

**Locality domains and morphological rules:
Phases, heads, node-sprouting and suppletion in Korean honorification**

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1 Introduction

The Distributed Morphology (DM) model of the morphology-syntax interface has posited several distinct constructs to account for the idiosyncratic character of morphological phenomena. An important strand of research has addressed the interaction of these constructs. One leading idea is that locality restrictions derived from syntactic structure play an important role in constraining rule application (Arad 2003, 2005; Bobaljik 2012; Embick 2003, 2010; Marantz 2013; Merchant 2015; Moskal 2014, 2015a, 2015b; a.o.). For each morphological operation, it is important to establish what its locality domain is and the point in the derivation at which it applies. Using the empirical domain of Korean subject honorification and negation as our lens, we elucidate the nature of two such operations: dissociated morpheme insertion (re-christened ‘node-sprouting’) and morphologically conditioned vocabulary insertion. We argue that node-sprouting rules apply locally once per phase, as an early step after Spell-Out. To derive the realization of suppletive Korean verbs, we show it is necessary to allow conditioning by hierarchically and linearly nonlocal nodes within a complex X^0 head, contra, e.g., Embick 2010, Merchant 2015, Moskal 2014, 2015a, 2015b, Svenonius 2014. Of extant proposals, Korean honorific and negative suppletion is only consistent with the X^0 conditioning domain restriction posited in Bobaljik (2012). However, hierarchical locality is nonetheless relevant for vocabulary insertion, because we demonstrate that if two vocabulary items with equivalently complex conditioning specifications compete with each other, the item with the more local conditioning context wins.

En route, we draw several conclusions regarding Korean subject honorification. We argue that verbal subject honorification is syntactically governed grammatical agreement with the honorified NP, with Ahn (2002), Ahn and Yoon (1989), Chung (2009), Koopman (2005), Yun (1993), among others. Although the pattern is syntactically governed, we argue that it is morphologically implemented, rather than adopting the purely syntactic approaches of previous studies. This is motivated by the fact that subject honorification can be realized both low and high in the syntactic structure. We show that most counterexamples to an agreement approach—sentences in which verbal subject honorification appears in the absence of an honorific subject NP—can be explained by the availability within Korean of the syntactic process of possessor-raising to subject position, which we argue applies ‘covertly’ in these cases.¹ We also provide arguments that Korean suppletive verbs are truly suppletive, rather than distinct semantically related lexical items, contra Bobaljik (2012) and Moskal (2015b).

In the remainder of this section we briefly introduce the mechanisms of interest, namely node-sprouting (aka dissociated morpheme insertion) and vocabulary item competition (aka morphologically conditioned allomorphy), and review previous proposals concerning locality domains for vocabulary item conditioning. In section 2, we then turn to regular Korean subject honorification, first arguing that it should be treated as syntactically conditioned but morphologically implemented agreement. In section 3, with our structural proposal in place, we consider suppletive exponence of honorification and short-form negation, showing that the structural locality of the conditioning feature determines the choice of suppletive exponent, and arguing against both linear and structural adjacency constraints on suppletive conditioning. In section 4, we show that the within- X^0 locality constraint on suppletion correctly predicts

¹ The DP/NP distinction does not impact our argumentation in this paper, so we simply refer to ‘NP’ throughout; we do not thereby intend to make any claim about the DP hypothesis for Korean.

the suppletive pattern in restructuring serial verb constructions (*po*-constructions'), and motivates a reanalysis of suppletive honorific exponents as monomorphemic, as well as further refuting alternative theories of locality constraints on suppletion.

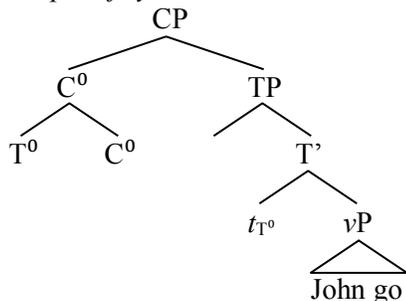
1.1 Dissociated morpheme insertion and conditioned vocabulary insertion

First we briefly introduce dissociated morpheme insertion and conditioned vocabulary insertion, and situate them within a DM derivation.

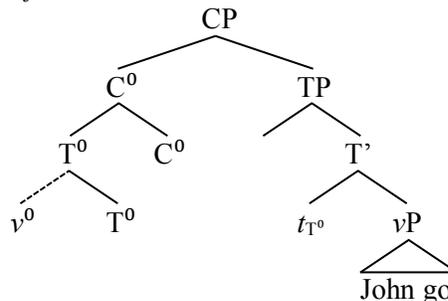
Dissociated morpheme insertion, which we will call 'node-sprouting' here (suggested by Marantz p.c.), occurs when the syntax outputs a syntactically well-formed structure that is nonetheless morphologically deficient, and the morphological component repairs the deficiency by inserting an additional morpheme, or terminal node, in the representation (Embick 2000; Halle and Marantz 1993). Bobaljik's (1994) treatment of English *do*-insertion provides an illustration.² When syntactic T⁰-to-C⁰ movement in English results in a structure in which the T⁰ node is not structurally local to a verb that could support its realization, a node-sprouting rule adds a verbal terminal node to the structure. This is illustrated in (1) below.

(1) *Did John go?*

a. *Output of syntax:*



b. *After do-insertion:*



Morphological agreement in DM has long been analyzed as such a dissociated morpheme (Halle and Marantz 1993, Bobaljik 2008, a.o.). Sprouted Agr⁰ nodes are inserted according to language-specific sprouting rules, and are subsequently realized by agreement markers. The rules are triggered by particular morphosyntactic configurations, and hence are syntax-dependent, but they are not part of the syntactic computation *per se*. They are hence LF-neutral, as noted by Chomsky (1995). Similarly, the interpretation of the English past tense is not affected by whether it is affixal to the main verb or affixal to the sprouted morpheme v_{bo}^0 ; the application of *do*-insertion is also LF-neutral. We argue that Korean subject honorification morphemes are normal agreement, and should therefore be analyzed as sprouted nodes.

Vocabulary Insertion is the 'realization' of abstract nodes (sprouted or otherwise) by phonological material, which is specified in a list of 'Vocabulary Items' that provide the forms available for use in a language. DM adopts the key insight of the Elsewhere Condition (Kiparsky 1973), according to which multiple forms can be eligible to realize a given morpheme, and the winning form is the single compatible form which is most highly specified. To continue with our English past tense example, in the structural context in (2a) below, both the vocabulary items /d/ and /t/ in (2b) are eligible to realize the T⁰ terminal node, but /t/ wins, because it is more highly specified.

(2) a. $[\sqrt{\text{LEND}} v^0]_{v^0} T^0_{[+\text{past}]T^0}$

² However, see Baker (1991), and especially Bruening (2010a) for arguments against a postsyntactic account of English *do*-insertion. See also Sag (1994) for a lexicalist approach. We use Bobaljik's proposal here mainly for illustrative purposes and also because it provides a useful parallel to the approach to Korean *ha*-insertion that we do adopt later.

b. *Vocabulary items:*

$T^0_{[+past]} \leftrightarrow t / [\{\sqrt{\text{LEND}}, \sqrt{\text{BEND}}, \sqrt{\text{FEEL}}, \dots\} \text{ ____ }]$

$T^0_{[+past]} \leftrightarrow d / \text{elsewhere}$

Competition between distinct vocabulary items is central to all morphologically conditioned allomorphy in DM, as it is for most morphological theories. Some DM literature has been devoted to resolving competitions in which the Elsewhere Condition is insufficient to determine a single winner (Harley 1994; Noyer 1992, 1997); more recently, there has been investigation of locality constraints on conditioning contexts (Bobaljik 2012; Embick 2010; Merchant 2015; a.o.). It seems clear that features several clauses away cannot condition an allomorph, but what exactly the structural constraints are remains a hotly debated topic.

In our analysis, suffixal honorification is implemented by node-sprouting, and suppletive honorification is a case of conditioned allomorphy. We argue that these two operations are subject to distinct locality constraints. Node-sprouting applies once in each cycle of the syntactic derivation, after Spell-Out of a phase. The featural conditioning of suppletive honorification is constrained by a distinct locality domain, the complex X^0 head.

We next briefly describe five recent proposals concerning locality constraints on conditioned allomorphy, drawing heavily on Merchant's (2015) overview.

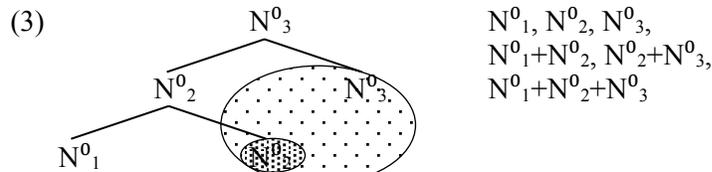
1.2 Theories of locality effects in morphologically conditioned allomorphy

In morphologically conditioned allomorphy, the correct choice of vocabulary item for one node often depends on the features in another node, which is why conditioned allomorphs give the appearance of 'secondary' or 'multiple' exponence (cf. Caballero and Harris 2012). For example, in the comparative form *better*, the choice of stem allomorph for $\sqrt{\text{GOOD}}$, *bett-*, is conditioned by the [+comparative] feature on the degree node, itself realized by the suffix *-er*. Recent work has asked when such secondary conditioning is possible. Are there limits on how local a conditioning feature has to be?

There have been several proposals. Arad (2003, 2005) suggests that morphologically conditioned allomorphs of a nominalizing n^0 head must be sisters to the conditioning root node; intervening categorizing head blocks allomorphy. Harley (1995, 2008) also argues along these lines with regard to Japanese causative morphology, and many other proposals build on this idea (Alexiadou and Anagnostopoulou 2008; Jackson 2005; Svenonius 2005; a.o.). Although sisterhood is clearly sufficient to license morphologically conditioned allomorphy, the example of the English past tense in (2) above shows that sisterhood is not necessary, since the conditioned T^0 head is sister to v^0 , rather than to the conditioning $\sqrt{\text{ }}$ node.

Embick (2010) argues that linear adjacency is a crucial locality consideration in morphologically conditioned allomorphy. There can be structurally intervening material, iff it is null; Embick proposes that null nodes are 'pruned' during the course of the derivation, and hence do not interfere with conditioning. Overtly realized linearly intervening morphemes do block conditioning, however.

Merchant (2015) shows that Embick's Node Adjacency Hypothesis is too strong, since some Greek verb insertion is conditioned both by features of Voice^0 and features of Aspect^0 , which is not adjacent to the root. He suggests instead the 'Span Adjacency Hypothesis', which holds that allomorphy can be conditioned only by an adjacent *span* of nodes. In the diagram below, e.g., the exponence of N^0_1 could be conditioned by N^0_2 or by $N^0_2+N^0_3$ together, since they constitute a 'span', but the exponence of N^0_1 could not be conditioned by N^0_3 to the exclusion of N^0_2 , since N^0_3 is not part of an adjacent span to N^0_1 .



Other locality domains have also been suggested. Bobaljik (2012) argues that the upward bound for morphological conditioning of allomorphy is the complex X^0 , and that allomorph selection cannot be conditioned across an XP boundary. He proposes the ‘Root Suppletion Condition’ schematized in (4) (ibid. p. 13), which permits conditioning of α by β across a (word-internal) X^{00} boundary (4a) but bans conditioning of α by β across a phrasal boundary (4b):

- (4) a. $\alpha \dots]_{X^0} \dots \beta$
 b. $*\alpha \dots]_{XP} \dots \beta$

This condition captures the observation that periphrasis always yields regularity (ibid. p. 3), which holds true in his cross-linguistic survey of comparative morphology. He finds affixal patterns like *small ~ smaller*, with no root allomorphy, and *good ~ better*, where root allomorphy is conditioned by a terminal within the word. He also finds periphrastic patterns like *minuscule ~ more minuscule*, with no root allomorphy, but no periphrastic patterns like **good ~ more bett*, where root allomorphy is conditioned by a terminal outside the word (though see Bobaljik and Harley to appear for further discussion).

Bobaljik enriches his theory with an adjacency condition (Bobaljik 2012:149), which has the same ultimate effect as Merchant’s Span Adjacency condition: Conditioning features must occur in nodes, or sequences of nodes, which are adjacent to the root. Even more stringently, he also proposes that substructures of suppletion-conditioning contexts must themselves have suppletive realizations (ibid. p. 150).

Some others have proposed that there are cyclic domain nodes within words which function somewhat like the cyclic domain nodes in the phrasal syntax (Moskal 2014, 2015a, 2015b), involving an ‘Accessibility Domain’ which includes the phase head plus one additional layer of structure. Patterns which have been argued to support this ‘phases-within-words’ approach include the usual inner vs. outer morphology effects, as well as ‘level 1’ vs ‘level 2’ phonological cycles and related phenomena (see, e.g., Marvin 2003; Newell 2008; Newell et al. 2016; Piggot and Newell 2006; Samuels 2011).

We show that Korean root suppletion patterns require the rejection of most of these locality constraints. Allomorphic Vocabulary Items can be conditioned across structurally intervening nodes within the complex word, hence Spanning-dependent approaches like Merchant (2015), the adjacency constraint of Bobaljik (2012), and the Accessibility Domain approach of Moskal (2014, 2015a, 2015b) are not adequate.³ We also show that allomorphic vocabulary items can be conditioned across *linearly* intervening nodes, hence linear-adjacency approaches like Embick (2010) are also problematic. Arad-style analyses do not countenance the possibility of structural intervention at all, so they are also not able to account for the Korean data. We also do not make use of the notion of phases-within-words in our analysis, though see discussion in section 4.

The strongest extant constraint that the Korean analysis is consistent with is Bobaljik’s basic Root Suppletion Condition in (4) above: allomorphic conditioning can occur within the complex X^0 domain. We also show that hierarchical locality is relevant to allomorphic conditioning, because of the independent nature of Korean negation and honorification, arguing against the Fusion-based approach of

³ The non-adjacent suppletion conditioning we argue for is thus similar to Moskal and Smith’s (2016) ‘Hyper-Contextual’ Vocabulary Insertion rules. However, the evidence they introduced to motivate such rules did not include conditioning across uninvolved intervening structure.

Chung (2009). This is reminiscent of, though not identical, to Bobaljik’s (2012) finding that when one potential conditioning environment strictly contains another more local conditioning environment, the more local environment takes precedence. We show that in contexts where two competing items are equally featurally complex, the item conditioned by the most local feature wins. We suggest that this is a necessary result of a theory which requires bottom-up, root-outwards vocabulary insertion, and hence dub this the Local Allomorph Selection Theorem:

(5) *Local Allomorph Selection Theorem:*

If two vocabulary items are in competition, and the Subset Principle does not apply, then the vocabulary item conditioned by a more local feature blocks the vocabulary item conditioned by the less local feature.

We begin by developing an account of regular subject honorification, marked by the suffix *-si*.

2 Analysis of regular Korean subject honorification

Subject honorification in Korean provides a rich empirical domain in which to investigate the morphology-syntax interface, as it depends on the interaction of many independent syntactic and morphological processes. It exhibits agreement-like behavior with specially case-marked subject NPs (6), it can be expressed through suppletion (6b) as well as affixation (6a, c, d), and it can optionally exhibit multiple exponence in some contexts (6c, d).⁴

- | | | | | | | |
|-----|----|----------------------------------|-----------|--------------------|-----|-----------------|
| (6) | a. | Halapeci-kkeyse | cip-ey | ka*(-si)-ess-ta. | | |
| | | grandfather-NOM.HON | home-to | go-HON-PST-DECL | | |
| | | ‘Grandfather went home.’ | | | | |
| | b. | Halapeci-kkeyse | pang-eyse | cwumwusi-ess-ta. | | |
| | | grandfather-NOM.HON | room-at | sleep.HON-PST-DECL | | |
| | | ‘Grandfather slept in the room.’ | | | | |
| | c. | Halapeci-kkeyse | cip-ey | ka-si-ci | ani | ha(-si)-ess-ta. |
| | | grandfather-NOM.HON | home-to | go-HON-CI | NEG | do-HON-PST-DECL |
| | | ‘Grandfather didn’t go home.’ | | | | |
| | d. | Halapeci-kkeyse | cip-ey | ka(-si)-ci | ani | ha-si-ess-ta. |
| | | grandfather-NOM.HON | home-to | go-HON-CI | NEG | do-HON-PST-DECL |
| | | ‘Grandfather didn’t go home.’ | | | | |

We first establish that an agreement treatment of *-si* inflection is appropriate, following Ahn (2002), Ahn and Yoon (1989), Han (1993), Koopman (2005), Yun (1993), among others, and address concerns about the syntactic approach raised in Brown (2011) and Kim and Sells (2007), and discussed in Yun (1993).

2.1 Honorification as subject agreement

An agreement approach to honorific marking is suggested by the simple fact that any overtly honorific nominative NP—i.e., any NP marked with the special honorific nominative case suffix *-kkeyse*—must co-occur with honorific verbal suffix *-si*, as in (7) and (8). (Schütze 2001 establishes that *-kkeyse* is indeed a nominative case marker.) Mandatory co-occurrence of this kind is the hallmark of syntactic agreement patterns.

⁴ Abbreviations used in this paper: ACC = accusative, ADJ = adjectivizer, DECL = declarative, FOC = focus, GEN = genitive, HON = honorific, INT = interrogative, NEG = negation, NMLZ = nominalizer, NOM = nominative, PRES = present, PST = past, TOP = topic.

- (7) a. *Tayhakwonsayng-kkeyse chinkwu-lul po-ass-ta.
graduate.student-NOM.HON friend-ACC see-PST-DECL
b. *Tayhakwonsayng-i chinkwu-lul po-si-ess-ta.
graduate.student-NOM friend-ACC see-HON-PST-DECL
- (8) a. *Halapeci-kkeyse cip-ey ka-ss-ta.
Grandfather-NOM.HON home-to go-PST-DECL
b. *Halapeci-ka cip-ey ka-si-ess-ta.
Grandfather-NOM home-to go-HON-PST-DECL

Most previous literature has adopted an agreement-based approach (Ahn 2002; Ahn and Yoon 1989; Han 1993; Koopman 2005; Yun 1993; a.o.). The *-kkeyse* nominative marker realizes a nominative case node that is bundled with a [+hon] feature, and this [+hon] feature mandatorily triggers agreement marking on the verb.

However, there are contexts where *-si* appears but the triggering NP is not a nominative *-kkeyse*-marked subject. Such cases have caused Brown (2011) and Kim and Sells (2007) to question whether honorification should be treated syntactically. We argue below that most such cases can be treated as syntactic agreement once another important property of Korean syntax is taken into account, namely multiple-subject constructions created via possessor-raising. We show that most of the counterexamples have grammatical variants with overt possessor-raising, and that in contexts where overt possessor raising is impossible, exceptional subject honorification is also impossible. This suggests that in these cases possessor raises covertly, creating an honorific nominative subject and triggering honorific agreement. We follow Yun (1993) in analyzing other counterexamples involving subject nominals denoting respected professions or social positions as being lexically bundled with the [+hon] feature.⁵

2.1.1 Honorification triggered by honorific possessors

Brown (2011:31-32) points out that when a subject contains an honorific possessor, honorific marking is possible on the verb, even when *-kkeyse* is not present:

- (9) a. Halapeci-uy swuyem-i ki(-si)-ta.
grandfather-GEN whiskers-NOM long-HON-DECL
'Grandfather's whiskers are long.'
b. Halapeci-uy cip-i khu(-si)-ta.
grandfather-GEN house-NOM big-HON-DECL
'Grandfather's house is big.'

Because the NP *halapeci-uy* 'Grandfather's' is contained within the subject NP *halapeci-uy cip-i* 'Grandfather's house', in (9b), the honorific NP is not itself a subject and the grammaticality of *-si* here is unexpected on an agreement analysis.

However, Korean has a well-known process of possessor-raising, which can produce multiple-nominative structures with some predicates (see, e.g., Choe 1987, Kang 1987, Yoon 1989, Ura 1996, Yun 2004; see also Ko 2007:section 4 and references therein).⁶ For example, (9a) and (9b) respectively have

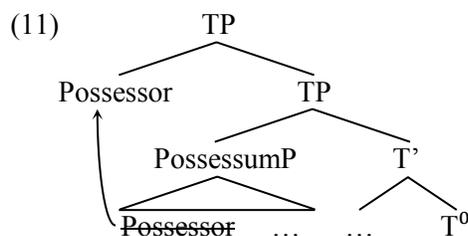
⁵ Other objections to the agreement approach raised in Brown (2011) and Kim and Sells (2007) remain unaddressed here.

⁶ Kim (2001), among many others, criticizes the possessor-raising analysis of double nominative constructions. One of the main objections is that in-situ possessor constructions only receive a literal interpretation (ia) while raised possessor constructions can receive either a literal or idiomatic interpretation (ib). In fact, however, (ia) can immediately receive an idiomatic interpretation once appropriately contextualized (ii). We conclude a raising analysis is viable.

grammatical alternates (10a) and (10b), where the possessor NP is marked with a second nominative, surfacing as *-kkeyse*:

- (10) a. Halapeci-kkeyse swuyem-i ki-si-ta.
 grandfather-NOM.HON whiskers-NOM long-HON-DECL
 ‘Grandfather’s whiskers are long.’
 b. Halapeci-kkeyse cip-i khu-si-ta.
 grandfather-NOM.HON house-NOM big-HON-DECL
 ‘Grandfather’s house is big.’

We build on the conclusions of Han and Kim (2004), who propose that such structures involve adjoining the first ‘raised’ nominative possessor to the IP whose subject position is occupied by the possessed NP, where the second nominative is checked. This adjunction operation involves movement from the possessor position to the adjoined position; the structure is illustrated in (11) with ‘IP’ updated to ‘TP’.



We hypothesize that structures of this type underlie the examples in (9), i.e., that they involve ‘covert’ possessor raising, modelled as optional spell-out of the tail of the movement chain illustrated in (11). When honorification is present, a higher copy of the honorific possessive NP is present but unpronounced, the chain instead being realized by the lower copy within the possessed NP.⁷ The covert higher subject licenses the appearance of *-si* on the verb. At LF, they are identical to the examples in (10), where overt possessor raising with an honorific case marker mandatorily triggers honorification. (See also Kishimoto (2013) for an independent proposal along these lines for Japanese.)

This predicts that in sentences where multiple nominative constructions are impossible, i.e., in sentences with possessed subjects expressing alienable possession (12a), as opposed to (12b), honorific marking in agreement with an honorific possessor should also be impossible (13a), as opposed to (13b).

-
- (i) a. Inho-uy pal-i nelp-ta. b. Inho-ka pal-i nelp-ta.
 Inho-GEN foot-NOM wide-DECL Inho-NOM foot-NOM wide-DECL
 ✓Lit. ‘Inho’s foot is wide.’ ✓Lit. ‘Inho’s foot is wide.’
 ✗Idiomatic. ‘Inho knows a lot of people.’ ✓Idiomatic. ‘Inho knows a lot of people.’
- (ii) Inho-uy pal-i amwuli nelp-eto, ku salam-un al swu eps-ta.
 Inho-GEN foot-NOM however wide-although that person-TOP know unable-DECL
 ‘However many people Inho knows, there is no way he knows that person.’

⁷ We adopt a ‘Dependent Case’ view of the realization of case morphology (Marantz 1991, Bobaljik 2008), according to which the surface form of a syntactically licensed case feature is dependent on its structural context. Thus the case of the possessor NP appears as *-uy* ‘GEN’ when the tail of the possessor-raising chain is pronounced, and as *-kkeyse* ‘NOM.HON’ when the head of the chain is pronounced. Indeed, An (2015) argues that *-uy* is simply a morphological marker of nominal modification, not a case particle; if that is correct, it may be that structural case for possessors of subjects is always assigned in a covert multiple-subject configuration.

- (12) a. Nwuna-uy/*-ka cikap-i ippu-ta.
 sister-GEN/-NOM purse-NOM pretty-DECL
 ‘Sister’s purse is pretty.’
 b. Nwuna-uy/-ka elkwul-i ippu-ta.
 sister-GEN/-NOM face-NOM pretty-DECL
 ‘Sister’s face is pretty.’
- (13) a. Halmeni-uy cikap-i ippu(*-si)-ta.
 grandmother-GEN purse-NOM pretty-HON-DECL
 ‘Grandmother’s purse is pretty.’
 b. Halmeni-uy elkwul-i ippu(-si)-ta.
 grandmother-GEN face-NOM pretty-HON-DECL
 ‘Grandmother’s face is pretty.’

The correlation between the availability of possessor-raised multiple subjects and exceptional subject honorification thus supports an agreement treatment of honorification.

2.1.2 Multiple-topic honorification is possessor honorification

A second class of examples in which the honorific NP does not stand in a normal agreement-triggering configuration with the verb involves multiple topic structures, like those in (14) and (15) (Yun 1993:34-67):

- (14) Apenim-kkaci son-i congki-ka na(-si)-ess-ta.
 father-even hand-NOM boil-NOM get-HON-PST-DECL
 ‘Even father has got a boil on his hand.’
- (15) Kyoswunim-ulopwuthe yensel-i iss-usi-keyss-ta.
 professor-from speech-NOM occur-HON-FUT-DECL
 ‘There will be a speech from the professor.’

We argue that such cases are also best understood as subcases of the previous type, taking into consideration the possibility of *pro*-drop in multiple nominative constructions. Korean permits a topic-comment construction, with a topic phrase in the left periphery that is co-indexed with a (null) pronominal in the argument structure of the clause (Huang 1984). This suggests a potential hypothesis concerning (14) and (15): if the left-dislocated topics *apenim-kkaci* ‘father-even’ and *kyoswunim-ulopwuthe* ‘professor-from’ are co-indexed with *pro* possessors in the subjects (*pro congki-ka* ‘his boil-NOM’, *pro yensel-i* ‘his speech-NOM’) of these examples, then the potential for honorification can be understood in the same way as that of the possessive examples in the previous section, in terms of possessor raising (in this case of *pro*) to nominative subject status. As expected, the subject honorification examples above have explicitly possessive and multiple-nominative variants:

- (16) a. Apenim-uy son-i congki-ka na-si-ess-ta.
 father-GEN hand-NOM boil-NOM get-HON-PST-DECL
 ‘Father has got a boil on his hand.’
 b. Apenim-kkeyse son-i congki-ka na-si-ess-ta.
 father-NOM.HON hand-NOM boil-NOM get-HON-PST-DECL

- (17) a. Kyoswunim-uy yensel-i iss-usi-keyss-ta.
 professor-GEN speech-NOM occur-HON-FUT-DECL
 ‘There will be a speech from the professor.’
 b. Kyoswunim-kkeyse yensel-i iss-usi-keyss-ta.
 professor-NOM.HON speech-NOM occur-HON-FUT-DECL

We show that a possessor relation between the topicalized element and the nominative NP in (14) is necessary by introducing an overt possessor, disjoint from the topic (18). This yields ungrammaticality, showing that the honorific topic NP *must* stand in a possessor relation with the subject in such exceptional honorification examples:

- (18) a. Apenim-kkaci kyengcwuma-uy tali-ka congki-ka na-ss-ta.
 father-even racehorse-GEN leg-NOM boil-NOM get-PST-DECL
 ‘Father’s racehorse has got a boil on its leg.’
 b. *Apenim-kkaci kyengcwuma-uy tali-ka congki-ka na-si-ess-ta.
 father-even racehorse-GEN leg-NOM boil-NOM get-HON-PST-DECL

Similarly with respect to (15), we show in (19) it is impossible to construct the sentence with a disjoint possessive NP in combination with the *professor-from* topic PP. Without the *from*-PP, the nominative subject *speech* can have an overt possessor NP, as in (19a), but it is impossible to combine this with a topicalized *from*-PP (with or without honorific marking), as in (19b). That is, in this construction, the *from*-PP must be co-referential with the possessor of the speech, which we claim is syntactically represented by a *pro* NP. This *pro* possessor introduces the possibility of possessor raising and hence has the potential to license subject honorific agreement.

- (19) a. Ku ai-uy yensel-i iss-keyss-ta.
 the child-GEN speech-NOM occur-FUT-DECL
 ‘There will be a speech by the child.’
 b. *Kyoswunim-ulopwuthe ku ai-uy yensel-i iss(-usi)-keyss-ta.
 professor-from the child-GEN speech-NOM occur-HON-FUT-DECL

We conclude that these apparent cases of honorific topics should be subsumed under the honorific nominative possessor proposal.

2.1.3 Lexically honorific nouns do not need overt -kkeyse

Finally, Kim and Sells (2007) identify cases where honorific marking appears in the absence of honorific nominative case (20a):

- (20) a. Sensayngnim-i haksayngtul-ul po-si-ess-ta.
 teacher-NOM students-ACC see-HON-PST-DECL
 ‘The teacher saw the students.’
 b. Sensayngnim-kkeyse haksayngtul-ul po-si-ess-ta.
 teacher-NOM.HON students-ACC see-HON-PST-DECL

Here, no covert multiple nominative can be relevant, since there is no possession structure possible and nominative marking is overt and non-honorific. If honorification is a reflex of syntactic agreement with an honorific nominative NP, how can such a non-honorific nominative NP trigger it?

In fact, as argued by Yun (1993), in the usual case, non-honorific NPs are ungrammatical with honorific agreement on the predicate; as we showed in (7) and (8) above, *-kkeyse* is normally required in order for honorific marking to occur. Nouns which can occur in contexts like (20a) above, where *-kkeyse* is not present, can optionally encode honorific status lexically, depending on the perspective of the speaker. They belong to a class of lexical items which denote necessarily high-status roles, and hence may entail honorific status for the NP in relation to the status of the speaker.⁸ Yun (1993:section 2.5.2) proposes a system of lexically inherent features for such nouns, which we adopt here. An NP which can bear an inherent honorific feature can trigger honorific agreement even without a [+hon] nominative suffix, but an NP without such an inherent feature can (and must) only trigger honorific agreement when the [+hon] feature is in the case node (a choice at the discretion of the speaker.) Yun proposes that lexically honorific nouns have non-honorific equivalents, which are used when the relative status of the speaker makes honorification unnecessary, explaining the apparent optionality of honorific agreement with such nouns. We summarize the patterns of agreement below:

- (21)
- | | | |
|----|---|---------------|
| a. | Noun-NOM _[+hon] | Predicate-HON |
| b. | *Noun-NOM _[+hon] | Predicate |
| c. | Noun _[+hon] -NOM _[-hon] | Predicate-HON |
| d. | *Noun-NOM _[-hon] | Predicate-HON |
| e. | Noun _[+hon] -NOM _[-hon] | Predicate |

Following Yun, then, honorification is syntactically triggered in examples like (20a) above, by virtue of the (optional) lexical honorific property of the subject nominal. In Yun's treatment, the honorific and non-honorific versions of these nouns represent two separate lexical entries. We hypothesize instead that the [+hon] feature is optionally bundled with a high-status root when it is selected for inclusion in the numeration, allowing for the context-dependence of honorification. Either formalization would account for the documented patterns, and nothing hangs on the choice.

Having argued that subject honorification is a type of agreement, we next argue that Korean provides support for treating agreement as a syntactically governed but morphologically executed operation.

2.2 Agreement as a post-syntactic operation: Double exponence and ellipsis

Many syntactic accounts of agreement have posited dedicated AgrP projections (Ahn 2002; Ahn and Yoon 1989; Chomsky 1993; Pollock 1991). Subject agreement in such accounts is the realization of an AgrS⁰ head which projects an AgrSP, usually adjacent to TP in the extended verbal projection. In contrast, DM accounts of agreement (Bobaljik 2008; Halle and Marantz 1993; Deal 2016, a.o.) argue that agreement nodes are adjoined in the morphological component, via node-sprouting, when an appropriate structural configuration is met. In this kind of analysis, agreement marking is a morphological response to a syntactic configuration, rather than a purely syntactic operation or structure. We argue, with Yi (1994) and Sells (1995), that *-si* subject honorification cannot be treated via syntactic AgrP projection, and subsequently propose a node-sprouting analysis within DM.

2.2.1 What long-form negation tells us about honorification

The first argument for a morphological approach to honorific agreement comes from the interaction of honorification with so-called 'long-form' negation. Korean has two types of sentential negation: 'long-form' and 'short-form' negation. In short-form negation, the negative morpheme *an(i)* simply precedes

⁸ In addition to the nouns that are lexically [+hon], there are nouns that are lexically [-hon]. These nouns can never receive honorific nominative or trigger honorification. All proper nouns and inanimate nouns fall into this group.

the main verb (22a). Long-form negation, in contrast, requires a non-finite main verb followed by the dummy verb *ha-* ‘do’. The negation marker *an(i)* precedes *ha-* ‘do’ (22b).

- (22) a. Inho-ka an(i) ka-ss-ta.
 Inho-NOM NEG go-PST-DECL
 ‘Inho didn’t go.’
 b. Inho-ka ka-ci an(i) hay-ess-ta.
 Inho-NOM go-CI NEG do-PST-DECL

The by-now standard view of the long-form negation construction in (22b) is that the main verb remains in the VP domain (i.e., within VoiceP/vP, in modern architectures; we use the ‘vP’ terminology here), and a light verb *ha-* is inserted to support the stranded inflectional material above vP, i.e. it’s a form of *do*-support.⁹ In contrast, in short-form negation, the negative *an(i)* is an adverbial adjoined to vP (Han and Lee 2007; see also Han and Park 1994), which cliticizes to the verb (see discussion in section 3.2.1 below). The *do*-support analysis of Korean long-form negation is illustrated in (23), an updated version of proposals in many previous accounts, including Han and Lee (2007).¹⁰

⁹ Sells (1995:305) points out that the *do*-support analysis has difficulty accounting for the fact that the negated verb often appears as *anh-*, rather than *an-ha-*. When it surfaces as *anh-*, following suffixes appear in their consonant-stem form rather than the vowel-stem form required by *an-ha-*. Reduction to *anh-* is not possible when main verb *ha-* ‘do’ takes short-form negation to produce a linearly equivalent *an-ha-* sequence. Sells proposes that *anh-* is a consonant-final negative auxiliary verb. We reject this view, following Han and Lee (2007) and others, given that there is a morphosyntactically parallel (in)ability construction *mos ha-* ‘unable to V’, which behaves exactly like long-form negation in triggering *do*-support; no ‘auxiliary verb’ analysis of this form is possible, and a unified analysis is only possible within the *do*-support view of *an-ha-* ~ *anh-*.

We can see two possible approaches to the reduced *anh-* form. Perhaps dummy *ha-* ‘do’ is a distinct lexical entry from main verb *ha-* ‘do’, and only the former has a reduced allomorph *h-* (analogous to the *do/don’t* [du] ~ [do] stem allomorphy in English). Alternatively, as noted above, Han and Park (1994) and Han and Lee (2007) suggest that the negative morpheme *an(i)-* is the head of Neg⁰ in long-form negation but an adverbial element in short-form negation. It is possible that *ha*-reduction is conditioned by the word-internal relationship between Neg⁰ and the adjoined *ha-* verb in long-form negation. The impossibility of reduction in a short-form negation *an-ha* sequence might then follow from the distinct structural status of the short-form negative morpheme as a clitic to the verb-word.

¹⁰ See also Ahn (1991), Cho (1994), Hagstrom (1996, 2002), Park (1990), Yi (1994). Han and Lee (2007) assume that *do*-support targets the Neg⁰ head, rather than the T⁰ head, since they argue that Neg+DO behave as a constituent in the case of so-called *mal*-negation; others (e.g., Yi 1994) assume that *do*-support targets T⁰, as in English. In fact, the constellation of facts considered here may provide a new piece of evidence in support of Han and Lee’s conclusion. In verb-copy constructions, discussed in section 2.3.3 below, negation must be included in the leftmost copy of the verb, but tense need not be. When the head verb occurs in a long-form negation construction, the copy also must surface in long-form negation. Copying of T⁰ is optional. However, the dummy verb *ha-* must occur in the leftmost copy regardless of the presence of T⁰, illustrated in (i) below. This suggests that *ha-* is present to support Neg⁰, rather than T⁰.

- i. Nay-ka ka-ci *(an(i)) *(hay)(-ess)-ki-nun ka-ci an(i) hay-ess-ta.
 I-NOM go-CI NEG do-PST-NMLZ-TOP go-CI NEG do-PST-DECL
 ‘I certainly didn’t go.’

double-marking in (24c), given the standard view that two AgrSPs should not occur in the same functional sequence.¹⁴

Yi (1994) instead proposes that honorific agreement is the reflex of a spec-head relationship between an honorific subject and a verb in either Spec-VP, Spec-TP, or both. Yi assumes a Chomsky (1993)-style lexical approach to the packaging of agreement morphology on verbs; a verb may be inserted into the syntactic derivation with or without an agreement feature. She suggests that as long as an honorific subject enters into a spec-head relation with *some* agreeing verb, the derivation will converge.

A syntactic feature-checking approach also falls short, however. The particular insight of the *do*-support view of long-form negation is that the insertion of dummy *ha-* is a post-syntactic phenomenon, driven by the morphological ill-formedness of the negation-tense complex when the syntax fails to place a verbal root in an appropriate position. If this is correct, then honorification on the dummy *ha-* must also be post-syntactic. Since the appearance of honorific marking depends on the presence of a verb, and the verb *ha-* does not appear until after the syntactic derivation is handed off to the morphological component, it follows that *-si* marking also must occur in the morphological component. The optional HonP projection analysis of Kim and Sells (2007) is problematic for the same reason: Since the honorific *-si* is attached to the post-syntactic dummy verb, HonP cannot be present in syntax.¹⁵

2.2.2 Ellipsis and the nature of honorific agreement

Korean has a variety of ellipsis types, including gapping, sluicing and *yey*-ellipsis (Kim 2012). In such cases, an antecedent clause containing an honorific subject and overt honorification can license ellipsis of a non-honorific constituent (25a), and vice versa (25b):

(25) *Gapping*:

- a. Halapeci-kkeyse-nun sosel-ul, ai-nun manhwachayk-ul ilk-ess-ta.
 grandfather-NOM.HON-TOP novel-ACC kid-TOP comic.book-ACC read-PST-DECL
 ‘Grandfather read a novel and the kid read a comic book.’
- a. Ai-nun manhwachayk-ul, halapeci-kkeyse-nun sosel-ul ilk-usi-ess-ta.
 kid-TOP comic.book-ACC grandfather-NOM.HON-TOP novel-ACC read-HON-PST-DECL
 ‘The kid read a comic book and grandfather read a novel.’

¹⁴ Proposals positing multiple AgrP projections have always involved separate controllers for each AgrP—an AgrOP in a relationship with the object, in addition to the AgrSP for the subject. Usually such projections have been motivated with syntactic evidence, e.g., the existence of extra specifier positions which result in additional possible surface positions for various arguments (Bobaljik and Carnie 1996, Bobaljik and Jonas 1996). Even with such syntactic evidence, AgrPs have been controversial (Chomsky 1995). In contrast, here we have a single controller, and (due to the SOV & scrambling nature of Korean), no convincing syntactic evidence for the four specifier positions implicated in a double-AgrSP analysis (Spec-*v*P, Spec-AgrSP1, Spec-AgrSP2, Spec-TP). In other contexts where multiple Agree relations are established with a single controller, notably in nominal concord, separate AgrP projections are not typically posited (see, e.g., Norris 2014, among others). For all these reasons we concur with Yi (1994) that positing multiple AgrPs to account for the multiple honorific marking would be ad-hoc.

¹⁵ It is possible to imagine that *si*-insertion does not target a verbal projection, and hence need not be post-syntactic, since other heads in the extended projection might provide appropriate loci for a [+hon] feature. Merchant (p.c.) suggests the \checkmark , T⁰ or Neg⁰ nodes as potential hosts for honorification. The \checkmark node, however, cannot be the host of honorification since when the verb includes a overtly realized *v*⁰ node, as in lexical causatives, for example, honorification always follows the causative marker (*thay-wu-si-ess-ta* \checkmark BURN-*v*⁰-Hon⁰-T⁰-C⁰ vs. **thay-si-wu-ess-ta* \checkmark BURN-Hon⁰-*v*⁰-T⁰-C⁰), and never appears adjacent to the \checkmark . It is equally unlikely that honorification is hosted by T⁰, since in verb-copy constructions, which need not include the TP projection at all (Jo 2013), honorification is not affected when T⁰ is absent (see (63b) below). Finally, it is unlikely that Neg⁰ is the host for honorification, since in short-form negation, at least, the honorific marker must follow the verb, and cannot attach to prefixal Neg⁰ *an-* (*an-ka-Ø-si-ess-ta* Neg⁰- \checkmark GO-Hon⁰-*v*⁰-T⁰-C⁰ vs. **an-si-ka-Ø-ess-ta* Neg⁰- \checkmark GO-Hon⁰-*v*⁰-T⁰-C⁰).

These patterns provide another reason to think that a post-syntactic approach to honorification may have an advantage over a purely syntactic approach in which honorification is projected as a constituent in the syntactic spine (Chung 2009; Kim and Sells 2007). Under syntactic-identity approaches to ellipsis, like that of Merchant (2013), a syntactic approach to honorification would predict that the honorific projection should be necessarily copied under ellipsis, and mismatches of honorific properties between antecedent and ellipsis site should be impossible.¹⁶ If, instead, the honorification node is sprouted, inserted post-syntactically when certain structural conditions are met, its presence or absence is not expected to affect ellipsis.

To sum up the previous two sections, we have argued that honorific marking in Korean is structurally determined, and that it occurs in the presence of an honorific nominative NP. We have further argued, however, that a *purely* syntactic account is problematic, based on the potential for double exponence in long-form negation, the morphological status of the dummy verb *ha-* in long-form negation, and the distribution of honorification in ellipsis constructions. We conclude that an appropriate structural configuration triggers the application of a *morphological* honorification rule, sprouting a dissociated agreement node post-syntactically. We spell this out next.

2.3 A node-sprouting analysis of regular subject honorification

DM's general approach to agreement marking extends naturally to account for Korean honorification. The key is the mechanism of *dissociated morpheme insertion*, which as we have mentioned above, we have rechristened 'node-sprouting'.

Halle and Marantz (1993) propose that agreement morphemes are the reflex of language-specific well-formedness constraints that apply at the level of Morphological Structure. They are triggered when certain configurational requirements are met by the structure handed off at Spell-Out. A node-sprouting rule adjoins a 'dissociated' Agr⁰ node to a target and copies features of the controlling NP into it. The Agr⁰ node is subsequently spelled-out by a vocabulary item that realizes its featural content. The fact that agreement has no LF reflex follows, since node-sprouting happens after Spell-Out, on the PF branch only. Their proposal is thus consistent with Chomsky's (1995:349-355) conclusion that AgrPs, lacking interpretable LF properties, do not appear in the syntax. (See also Bobaljik (2008) and Deal (2016), among others, for additional treatments of agreement as a post-syntactic operation.)

2.3.1 Honorification in simple affirmative clauses

We propose that a sprouted [+hon] agreement morpheme (notated Hon⁰) is adjoined to a terminal v⁰ node c-commanded by an honorific nominative NP. This structurally-conditioned insertion rule is schematized in (26) below.

$$(26) \quad \text{Hon}^0\text{-sprouting rule:} \\ v^0 \rightarrow [v^0 \text{ Hon}^0] / [\text{NP}_{[+\text{hon}]} \dots [\dots __ \dots]]$$

¹⁶ Potts et al. (2009) show that there are cases of structural mismatch under ellipsis involving expressive adjectives like *fuckin'*, but since we have shown that honorification is a mandatory agreement process, rather than an optional expressive element, it's unclear how 'mismatch', involving the presence of an elided honorific morpheme (e.g., (25a)) would be syntactically licensed, given the non-honorifiable subject of the second clause. A projection-based view of honorification could be saved in the case of ellipsis if the presence of the relevant projection was considered to be universal in the clausal spine, with a null realization when it bears a [-hon] feature. In that case, the structure of elided clause would match the structure of its antecedent, but the feature content of the second projection would be different than the feature content in the antecedent, like e.g., varying gender on elided pronominal variables. No previous projection-based analyses (e.g., Kim and Sells 2007) have posited the presence of a (-)honorific projection in neutral clauses, however.

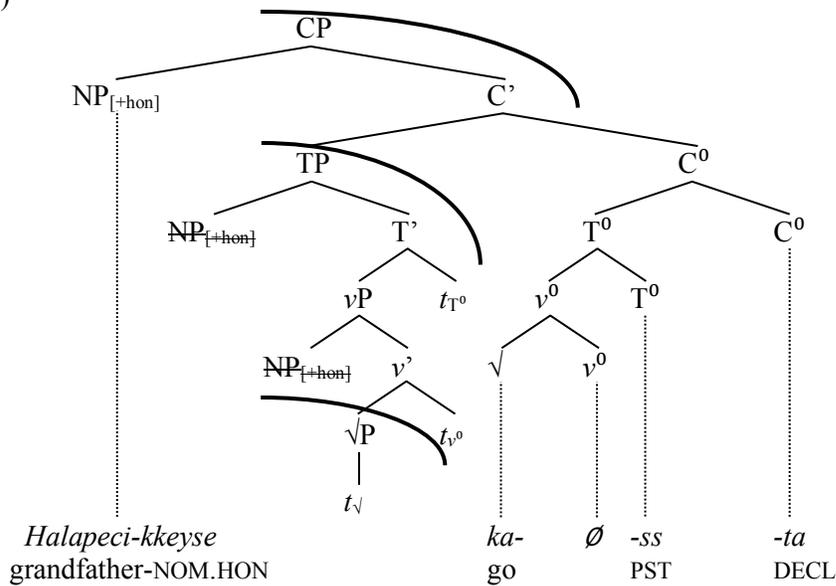
This rule expresses the intuition that honorification applies all and only to verbs, since in DM verbs are created by the v^0 head. The ellipses allow for any c-commanding $NP_{[+hon]}$ to condition Hon^0 -sprouting, regardless of structural distance, but the cyclic character of Spell-Out means that in practice the structural distance is phase-bound: the triggering NP and the target v^0 must be in the same Spell-Out domain. The unbounded structural description in the rule is thus consistent with the Minimalist view of locality as an interface effect arising from the cyclicity of phase-based Spell-Out.

We illustrate how this rule operates in an affirmative declarative sentence like *halapeci-kkeyse ka-si-ess-ta* ‘Grandfather went’. We assume an articulated structure for the VP. The lexical verb heads a \sqrt{P} which is verbalized by a vP . The $[+hon]$ external argument of the verb, with a $uNom$ case feature, is base-generated in Spec- vP .¹⁷ (The external argument ultimately enters into an Agree relationship with Tense to value its $uNom$ feature.) The root of the verb, \sqrt{V} , head-moves to v^0 , forming a complex head $\sqrt{V}v^0$ in the edge of the phase.¹⁸ We assume that the edge of a phase consists of its head and its specifier(s), as in Chomsky (2001), and that these elements remain accessible to further syntactic operations in the next phase. When a phase is ‘transferred to Spell-Out’, it is the phase complement, in this case \sqrt{P} , which is spelled-out and becomes inaccessible to further operations. The construction of the next phase continues with the merger of T^0 and C^0 . The complex verb in v^0 head-moves to T^0 and C^0 , illustrated in (27) below. Spelled-out phasal complement constituents are demarcated by bold curves. Following head-movement, the verb ends up in the C^0 head, whose internal structure is illustrated in (28a).

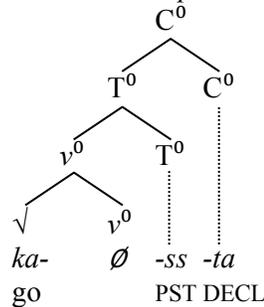
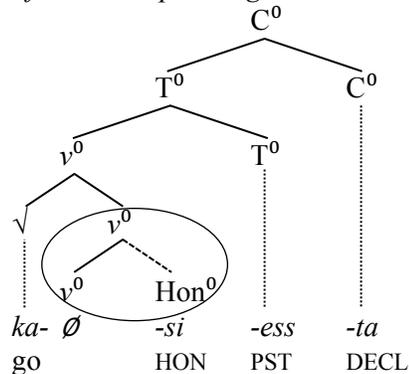
¹⁷ More recent proposals have dissociated external argument introduction from the vP , expanding the VP further to include a VoiceP (Pylkkänen 2002, among many others); nothing in the analysis presented here hinges on such a separation so we use only the simpler split-VP structure. However, our approach is compatible with a structure including VoiceP as well.

¹⁸ Han et al. (2007) argue that there are two populations of Korean speakers; those who exhibit head-movement of the verbal complex to C^0 and those who do not, rather assembling the morphemes of the verb via lowering or post-syntactic morphological merger. We only illustrate head-movement here, moving the verb cyclically up to the edge of the VoiceP phase, prior to further head-movement of the Voice⁰ complex. For a verb-in-situ speaker of Korean, we assume that post-syntactic merger could apply to the linear string of morphemes to generate the unified surface form of the verb instead (see discussion of merger-under-adjacency in Harley 2013). We assume that in in-situ grammars, Hon^0 -sprouting is triggered by the copy (trace) of $NP_{[+hon]}$ in the specifier of the relevant Spell-Out domain (Spec- vP for honorification on the main verb or SpecTP for honorification on *ha*), since the morphosyntax of honorification is identical across all speakers of Korean. However, the account of *po*-constructions in section 4 is not compatible with any Korean speaker leaving the complement verb *in situ*, where it would sprout an Hon^0 node, so in restructuring contexts, at least, the embedded verb must head-move as far as the matrix v^0 .

(27)



At the end of the derivation, a final spell-out cycle applies (represented by the topmost bold curve in (27)). Assuming that Korean subjects occur in discourse-related positions in the left periphery (see, e.g., Sohn 1980 on the topichood of Korean subjects), the nominative subject c-commands the complex head in C^0 (28a) in this final cycle. Since the structural condition for the Hon^0 -sprouting rule in (26) is met, Hon^0 is adjoined to v^0 , yielding (28b).¹⁹

(28) a. C^0 on the last phase:b. After Hon^0 -sprouting:

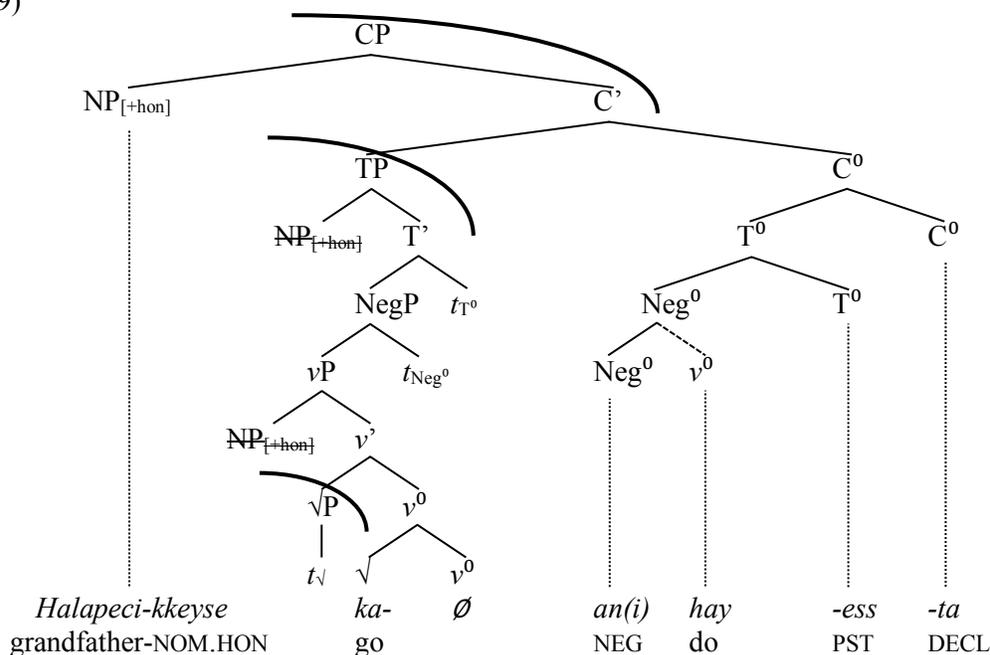
The terminal nodes of this complex and now honorified verb are subsequently realized by the appropriate honorific and tense suffixes, following Vocabulary Insertion at the end of the morphological component.

¹⁹ We assume a copy theory of ‘trace’, but use the *t* notation for readability. A reviewer asks whether Hon^0 -sprouting applies to the copy of v^0 head left behind inside the TP. This copy also meets the structural description of (26), as it is c-commanded by an (unpronounced) copy of the [+hon] subject NP. We assume that the maximal node of a lower copy is marked for non-pronunciation, and that this marking prevents the exponence of any terminal node within the marked domain. It is possible, then, to suppose that Hon^0 -sprouting does apply to this lower copy, but that it fails to be realized because it is contained within a domain marked for non-pronunciation. Alternatively, one could posit a constraint ensuring that purely morphological rules such as Hon^0 -sprouting do not apply to constituents that have been marked for non-pronunciation. We assume the former since it does not require any additional assumptions, but either possibility is consistent with the theory presented in this paper.

2.3.2 Long-form negation and double honorific exponence

Now consider how the node-sprouting rule behaves in a long-form negation structure. In the derivation of a negative sentence like (24) the same sequence of events as in an affirmative sentence occurs up to the vP level. This results in the formation of a complex head in v^0 .²⁰ In the next phase, however, the \sqrt{v} - v^0 complex does not raise to T^0 , because of the intervening Neg^0 head. Instead, Neg^0 raises to T^0 and C^0 on its own, ultimately forming a verbless complex head in the matrix C^0 position. The full clausal syntax is illustrated in (29):

(29)



In this structure, two spell-out cycles are relevant. The first occurs when C^0 is merged. Its complement domain undergoes a spell-out cycle. The complex head containing the main verb is part of this spell-out domain, since it remains low, in v^0 . The Hon^0 -sprouting rule is thus triggered (by the copy of $NP_{[+hon]}$ in spec-TP) and adjoins Hon^0 to v^0 within this complex head (see the diagram in (31)).

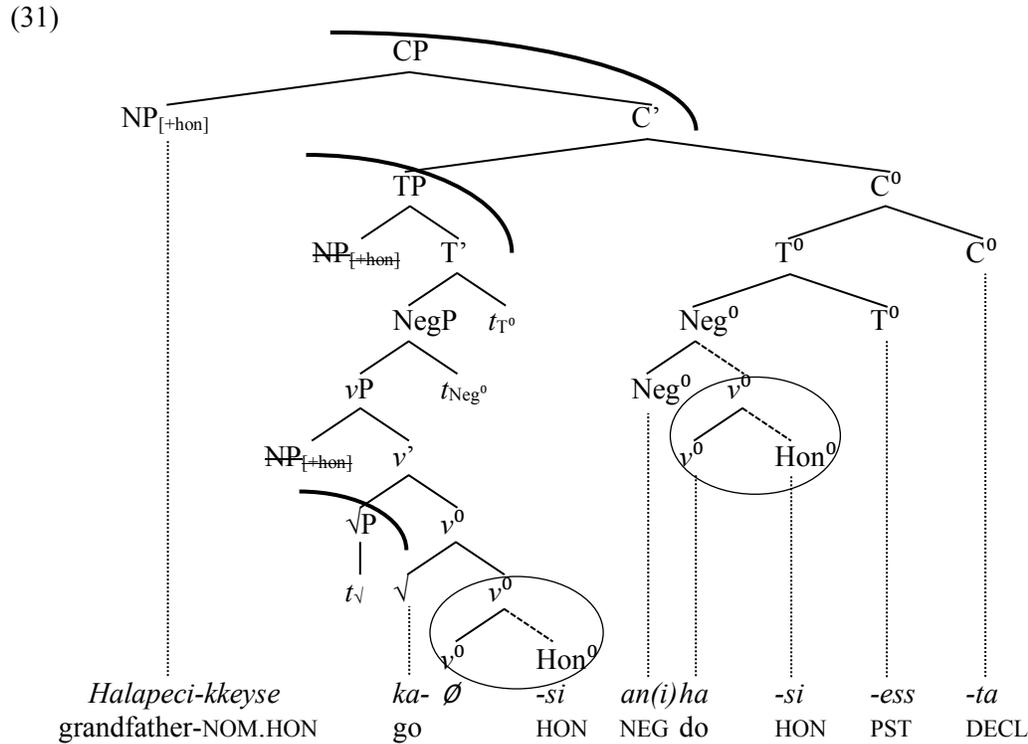
The second relevant cycle of spell-out is the final one, applying to the root clause. The complex head in C^0 has no verbal root in it. This triggers *do*-support, which we formalize as the node-sprouting rule in (30), inserting a sprouted v^0 morpheme to support Neg^0 when it lacks a v^0 sister in the $[[Neg^0-T^0]_{T^0}-C^0]_{C^0}$ complex head.²¹

²⁰ The non-finite verb form *ka-si-* occurs with the participializing suffix *-ci* in these constructions. We do not include a participializing node in the tree here to keep the key elements of our analysis as clear as possible.

²¹ The failure of syntactic v^0 to Neg^0 movement can be syntactically encoded via the checking requirements of the Neg^0 head. If anything (e.g., v^0) head-raised to Neg^0 , the conditioning environment for (30) would not be met, since the Neg^0 terminal node would no longer be sister to T^0 (i.e., the structure would be $[[Neg^0-v^0]_{Neg^0-T^0}]_{T^0}$). It is tempting to account for the insertion of *ha-* in *ha*-focus construction in fn. 24 below in a similar fashion, perhaps by generalizing $NegP$ to $PolP$ and suggesting that the $[-neg]$ variant of the Pol^0 head also requires *ha-* support when non-pronunciation of a copy prevents a verb from adjoining to it. We leave this speculation for future work.

- (30) v^0 -sprouting (do-insertion) rule:
 $Neg^0 \rightarrow [Neg^0 v^0] / [_ T^0]_{T^0}$

Following v^0 -sprouting, the structural configuration for the Hon^0 -sprouting rule in (26) is met. This results in a sprouted Hon^0 node adjoined to the sprouted v^0 node, yielding (31):



At the end of the morphological derivation, Vocabulary Insertion rules apply, spelling out each adjoined Hon^0 node with a rule that inserts the Vocabulary Item *-si*.

- (32) Rule for spelling out Hon^0 (to be updated):
 $Hon^0 \leftrightarrow -si$

The inclusion of a v^0 node in the conditioning environment for Hon^0 -sprouting, then, predicts double honorific marking to appear when two verbal categories are present, as in the long-form negation construction, and, as we will shortly see, in other constructions involving two verbal categories.²² As we

²² The proposal that Hon^0 -sprouting applies once per phase, couched in a cyclic spell-out system, predicts that the number of honorific markers cannot exceed the number of spell-out domains containing a verbal element (i.e., v^0), though fewer may surface; see the discussion of ellipsis of the honorific marker in section 2.3.3. An alternative is conceivable in which Hon^0 -sprouting might apply more than once in an acyclic single spell-out system, which would give rise to the same effect as our proposal in these constructions. However, such an approach is challenged by the fact that *po*-constructions—‘restructuring’ constructions—containing multiple v^0 heads but only one operation of spell-out, do not allow multiple occurrences of *-si* (see section 4 below). In a cyclic spell-out system, assuming that the Hon^0 -sprouting rule targets the most local v^0 (i.e., the least embedded v^0), as we propose in section 4, the banned occurrence of *-si* on the less local, more embedded v^0 in *po*-constructions follows. Therefore, we contend that cyclic spell-out is necessary to fully account for the distribution of the honorific marker.

Indeed, even more than two are sometimes possible; the long-form negation construction can itself embed a $NegP$, to introduce a double negation reading, and that second $NegP$ can be realized via a further long-form negation construction; this

have seen above in section 2.2.1, double honorific marking is optional. Before discussing the optionality, we first illustrate the other contexts in which double marking is possible, namely in the verb-copy constructions discussed by Jo (2013) and Chung (2009).

2.3.3 Verb-copy constructions and the optionality of double exponence of *Hon*⁰

Like many languages (Landau 2007), Korean has a ‘verb-(phrase)-copy’ construction which is used in certain focus- and polarity-related discourse environments. There are three varieties, which follow the general schema [Subject-[(Obj) V1]-[V2]], analyzed most recently in Jo (2013). V1 and V2 must be interpreted identically, and can be morphologically identical, although they need not be; V1 can bear a subset of the inflection of V2, which Jo consequently treats as the head of the clause. A basic example is given in (33).

Chung (2009) points out that honorification marking need not be fully copied, as it is in (33b) and (33c); it can occur on just the head, V2, as in (33b), or just the copied verb (V1) as in (33c).

- | | | | | |
|------|----|-----------------------------------|----------------------|-----------------|
| (33) | a. | Halapeci-kkeyse | po-si(-ess)-ki-nun | po-si-ess-ni? |
| | | grandfather-NOM.HON | see-HON-PST-NMLZ-FOC | see-HON-PST-INT |
| | | ‘Grandfather didn’t see, indeed.’ | | |
| | b. | Halapeci-kkeyse | po-ki-nun | po-si-ess-ni? |
| | | grandfather-NOM.HON | see-NMLZ-FOC | see-HON-PST-INT |
| | c. | ?Halapeci-kkeyse | po-si-ki-nun | po-ass-ni? |
| | | grandfather-NOM.HON | see-HON-NMLZ-FOC | see-PST-INT |

Placing this case side by side with the long-form-negation case in (24) above, we see that when multiple occurrences of regular *-si* are possible, their actual realization is subject to variation. At least one honorific exponent must appear, but multiple occurrences are typically optional. The availability of double marking confirms that *Hon*⁰ nodes are inserted in both locations, by the regular application of the dissociated-*Hon*⁰ insertion rule.

We hypothesize that optionality of *-si* is a surface phenomenon, representing ellipsis of *-si* under identity with another copy of *-si*. An ellipsis analysis is consistent with the requirement that at least one copy be pronounced, a phenomenon observed in ellipsis quite generally. In ellipsis, a linguistic antecedent is necessary to recover the content of the elided element.²³

There are some conditions on *-si* ellipsis—for example, in verb-copy constructions it is somewhat better to retain *-si* on the main, inflected predicate and elide it on the adjoined copy; a similar pattern is seen in long-form negation, where the inflected head verb *ha-* is more likely to bear honorific marking, and the nonfinite embedded verb is less preferred.²⁴

process can in principle iterate further. The embedded *Neg*⁰ heads require verbal support, since each lacks a verbal host in its embedded position, and node-sprouting of a *v*⁰ will occur. (The formulation of the *v*⁰-sprouting rule in (30) above would have to be generalized to any environment in which *Neg*⁰ lacks a *v*⁰ sister to accommodate these cases). Each sprouted *ha-* node in that structure is a potential target for *Hon*⁰-sprouting, leading to the possibility of sentences with arbitrarily many *Hon*⁰ nodes. As we will see in section 4 below, however, it turns out to be important to apply node-sprouting rules only once per phase, to account for *po*-constructions. The potential to embed a long-form negation construction directly under another long-form negation construction, and trigger *do*-insertion and honorification without an intervening *T*⁰ or *C*⁰ node, suggests that *NegP* should be analyzed as a phase boundary.

²³ It is somewhat unusual to observe an ellipsis process applying at the sub-word level, but perhaps not unprecedented; English affix-focus constructions like *John is ANTI-missile*, not *PRO!* are analyzed in a similar way (see Merchant 2015).

²⁴ Additional factors are also at play in verb-copy constructions. As shown by Chung (2009), the (optional) presence of full Tense inflection on the first copy prevents the elision of *-si* on that copy in two of the three verb-copy constructions, the ‘iterated rhetorical’ verb-copy construction and the ‘echoed-verb’ verb-copy construction. We interpret this as suggesting that a stronger

We return to multiple honorification and provide an argument for the presence of a sprouted Hon⁰ node even in contexts where the surface appearance of *-si* is optional, in our analysis of suppletive honorification in section 3.

3 Analysis of honorific and negative suppletion

Chung (2009) was the first to point out the theoretical importance of the interaction of two suppletion-triggering environments in Korean, namely short-form negation and honorification. We first give a brief overview of the relevant data and argue for an inflectional (i.e., ‘paradigmatic’, competition-based) approach to both cases of suppletion. We provide a formal analysis of honorific and negative suppletion individually, and then address their interaction. The ‘transparency’ of regular honorification for suppletive negation contrasts importantly with the blocking effect of suppletive honorification on suppletive negation. From this, we draw conclusions about the locality domains for suppletion conditioning and about the bottom-up character of Vocabulary Insertion. Finally, we discuss the distinct accessible domains we have identified for node-sprouting rules and suppletion.

3.1 Suppletive honorification and suppletive negation are suppletion: Idioms and ellipsis

As mentioned above, a small number of Korean verbs have suppletive forms conditioned by honorification (34):

- (34) *Examples of honorific suppletion:*
- a. *ca-* ‘sleep’ ~ *cwumwusi-* ‘sleep.HON’
 - b. *mek-* ‘eat’ ~ *capswusi-* ‘eat.HON’
 - c. *iss-* ‘exist’ ~ *kyeysi-* ‘exist.HON’

Two verbs have negative suppletive forms (35). Chung (2007) argues convincingly that the structural environment which triggers negative suppletion is short-form negation.

- (35) *Examples of negative suppletion:*
- a. *al-* ‘know’ ~ *molu-* ‘know.NEG’
 - b. *iss-* ‘exist’ ~ *eps-* ‘exist.NEG’

Note, importantly, that one verb, *iss-* ‘exist’ ~ *eps-* ‘exist.NEG’ ~ *kyeysi-* ‘exist.HON’, is on both lists; the behavior of suppletion when short-form negation and honorification co-occur is revealed by this verb.

Suppletion is often a controversial topic. Although most of the literature accepts the notion that these Korean forms stand in a suppletive relationship, it is perhaps worth pausing to motivate the inflectional, paradigmatic status of these alternations. It could be suggested that each of the negative and honorific verb forms is in fact is an individual lexeme which just happens to have a closely related complementary distribution to an independent affirmative or non-honorific lexeme with a similar meaning.²⁵ In fact,

identity constraint is in place between the copies when full inflection is present, preventing ellipsis in either copy. This constraint does not apply when the two loci for honorification are not completely identical, as in both long-form negation and the *ha*-focus verb-copy construction, in which the head verb is replaced by dummy *ha-* ‘do’, possibly also via node-sprouting following ellipsis of the main verb, as suggested by Jo (2013). We leave a full exploration of the interaction of honorification and identity in verb-copy constructions for future work.

²⁵ See, e.g., Embick (2010), Embick and Halle (2005), Embick and Noyer (2007), and Marantz (1997) for the assertion that suppletion of content words effectively does not exist, and Borer (2014) for a proposal that Uto-Aztecan suppletive verbs are separate lexical items, though see Harley (2014) for a rebuttal. See also discussion of this issue with regard to Greek and English

Bobaljik (2012:155-156) and Moskal (2015b:205-209) suggest that the very Korean suppletive honorific verbs discussed here may be separate lexical entries, rather than suppletive elements in competition. First we argue for a suppletive analysis with data from idioms, and then from ellipsis.

Besides paradigmatic distribution, a key diagnostic for suppletion involves coextensive interpretive variation. For example, in all English idioms involving the verb *go*, the form *went* occurs in the past tense, suggesting that both *go* and *went* realize a single underlying verb GO which participates in the idiom (compare, for example, *go/went/*goed bananas* ‘become/became insane’). Similar arguments can be made for honorific and negative suppletive forms in Korean, where an idiomatic interpretation available to the non-suppletive form is also available to the suppletive form. This is illustrated for two verbs, *mek-* ‘eat’ ~ *capswusi-* ‘eat.HON’ and *al-* ‘know’ ~ *molu-* ‘know.NEG’ below.

In (36), the idiomatic interpretation of a phrase literally meaning ‘to eat crow meat’ is available with *capswusi-* ‘eat.HON’ as well as with the unmarked stem form *mek-* ‘eat’:

- (36) Kkamakwi koki-lul mek/capswusi-ta.
 crow meat-ACC eat/eat.HON-DECL
 ‘To forget’

In (37), the idiomatic interpretation of a phrase literally meaning ‘to know lifting situations and putting situations’ is available in a negative context with the suppletive stem *molu-* ‘know.NEG’.²⁶

- (37) Tul tey nohul tey-lul a/molu-n-ta.
 lift.ADJ case put.ADJ case-ACC know/know.NEG-PRES-DECL
 ‘To behave oneself well.’

The availability of these idiomatic interpretations with the suppletive stem alternants suggests that the different stems realize the same underlying abstract verb, and thus are true cases of suppletion.²⁷

Another diagnostic for suppletive status is presented in Harley (2015), who follows a suggestion of Bobaljik (p.c.) and Gribanova (2015) in using ellipsis constructions as a test for suppletion (cf. also Furbee 1974 on gapping as an argument for treating different verbs of consumption in Tojolabal as allomorphs). It is a well-accepted condition on ellipsis that the meaning of the antecedent and the elided constituent must be identical (no matter what specific approach to ellipsis is adopted, e.g., Merchant 2001 and Chung et al. 1995). Consider the VP ellipsis in (38):

- (38) John went to Hawai’i in the fall, but Mary didn’t [_{VP} ~~go to Hawai’i in the fall~~].

suppletion in Merchant (2015). Interested readers are further referred to Corbett (2007) and Bonet and Harbour (2012) for the existence of root suppletion.

²⁶ The same point can be made with the idioms *yak-ul calmos mek/capswusi-ta* ‘to do something wrong’ (lit. ‘to take wrong medicine’), *iseng-ul al/molu-ta* ‘to (not) have an experience in sexual intercourse’ (lit. ‘to (not) know the opposite sex’), *cuk-e poa-ya/to cesung-ul an/molu-ta* ‘to (not) truly come to know something even after first-hand experience’ (lit. ‘to die to (not) believe in afterlife’), *hana-lul tut-ko/tul-eto yel-ul al/molu-ta* ‘to (not) be smart enough to understand more than what was said’ (lit. ‘to (not) know ten things after hearing only one’).

²⁷ Admittedly, certain idioms are less felicitous with the suppletive stems for these verbs. For example, *miyekkuk-ul mek-ta* ‘to fail a test’ (lit. ‘to eat seaweed soup’) does not sound appropriate with the honorific stems for EAT; similarly, *kay khoskwumeong-ulo al-ta* ‘to consider something trivial’ (lit. ‘to consider something a dog’s nostril’) does not extend very well in the negative. In the case of ‘to eat seaweed soup’, regular short-form negation marking is possible in reportative context, so it may be possible that this idiom recruits a separate, homophonous verb. In the case of ‘to consider something a dog’s nostril’, however, short-form negation is impossible entirely, suggesting that perhaps polarity is important to the idiomatic interpretation here and cannot be altered, either via suppletion or regular short-form negation.

The suppletive form of GO, *went*, licenses ellipsis in the second clause despite the fact that if the second clause were articulated, the verb would be pronounced *go*, rather than *went*. It is the identical abstract content GO TO HAWAII IN THE FALL, that licenses the ellipsis, not identity of the surface form. Similar patterns obtain with other elliptical processes, including sluicing and swiping.

In Korean, a suppletive form can license ellipsis of a non-suppletive form, and vice versa, as shown by the examples of verbal gapping in (39) below.

- (39) a. Halapeci-kkeyse-nun yekise, aki-nun cekise ca-ss-ta.
 grandfather-NOM.HON-TOP here baby-TOP there sleep-PST-DECL
 ‘Grandfather slept here and the baby slept there.’
 b. Aki-nun cekise, halapeci-kkeyse-nun yekise cwumwusi-ess-ta.
 baby-TOP there grandfather-NOM.HON-TOP here sleep.HON-PST-DECL
 ‘The baby slept there and grandfather slept here.’

Other forms of ellipsis in Korean, including *yey*-ellipsis (Kim 2012), and sluicing also are licensed across suppletion, again confirming the underlying identity of the abstract verb, and the appropriateness of a competition-based analysis of these alternations.

We conclude that the two forms are competing to realize an abstract $\sqrt{\text{node}}$, $\sqrt{\text{EAT}}$ or $\sqrt{\text{KNOW}}$, just like the morphologically-conditioned allomorphs of any abstract morpheme. If the appropriate conditioning context is present, the more specified form (e.g., *capswusi*- ‘eat.HON’ or *molu*- ‘know.NEG’) blocks the insertion of the elsewhere form (e.g., *mek*- ‘eat’ or *al*- ‘know’). To present the full analysis of this competition, we first must briefly discuss the morphosyntax of short-form negation below; the actual analysis of suppletion in terms of competing vocabulary insertion rules follows.

3.2.1 The structure of short-form negation and negative suppletion

Han and Lee (2007) argue that the syntactic structure underlying short-form negation results from adjunction of an adverbial Neg^0 to νP , with syntactic cliticization of Neg^0 to the ν^0 . Support for short-form negation as adverbial, rather than as the head of a sentential NegP projection, comes from the observation that short-form and long-form negation can co-occur in the same clause (see Han and Lee 2007), yielding a double-negation interpretation:

- (40) Inho-ka hakkyo-ey an(i) ka-ci an(i) ha-yess-ta.
 Inho-NOM school-to NEG go-CI NEG do-PST-DECL
 ‘It is not the case that Inho didn’t go to school.’
 or ‘Inho didn’t NOT go to school.’

Chung (2007), in contrast, assumes that short-form negation is the realization of the head of NegP . That analysis predicts either that (40) is ungrammatical, or else that it somehow involves double exponence of a single Neg^0 head, assuming that a single verbal extended projection should contain only a single NegP . The fact that each negative element is interpreted separately suggests that they occupy independent structural positions.

We therefore adopt Han and Lee’s proposal that short-form negation is adverbial²⁸ and requires cliticization of the negative adverb to the verb. It must be the case that the cliticization requirement is

²⁸ It is perhaps worth noting that Han and Lee’s (2007) proposal is consistent with a broader view of variation in negative morpho-syntax cross-linguistically. In Icelandic, for example, the negative morpheme *ekki* behaves as an adverb (see the overview in Christensen 2003), as does the French negative morpheme *pas* (Abeillé and Godard 1997). van Gelderen (2008, 2013) argues for a formalist view of the Jespersen cycle of grammaticalization of negative morphemes: A negative sentential

syntactic, i.e., it is a property of the Neg^0 head itself, and is not specific to the Elsewhere *an(i)* vocabulary item which usually realizes it, since cliticization feeds suppletion in the case of the negative suppletive verbs: recall that Bobaljik (2012) argues that suppletion cannot be triggered across a phrasal boundary, so the cliticization of adjoined Neg^0 to the verb form, creating a complex X^0 , is crucial to the conditioning of the negative suppletive forms.

We implement the operation which cliticizes Neg^0 to v^0 via morphological merger at the syntactic level, as discussed by Embick and Noyer (2001:561) and Matushansky (2006:81).²⁹ This is Embick and Noyer's Lowering operation generalized to adjuncts, with the further observation that the complex head thus created can then feed further syntactic operations, as proposed by Matushansky in her treatment of head-movement.

- (41) *Lowering (Embick and Noyer 2001:561)*
 $[XP X^0 \dots [YP \dots Y^0 \dots]] \rightarrow [XP \dots [YP \dots [Y^0 Y^0+X^0] \dots]]$

In Embick and Noyer's treatment, Lowering is constrained by selection. If we assume that adjuncts select for their phrasal hosts, as proposed by Bruening (2010b), Toosarvandani (2013) and Winter (2001), we expect that the Neg^0 head adjoined to vP can undergo Lowering, adjoining to the head of its complement, v^0 , immediately following Merge of Neg^0 with vP . This operation is the e-Merge equivalent of Matushansky's i-Merge head-movement operation, a predicted consequence of Matushansky's proposal (Matushansky 2006, section 5.1.2). The input and the output of this operation as applied to Korean Neg^0 is illustrated below:

- (42) a. *Input following Merge of Neg^0 with vP* b. *Output following Lowering of Neg^0*
-

Note that the pre-Lowering position of Neg^0 is the position in which it is interpreted at LF, so we assume this operation leaves a copy, which we indicate as a trace; this is consistent with the uncontroversial idea that m-merger/Lowering is triggered to satisfy morpho-syntactic well-formedness conditions, and lacks LF consequences. In effect, m-merger of Neg^0 serves the same purpose that v^0 -sprouting does in long-form negation: It is a repair operation which enables a Neg^0 head to prefix to a verb, albeit a Neg^0 head with a different structural source.

In the context of a negative-suppletive verb like \sqrt{KNOW} , the vocabulary items in (43) compete to realize the verb root.

adverb undergoes phonological reduction and is reanalyzed by succeeding generations as a specifier, then as a clitic, then as the affixal head of $NegP$, until its phonological content becomes inconsequential and the cycle is renewed by speakers inserting a negative adverb to 'reinforce' the negative content inadequately represented by the exponent of the Neg^0 head. Chungmin Lee (p.c.) suggests that this is an appropriate view of the development of short-form and long-form negation in Korean as well; the negative adverb *an(i)* was present and used for negation in the Old Korean period, while long-form negation came into the language some time later, in the Middle Korean period.

²⁹ Note that Matushansky uses the more general term 'm-merger' for this operation; we use Embick and Noyer's term 'Lowering' since it's less confusable with syntactic Merge.

- (43) a. $\sqrt{\text{KNOW}} \leftrightarrow \text{molu-} / [\text{Neg}^0 \text{ [[___ } v^0]_{v^0}}]$
 b. $\sqrt{\text{KNOW}} \leftrightarrow \text{al-} / \text{elsewhere}$

In a short-form negation construction, the structural description for the vocabulary item in (43a) is met and the suppletive variant will be inserted. The relevant structure is a complex v^0 head containing Neg^0 as its least embedded element. This Neg^0 conditions the suppletive realization of the root $\sqrt{\text{KNOW}}$. The v^0 head itself is structurally more local to the root than Neg^0 , but this intervening structure is irrelevant to the conditioning of the root. This rule, involving conditioning by a structurally non-adjacent feature, is thus problematic for the stringent structural adjacency constraints inherent in Arad (2005), Bobaljik (2012), Merchant (2015) and Svenonius's (2012) theories, but it may be permitted by Moskal's (2014, 2015a, 2015b) Accessibility Domain condition.³⁰ (See section 4 below for discussion of another case that is problematic for Moskal's proposal as well.)

We assume, contra Chung (2009), that the Neg^0 head itself is realized by a zero allomorph conditioned by the suppletive root form.³¹

3.2.2 Analysis of honorific suppletion

We propose that suppletive honorific root forms are inserted when the abstract root occurs in the same complex X^0 head as an Hon^0 morpheme, in accordance with Bobaljik's (2012) Locally Conditioned Suppletion hypothesis. The Vocabulary Items below compete to realize the abstract roots of suppletive verbs, with the honorific forms blocking the elsewhere forms if an Hon^0 node is present in the X^0 .³²

- (44) *Illustration of VI rules:*
 a. $\sqrt{\text{SLEEP}} \leftrightarrow \text{cwumwusi-} / \text{[[___] ... Hon}^0]$
 b. $\sqrt{\text{SLEEP}} \leftrightarrow \text{ca-} / \text{elsewhere}$
 c. $\sqrt{\text{EAT}} \leftrightarrow \text{capswusi-} / \text{[[___] ... Hon}^0]$
 d. $\sqrt{\text{EAT}} \leftrightarrow \text{mek-} / \text{elsewhere}$
 e. $\sqrt{\text{EXIST}} \leftrightarrow \text{kyeyysi-} / \text{[[___] ... Hon}^0]$
 f. $\sqrt{\text{EXIST}} \leftrightarrow \text{iss-} / \text{elsewhere}$

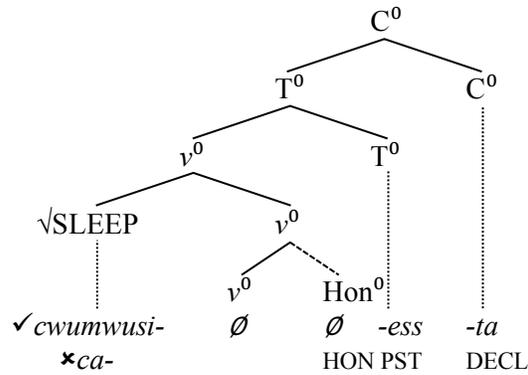
The derivation of the honorific verb form in (39b) is given in (45) below. Following Hon^0 -sprouting, the structural description of the suppletive allomorph of $\sqrt{\text{SLEEP}}$ is met (see (44a)), and so $\sqrt{\text{SLEEP}}$ is realized as *cwumwusi-*, rather than *ca-*.

³⁰ Merchant and Pavlou (2017) propose a revised version of the Span Adjacency condition which eliminates the requirement that a span include only heads in the extended projection, and allows for any element in a selectional relationship with a constituent to count as part of the span. Given a selectional theory of adjunction, like that of Bruening (2010b), Toosarvandani (2013), and Winter (2001), the adjoined negator here could count as part of a span and allow suppletive conditioning. However, the structurally intervening and irrelevant-for-suppletion v^0 node in the complex head formed by Lowering would still pose a problem for the revised Span Adjacency condition. See also fn. 39 below.

³¹ The proposed analysis of negative suppletion speaks for the idea that clitics can trigger suppletion of their hosts (see Wescoat 2002, 2005 for English auxiliary clitics triggering suppletion), contra Zwicky and Pullum (1993). Thanks to Merchant (p.c.) for bringing this to our attention.

³² Note that we include the terminal string *-si* as part of the vocabulary item realizing the $\sqrt{\quad}$ nodes here. In section 4.1 below we show that *-si* in these cases has undergone reanalysis as part of root VI itself, and does not realize the Hon^0 terminal node. As is often the case when a feature conditions suppletion (Siddiqi 2006, 2009), the Hon^0 node itself is realized by a zero allomorph.

(45)



3.2.3 Locality domains for suppletion and periphrastic contexts

Let us consider how negative and honorific suppletive verbs are predicted to behave in our analysis in a long-form negation construction. Recall that an honorific subject triggers node-sprouting of an Hon^0 node on both the lower, stranded v^0 and on the higher dummy v^0 . Honorific suppletion of the lower main verb in long-form negation is thus predicted, since the local Hon^0 node matches the contextual requirement for insertion of the honorific suppletive root. An honorific subject in long-form negation does indeed trigger suppletion on the lower verb:

- (46) a. Halapeci-kkeyse cwumwusi-ci an(i) ha-si-ess-ta.
 grandfather-NOM.HON sleep.HON-CI NEG do-HON-PST-DECL
 ‘Grandfather didn’t sleep.’
 b. *Halapeci-kkeyse ca-ci an(i) ha-si-ess-ta.
 grandfather-NOM.HON sleep-CI NEG do-HON-PST-DECL

In contrast, however, a negative suppletive verb does not use its suppletive alternant in long-form negation (Chung 2007:119). The non-negative verb root must be used instead:

- (47) a. Inho-nun Mina-lul mol-ass-ta.
 Inho-TOP Mina-ACC know.NEG-PST-DECL
 ‘Inho didn’t know Mina.’
 b. *Inho-nun Mina-lul mos³³ al-ass-ta.
 Inho-TOP Mina-ACC NEG know-PST-DECL
 c. Inho-nun Mina-lul al-ci mos hay-ess-ta.
 Inho-TOP Mina-ACC know-CI NEG do-PST-DECL

Importantly, these different distributions of honorific and negative suppletive roots in long-form negation contexts support the hypothesis that an Hon^0 node appears low in the structure in long-form negation. Recall Bobaljik’s observation, discussed in section 1.2, that periphrastic expression of a suppletion-triggering feature blocks root suppletion cross-linguistically. He concludes that the locality domain for suppletion is the complex X^0 head. In long-form negation, the negative-suppletive root remains in a separate X^0 , and does not exhibit negative suppletion, despite the presence of negation

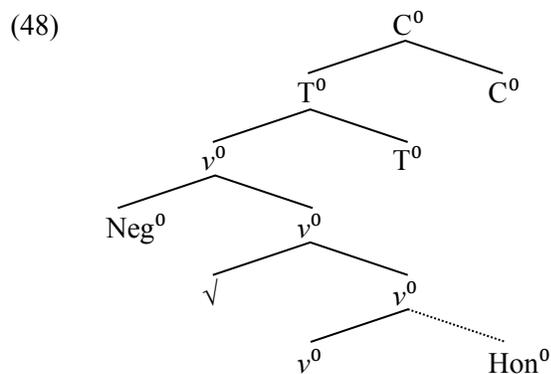
³³ *Mos* is a negation morpheme that occurs in short-form and long-form negation in the same morphosyntactic location as the general negator *an(i)*. The two negation morphemes differ in the sense of modality. While *an(i)* is a general negator, *mos* is a negator expressing modality such as ability, possibility, permission or volition. The verb *al-* ‘know’ in the language resists general negation and can only be negated by *mos*.

elsewhere in the structure. That is, the periphrastic expression of negation bleeds root suppletion, as expected. The fact that verbal periphrasis does not bleed suppletive exponence in honorific root suppletion confirms that there is an Hon^0 node in both the main and dummy verbal complexes, and bolsters the notion that the X^0 domain is the locality frame relevant to suppletive conditioning.

We have now spelled out our proposals for the structures underlying honorification, long-form negation and short-form negation, including the idea that honorification is accomplished via structurally-conditioned node-sprouting rule in the morphological component. We have asserted, though not yet argued, that the domain of application for node-sprouting rules is phasal, applying when each phasal complement domain is cyclically transferred to the PF branch for Spell-Out. We have further articulated how vocabulary item competition interacts with these structures to generate the surface forms of both regular and suppletive honorification and negation, suggesting that the relevant locality domain within which suppletive vocabulary items can be conditioned is the complex X^0 . We next turn to the interaction of honorific marking and short-form negation in suppletive contexts first discussed by Chung (2009).

3.3 Interaction of suppletive negation with regular and suppletive honorification

Now consider the structure involved when honorification co-occurs with short-form negation. Node-sprouting of Hon^0 on the terminal v^0 head, and cliticization of Neg^0 to the v^0 complex, generates the complex head illustrated in (48) below.



In a regular verb, each terminal node is realized by the single relevant vocabulary item, yielding, e.g., $[[an(i)_{Neg^0} = [[ka_{\sqrt{GO}}] - [\emptyset_{v^0} - si_{Hon^0}]] - ess_{T^0} - ta_{C^0}]$.

In (48) the Hon^0 morpheme, sprouted on the sister to the $\sqrt{\quad}$, is more local to the verb root than the Neg^0 morpheme. We argue that this drives the interaction of negative and honorific suppletion that occurs with Korean's only triply-suppletive verb, \sqrt{EXIST} . As mentioned above, this verb has an elsewhere root, a negative root, and an honorific root, each of which is illustrated in (49) below. The elsewhere form occurs in affirmative non-honorific contexts (49a) and non-honorific long-form negation contexts. The negative form occurs in non-honorific short-form negation contexts (49b). The honorific form occurs in honorific contexts (49c):

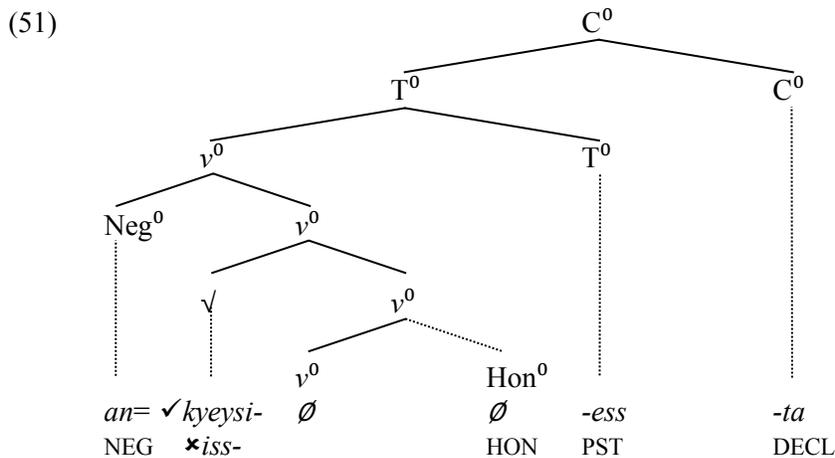
- (49) a. Inho-ka pang-ey iss-ess-ta.
 Inho-NOM room-in exist-PST-DECL
 'Inho was in the room.'

- b. Inho-ka pang-ey eps-ess-ta.
 Inho-NOM room-in exist.NEG-PST-DECL
 ‘Inho was not in the room.’
- c. Halapeci-kkeyse pang-ey kyeysi-ess-ta.
 grandfather-NOM.HON room-in exist.HON-PST-DECL
 ‘Grandfather was in the room.’

Crucially, in honorific and short-form negation contexts, as emphasized by Chung (2009), the honorific form blocks the negative form:

- (50) a. Halapeci-kkeyse pang-ey an(i)=kyeysi-ess-ta.
 grandfather-NOM.HON room-in NEG=exist.HON-PST-DECL
 ‘Grandfather was not in the room.’
- b. *Halaapeci-kkeyse pang-ey eps-(u)si-ess-ta.
 grandfather-NOM.HON room-in exist.NEG-HON-PST-DECL

The morphological structure of the inflected verb of (50a) and the relevant Vocabulary Insertion rules which determine the choice of allomorph for $\sqrt{\text{EXIST}}$ are respectively illustrated in (51) and (52).



- (52) *iss-* ‘exist’ ~ *eps-* ‘exist.NEG’ ~ *kyey-* ‘exist.HON’
- a. $\sqrt{\text{EXIST}} \leftrightarrow \textit{kyeysi-} / [[__] [v^0 \text{Hon}^0]_{v^0}]$
- b. $\sqrt{\text{EXIST}} \leftrightarrow \textit{eps-} / [\text{Neg}^0 = [[__ v^0]_{v^0}]$
- c. $\sqrt{\text{EXIST}} \leftrightarrow \textit{iss-} / \text{elsewhere}$

Let us examine how these VIs interact with the complex honorific short-form negation head in (48). The outcome of the competition for the realization of $\sqrt{\text{EXIST}}$ is not obvious. Both the negative and the honorific root are conditioned by the presence of a single feature, so there is no clear Subset-principle ordering of the two conditioned allomorphs. Yet the honorific form of $\sqrt{\text{EXIST}}$ blocks the insertion of the negative form. Why? Some competition-resolving constraint must be at work.

Let us revisit the various locality principles from the previous literature given in section 1.2, and ask whether any of them resolve the competition between *kyeysi-* ‘exist.HON’ and *eps-* ‘exist.NEG’ in negative honorific structures.

Embick (2010) argues that suppletion requires *linear* adjacency between the conditioned and conditioning nodes, highlighting the irrelevance of null exponents in potentially intervening nodes in

cases like the English past tense. However, in the case of Korean, the short-form negative (pro)clitic is prefixal while the honorific exponent is suffixal. The v^0 node that arguably intervenes between the root and the honorific suffix is null, with the result that both negation and honorification are linearly adjacent to the conditioned root. The linear adjacency condition, then, does not resolve the competition between (52a) and (52b).

Similarly, Bobaljik’s (2012) X^0 condition, according to which allomorph selection cannot be conditioned across a phrasal boundary, does not resolve the competition. Both Neg^0 and Hon^0 are contained within the complex X^0 head, and hence both are in principle local enough to condition a suppletive alternant (and both can, independently). The X^0 condition, then, also does not by itself yield a blocking effect.

It seems clear that hierarchical locality—structural locality—must play a role in determining allomorph selection. Merchant’s (2015:294) Span Adjacency Hypothesis, rather like the earliest proposals stipulating strict structural adjacency between trigger and target (e.g., Arad 2003, 2005), has the potential to resolve the competition in the case of \sqrt{EXIST} . Merchant does not address the span-relatedness of right-branching nodes within a structural hierarchy of this kind, but it is clear that Hon^0 is more local to v^0 than Neg^0 , and hence the Neg^0 - v^0 span is interrupted by the Hon^0 node in (48). If anything forms a span with v^0 to condition the root, it is Hon^0 . Consequently, Merchant’s Span Adjacency Hypothesis can correctly predict the choice of the honorific allomorph *kyeysi-* in this context, since the conditioner of the negative allomorph *eps-* is not span-adjacent to the root.

Unfortunately, the Span Adjacency Hypothesis runs into insurmountable problems when confronted with the interaction of honorification and negation in the suppletive negative verb \sqrt{KNOW} . As illustrated in section 3.2.1 above, \sqrt{KNOW} only has two forms, the negative form and the elsewhere form. Consider Merchant’s prose description of the Span Adjacency Hypothesis:

“This hypothesis permits nonadjacent heads and their features to participate in the conditioning of an allomorph, but requires that such nonadjacent heads (or their features) form a span with heads (or their features), up to and including the head that is adjacent to the conditioned form.”

The important case here is that of *molu-* ‘know.NEG’, which must occur in any environment involving short-form negation, *with or without* an Hon^0 terminal node in the structure. When Hon^0 co-occurs with short-form Neg^0 , the verb takes its negative form and Hon^0 is spelled-out with its regular exponent *-si*, even though Hon^0 intervenes between Neg^0 and \sqrt{KNOW} in the span.

- (53) a. Halapeci-kkeyse Inho-lul molu-si-ess-ta.
 grandfather-NOM.HON Inho-ACC know.NEG-HON-PST-DECL
 ‘Grandfather didn’t know Inho.’
 b. *Halapeci-kkeyse Inho-lul an(i) a-si-ess-ta.
 grandfather-NOM.HON Inho-ACC NEG know-HON-PST-DECL

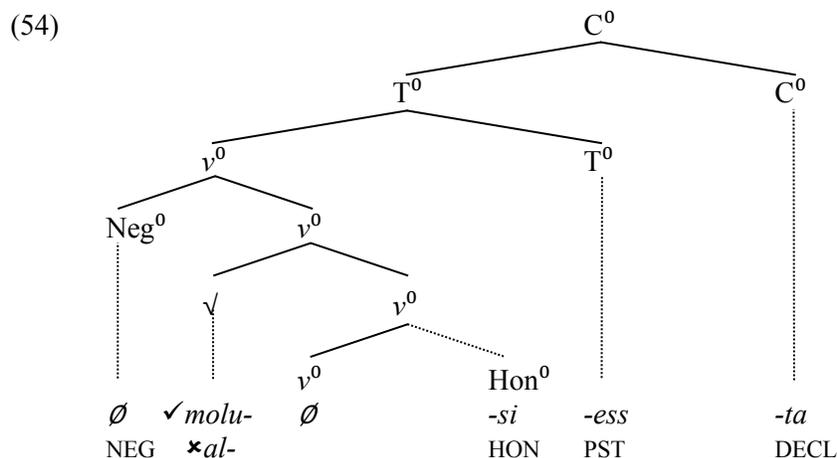
To account for this pattern, Merchant would have to assume that Neg^0 is more local to the verb root than Hon^0 (as in Chung 2009). However, that assumption would make the incorrect prediction for the verb \sqrt{EXIST} , where honorific suppletion blocks negative suppletion, and run into the inverse problem with honorific suppletive verbs like \sqrt{SLEEP} , where short-form negation receives its regular allomorph *an(i)* but does not block the occurrence of the honorific suppletive root in honorific contexts. We conclude that

the combined evidence from the patterns of exponence for $\sqrt{\text{KNOW}}$ and $\sqrt{\text{EXIST}}$ in honorific contexts is fatal to the case for Span Adjacency.³⁴

Instead, a new proposal regarding allomorph selection is needed, one which will not rule out negative conditioning across Hon^0 when there is no honorific root allomorph at stake, thus permitting the derivation of (48) with $\sqrt{\text{KNOW}}$, but which will block negative conditioning when a negative root allomorph is at stake, thus choosing (52a) over (52b) with $\sqrt{\text{EXIST}}$.

We propose to relate the blocking effect of Hon^0 to the root-outward nature of the Vocabulary Insertion process (Bobaljik 2000). We hypothesize that the search for conditioning features within the complex X^0 domain operates root-outward also. At the point when forms are competing to realize the root in a negative, honorific context, both *eps-* and *kyeysi-* are equally specified. If the search for conditioning features proceeds incrementally from the root, the honorific form *kyeysi-* will be activated first and hence inserted first. This bleeds the insertion of any competing allomorph conditioned by any single more distant feature in the complex X^0 .³⁵ However, if Hon^0 is *not* present in the structure (as in (41) above), the search continues to the edge of the X^0 domain, eventually finding Neg^0 and triggering the insertion of *eps-*. If the X^0 domain is exhausted and no conditioning feature is found, the elsewhere form *iss-* is inserted.

In the case of $\sqrt{\text{KNOW}}$, this procedure correctly results in the insertion of suppletive *molu-* even when an honorific feature is present, since Hon^0 is not relevant to either of the allomorphs of $\sqrt{\text{KNOW}}$, as illustrated in (54). The choice of allomorph for $\sqrt{\text{KNOW}}$ is determined by the Vocabulary Insertion rules in (43), repeated in (55).



- (55) *al-* ‘know’ ~ *molu-* ‘know.NEG’
 a. $\sqrt{\text{KNOW}} \leftrightarrow \text{molu-} / [\text{Neg}^0 = [[\text{ } v^0]_{v^0}]]$
 b. $\sqrt{\text{KNOW}} \leftrightarrow \text{al-} / \text{elsewhere}$

³⁴ For the same reason, the Korean patterns with $\sqrt{\text{KNOW}}$ and $\sqrt{\text{EXIST}}$ are a challenge to Svenonius’s (2012) Spanning hypothesis about portmanteau forms, according to which such forms must *realize* spans of hierarchical structure (not, as for Merchant, simply be conditioned by them). Similarly, the behavior of $\sqrt{\text{KNOW}}$ rules out another family of hypotheses, which is that insertion of Hon^0 creates a barrier that prevents the vocabulary rule for root insertion from recognizing the presence of Neg^0 within the complex head. If the insertion of the Hon^0 dissociated morpheme created a phase-like locality domain within the word, blocking access to Neg^0 at the point of root insertion, then we would predict that negative honorific forms of $\sqrt{\text{KNOW}}$ would surface with the unmarked allomorph, **an(i)-a-si*, which is ungrammatical, rather than with the negative allomorph, *molu-si*.

³⁵ This solution is considered by Chung (2009:561), but is dismissed because of his inverse conclusions about the relative locality relations of Hon^0 and Neg^0 with the root.

The search domain must consist of the entire X^0 even when a more local terminal is independently realized. No ‘pruning’ of intervening null X^0 nodes is necessary or possible in this case, contra Embick (2010); see also Merchant (2015) for the same point regarding English *ain’t*.

To summarize: The insertion mechanism has to see the entire complex X^0 head, since either Neg^0 or Hon^0 can condition the insertion of a special root form. However, when two forms compete that are each conditioned by a single feature, the insertion mechanism is triggered by the most local conditioning feature. We summarize these two results in the following hypotheses concerning allomorph selection. The first is a restatement of Bobaljik’s (2012) locality principle, here given a name, the Complex Head Accessibility Domain (56). The second is the novel observation made possible by the unique constellation of Korean facts, namely that hierarchical locality considerations give preference to more local features over more distant ones. We term this latter principle the Local Allomorph Selection Theorem (57).

(56) *The Complex Head Accessibility Domain (Bobaljik 2012):*

Vocabulary Items can only be conditioned by features contained within a complex X^0 head, not by features across an XP boundary.

(57) *Local Allomorph Selection Theorem:*

If two vocabulary items are in competition within an X^0 domain and are equally specified with respect to the Subset Principle, the item conditioned by the more hierarchically local feature blocks the item conditioned by the less local feature.

The role of the Local Allomorph Selection Theorem has not been previously recognized, though it is a very natural hypothesis given the standard inside-out view of vocabulary insertion (Bobaljik 2000).³⁶ This principle then joins the recognized competition-resolving principles from previous work, such as the Subset Principle, which orders more specific competitors before less specific ones (Halle 1997; Kiparsky 1973), and markedness considerations, which give preference to VIs realizing marked feature types over less marked ones (Moskal 2014, Noyer 1992, 1997).

The overall moral is that the Korean facts show that the hierarchical properties of the morphosyntactic structure being realized are important in determining the winning candidate.

4 The morphological structure of suppletive verbs: *po*-constructions and reanalysis

We have exhibited two cases in which constructions that include multiple verbs permit or require multiple exponence of honorification, namely verb-copy constructions and long-form negation. We have proposed that on each phase-based Spell-Out cycle, a node-sprouting operation applies. When there are multiple verbal predicates in distinct phases, this yields multiple Hon^0 nodes in a single clause.

However, we have not considered another family of multiple-verb constructions first mentioned in the honorification literature in Yun (1993). These constructions involve a main lexical verb suffixed with *-e* followed by an inflected matrix verb, either *po-* ‘try’, *cwu-* ‘give’, *twu-* ‘put’, *chiwu-* ‘clean’. We give two examples in (58) below. We pretheoretically call these *po*-constructions for convenience.

³⁶ Bobaljik’s (2012) data on suppletion in comparative and superlative constructions did not reveal the effect of independent conditioning features at distinct hierarchical positions, since he was looking at comparison structures, and it turns out that comparatives are cross-linguistically strictly contained by superlatives (his ‘Strict Containment Condition’). The Korean case thus provides a flexible environment for testing the specifics of locality constraints on allomorphic conditioning, since negation does not entail honorification or vice versa.

- (58) a. Halapeci-kkeyse ku chayk-ul ilk-e³⁷ po-si-ess-ta.
 grandfather-NOM.HON the book-ACC read-E try-HON-PST-DECL
 ‘Grandfather tried to read the book.’
 b. Halapeci-kkeyse ku chayk-ul ilk-e twu-si-ess-ta.
 grandfather-NOM.HON the book-ACC read-E put-HON-PST-DECL
 ‘Grandfather read the book in preparation.’

First, we demonstrate that these constructions provide evidence against analyzing the *-si* at the end of many suppletive verb stems as a regular exponent of Hon⁰, instead supporting a monomorphemic, single-exponent view of such vocabulary items, contra Chung (2009). We propose that honorific *po*-constructions involve verbal head-movement from the embedded clause to the matrix clause. This locates the entire complex construction in a single phasal spell-out domain and rules out multiple occurrences of Hon⁰, since the Hon⁰-sprouting rule applies but once per phase. We then go on to address the implications of these findings.

4.1 Reanalysis of *-si* in suppletive vocabulary items

It has likely not escaped the reader’s attention that the suppletive honorific vocabulary items in (44) above appear to overlook a morphological generalization: all suppletive honorific forms end in *-si*:

- (59) *Examples of honorific suppletion:*
 a. *ca-* ‘sleep’ ~ *cwumwusi-* ‘sleep.HON’
 b. *mek-* ‘eat’ ~ *capswusi-* ‘eat.HON’
 c. *iss-* ‘exist’ ~ *kyeysi-* ‘exist.HON’

This overlap between the regular honorific exponent *-si* and suppletive honorific forms suggests the possibility that the suppletive forms are actually multimorphemic, i.e., contain both a bound root exponent (e.g., *cwumwu-*) and an exponent of Hon⁰, *-si*. The dependence between the form *cwumwu-* and the suffix *-si* would be explained by the morphological conditioning environment required for the insertion of *cwumwu-*: since *cwumwu-* is only inserted in the context of an Hon⁰ node, it will only appear adjacent to the *-si* exponent that realizes Hon⁰. This is the approach taken by Chung (2009).

However, we can see that this tempting idea runs into difficulties when the distribution of regular *-si* is examined in the context of *po*-constructions. In (54) above, *-si* occurs on the inflected main verb. Sells (1995:292-293) pointed out that *-si* may *not* be marked on the embedded verb suffixed with *-e*, as shown in (60). In this regard, *po*-constructions are strikingly different from the other multi-verbal constructions discussed above, in which *-si* could appear twice.

- (60) a. *Halapeci-kkeyse ku chayk-ul ilk-usi-e po-si-ess-ta.
 grandfather-NOM.HON the book-ACC read-HON-E try-HON-PST-DECL
 b. *Halapeci-kkeyse ku chayk-ul ilk-usi-e twu-si-ess-ta.
 grandfather-NOM.HON the book-ACC read-HON-E put-HON-PST-DECL

³⁷ We follow Lee (1992) in assuming that the *-e* morpheme is a ‘dummy suffix’, in the same spirit as Kang’s (1988) treatment in terms of ‘Morphological Closure’. As such, it does not bear any syntactic or semantic content. It serves as a linker that connects the embedded verb with the matrix verb in forming *po*-constructions, appearing for the sake of morphological well-formedness. Lee also provides convincing arguments against other approaches treating *-e* as an INFL head, a COMP, a postposition, and a nominalizer. Interested readers are referred to Lee (1992: chapter 4.2) and references therein for details.

If the *-si* of suppletive verb forms like *cwumwusi-* ‘sleep.HON’ were the regular honorific exponent, then we expect it to have the same distribution as regular Hon^0 in (55) and (60) above, i.e., we would expect *-si* to be forbidden in the complement verb of a *po*-construction, even when that complement verb is suppletive. If the *-si* of *capswusi-* is regular *-si*, the verb should surface as plain *capswu-* in an honorific *po*-construction. In fact, this is ungrammatical, as illustrated in (61) below. The embedded suppletive verb must surface as *capswusi-*, not *capswu-*.

- (61) a. Halapeci-kkeyse pang-eyse cwumwusi-/*cwumwu-e po-si-ess-ta.
 grandfather-NOM.HON room-in sleep.HON-E try-HON-PST-DECL
 ‘Grandfather tried to sleep in the room.’
 b. Halapeci-kkeyse cokum cwumwusi-/*cwumwu-e twu-si-ess-ta.
 grandfather-NOM.HON a.little sleep.HON-E put-HON-PST-DECL
 ‘Grandfather slept a little in preparation.’

This shows that the *-si* of suppletive verb stems is different from regular honorific *-si*.

This pattern is also reflected in the fact that the *-si* of suppletive verb stems is not optional in any of the contexts where regular *-si* is optional, for example in long-form negation (62) and in verb-copy constructions (63).

- (62) a. Halapeci-kkeyse pang-eyse cwumwu*(si)-ci an(i) ha(-si)-ess-ta.
 grandfather-NOM.HON room-in sleep.HON-CI NEG do-HON-PST-DECL
 ‘Grandfather didn’t sleep in the room.’
 b. Halapeci-kkeyse say yenghwa-lul po(-si)-ci an(i) ha(-si)-ess-ta.
 grandfather-NOM.HON new movie-ACC see-HON-CI NEG do-HON-PST-DECL
 ‘Grandfather didn’t see the new movie.’
 (63) a. Halapeci-kkeyse cokum cwumwu*(si)-ki-nun cwumwu*(si)-ess-ta.
 grandfather-NOM.HON a.little sleep.HON-NMLZ-FOC sleep.HON-PST-DECL
 ‘Grandfather slept well a little, indeed.’
 b. Halapeci-kkeyse say yenghwa-lul po(-si)-ki-nun po?(-si)-ess-ta.
 grandfather-NOM.HON new movie-ACC see-HON-NMLZ-FOC see-HON-PST-DECL
 ‘Grandfather saw the new movie, indeed.’

Since the distributions of regular *-si* and the *-si* of suppletive verb forms are distinct, we conclude that the verb stem of suppletive verbs has undergone reanalysis such that the string *-si* simply forms part of the root exponent. This idea is captured in our analysis by the vocabulary items we proposed in (44) above, which include *-si* as part of the exponent of the root.

This in turn means that in regular matrix clauses involving these suppletive verbs, the Hon^0 terminal node must have a zero exponent, conditioned by the suppletive root. This zero exponent will block the realization of the elsewhere exponent *-si*, preventing the appearance of **cwumsusi-si-*, etc. The final set of exponents for Hon^0 in our analysis are given in (64) below.

- (64) *Rules for spelling out Hon⁰:*
 a. $\text{Hon}^0 \leftrightarrow \emptyset / [\{cwumwusi-, kyeyysi-, capswusi-\} _]$
 b. $\text{Hon}^0 \leftrightarrow -si / \text{elsewhere}$

because that verb occurs in a separate spell-out domain which is subject to its own application of the Hon^0 -sprouting rule, with phasal boundaries indicated by brackets.

- (66) Halapeci-kkeyse ku chayk-ul ilk-usi-ci] an(i) ha(*-si)-e po-si]-ess-ta].
 grandfather-NOM.HON the book-ACC read-HON-CI NEG do-HON-E try-HON-PST-DECL
 ‘Grandfather tried not to read the book.’

Let us now consider how this analysis can generate the grammatical forms in (58), where an embedded suppletive verb appears in an honorific context in a *po*-construction. In the structure in (62) a suppletive root forms part of an overall single complex head, an X^0 domain. Recall that Bobaljik (2012) suggests that allomorphic conditioning can be triggered anywhere within a single X^0 domain. If this is correct, the fact that Hon^0 and the embedded suppletive verb form part of the same complex head means that conditioning of the suppletive verb by Hon^0 can occur, even across a substantial amount of intervening word-internal structure.³⁹ The Hon^0 head adjoined to the higher v^0 is detected by the X^0 domain-search mechanism when the root is being realized. Hence the suppletive alternant is inserted.

Something else is also going on in these cases, however, since (unlike in the other construction so far discussed) suppletive and regular forms are not in complementary distribution in *po*-constructions. The non-honorific verb stem is also grammatical in an honorific *po*-construction, although for some it is slightly degraded. However, all agree that both regular and honorific stems can occur (67).

- (67) a. Halapeci-kkeyse cokum cwumwusi-e/ca-a⁴⁰ po-si-ess-ta.
 grandfather-NOM.HON a.little sleep.HON-E/sleep-E try-HON-PST-DECL
 ‘Grandfather tried to sleep a little.’
 b. Halapeci-kkeyse cokum cwumwusi-e/ca-a twu-si-ess-ta.
 grandfather-NOM.HON a.little sleep.HON-E/sleep-E put-HON-PST-DECL
 ‘Grandfather slept a little in preparation.’

Free variation of allomorphs is problematic for competition-based theories, but since complementary distribution of honorific and regular alternants is the norm elsewhere, and since these non-complementary cases are highly morphologically complex, we suggest that the competition-based account is still fundamentally correct, and that the potential for free variation is introduced by the additional morphological structure in the form, in particular, by the fact that the embedded verb must raise through v^0 to incorporate into *po*-. We suggest that it is not an accident that the competition-resolving domain search may not fully explore the complex head. A recurring theme in explorations of locality conditions on suppletion is the relevance (or lack thereof) of word-internal phasal domains (e.g., Moskal 2014, 2015a, 2015b, as well as Marvin 2003; Newell 2008; Newell et al. 2016; Piggot and Newell 2006; Samuels 2011). Although our work shows that the notion that phase heads impose a hard constraint on suppletion cannot be correct, it is possible that they could play a role in the optionality here. If Korean speakers optionally stop the search for conditioning factors when a phase head is encountered, then a regular allomorph could surface in *po*-constructions. If the domain search instead is continued to the edge of the X^0 , the Hon^0 node is detected, and the suppletive alternant inserted. Free variation would then arise

³⁹ As noted in section 4.3 below, it is this feature of *po*-constructions which poses significant problems for theories involving adjacency requirements, including Merchant and Pavlou’s (2017) revised version of Span Adjacency. It could be possible to eliminate the requirement that all intervening elements in the span participate in conditioning the allomorphy (which in fact does not figure in Merchant and Pavlou’s formal definition of the condition) to allow for these *po*-condition cases as well as the intervening *v* node in the Neg-suppletion cases mentioned in fn. 30 above.

⁴⁰ *-a* is an allophone of *-e*.

from (grammatically constrained) indeterminacy in the size of the search domain, not from problems with competition.⁴¹

4.3 Implications of *po*-constructions for other analysis

In honorific *po*-constructions, our analysis entails that the Hon^0 head which conditions the suppletive alternant of the embedded verb is both structurally and linearly quite distant from the embedded verb itself. Taken at face value, these structures falsify strict locality-based proposals on the conditioning of suppletion like that of Arad (2003, 2005), Embick (2010) and Merchant (2015) presented in section 1.2. Consider the structure for a complex *po*-construction verb given in (57). Whether considered linearly or structurally, multiple nodes intervene between the conditioning Hon^0 node and the conditioned embedded root in a *po*-construction. Considered linearly, the matrix \checkmark node intervenes between the embedded \checkmark node and the honorific exponent. Considered structurally, the embedded v^0 node, the matrix \checkmark node and the matrix v^0 node all intervene between the embedded root and Hon^0 . Either way, a strict adjacency-based locality constraint fails.

Similarly, the data from *po*-constructions are challenging for the ‘Accessibility Domain’ proposal of Moskal (2014, 2015a, 2015b) and Moskal & Smith (2016). If the embedded v^0 within the complex head is phasal in the relevant sense, then suppletion is conditioned by elements that are more than one layer of structure above that v^0 , and are thus outside the relevant Accessibility Domain.

These data also argue against a Fusion-based approach to suppletive exponence in Korean honorification. Fusion-type analyses are often inspired by the apparently conspiratorial interaction of zero exponents and irregular stems in many cases of suppletion. This conspiracy appears in our analysis of Korean honorification, given the vocabulary items in (43) above. Such interactions are of course well-attested cross-linguistically, and presumably have a diachronic explanation, here as elsewhere. Within DM, there are two primary approaches to irregularity of this kind: Fusion-based approaches (e.g., Chung 2009; Siddiqi 2006, 2009) and zero-exponent approaches like that espoused here (e.g., Bobaljik 2012; Halle and Marantz 1993). In many cases, Fusion and zero-exponence may appear to make identical predictions and cover similar empirical territory. However, the data discussed here provides an argument against a Fusion-rule approach in both the honorific suppletion and negative suppletion cases.

Fusion is usually taken to require adjacency. A Fusion analysis of honorific suppletion would propose that when an Hon^0 node is adjacent to one of the particular conditioning \checkmark nodes, $\checkmark\text{SLEEP}$, $\checkmark\text{EXIST}$, or $\checkmark\text{EAT}$, a Fusion rule would apply, merging the Hon^0 node and the \checkmark node into a single node with a single position of exponence. No zero exponent of Hon^0 would then be needed (or possible); instead, the honorific root is all that can be inserted.

A Fusion approach predicts that any morphosyntactic environment which permits an honorific suppletive root should ALSO license a regular root with a regular *-si* suffix. This is because on the Fusion analysis, the syntactic structure [$\checkmark\text{-Hon}^0$] must underlie both the suppletive and regular expression of honorification—Fusion applies to reduce the complex structure when a conditioning root appears, but not when other roots are present. However, this runs counter to the facts described above for *po*-

⁴¹ Merchant (p.c.) suggests that there may be some syntactic variation which could account for the optionality of suppletion in these cases, noting that the *po*-verbs are classic ‘restructuring’-type predicates and that restructuring is known to exhibit optionality cross-linguistically. If we followed Wurmbrand (2001) in treating restructuring as involving the projection (or not) of an embedded subject NP (PRO), we could perhaps account for the optionality of suppletion, in that there might not be a local honorific subject to condition the necessary honorification. However, this would wrongly predict that an embedded regular *-si* should also be possible in *po*-constructions when PRO is present, which it is not (see (63) above). Another alternative we considered is that head-movement may be optional in *po*-constructions. If the embedded verb may remain in-situ in a (mandatorily subjectless) embedded verbal projection, that would predict the optional appearance of non-honorific forms. However, the tests for head-movement suggested by Lee (1992) do not reveal any distinction between the honorific and non-honorific alternants in (67).

constructions, where the regular exponent of Hon^0 is entirely unable to appear. As we have seen, in the complement of *po*-constructions, the complex structure [$\sqrt{\text{-Hon}^0}$] is syntactically illegitimate, and hence Fusion of such a structure cannot underlie the appearance of a suppletive root in that environment.

In sum, the behavior of honorification in *po*-constructions, then, supports the notion that the domain relevant for conditioning suppletive allomorphy is not immediate structural or linear adjacency, but instead is the entirety of the complex word-form, as argued by Bobaljik (2012). It also shows that a Fusion approach to honorific suppletion is untenable.

5 Conclusion

Viewed through the lens of Korean subject honorification, several issues in current morphological and syntactic theory have come into focus. We have argued that distinct locality domains are relevant for different types of morphological processes. Phase-based domains seem to delimit the application of node-sprouting rules, while word-based domains (X^0 -domains) delimit the search space for allomorphic conditioning. Within a complex word, the relative locality of conditioning features to the conditioned head affects the outcome of particular contests, suggesting that search for conditioning features proceeds root-outwards. We have formalized this observation as the Local Allomorphy Selection Theorem, and showed how it accounts for the pattern of honorific and negative suppletion in the triply-suppletive root $\sqrt{\text{EXIST}}$ (*iss*- ‘exist’ ~ *eps*- ‘exist.NEG’ ~ *kyey*- ‘exist.HON’).

We have also developed detailed proposals concerning the specific structures underlying Korean subject honorification. We adopt a syntactically-governed yet morphologically-implemented approach that has a great deal in common with previous morphological approaches to subject agreement (Bobaljik 2008; Halle and Marantz 1993; a.o.) We have argued that the conditioning honorific NP must bear honorific nominative case, whether overtly or covertly, supporting the importance of syntactic case-marking for the appearance of verbal honorification. We propose that multiple honorific marking in multiple-verb constructions occurs when the verbs are realized in separate phases (as in long-form negation and verb-copy constructions), and that multiple honorific marking is impossible when multiple-verb constructions are contained within a single phase, in a complex head derived by head movement (as in *po*-constructions). Finally, we have shown that Korean suppletion truly is suppletion, with evidence from idiomatic interpretations and ellipsis, contra Bobaljik (2012). It is perhaps worth noting that Bobaljik’s reason for questioning the suppletive nature of the Korean pattern is the clausal hierarchy proposed in Chung (2009), with negation below honorification. We have argued that the relative hierarchical locations of honorific and short-form negative marking are in fact the reverse of those proposed by Chung.

With much of the previous literature, we argue that Korean subject honorification should be treated as structurally-governed agreement, following a growing literature on honorification-as-agreement that includes, e.g., Boeckx (2006), Boeckx and Niinuma (2004), Saito (2015). The diversity of the phenomena that have been included under the umbrella of ‘honorification’ cross-linguistically probably means that a unified morphosyntactic view of honorification-as-agreement cannot be maintained, but we hope to have shown that such an approach has merit for Korean subject honorification.

References

Abeillé, Anne, and Daniele Godard. 1997. The Syntax of French Negative Adverbs. In *Negation and Polarity (Syntax and semantics)*, eds. D. Forget et al. 1–27. Amsterdam: John Benjamins.

- Ahn, Duk-Ho. 2015. Genitive Case in Korean and its implications for noun phrase structure. *Journal of East Asian Linguistics* 23: 361–392.
- Ahn, Hee-Don. 1991. Light verbs, VP-movement, negation and clausal architecture in Korean and English. PhD thesis. University of Wisconsin.
- Ahn, Hee-Don, and Hang-Jin Yoon. 1989. Functional categories in Korean. *Harvard Studies in Korean Linguistics* 3: 79–88.
- Ahn, Sung-Ho. 2002. Honorification and AgrP. Paper presented at the Linguistic Society of Korea Winter 2002 Meeting, February 2, Seoul National University.
- Alexiadou, Aexiadou, and Elena Anagnostopoulou. 2008. Structuring participles. In *Proceedings of WCCFL 26*, 33–41.
- Arad, Maya. 2003. Locality constraints on the interpretation of roots: The case of Hebrew denominal verbs. *Natural Language & Linguistic Theory* 21: 717–778.
- Arad, Maya. 2005. *Roots and patterns: Hebrew morpho-syntax*. Dordrecht: Springer.
- Baker, C. Lee. 1991. The syntax of English “not”: the limits of core grammar. *Linguistic Inquiry* 22: 387–430.
- Bobaljik, Jonathan David. 1994. What does adjacency do? In *The morphology-syntax connection (MITWPL 21)*, 1–32. Cambridge: MITWPL.
- Bobaljik, Jonathan David. 2000. The ins and outs of contextual allomorphy. In *The 1999 Maryland mayfest on morphology (University of Maryland Working Papers in Linguistics 10)*, eds. Kleanthes K. Grohmann and Caro Struijke, 35–71. College Park: University of Maryland.
- Bobaljik, Jonathan David. 2008. Where’s Phi? Agreement as a post-syntactic operation. In *Phi-theory: Phi-features across modules and interfaces*, eds. David Adger, Susana Bejar and Daniel Harbour, 295–328. Oxford: Oxford University Press.
- Bobaljik, Jonathan David. 2012. *Universals in comparative morphology*. Cambridge and London: MIT Press.
- Bobaljik, Jonathan David and Andrew Carnie. 1996. A minimalist approach to some problems of Irish word order. In *The syntax of the Celtic languages*, eds. Robert Borsley and Ian Roberts, 223–240. Cambridge: Cambridge University Press.
- Bobaljik, Jonathan David and Heidi Harley. to appear. Suppletion is local: Evidence from Hiaki. In *The structure of words at the interfaces*, eds. Heather Newell, Maire Noonan, Glyne Piggott, and Lisa Travis. Oxford: Oxford University Press.
- Bobaljik, Jonathan David and Diane Jonas. 1996. Subject positions and the roles of TP. *Linguistic Inquiry* 27: 195–236.
- Boeckx, Cedric. 2006. Honorification as agreement. *Natural Language & Linguistic Theory* 24: 385–398.
- Boeckx, Cedric, and Fumikazu Niinuma. 2004. Conditions on agreement in Japanese. *Natural Language & Linguistic Theory* 22: 453–480.
- Borer, Hagit. 2014. Wherefore roots? *Theoretical Linguistics* 40: 343–359.
- Bruening, Benjamin. 2010a. Language-particular syntactic rules and constraints: English locative inversion and *do*-support. *Language* 86: 43–84.
- Bruening, Benjamin. 2010b. Ditransitive asymmetries and a theory of idiom formation. *Linguistic Inquiry* 41: 519–562.
- Caballero, Gabriela, and Alice C. Harris. 2012. A working typology of multiple exponence. In *Current issues in morphological theory: (Ir)regularity, analogy and frequency (Selected*

- papers from the 14th International Morphology Meeting, Budapest, 13-16 May 2010*), eds. Ferenc Kiefer, Mária Ladányi & Péter Siptár, 163–188. Amsterdam: John Benjamins.
- Cho, Dong-In. 1994. Functional projections and verb movement. In *Theoretical issues in Korean linguistics*, ed. Young-Key Kim-Renaud, 233–254. Stanford: CSLI Publications.
- Choe, Hyon Sook. 1987. Syntactic adjunction, A-chain and the ECP—multiple identical Case construction in Korean. In *Proceedings of NELS 17*, eds. Joyce McDonough and Bernadette Plunkett, 100–120. Amherst: University of Massachusetts, GLSA.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from building 20*, eds. Kenneth Hale and Samuel Jay Keyser, 1–52. Cambridge: The MIT Press
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge: MIT Press.
- Chung, Inkie. 2007. Suppletive negation in Korean and distributed morphology. *Lingua* 117: 95–148.
- Chung, Inkie. 2009. Suppletive verbal morphology in Korean and the mechanism of vocabulary insertion. *Journal of Linguistics* 45: 533–567.
- Chung, Sandra, William A. Ladusaw, and James McCloskey. 1995. Sluicing and Logical Form. *Natural Language Semantics* 3: 239–282.
- Christensen, Ken Ramshøj. 2003. On the synchronic and diachronic status of the negative adverbial ikke/not. *Working papers in Scandinavian Syntax WPSS* 72: 1–53.
- Corbett, Greville. 2007. Canonical typology, suppletion and possible words. *Language* 83: 8–42.
- Deal, Amy Rose. 2016. Plural exponence in the Nez Perce DP: a DM analysis. *Morphology* 26: 313–339.
- Embick, David. 2000. Features, syntax, and categories in the Latin perfect. *Linguistic Inquiry* 31: 185–230.
- Embick, David. 2003. Locality, listedness, and morphological information. *Studia Linguistica* 57: 143–169.
- Embick, David. 2010. *Localism versus Globalism in morphology and phonology*. Cambridge: MIT Press.
- Embick, David, and Morris Halle. 2005. On the Status of Stems in Morphological Theory. In *Proceedings of Going Romance 2003*, eds. T. Geerts and H. Jacobs, 59–88. Amsterdam: John Benjamins.
- Embick, David, and Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32: 555–595.
- Embick, David, and Rolf Noyer. 2007. Distributed Morphology and the Syntax/Morphology Interface. In *Oxford handbook of linguistic interfaces*, eds. Gillian Ramchand and Charles Reiss, 289–324. Oxford: Oxford University Press.
- Furbee, N. Louanna. 1974. Identity in gapping and the lexical insertion of verbs. *Linguistic Inquiry* 5: 299–304.
- Gribanova, Eva. 2015. Roots in ellipsis and multidominance. Paper presented at Roots IV workshop, June 30, NYU.
- Hagstrom, Paul. 1996. Do-support in Korean: Evidence for an interpretive morphology. In *Morphosyntax in generative grammar*, eds. H.-D. Ahn et al. Seoul: Hankuk.
- Hagstrom, Paul. 2002. Implications of child error for the syntax of negation in Korean. *Journal of East Asian Linguistics* 11: 211–242.

- Halle, Morris. 1997. Distributed morphology: Impoverishment and fission. In *PF: Papers at the Interface (MITWPL 30)*, eds. Benjamin Bruening, Yoonjung Kang, and Martha McGinnis, 425–449. Cambridge: MITWPL.
- Halle, Morris, and Alec Marantz. 1993. Distributed Morphology and the pieces of inflection. In *The view from Building 20*, eds. Kenneth Hale and Samuel Jay Keyser, 111–176. Cambridge: MIT Press.
- Han, Chung-hye, and Jong-Bok Kim. 2004. Are there “double relative clauses” in Korean?. *Linguistic Inquiry* 35: 315–337.
- Han, Chung-hye, and Chungmin Lee. 2007. On negative imperatives in Korean. *Linguistic Inquiry* 38: 373–394.
- Han, Chung-hye, Jeffrey Lidz and Julien Musolino. 2007. V-raising and grammar competition in Korean: Evidence from negation and quantifier scope. *Linguistic Inquiry* 38: 1–47.
- Bonet, Eulalia and Daniel Harbour. 2012. Contextual allomorphy. In *The Morphology and Phonology of Exponence*, ed. Jochen Trommer, 195–235. Oxford: Oxford University Press.
- Harley, Heidi. 1994. Hug a tree: Deriving the morphosyntactic feature hierarchy. In *Papers on phonology and morphology (MITWPL 21)*, eds. Colin Phillips and Heidi Harley, pp. 289–320. Cambridge: MITWPL.
- Harley, Heidi. 1995. Subjects, Events and Licensing. PhD thesis, MIT.
- Harley, Heidi. 2008. On the causative construction. In *Handbook of Japanese linguistics*, eds. Shigeru Miyagawa and Mamoru Saito, 20–53. Oxford: Oxford University Press.
- Harley, Heidi. 2013. Getting morphemes in order: Merger, affixation and head-movement. In *Diagnosing Syntax*, eds. Lisa Cheng and Norbert Corver, 44–74. Oxford: Oxford University Press.
- Harley, Heidi. 2014. Reply to commentaries, “On the identity of roots”. *Theoretical Linguistics* 40: 447–474.
- Harley, Heidi. 2015. Hiaki verbal number suppletion really is suppletion. Paper presented at Roots IV workshop, July 2, NYU.
- Jackson, Eric. 2005. Derived statives in Pima. Paper presented at the SSILA Annual Meeting, January 7, Oakland.
- Jo, Jung-Min. 2013. Predicate contrastive topic constructions: Implications for morpho-syntax in Korean and copy theory of movement. *Lingua* 131: 80–111.
- Kang, Myung-Yoon. 1987. Possessor raising in Korean. In *Harvard Studies in Korean Linguistics II*, 80–88. Seoul: Hanshin.
- Kang, Myung-Yoon. 1988. Topics in Korean syntax: Phrase structure, variable binding, and movement. PhD thesis, MIT.
- Kim, Jin-Sook. 2012. Comprehension of elided phrases in Korean and English. PhD thesis, University of Hawaii.
- Kim, Jong-Bok. 2001. A constraint-based and head-driven approach to multiple nominative constructions. In *Proceedings of the HPSG-2000 Conference*, eds. Dan Flickinger and Andreas Kathol, 166–181. Stanford: CSLI Publications.
- Kim, Jong-Bok, and Peter Sells. 2007. Korean honorification: A kind of expressive meaning. *Journal of East Asian Linguistics* 16: 303–336.
- Kiparsky, Paul. 1973 Elsewhere in phonology. In *A Festschrift for Morris Halle*, eds. Stephan. R. Anderson and Paul Kiparsky, 93–106. New York: Holt, Rinehart, and Winston.

- Kishimoto, Hideki. 2013. Covert possessor raising in Japanese. *Natural Language and Linguistic Theory* 31:161–205.
- Ko, Heejeong. 2007. Asymmetries in scrambling and cyclic linearization. *Linguistic Inquiry* 38: 49–83.
- Koopman, Hilda. 2005. Korean and (Japanese) morphology from a syntactic perspective. *Linguistic Inquiry* 36: 601–633.
- Landau, Idan. 2007. Constraints on partial VP-fronting. *Syntax* 10: 127–164.
- Lee, Sook-Hee. 1992. The syntax and semantics of serial verb constructions. PhD thesis, University of Washington.
- Lomashvili, Leila, and Heidi Harley. 2011. Phases and templates in Georgian agreement. *Studia Linguistica* 65: 223–267.
- Marantz, Alec. 1991. Case and Licensing. In *Proceedings of ESCOL '91*, eds. G. Westphal, B. Ao, and H.-R. Chae, 234–253. Cornell Linguistics Club: Ohio State University.
- Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In *Proceedings of the 21st Annual Penn Linguistics Colloquium*, eds. A. Dimitriadis, L. Siegel, et. al., 201–225.
- Marantz, Alec. 2013. Locality domains for contextual allomorphy across the interfaces. In *Distributed morphology today*, eds. Ora Matushansky and Alec Marantz, 95–115. Cambridge: MIT Press.
- Marvin, Tatjana. 2003. Topics in the stress and syntax of words. PhD thesis, MIT.
- Matushansky, Ora. 2006 Head movement in linguistic theory. *Linguistic Inquiry* 37: 69–109.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2015. How much context is enough?: Two cases of span-conditioned stem allomorphy. *Linguistic Inquiry* 46: 273–303.
- Merchant, Jason and Natalia Pavlou. 2017. The morphosyntax of the periphrastic future under negation in Cypriot Greek. *Journal of Greek Linguistics* 17, 233–262.
- Moskal, Beata. 2014. The role of morphological markedness in exclusive/inclusive pronouns. In *The proceedings of the 40th Berkeley Linguistics Society*, 354–368.
- Moskal, Beata. 2015a. Limits on allomorphy: A case study in nominal suppletion. *Linguistic Inquiry* 46: 363–376.
- Moskal, Beata. 2015b. Domains on the border: Between morphology and phonology. PhD thesis, University of Connecticut - Storrs.
- Moskal, Beata, and Peter W. Smith. 2016. Towards a theory without adjacency: hyper-contextual VI-rules. *Morphology* 26: 295–312.
- Newell, Heather. 2008. Aspects of the morphology and phonology of phases. PhD thesis, McGill University.
- Newell, Heather, Maire Noonan, Glyne Piggot, and Lisa Travis. 2016. *The structure of words at the interfaces*. Oxford: Oxford University Press.
- Norris, Mark. 2014. A Theory of Nominal Concord. PhD thesis, University of California, Santa Cruz.
- Noyer, Rolf. 1992. Features, positions, and affixes in autonomous morphological structure. PhD thesis, MIT.
- Noyer, Rolf. 1997. *Features, positions, and affixes in autonomous morphological structure*. New York: Garland.

- Park, Kap-young. 1990. Negation, verb movement, and light verbs in Korean. In *Papers from the seventh international conference on Korean linguistics*, ed. E.-J. Baek, Toronto: University of Toronto Press.
- Piggott, Glyne, and Heather Newell. 2006. Syllabification, stress and derivation by phase in Ojibwa. *McGill Working Papers in Linguistics* 20.
- Pollard, Carl Jesse, and Ivan A. Sag. 1994. *Head-driven phrase structure grammar*. University of Chicago Press, Chicago.
- Pollock, Jean-Yves. 1991. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20: 365–424.
- Potts, Christopher, Luis Alonso-Ovalle, Ash Asudeh, Rajesh Bhatt, Seth Cable, Christopher Davis, Yurie Hara, Angelika Kratzer, Eric McCready, Tom Roeper, and Martin Walkow. 2009. Expressives and identity condition. *Linguistic Inquiry* 40:356–366.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge: MIT Press.
- Richards, Norvin. 1997. What Moves Where When in Which Language? PhD thesis, MIT.
- Saito, Hiroaki. 2015. Humble form, subject honorification and object honorification in Japanese. Paper presented at the 10th International Workshop on Theoretical East Asian Linguistics, June 14, Tokyo University of Foreign Studies.
- Samuels, Bridget. 2011. *Phonological architecture: A biolinguistic perspective*. Oxford: Oxford University Press.
- Schutze, Carson. 2001. On Korean “Case Stacking”: The varied functions of the particles *ka* and *lul*. *The Linguistic Review* 18:193–232.
- Sells, Peter. 1995. Korean and Japanese morphology from a lexical perspective. *Linguistic Inquiry* 26: 277–325.
- Siddiqi, Daniel. 2006. Minimize Exponence: Economy effects on a model of the morphosyntactic component of the grammar. PhD thesis, University of Arizona.
- Siddiqi, Daniel. 2009. *Syntax within the word: Economy, allomorphy, and argument selection in Distributed Morphology*. Amsterdam: John Benjamins.
- Sohn, Ho-Min. 1980. Theme-prominence in Korean. *Korean Linguistics* 2: 2–19
- Svenonius, Peter. 2005. Two domains of causatives. Manuscript, University of Tromsø.
- Svenonius, Peter. 2012. Spanning. Manuscript, University of Tromsø.
- Toosarvandani, Maziar. 2013. Corrective but coordinates clauses not always but sometimes. *Natural Language and Linguistic Theory* 31:827–863.
- Ura, Hiroyuki. 1996. Multiple feature-checking: A theory of grammatical function splitting. PhD thesis, MIT.
- van Gelderen, Elly. 2008. The negative cycle. *Linguistic Typology* 12: 195–243.
- van Gelderen, Elly. 2013. The Linguistic Cycle and the Language Faculty. *Language and Linguistics Compass* 7: 233–250.
- Volpe, Mark. 2005. Japanese Morphology and its theoretical consequences: Derivational morphology in Distributed Morphology. PhD thesis, Stony Brook University.
- Winter, Yoad. 2001. *Flexibility principles in Boolean semantics*. Cambridge, Mass.: MIT Press.
- Yi, Eun-Young. 1994. NegP in Korean. In *Papers on negation (Cornell Working Papers in Linguistics 12)*, eds. Howard Grabois, David Parkinson, and Deborah Yeager, 193–208. Ithaca: Cornell University, CLC Publications.
- Yoon, Jong-Yurl. 1989. On the Multiple ‘ka’ and ‘lul’ constructions in Korean. In *Harvard Studies in Korean Linguistics III*, 383–394. Seoul: Hanshin.

- Yun, Gwanhi. 2004. Constraints on possessor raising and its structure in Korean. In *MIT Working Papers in Linguistics 46*: 406–421.
- Yun, Sung Kyu. 1993. Honorific Agreement. PhD thesis, University of Hawaii.
- Zubizarreta, Maria Luisa and Eunjeong Oh. 2007. *On the syntactic composition of manner and motion*. Cambridge, MA: MIT Press.