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3 A theoretical and experimental investigation of the morpho-syntax of an anti-honorific prefix in Korean

Abstract: We examine the morphology and syntax of the anti-honorific prefix *che-* in Korean. This morpheme is of interest for research on grammatical politeness, given the commonality of politeness-sensitive morphology, and the rarity of impolite morphology. This element is also of interest for research on Korean, which has many suffixes, but extremely few prefixes. We argue that this prefix *che-* is an anti-honorific, which expresses an irreverent attitude towards the subject of the verb. This is the opposite of the function of the Korean honorific suffix *-si*, which is well-known in linguistic research. Based on an online experiment with native Korean speakers which tested the possible orderings of *che-* relative to the few other Korean prefixes, we argue that *che-* occupies a syntactic position close to the verb. This is similar to what previous work on Korean argues about the honorific *-si*. Some such works argue that *-si* should be understood as the reflex of a morphological agreement relation between the verb and an honorific subject. Analogously, we argue that *che-* can be analyzed as manifesting morphological agreement with a non-honorific subject. We go on to discuss a few remaining details and puzzles about this under-studied morpheme.

Keywords: Korean, honorificity, prefixes, syntax, morphology

1 Introduction

In this paper, we examine an element in Korean verbal morphology which has an impolite or vulgar interpretation.¹ This is the prefix *che-*, which attaches to verbs, as exemplified in (1) below. This element conveys the speaker's lack of reverence or

¹ Unless otherwise specified, the Korean examples in this paper were prepared by Korean native speaker Hyewon Jang. We transliterate Korean using the Yale romanization system.

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politeness towards the subject of the clause that contains it, as we discuss in more detail below. While many languages, including Korean, have honorific markers which encode a respectful attitude towards some referent, the meaning of *che-* appears to be essentially the opposite of an honorific. Therefore we consider this prefix an “anti-honorific”, and gloss it as “AHON”:

(1) Korean anti-honorific prefix

Kyay emcheng che-mek-ess-e
 (s)he much AHON-eat-PST-DECL
 ‘(S)he ate a lot.’

As far as we know, there is no previous work in linguistics which examines this morpheme. This is not surprising, since the colloquial and potentially offensive nature of it likely excludes it from consideration as a topic suitable for formal research. This paper is an initial attempt to fill this gap, and in particular, to situate this element within theoretical work on the syntax and morphology of politeness. A number of questions will remain open for future research, however.

The existence of *che-* stands in contrast to the well-known fact that Korean has a variety of morphological strategies for expressing politeness/honorificity. These include, for example, the hearer-oriented honorific suffix *-yo*, which appears sentence-finally (2a), and the subject-oriented honorific suffix *-si* which is found close to the verb root (2b):

(2) Some Korean polite/honorific suffixes

a. Hearer-oriented honorific

Na-nun hakkyo-ey ka-yo
 I-TOP school- DAT go-HON
 ‘I go to school.’
 (Cho 2022: 113)

b. Subject-oriented honorific

Halape-nim-kkayse cinci-ul capswu-si-n-ta
 Grandfather-HON-NOM cooked.rice-ACC eat-HON-PRES-DECL
 ‘Grandfather eats cooked rice.’
 (Cho 2022: 106)

The subject anti-honorific *che-* is similar to *-si* in that it also attaches directly to the verb in the basic case, though their linear positions happen to be opposites: *-si* is a suffix, while *che-* is a prefix. They also both make a semantic contribution about the speaker’s attitude towards the subject, though in opposite ways. We do not claim

that there is any significance in the fact that the two are opposites in both their meaning and linear position, though we will argue for an analysis in which *che-* and *-si* arise from similar mechanisms. We describe the nature of the meaning of *che-* in more detail in Section 2 below.

1.1 Preview of methodology and analysis

A growing body of work has taken an interest in the syntax and morphology of elements expressing politeness/honorificity (see Miyagawa 2017, Choi and Harley 2019, Alok and Haccidan 2022, Wang 2023, and references therein). However, importantly, there is a lack of work on grammatical expressions of impoliteness (see Van Olmen et al., this volume, and Culpeper, Van Dorst and Gillings, this volume). As far as we know, the marking of impoliteness by dedicated verbal morphology is essentially undocumented in cross-linguistic research.² This impolite morpheme *che-* is worth investigating for this reason alone, but is also of interest to the study of Korean more generally, because of the fact that Korean has very few prefixes. Like its neighbor Japanese, Korean is a typical language of the “Subject-Object-Verb” variety. These are well-known to have an overwhelming preference for suffixation in their morphology.³ As we will discuss, in Korean verbal morphology there are only two previously known verb-selecting prefixes, *an-*, a plain negator, and *mos-*,

2 One case that may also represent impoliteness in verbal morphology occurs in Japanese. Japanese has a (hearer-oriented) polite auxiliary *-mas*, as is well-known (Miyagawa 2017, Yamada 2019), which appears between the verb and tense morphology (i). The same position can contain the auxiliary verb *-yagar(u)* (Kaiser et al. 2001), which encodes a sense of vulgarity and intensification (ii):

i. Japanese polite auxiliary

Sensei-ga *ki-mas-ita*
 teacher-NOM come-HON-PST
 ‘The teacher came’

ii. Japanese vulgar auxiliary

Hee - ano yaroo kekkoo shibutoku nari-yagat-ta na
 Well that guy quite tough become-AHON-PST PRT
 ‘Well, that guy’s gotten quite tough!’
 (adapted from Kaiser et al. 2001: 442)

Kaiser et al. (2001) describe such forms as “pejorative” and disrespectful. While we cannot say to what extent this element is analogous to the Korean *che-*, it is the closest parallel in another language that we are aware of.

3 Another common characteristic of such languages is *pro-drop*, which also occurs in Korean. Therefore in many of our Korean examples, there is no overt subject. We argue that the *che-* prefix

a negative modal (Chung 2007a, Chung 2007b). This third prefix *che-* thus provides a new angle from which to explore Korean morpho-syntax, and simultaneously, to investigate the grammatical expression of impoliteness.

To investigate these topics, we conducted an online experiment in which native Korean speakers judged constructed examples with different relative orders of the three prefixes *che-*, *an-*, and *mos-*. This experiment and its results are discussed in detail in Section 3 below. This experiment revealed a strong tendency for *che-* to appear closer to the verb than the other two prefixes. We use this result as a basis for analyzing the syntax and morphology of *che-*.

Following the analysis of Korean negative prefixes in (Chung 2007a/b), we argue that this experimental result indicates that *che-* occupies a position in the syntax of the clause that is near the verb, structurally intervening between it and functional material such as negation and tense. This proposal serves as a foundation for our theoretical analysis of *che-*. In this analysis, we adopt a theory of syntactic structure that is common in research on what is often termed “generative” or “minimalist” syntax. While this is not the only way one might approach the study of syntax, this will provide a concrete foundation for developing an explicit grammatical analysis of *che-*. We describe in detail the necessary components of the theory in Section 4 below. In summary, the central hypothesis of this syntactic theory is that words instantiate structural units, termed “phrases”, which are arranged in nested hierarchical structures that bind words together into complete sentences. For approachable introductions to this theory of syntax, see for instance Adger (2003) and Carnie (2021), and for a deeper foundational introduction, Chomsky (1995).

We use these syntactic concepts to develop a preliminary structural analysis of *che-*, based on which we then refine our proposal about how exactly this morpheme arises within the structure of the sentence. Many works on grammatical politeness, and Korean politeness in particular such as Choi and Harley (2019) and references therein, assume that politeness morphemes instantiate a grammatical feature [+HON(ORIFIC)]. We propose that there are also instances of this feature that are negatively valued, as [-HON]. We hypothesize that *che-* is the manifestation of such a grammatical feature, though for clarity we gloss this morpheme as [AHON] in our Korean example sentences.⁴ We propose an analysis of the arising of *che-* that

encodes a speaker's non-honorific attitude towards the subject of a clause, but due to *pro-drop*, that subject is not always expressed.

⁴ Wang (2023) argues that honorificity should not be analyzed as stemming from a specific grammatical feature like [HON], because honorificity has a cross-linguistic tendency to be expressed via semantically less-specified morphology, recruited from elsewhere in the grammar. While this is often true, for a language like Korean with clear honorific marking that is not related to any other part of the grammar, it is difficult to avoid positing a concrete grammatical feature like [HON], as

extends the analysis of the Korean subject honorific *-si* in Choi and Harley (2019). These authors argue that this honorific suffix, which we previewed in (2b) above, is the reflex of a morphological agreement relation between the verb, and a subject specified as [+HON]. We will argue that similarly, *che-* can be analyzed as the reflex of morphological agreement with a subject marked as [-HON]. However, we will see that there are differences in the distribution of *che-* and *-si*, which will require us to carefully define the morphological rule that triggers its appearance in the sentence.

1.2 Contents of the paper

In Section 2, we overview the behavior and meaning of *che-*. In Section 3, we describe our online experiment about the position of *che-* relative to the other prefixes in Korean. In Section 4, we introduce the basics of the syntactic theory we assume, and provide a preliminary analysis of the syntactic location of *che-*. In Section 5, we refine this analysis by considering in more detail the mechanisms that cause *che-* to arise in the sentence, extending the analysis of the Korean honorific *-si* in Choi and Harley (2019). In Section 6 we conclude, and mention two remaining puzzles about the distribution of *che-*.

2 Basic facts about *che-* and its meaning

We are aware of no previous linguistic work on *che-*, and very little descriptive documentation of it. The national institute of Korean language has an online dictionary containing an entry for the verb for ‘eat’ combined with *che-*, which it describes as a vulgar form.⁵ Since this morpheme is colloquial, and likely to cause offense, it is unsurprising that it has either been unnoticed or ignored by formal academic work. Therefore there is an opportunity to investigate this topic more closely.

As mentioned above, Korean grammar has a variety of ways of marking politeness/honorificity (Cho 2022), such as the subject-oriented honorific *-si* and hearer-directed politeness marker *-yo*. The proper use of such linguistic forms is essential in Korean, because Korean culture places great significance on displaying appropriate respect to individuals being spoken to or about, depending on their

we do here. See Choi and Harley (2019) for other work that explicitly depends on the presence of such a feature.

⁵ See https://stdict.korean.go.kr/search/searchView.do?word_no=533628&searchKeywordTo=3 (in Korean).

relative position within the culturally-determined social hierarchy. Not using the expected grammatical strategies for expressing politeness/honorificity is therefore interpreted as rude in Korean. While it is possible to communicate a lack of honorificity simply by not using honorific morphology that would otherwise be expected, we propose that *che-* constitutes an overt morphological expression of a lack of honorificity. For this reason, we have termed it “anti-honorific”. Specifically, this morpheme encodes a lack of honorificity with regard to the grammatical subject of a verb that carries it, which thus yields a sense of rudeness, crudeness, or vulgarity.⁶ This prefix can also be used with reference to the speaker, giving rise to a sense of self-deprecation. As a reviewer notes, this prefix can also convey a sense of intensity and/or sarcasm, though these properties do not seem distinct enough to classify them as separate functions, so we set them aside in this paper. Several additional examples demonstrating natural uses of anti-honorific *che-* are provided in (3):

(3) More examples of *che-*

- a. *Ya mwe hay, yaca sikan-ey kongpwu an-ha-ko*
 hey what do self.study time-LOC study NEG-do-and
che-ca-nya?
AHON-sleep-Q?
 ‘Hey, what are you doing? Are you not studying, but sleeping during self-study time?’
- b. *Taiethu ha-nta-mye mwe-l tto che-mek-e?*
 diet do-FUT-said what-ACC again **AHON**-eat-DECL
 ‘You said you were going to be on a diet, but what are you eating?’
- c. *Kyay-nun hakchangsicel-ey yenay-man che-ha-yss-nunteyto cikum*
 3SG-TOP studenthood-LOC dating-only **AHON**-do-PST-despite now
cal sal-a.
 well live-DECL
 ‘All s/he did when s/he was a student was date, but even so, s/he is doing well now.’

Example (2a) above showed that Korean also has an addressee-oriented honorific *-yo*. This can co-occur with *che-*. In these situations, the subject of the verb that carries *che-* is interpreted anti-honorifically, while at the same time, the presence of *-yo* indicates that the utterance is respectful with reference to the listener, as

⁶ Though the morpheme may not be interpreted as rude in casual conversations with socially close individuals, in which case considerations of social hierarchy are not relevant. This is the same context in which honorific/polite morphology is not used anyway, in languages like Korean and Japanese.

exemplified in (4) below. These examples are all appropriate in situations where one is speaking irreverently of the subject in question, while nevertheless being respectful towards a higher-status conversation partner:

(4) Co-occurrence of *che-* and *-yo*

- a. *Kyay-ka emcheng che-wul-myense na-hanthey*
 he/she-NOM lots AHON-cry-while me-DAT
sakwahay-ss-e-yo.
 apologize-PST-DECL-HON.
 ‘(S)he cried a lot while apologizing to me.’
- b. *Ton-ul kulehkey che-ssuteni mang-hay-ss-napwa-yo.*
 money-ACC like.that AHON-use get.screwed-do-PST-seem-HON.
 ‘(S)he got screwed due to using money like that.’

These examples are bi-clausal sentences in which *che-* and *-yo* occur on separate verbs, though the final *-yo* attached to the main verb takes scope over the entire utterance, adding hearer-oriented politeness to the entire sentence. Since the subject of the verb marked with *che-* and the hearer of the utterance are different individuals in these examples, there is no conflict between the politeness of *-yo* and the anti-honorificity of *che-*. This fact is important, because it makes clear that *che-* specifically encodes an anti-honorific attitude towards the subject, rather than adding a general sense of disrespectfulness to the entire utterance. Given that the irreverence conveyed by *che-* is specifically directed towards the subject, it is descriptively convenient to view it as the opposite of the subject-oriented honorific *-si* that we have already previewed above, shown once more in (5):

(5) Subject honorific suffix *-si*

- Pwucang-nim ecey swul manh-i tu-si-ess-e*
 boss/manager-HON yesterday alcohol much-ADV drink-HON-PST-DECL
 ‘My boss drank a lot yesterday.’

In order to be more precise about the meaning of *che-*, we turn to Culpeper (2011), who provides extensive discussion about what impoliteness is, and how it is manifested (see also Van Olmen et al., this volume). As Culpeper (2011: 20) overviews, there are numerous proposals about what exactly constitutes impoliteness. As he describes, a significant number of definitions involve one’s “face”, that is one’s self-image, reputation, or social identity, being aggravated or attacked. When an individual perceives their “face” to be intentionally under attack by a given communicative act, it is regarded as impolite. Culpeper (2011: 23) further qualifies that

impoliteness most fundamentally arises from the perception of a negative attitude, the details and intensity of which are mediated by contextual factors and social expectations. It is clear that the meaning of *che-* falls within these general descriptions. Under our proposal, *che-* encodes that the speaker is intentionally communicating a lack of honorificity towards the subject in question. In the context of Korean culture, for which one's place in the social hierarchy is an important consideration, this clearly constitutes an instance of face-attacking linguistic behavior. Unsurprisingly, the use of *che-* is highly likely to be interpreted as involving a negative attitude towards the subject, since if the subject were viewed positively, there is no reason why the expected degree of linguistic politeness would not have been used instead.

The meaning of *che-* thus encodes information about the speaker's irreverent attitude towards the subject. However, this meaning does not obviously encode at-issue descriptive information about the situation in question. As Kroeger (2022: 192) overviews, this is the case for honorifics in general, as well as a variety of other linguistic phenomena which appear to fundamentally be supplemental to, and thus logically separate from, the truth-conditional meaning of a sentence. Kroeger (2022) follows Gutzmann (2015) in referring to such meanings as *use-conditional*. As Kroeger (2022: 195) summarizes, use-conditional meanings have properties in common with presuppositions, but are distinct from them to an extent that deserves a separate classification (Potts 2005, Gutzmann 2015). Not being presuppositional, use-conditional meanings must presumably be learned as inherent to particular words/constructions (Kroeger 2022: 195; see also Van Olmen et al, this volume, and Mattiello, this volume). Thus, in summary, we can regard *che-* as a morpheme whose inherent semantics contains the use-conditional meaning that the speaker has an irreverent, "face-attacking" attitude towards the subject of the verb. In the remainder of this paper, we will consider in detail where exactly in the sentence structure *che-* arises, and why.

3 An experimental investigation of the distribution of *che-*

To investigate the possible positions for *che-*, we collected data using an online experiment through the participant recruitment platform Prolific (<https://www.prolific.co/>). This service allows researchers to set up experiments and solicit online participation of registered users, depending on the experiment's specified target audience. Our experiment was constructed for native Korean speakers, 16 of which completed it. The mean age of the participants was 34, and 13 of the 16 were female,

with the remaining 3 being male. The majority of the participants, 14 of 16, were born in Korea, while one was born in the United States, and one in Canada.

This experiment tested the possible positions for *che-* when combined with the other two verb-selecting prefixes in Korean: the negator *an-* and the negative ability modal *mos-*, each exemplified in isolation below.⁷

(6) Plain negative prefix⁸

Na-nun amuto an(i)-manna-ss-ta

I-TOP anyone NEG-meet-PST-DECL

‘I didn’t meet anyone.’

(7) Negative modal prefix

Na-nun amuto mos-manna-ss-ta

I-TOP anyone NEG.MOD-meet-PST-DECL

‘I couldn’t meet anyone.’

(adapted from Chung 2007b: 106)

The experiment gathered data on this by showing speakers context-setting examples with potential response examples that use some combination of prefixes, and asking participants to judge how acceptable a response would be, given the specified context. Judgments were solicited using a four point scale (1=worst, 4=best), which we later simplified by counting scores of 1 or 2 as negative judgments, and 3 to 4 as positive judgments. An example of a context-response pair that participants were asked to judge is provided in (8) below. In the original experiment, both the context and response were provided purely in Korean orthography, though we show transcribed glosses with translations here for the convenience of the reader.

7 Korean also has several other negative prefixes, historically borrowed from Chinese:

(i) a. **pul**-kanungha

‘impossible’

b. **pi**-kyoywukcek-i

‘uneducational’

(Chung 2007: 99)

Chung (2007b) argues that these prefixes are lexical phenomena that lack the productivity of the negators *an-* and *mos-*, which in contrast Chung argues represent actual syntactic positions in the clausal structure of Korean, as we assume in this paper.

8 In this example we see that the negative prefix can be realized as *an-* or *ani-*. As Chung (2007b: 1, footnote 1) describes, the former version is colloquial, while the latter is formal, and archaic for some speakers.

- (8) Context *Ne nac-tongan naynay phe ca-ss-ci?*
 you afternoon-during throughout PRT sleep-PST-Q?
 You slept through the whole afternoon, didn't you?
- Response *An-che-ca-ss-ketun!*
 NEG-AHON-sleep-PST-PRT
 No I did not!

The experiment tested all logical possibilities for combinations of the three prefixes, which are the following twelve: *an+mos*, *mos+an*, *an+che*, *che+an*, *mos+che*, *che+mos*, *an+mos+che*, *an+che+mos*, *mos+an+che*, *mos+che+an*, *che+an+mos*, *che+mos+an*. Each morpheme combination was presented in two sentences using intransitive verbs (“sleep”, “run”), and two using transitive verbs (“eat”, “use”). The 16 participants were evenly split into four groups, and the four participants of each group judged 16 sentences each, which differed for each group. The sentences were presented in randomized order. We focused our experiment on the combinations *an+che*, *che+an*, *mos+che*, and *che+mos*, which are the most important for our analysis. Each participant judged two sentences for each of these four combinations, and one sentence for each of the remaining 8 combinations. Those remaining 8 consist of examples that either use just *an-* and *mos-*, which are less relevant for our study due to not containing *che-*, or combinations of all three prefixes. Examples with three prefixes are difficult to judge, and receive low acceptability ratings in any case, so we did not emphasize these in the experiment. The result of this experimental design is that for the most important four combinations, we have a total of 32 judgments for each, whereas for the remaining combinations we have a total of 16 judgments. Ultimately, every participant did judge examples of all 12 types.⁹

The results are as follows. The majority of speakers, specifically 75%, accepted the order *an-che-*, while 59% accepted *mos-che-*, exemplified respectively in (9) and (10) below. Many speakers accepted both, since these are not complementary percentages, given that all participants judged all example types.

- (9) Negative prefix preceding *che-*
 Ttekpokki an-che-mek-ess-tako
 rice.cake NEG-AHON-eat-PST-EMPH
 ‘(I) couldn’t eat the rice cakes.’

⁹ The full set of survey examples and the resulting judgments are documented here: https://docs.google.com/document/d/1zSqfsl6BRSSStQYwPN_PVXCHolaN4xBjhS-eXus9syjs/edit?tab=t.0

(10) Negative modal prefix preceding *che-*

Ne onul elkwul-i way ilay? Ecey cam
 you today face-NOM why be.like? yesterday sleep
mos-che-ca-ss-nya?

NEG.MOD-AHON-sleep-PST-Q?

‘What’s wrong with your face today? Could you not sleep last night?’

Two orders that were not widely accepted were *che-an-*, which scored 31%, and *che-mos-*, which received a mere 13% acceptance. While the 13% for *che-mos-* is small enough to be potentially negligible, the 31% for *che-an-* appears more substantial. We comment on this in Section 6.1 below, after the main analysis is complete.

The judgments for combinations of negative prefixes are as follows. The order *mos-an-* received minimal acceptance (6%), while *an-mos-* is much more acceptable (38%), though clearly still degraded, likely due to the processing difficulty of double negation.

(11) Combining negative prefixes requires the order *an-mos-*

Ttekpokki an-mos-mek-ess-tako

Rice.cakes **NEG-NEG.MOD**-eat-PST-DECL-EMPH

‘I wasn’t unable to eat the rice cakes’

The only ordering of all three prefixes with any notable acceptability was *an-mos-che-* (13%), which is what we would expect given the preferability of the pairs *an-che-*, *mos-che-*, and *an-mos-*. However, a triple prefix verb may be too unusual or complex to receive high acceptability.

(12) Both negative prefixes combined with *che-*

Ttekpokki an-mos-che-mek-ess-tako

Rice.cakes **NEG-NEG.MOD-AHON**-eat-PST-EMPH

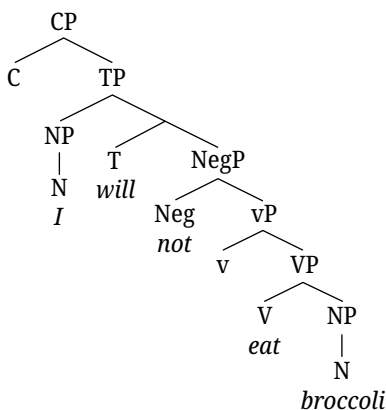
‘I wasn’t unable to eat the rice cakes’

In what follows, we focus on the most-accepted orders *an-che-* and *mos-che-*, which we use as the basis for our syntactic and morphological analysis of *che-*. We argue that the high acceptability of these prefix orders indicates that *che-* occupies a low syntactic position close to the verb. We make this argument with a preliminary syntactic analysis in Section 4, which we refine in Section 5, extending proposals from work on the morphology of Korean honorifics in Choi and Harley (2019).

4 A preliminary syntactic analysis of the position of *che-*

Here we provide a preliminary analysis of the syntactic position of *che-*. In order to do this, it is now necessary to be specific about the syntactic assumptions that we adopt. As mentioned above, we use a theory common in research on what is often termed “generative” or “minimalist” syntax, which will provide a concrete foundation for developing an explicit analysis of *che-*. A central hypothesis of this syntactic theory is that every word, and even most morphemes, instantiate a structural unit. These units are termed “phrases”. Each phrase has a word or morpheme that determines its grammatical category, which is termed the “head” of the phrase. Phrases are combined in a hierarchical structure, which binds them together into a complete sentence. We see an exemplifying syntactic diagram for an English sentence in (13) below. This example contains all phrasal types that will be required for the analysis. Notice that the word that acts as the head of the phrase bears an appropriate category label, and that category is passed up to the label that marks the top of the phrase. Thus a word which is a noun is marked “N”, short for “noun”, and this category is inherited by the label of its phrase, which in this case is NP for “noun phrase”. The core phrases here are the noun phrase (NP), verb phrase (VP), and tense phrase (TP). We also take negative sentences to contain a negation phrase (NegP), which is included in this diagram as well. These phrases are hierarchically arranged in such a way that the words that they contain have the correct left-to-right order.

(13) A structure for an English clause



Note that in this diagram, the subject NP is attached in the TP, and the object NP sits in the VP. This is a typical way of diagramming these constituents, which we will carry over to Korean, though this is not vital for the analysis of *che-*.

Two phrases in this diagram do not contain any word. Right above the VP, there is a phrase commonly termed the “little verb phrase”, or “vP”. This is phrase headed by a functional element, “little v”, which is widely argued to sit above the VP and perform an array of important grammatical functions that relate to the verb. Though this element is often not expressed by a dedicated word/morpheme, the existence of such a syntactic position is widely argued for, though the way it is labeled in syntactic analyses varies (Larson 1988, Hale and Keyser 1993, Chomsky 1995, Kratzer 1996, Harley and Noyer 2000). This position in the sentence structure will be important in Section 5 below. The exemplifying diagram in (13) above also contains a phrase “CP” which stands for “complementizer phrase”. This phrase contains no word in basic main clauses, but would be filled by the complementizer word “that” if this clause were a subordinate one. This phrase serves many syntactic functions, and will become relevant as our analysis of Korean progresses.

We now return to the analysis of Korean, building on the syntactic concepts just discussed. Based on the distributional data gathered in our experiment, here we provide a preliminary analysis of the syntactic position of *che-*, framing it in context with the rest of the Korean verbal complex. We base our syntactic analysis on Chung (2007a,b), who provides an analysis of Korean clause structure, including the negative prefixes we have seen in the previous section. Chung (2007a,b) argues that these negative prefixes in Korean head a Neg(ation)P which is structurally directly below TP, analogous to the position of negation in English, as the diagram in (13) above showed. Chung (2007b: 114) adopts a clause structure for Korean that is fundamentally very similar to the English clause structure shown above, though with several modifications. First, while heads of phrases in a language like English lean leftward, in languages like Korean, heads lean rightward. For this reason, languages like English are often referred to as “head-initial”, and languages like Korean as “head-final”. It is also necessary to account for the fact that in Korean, the verb and other functional elements in the clause are combined into one word, as demonstrated once more in example (14):

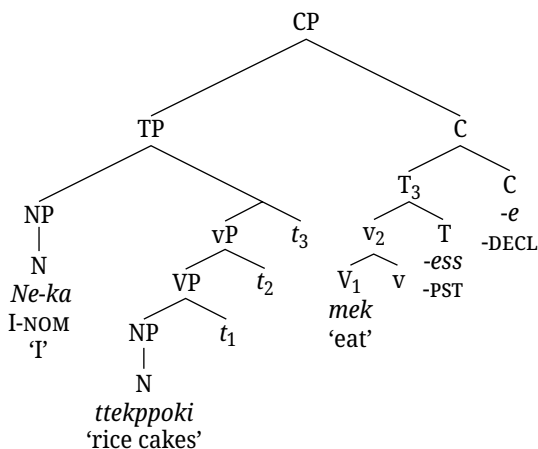
(14) A basic Korean sentence

Ne-ka ttekpokki mek-ess-e
 I-NOM rice.cakes eat-PST-DECL
 ‘I ate the rice cakes’

Chung (2007a–b) posits that all functional heads in the Korean clause are united into one word by movement. The movement of an element from one place to another is

a common theme in syntactic research, including movement of both phrases, and in certain situations, only the heads of phrases. Furthermore, much work argues that when two or more heads move together to form a single unit, the morphemes that express them form a single word (see for instance Embick 2010, Arregi and Nevins 2012, Bobaljik 2012). For Korean, Chung (2007a–b) argues that all functional heads in the clause move together to the C head, forming a single word in that position. This is demonstrated in the diagram in (15) below,¹⁰ which represents the Korean example just shown in (14) above. Since head movement occurs in a maximally local fashion (Travis 1984), this must be an incremental process, whereby V moves to little v, little v moves to T, and T moves to C. This process carries V and all intervening functional heads into C, uniting them into a single constituent, as (15) shows:

- (15) Diagram for example (14) above: Heads united into one word by movement¹¹



Since Korean is a head-final language (with the exception of the prefixes, which we address below), this movement process shifts the main verb rightward, along with all other functional heads between it and C. Note that when one head moves to

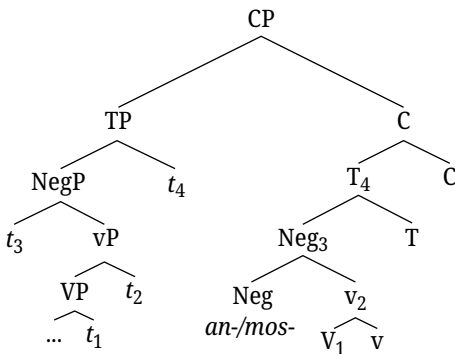
¹⁰ Here “t” is short for “trace”, which is a standard way of marking a position where a moved element used to be. The moved element, and the trace filling its previous position, are labeled with matching numerical indices so that the path of movement is unambiguously encoded.

¹¹ Korean has many sentence-final morphemes/particles that encode information about clause type, as well as various pragmatic effects. Here we have the informal declarative suffix *-e*, and many other examples will include the more formal (“dictionary”) declarative suffix *-ta*. Following the analysis of such morphemes in Choi and Harley (2019), we diagram them as occupying the C head.

another to form a complex head-unit, the category label of the head that was moved into is inherited by the new unit formed by that movement. This is why, in the diagram above, the labels for v, T, and C are duplicated. This is common in syntactic diagrams for a variety of reasons, but in this paper, it is necessary only to focus on the non-branching positions in the head complex, where words/morphemes attach.

This basic analysis of Korean clause structure makes it possible to discuss more precisely the nature of Korean prefixes. In Korean orthography, the negative prefixes *an-* and *mos-* are separated from the verb by a space (though *che-* is not). Contrary to what this orthographic convention implies, Chung (2007a–b) argues using facts about semantic scope and morphology that these prefixes are in fact structurally incorporated with the verb. Specifically, he argues that the head of NegP, where these prefixes are attached, also participates in the head movement process that derives the agglutinative Korean verbal complex, combining these heads into the single constituent which represents one complex morphological word. Chung (2007a,b) argues that these negative elements are prefixes rather than suffixes, unlike most morphemes in Korean, because the Neg head that represents them leans leftward, rather than rightward. Thus, following Chung (2007a,b), we consider *an-* and *mos-* to be morphemes attached at the head of NegP, which exceptionally leans to the left, as diagrammed in the schema in (16) below:¹²

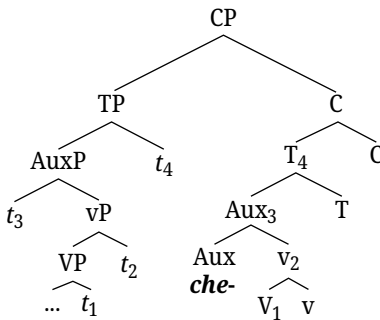
(16) Schema for a Korean verb with a negative prefix



¹² Considering *an-* and *mos-* to be instantiations of the same phrase NegP is likely an oversimplification, since as mentioned in Section 3, the two can co-occur. This is not surprising, since they are semantically different: *an-* is plain negation, while *mos-* expresses negative (ability) modality. Therefore it is possible that *an-* heads a NegP, while *mos-* occupies a higher functional position relating to modality. This possibility does not have any important relation to our main analysis, so we will proceed by simply considering *an-* and *mos-* to represent different versions of a single phrase NegP.

This form of analysis can also be extended to *che-*. Preliminarily, we propose that *che-* is the head of a phrase that is above vP, which leans left, thus making *che-* a prefix in the surface order. We thus temporarily diagram *che-* as the head of an Aux(iliary)P, but we will refine this analysis and eliminate AuxP in the next section. Tentatively using this AuxP for convenience, and following the analysis of Chung (2007a–b) for Korean negative prefixes, we assume that the Aux which *che-* expresses is carried along into C by head movement of V, and that this head leans leftward just as negative prefixes do. This preliminary analysis is shown in the schema in (17) below:

(17) Structure for a verb with *che-*



In the previous section, we saw that *che-* most productively appears between the verb and any instance of *an-* or *mos-*, when present, as demonstrated again in (18)–(19):

(18) Negative prefix preceding *che-*

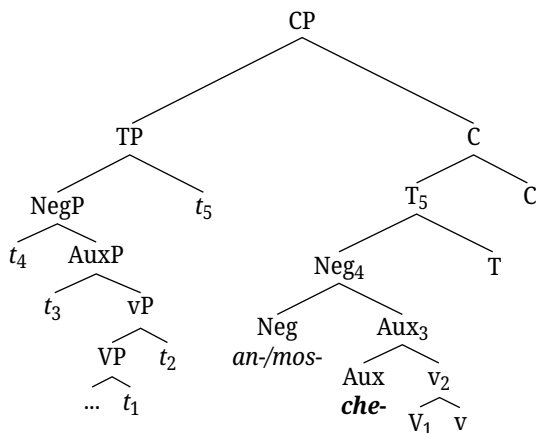
Ttekpokki an-che-mek-ess-tako
 rice.cake NEG-AHON-eat-PST-EMPH
 ‘(I) didn’t eat the rice cakes.’

(19) Negative modal prefix preceding *che-*

Ne onul elkwul-i way ilay? Ecey cam
 you today face-NOM why be.like? yesterday sleep
mos-che-ca-ss-nya?
 NEG.MOD-AHON-sleep-PST-Q?
 ‘What’s wrong with your face today? Could you not sleep last night?’

If *an-* and *mos-* represent NegP, the fact that these prefixes must precede *che-* is an automatic prediction of our hypothesis that *che-* sits in a syntactic position directly above vP. This is demonstrated in the schema in (20), which combines the negative prefixes with *che-*:

(20) Korean verbal complex including negative prefix and *che-*



This structural analysis matches the facts. We refine this analysis in the next section, in which we eliminate AuxP in order to account for the presence of *che-* in a way that better fits with previous research on Korean morpho-syntax.

Before turning to the next section, we address an alternative hypothesis that *che-* might be an adverb, rather than the head of a syntactic phrase. The default position for adverbs in Korean is preceding the verb, either preceding or following an object if present:

(21) Some adverb positions in Korean

a. Adverb Object Verb

Kuphakey susi-lul mek-ess-e
quickly sushi-ACC eat-PST-DECL
 ‘(I/(s)he. . .) quickly ate sushi’

b. Object Adverb Verb

Susi-lul **kuphakey** mek-ess-e
 sushi-ACC **quickly** eat-PST-DECL
 ‘(I/(s)he. . .) quickly ate sushi’

Therefore adverbs and *che-* are superficially similar in that they precede the verb. However, *che-* and adverbs do not have the exact same distribution. While it is possible for an adverb to precede the object as in (21a), this order is impossible for *che-*, as (22a) below shows. The only possibility is for *che-* to be adjacent to the verb, as in (22b):

(22) *Che-* does not pattern like an adverb

- a. **Che susi-lul mek-ess-e*
 AHON sushi-ACC eat-PST-DECL
 ‘(I/(s)he. . .) ate sushi’
- b. *Susi-lul che-mek-ess-e*
 sushi-ACC **AHON**-eat-PST-DECL
 ‘(I/(s)he. . .) ate sushi’

These facts are consistent with the hypothesis that *che-* is indeed a prefix of the verb, rather than an adverbial phrase.

5 Refining the analysis: On *che-* versus *-si* and (anti)honorificity as agreement

Above, we have proposed that *che-* heads a phrase directly above the vP and below NegP. The subject honorific *-si* appears to have a similar hierarchical position, though this morpheme is a suffix rather than a prefix. This becomes evident by using another strategy for negation in Korean, which involves post-verbal negation of the form *V-ci an-hay*. Here there is the converbial marker *-ci* suffixed to the verb, followed by a supporting verb *hay* (‘do’), to which the negative prefix attaches.¹³ (Note that the Korean ‘do’ alternates between *hay* and *ha* for morpho-phonological reasons.) Importantly, when *-si* is present in such a structure, it is common for it to attach directly to the verb, preceding any of the morphemes involved in this negation strategy. We discuss the properties of this construction further later in this section, but as a preliminary analysis, it is consistent with the facts to posit that *-si* is hosted by a phrase right above the vP. For convenience we can label this AuxP as we did for *che-*, as illustrated in (23) below, which shows such an example sentence along with a corresponding syntactic diagram:

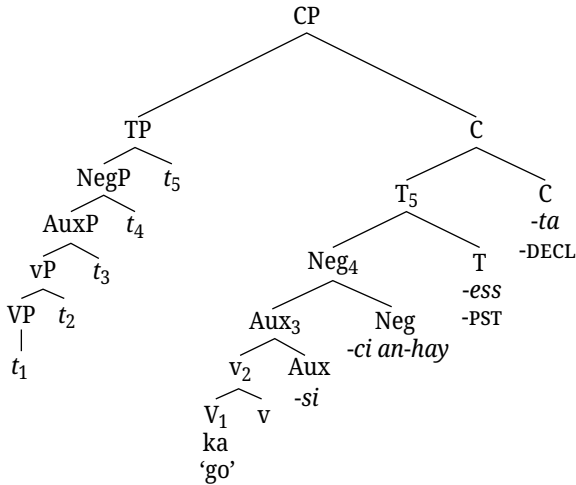
¹³ In colloquial speech, *V-ci an-hay* is contracted to *V-ci anh-*. See further Chung (2007b: 97, footnote 1).

(23) Honorific suffix structurally beneath negation

- a. *Halapeci-kkeyse ka-si-ci an(i)-hay-ess-ta.*
 grandfather-NOM.HON go-HON-CVB NEG-do-PST-DECL
 ‘Grandfather didn’t go.’

(Choi and Harley 2019: 1333)

b.



Thus both *che-* and *-si* appear to be structurally below negation. However, there is a complication in the distribution of *-si* which shows that these morphemes cannot be considered totally structurally analogous.

This becomes evident by further investigating the negative construction we just introduced. While in this configuration *-si* can indeed appear directly next to the verb as in the above example, there are two other options (Yi 1994). The honorific suffix can instead attach to the support verb *hay* ‘do’ as in (24a) below, or to both the main verb and the extra supporting ‘do’ verb at the same time, as in (24b) below:

(24) More options for the honorific suffix with negation

- a. Honorific on supporting verb

Halapeci-kkeyse ka-ci an(i)-ha-si-ess-ta.
 grandfather-NOM.HON go-CVB NEG-do-HON-PST-DECL
 ‘Grandfather didn’t go.’

(Choi and Harley 2019: 1333)

- b. Honorific on main verb and support verb

Halapeci-kkeyse ka-si-ci an(i)-ha-si-ess-ta.
 Grandfather-NOM.HON go-HON-CVB NEG-do-HON-PST-DECL
 ‘Grandfather didn’t go.’

(Choi and Harley 2019: 1333)

We will show that the distribution of *che-* is more restricted than this. Before discussing *che-* in further detail, though, next we summarize the analysis from Choi and Harley (2019) for the facts about *-si*, which we will extend to account for *che-*.

In brief, Choi and Harley (2019) argue that *-si* is not hosted by a dedicated syntactic position in the clause (such as the AuxP we invoked for convenience above), but rather is inserted by the morphology through what is essentially an agreement relation, between an honorifically-interpreted subject and little *v*. We will argue for a similar proposal for *che-*, thus eliminating the AuxP from the analysis, and instead appealing to a morphological mechanism.

5.1 The morphological process that yields *-si*

Choi and Harley (2019) build on previous works arguing that *-si* is syntactically-sensitive. In particular, they take it to fundamentally be an agreement marker.¹⁴ Instead of being a morpheme that encodes the presence of a subject with certain case/number/gender features, which are frequently found in Indo-European languages, they take this to be a morpheme that registers the presence of a subject bearing the feature [+HON]. Choi and Harley (2019) frame this analysis within the Distributed Morphology theory (Halle and Marantz 1993), which argues that morphology is only determined after the syntactic component of grammar has finished completing the structure of the sentence. The details of this theory are not vital for the present analysis of *che-*. However, the reason why Distributed Morphology is relevant for Choi and Harley (2019) is because this theory allows the morphological part of the grammar to augment a syntactic structure, in certain limited ways, when required for morphological well-formedness (see Harley and Noyer 1999 for an overview). Importantly, Choi and Harley (2019) hypothesize a mechanism of this sort for Korean which they term “HON-sprouting”, defined in (25) below, which they argue is responsible for the arising of *-si*:

- (25) [HON] sprouting rule for *-si*¹⁵
 $v \rightarrow [v \text{ Hon}] / [\text{NP}_{[+HON]} \dots [\dots __ \dots]]$
 (Choi and Harley 2019: 1336)

The format of this rule is that on the left side of the slash (“/”), it defines the operation that is triggered, while on the right side of the slash, it states the grammatical context

¹⁴ For arguments about politeness marking as agreement, see Miyagawa (2017).

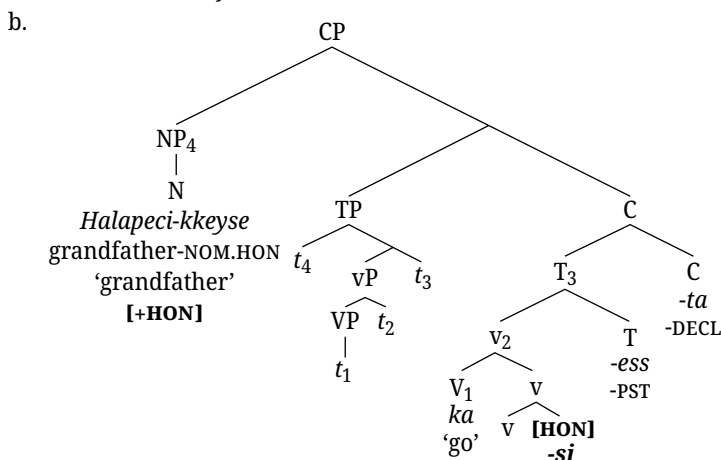
¹⁵ Choi and Harley (2019: 1334, footnote 15) argue that this rule must indeed apply to *v* and not *V*, since the honorific marker is separated from *V* by material that overtly expresses *v*, such as causative morphology, when present.

in which that operation occurs, with the blank space (“_”) marking the position that the affected element must be in. Specifically, then, what this rule defines is that a [HON] feature must be attached to the right of the little *v* head ($v \rightarrow [v \text{ Hon}]$) when it is in a syntactic position below an NP that itself bears a [+HON] feature (/ [NP_[+HON] . . . [. . . _ . . .]]). The [+HON] feature on the NP is the only meaningful one, since it is the NP in question that is understood to be honorific, while the [HON] inserted in little *v* is essentially agreement, with no semantic contribution. This extra [HON] does have a morphological effect, however, in that it is expressed as *-si*, as Choi and Harley (2019) argue.

In basic positive sentences, this morphological rule applies once, after all heads move together to C in the syntax, as exemplified in (26) below. For theory-internal reasons Choi and Harley (2019) must assume that the subject moves into the CP from the usual subject position in TP, as shown here. We assume this as well for consistency with Choi and Harley (2019), though it is not vital for the present analysis. Note that in this diagram, Choi and Harley (2019) must add another layer within the little *v* head, in order to explicitly diagram the insertion of [HON] in it:

(26) Morphological sprouting of HON in a basic positive sentence¹⁶

- a. *Halapeci-kkeyse* *cip-ey* *ka-si-ess-ta*.
 grandfather-NOM.HON home-DAT go-HON-PST-DECL
 ‘Grandfather went home.’
 (Choi and Harley ex. 6a)



(Adapted from Choi and Harley 2019: 1337)

¹⁶ Choi and Harley (2019) adopt a hypothesis common in work using Distributed Morphology: that lexical heads like V, N, and so on, in fact originate as un-categorized roots, notated as “*v*”, which gain their category when merged with a separate category-defining head. In this context, a given

This process also applies in negative sentences. We have seen two strategies for verbal negation in Korean: the prefixation of *an-* to the main verb as in (6) above, and the use of a more complex construction containing a support verb meaning ‘do’ to which *an-* prefixes instead, as in (23) above. In examples of the latter type, importantly, *-si* can in fact suffix to either the main verb, the supporting “do”, or both, as (23)–(24) above demonstrated. Choi and Harley (2019) argue that this is possible because the supporting *hay* (‘do’) in such constructions is an extra instance of little *v*, to which the morphological rule in (25) above can also apply.

Before demonstrating the implementation of this analysis, we must discuss why this extra “do” appears. In English, there are a variety of situations, including the use of negation, that motivate the insertion of a supporting “do” in certain tenses:

(27) English ‘do’-support

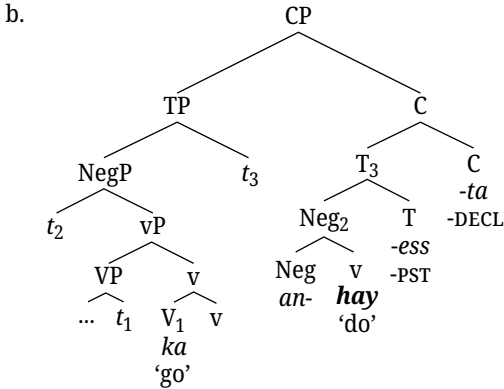
- a. *The cat likes meat.*
- b. *The cat **does not** like meat.*

Choi and Harley (2019) follow the analysis of this phenomenon in Bobaljik (1994), who argues that when *T* is not sufficiently local to a *V* that can realize its morphology, it is supported by an extra instance of *v*, which is realized as “do”. One of the elements that can disrupt locality between *T* and *V* in English is negation, motivating “do”-support as in (27) above. Choi and Harley (2019) adopt the same general idea for Korean. Specifically, they argue that in Korean “do”-support constructions with negation, *V* moves to little *v*, but little *v* cannot move onward to *Neg*. Rather, *Neg* moves alone to *T* and *C*. In this case, *V* and *v* do not reach *C*. However, the negative prefix *an-*, which expresses the *Neg* head, nevertheless requires a verbal element to support it. For this reason, an additional instance of *hay* (“do”) is inserted by the morphological component of the grammar. This “do” is taken to be an instance of *v*, as mentioned. This fits with the fact that it does not carry the semantics of a fully fledged lexical verb, though it is nevertheless grammatically verbal. Such an example is illustrated below in (28a), and the corresponding structure for its verbal morphological complex is shown in (28b). Choi and Harley (2019) remain neutral about the exact identity of the converbial marker *-ci* that appears in these constructions, and therefore omit it from their diagrams. We will do the same.

root functions as a *V* when selected by *v*. The hypothesis of category-neutral lexical roots is not relevant to the topics we discuss in this paper, so for simplicity, we replace all instances of “√” from Choi and Harley (2019) with *V*.

(28) Do-support with negation in Korean

- a. *Inho-ka ka-ci an(i)-hay-ess-ta.*
 Inho-NOM go-CVB NEG-do-PST-DECL
 'Inho didn't go'



(Adapted from Choi and Harley 2019: 1332)

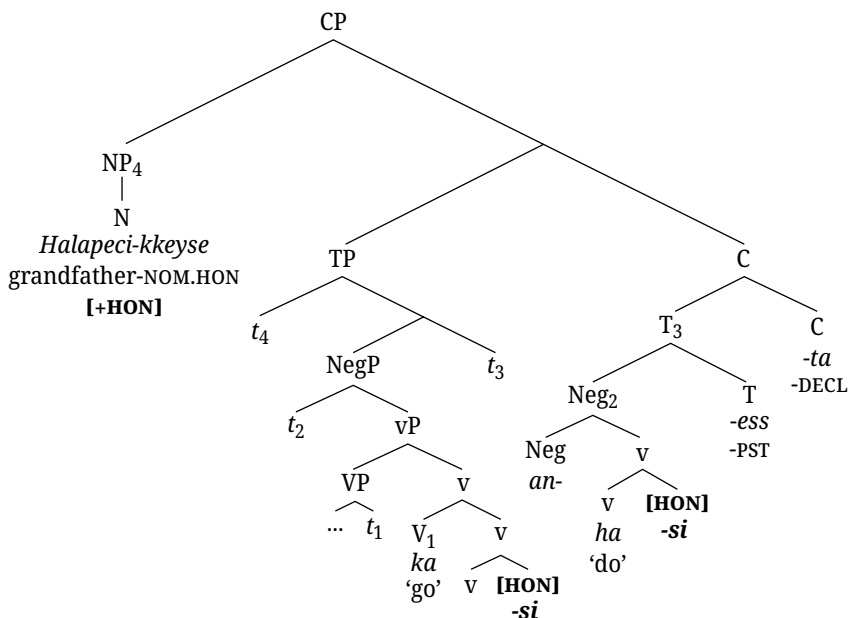
Notice that under this analysis, these negation constructions contain two instances of *v*: one that originates directly above the actual main verb, and another introduced by “do”-support at Neg. Therefore there are two positions where the [HON]-sprouting rule defined in (25) above can apply. In (29) below we diagram situations where [HON]-sprouting applies at both instances of *v*, as example (24b) above demonstrated. It is also permitted for this rule to apply at only one of them, as in examples like (23a) and (24a) above.¹⁷ Importantly, Choi and Harley (2019) argue that the possibility of having multiple simultaneous instances of *-si* indicates that this morpheme should not be analyzed as expressing a specific syntactic head in Korean, but is better understood as the result of a morphological rule. Such a rule can indeed be triggered more than once if a structure contains multiple positions in which the rule is applicable. This analysis is illustrated for an example with two instances of *-si* in (29) below:

(29) Honorific -si on main verb and support verb

- a. *Halapeci-kkeyse ka-si-ci an(i)-ha-si-ess-ta.*
 Grandfather-NOM.HON go-HON-CVB NEG-do-HON-PST-DECL
 'Grandfather didn't go.'
 (Choi and Harley 2019: 1333)

¹⁷ See Choi and Harley (2019: 1340) for discussion about the optionality in this pattern.

b.



5.2 An analogous analysis for *che-*

We argue that *che-* can be understood as arising from a mechanism very similar to what Choi and Harley (2019) posit for *-si*. We thus dispense with the preliminary convenience of diagramming *che-* as the head of an AuxP that sits above vP, and instead argue that this morpheme can be understood as arising from, in essence, an agreement operation achieved in morphology.

There is an additional relevant fact about *che-* which we have not mentioned. We have seen that in negative constructions in Korean that use “do”-support, *-si* can be inserted at either the v above the main verb, or at the v that instantiates the supporting “do”. If *-si* and *che-* were fully analogous, we would expect *che-* to also be able to be inserted at either of these positions. This is not the case. It appears that *che-* can only prefix to the main verb, as (30a) below shows, and not to a negation-supporting “do” (30b), or to both of them simultaneously (30c):

(30) *Che-* only appears on the main verb¹⁸a. Prefixation to main verb¹⁹

Manhi che-mek-ci an(i)-hay-ss-e

a.lot AHON-eat-CVB NEG-do-PST-DECL

‘(I/(s)he/etc.) did not eat a lot’ [Same translation for the following two examples]

b. No prefixation to the supporting “do”²⁰

**Manhi mek-ci an-che-hay-ss-e*

a.lot eat-CVB NEG-AHON-do-PST-DECL

c. No prefixation to both

**Manhi che-mek-ci an-che-hay-ss-e.*

a.lot AHON-eat-CVB NEG-AHON-do-PST-DECL

To capture the more restricted distribution of *che-*, we argue that it arises from a morphological rule slightly different from that for *-si-*, defined in (31) below. While the rule in (25) above posited by Choi and Harley (2019) inserts a feature [HON] which is expressed by *-si-*, the rule in (31) below instead inserts a negatively valued honorific feature, namely [-HON], which we argue is expressed by *che-*. Furthermore, to capture the restricted distribution of *che-*, we hypothesize that this rule only applies to the main V, not little v. Since *che-* is a prefix rather than a suffix, we also define the added feature as being attached to the left of V, as (31) shows. In summary, this rule has the same format as the one in (25) above, but this additional rule for *che-* is defined to add a [-HON] feature on the left side of V ($V \rightarrow [-\text{Hon } V]$) when V is structurally beneath an anti-honorifically construed NP ($[\text{NP}_{[-\text{HON}]} \dots [\dots _ \dots]]$).

(31) [-HON] sprouting rule for *che-*

$V \rightarrow [-\text{Hon } V] / [\text{NP}_{[-\text{HON}]} \dots [\dots _ \dots]]$

Since this rule only applies to V, it does not predict the possibility of inserting multiple instances of *che-* in negative constructions with “do”-support. Following Choi

18 These judgments are provided by native speaker Hyewon Jang.

19 This example is most natural if it undergoes the phonological simplification mentioned in footnote 13 above, which would result in the string *Manh-i che-mek-ci anh-ass-e*.

20 In Section 2, we mentioned that the prefix order *che-an-* had marginal acceptability. For exhaustiveness, we show that using this order does not improve an example like (30b):

i. **Manhi mek-ci che-an-hay-ss-e*

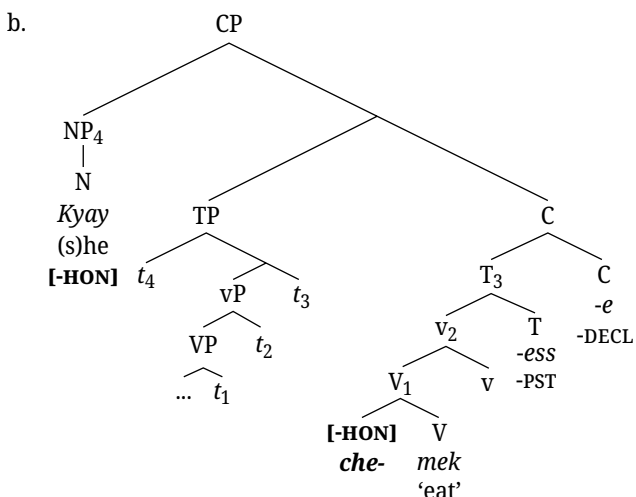
a.lot eat-CVB AHON-NEG-do-PST-DECL

‘(I/(s)he/etc.) didn’t eat a lot’

and Harley (2019), such constructions have multiple instances of little *v* at which the insertion of *-si* can occur, but nevertheless such constructions contain only one main verb *V*. Thus given the rule in (31) above, we correctly predict the possibility of only one *che-* per clause. The successful application of this rule in a basic positive sentence is demonstrated in (32) below:

(32) Korean clause with *che-* under the sprouting/agreement analysis

- a. *Kyay emcheng che-mek-ess-e*
 (s)he much AHON-eat-PST-DECL
 '(S)he ate a lot.' (= ex. 1 above)



We assume that the [-HON] feature on the subject NP is the semantically meaningful one, since this NP is what is construed anti-honorifically, whereas the additional instance of [-HON] expressed as *che-* is a meaningless reflex inserted in the morphology. Since *che-* does not have the positional variation in negative constructions with “do”-support that *-si* displays, we do not show diagrams for *che-* in such constructions. Whether or not “do”-support occurs in the higher part of a clause, *che-* insertion only ever applies at *V*.

This analysis avoids positing a dedicated phrase in the clausal spine that is specifically used to host anti-honorific morphology. This would be ad hoc and difficult to verify on any independent grounds, especially given the fact that we are aware of little to no cross-linguistic parallel with this Korean phenomenon. Analyzing this morpheme as the reflex of a Korean-specific morphological rule, in contrast, avoids these potential concerns. Much research since Chomsky (1995), including a great deal of research in Distributed Morphology, has made productive use of the hypoth-

esis that while syntactic structures are relatively stable cross-linguistically, variation is primarily found in the morpho-phonological components of grammar. Since anti-honorific morphology is indeed far from universal, it is theoretically appealing to understand *che-* as the result of a Korean-specific morphological rule, as Choi and Harley (2019) do for *-si*. Thus we have adopted a similar rule for *che-*, though as stated above, the rule must be defined differently to capture this morpheme's more restricted distribution.

5.2.1 The co-occurrence of *che-* and *-si*

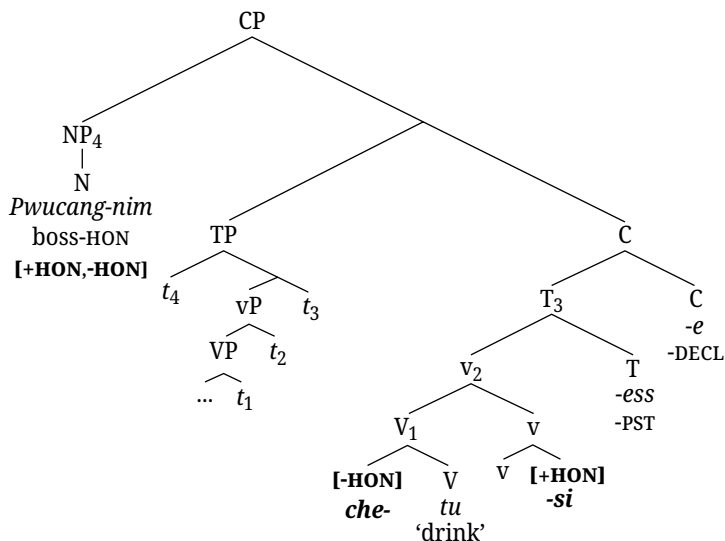
Since *che-* and *-si* have opposite meanings, it would be unsurprising if they could not co-occur. However, they can coexist on the same verb. In this case, there is no contradiction, but rather this combination is interpreted as sarcastic, insincere honorification, as (33) demonstrates.²¹

(33) Combination of *che-* and *-si* on one verb

- a. *Pwucang-nim ecey swul manh-i*
 boss/manager-HON yesterday alcohol much-ADV
che-tu-si-ess-e
 AHON-drink-HON-PST-DECL
 'My boss drank a lot yesterday.'
- b. *Che-cwumwu-si-ko nacwungey yayki-hay.*
 AHON-sleep-HON-and later talk-do
 'Go to sleep, and lets talk later'

Since *che-* and *-si* are attached in different positions, V versus little v, from the perspective of morpho-syntax it is expected that they should be able to co-occur. Given what we have said above, we must assume that the subject in such situations bears both the features [+HON] and [-HON], which each separately trigger the sprouting rules defined in (25) and (31) above.

21 These judgments are provided by native speaker Hyewon Jang.

(34) Co-occurrence of *che-* and *-si* (based on example 33a above)

Since these features are clearly semantically conflicting, it is unexpected that the presence of both of them on a single subject would actually be interpretable. We suggest that pragmatics is able to resolve this state of affairs as sarcastic honorification rather than a total contradiction, but we must leave the details of such an analysis to other work. In summary, while the differing attachment points of these morphemes explain why this morpho-syntactic structure is grammatical in the first place, this does not clarify the pragmatic mechanisms that allow such sentences to be interpretable in actual use. This represents a topic for future research.

6 Conclusion and further questions

Here we have analyzed several aspects of the Korean prefix *che-*, which as far as we know has been unnoticed by linguistic research so far. We have argued that this is an anti-honorific morpheme, which expresses an irreverent attitude towards the subject of the verb, interestingly in contrast to the many other politeness-encoding morphemes in Korean.²² Extending the analysis of Choi and Harley (2019) for the

²² We are aware of another potential anti-honorific morpheme in Korean, *-ssa*, which is mainly used by older speakers (i). We have not had the opportunity to examine this morpheme in detail,

subject-oriented honorific *-si*, we hypothesized that *che-* arises from a morphological agreement process, which attaches this prefix to V when structurally beneath a subject specified as [-HON]. This analysis avoids positing a specific position in the underlying sentence structure that is responsible for hosting anti-honorific morphology, which would be questionable on at least theoretical and methodological grounds. If this morphologically-oriented analysis of *che-* is correct, this morpheme constitutes another possible case of (im)politeness marking as grammatical agreement (Miyagawa 2017).²³ Below we mention two remaining questions for future research.

6.1 Another potential position for *che-*

As mentioned in Section 2, our experiment found marginal acceptance (31%) of the prefix order *che-an-*. Though such examples are evidently degraded, they pose a challenge to the above analysis. Since in examples of this variety *che-* does not prefix directly to the verb, this configuration does not fit the definition of the rule we hypothesized in (31) above. We could describe such examples by positing a second version of the rule, which sprouts [-HON] off Neg rather than V, as defined in (35) below. This rule has exactly the same format as those we've seen so far in (25) and (31), but differs from (31) simply in sprouting [-HON] to the left of the Neg head, rather than V:

- (35) [-HON] sprouting rule, alternative version
 Neg → [-Hon Neg] / [NP_[-HON] . . . [. . . __ . . .]]

The application of this rule would correctly derive examples like the following:

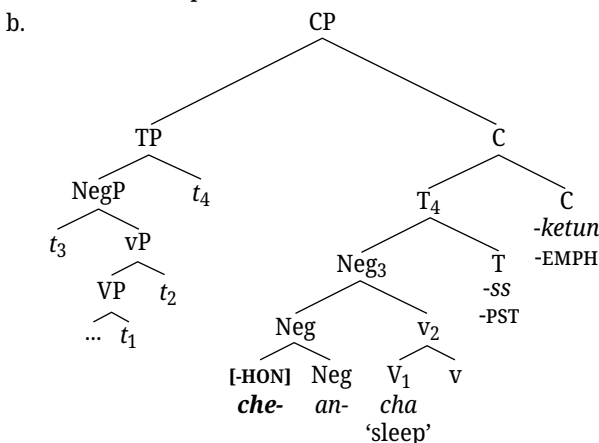
- (36) Marginally acceptable *che-an-*

but we mention it as a topic for future research:

- i. Mwel kulehkey wul-e-ssa?
 What like.that cry-DECL-**AHON**
 'What are you crying about?'

²³ This analysis of *che-*, in combination with the proposals from Choi and Harley (2019) about *-si*, also represents further evidence for the distinction between V and little v. This is because it is necessary to have at least two different verbal heads which can be separately targeted by the morphological rules that give rise to these morphemes, in order to account for their distributional differences.

- a. (na) **che-an-ca-ss-ketun**
 (I) **AHON-NEG-sleep-PST-EMPH**
 ‘I did not sleep’



If *che-* is a new development in Korean, it is possible that the definition of its corresponding rule is to an extent under-determined at this point in time.²⁴ Furthermore, it is conceivable that there might be other differences between more typical *an-che-* examples, and those using the marginal *che-an-*, which would provide a basis for analyzing this state of affairs. However, we are not currently aware of any such informative differences. We leave this puzzle for future research.

6.2 A puzzle about adjectives

In Korean, property-denoting predicates that in English would generally be translated as adjectives are morpho-syntactically verb-like, since they conjugate/infect in ways that are very similar and often even identical to verbs. In many cases, though not always, such predicates even contain a semantically empty light verb “do”, as we see in (37b) below. As (37) shows, such property-denoting predicates can host the honorific *-si*, just as verbs do:

²⁴ Gyu-Hwan Lee (p.c.) suggests that this morpheme is likely a recent innovation, though it is beyond the scope of this paper to verify this. Tracing the history of the morpheme represents an opportunity for future work.

(37) Subject honorific with property-denoting predicates

- a. *Ku pan sensayng-nim-i yeppu-si-e*
 that class teacher-HON-NOM pretty-**HON**-DECL
 ‘The teacher of that class is pretty.’
- b. *Ku pwun-un swuncin-ha-si-e.*
 that person-**TOP** naive-do-**HON**-DECL
 ‘That person is naive.’

However, these predicates do not naturally combine with *che-*, as (38) below shows, using exactly the same predicates that (37) above contains:²⁵

(38) No or marginal use of anti-honorific with property-denoting predicates

- a. **Ku yeca che-yepp-e*
 that woman **AHON**-pretty-DECL
 ‘That woman is pretty.’
- b. *Ku salam ??che-swuncin-(*che)-hay.*
 that person **AHON**-naive-(**AHON**)-do
 ‘That person is naive.’

While these predicates in Korean do not use any obvious copular verb in the way that English does, example (37b) does contain an instance of “do”, at least morphologically. Nevertheless use of *-si* is permitted in both (37b), as well as (37a), which lacks anything obviously verbal. If these predicates are both verb-like enough to allow use of *-si*, it is not clear why use of *-che* should not also be permitted for them, as (38) shows. We leave this puzzle for future consideration.

Abbreviations

ACC	accusative
AHON	anti-honorific
CVB	converb
DAT	dative
DECL	declarative
EMPH	emphasis
FUT	future
HON	honorific
LOC	locative

²⁵ The judgments in (37) and (38) are provided by native speaker Hyewon Jang.

MOD	modal
NEG	negation
NOM	nominative
PRES	present
PRT	particle
PST	past
Q	question
TOP	topic

Acknowledgments: For feedback on various instantiations of this work, thanks to Rajesh Bhatt, Pavel Caha, Eunsun Jou, Gyu-Hwan Lee, Jeffrey Parrot, Yasu Sudo, and the participants of the 2023 International Circle of Korean Linguistics, the 25th Seoul International Conference on Generative Grammar, the 16th Conference on Syntax, Phonology and Language Analysis, as well as the organizers of the Grammar of Impoliteness workshop at the 56th Annual Meeting of the Societas Linguistica Europaea, especially Riccardo Giomi.

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