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Syntax and Semantics of the Korean Pronoun Ku

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This paper provides empirical evidence explaining why the Korean pronoun *ku* 'he' cannot function as a bound variable in sentences with every-type quantificational phrases (QPs). We argue that the issue arises from number disagreement in Korean variable binding. Specifically, *ku* is unable to bind variables in these contexts because it does not agree in number or gender with the QP, leading to a mismatch. However, we show that plural pronouns like *ku-tul* 'they' can indeed yield bound variable readings, as they agree in number with plural every-type QPs. Moreover, *ku* can support bound variable readings in contexts involving singular indefinite QPs (e.g., *nwukwunka* 'someone') and wh-words (e.g., *nwukwu* 'who', *nwukwu-uy* 'whose'), as these are semantically singular. In contrast, *ku* fails to yield bound variable readings with many-type QPs due to the number disagreement issue. Plural pronouns like *ku-tul* can support bound variable readings with many-type QPs, since they agree in number with plural antecedents. Additionally, *ku-tul* can be bound by the quantifier *amwuto* ('nobody'), further confirming its plural nature. Importantly, *ku* is not the direct equivalent of the English pronoun *he*, which always supports bound variable readings with every-type QPs. Notably, *ku* cannot induce a bound variable reading with all-type QPs due to the number mismatch issue. This paper emphasizes the crucial role of number and gender agreement in variable binding, highlighting how these factors influence the availability of bound variable readings in Korean.

Keywords: bound variable reading, QPs, Wh-words, bound variable, c-command, number agreement

1. Introduction

This paper presents substantial empirical evidence explaining why *ku* 'he' in Korean is not interpreted as bound variables with every-type quantificational phrases (QPs). While many linguists have examined Korean and Japanese pronouns over the past three decades, the specific reason why they cannot be interpreted as bound variables in relation to every-type QPs has not been clearly articulated. The primary goal of this paper is to provide a detailed explanation for why *ku* 'he' does not yield bound variable readings with every-type QPs. Specifically, *ku* 'he' does not agree with every-type QPs in number. It is a singular-denoting pronoun whose referent must be semantically singular. There is extensive empirical evidence supporting this semantic constraint.

To begin with, every-type QPs in Korean are semantically plural, and a bound variable reading involves selecting each individual from a plural set. For instance, the Korean QPs *nwuwuna* 'everyone' or *motuni* 'everyone' inherently denote plural sets. Meanwhile, *ku* 'he' is singular-denoting and must agree with its antecedents in number and gender. As such, they fail to agree in number with every-type QPs, rendering variable binding unavailable. A wealth of empirical data supports this analysis. In contrast, *ku-tul* 'they' in Korean readily yields bound variable readings, precisely because it agrees in number with every-type QPs. Their ability to produce covariant interpretations further confirms their compatibility with bound variable readings in such contexts. Additionally, *ku* supports bound variable readings with singular indefinite QPs such as *nwukwunka* 'someone' in Korean, because these QPs are semantically singular. As a result, *ku* agrees in number with the QP, allowing a bound variable interpretation. In simple terms, *ku* can be interpreted as a bound variable when the antecedent is *someone*. Furthermore, *ku* can be associated with *wh*-words, but only through bound variable readings. Interestingly, *ku* 'he' can be bound by *nwukwu* 'who' or *nwukwu-uy* 'whose'. This is because *wh*-words in these contexts are semantically singular, allowing *ku* to agree in number with its antecedent. Similarly, *ku* yields bound variable readings with which-type QPs, as these can be interpreted as singular. The singular-denoting *ku* thus agrees in number, making a bound variable interpretation available. In other words, the Korean *ku* 'he' can easily induce a bound variable reading with which-type QPs. More importantly, however, *ku* does not support bound variable readings with many-type QPs. This is due to the fact that *ku* cannot agree in number with semantically plural antecedents. By contrast, *ku-tul* 'they' readily allows bound variable readings in these cases, since it does agree in number with many-type QPs. Even more intriguingly, *ku-tul* 'they' in Korean can also be interpreted as a bound variable when associated with *amwuto* 'nobody'. This indicates that *ku-tul* agrees in number with the QP *amwuto*, further confirming that *ku-tul* is a plural-denoting pronoun whose referent must be semantically plural. Importantly, the Korean *ku* is not the direct equivalent of the English pronoun *he*, which consistently supports bound variable readings with every-type QPs. Rather, the Korean counterpart of English *he* in such contexts is *ku-tul* 'they', which, like English *he*, yields bound variable interpretations with every-type QPs. This is further supported by the role of the plural suffix *-tul* in Korean. The pronoun *ku-tul* allows for bound variable readings precisely because of the *-tul* suffix, which marks plurality. In Korean, *-tul* enables a range of interpretations—

including bound variable, group, and free readings—demonstrating its importance in facilitating variable binding. Interestingly, the Korean singular pronoun *ku* 'he' can also support distributive readings in conjunctive phrases. However, we argue that the distributive reading induced by *ku* in conjunctions (A and B) is not a bound variable reading, as the conjunct itself is not a quantifier. In other words, the conjunct does not trigger a bound variable interpretation. To understand why this is the case, we need to distinguish between different types of readings. A bound variable typically arises when there is an operator, such as a quantifier, that introduces a variable and quantifies over it. Since a conjunctive phrase like (A and B) does not involve a quantifier, it does not create the necessary conditions for a bound variable reading. This paper thus focuses on bound variables that are specifically bound by QPs and wh-words. We define a "bound variable" in this paper as one that is only bound by QPs and wh-words, not by other types of expressions like conjuncts.

2. Previous Approaches

An extensive body of research—including Saito & Hoji (1985) [1], Hong (1985) [2], Hoji (1990, 1991) [3-4], and Aoun & Hornstein (1986) [5]—has repeatedly observed that *ku* 'he' and *kare* 'he' do not act as bound variable pronouns with every-type QPs. However, none of these accounts offer a fundamental explanation as to why *ku* 'he' and *kare* 'he' cannot induce a bound variable reading with every-type QPs. Early foundational work by Higginbotham (1980) [6] and Reinhart (1983) [7] highlights that English third-person pronouns may obtain bound variable readings when c-commanded by quantifier antecedents:

(1) Everyone thinks he is a nice fellow.
(2) Nobody knows what he wants.

By contrast, *kare* and *ku* systematically fail to give bound variable interpretations, even in canonical c-command configurations. For instance, Japanese examples like:

(3a) Daremo-ga kare-ga tsukutta omocha-o kowashita.
(3b) Daremo kare-ga tsukutta omocha-o motte-konakatta.

are ungrammatical with intended bound variable readings. Likewise, the Korean sentence is similarly unacceptable under a bound variable interpretation:

(4) Nuwuna ku-ka ttokttokhata-ko sayngkakhanta.
(Everyone thinks that he is intelligent.)

As many linguists points out, the Korean pronoun *ku* and the Japanese pronoun *kare* cannot undergo a bound variable interpretation without pragmatic conditions. In what follows, we will provide a lot of empirical evidence as to why the Korean pronoun *ku* 'he' is a singular denoting entity whose referent must be semantically singular.

3. Results

3.1. Every-type QPs

This section demonstrates that *ku* 'he' cannot undergo a bound variable reading with every-type QPs, because it does not agree in number with these QPs. Quantificational expressions can bind the Korean reflexive *caki* 'self' and the Japanese reflexive *zibun* 'self', they cannot bind *ku* 'he' and *kare* 'he'. This observation aligns with past literature, which discusses the general property of *ku* and *kare*, specifically their inability to undergo binding in these contexts:

(5) Kare cannot be construed as a bound variable.
(Aikawa 1989, Hoji 1990, 1995, 1997) [8]
(6) Kare must be A'-free.
(Aoun and Hornstein 1986, Hong 1985 [9])
(9) Ku cannot be a bound variable.
(Hong 1985)
(10) Kare must be operator free.
(Katada 1991) [10]

Although the explanations differ, the statements above all describe the same phenomenon. Specifically, it has been observed that, unlike the English pronoun *he*, the Korean pronoun *ku* 'he' and the Japanese pronoun *kare* 'he' cannot induce a bound variable reading. This distinction is illustrated by the examples in (11) and (12):

(11) a. Daremo-ga kare-ga tukut-ta omotya-o kowasi-ta.
(Everyone broke the toy that he had made.)
b. Nwukwuna ku-ka ikilkessila-ko sayngkakhanta.
(Everyone thinks that he will win.)

A unified account of examples (11a) and (11b) suggests that the Japanese *kare* 'he' and the Korean *ku* 'he' cannot be linked to *every*-type QPs. However, it is important to note that *ku-tul* 'they' in Korean can easily induce a bound variable reading, as it agrees with its antecedent in number, as shown in example (12):

(12) Nwukwuna ku-tul-i ikilkessila-ko sayngkakhanta.
(Everyone thinks that he will win.)

It is important to note that in (12), *ku-tul* 'they' can easily give rise to a bound variable reading, a free reading, and a group reading, as illustrated in (13):

(13) a. A bound variable reading: (Every x: x a person) x thinks that x will win.
b. A group reading: There is a group G of people, each of whom is an x such that x thinks that G will win.
c. A free reading: Ku-tul admits a deictic interpretation.
It could be some other people entirely.

As illustrated in (13a) and (13b), *ku-tul* 'they' induces three readings, which takes place, due to the fact that it agrees with *every*-type QPs in number. That (11b) admits only a free reading provides confirmation that a bound variable reading and a group reading in (12) come from the Korean suffix *tul* 'plurality'. Although it may seem strange that plural pronouns allow a bound variable reading, this claim is empirically correct, as demonstrated by the grammaticality of (14):

(14) Everyone outwitted their adversary.
(15) Everyone assumes John outwitted them.

Just as *ku-tul* 'they' readily induces a bound variable reading, the same is true for the English plural pronouns. This raises the possibility that *ku* 'he' could be replaced by *ku-tul* 'they' to induce a bound variable reading. Previous approaches, however, fail to account for the contrast between singular and plural pronouns. This distinction can be explained by the fact that *ku-tul* 'they' can be bound to *every*-type QPs, while the singular pronoun *ku* 'he' cannot. Nonetheless, our proposal is supported both empirically and theoretically. The key generalization is that *ku-tul* 'they' agrees with *every*-type QPs in number, whereas *ku* 'he' does not. Those cases are really empirical and hence prove important arguments in favor of our claim that *ku* 'he' is a singular denoting entity whose referent is semantically singular. Recall why previous approaches fail for the following examples:

(16) Every student thinks that they deserve a better grade.
(17) Every professor said that their lectures were effective.
(18) Every guest brought their own drink.

In English, this phenomenon appears to be sufficiently general, as the pronoun *they* can be associated with every-type QPs through variable binding. Thus, our claim holds for English as well. It is important to note that in this case, the English pronoun agrees with its antecedent in number. However, the English pronoun is not sensitive to number in the same way, suggesting that the dependent term can be either singular or plural. This contrasts with Korean pronouns, which must agree with their antecedents in both number and gender. What this suggests is that Korean pronouns differ from their English counterparts in that the former are required to match their antecedents in both number and gender, while the latter need not. However, one point is clear from examples (16-18): in Korean, *ku* 'he'and *ku-tul* 'they' are pronouns that must agree in number with every-type QPs, while the English pronouns *he* and *they* do not have this requirement. This does not necessarily imply that Korean is a syntax-driven language. What we propose is that while every-type quantificational phrases (QPs) are semantically plural, they

are not syntactically plural. Syntactically, every-type QPs behave as singular: they require singular agreement, and pronouns bound by them are typically singular (e.g., *Everyone thinks that he is smart*). Semantically, however, these QPs are treated as plural or distributive—they quantify over a plural domain by ranging over the individual members of that domain. Evidence for the semantic plural nature of every-type QPs includes sentences like *"Everyone left,"* which is true only if each individual in the relevant set left. This suggests that the denotation of *everyone* involves a plural domain (a set of individuals). Additionally, in many languages—including English, Korean, and Japanese—plural pronouns can be bound by every-type QPs. For example, in English, the sentence *Everyone thinks that they are smart* illustrates how *they* can be interpreted as a bound variable corresponding to each individual in the set, indicating that the quantifier is semantically compatible with plural reference. Similarly, sentences like *Everyone washed their car* allow a bound variable reading: each person washed their own car. This reading relies on interpreting the quantifier as distributing over a plural domain (i.e., over multiple individuals). In the subsequent sections, we will provide further empirical evidence showing that in Korean, the singular pronoun *ku* 'he' refers to a semantically singular entity, while its plural counterpart *ku-tul* 'they' refers to a semantically plural entity.

4. Korean Variable Binding

4.1. Each-type QPs

This section is dedicated to demonstrating that every-type QPs provide additional empirical evidence supporting the claim that in Korean, *ku* 'he' is a singular-denoting entity whose referent must be semantically singular, whereas *ku-tul* 'they' is a plural-denoting entity whose referent must be semantically plural. This also reinforces the argument that the Korean pronoun *ku* 'he' cannot yield a bound variable reading with every-type QPs due to number disagreement. Consider the following Korean sentences:

(19) Kakkak-uy haksayng-i ku-uy emeni-lul ongohayssta.
(Each student defended his mother.)
(20) Kakkak-uy haksayng-i ku-uy chinkwu-lul chingchanhayssta.
(Each student praised his friend.)

To begin with, let us consider the number of each-type QPs. Specifically, the number of each-type QPs is vague, which leads to ambiguity. On the one hand, *each student* can refer to a single entity at a time. On the other hand, *each student* can also be interpreted as referring to all individuals within a set semantically. This suggests that *each student* can be treated as either semantically singular or plural. In other words, the number of *each student* can shift between singular and plural interpretations. This has important implications for *ku* 'he' and *ku-tul* 'they'. Both can be linked to each-type QPs through variable binding. Sentences (19) and (20) provide confirmation that *each student* can be semantically singular, as it refers to a single entity at a time. As expected, in (19), *ku* 'he' can be associated with each-type QPs through variable binding, yielding the following interpretation: *John defended his mother, Bill defended his mother, Tom defended his mother, etc.* If our analysis is correct, *ku-tul* 'they' should also be able to bind to each-type QPs. The following Korean examples provide further evidence that the number of *each student* can be interpreted as semantically plural, supporting the claim that *ku-tul* 'they' can be linked to each-type QPs through variable binding:

(21) Kakkak-uy haksayng-i ku-tul-uy emeni-lul ongohayssta.
(Each student defended his mother.)
(22) Kakkak-uy haksayng-i ku-tul-uy chinkwu-lul chingchanhayssta.
(Each student praised his friend.)

As expected, *ku-tul* 'they' in Korean can be interpreted as linked to *each student* through variable binding, yielding the following interpretation: *John defended his mother, Tom defended his mother, Bill defended his mother, etc.*, and *John praised his friend, Bill praised his friend, Tom praised his friend, etc.* This demonstrates that the reason *ku* 'he' can be associated with each-type QPs is that the number of each-type QPs can be semantically singular. From sentences (19) and (20), it is clear that the reason *ku-tul* 'they' can be linked to *each student* through variable binding is that the number of *each student* can also be semantically plural. Examples (19), (20), (21), and (22) support our hypothesis that *ku* 'he' is a singular-denoting entity whose referent must be semantically singular, while *ku-tul* 'they' is a plural-denoting entity whose referent must be semantically plural. This provides further confirmation that *ku* 'he' cannot be interpreted as related to every-type QPs through variable binding, due to number disagreement. Specifically, the number of every-type QPs is semantically plural, while *ku* 'he' is singular, preventing the possibility of variable binding. In other words, *ku* 'he' is a singular-denoting entity whose referent

is semantically singular, supporting the claim that *ku* 'he' cannot be related to every-type QPs through variable binding due to number mismatch.

4.2. Many-type QPs

This section is dedicated to demonstrating that *ku* 'he' in Korean is a singular-denoting entity whose referent must be semantically singular, whereas *ku-tul* 'they' in Korean is a plural-denoting entity whose referent must be semantically plural. We argue that *ku-tul* 'they' agrees in number with many-type QPs, thereby allowing for the availability of a bound variable reading. In contrast, *ku* 'he' does not agree with many-type QPs in number, which accounts for the unavailability of a bound variable reading.

(23) Manhun haksayng-tul-i ku-ka ttokttokhata-ko sayngkakhanta.
(Many students think that they are intelligent.)
(24) Manhun haksayng-tul-i ku-tul-i ttokttokhata-ko sayngkakhanta.
(Many students think that they are intelligent.)

It is worth noting that in (23), *ku* 'he' is not interpreted as related to *many students* through variable binding. This confirms that it does not agree in number with *many students*, which results in the unavailability of a bound variable reading. Consequently, this suggests that *ku* 'he' cannot be interpreted as linked to every-type QPs via variable binding, due to number disagreement. As previously observed, *ku* 'he' is singular-denoting, while every-type QPs are semantically plural, leading to number mismatch and preventing a bound variable reading. On the other hand, it is important to highlight that in (23), *ku* 'he' can induce a free reading referring to someone else. In contrast, in (24), *ku-tul* 'they' can induce three readings: a free reading, a bound variable reading, and a group reading. Specifically, in (24), *ku-tul* 'they' can refer to a different group of people (a free reading). It can also easily yield a bound variable reading, with the following interpretation: *John thinks that he himself is intelligent, Bill thinks that he himself is intelligent, Tom thinks that he himself is intelligent, etc.* Moreover, in (24), it can allow a group reading, with the interpretation: *There is a group G of people, each of whom is an x such that x thinks that G is all intelligent.* The fact that *ku-tul* 'they' can induce a bound variable reading provides the empirical foundation of our hypothesis. The reason *ku-tul* 'they' can easily yield a bound variable reading is its agreement in number with *many students*. This supports the claim that *ku-tul* 'they' is a plural-denoting entity whose referent must be semantically plural. From these observations, it is clear that *ku-tul* 'they' can be interpreted as related to every-type QPs through variable binding because it agrees in number with these QPs. Therefore, we can reasonably conclude that *ku-tul* 'they' is interpreted as linked to every-type QPs via variable binding due to number agreement, while *ku* 'he' is not, due to number disagreement.

4.3. Someone-type QPs

In the following, we aim to demonstrate that *ku* 'he' can easily induce a bound variable reading with *someone*-type QPs, due to number agreement, while *ku-tul* 'they' cannot yield a bound variable reading, due to number disagreement. This suggests that the Korean pronouns *ku* 'he' and *ku-tul* 'they' must agree in number with QPs in order to yield a bound variable reading. Consider the following examples in (25) and (26):

(25) Nwukwunka ku-ka olhasstako malhayssta.
(Someone said that he was right.)
(26) Nwukwunka ku-tul-i olhasstako malhayssta.
(Someone said that they were right.)

It is important to note that (25) exhibits two interpretations, depending on the reading of *ku* 'he'. First, *ku* 'he' can be interpreted deictically (a free reading), referring to some individual entirely. Alternatively, *ku* 'he' can be interpreted as a bound variable related to *someone* via variable binding. The circumstances under which *ku* 'he' can be interpreted as a bound variable align with our hypothesis. Simply put, *ku* 'he' agrees in number with *someone*, thereby yielding a bound variable reading. In (25), *someone* c-commands its dependent term *ku* 'he', satisfying the c-command condition for variable binding. On the other hand, in (26), *someone* c-commands its dependent term *ku-tul* 'they', but the sentence is judged ungrammatical if the bound variable reading of *ku-tul* 'they' is intended. This further supports our hypothesis that Korean pronouns, like *ku* 'he' and *ku-tul* 'they', must agree with QPs in number for a bound variable reading. In (26), *ku-tul* 'they' does not agree with *someone* in number, thus making the bound variable reading unavailable. However, *ku-tul* 'they' can still be interpreted deictically (a free reading), referring to some other people entirely. From these observations, it is clear that *ku* 'he'

is a singular-denoting entity whose referent must be semantically singular, while *ku-tul* 'they' is a plural-denoting entity whose referent must be semantically plural. Therefore, it is reasonable to argue that the Korean pronouns *ku* 'he' and *ku-tul* 'they' must agree with QPs in number for a bound variable reading. We conclude that the requirements for variable binding with Korean pronouns involve both the c-command condition and number agreement. Interestingly, English pronouns like *he* and *they* do not need to agree with QPs in number for variable binding, as demonstrated in (27) and (28):

(27) If someone calls, tell him I'll be busy.
(28) If someone calls, tell them I'll be busy.

As observed earlier, English pronouns *he* and *they* are not sensitive to the number of QPs, allowing both to yield a bound variable reading regardless of the QP's number.

4.4. Nobody-type QPs

This section aims to demonstrate that *ku* 'he' in Korean is a singular-denoting entity whose referents must be semantically singular, while *ku-tul* 'they' in Korean is a plural-denoting entity whose referent must be semantically plural. This distinction provides further empirical evidence that *ku* 'he' does not agree in number with every-type QPs, thereby preventing a bound variable reading. Interestingly, the Korean term *amwuto* 'nobody' supports the hypothesis that both *ku* 'he' and *ku-tul* 'they' must agree in number with QPs in order to yield a bound variable reading. Consider the following example in (29):

(29) Amwuto ku-ka olhassta-ko malhacianhassta.
(Nobody said that he was right.)
(30) Amwuto ku-tul-i olhassta-ko malhacianhassta.
(Nobody said that he was right.)

To begin with, let us consider the number of *amwuto* 'nobody' in Korean. This term refers to an indefinite set of people, which is semantically plural. This suggests that number agreement is required only in the case of the plural pronoun *ku-tul* 'they'. As expected, examples (29) and (30) support our hypothesis that both *ku* 'he' and *ku-tul* 'they' must agree with QPs in number in order to yield a bound variable reading. As demonstrated in (29), the singular pronoun *ku* 'he' does not allow a bound variable reading. This can be attributed to the fact that *ku* 'he' does not agree in number with *amwuto* 'nobody', which refers to an indefinite set of people. Since *ku* 'he' is a singular-denoting entity whose referent must be semantically singular, this leads to the unavailability of a bound variable reading. On the other hand, in (30), *ku-tul* 'they' readily admits a bound variable reading. This occurs because *amwuto* 'nobody' refers to a semantically plural set, and *ku-tul* 'they' is a plural-denoting entity whose referent must also be semantically plural. Thus, they agree in number, allowing for a bound variable reading. This further supports the hypothesis that *ku* 'he' and *ku-tul* 'they' are pronouns that require number agreement with QPs for a bound variable reading. Consequently, this also confirms that *ku* 'he' cannot yield a bound variable reading with every-type QPs, due to the number disagreement. Interestingly, this pattern also holds for English:

(31) Nobody likes their food cold.

In (31), the English pronoun *their* readily yields a bound variable reading, much like *ku-tul* 'they'. This suggests that the English plural pronoun is employed because *nobody* refers to an indefinite set of people, aligning semantically with plural forms.

4.5. Wh-words and a Bound Variable Reading

The only way *ku* 'he' can be associated with Wh-words is through a bound variable reading. In the following, we will demonstrate that the Korean pronoun *ku* 'he' can indeed be linked to Wh-words via variable binding. Additionally, we will show that *ku-tul* 'they' can be associated with plural Wh-words. Consider the following example in (32):

(32) Etten kyoswu-ka ku-project-e ku-uy haksayng-ul cwuchenhayssnuna?
(Which professor recommended his student for the project?)
(32) Etten kyoswu-ka ku-project-e ku-tul-uy haksang-ul cwuchenhayssnuna?
(Which professor recommended his student for the project?)

It is important to note that in (32), the dependent term *ku* 'he' easily induces a bound variable reading because it agrees in number with *which professor*. This reinforces the hypothesis that *ku* 'he' is a singular-denoting entity whose referents must be semantically singular. Additionally, this further confirms that *ku* 'he' cannot induce a bound variable reading with every-type QPs due to number disagreement. However, as exemplified in (32), *ku-tul* 'they' can still be associated with *which professor*, even though *which professor* is singular. This reflects a mismatch in number, but it is important to note that having overlapping reference is a core property of pronouns. In this case, *ku-tul* 'they' refers to a professor and others, and thus is not interpreted as relating to *which professor* through a bound variable reading. This observation suggests that the key requirements for pronominal variable binding in Korean are the c-command condition and number agreement. Specifically, in (32), since *ku-tul* 'they' does not agree with *which professor* in number, a bound variable reading is unavailable. However, when Wh-words are plural, the situation changes. Now, consider (33):

(33) Etten kyoswu-tul-i ku-project-e ku-tul-uy haksang-ul cwuchenhayssnuna?
(Which professors recommended their student for the project?)

It is important to note that in (33), *ku-tul* 'they' readily gives rise to a bound variable reading. This occurs because *ku-tul* 'they' agrees in number with *which professors*, thereby allowing the bound variable reading. This observation clearly demonstrates that *ku* 'he' and *ku-tul* 'they' must agree with their antecedents in number in order to yield a bound variable reading. Therefore, we conclude that the Wh-word test supports our hypothesis: *ku* 'he' is a singular-denoting entity whose referent must be semantically singular, while *ku-tul* 'they' is a plural-denoting entity whose referent must be semantically plural.

4.6. Whose NPs and a Bound Variable Reading

This section is dedicated to demonstrating that whose NPs also build support for our claim that *ku* 'he' is a singular denoting entity whose referent must be semantically singular, while *ku-tul* 'they' is a plural denoting entity whose referent must be semantically plural. To begin with, let us consider (34) and (35):

(34) Nwukwu-uy haksayng-i ku-uy emeni-ul ongohynunya?
(Whose student defended his mother?)
(35) Nwukwu-uy haksayng-i ku-tul-uy emeni-ul ongohynunya?
(Whose student defended their mother?)
(36) Nwukwu-uy haksayng-tul-i ku-tul-uy emeni-ul ongohynunya?
(Whose students defended their mother?)

It is worthwhile observing that in (34), *ku* 'he' easily yields a bound variable reading. This happens, due to the fact that it agrees with *whose student* in number, hence lending support to our hypothesis. Notice, furthermore, that in (35), *ku-tul* 'they' can be associated with *whose student*, despite the fact that *whose student* is singular. Again, in (35), *ku-tul* 'they' refers to a student and someone else, namely overlapping reference, thus not inducing a bound variable reading. More importantly, (36) builds support for our hypothesis that *ku-tul* 'they must agree with their antecedent in number for a bound variable reading. In (36), *ku-tul* 'they' easily admits a bound variable reading due to the number agreement. It seems thus reasonable to conclude that (34), (35), and (36) provide empirical evidence that Korean pronouns must agree with their antecedent in number for a bound variable reading. This, in turn, implies that *ku* 'he' cannot induce a bound variable reading with every-type QPs due to the number disagreement.

The following English example also provides confirmation that the English plural pronoun *they* can induce a bound variable reading with *whose students*:

(37) Whose students defended their mother?

It is interesting to observe that the English dependent term *their* easily yield a bound variable reading with *whose students*. This seems to suggest that the English plural dependent term *they* can be associated with Wh-words via a bound variable reading, just as in the case of the Korean plural dependent term *ku-tul* 'they'. We thus conclude that the Korean pronouns *ku* 'he' and *ku-tul* 'they' easily yield a bound variable reading with Wh-words through the number agreement, which lends its support to our claim again.

4.7. All-type QPs

This section demonstrates that while *ku-tul 'they'* can be interpreted as related to all-type quantifier phrases (QPs) via a bound variable reading, *ku 'he'* cannot. This distinction supports the assumption that *ku* is a singular-denoting pronoun whose referent must be semantically singular, while *ku-tul* is a plural-denoting pronoun whose referent must be semantically plural.

(38) Motun haksayngtul-i ku-uy emeni-lul salanghanta.
(All students love his mother.)
(39) Motun haksayngtul-i ku-tul-uy emeni-lul salanghanta.
(All students love their mother.)
(40) All students love their mother.

It is important to note that in (38), *ku 'he'* does not induce a bound variable reading with all-type QPs. This is because *ku* is a singular-denoting pronoun and does not agree in number with the plural *all students*. This suggests that *ku* must agree in number with QPs and is thus constrained to refer to a singular entity. In contrast, as illustrated in (39), *ku-tul 'they'* readily allows a bound variable reading when associated with a plural QP like *all students*. Since both *ku-tul* and *all students* are plural, they exhibit a natural agreement in number, enabling the bound variable reading. Thus, (38) and (39) support the hypothesis that while *ku 'he'* is a singular-denoting pronoun whose referent must be semantically singular, *ku-tul 'they'* is a plural-denoting pronoun whose referent must be semantically plural. This distinction further supports the claim that *ku* cannot undergo a bound variable reading with every-type QPs due to number mismatch. Interestingly, in (40), the English pronoun *their* similarly allows a bound variable reading with *all students*, providing additional support for the hypothesis. This parallel in English suggests that, like *ku* and *ku-tul*, the number agreement between QPs and pronouns is essential for a bound variable reading. In conclusion, it is evident that both *ku 'he'* and *ku-tul 'they'* must agree in number with their associated QPs. The data presented here supports the hypothesis that *ku* cannot induce a bound variable reading with every-type QPs due to number mismatch.

5. Conclusion

In conclusion, this paper has provided substantial empirical evidence to explain why *ku* 'he' in Korean cannot be interpreted as bound variables with every-type quantificational phrases (QPs). While the Korean pronoun *ku* 'he' and the Japanese pronoun *kare* 'he' have been widely discussed in the literature over the past three decades, the specific reasons behind their inability to yield bound variable readings with every-type QPs have not been fully addressed until now. Our primary aim has been to clarify this issue by demonstrating that *ku* fails to agree in number with every-type QPs, as it is a singular-denoting pronoun whose referent must be semantically singular. This semantic constraint is supported by a wealth of empirical data showing that every-type QPs are inherently plural, and a bound variable reading involves selecting individuals from a plural set. In contrast, *ku* is a singular-denoting entity and cannot agree in number with these plural-denoting QPs, thus preventing variable binding. On the other hand, plural pronouns like *ku-tul* 'they' in Korean readily yield bound variable readings because they agree in number with every-type QPs. Additionally, we have shown that *ku* supports bound variable readings with singular indefinite QPs, such as *nwukwunka* 'someone' in Korean, because these QPs are semantically singular and allow for number agreement. Similarly, *ku* can also be bound by wh-words, as this is semantically singular and facilitates number agreement. Notably, *ku* can induce bound variable readings with singular wh-words like *nwukwu* 'who' or *nwukwu-uy* 'whose', while it cannot do so with many-type QPs due to number disagreement. Furthermore, we have shown that the plural pronoun *ku-tul* allows bound variable readings with many-type QPs, as it agrees in number with them. Interestingly, *ku-tul* can even be bound by *amwuto* 'nobody', further supporting its plural-denoting nature. This is in contrast to the English pronoun *he*, which consistently supports bound variable readings with every-type QPs, whereas the Korean equivalent of *he* in such contexts is *ku-tul* 'they', not *ku* 'he'. Finally, it is evident that both *ku 'he'* and *ku-tul 'they'* must agree in number with their associated QPs. The data presented here supports the hypothesis that *ku* cannot induce a bound variable reading with all-type QPs due to number mismatch. In sum, this paper reinforces the critical role of number agreement in variable binding, demonstrating that *ku* 'he' does not allow bound variable readings with every-type QPs, while its plural counterpart *ku-tul* does.

References

[1] Aikawa, Takako. (1989). Behavior of Japanese Anaphoric Expressions in Sloppy Identity: Karera 'they' and Zibun 'self'. *MIT Working Papers* 14: 1-16.
[2] Aoun, J and Hornstein, N. (1986). Bound and Referential Pronouns. ms. University of Southern California and University of Maryland.

[3] Higinbotham, J. (1980). Pronouns and a Bound Variable. *Linguistic Inquiry* 11: 679-708.
[4] Hoji, Hajime (1990). Theories of Anaphora and Aspects of Japanese Syntax. ms. USC.
[5] Hoji, Hajime (1991). Kare in C. Georgopoulos and R. Ishihara, eds., *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*, 287-304.
[6] Hoji, Hajime (1995). Demonstrative Binding and Principle B. *NELS* 25, 255-271.
[7] Hoji, Hajime. (1997). Sloppy Identity and Formal Dependency. *WCCFL* 15, 209-223.
[8] Hong, S. (1985). *A and A' Binding in Korean and English*. Doctoral dissertation, University of Connecticut, Storrs, Connectticut.
[9] Katada (1991). The LF Representation of Anaphors. *Linguistic Inquiry* 22, 287-313.
[10] Reinhart, T. (1983). *Anaphora and Sematic Interpretation*. Croom. Helm, London.