $AspP$  raising will be discussed in §4.4.3

#### 4 Word order and feature inheritance

- b. *Validation*  
FI occurs if and only if the recipient head is a valid head.
  - c. *Selection*  
Features may be selectively inherited.
  - d. *Expiration*  
Inherited features are only active on the heir (T,  $_{ASP}$ ) and lose their probing capability on the donor (C,  $v$ ).
- (29) **Operational rules of Feature Inheritance**
- a. *Multiple Agree under Antisymmetry*  
Only one goal can be spelled out at the specifier of a probe in multiple agree relations.
  - b. *Earliness* (cf. Pesetsky 1989)  
Value features and satisfy EPP as early as possible.
  - c. *Economy* (cf. Pesetsky & Torrego 2001)<sup>22</sup>  
Value features via the minimum number of Agree relations.

The three operational rules in FI in (29) provide an answer to the question “why does  $_{ASP}$  inherit [ $u\phi$ ,  $uD^{EPP}$ ], from  $v$ , not [ $u\phi$ ,  $uAsp^{EPP}$ ], in Korean and Japanese in (27)?” In order to see this, we examine how features are inherited from  $v$  to  $_{ASP}$  following the operational rules of FI in Korean and Japanese, in comparison with FI from  $v$  to  $_{ASP}$  in English.

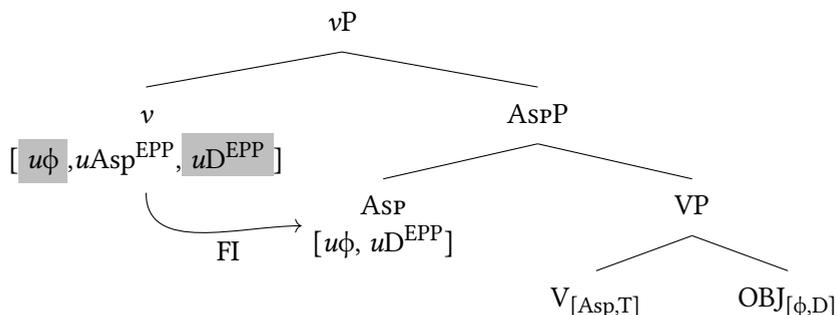
In English,  $v$  has [ $u\phi$ ,  $uAsp$ ,  $uD$ ], none of which are specified for EPP, as proposed in (25b). Following the rule of *Earliness* in (29b),  $v$  may transmit all of its features to  $_{ASP}$  at once, which provides an opportunity for all of  $v$ 's features to be valued within  $_{ASP}P$ . With a heavy/lexical verb, which corresponds to V,  $_{ASP}$  is null and featureless, thus it can inherit [ $u\phi$ ,  $uAsp$ ,  $uD$ ] from  $v$ , after which  $_{ASP}$  enters into Multiple Agree relations with V, which has [ $Asp$ , T], and also with the D head of the object, which has [ $\phi$ , D]. Since none of the features on  $v$  are EPP-specified, no goal raises to Spec,  $_{ASP}P$  after FI and the derivation converges. As a result, the underlying VO order maintains on the surface.<sup>23</sup>

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<sup>22</sup>Pesetsky & Torrego (2001) proposes the Economy Principle which states that “A head H triggers the minimum number of operations necessary to satisfy the properties (including EPP) of its uninterpretable features” (p359).

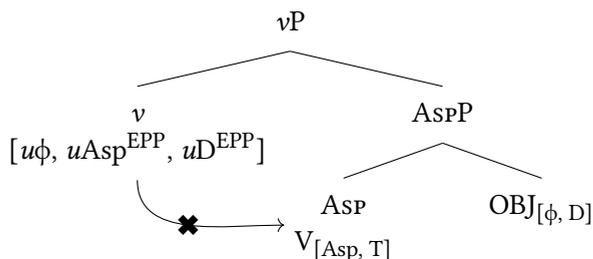
<sup>23</sup>I assume that V has both Aspect and Tense features and enters into a probe-goal relationship with  $v$ - $_{ASP}$  and C-T. How the T feature on V plays a role in FI in the C-T domain will be discussed in Chapter 5.

## (30) English heavy verbs



When the verb is light, on the other hand, FI does not occur, for the lexically filled  $ASP$  is no longer an eligible head to inherit  $v$ 's features (à la the principle of validation) as in (31). Instead,  $v$ 's features are valued against  $ASP$  and the object, and VO order remains. Thus, regardless of the status of the verb, whether it is heavy or light, VO order is derived in English.

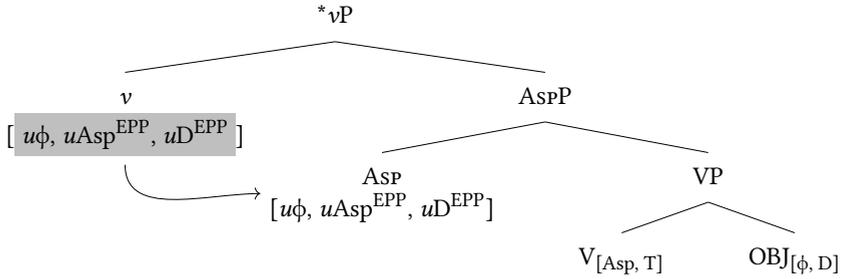
## (31) English light verbs



In Korean and Japanese,  $v$  has  $[u\phi, uAsp^{EPP}, uD^{EPP}]$ , two of which are specified for EPP as identified in (25a). Similar to English,  $v$  tries to transmit all of its features to  $ASP$  all at once, in accordance with the *Earliness* rule of FI, which allows not only all of  $v$ 's features to be valued within  $ASPP$  but also the EPP specifications on  $[uAsp]$  and  $[uD]$  to be satisfied as early as possible. If  $ASP$  inherits all of  $v$ 's features, it enters into Multiple Agree relations with  $V$  and the  $D$  head of the object. However, both  $[uAsp]$  and  $[uD]$  on  $ASP$  are specified for EPP, which triggers movement of the maximal projection of a goal with the matching features. Thus, both the DP-object and the VP are forced to move to Spec,  $ASPP$ . Although the derivation in (32) obeys the rule of *Earliness*, it violates *Multiple Agree under Antisymmetry*; both the VP and the object cannot be spelled out at Spec,  $ASPP$  in the  $vP$  phase. As a consequence, the derivation crashes.

4 Word order and feature inheritance

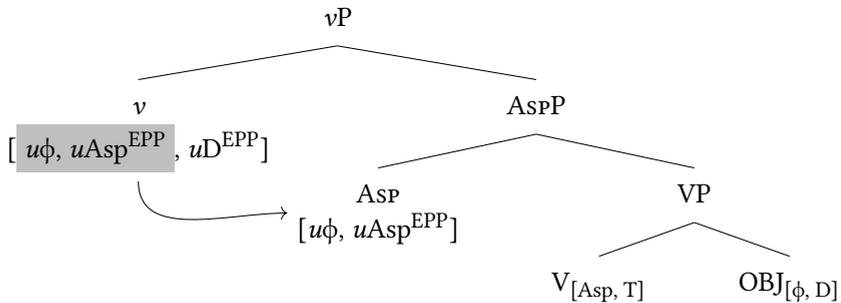
(32) Korean, Japanese



This means that ASP cannot inherit all of v's features but can be endowed with either [uAsp<sup>EPP</sup>] or [uD<sup>EPP</sup>] from v. Now this leads us to the question raised earlier: which features are selectively inherited by ASP from v? Why does ASP inherit [uD<sup>EPP</sup>] from v, not [uAsp<sup>EPP</sup>] in Korean and Japanese? It is the rule of *Economy* that plays a role.

Suppose that ASP inherits [uAsp<sup>EPP</sup>] from v. ASP also inherits [uφ]. After the ASP head inherits [uφ, uAsp<sup>EPP</sup>] from v, it enters into two feature checking relationships, one with the object, which has the matching φ-feature and the other with the V, which has the Asp-feature. After [uφ, uAsp<sup>EPP</sup>] are transferred from v to ASP, these features remain inactive on v and only [uD<sup>EPP</sup>] will probe a goal with the matching feature (the principle of *Expiration*). Thus, v agrees with the object, which is headed by D and has the matching D-feature. All in all, v's features are valued via three rounds of feature matching, as illustrated in (33).

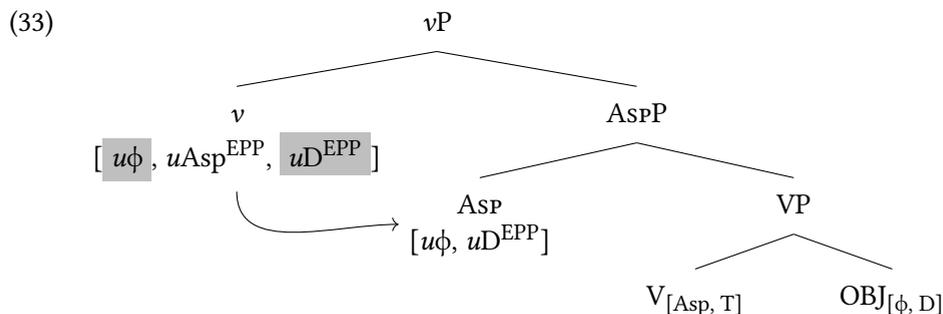
(33)



- i. feature matching between ASP and OBJ: [uφ] is valued
- ii. feature matching between ASP and V: [uAsp<sup>EPP</sup>] is valued
- iii. feature matching between v and OBJ: [uD<sup>EPP</sup>] is valued

Instead ASP may inherit [uφ, uD<sup>EPP</sup>] from v, as in (33). Then, both φ-features and D-feature on ASP can be valued via a single probe-goal relationship with

the object, which has both  $\phi$  and D features. The remaining Asp-feature on  $v$  is valued against the verb.



- i. feature matching between  $ASP$  and  $OBJ$ :  $[u\phi, uD^{EPP}]$  are valued
- ii. feature matching between  $v$  and  $V$ :  $[uAsp^{EPP}]$  is valued

Although both derivations in (33) and (33) obey the rules of *Earliness* and *Multiple Agree under Antisymmetry*, the latter involves a smaller number of feature matching operations than the former:  $v$ 's features are valued in two steps in (33) and three in (33). In other words, the derivation in (33) wins over the derivation in (33) according to the operational rule of *Economy* in (29c), which states that "Value features via the minimum number of Agree relations". Hence, it provides an answer to the question why  $ASP$  inherits  $[uD^{EPP}]$  from  $v$ , not  $[uAsp^{EPP}]$ , in Korean and Japanese.

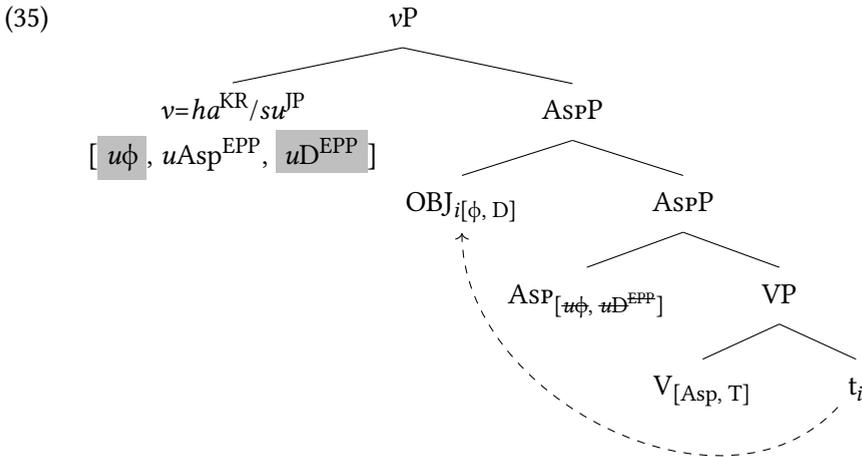
Based on this, I will proceed to explain how OV order is derived in light verb *ha* and *su* constructions in Korean and Japanese under the FI mechanism developed here. Before doing so, I would like to add a few words to the general operation of FI. I assume that features are clustered and valued en-bloc, and the operational rules of FI certainly support this view: the rule of *Economy* demands the number of feature checking operations be minimized, which in turn applies feature valuation to as many features at once as possible (cf. the principle of maximized matching in Chomsky 2001). Although en-bloc feature checking may not seem to play a crucial role in (33) where the EPP-specifications on  $[uD]$  and on  $[uAsp]$  of  $v$  are valued separately by two different goals, the object and the verb, respectively, the notion of feature clusters will become more prominent when  $v = ha^{KR}/su^{JP}$  enters into a feature checking relationship with a single goal, which is  $ASP$ , and all the features of  $v = ha^{KR}/su^{JP}$ , including the EPP-specifications on  $[uD]$  and  $[uAsp]$ , are clustered and valued against a single goal. We will see this in Chapter 5.

### 4.4.3 Deriving OV in Korean and Japanese

The structure in (33) above, where  $ASP$  inherits  $[u\phi, uD^{EPP}]$  from  $v$ , accounts for the sequence of *OV-ha* and *OV-su* in light verb constructions in Korean and Japanese in (33).

- (33) Bibi-ka yenge-lul kongpwu hayss-ta Korean  
 Bibi-NOM English-ACC study DO.PAST-DECL
- (34) Bibi-ga eigo-o benkyoo sita Japanese  
 Bibi-NOM English-ACC study DO.PAST-DECL  
 ‘Bibi studied English.’

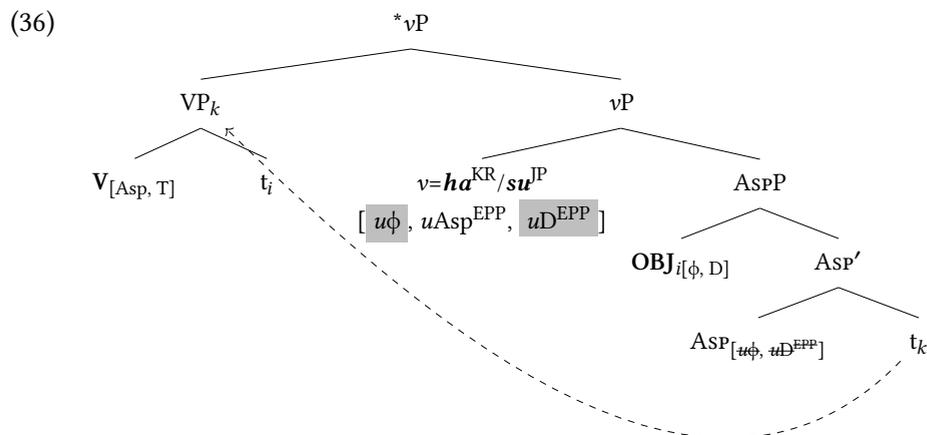
After  $ASP$  inherits  $[u\phi, uD^{EPP}]$  from  $v$ ,  $ASP$  agrees with the D head of the object, which bears the matching features. While  $[u\phi]$  on  $ASP$  can be valued against the  $\phi$ -feature on the object in-situ via Agree, the EPP property on the D-feature on  $ASP$  triggers movement of the maximal projection of a goal with the corresponding feature. Consequently, the object (the maximal projection of D head) raises to Spec,  $ASP$ P, delivering OV order within  $ASP$ P, as shown in (35). For the sake of simplicity, DP and NP are not distinguished here.



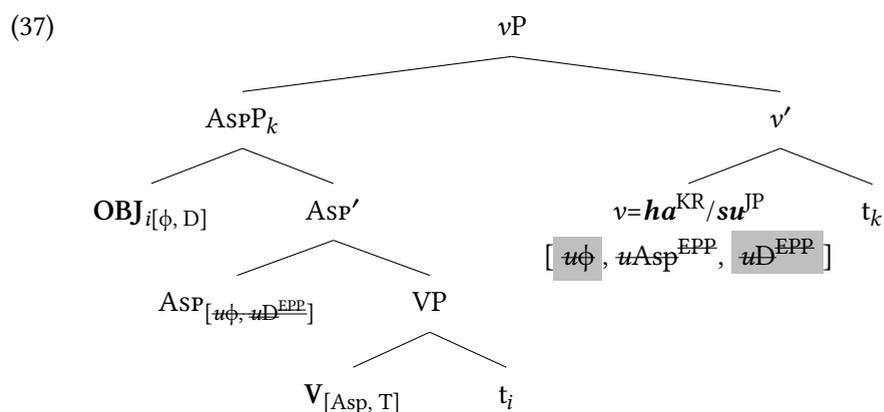
After FI from  $v$  to  $ASP$ ,  $[u\phi, uD^{EPP}]$  on  $v$  no longer function as probing features (the principle of *Expiration*). But  $[uAsp^{EPP}]$  on  $v$  still needs to be valued and the EPP property on  $[uAsp]$  on  $v$  also triggers movement of the maximal projection of the goal with the matching feature, which is the VP: V bears the matching Asp-feature. However, if the VP moves to Spec,  $v$ P, OV order is not derived. Instead, the surface order would be *V-ha-O* in Korean or *V-su-O* in Japanese, as shown in

#### 4.4 Feature inheritance in Korean and Japanese vs English

(36), which is an unattested order in Korean and Japanese: the linear order must be O-V-*ha* in Korean and O-V-*su* in Japanese, as evidenced in (33).



How do we get O-V-*ha/su* order from (35) then? To put it differently, how do we rule out the derivation in (36), which yields an impossible word order in Korean and Japanese? In (35), *v* enters into a probe-goal relation with V and [*uAsp*<sup>EPP</sup>] on *v* triggers VP movement, which does not derive OV-*ha/su* order as we saw in (36). If ASPP is pied-piped by VP, on the other hand, the entire ASPP raises to Spec, vP, and we do get the correct order, O-V-*ha* and O-V-*su* as illustrated in (37).



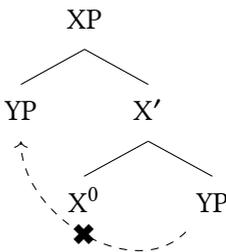
#### 4 Word order and feature inheritance

So, how can we rule out the derivation in (36) on a principled ground and have the derivation in (37) as the only legitimate derivation in light *ha/su* constructions in Korean and Japanese? Here, I appeal to a perspective from Distributed Morphology towards functional and lexical categories (Halle & Marantz 1993; Harley & Noyer 1999). Distributed Morphology (DM) offers a syntactic approach to word formation, in which a word is syntactically derived via merging a category-neutral root with a category-defining functional head (Marantz 1997). On this view, a lexical category (or *l*-morpheme in DM's terminology) such as V, N and A, is a root, whose lexical status is underspecified, and requires selection by a functional category (or *f*-morpheme), such as *v*, *n*, and *a*, in order for its lexical status to be determined and spelled out via Vocabulary Insertion at PF.

Under this view, the fact that the VP cannot move in (36) can be explained by the claim that the projection of lexical roots is incapable of undergoing syntactic movement arguably because the root would be severed from the functional category which 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 *AspP* pied-piped by VP must be raised to Spec, *vP* to satisfy the EPP property on [*uAsp*] of *v*, as in (37)<sup>24</sup>

One may question whether *AspP* raising is licit in (37), assuming that movement of *AspP*, which is the complement of *v*, to the specifier of the same head *v* is too short or local and would violate the so-called *anti-locality* constraint that disallows local movement of the complement of a head to the specifier of the very same head (e.g. Abels 2003; Cinque 2005; Grohmann 2003).

#### (38) Anti-locality constraint

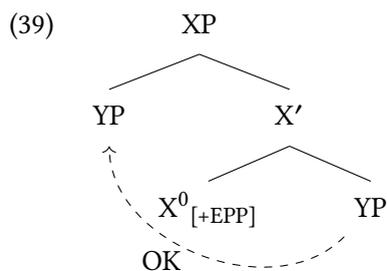


<sup>24</sup>On this view, object raising involves *nP* rather than *NP*, in which a functional category *n* selects *NP*.

#### 4.4 Feature inheritance in Korean and Japanese vs English

Working in the minimalist framework, Abels (2003) claims that movement is allowed only if a new feature checking relation is established and all features can be satisfied or checked in the head-complement relation, which is the closest relation in syntax. Thus, there is no good reason to move a phrase from the complement to the specifier position of the same head for such movement does not establish a new feature satisfaction/checking relation.

Assuming that all feature checking occurs uniformly in a checking domain, which corresponds to the c-command domain of the probe (Chomsky 1995; 2000), it is true that all features could be checked, in principle, via Agree; uninterpretable features on the head/probe can be checked against the matching features of a goal without movement of the goal. However, given that the EPP on the probe can be only satisfied in a Spec-Head relation, as assumed in the minimalist syntax, and if the closest match is the probe's complement, the complement must raise to satisfy the EPP property on the probe. Unless this movement is extrinsically constrained, considerations of anti-locality are moot. Thus, I conclude that  $ASpP$  movement is legitimate in (39).



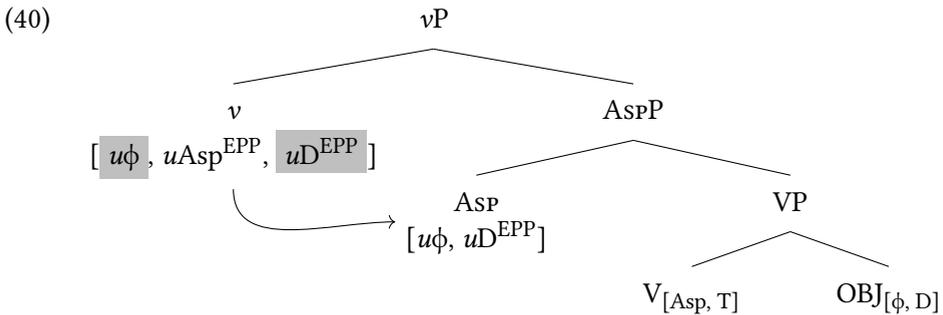
In fact, comp-to-spec raising has been justified by various researchers. Aboh (2003), for instance, proposes that the whole  $ASpP$  raises to the specifier position of its dominating functional/F head in Gungbe.<sup>25</sup> Outside the  $vP$  domain, Richards & Biberauer (2005) also account for expletive elements distribution in Germanic languages and argue that that  $vP$  raising to T satisfies the EPP of T. Such cross-linguistic evidence supports the current proposal of  $ASpP$  raising to Spec,  $vP$ , which delivers correct linear order of *OV-ha* and *OV-su* in Korean and Japanese light verb constructions. In Chapter 6, it will be shown that TP is pied-piped and raises to Spec, CP in the C-T domain in Korean and Japanese, which is entirely analogous to the  $v$ - $ASp$  domain where  $ASpP$  is pied-piped and raised, as explained in this section.

<sup>25</sup>When this happens, OV order is derived, which may co-vary with VO order in this language.

## 4.5 Chapter summary and conclusion

In this chapter, I reviewed several issues of recent developments in syntactic theories in the Minimalist Program. Adopting the proposal that morphosyntactic features of functional categories lead to cross-linguistic variation and C and  $v$  are core functional categories, word order variation is attributed to feature contents of these functional categories. This idea was furthermore taken in connection with FI, which was primarily proposed for the domain of C-T by Chomsky where T inherits its probing features from C. Parallel to FI from C to T, I proposed features are inherited by  $ASP$  from  $v$ . To promote FI as a fully-fledged mechanism to derive syntactic derivations more efficiently and economically, I proposed four principles of FI, *Obligation*, *Validation*, *Selection* and *Expiration*. In addition, I claimed that FI is operated by three rules, *Multiple Agree under Antisymmetry*, *Earliness*, and *Economy* and have shown how head-final structure in Korean and Japanese and head-initial structure in English is derived via FI.

To account for *OV-ha* order in Korean and *OV-su* order in Japanese in contrast with *VO* order in English, I proposed the underlying  $v$ - $ASP$  structure for Korean and Japanese (40) (repeated from 33), where two of  $v$ 's features have EPP properties.

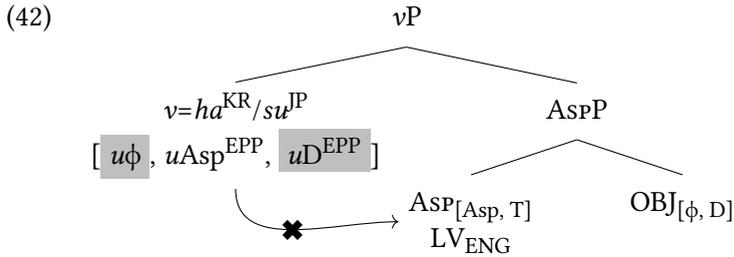


(40) feature matching between  $ASP$  and  $OBJ$ :  $[u\phi, uD^{EPP}]$  are valued

(41) feature matching between  $v$  and  $V$ :  $[uAsp^{EPP}]$  is valued

In (40) null-headed  $ASP$  inherits  $[u\phi, uD^{EPP}]$  from  $v = ha^{KR}/su^P$  and triggers object shift, delivering *OV* order within  $ASP$ . Then entire  $ASP$  is pied-piped by the  $VP$  and raises to  $Spec, vP$  due to feature matching between  $v$  and  $V$ , as a result which the linear order of *OV-ha/su* in Korean/Japanese is derived. The structure in (40) will be used to account for *OV-ha* and *OV-su* order in Korean-English and Japanese-English CS in Chapter 5. Yet, we will see that there are cases

when FI from  $v = ha^{KR}/su^{JP}$  to  $ASP$  is blocked and the object fails to move to Spec,  $ASP$ P. As exemplified in (42), when  $ASP$  is lexicalized by an English light verb, it bears the verbal features of the light verb and cannot be a beneficiary of FI from  $v$ . FI occurs only when the recipient functional head is empty (the principle of validation). As a result, object raising does not occur whenever an English light verb lexicalizes  $ASP$ , which in turn derives VO-*ha/su* order in Korean-English and Japanese-English CS.



While I reserve an explanation of how OV and VO orders are derived in Korean-English and Japanese-English CS in next chapter, the main proposal can be summarized as the following: OV-VO variation in Korean-English and Japanese-English CS is a result of object raising to Spec,  $ASP$ P; when object shift occurs, OV order is derived. If the object stays in situ, the underlying VO order maintains. Regardless of object shift, the entire  $ASP$ P always raises to Spec,  $vP$  whenever  $v$  comes from Korean or Japanese, and the linear order would be OV-*ha/su* or VO-*ha/su* in Korean-English and Japanese-English CS. All these movements are a consequence of feature checking and EPP specifications on the phase head  $v$ , as proposed in the minimalist framework.



## 5 Deriving OV and VO in code-switching

Based on the theoretical model of feature inheritance developed in the previous chapter, this chapter offers a FI-based account of OV-VO variation in Korean-English and Japanese-English CS, which was tested against 28 Korean-English and 8 Japanese-English bilingual speakers' introspective judgments of the CS patterns presented to them in an experimental setting (Chapter 2). Overall, the results confirmed two research hypotheses of the study, which are repeated below.

### **Research Hypothesis 1**

Assuming that linguistic variation is determined by the way features are parameterized in functional categories and how these features are valued in syntactic derivations, OV-VO variation in Korean-English and Japanese-English CS will be determined by feature specifications on functional categories represented by light verbs in Korean, Japanese and English and how these features are valued in syntactic derivations.

### **Research Hypothesis 2**

Syntactically flexible phrases and inflexible phrases will behave differently with respect to word order derivation in CS. More specifically, while the internal argument of a syntactically flexible phrase is subject to CS, a syntactically inflexible phrase is frozen and undergoes CS as a unit. Hence, the internal order of the phrase will be maintained throughout the derivation.

The results of the CS judgment task revealed that the selection between an English heavy verb and an English light verb within a code-switched phrase led to OV and VO orders respectively in Korean-English and Japanese-English CS, which confirmed the research hypothesis 1. Figure 5.1, repeated from Chapter 2 (Figure 2.1), shows the percentage of VO order preference by Verb Type (heavy vs light) and Interpretation (literal vs non-literal) in Korean-English CS.

While a main effect of the verb type (heavy vs light) was found with respect to the distribution of OV and VO orders, this was rather more evident in the contexts where the code-switched phrase was interpreted literally or involved a light verb

## 5 Deriving OV and VO in code-switching

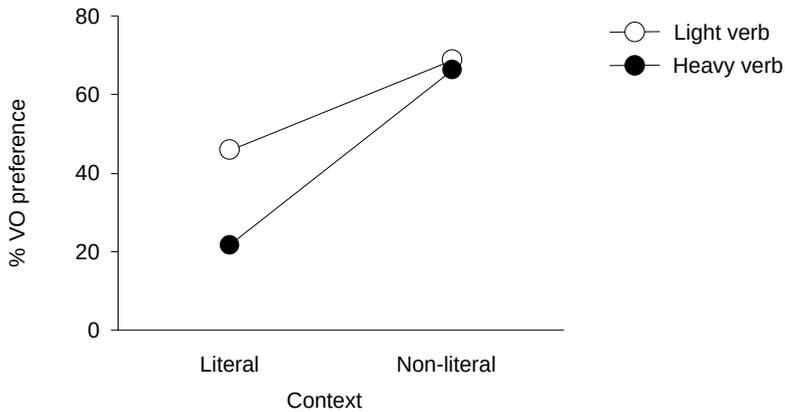


Figure 5.1: %VO preference by Verb Type and Interpretation

construction. When a code-switched phrase was a non-literal/idiomatic phrase, on the other hand, the status of the verb did not seem to play a role, by showing that the VO was preferred with both heavy and light verbs. Figure 5.2, a repetition of Figure 2.2, shows the percentage of VO order preference for different types of code-switched constituents in Korean-English and Japanese-English CS.

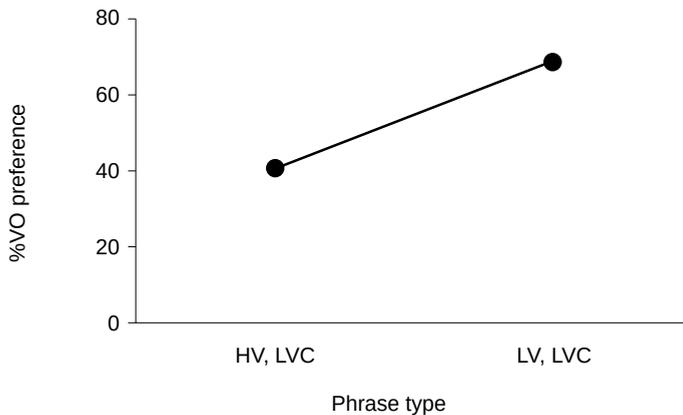


Figure 5.2: %VO preference, overall, as a function of Phrase Type and Speaker Group

It should be noted that the results from Japanese-English CS were not confirmed at a statistically significant level due to its small sample size ( $N=8$ ). Nonetheless, we can clearly see that the overall outcome of Japanese-English CS is similar to that of Korean-English CS in Figure 5.2: the distributional pattern of VO order preference is similar across the different types of phrases in both Korean-English

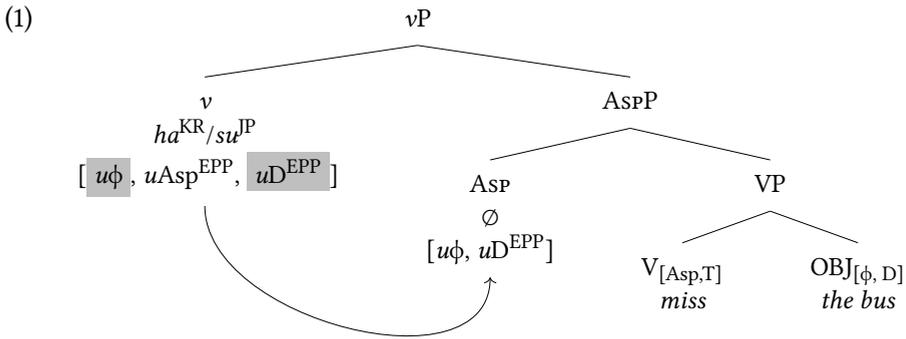
and Japanese-English CS. Thus, the following discussion is primarily based on the results obtained from the Korean-English CS judgment task, whose significance was statistically confirmed. Based on this, I propose a FI-based account of the distribution of OV and VO orders in Korean-English CS. It is expected that the same account should also hold for OV-VO variation in Japanese-English CS.

We notice that VO order is preferred less than 50% of the time in Korean-English and Japanese-English CS alike in three conditions (i.e. (i) heavy verb, literal interpretation, (ii) light verb, literal interpretation, and (iii) heavy verb, light verb construction). Assuming that VO is the underlying order for VO languages (e.g. English) as well as OV languages (e.g. Korean & Japanese), one may raise a question of why VO preference is so low (or even less than 50%) in some of the Korean-English and Japanese-English CS examples. However, it should be clarified that the assumption that VO is the underlying order does not state that VO is the default order. On the contrary, in monolingual grammars of Korean and Japanese and also bilingual grammars of Korean-English and Japanese-English CS, the default order is OV, which is necessarily derived from VO via FI, as explained in Chapter 4. As will be shown in the following sections, the underlying VO order surfaces if and only if FI from *v* to *ASP* fails to occur in Korean-English and Japanese-English CS and one instance was mentioned already in Chapter 4: when a code-switched phrase includes an English light verb, which represents *ASP*, FI does not take place, for *ASP* is not a valid head to inherit *v*'s features. We will see other cases when FI from *v* to *ASP* does not happen, which violates the principles of FI.

Another important issue that needs to be addressed: despite the fact that several individual code-switched phrases were unanimously favored in either OV or VO order by all speakers (e.g. 'break the glass', 'spill the soup' were preferred in OV order and 'have a look (at)', and 'make waves' were favored in VO order by all Korean-English bilingual speakers), the percentage of either OV or VO preference did not reach 100% in any of the six phrase types, as we see in Fig. 2.2. This is in fact expected from any experimental work involving human subjects, among whom there is a great level of variation in their performance, which may stem from non-linguistic factors such as participants' lack of attention, fatigue, memory span, etc. Also there is a dialectal variation among individuals and such variance and flexibility in linguistic competence becomes greater when the study involves bilingual participants whose two language grammars are very different and even in conflict, as in the Korean-English and Japanese-English bilinguals in this study. Although we should account for such variation (inter-subject variation) as well, here I limit myself to providing an analysis based on the more preferred/dominant word order, either OV or VO, in each phrase type.

### 5.1 Type 1: English heavy verbs and literal interpretation

The results of the CS judgment task revealed that OV order was strongly preferred by Korean-English bilingual speakers (78%) and Japanese-English bilinguals (81%) when the code-switched verb phrase included an English heavy verb in a literal interpretation (e.g. *miss the bus*). The structure in (1) represents the underlying structure for the phrase *miss the bus*, for instance, which was favored in OV order as in [(the) bus-ACC miss]-*ha/su* in Korean-English and Japanese-English CS.

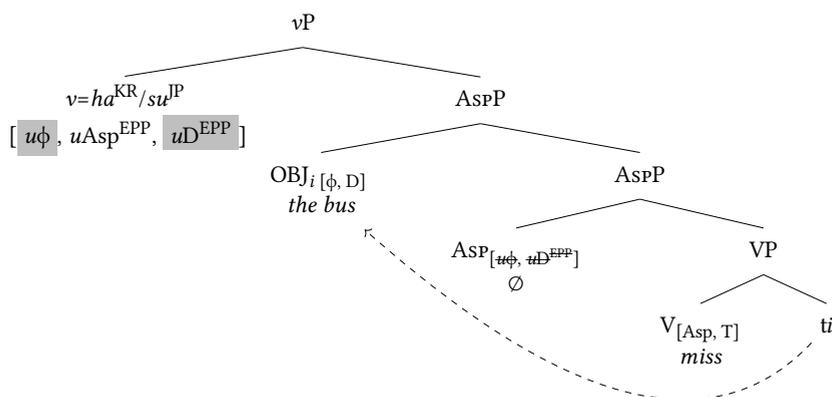


In (1), the null-headed  $ASP$  does not bear any formal features of its own and is selected by  $v = ha^{KR}/su^{JP}$ , which is a Case-checking light verb with EPP specifications. Via FI,  $ASP$  inherits the features  $[u\phi, uD^{EPP}]$  from  $v = ha^{KR}/su^{JP}$ . Recall from Chapter 4 that  $v = ha^{KR}/su^{JP}$  tries to transfer all of its features according to the rule of *Earliness*, yet  $ASP$  only inherits  $[u\phi, uD^{EPP}]$  from  $v$ , which obeys the other operational rules of FI, namely *Economy* and *Multiple Agree under Antisymmetry*. After FI from  $v$  to  $ASP$ , the uninterpretable  $\phi$  and D-features on  $ASP$  are valued against the interpretable  $\phi$  and D-features of the object. The EPP property of  $[uD]$  on  $ASP$  triggers its goal to raise as well, and as a result the object moves to Spec,  $ASP$ P where the object gets accusative Case; the D-feature is a Case feature.<sup>1</sup> The tree in (2) illustrates this.

<sup>1</sup>This will be further discussed in Chapter 6 (§6.1).

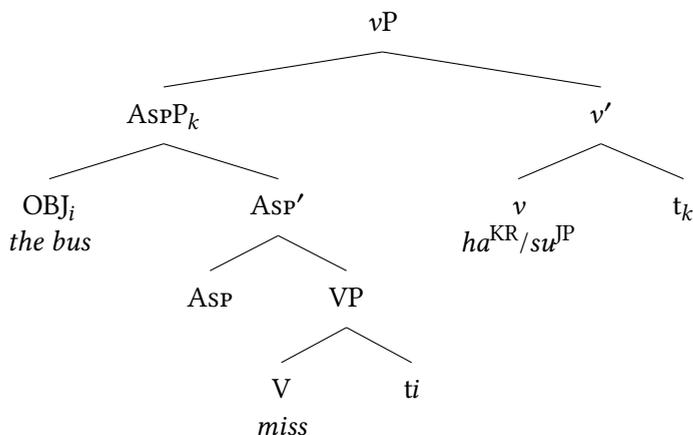
## 5.1 Type 1: English heavy verbs and literal interpretation

(2)



While  $[u\phi, uD^{EPP}]$  transferred from  $v$  to  $ASP$  are no longer active as probing features on  $v$ , the remaining feature  $[u_{ASP}^{EPP}]$  on  $v$  still needs to be valued. To do so,  $v = ha^{KR}/su^{JP}$  agrees with  $V$ , and movement of  $VP$  is triggered by the EPP specification of the Asp-feature on  $v = ha^{KR}/su^{JP}$ . However, movement of  $VP$ , the projection of a lexical root, is not possible and  $ASPP$  is pied-piped by the  $VP$  and raised to  $Spec, vP$ , which correctly delivers the surface order  $OV$ - $ha$  in Korean-English CS and  $OV$ - $su$  in Japanese-English CS, as shown in (3).

(3)



## 5.2 Type 2: English heavy verbs and non-literal interpretations

The second type of code-switched phrases included an English heavy verb and an object in a non-literal/idiomatic interpretation (e.g. *miss the boat*) and both Korean-English and Japanese-English bilingual speakers generally favored VO order, 66% and 63%, respectively. The same set of English (heavy) verbs were included in literal interpretations (Type 1) and non-literal interpretations (Type 2), yet the overall preferred word order was OV and VO, respectively. This contrast is highlighted with several examples in Table 5.1 below.

Table 5.1: Cross-item analysis between Type 1 and Type 2 conditions in Korean-English CS

Type 1	% VO	Type 2	% VO
shoot an alien	14	shoot the breeze	86
spill the soup	0	spill the beans	86
ring the bell	21	ring a bell	79
pull weeds	36	pull strings	79
lose your job	7	lose your marbles	71
feel the pain	0	feel the pinch	64
break the glass	0	break the bank	57

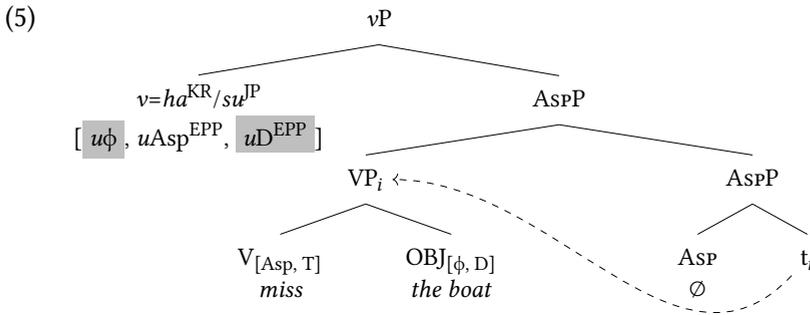
The OV-VO contrast between Type 1 and Type 2 items can be explained by the availability of object shift: object shift takes place in the former, but not in the latter. Then a question arises as to what prevents the object from raising in a non-literal interpretation (Type 2). I argue that this is due to the idiomatic status of the VP.<sup>2</sup>

<sup>2</sup>Or we can think of this differently. The derivation *per se* is possible, similar to the case of Type 1, but the idiomatic reading may be lost if the object moves out. Since the CS judgment task ensured that the participants interpret the code-switched phrase as an idiom, not as a literal meaning, I focus on providing an account of the preferred VO order with English VP idioms.



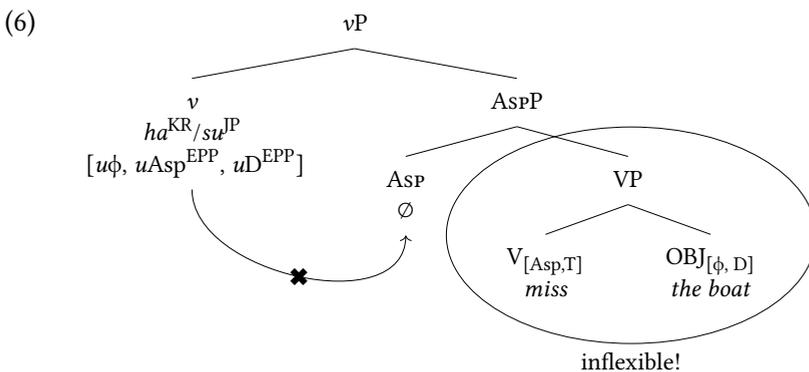
5 Deriving OV and VO in code-switching

This suggests that it is difficult for the object to be extracted from the VP in (4), but the EPP property of the D-feature on  $ASP$  still needs to be satisfied via object raising to  $Spec, ASPP$ . If the object does not raise, the derivation crashes. One way to save the derivation from crashing is that the object pied-pipes the VP and the entire VP raises to  $Spec, ASPP$ , as shown in (5).



However, the VP that is severed from its selecting functional category  $ASP$  cannot undergo phrasal movement and must pied-pipe  $ASPP$ , as discussed in §4.4. Thus, VP movement in (5) is an illicit movement and the smallest unit that is pied-piped by object movement is  $ASPP$ . Since  $ASPP$  raising to  $Spec, ASPP$  is not a possible derivation, the derivation crashes again. Then how can we derive VO-*ha/su* order here?

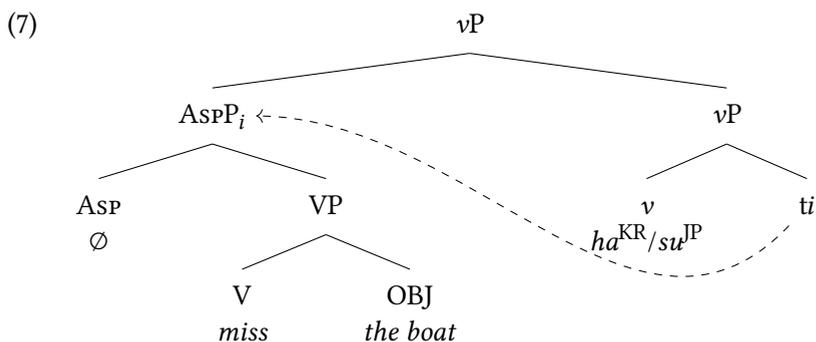
FI is designed to value uninterpretable features on a phase head in an efficient and economical way, and it happens automatically as long as a derivation converges. This was stated as the first principle of FI, *Obligation*: FI is obligatory as long as it does not lead to a syntactic crash. To put it differently, while FI from  $v$  to  $ASP$  is otherwise spontaneous, it is blocked in (4), for it leads to a derivational crash. Thus,  $v = ha^{KR}/su^{JP}$  may not transmit any of its features to  $ASP$ , and all of  $v$ 's features remain on the  $v$  head, as depicted in (6).



## 5.2 Type 2: English heavy verbs and non-literal interpretations

Notice that two of  $v$ 's features [ $u\text{Asp}$ ,  $uD$ ] are EPP-specified, which attracts a goal to Spec,  $vP$  in (6).  $v = ha^{KR}/su^{JP}$  agrees with both V and OBJ, each of which satisfies the EPP property on [ $u\text{Asp}$ ] and [ $uD$ ] of  $v$ , respectively. However, following the operational rule of *Multiple Agree under Antisymmetry*, only one goal can be raised and spelled out at Spec,  $vP$ . Here, I assume that Spec,  $vP$  is the final landing site for both object movement and the phrasal movement headed by V, which violates the rule of *Multiple Agree under Antisymmetry*. If only one goal raises, not all EPP properties on  $v$  will be satisfied, which in turn leads to a derivational crash. Now we seem to have a dilemma: If FI takes place as in (4), the derivation crashes. If FI does not occur, it also leads to a crash as well, as in (6). So, are we all doomed here?

Fortunately, there is a way to save the derivation. In (6) the VP is inflexible and the object cannot be extracted out of the VP. Instead, movement of (the maximal projection of) two goals V and OBJ together target  $\text{AspP}$ , which raises to Spec,  $vP$ . The raised  $\text{AspP}$  can satisfy the EPP properties on the Asp-feature and the D-feature on  $v = ha^{KR}/su^{JP}$ . In other words,  $\text{AspP}$  raising at one fell swoop values all the features of  $v$ , including EPP properties, which can be explained as the effect of "killing two birds with one stone." This correctly delivers VO-*ha* and VO-*su* order (7).



Some comments are in order: in (7),  $\text{AspP}$  raising satisfies both EPP specifications of [ $u\text{Asp}$ ] and [ $uD$ ] on  $v = ha^{KR}/su^{JP}$ . Yet, the  $\text{Asp}$  head itself is not a goal: it shares no matching features with  $v$ . Instead, the EPP specifications on  $v$  induce movement of the VP and the object, which are in the complement domain of  $\text{Asp}$ . The VP and the object together pied-pipe  $\text{AspP}$ , which saves the derivation. Although it may sound economical that the EPP requirement of [ $u\text{Asp}$ ] and [ $uD$ ] on  $v = ha^{KR}/su^{JP}$  can be met by  $\text{AspP}$  raising,  $\text{AspP}$  pied-piping by object shift is the last resort strategy to save the derivation, which otherwise crashes as a result of failure of object shift. In sum, when an English VP idiom with an English heavy

or lexical verb is code-switched into Korean or Japanese, FI from  $v = ha^{KR}/su^{JP}$  to  $ASP$  does not occur and all of  $v$ 's features including its EPP specifications are valued via  $ASP$  raising, which delivers VO-*ha* order in Korean-English CS and VO-*su* order in Japanese-English CS.

### 5.3 Type 3: English light verbs and literal interpretations

The results from the CS judgment task (Figure 5.2) shows that the occurrence of VO order with an English light verb in a literal interpretation (e.g. *have small head*) is 46% in 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 (and even OV order is preferred in Japanese-English CS). However, as discussed earlier, 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. Nonetheless, there was a great variation found among the light verbs as well as among the different test items.

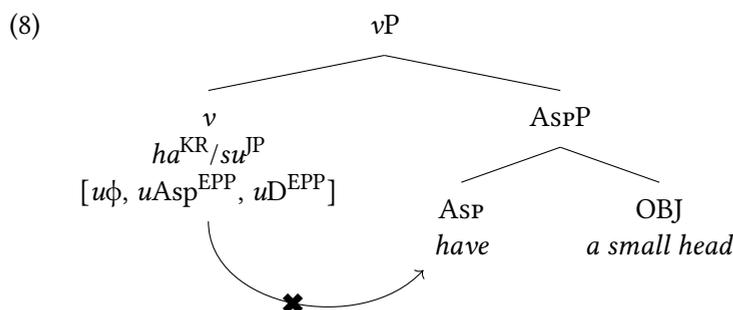
While the average percentage of VO order preference is 46% with an English light verb in a non-idiomatic context, there was a great variation among the eight light verbs as well as among the individual items within the same verb, as shown in Table 5.2. While a detailed item-based analysis of each light verb will be provided in §5.7, here the focus will be on the contrast found between heavy verbs and light verbs in the same condition, namely, heavy verbs in literal interpre-

Table 5.2: Item-based analysis for light verbs in literal interpretations in Korean-English cs

code-switched phrase	% vo	code-switched phrase	% vo
have a small head	86	hold water	43
have an upset stomach	86	give a big present	36
make friends	79	hold the bowl	29
keep a respectful manner	71	raise the fee	29
get a cold sore	64	give the job	14
get a new girlfriend	64	make a million bucks	7
take a hike	64	take a window seat	7
raise their hands	64	keep your receipt	0

tations (Type 1) and light verbs in literal interpretations (Type 3) where a main effect of verb types was found: the preferred order was OV and VO, respectively.

The VO order of a code-switched constituent with an English light verb in a literal context can be explained by the failure of object raising, which results from the proposal that English light verbs represent the head  $ASP$  (Recall (25) in Chapter 2). The FI principle of *Validation* states that FI occurs if and only if the recipient head is a valid head, with a valid head being a featureless nonphase head. In (8), *have* qua light verb lexicalizes the head  $ASP$ , which bears  $[Asp, T]$  features. Thus, it is not a valid head to receive  $v$ 's features. As a consequence, none of  $v$ 's features are discharged to  $ASP$ , and  $v$  enters into a probe-goal relationship.



Notice that two of  $v$ 's features,  $[uD, uAsp]$ , are EPP-specified, triggering a goal to raise to the specifier of  $vP$ . There are two matching goals here, the object, which has the matching D-feature, and the  $ASP$  head, which has the matching  $Asp$ -feature. However, the operational rule of *Multiple Agree under Antisymmetry* states that only one goal can be spelled out at the specifier of  $vP$ . Thus, only one goal should move to the specifier of  $vP$  while this movement should be able to satisfy the EPP property on both  $[uD]$  and  $[uAsp]$  on  $v$ . We have seen that this is in fact possible by  $ASP$ P raising to Spec,  $vP$ , the derivation depicted in (7) where the VP and the object together pied-pipe  $ASP$ P, which satisfies the EPP-specifications on  $[uD]$  and  $[uAsp]$  on  $v = ha^{KR}/su^{JP}$ . In fact, it is the only possible derivation since the VP is inflexible. However, in (8) where an English light verb lexicalizes  $ASP$ , VP is not projected. As explained earlier in Chapter 3, this follows from the idea that structure is built via Merge between two lexical items, here in this case the light verb *have* and the object, which is translated into the X-bar/tree structure. And the absence of VP provides an answer to why the EPP properties on  $v$  are satisfied by  $ASP$ P raising in (8).

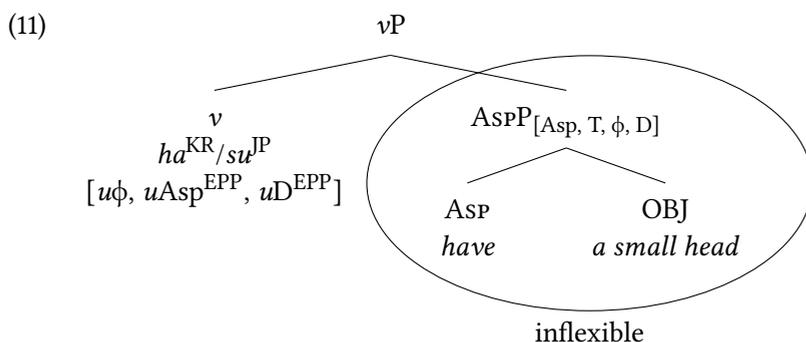
Normally when V is lexicalized by a verb and fully featurally specified, the features of the object do not manifest themselves on VP due to the fact that there



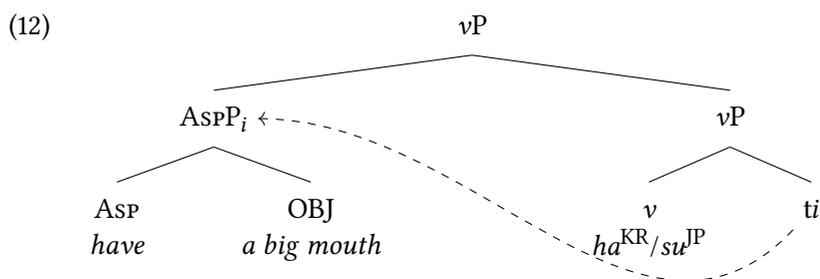
## 5.4 English light verbs and non-literal interpretations

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 (Type 2).

As shown in Figure 5.3, VP idioms with both heavy verbs and light verbs were judged less flexible than non-idiomatic phrases, thus suggesting the ASPP headed by the light verb *have* in (11), for instance, is syntactically inflexible, which makes object extraction difficult, similar to the example in (6).



Also, the ASP head filled by an English light verb does not inherit probing features from  $v = ha^{KR}/su^{JP}$ , and all of  $v$ 's features need to be valued against a goal with corresponding features. Similar to (9), the features of ASP and the object percolate onto ASPP without a crash. Thus, all of  $v$ 's features can be valued via ASPP raising, as a result of which the surface VO-*ha/su* order is derived in (12).



## 5 Deriving OV and VO in code-switching

English idioms with a heavy verb (Type 2) and with a light verb (Type 4) were preferred in VO order alike in Korean-English and Japanese-English CS. Yet, their syntactic derivations to deliver VO order slightly differ from each other under the current proposal that English lexical verbs are V and English light verbs correspond to *ASP*. When an English VP idiom includes a heavy verb, the head *ASP* is empty and can in principle inherit *v*'s features. However, FI is blocked because of the failure of object shift, which is caused by the inflexibility of the VP idiom. The inflexibility of the VP results in *ASP*P pied-piping by object shift, and the EPP-specifications of [*uD*] and [*uASP*] on  $v = ha^{KR}/su^{JP}$  are satisfied by *ASP*P raising; movement of both VP and the object pied-pipe *ASP*P, whose effect is “killing two birds with one stone.”

With an idiom with an English light verb, on the other hand, FI cannot happen because *ASP* is lexically filled by the English light verb. Thanks to the fact that V is not projected in the structure, all the features of *ASP* and the object percolate onto *ASP*P, and *ASP*P agrees with  $v = ha^{KR}/su^{JP}$ . The EPP-specifications of [*uD*] and [*uASP*] on  $v = ha^{KR}/su^{JP}$  are satisfied by *ASP*P raising. What is common between Type 2 (English VP idioms with a heavy verb) and Type 4 (English VP idioms with a light verb) is that FI from *v* to *ASP* does not take place and VO order is derived after *ASP*P raising without object shift in Korean-English and Japanese-English CS. Yet, it is not an idiom *per se* that prevents object shift. What matters is the degree of syntactic flexibility of the idiom.

### 5.5 Type 5: English heavy verbs in light verb constructions

In a light verb construction where an English heavy verb takes an object (e.g. *play a trick*), the average percentage of VO order preference was 41% in Korean-English CS (and 47% in Japanese-English CS). While OV order was slightly preferred with several items (e.g. *deliver a talk*, *deliver a speech*, *reach an agreement*, *pass sentence*, *play joke*, and *pay a compliment*), the majority of items were not biased towards either order in Korean-English CS, ranging from 36% to 64% of VO preference: to put it differently, when a light verb construction with an English heavy verb was code-switched, both OV and VO orders were possible.<sup>4</sup>

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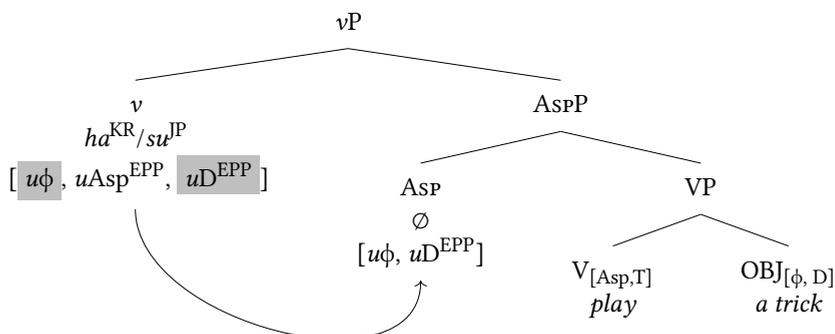
<sup>4</sup>The only exception was *pay a visit*, which was strongly preferred in VO order (86%), in contrast with its closely matched phrase, *pay a compliment*, which was preferred in OV order (81%). To see if the preferred word order contrast between them is related to different degrees of their syntactic flexibility, the results from the syntactic flexibility judgment task were compared. In summary, *pay a visit* was judged to be less flexible than *pay a compliment* only in relative clause formation (2.78 vs 3.52), but neither in passivization (3.07 vs 2.93) nor in *wh*-question

### 5.5 Type 5: English heavy verbs in light verb constructions

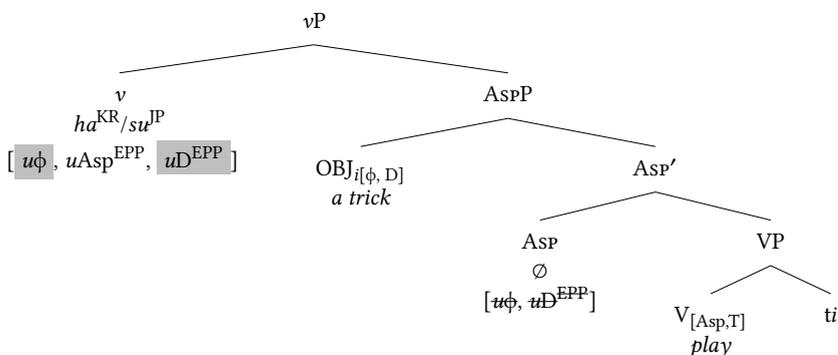
The alternation between OV and VO orders, I will argue, is related to the categorial status of the verb: in a light verb construction with a heavy verb, the verb may still represent V, following its lexical root, or ASP, based on its “light” use in a light verb construction. And depending on the category the verb represents, either V or ASP, the code-switched phrase will alternate between OV and VO orders.

When the verb is V as in (13a), OV order is derived; the null-headed ASP inherits  $[u\phi, uD^{EPP}]$  from  $v = ha^{KR}/su^{JP}$  and triggers the object to move to its specifier position (13b), after which AspP is pied-piped and raises to Spec, vP via agree between  $v = ha^{KR}/su^{JP}$  and V. As a consequence, OV order is derived (13c).

(13) a.



b.

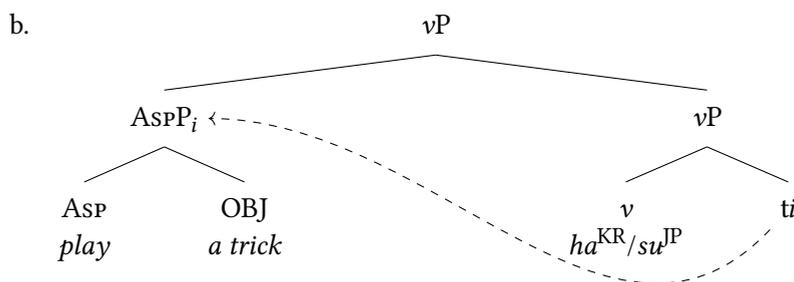



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formation (2.52 vs 2.74), which seems to suggest that object shift and relativization are closely related in terms of information structure. Nonetheless, this pattern was not consistent across items and more research is needed.



5.5 Type 5: English heavy verbs in light verb constructions



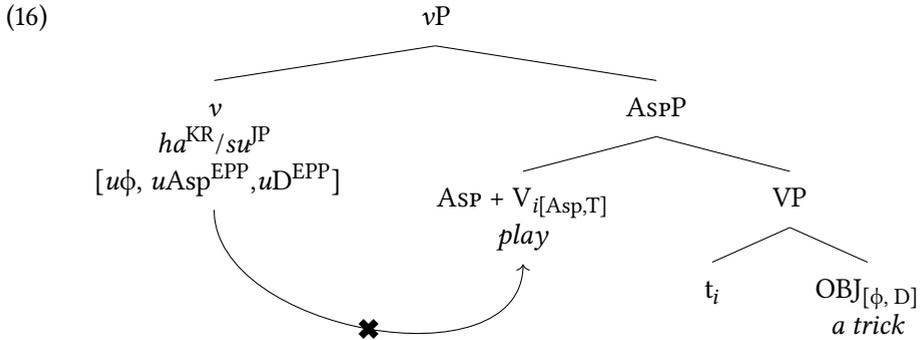
An anonymous reviewer mentions that a categorial item does not have a choice where it merges, thus questioning the current proposal that the heavy verb in a light verb construction may merge as V or Asp. Yet, the idea is not so strange. In fact, a similar idea was proposed by Haider (2013), who argues that in addition to OV and VO languages, there is the third type of language in the world, which does not belong to either OV or VO languages in a strict sense. For instance, while the basic sentence structure of modern Germanic languages exhibits either OV (e.g. West Germanic languages such as Afrikaans, Dutch, Frisian, German, Letzeburgish, Swiss German and all other more local varieties) or VO (e.g. North Germanic languages such as Danish, Faroese, Icelandic, Norwegian, Swedish and all regional varieties), Yiddish exemplifies the third type of language, according to Haider. In order to account for the third type languages, Haider entertains the idea that the verb may end up in different positions, and this is possible since the directionality is unspecified: after all, the third type of language does not belong to either OV or VO languages, and the verb may remain in its base position as in OV languages (15a = 23a) or moves up to a higher position as in VO languages (15b = 23b). Recall that Haider assumes that VO order is derived from OV via verb movement, as explained in Chapter 3.

- (15) a. [ IO [ DO [ PP V ] ] ] ov languages  
 b. [ V<sub>i</sub> [ IO t<sub>i</sub> [ DO t<sub>i</sub> [ PP t<sub>i</sub> ] ] ] ] vo languages

The present analysis does not share the exactly the same view offered in Haider's: instead of V raising to Asp, an English heavy verb in a light verb construction corresponds to either V or Asp. Nonetheless, there is a common view shared between the present analysis and Haider's: when order is unspecified between OV and VO, the verb may be located in different positions.

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Alternatively, we can modify the present proposal into the view that the verb raises to *ASP* instead of merging as *ASP* as in (16). However, this may result in an undesirable result.



After V raises to *ASP*, *v* cannot pass down its features to the complex *ASP + V* head, which has not only a phonological value but also has V's features: only a featureless non-phase head can be a beneficiary of FI. Thus, *v* agrees with both the complex *ASP + V* head, which has the *Asp*-feature, and the object, which has  $[\phi, D]$  features, and the EPP properties on the *Asp*-feature and the *D*-feature trigger both *ASP*P raising and object movement to Spec, *vP*. And this is forbidden by the rule of *Multiple Agree under Antisymmetry*, which restricts the number of goals that can raise and be spelled out to only one.<sup>5</sup> Thus, the V to *ASP* raising approach does not seem to return a desirable result, which leads to a derivational crash. For this reason, I will not assume that V raises to *ASP* when an English heavy verb occurs in a light verb construction, although this is certainly parallel with Haider's insight. More research should be done here.

In summary, 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, which showed the preferred word order of most examples was not biased towards either OV or VO.

### 5.6 Type 6: English light verbs in light verb constructions

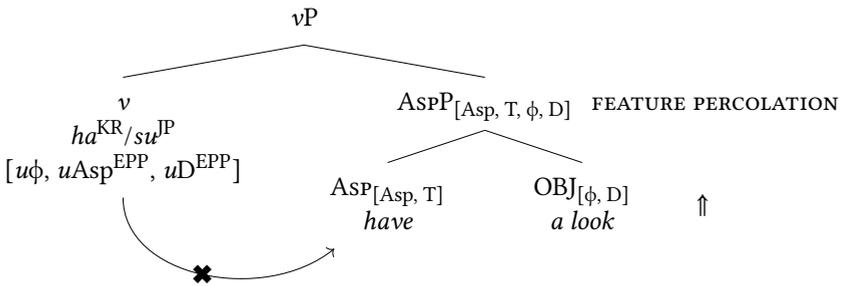
In a light verb construction where an English light verb takes an object (e.g. *have a look*), the average percentage of VO order preference was 69% in Korean-English

<sup>5</sup>The nominal features on the object cannot percolate onto *ASP*P via VP since the complex [*ASP + V*] head contains the [+V] feature originated on the V head.

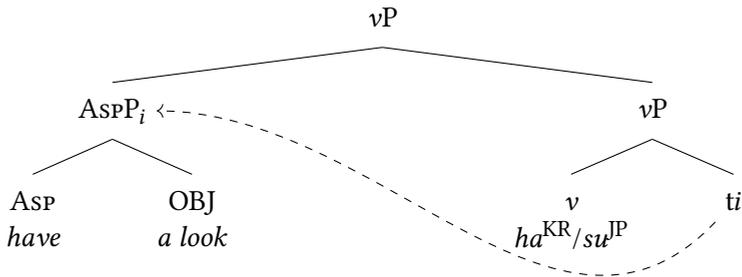
5.6 Type 6: English light verbs in light verb constructions

CS and 71% in Japanese-English CS. The proposal that an English light verb is base-generated as ASP correctly accounts for the surface VO-*ha* and VO-*su* orders; FI from  $v = ha^{KR}/su^{JP}$  to the lexically filled ASP is blocked, and the object remains in situ. Due to the absence of the V head and its lack of verbal features, the ASPP bears all the features from ASP and the object, and  $v$  and ASPP enters a probe-goal relationship. The EPP property on  $v = ha^{KR}/su^{JP}$  induces movement of ASPP to the left of  $v = ha^{KR}/su^{JP}$ , resulting in VO-*ha/su* order. An example is provided below (17).

(17) a.



b.



To summarize, §5.1 to §5.6 provided a FI-based account of OV-VO variation in Korean-English and Japanese-English CS. What crucially determines OV-VO variation in Korean-English and Japanese-English CS is feature specification on  $v$  in Korean and Japanese and FI from  $v$  to ASP. When ASP inherits  $[u\phi, uD^{EPP}]$  from  $v = ha^{KR}/su^{JP}$ , object shift occurs within ASPP, delivering OV order within ASPP. ASPP further raises after feature matching between  $v$  and VP, and surface OV-*ha* and OV-*su* orders are derived. When ASP is overtly realized by an English light verb, on the other hand, FI from  $v$  to ASP is blocked and all of  $v$ 's features remain

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on *v*. Subsequently, *ASP*P raises to Spec, *v*P without object shift, as a result of which VO-*ha* and VO-*su* orders surface in Korean-English and Japanese-English CS.

When *ASP* is null, nothing prevents FI. However, FI from *v* to *ASP* is not possible if it leads to a derivational crash (the principle of *Obligation*). We have seen this in the case of an idiomatic phrase with a heavy verb. Also, FI is blocked when *ASP* is lexicalized by an English light verb, which is no longer featureless, therefore it is not a valid recipient head of FI (the principle of *Validation*).

The FI-based account of OV-VO variation in Korean-English and Japanese-English CS predicts that OV order and VO order would be in a complementary distribution. Yet, the results from the CS judgment task revealed that it may not be the case: in a given context, neither OV nor VO order was preferred 100% except for a few examples, as mentioned earlier. One may ask whether the word order pattern predicted by the FI account is clear at the level of individual speakers. A microscopic analysis of individual speakers shows that in a given condition (e.g. verb type and interpretation), a dominant word order pattern, either OV or VO, was preferred by many individual speakers, suggesting that FI is at play at the individual level. Yet, there exists inter-subject variation: while the predicted word order is more robustly confirmed by some speakers, it may not be the case with others. I have no immediate answer for such subject variation and will leave this for future research.

### 5.7 Reanalyzing English light verbs

Overall, the study found that functional/light verbs behave differently from lexical/heavy verbs in English. Except for idiomatic phrases, a code-switched phrase with an English heavy verb was preferred in OV order in Korean-English and Japanese-English CS. On the other hand, a code-switched phrase including an English light verb was generally favored in VO order in all phrase types, including a light verb construction and literal interpretations. Under the proposal that English light verbs are *ASP* while heavy verbs are *V*, this is a desirable result. Yet, there were instances where the preferred order was OV, not VO, with some light verbs, which cannot be explained by the current proposal and needs further explanation.

In the following, we look at each of the eight English light verbs in (28) that were included in the CS experiment and their occurrences in different phrase types in relation to the preferred order. The item-based analyses are obtained from the results of the Korean-English CS judgment task. Unless it is mentioned

separately, the patterns of Japanese-English CS data were parallel to those of Korean-English CS data.

### 5.7.1 *Have*

Table 5.3 shows the percentages of VO order preference of the code-switched phrase with the verb *have* in Korean-English CS.

Table 5.3: Item-based analysis for *have* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
have a look	LVC	VO	100	14
have a try	LVC	VO	93	13
have a small head	Literal	VO	86	12
have an upset stomach	Literal	VO	86	12
have a big mouth	Non-Lit	VO	79	11
have a total blast	Non-Lit	neither OV nor VO	64	9

Except for the idiom *have a total blast*, which was not favored in any particular order, VO order was robustly preferred with the verb *have* in all of its occurrences, revealing a stark contrast with the code-switched phrase with a heavy verb, with which most VO occurrences were limited to idiomatic phrases. This contrast with heavy verbs is further highlighted in light verb constructions and literal interpretations: while VO order was robustly favored with *have* both in light verb constructions (e.g. *have a look* and *have a try*) and literal interpretations (e.g. *have a small head* and *have an upset stomach*), only one heavy verb in a light verb construction was favored in VO order (e.g. *pay a visit*), and 12 out of 16 heavy verbs in literal interpretations were very strongly preferred in OV order.

Such a remarkably consistent VO order with the verb *have* is distinct from the OV order with heavy verbs and reveals that the nature of the verb *have* is very different from heavy verbs. VO order was consistent with the verb *have* not only in a light verb construction where the verb does not contribute any lexical-semantic information but also in other phrases in which the meaning of possession arises with *have* (e.g. *have a small head*, *have a big mouth*). This further tells us that the possessive meaning of *have* is not intrinsic to the verb, but is derived from the syntactic structure of the light verb *have*. For instance, researchers have proposed that *have* is underlyingly decomposed into two abstract elements such

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as BE + TO (Benveniste 1966; den Dikken 1995; Kim 2012), from which the possessive interpretation of *have* is derived. Cross-linguistically, we find possessive constructions are expressed by copular(-like) constructions with a dative preposition, shown in (18). Based on this, I conclude that *have* is a light verb in all its uses and lexicalizes a functional category, which I claimed to be ASP.

- (18) a. Bibi-ka chayk-ul kaci-ess-ta Korean  
 Bibi-NOM book-ACC have-PAST-DECL
- b. Bibi-eykey chayk-i iss-ta  
 Bibi-DAT book-NOM exist-DECL
- c. Bibinique a le livre. French  
 Bibinique has the book
- d. Le livre est à Bibinique.  
 the book is to Bibinique  
 ‘Bibi has a book.’
- e. habeo libram Latin  
 I-have book.ACC
- f. mihi est liber  
 me.DAT is book.NOM  
 ‘I have a book.’ (den Dikken 1995: 130, (46))

### 5.7.2 *Get*

VO order was favored with the verb *get* in 3 out of 6 examples, including an idiom (e.g. *get a grip*) and a light verb construction (e.g. *get a sense*, *get a suntan*), while the other 3 examples were not biased toward either OV or VO order, as summarized in Table 5.4.

Table 5.4: Item-based analysis for *get* in Korean-English code-switching ( $n^0$  of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	$n^0$ of occurrence
get a grip	Non-lit	VO	100	14
get a sense	LVC	VO	71	10
get a suntan	LVC	VO	71	10
get a cold sore	Lit	neither OV nor VO	64	9
get a new girlfriend	Lit	neither OV nor VO	64	9
get cold feet	Non-lit	neither OV nor VO	64	9

Table 5.4 shows that VO order was strongly preferred with half of the examples with the verb *get* whereas the other phrases were not biased towards either OV or VO order. But we can see that OV order was never preferred more than VO order in any of the examples, which suggests that the verb *get* behaves differently from heavy verbs. In addition, it is noticeable that the VP idiom *get a grip* was unanimously preferred in VO order by all of the Korean-English and Japanese-English bilingual speakers, which exhibits a huge contrast with idioms with heavy verbs: no idioms with a heavy verb was 100% preferred in VO order. Besides, both *get*-light verb constructions (e.g. *get a sense*, *get a suntan*) were also favored in VO order, which is again in contrast with light verb constructions with heavy verbs: only one item *pay a visit* was preferred in VO order. Thus, it is reasonable to conclude that *get*, along with *have*, is a light verb, and it does not merge as V but lexicalizes a functional category.

The present finding supports the existing analyses of *get* in the literature in which *get* is analyzed as an abstract syntactic head representing inchoativity, such as BECOME (McIntyre 2005a) or INCH (Shim 2006). As exemplified in (19), the English verb *get* has a variety of uses/meanings, ranging from onset of possession (19a), ingressive (19b–c), *get*-passive (19d), and experiencer-*get* (19e). With the exception of the experiencer-*get* construction, each use of *get* has inchoative (19a–d) and causative varieties (19' a–d)

- (19) a. Joa got a present (from a friend).  
 b. Joa got tired.  
 c. Joa got to the airport on time.  
 d. Joa got fired/hired.  
 e. Bibi got people telling lies about him.
- (19') a. Bibi got Joa a present.  
 b. Bibi got Joa tired.  
 c. Bibi got Joa to the airport on time.  
 d. Bibi got Joa fired/hired.

McIntyre (2005a) broadly divides the examples in (19) into unaccusative and transitive uses of *get*, as shown in (20) and (21), and only a subset of the latter involves the causative component.

- (20) Unaccusative *get*
- |                                    |                     |
|------------------------------------|---------------------|
| a. Joa got to the airport on time. | <i>get</i> = BECOME |
| b. Joa got tired.                  | <i>get</i> = BECOME |
| c. Joa got fired/hired.            | <i>get</i> = BECOME |

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- (21) a. Joa got a present. *get* = BECOME + HAVE  
 b. Bibi got Joa a present. *get* = BECOME + HAVE  
 c. Bibi got Joa to the airport on time. *get* = BECOME + HAVE<sup>resp</sup>  
 d. Bibi got Joa tired. *get* = CAUSE + BECOME  
 e. Bibi got Joa fired/hired. *get* = CAUSE + BECOME  
 f. Joa got people telling lies about her. *get* = BECOME + HAVE<sup>unint</sup>

What is common to all uses of *get* in (20) and (21) is BECOME, which McIntyre adopts from Dowty's (1979), which is arguably the underlying representation of *get* in most uses of *get*. To put it differently, *get* is underlyingly an unaccusative verb and is analyzed as a spell-out of BECOME. Similar to McIntyre, Shim (2006) also proposes a unified analysis of various *get*-constructions in which *get* spells-out an abstract head INCH, which denotes pure inchoativity. For further discussion of *get*, readers are advised to refer to McIntyre (2005a) and Shim (2006).

### 5.7.3 Keep

Similar to *have* and *get*, most code-switched phrases with the verb *keep* were strongly preferred in VO order in Korean-English CS, which suggests that *keep* is also a light verb. Yet, there was one instance of *keep* which displayed a noticeable difference from the other examples. Table 5.5 below summarizes the result.

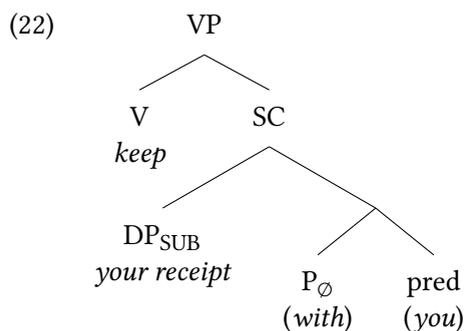
Table 5.5: Item-based analysis for *keep* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
keep close watch	LVC	VO	93	13
keep track	LVC	VO	93	13
keep your cool	Non-Lit	VO	79	11
keep a respectful manner	Lit	VO	71	10
keep a civil tongue	Non-Lit	VO	71	10
keep your receipt	Lit	OV	0	0

Among 6 phrases with the verb *keep*, *keep the receipt* was the only phrase that was universally chosen in OV order by both Korean-English and Japanese-English bilingual speakers. What is striking is that the choice of OV order was unanimous in both bilingual groups. It should be also noted that there were only 5 switching items which were unanimously preferred in OV order, among which *keep the receipt* was the only phrase with a light verb and the other 4 examples

included heavy verbs in literal interpretations (e.g. *break the glass*, *spill the soup*, *throw his cell phone*, *feel the pain*). Thus, the unexpected OV order of the phrase *keep the receipt* calls for a further analysis. To do so, we compare two phrases *keep your receipt* and *keep a respectful manner*, both of which are interpreted literally. Yet, the former is preferred in OV order and the latter in VO. So, what makes the verb *keep* in *keep your receipt* different from *keep a respectful manner* and other uses or meanings of *keep*?

In Chapter 2, the verb *keep* was proposed as a light verb, representing *keep* = CAUS + BE. While this analysis can represent the meaning of the verb *keep* in most phrases, including *keep a respectful manner*, it does not seem to convey the meaning of the verb in *keep your receipt* where the verb is interpreted as ‘to retain or to save’. In other words, *keep* in *keep your receipt* is not as light as *keep* in other examples. And this contrast seems to be reflected in different word orders in CS. The difference of *keep* in *keep your receipt* from other uses of the verb is not just limited to its semantics. The verb *keep* in *keep your receipt* arguably selects a secondary predicate, as in *keep your receipt with you*, and I propose that the verb *keep* in *keep your receipt* takes a small clause headed by a null preposition as its complement, shown in (22).



In (22) the verb *keep* is V rather than ASP, and takes a null-headed small clause complement in which *your receipt* is the subject of the null predicate. What is crucial is that *keep* is V, not ASP, based on the fact that a small clause is selected by V only, but nothing else. The fact that only verbs can select a small clause as their complement is further supported by the contrast shown in (23) and (24) (cf Kayne 1984).

- (23) a. Bibi considers [<sub>SC</sub> Joa smart]  
 b. The old man robbed [<sub>SC</sub> Joa of her wallet]  
 c. The bank credited [<sub>SC</sub> Joa with the money]

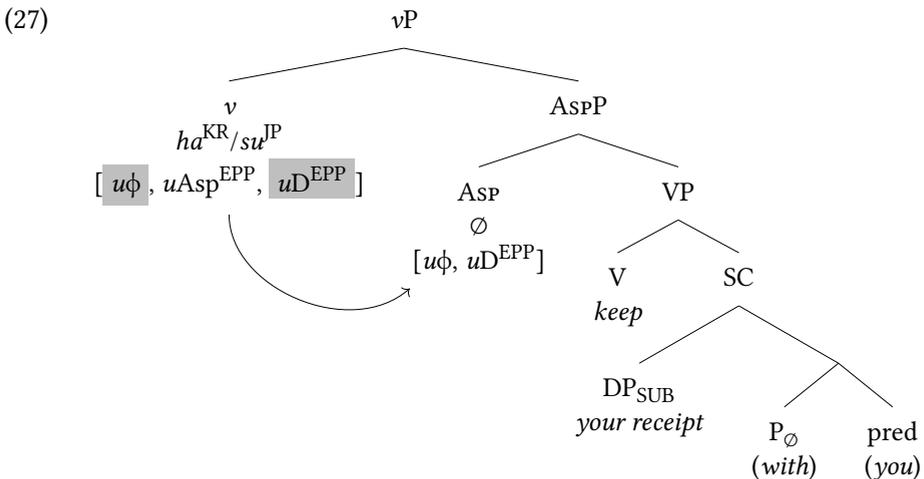
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- (24) a. \* Bibi's consideration of [<sub>SC</sub> Joa smart]  
 b. \* The old man's robbery of [<sub>SC</sub> Joa of her wallet]  
 c. \* The bank's credit of [<sub>SC</sub> Joa with the money]

In (23) the verb (e.g. *consider*, *rob*, *credit*) takes a small clause as its complement. But their nominal counterparts, including derived nominals (e.g. *consideration*, *robbery*, *credit*) do not accept secondary predicates in (24). The same is true for deverbal adjectives: the subject of the small clause in (23) can be passivized, as exemplified in (25). However, their adjectival counterparts in (26) are ungrammatical, which indicates that adjectives cannot co-occur with a secondary predicate.

- (25) a. Joa is considered smart.  
 b. Joa was robbed of her wallet.  
 c. Joa was credited with her money.  
 (26) a. \* Joa is considerable smart.  
 b. \* Joa was robbable of her wallet .  
 c. \* Joa was creditable with her money.

The examples provided above demonstrate that it is indeed only verbs that can select a secondary predicate. To put it differently, whenever there is a small clause complement, there is V. Thus, from the structure in (22), OV order of the phrase *keep the receipt* is derived, which is depicted in (27).



In (27) the null-headed  $ASp$  inherits [ $u\phi$ ,  $uD^{EPP}$ ] from  $v$  and  $ASp$  agrees with the subject of the small clause. The EPP property on the D feature on  $v$ , which is inherited by  $ASp$ , triggers  $DP_{SUB}$  (*your receipt*) move to Spec,  $ASpP$ , which delivers the OV ordered *your receipt keep* within  $ASpP$ .  $v = ha^{KR}/su^{JP}$  and V agree and the EPP-specification on the Asp-feature on  $v$ , the entire  $ASpP$  further moves left of  $v = ha^{KR}/su^{JP}$ , yielding to surface OV-*ha/su* order. So, the proposal that *keep* in *keep your receipt* is not a light verb but a lexical verb which takes a secondary predicate explains why OV order is derived in Korean-English and Japanese-English CS.

The analysis that the English verb *keep* meaning ‘to retain or to save’ is a lexical verb taking a small-clause complement, which is otherwise an aspectual light verb, is corroborated by cross-linguistic examples. For example, in the sense of ‘to retain or to save’, the verb *keep* in Dutch is translated as a particle verb, containing an additional secondary predicate, which is the prefixal particle *be-* as in (28a) (Hoesktra et al. 1987).<sup>6</sup> On the other hand, *keep* is not compatible with the prefixal particle in its aspectual interpretation. This is illustrated in (28b).

- (28) a. je moet het bonnetje be-houden/be-waren  
 you must the receipt BE-keep/BE-keep  
 ‘You must keep your receipt.’  
 b. je moet je mond (\*be)-houden  
 you must your mouth BE-keep  
 ‘You must hold your tongue.’ (Den Dikken, p.c.)

If we follow den Dikken’s (1995) proposal that a particle merges as a small clause head, the verb in (28a) should be V rather than  $ASp$ , which takes a small clause headed by the particle *be-* as its complement, similar to its counterpart in English in (22). To summarize, cross-linguistic evidence obtained from English and Dutch provides a uniform analysis of *keep* as a light verb except for its sense of ‘to retain or save’, for which *keep* is a lexical verb taking a secondary predicate.

#### 5.7.4 *Hold*

In the present CS study, the verb *hold* was treated as a light verb, which is further decomposed into CAUS + BE, the structure that was also proposed for its synonymous verb *keep*. However, the results from the CS judgment task revealed a huge disparity between these two verbs. As we saw, the verb *keep* behaved as a light

<sup>6</sup>The term *particle* refers to the class of non-Case-assigning, argument-taking prepositional elements (den Dikken 1995: 33, fn 31)

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verb in most code-switched phrases, most of which were preferred in VO order in Korean-English and Japanese-English CS. The only exception was when *keep* was used as a heavy verb meaning ‘to retain’, exhibiting OV order.

By contrast, the majority of the VPs including *hold* were preferred in OV order in Korean-English and Japanese-English CS, with an exception of the VP idiom *hold water* ‘to be sound and valid’, whose order was favored in VO by both Korean-English and Japanese-English bilingual speakers. Table 5.6 summarizes this.

Table 5.6: Item-based analysis for *hold* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
hold water	Non-Lit	VO	71	10
hold water	Lit	neither OV or VO	43	6
hold the bowl	Lit	OV	29	4
hold the fort	Non-Lit	OV	29	4
hold a conversation	LVC	OV	29	4
hold a debate	LVC	OV	21	3

The contrast between *hold* and other verbs that were included as light verbs in this study was also observed in light verb constructions: while OV order was dominant with two light verb constructions with *hold* (e.g. *hold a conversation*, *hold a debate*), none of light verb construction with other light verbs was chosen in OV order. In fact, the word order pattern of the code-switched phrase including *hold* seemed to be similar to that of the code-switched phrase with a heavy verb: a number of light verb constructions with various heavy verbs were favored in OV order, which further suggests that *hold* is not a light verb but perhaps a heavy or a lexical verb.

While *hold* and *keep* are usually considered to be synonyms, Levin (1993) makes a subtle distinction between *hold* verbs (e.g. *clasp*, *clutch*, *grasp*, *handle*, *hold*, *wield*) and *keep* verbs (e.g. *hoard*, *keep*, *leave*, *store*): while the former describes “prolonged contact with an entity”, the latter is related to “maintaining something at some location” (pp 145–146). Along this line of thought, the decomposed structure of CAUS + BE can represent the meaning of the light verb *keep* ‘to maintain something’, but it may not reflect the extra semantic information contributed by *hold* as explained by Levin. Although I have no further insight to explain how such subtle differences among diverse near-synonymous verbs are encoded in the argument structure, the heavy vs light distinction of verbs is not

only a matter of lexical semantics, but is also reflected in the syntactic structure, as evidenced by word order contrast in this CS study, which surfaced OV and VO in Korean-English and Japanese-English CS, respectively. This is certainly a very interesting finding presented by the present CS research, which might have not emerged from a study of monolingual speech.

### 5.7.5 *Make and Take*

Table 5.7 and Table 5.8 show the percentages of VO order occurrence with the verbs *make* and *take* in Korean-English CS, respectively. They show that the word order patterns of a code-switched phrase with *make* and *take* resemble each other. For instance, three phrases with *make*, including an idiom (e.g. *make waves*), a light verb construction (e.g. *make a request*) and a literal expression (e.g. *make friends*), were preferred in VO order. Analogously, two examples with *take*, an idiom (e.g. *take a hike*) and a light verb construction (e.g. *take a walk*), were

Table 5.7: Item-based analysis for *make* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
make waves	Non-Lit	VO	100	14
make a request	LVC	VO	86	12
make friends	Lit	VO	79	11
make a suggestion	LVC	neither OV or VO	57	8
make a bundle	Non-Lit	OV	29	4
make a million bucks	Lit	OV	7	1

Table 5.8: Item-based analysis for *take* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: ov biased; 5–9: not biased; 10–14: vo biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
take a hike	Non-Lit	VO	100	14
take a walk	LVC	VO	71	10
take a hike	Lit	neither OV or VO	64	9
take a vacation	LVC	neither OV or VO	57	8
take a back seat	Non-Lit	OV	29	4
take a window seat	Lit	OV	7	1

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preferred in VO order. On the other hand, two examples with *make* and *take*, including an idiom (e.g. *make a bundle*, *take a back seat*) and a literal expression (e.g. *make a million bucks*, *take a window seat*), were favored in OV order.

It should be noted that most idioms, regardless of the status of a verb, either heavy or light, were preferred in VO order by both Korean-English and Japanese-English code-switchers, but the idioms *make a bundle* ‘make a lot of money’ and *take a back seat* ‘take a less prominent in some situation or a lower priority’ were chosen in OV order, along with their closely matched non-idiomatic expressions such as *make a million bucks* and *take a window seat*. Thus, it seems that idiomaticity is not a factor determining word order for these *make*- and *take*-idioms, which needs to be explained. Assuming that it is not the idiom *per se* that prevents object shift but the degree of its syntactic flexibility influences the extraction of the object of the VP, an immediate question arose as to whether these two idioms were judged more flexible than other idioms by the Korean-English and Japanese-English bilingual speakers of the study. The results from the syntactic flexibility judgment task confirmed this: the two idioms that were preferred in OV order, *make a bundle* and *take a back seat*, were judged more syntactically flexible than the other two *make*- and *take*- idioms (e.g. *make waves*, *take a hike*), which were unanimously preferred in VO order in Korean-English CS, as summarized in Table 5.9. This suggests that the object may move out of the two idiomatic expressions, *make a bundle* and *take a back seat*, and OV order is derived in CS.

Table 5.9: Word order predicted by syntactic flexibility scores for *make*- and *take*-idioms in Korean-English cs

code-switched phrase	syntactic flexibility mean score	preferred word order
<i>make a bundle</i>	2.95	OV
<i>make waves</i>	2.11	VO
<i>take a back seat</i>	2.19	OV
<i>take a hike (non-lit)</i>	1.44	VO

However, as discussed in Chapter 2, the correlation between the syntactic flexibility of a code-switched phrase and word order in CS did not hold strongly across all items, and therefore, it needs further investigation in future research.

Returning to Table 5.7 and Table 5.8, the fact that light verb constructions such as *make a request* and *take a walk* were preferred in VO order suggests that these

verbs belong to the class of light verbs, exhibiting a similar word order pattern obtained from *have*, *get*, and *keep*: light verb constructions with these verbs were predominantly selected in VO order whereas light verb constructions with heavy verbs were generally favored in OV. Yet, in a few examples with *make* and *take*, OV order was favored (e.g. *make a million bucks*, *make a bundle*, *take a window seat*, *take a back seat*).

In Chapter 2, I proposed that *make* represents ‘CAUS + exist’ in (28). While this analysis can capture the meaning of most phrases with the light verb *make*, it seems to fail to express the meaning of the verb in *make a million bucks* and *make a bundle* in which *make* means ‘to earn’. Similarly, the proposal that *take* is an aspectual light verb lexicalizing INCH (OR BECOME) does not reflect the meaning of the verb in *take a window seat* and *take a back seat* where *take* is interpreted ‘to accept’ or ‘to be prepared to get’. Thus, it seems that the verbs *make* and *take* in those particular examples denote idiosyncratic lexical meanings beyond the meaning of the light verbs, and they seem to be used as a heavy verb in these examples, which might have resulted in delivering OV order in Korean-English and Japanese-English CS.

### 5.7.6 Give and Raise

The word order patterns of code-switched phrases with the verb *give* and *raise* were similar to each other, which are presented in Table 5.10 and Table 5.11, respectively.

Table 5.10: Item-based analysis for *give* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
give a big hand	Non-Lit	VO	93	13
give a presentation	LVC	neither OV or VO	57	8
give the axe	Non-Lit	neither OV or VO	50	7
give a big present	Lit	neither OV or VO	36	5
give a speech	LVC	neither OV or VO	36	5
give the job	Lit	OV	14	2

The fact that most code-switched phrases with *give* and *raise* are not biased towards either OV or VO order in Korean-English CS suggests that these verbs are not as light as *have*, *get*, or *keep*, with which VO order is strongly preferred in

## 5 Deriving OV and VO in code-switching

Table 5.11: Item-based analysis for *raise* in Korean-English code-switching (n<sup>0</sup> of occurrence 0–4: OV biased; 5–9: not biased; 10–14: VO biased)

code-switched phrase	phrase type	preferred word order	%V	n <sup>0</sup> of occurrence
raise the bar	Non-Lit	VO	79	11
raise their hands	Lit	neither OV or VO	64	9
raise a few eyebrows	Non-Lit	neither OV or VO	64	9
raise some objection	LVC	neither OV or VO	43	6
raise some suspicions	LVC	neither OV or VO	36	5
raise the fee	Lit	OV	29	4

most of their uses. However, it is not clear whether they belong to heavy verbs based on the results of the CS judgment task. While the occurrence of VO order was limited to an idiomatic expression (e.g. *give a big hand*, *raise the bar*) similar to heavy verbs, the preference of OV order was also limited to only one example in literal interpretations with each verb (e.g. *give the job*, *raise the fee*), which differs from most lexical verbs included in the study, with which OV order was predominant. For instance, with the verb *hold*, which was initially proposed as a light verb, OV order was favored 4 out of 6 examples, including its occurrence in a light verb construction, which mimic the word order pattern of heavy verbs (Table 5.6). But this is not the case with *give* and *raise*.

Due to the fact that the present findings do not reveal either OV or VO is a choice of word order with the verbs *give* and *raise*, I do not attempt to provide an analysis of their lexical status, and will leave it for future research.

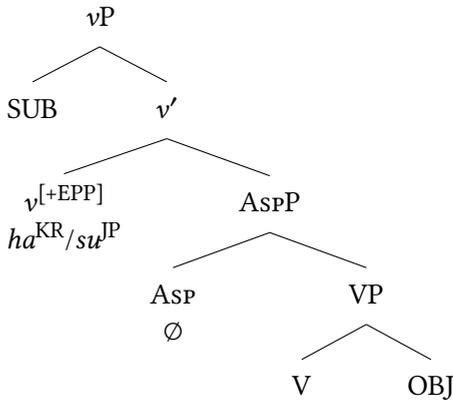
### 5.8 Revisiting the contrast between light verbs and light verb constructions

In this monograph, light verbs and light verb constructions were distinguished from each other and their definitions were provided in Chapter 1 (27), which is repeated in (29).

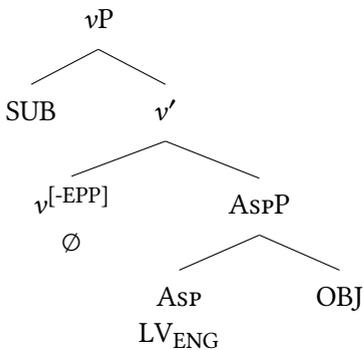
- (29) a. A **light verb** never has idiosyncratic lexical meaning of its own, but only lexicalizes an abstract functional head.
- b. In a **light verb construction**, the verb does not contribute any lexical-semantic information, but only its complement does. Both heavy and light verbs may participate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

5.8 Revisiting the contrast between *light verbs* and *light verb constructions*

(30) a. Korean and Japanese



b. English



The syntactic structures in (30) show that Korean/Japanese-type light verbs are *v* and English-type light verbs are *ASP*. In addition, they can represent the underlying structures of light verb constructions in these languages where the light verb itself does not contribute any lexical semantic information. While the structure in (30a) is the only possible syntactic configuration for light verb constructions in Korean and Japanese,<sup>7</sup> the structure in (30b) is one of two possible syntactic structures for light verb constructions in English. When a light verb participates in a light verb construction (e.g. *have a look*), the light verb is *ASP* as in (30b). On the other hand, if a heavy or lexical verb occurs in a light verb construction (e.g. *play a trick*), the verb may be *ASP* or *V*, as discussed in §5.5. Although both English heavy verbs and light verbs may participate in a light verb construction, their respectively different syntactic status as a lexical cate-

<sup>7</sup>The verbal noun appears as *V* in Korean and Japanese light verb construction in (23a).

gory and a functional category will play a role in syntactic derivations and be reflected in OV-VO in Korean-English and Japanese-English CS.

## 5.9 Chapter summary and conclusion

This chapter offered a FI-based account of OV-VO variation in Korean-English and Japanese-English CS, which was tested against 28 Korean-English and 8 Japanese-English bilingual speakers' introspective judgments of the CS patterns presented to them in an experimental setting. Based on the proposal that morphosyntactic features on a phase head, such as C and *v*, lead to linguistic parameterization and FI occurs from a phase head to the head of its complement, I have shown that OV order in Korean-English and Japanese-English CS is a result of FI from *v* to ASP, which results in object raising. If FI does not happen, the object stays in situ and the underlying VO order surfaces. In conclusion, the overall results from the experiments and grammatical accounts of word order patterns in Korean-English and Japanese-English CS confirmed the two research hypotheses made in Chapter 1, repeated below.

### **Research Hypothesis 1**

Assuming that linguistic variation is determined by the way features are parameterized in functional categories and how these features are valued in syntactic derivations, OV-VO variation in Korean-English and Japanese-English CS will be determined by feature specifications on functional categories represented by light verbs in Korean, Japanese and English and how these features are valued in syntactic derivations.

### **Research Hypothesis 2**

Syntactically flexible phrases and inflexible phrases will behave differently with respect to word order derivation in CS. More specifically, while the internal argument of a syntactically flexible phrase is subject to CS, a syntactically inflexible phrase is frozen and undergoes CS as a unit. Hence, the internal order of the phrase will be maintained throughout the derivation.

## 6 Further discussion and conclusion

In this final chapter, I will review two theoretical concepts, Case and word order, to which the discussion included in this monograph contributes. In the previous discussion of FI in Chapter 4, I proposed that structural case is an uninterpretable D-feature on C (for nominative) and  $v$  (for accusative) which is valued against the D-feature on a noun phrase. In addition, [ $u$ D] on C and  $v$  are parameterized for EPP specifications and may be inherited by T and  $ASP$ , respectively. In the following, I will show how the presence or the absence of overt case morphology in Korean-English and Japanese-English CS can be explained by the proposal that structural case is an uninterpretable D-feature on  $v$ , which is also compatible with cross-linguistic data (§6.1). I explore FI in the C-T domain in Korean and Japanese, in which CP is pied-piped and raises to Spec, CP. Not only is the proposal of CP pied-piping and raising in the C-T domain entirely parallel to  $ASP$ P pied-piping and raising in the  $v$ - $ASP$  domain (Chapter 4), but it also accounts for consistent head-final structure in these languages. Section §6.3 concludes the monograph.

### 6.1 Case

In many languages, Case is morphologically marked. For instance, nominative Case and accusative Case are marked in *i/ka* and *-(l)ul* in Korean and *-ga* and *-o* in Japanese, respectively, shown in (1).

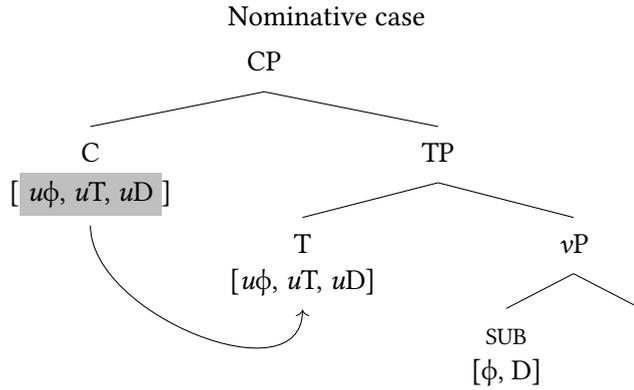
- (1) a. Bibi-ka Joa-wa hapse-ul hayss-ta Korean  
Bibi-NOM Joa-with table-sharing-ACC do.PAST-DECL
- b. Bibi-ga Joa-to aiseki-o shita Japanese  
Bibi-NOM Joa-with table-sharing-ACC do.PAST  
'Bibi shared the table with Joa.'

In generative syntax, structural case (or Case), such as nominative or accusative case, is generally assumed to be an uninterpretable feature, [ $u$ F], of noun phrases, which needs to be valued against a probe, nominative for T and accusative for  $v$

6 Further discussion and conclusion

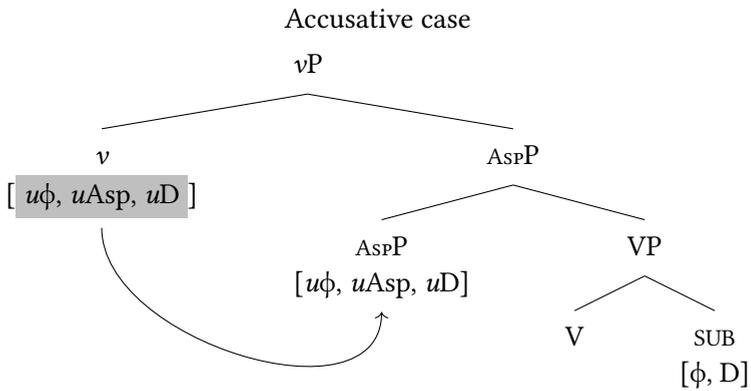
(Chomsky 1995; 2001). Assuming that Case is an uninterpretable D-feature on phase heads C (for nominative) and  $v$  (for accusative) and a head in the nominal extended projection (most likely D) bears a D-feature, I propose that the nominative case is a morphological manifestation of Agree between T and the subject/external argument and the accusative case is a morphological display of Agree between  $ASP$  and the object/internal argument, as depicted in (2).

(2) a.



Agree between T and SUB

b.

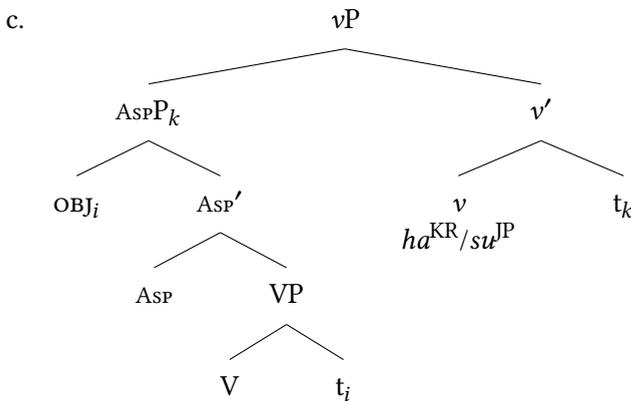
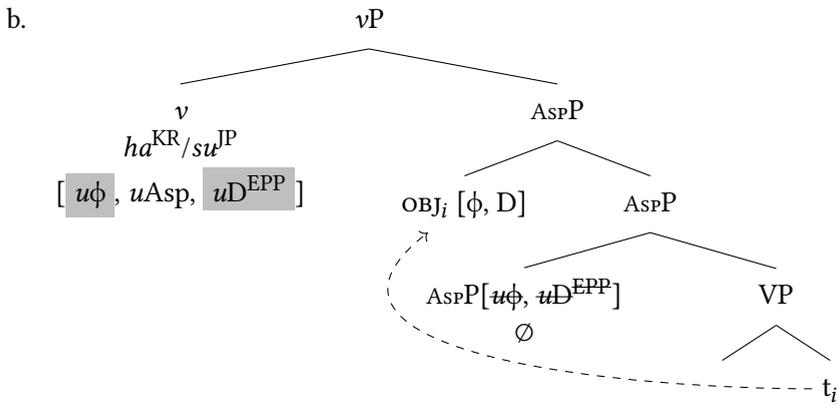
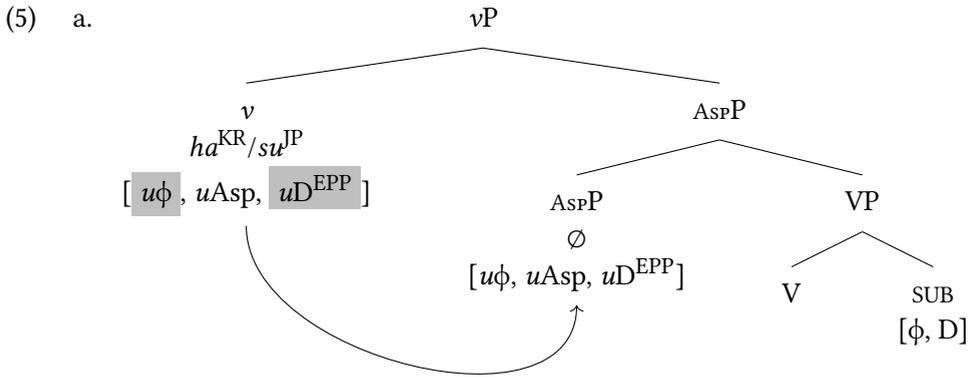


Agree between  $ASP$  and OBJ

Interestingly, it seems that overt case morphology on the object is possible only in OV-*ha/su* order, but not in VO-*ha/su* order in Korean-English and Japanese-English CS: for instance, the direct object is overtly marked with the Korean



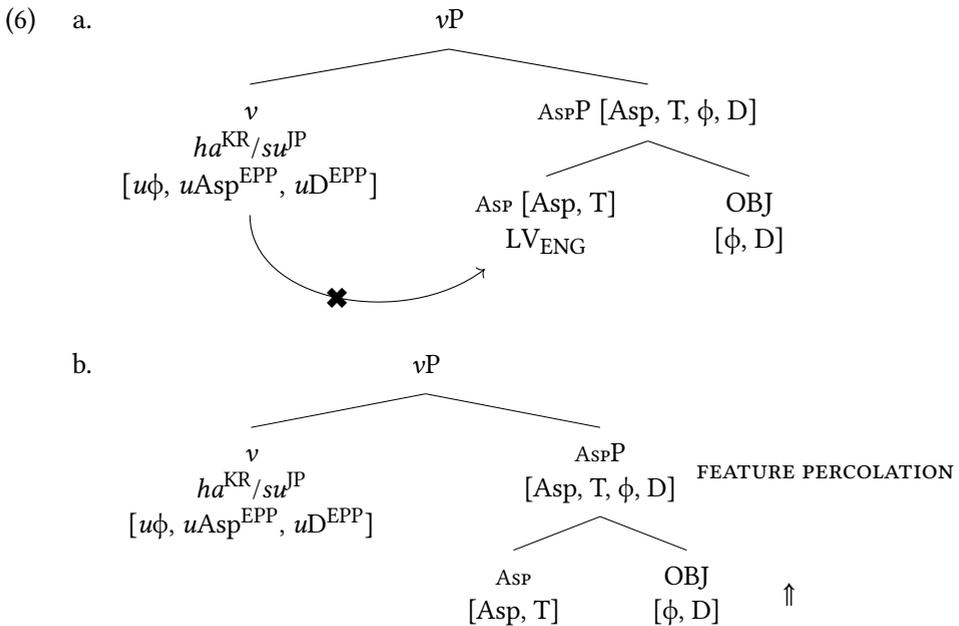
6 Further discussion and conclusion



In (5) null *ASP* inherits  $[u\phi, uD^{EPP}]$  from  $v = ha^{KR}/su^{JP}$  and agrees with the object, and the object raises to Spec, *AspP*, delivering OV order (5b). Agree between

the probe  $_{ASP}$  and the goal/object is reflected as the accusative case marking in which  $[uD]$  on  $_{ASP}$  is spelled out as the accusative marker *-lul* in Korean and *-o* in Japanese.<sup>2</sup>

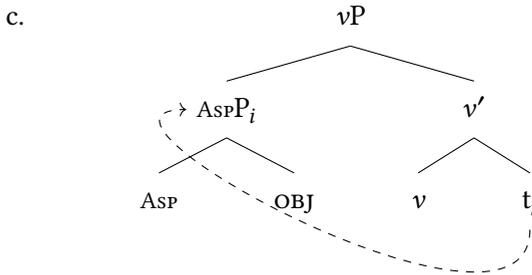
On the other hand, in (6), which is the underlying structure for the examples in (4), FI from  $v$  to  $_{ASP}$  does not take place due to the fact that  $_{ASP}$  is lexicalized by an English light verb such as *take* and *keep*. So,  $_{ASP}$  does not agree with the object. Instead, feature matching occurs between  $v$  and  $_{ASP}P$  and  $_{ASP}P$  raises to left of  $v = ha^{KR}/su^{JP}$ , resulting in VO order. In other words, the absence of the accusative case marker in the Korean-English and Japanese-English CS examples in (4) can be explained by the proposal that accusative case marking on the object is a morphological manifestation of Agree between  $_{ASP}$  and the internal argument/object and there is no Agree between  $_{ASP}$  and the object in the VO-ordered code-switched sentences between Korean/Japanese and English, as depicted in (6).<sup>3</sup>



<sup>2</sup>Similarly, Kim (1993) proposes that structural case must be overtly realized when the object moves out of the VP: more specifically, when the object moves to the specifier of  $\mu P$  above VP, which corresponds to  $_{ASP}P$  in (5), the object must be morphologically marked with the accusative Case marker in Korean.

<sup>3</sup>The account of case morphology in Korean-English and Japanese-English CS provided in this monograph differs from my earlier analysis in den Dikken & Shim (2011), in which Case was proposed as  $[uAsp]$  instead of a D-feature.

6 Further discussion and conclusion



Richardson (2003) presents a similar account of the accusative Case/case in Russian: the accusative case marker in Russian is a result of Agree between *ASP* and the internal argument. Yet, she claims that it is *Aspect* feature matching between *ASP* and the internal argument/object: an (uninterpretable) aspectual feature on *ASP* (more precisely [ $\pm$ telic]) is valued against the interpretable aspectual feature on the object. However, as discussed earlier in Chapter 3 (§3.2.1), telicity is not in fact tied one-to-one to accusative Case: telic unaccusative constructions do not involve accusative Case feature checking, thus it provides no direct link between accusative Case and telicity (or aspect in general).<sup>4</sup>

Cross-linguistic data supports the proposal that Case is a D-feature and accusative case marking is a morphological indicator of Agree between *ASP* and the object. In Turkish and Hebrew, for instance, accusative case-marked objects denote definite/specific readings whereas indefinite/non-specific readings arise with their morphologically null or unmarked counterparts as exemplified in (7). Assuming that definite/specific readings arise from DPs, not from NPs, definite objects/DPs are overtly marked for the accusative case both in (7a) and (7b), whereas case marking on indefinite objects/NPs is not possible in (7a') and (7b'), showing that the accusative case is related to a D-feature.

- (7) a. Mehmet kitab-i oku-du Turkish  
           book-ACC read-PAST  
       'Mehmet read the book.'

<sup>4</sup>Richardson also argues that the nominative case in Russian is morphological manifestation of  $\phi$ -(complete) feature on T in a feature matching relationship with the external argument. By contrast, the dative case is morphological manifestation of  $\phi$ -incomplete T and arises in the absence of any feature matching relationship (Richardson 2003: 56).

- a.' Mehmet kitab oku-du  
 book read-PAST  
 'Mehmet read a book.' (Nagai & Özçelik 2012)
- b. ha-seret her'a et-ha-milxama Hebrew  
 the-movie showed ACC-DET-war  
 'The movie showed the war.'
- b.' ha-seret her'a ha-milxama  
 the-movie showed DET-war  
 'The movie showed a war.' (Aissen 2003)

Additionally, in Palauan only a definite object can trigger agreement on the verb and an indefinite object triggers no agreement, as in the contrast shown in (8a) and (8b). Since Palauan is not a nominative-accusative language, the agreement morpheme *ii* on the verb, which agrees with the object *bilis* 'dog' in (8a), may not be considered equivalent to the accusative marker. However, along the lines of the current proposal that (accusative) case is a morphological reflex of Agree between a probe and a goal (object) with the matching D-feature, DP object-verb agreement in (8a) can be explained as well.

- (8) a. te-'illebed-ii a bilis a rengalek Palauan  
 3PL-PERF-hit-3SG dog children  
 'The kids hit the dog.'
- b. ,te-'illebed a bilis a rengalek  
 3PL-PERF-hit dog children  
 'The kids hit a dog/some dog(s).' (Georgopoulos 1991)

Kim (1993) argues that the specific/non-specific distinction is transparent and related to accusative case marking in Korean as well. For instance, specificity seems to be closely related to the presence of the accusative marker in (9).

- (9) a. Bibi-ka etten haksayng-ul po-ass-ta Korean  
 Bibi-NOM certain student-ACC see-PAST-DECL
- b. \*Bibi-ka etten haksayng po-ass-ta  
 Bibi-NOM certain student see-PAST-DECL  
 'Bibi saw a certain student.' modified from Kim (1993: 23)

However, some of his data need further verification: Korean informants that I consulted did not agree with the (un)acceptability/grammaticality patterns of

## 6 Further discussion and conclusion

many examples Kim provides, and definiteness or specificity may not arise from the presence of overt case morphology in Korean and Japanese. Instead, accusative-case marked nouns may induce a *focal* reading in Korean and Japanese, as exemplified in (10) (Jun 2005; Ko 2000; Lee 2006; Matsuda 1995).

- (10) a. (yesnal-ey) Bibi-ka han/etten yeca-lul manness-ta Korean  
long.time-LOC Bibi-NOM one/some woman-ACC meet.PAST-DECL  
'(A long time ago) Bibi met a woman.' (focalized/emphatic)
- b. (yesnal-ey) Bibi-ka han/etten yeca manness-ta  
long.time-LOC Bibi-NOM one/some woman meet.PAST-DECL  
'(A long time ago) Bibi met a woman.' modified from Ahn & Cho  
(2007: 58, (5))

One may question whether there is a D-feature present on noun phrases in Korean or Japanese since neither language possesses overt definite or indefinite articles and bare noun phrases may be interpreted as definite or indefinite in a given context. Thus, some researchers argue that a determiner phrase (DP) is not projected in these languages (Chierchia 1998; Fukui 1986; Tomioka 2003). By contrast, many others argue for the presence of DPs in Korean and Japanese (Furuya 2009; Kakegawa 2003; Koike 1999; Park 2008; Tateishi 1987), and the proposal has been made that case markers represent D heads (Kakegawa 2003; Koike 1999; Tateishi 1987), which provides supporting evidence for the present proposal that Case is a D-feature. Thus, I maintain that Case is an uninterpretable D-feature on the phase heads C (for nominative) and  $v$  (for accusative). When T inherits [ $uD$ ] from C, T agrees with a goal/external argument with the matching D-feature and the nominative case on the goal/external argument reflects such an Agree relation between the probe T and the goal. Likewise, when  $Asp$  inherits [ $uD$ ] from  $v$ ,  $Asp$  agrees with a goal/internal argument bearing the matching D-feature, which manifests as the accusative case marker on the goal in Korean-English and Japanese-English CS.

## 6.2 Word order

In Chapter 4, I explained how FI occurs from  $v$  to  $Asp$  in English in comparison with Korean and Japanese, from which VO and OV order are derived, respectively. In the following, I extend the mechanism of FI to the C-T domain and show how head-initial structure/SVO order in English and head-final structure/SOV order in Korean/Japanese are generated.

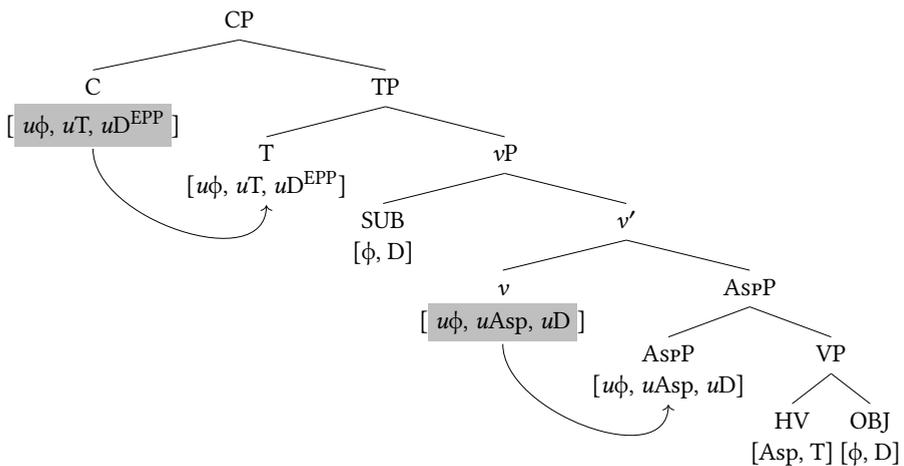
## 6.2.1 English

In this monograph, I have proposed that English heavy/lexical verbs represent V and light verbs are ASP. I have also identified feature specifications on the phase heads C and  $v$  in English, as repeated in (11). Based on these, now I show how SVO order is derived via FI from  $v$  to ASP and C to T. We begin with lexical verbs and then look at light verbs afterwards.

- (11) C  $[u\phi, uT, uD^{EPP}]$   
 $v$   $[u\phi, uAsp, uD^{(EPP)}]$

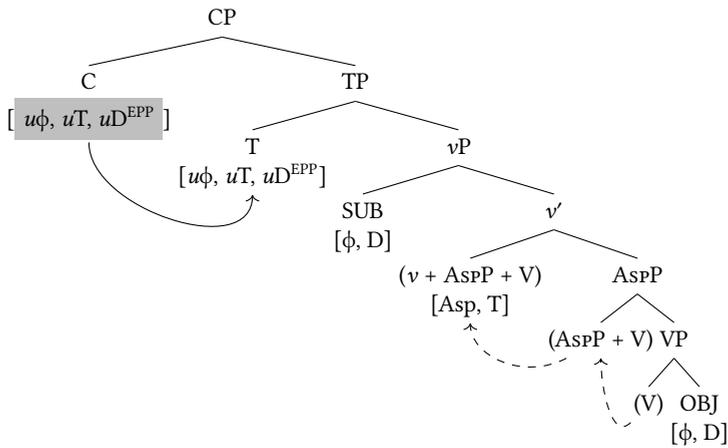
The structure in (12) shows that FI takes place at both the upper phase CP and the lower phase  $vP$  when an English heavy/lexical verb lexicalizes V. In the lower  $vP$  phase, all of  $v$ 's features are inherited by ASP, as a result of which ASP agrees with V and the object. Since none of the features on  $v$  are EPP-specified, no movement is induced. Following the proposal that V overtly raises to  $v$  in English (Chomsky 1995), I propose that V raises to ASP and the ASP + V complex further moves to  $v$ , as depicted in (13).

(12)



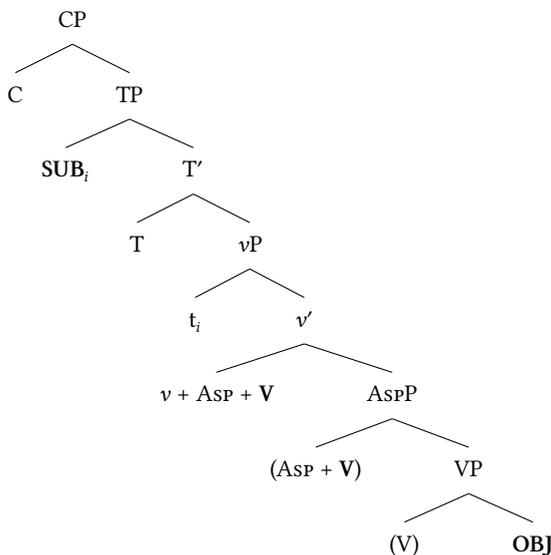
6 Further discussion and conclusion

(13)



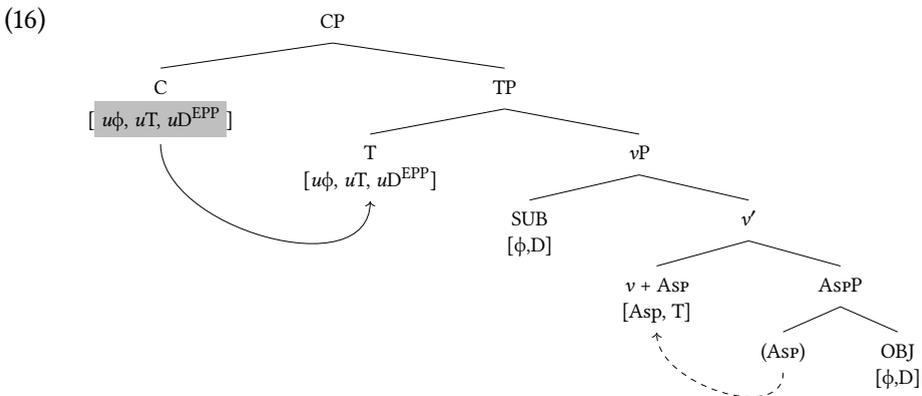
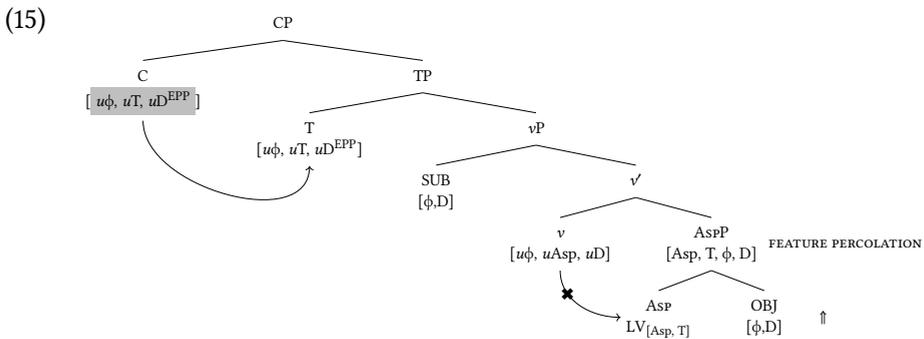
After all  $v$ 's features are transferred to  $ASP$ ,  $v$  is no longer a probe; none of the probing features on  $v$  are active, following the principle of *Expiration*. Instead,  $v$  (more precisely, the amalgam  $v + ASP + V$ ) now bears  $[Asp, T]$  features after V-to-ASP-to- $v$  raising. After the complement of  $vP$  is transferred to PF and PF, the derivation continues. In the CP phase, T inherits all of C's features. T agrees with the subject, which bears the matching  $[\phi, D]$  features, and also with the  $v + Asp + V$  complex head, which has a  $[T]$  feature. The EPP property of a D-feature on T triggers subject raising to Spec, TP. As a result, SVO order is obtained in (14). The nominative Case on the subject is a morphological manifestation of Agree between the probe T and the goal/subject with the matching D-feature.

(14)



One note should be made here: at the  $vP$  phase, FI from  $v$  to  $ASP$  must occur prior to  $V$  to  $ASP$  raising. If  $V$  raises to  $ASP$  first, the lexically filled  $ASP$  bears the  $[Asp, T]$  features of the light verb and it is no longer a valid head to inherit  $v$ 's features: only a featureless non-phase functional head can inherit the phase head's probing features.

On the other hand, when  $ASP$  is lexicalized by an English light verb, FI takes place only at the upper phase CP, but not at the lower phase  $vP$ , as shown in (15). FI from  $v$  to  $ASP$  is blocked because the lexically filled  $ASP$  is not qualified to be a recipient head to inherit features from  $v$  (the principle of validation). As a result,  $v$  agrees with  $ASP$ P which bears all the features of  $ASP$  and the object. Similar to the derivation in (13),  $ASP$  raises to  $v$  after  $v$ 's features are valued, as a result of which the complex  $v + ASP$  head bears the T-feature (16).<sup>5</sup>

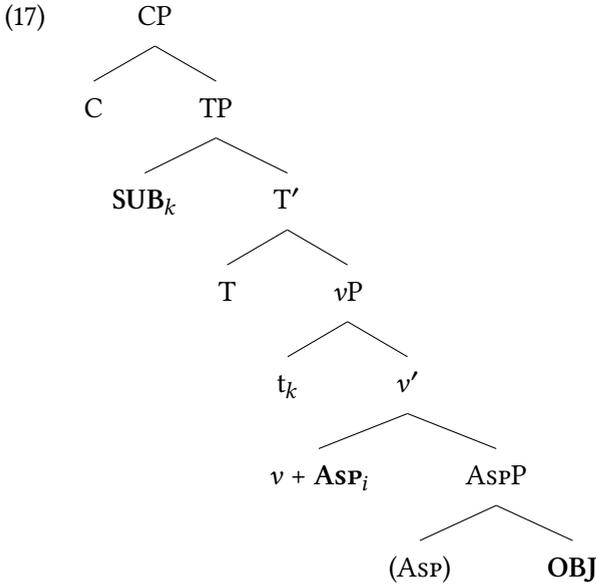


In the next CP phase, T inherits all of C's features and enters multiple agree relations with the subject to value the  $\phi$  and D-features and with the complex  $v$

<sup>5</sup>I assume that, similar to a lexical verb which represents  $V$  and raises to  $v$ , a light verb lexicalizing  $ASP$  raises to  $v$  in English.

## 6 Further discussion and conclusion

head to value the T-feature. Due to the EPP property on the D-feature on the probe T, the subject raises to Spec, TP and SVO order is derived, as in (17). In summary, SVO order is always derived in English whether the verb is heavy or light.

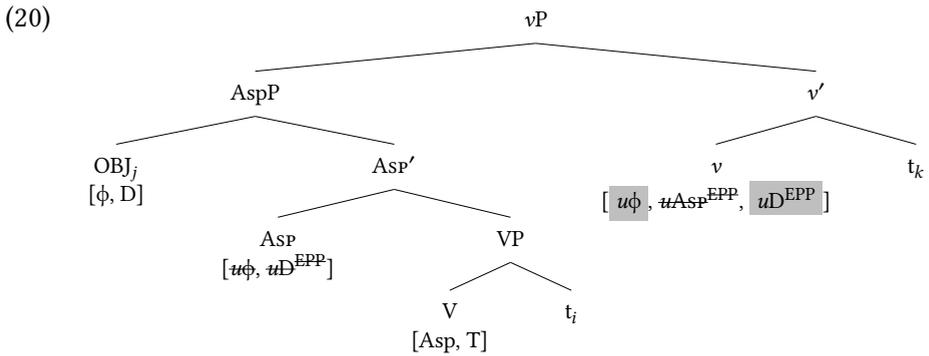
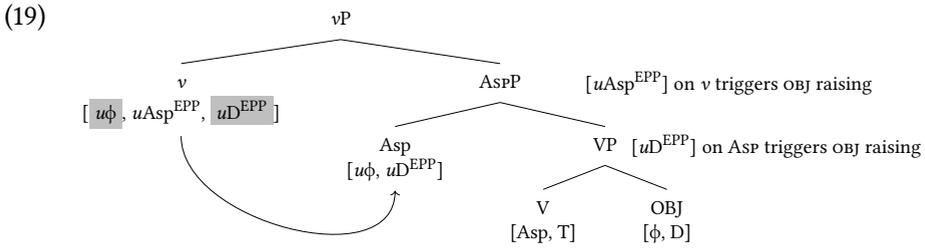


### 6.2.2 Korean and Japanese

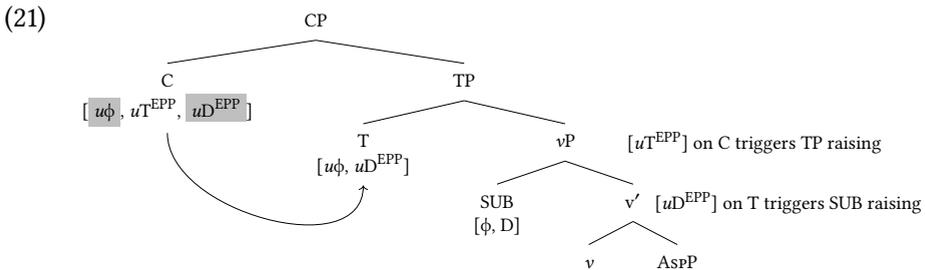
(18) shows the feature matrices of C and  $v$  in Korean and Japanese, and we will see how SOV order is derived via FI from C to T and from  $v$  to ASP.

- (18)
- |     |                                 |
|-----|---------------------------------|
| C   | $[u\phi, uT^{EPP}, uD^{EPP}]$   |
| $v$ | $[u\phi, uAsp^{EPP}, uD^{EPP}]$ |

In the  $v$ -ASP domain (19), ASP inherits  $[u\phi, uD^{EPP}]$  from  $v$  and agrees with the object, after which the object raises to Spec, ASP to satisfy the EPP requirement on ASP and so OV order is derived within ASP. Then  $[uAsp^{EPP}]$  on  $v$  is valued against the matching feature on V and the maximal projection of V is triggered to move to Spec, vP. However, the lexical projection of VP cannot move by itself and pied-pipes ASP. Thus, OV order is derived in the vP phase as in (20), with the detailed process already explained in Chapter 4.

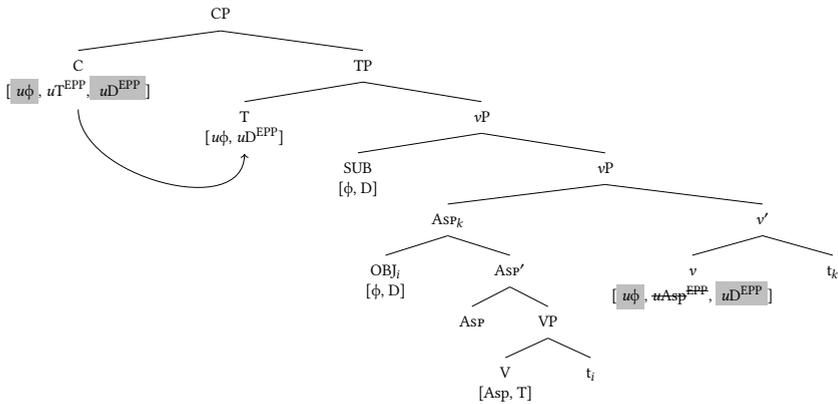


The derivation continues in a higher CP phase where  $vP$  merges with T and FI happens from C to T in upper CP phase as in (21). Since feature specifications on C and  $v$  are entirely parallel in Korean and Japanese, as we see in (18), FI from C to T is entirely parallel to FI from  $v$  to Asp. T inherits  $[u\phi, uD^{EPP}]$  from C and agrees with the subject. The EPP on the  $\phi$  feature on T triggers subject raising to Spec, CP. C also agrees with VP, which has the matching T feature. The EPP property on the T-feature on C triggers CP movement to the left of C, resulting in consistent head-final structure in Korean and Japanese. In the following, I will explain how CP raises after C agrees with VP (21).



6 Further discussion and conclusion

(22)



In (22) T inherits  $[u\phi, uD^{EPP}]$  from C and agrees with the subject, and the subject raises to Spec, CP due to the EPP-specification on the D-feature of T.<sup>6</sup> The  $[uT]$  on C still needs to be valued, and V has the corresponding feature. Also, the maximal projection of the goal must raise to satisfy EPP on C, therefore it induces VP movement. But we now know that  $AspP$  must be pied-piped by VP movement. However,  $AspP$  cannot raise in (22) according to *Criterial Freezing*.

(23) *Criterial Freezing* (Rizzi 2004: 11, (32))  
 A phrase meeting a criterion is frozen in place.

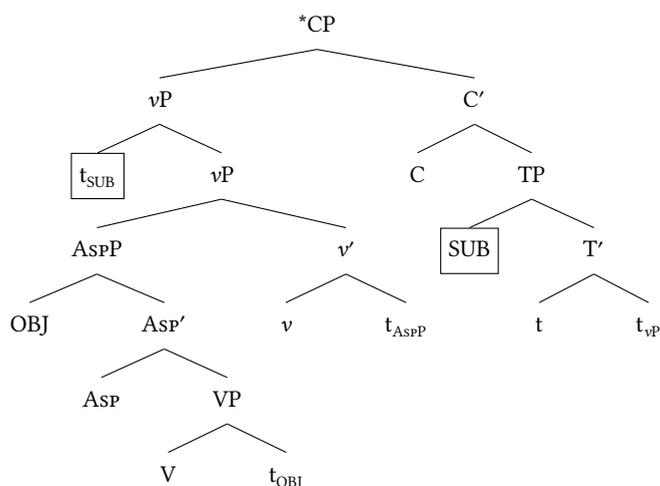
In a case of (successive-cyclic) movement, a chain is formed where the head of the chain indicates the final landing position of a moved element and the foot of the chain shows its base-generated position in (24). Rizzi calls the last merging position of X a criterial position at which X fulfills the criterion (or ‘features’ in Chomsky’s term) of a probe via spec-head configuration. The element in a criterial position is frozen and cannot be extracted any further in the derivation.

(24)  $\langle X_i, \dots t_i \rangle$

Returning to (22),  $AspP$  raises to Spec,  $vP$  and fulfills the criterion of the probe  $v$ ,  $[uAsp]$  including its EPP specification via a spec-head agreement. In other words,  $AspP$  is at a criterial position and is frozen in place. Thus,  $AspP$  cannot move to Spec, CP in a probe-goal relationship and it may conceivably pied-pipe  $vP$ , as in (25).

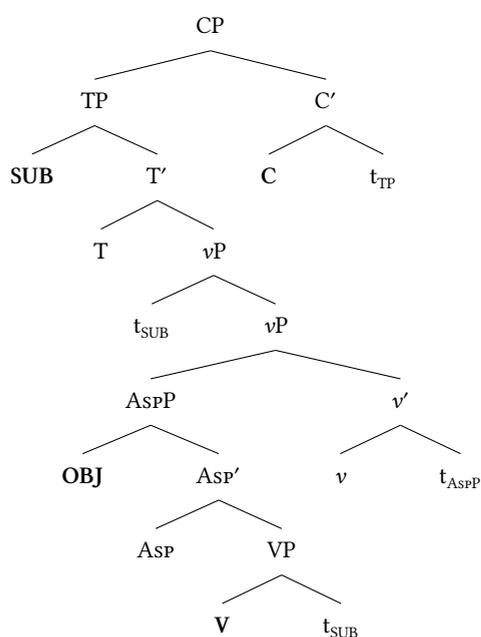
<sup>6</sup>Multiple specifiers of  $vP$  does not violate *multiple agree under antisymmetry* here. As discussed in Chapter 4, antisymmetry is a PF constraint, and since the subject moves to Spec, CP and leaves a trace, only one specifier of  $vP$  is spelled out at the PF.

(25)



However,  $vP$  movement to Spec, CP violates the Proper Binding Condition (Fiengo 1977) and is ruled out: the trace of the subject is not c-commanded by its antecedent and therefore not properly bound in (25). Since neither  $ASPp$  nor  $vP$  can be pied-piped by VP, it turns out that the smallest unit that VP can pied-pipe is CP, which further raises to Spec, CP in Korean and Japanese (cf. Kayne 1994). Analogous to  $ASPp$  pied-piping and raising in the  $v$ - $ASP$  domain, CP is pied-piped and raises in the C-T domain. As a result, surface order SOVC(omplementizer) is derived, as illustrated in (26).

(26)



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While  $vP$  cannot raise to Spec, CP in Korean and Japanese,  $vP$  raising is not categorically ruled out across languages. As a matter of fact,  $vP$  can raise to Spec, CP: various types of so-called VP topicalization (arguably involving fronting of  $vP$ ) are found in Germanic V2 languages, exemplified in (27).

- (27) a. [ $vP$  dem Peter ein Buch gegeben]<sub>3</sub> hat die Claudia  
           ART Peter<sub>DAT</sub> a book<sub>ACC</sub> given has ART Claudia<sub>NOM</sub>  
           gestern t<sub>3</sub> German  
           yesterday
- b. [ $vP$  t<sub>1</sub> gelesen]<sub>3</sub> hat das Buch<sub>1</sub> keiner t<sub>3</sub>  
           read has the book no-one
- c. [ $vP$  dem Peter t<sub>2</sub> gegeben]<sub>3</sub> hat die Claudia ein Buch<sub>2</sub> t<sub>3</sub>  
           ART Peter<sub>DAT</sub> given has ART Claudia<sub>NOM</sub> a book<sub>ACC</sub>
- d. [ $vP$  t<sub>1</sub> t<sub>2</sub> gegeben]<sub>3</sub> hat die Claudia dem Peter<sub>1</sub> ein Buch<sub>2</sub> t<sub>3</sub>  
           given has ART Claudia<sub>NOM</sub> ART Peter<sub>DAT</sub> a book<sub>ACC</sub>  
           adopted from Müller (1998: 187, (5))

In (27a), the entire  $vP$  is fronted to the beginning of the sentence, which has been argued to involve raising to Spec, CP (den Besten & Webelhuth 1987, Thiersch 1985). Similarly, the  $vP$  is topicalized in (27b-d). However, the  $vPs$  in (27b-d) are remnant  $vPs$  including the trace of the scrambled direct object in (27b), the trace of the direct object in a double object construction in (27c), and the trace of both the direct object and the indirect object in (27d). These traces inside the VP are not bound, violating the Proper Binding Condition. Yet, the sentences remain grammatical in remnant  $vP$  topicalization in German. On the contrary, we have seen that  $vP$  raising in Korean and Japanese is ruled out because it violates the Proper Binding Condition. How can we explain this conflicting pattern between  $vP$  topicalization in Germanic languages, on the one hand, and the ban on  $vP$  raising in Korean and Japanese, on the other hand?

I suggest that purely EPP-driven movement as in  $vP$  raising in Korean and Japanese cannot reconstruct (Nevins & Anand 2003), whereas topicalization, which is not a case of pure EPP-driven movement (because it leads to the interpretive effect of topic-comment articulation), as in  $vP$  raising in Germanic languages, can reconstruct, thus allowing an unbound trace in the VP to be bound at its reconstructed base position in V2 Germanic languages. It is worth investigating cross-linguistic variation regarding  $vP$  raising, including various verb-initial languages such as Niuean, which is arguably a VP fronting language exhibiting vso order (Massam 2000; 2001). However, this I will leave for future research.

I have shown how FI takes place in both CP and vP phases in English, Korean and Japanese, which explains how head-initial structure in English and head-final structure in Korean and Japanese are derived. In Korean and Japanese, various types of pied-piping are observed, AspP pied-piping in the *v*-Asp domain and CP pied-piping in the C-T domain, which describe consistent head-final structure in these languages. Pied-piping is observed in various domains across languages, and PP pied-piping in *wh*-movement in English is one of many examples. In (28a, b), for instance, the object moves up to Spec, CP triggered by the EPP specification on the *wh*-feature on C. On the other hand, the goal/object may pied-pipe its mother node PP and move up to Spec, CP in (28a', b').

- (28) a. Who did you speak to?  
       a.' To whom did you speak?  
       b. What do you mix your vodka with?  
       b.' With what do you mix your vodka?

Researchers have proposed various accounts for pied-piping constructions like those in (28), such as feature percolation from the *wh*-object to its dominating node PP or restricting the *wh*-feature in a local domain where no phrasal boundary must be present between the probe and the goal. However, a feature percolation approach to pied-piping has been criticized for its overgeneralization, and the nature of pied-piping is still open to debate. Instead, pied-piping may be dealt with differently under the FI system, as proposed in this monograph.

### 6.3 Conclusion of the monograph

The main purpose of this monograph was to investigate word order variation in CS, with particular focus on the distribution of OV and VO orders in Korean-English and Japanese-English CS. Taking the view that linguistic variation is due to different morphosyntactic features on functional categories rather than lexical ones (the Borer-Chomsky conjecture), the role of functional/light verbs was explored in comparison with lexical/heavy verbs, with respect to OV-VO variation in Korean-English and Japanese-English CS. In addition, the role of syntactic flexibility of a code-switched phrase was also investigated, assuming that while the internal argument of a syntactically flexible phrase is subject to CS, a less flexible phrase undergoes CS as a unit. The results from the CS judgment task and the syntactic flexibility judgment task from 28 Korean-English and 8 Japanese-English bilingual speakers confirmed the two research hypotheses of the study: selection

## 6 Further discussion and conclusion

between English heavy verbs and light verbs within a code-switched constituent and the degree of syntactic flexibility of a code-switched phrase are related to OV-VO variation in CS.

There are several implications of the findings of the present study for an understanding of bilingual speakers' linguistic competence and their linguistic creativity as well as human language forms in general. As argued in this monograph, light verbs may not represent the same syntactic category across languages; for instance, Korean and Japanese-type light verbs lexicalize the functional category *v* whereas English-type light verbs realize *Asp*. With access to a larger set of functional categories drawn from different languages, which may vary in their morphological forms, bilingual speakers are able to construct a wider range of CS sentences, whose patterns may not be found in monolingual grammar. Otherwise, bilinguals are just like monolinguals in the sense that their grammars also reflect Universal Grammar, which is claimed to govern monolingual grammars in generative linguistics. Thus, CS provides us with richer data to test with stronger confidence, the validity of linguistic theories and proposals primarily intended to account for the grammatical patterns of monolingual grammar. By studying the diverse and creative patterns of CS, we are at a better disposal to understand how languages are parameterized similarly or differently in a given domain, which is the topic that generative linguists have pursued for a long time.

To provide a structural analysis of how OV and VO orders are distributed and derived in Korean-English and Japanese-English CS, I first reviewed different approaches to word order in generative linguistics, non-derivational approaches such as the head directionality approach, derivational approaches and minimalist approaches. While the old head parameter approach states that the lexical head takes its complement either to its left or to its right, a revised head parameter has been proposed by restricting parametric variation into functional heads. The idea of treating functional heads and their morphosyntactic features as the locus of linguistic variation has been further developed in the Minimalist Program.

The derivational approach, on the other hand, assumes that all languages share the same underlying structure from which various surface orders are derived. Among different proposals under the derivational approach, two opposite views were closely examined with respect to OV and VO derivations: (a) OV is derived from VO via object movement (Kayne 1994) and (b) VO is derived from OV by verb movement (Haider 1992; 2000). While word order is regarded to be established after syntax in the minimalist approaches, Kayne's idea that the head-complement order (e.g. VO) is universal was adopted in the minimalist syntax framework and his Linear Correspondence Axiom (LCA) has been modified as a rule/condition/-constraint applied to PF and implemented in the bare phrase structure, in which

structure is built via Merge between two lexical items directly. Although the notion of *Merge* was adopted as a way to build syntactic structure in this monograph, the tree structure advocated in the X-bar theory, which precedes the bare phrase structure, was used for expository reasons to show the role of functional categories with respect to linguistic variation such as word order.

The proposal that object shift is triggered by an EPP specification of a syntactic category  $\nu$  was further developed in the  $\nu$ -ASP structure, where Korean and Japanese light verbs represent  $\nu$  and English light verbs lexicalize ASP. And it was argued that features are inherited from  $\nu$  to ASP according to the four principles (*Obligation, Validation, Selection, and Expiration*) and three operational rules (*Multiple Agree under Asymmetry, Earliness and Economy*). The distribution of OV and VO orders in Korean-English and Japanese-English CS was argued to be a result of object raising in derivations: when FI occurs from  $\nu = ha^{KR}/su^{JP}$  to ASP, the object raises to Spec, ASP triggered by the EPP property on ASP. As a result, OV order is derived. If FI does not occur, on the other hand, the object stays in situ and the underlying VO order surfaces. The FI-based account of word order in monolingual and bilingual grammars shows that FI is designed to facilitate a derivation to proceed economically and efficiently in the syntax, reflecting the very spirit of Minimalist syntax.



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# OV and VO variation in code-switching

This monograph is intended as a contribution to the field of bilingualism from a generative syntax perspective at a variety of levels. It investigates code-switching between Korean and English and also between Japanese and English, which exhibit several interesting features. Due to their canonical word order differences, Korean and Japanese being soV (Subject-Object-Verb) and English sVO (Subject-Verb-Object), a code-switched sentence between Korean/Japanese and English can take, in principle, either OV or VO order, to which little attention has been paid in the literature.

On the contrary, word order is one of the most extensively discussed topics in generative syntax, especially in the Principles and Parameter's approach (P&P) where various proposals have been made to account of various order patterns of different languages. By taking the generative view that linguistic variation is due to variation in the domain of functional categories rather than lexical roots (e.g. Borer 1984; Chomsky 1995), this monograph investigates word order variation in Korean-English and Japanese-English code-switching, with particular attention to the relative placement of the predicate (verb) and its complement (object) in two contrasting word orders, OV and VO, which was tested against Korean-English and Japanese-English bilingual speakers' introspective judgments.

The results provide strong evidence indicating that the distinction between lexical and functional verbs plays a major role in deriving different word orders (OV and VO, respectively) in Korean-English and Japanese-English code-switching, which supports the hypothesis that parametric variation is attributed to differences in the features of a functional category in the lexicon, as assumed in minimalist syntax. In particular, the explanation pursued in this monograph is based on *Feature Inheritance*, a syntactic derivational process, which was proposed in recent developments the Minimalist Program.

The monograph shows that by studying diverse and creative word order patterns of code-switching, we are at a better disposal to understand how languages are parameterized similarly or differently in a given domain, which is the very topic that generative linguists have pursued for a long time.

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