# Pseudo-incorporation vs. Differential Argument Marking in Korean*

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## 1 Introduction

A language displaying optional case marking accompanied by semantic effects is often analyzed either as *pseudo-noun incorporation* (PNI) or as *differential object marking* (DOM), thereby raising the question whether both phenomena represent two sides of the same coin. PNI captures the absence of a case marker, which is roughly explained by the nominal forming a 'closer-than-usual' relation with the verb (Massam 2001). DOM on the other hand focuses on the presence of the case marker, where its addition signals more discourse prominence relative to other noun types (Bossong 1991; Aissen 2003). Usually, case drop only affects the least prominent noun type in PNI/DOM languages, illustrated here with Mongolian in (1), where only non-specific indefinite objects allow accusative case drop (1c).

(1) *Mongolian* *(Guntsetseg 2016)*

a. Bi **tuun*(-ig) / Tuya*(-g) / ene uul*(-ig)** har-san.
1SG.NOM 3.ACC / Tuya-ACC / this mountain-ACC see-PST
'I saw her/Tuya/this mountain.'

b. Delxij **nar*(-yg)** tojr-dog.
earth.NOM sun-ACC circle-HAB
'The earth circles around the sun.'

c. Xen neg n minij zugluulgan-aas **neg nom*(-yg)/nom(-yg)** xulgajl-žee.
someone.NOM my collection-ABL a book-ACC/book-ACC steal-PST
'Someone stole a specific book / a non-specific book from my collection.'

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The prominence effects are often modeled with prominence scales such as the definiteness scale in (2), where noun types are ranked based on their discourse prominence potential, and case marking becomes more likely the higher the noun is ranked on the scale. For Mongolian and many other languages, the cut-off point for case marking is very low.

(2) *Definiteness scale* *(Silverstein 1976; Aissen 1999, 2003)*

PRONOUN ≻ PROPER NAME ≻ DEF ≻ DEM ≻ INDEF SPEC ≻ INDEF NON-SPEC

CASE ⇐⇐ ⇒⇒ NO CASE

Previous corpus work on optional case marking of Korean arguments (Ha. Lee 2006, 2008; Kwon and Zribi-Hertz 2006, 2008) has identified challenges to an analysis in terms of markedness scales (Aissen 2003).[1] While case loss on indefinite bare nouns display interpretive effects familiar to PNI, more prominent categories scoring higher on the definiteness scale can also undergo case loss with no such effects. In this paper, we will provide a detailed case study based on scope, binding and control tests, showing that lack of case-marking is indicative but does not entail PNI in Korean. The data, however, can still be captured with an Aissen-style markedness scale, if the scale differentiates between DPs and NPs. Thus, a scale-based account can be naturally combined with a DP/NP account of PNI, where NPs constitute the lowest member of the definiteness scale (see also von Heusinger 2008). We conclude from the results that PNI and DOM are separate phenomena: whereas PNI relates case loss to a size difference and thus triggers semantic effects, DOM simply relates case loss to the position on the definiteness scale.

## 2 Optional case marking in Korean

In Korean, subjects and objects show optional case marking, shown in (3).[2] Due to space, we will mostly illustrate the semantic properties for only one argument type per diagnostic.

(3) a. Ecey Minswu-ka **chinkwu(-lul)** manna-ss-ta. *(Ha. Lee 2011)*
yesterday Minsoo-NOM friend-ACC meet-PST-DECL
'Minsoo met (his) friend yesterday.'

b. **Beoseu(-ga)** o-goiss-da. *(Kwon and Zribi-Hertz 2008)*
bus-NOM come-PROG-DECL
'There's a/the bus coming.'

What is striking about the Korean case pattern is that significantly more noun types than usual can be affected by case drop, as can be seen in (4).

1. Park (2020) argues that optional nominative case marking in Korean plays multiple roles to denote contextually prominent referents, i.e., anaphoric definites and unique definites construal. Kim (2021) proposes a cartography-cum-optimality approach to account for two forms of anaphoric definites in Korean by encoding what kind of sequence of events they are narrating on the relevant point of view licensing head.
2. Turkish is another language, which has been reported to show differential case marking for both external and internal arguments (Öztürk 2009).

(4) a. **Ku**$^{??}$**(-ka)/Kunye**$^{??}$**(-ka)** wus-ess-e. *3rd pronoun*
he-NOM/she-NOM laugh-PST-INT
'She/he laughed.'

b. ... Na-nun **yeca*(-lul)** kuly-ess-e. *(anaphoric) definite*
I-TOP woman-ACC paint-PST-INT
'(Context: I met a woman yesterday) ... I painted the woman.'

c. Yusu-ka **i/ce** **kkoch(-ul)** sa-ss-e. *demonstrative*
Yusu-NOM this/that flower-ACC two-CL
'Yusu bought this/that flower.'

d. Yusu-ka **kkoch(-ul)** **twu-songi** sa-ss-e. *numeral classifier*
Yusu-NOM flower-ACC two-CL buy-PST-INT.
'Yusu bought two flowers.'

e. Minho-ka **chayk(-ul)** ilk-nun-ta. *indefinite*
Minho-NOM book-ACC read-PRS-DECL
'Minho is reading a book (specific or non-specific).'

Based on the data set in (4), the definiteness scale in Korean can be set up as in (5).[3] Note that the cut-off point for case marking is much higher in (5) than in (2).[4]

(5) *Definiteness scale in Korean*
(3RD) PRONOUN ≻ DEF ≻ DEM ≻ NUM-CL ≻ INDEF SPEC ≻ INDEF NON-SPEC
CASE ⇐⇐ ⇒⇒ NO CASE

Since there is more than one noun type which can show optional case marking, Korean provides a good case study to test, whether case loss always correlates with semantic effects. We investigate demonstrative phrases, numeral classifier phrases, and indefinites wrt. established PNI/DOM diagnostics: (i) case loss correlating with obligatory low scope, (ii) case loss correlating with lack of binding, and (iii) case loss correlating with lack of control. Our investigation reveals that only indefinites show a correlation between case marking and semantic properties.

## 2.1 Scope

The correlation of non-case marked arguments and obligatory low scope readings is well investigated in the PNI/DOM literature, shown e.g., for Spanish (López 2012), Turkish (Kelepir 2001), Kannada (Lidz 2006), Hindi (Dayal 2011), among many others. Contexts (6) and (7) test

3. Potential independent evidence for the order of scale mates, specifically DEF ≻ DEM ≻ NUM-CL, comes from the observation that classifiers and demonstratives often develop into definite determiners over time (see Diessel (1999) and references therein).

4. We distinguish epistemic specificity from scopal specificity since Korean case marking does not show sensitivity to the former but to the latter. Scope effects will be shown in the next section.

this prediction for Korean indefinites. Indeed, indefinites cannot receive a wide scope reading wrt. negation, if they are not marked for case, see (7b).

(6) *Context* $\neg\exists$*:*
*Yusu's friend was selling flowers. Yusu looked at all of them but decided not to buy any.*

a. **Kkoch-ul**$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower-ACC Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

b. **Kkoch**$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

(7) *Context* $\exists\neg$*:*
*Yusu's friend had only a few flowers left to sell and he wants to sell everything by the end of the day. Yusu decided to buy some of them but not all. So there was at least one flower he did not buy.*

a. **Kkoch-ul**$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower-ACC Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

b. #**Kkoch**$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

In contrast, case marking on numeral classifiers is not sensitive to wide scope contexts, shown for objects in (8) and subjects in (9).

(8) *Context* $1\neg$*:*
*Yusu's friend wanted to sell three flowers and Yusu bought two from him. So there was one flower Yusu did not buy.*

a. [**Kkoch-ul han-songi**]$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower-ACC one-CL Yusu-NOM buy-CI NEG-PST-DECL
'One flower, Yusu did not buy.'

b. [**Kkoch han-songi**]$_1$ Yusu-ka __$_1$ sa-ci anh-ass-ta.
flower one-CL Yusu-NOM buy-CI NEG-PST-DECL
'One flower, Yusu did not buy.'

(9) *Context* 1¬*:*
*Suzi was waiting at Mapo bus stop. On the other side, there were three buses waiting for the signal. As soon as the traffic light turned green, two buses came straight to the stop where Suzi was standing.*

a. [**Pesu-ka han-tay**]$_1$ nollapkeyto __$_1$ o-ci anh-ass-ta.
bus-NOM one-CL to my surprise come-CI NEG-PST-DECL
'One bus, did not come.'

b. [**Pesu han-tay**]$_1$ nollapkeyto __$_1$ o-ci anh-ass-ta.
bus one-CL to my surprise come-CI NEG-PST-DECL
'One bus, did not come.'

### 2.2 Binding and control

Two more diagnostics are frequently applied in the PNI/DOM literature. Non-case marked arguments cannot bind a pronoun, nor can they control into a control clause. This has been shown for at least Hindi (Bhatt 2007), Spanish (Leonetti 2004; López 2012), and Turkish (Öztürk 2009). In (10), we create a binding configuration involving a Korean reflexive which needs to be bound by the indefinite subject. As expected, only the case-marked indefinite can do so.

(10) a. **Koyangi-ka**$_1$ [ku casin-ul]$_1$ halth-ass-e.
cat-NOM 3SG self-ACC lick-PST-INT
'A cat washed itself.'

b. ***Koyangi**$_1$ [ku casin-ul]$_1$ halth-ass-e.
cat 3SG self-ACC lick-PST-INT
'A cat washed itself.'

Parallel binding configurations, however, where the binder constitutes a demonstrative phrase (11) or a numeral classifier (12) display no sensitivity to case marking.

(11) a. [**I koyangi(-ka)**]$_1$ [ku casin-ul]$_1$ halth-ass-e.
DEM cat-NOM 3SG self-ACC lick-PST-INT
'This cat$_i$ washed itself$_i$.'

b. [**Ce koyangi(-ka)**]$_1$ [ku casin-ul]$_1$ halth-ass-e.
DEM cat-NOM 3SG self-ACC lick-PST-INT
'That cat$_i$ washed itself$_i$.'

(12) a. [**Koyangi(-ka) han-mali**]$_1$ [ku casin-ul]$_1$ halth-ass-e.
cat-NOM one-CL 3SG self-ACC lick-PST-INT
'One cat$_i$ washed itself$_i$.'

b. [**Koyangi(-ka) twu-mali**]$_1$ [ku casin-ul]$_1$ halth-ass-e.
cat-NOM two-CL 3SG self-ACC lick-PST-INT
'Two cats$_i$ washed themselves$_i$.'

In line with (10), Korean indefinites without case marking cannot control into a complement clause, shown here for subject (13) and object control (14).

(13) a. **Haksayng-i**$_1$ [PRO$_1$ ttena-keyss-ta-ko] kyelsimhay-ss-e.
student-NOM leave-VOL-DECL-COMP decide-PST-INT
'A student decided to leave.'

b. *__Haksayng__$_1$ [PRO$_1$ ttena-keyss-ta-ko] kyelsimhay-ss-e.
student leave-VOL-DECL-COMP decide-PST-INT
'A student decided to leave.'

(14) a. Yusu-ka **haksayng-ul**$_1$ [PRO$_1$ ttena-la-ko] seltukhay-ss-e.
Yusu-NOM student-ACC leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'

b. *Yusu-ka **haksayng**$_1$ [PRO$_1$ ttena-la-ko] seltukhay-ss-e.
Yusu-NOM student leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'

For demonstrative phrases and numeral classifiers, however, no such interactions are found.

(15) [**I/ce haksayng(-i)**]$_1$ [PRO$_1$ ttena-keyss-ta-ko] kyelsimhay-ss-e.
DEM student-NOM leave-VOL-DECL-COMP decide-PST-INT
'This student decided to leave.'

(16) [**Haksayng(-i) han-myeng**]$_1$ [PRO$_1$ ttena-keyss-ta-ko] kyelsimhay-ss-e.
student-NOM one-CL leave-VOL-DECL-COMP decide-PST-INT
'One student decided to leave.'

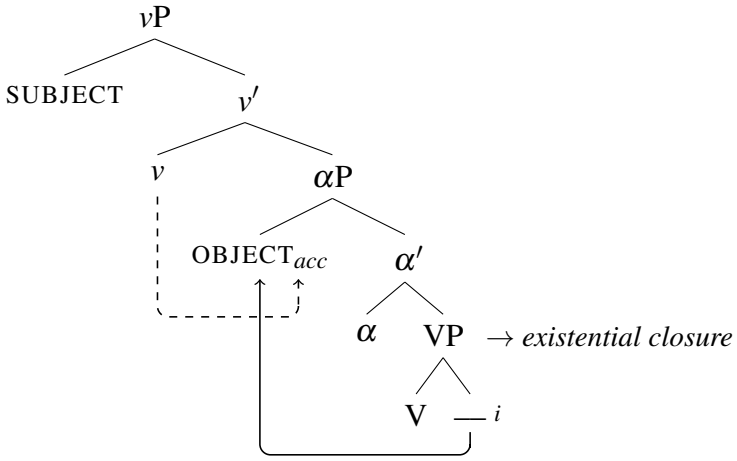
(17) [**Haksayng(-i) twu-myeng**]$_1$ [PRO$_1$ ttena-keyss-ta-ko] kyelsimhay-ss-e.
student-NOM two-CL leave-VOL-DECL-COMP decide-PST-INT
'Two students decided to leave.'

In the remainder of the paper, we will argue for two conclusions one can draw from the Korean data set. First, DP/NP approaches can account for the data set, in contrast to raising accounts. Second, a post-syntactic case marking approach based on prominence scales is needed to account for the full set of data, as a syntactic case licensing account makes the wrong predictions.

## 3 Raising analyses

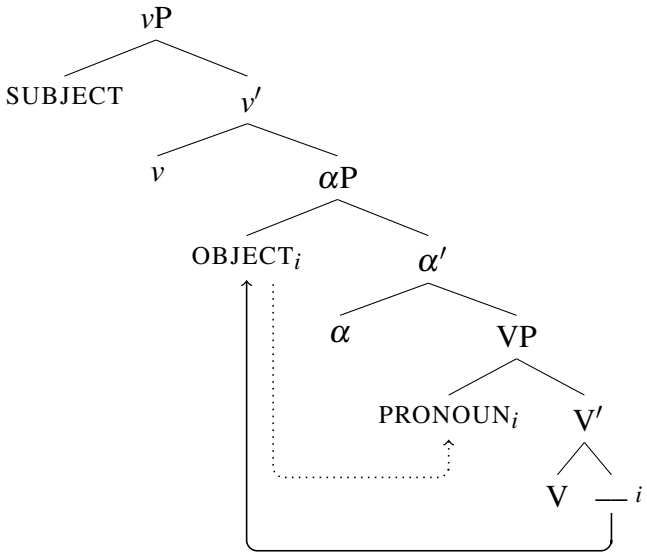
Raising accounts of DOM model the interaction of case marking and low scope via *object shift*, which is illustrated in (18). The raised position has been taken to be the locus of case assignment (Torrego Salcedo 1999; Öztürk 2009; Dobrovie-Sorin et al. 2006; Rodríguez-Mondoñedo 2007; López 2012), the escape of existential closure (Diesing 1992; Kelepir 2001), or both (Bhatt 2007; Bhatt and Anagnostopoulou 1996). Consequently, objects that do not raise receive obligatory low scope and do not get assigned case.

(18)




The binding and control properties are rarely addressed in the raising literature. Some accounts propose to derive these effects from the landing site of the case-marked object (Bhatt 2007; López 2012). The binding data include double object constructions where the bindee is the indirect object, as shown in (19). The argument can be transferred to adjunct control, where the control clause is possibly attached in a position similar to where the pronoun is merged in (19).

(19)




Crucially, none of the binding and control data we have presented in the previous section can

be captured with the rationale of the raising account. The indefinite subject which lacks case-marking in (10b) is arguably first-merged in a position where it c-commands the reflexive pronoun. Moreover, the control data in (13)-(14) include complement control clauses, where the controller is presumably first-merged in a position where it can c-command into the control clause. Hence, no movement is necessary and no interactions with case marking are expected. Even if there was a way to tie the binding and control data to a movement operation, we would still have to explain why for a subset of noun types, i.e. numeral classifiers and demonstratives, this movement operation is not necessary to become a binder/controller.

## 4 DP/NP approaches

Size based approaches to PNI/DOM capitalize on the assumption that smaller arguments like NPs do not need case (Massam 2001; Dayal 2011; Barrie and Li 2015), whereas DPs need case. One immediate benefit of this account is that the syntactic size can be related to different semantic objects. DPs can be of type $e$ or $\langle et,t\rangle$, which enables them to take flexible scope. NPs, however, are properties, they don't take scope, which in turn leads to a compositionality problem with the verb. One prominent way to resolve this issue is to assume additional incorporation denotations for V/$v$ (van Geenhoven 1998; Dayal 2011; Jo and Palaz 2019), which select for $\langle e,t\rangle$-type arguments and where the variable that the PNI-ed noun predicates over is existentially closed off inside the verb denotation, thereby ensuring obligatory low scope.[5] A simple illustration of this idea is given in (20), based on the scope configuration in (7). In (7a), the indefinite object is a case-marked DP and can combine with the standard verb denotation for *saci*, either directly as a choice function or as an existential quantifier via QR, which opens up the possibility for a wide scope existential interpretation. In (7b) though, the indefinite object is a non-case marked NP which denotes a property and thus combines with $saci_{inc}$, which leaves no room for the negative operator to take scope below the existential.

(20) a. $[\![\text{saci}]\!] = \lambda y_e\ \lambda x[\text{BUY(x,y)}]$ *(7a)*

b. $[\![\text{saci}_{inc}]\!] = \lambda P_{\langle e,t\rangle}\ \lambda x\ \exists y[\text{BUY(x,y)}\wedge\text{P(y)}]$ *(7b)*

c. $[\![(7b)]\!] = \neg\exists y[\text{BUY}(yusu,y)\wedge\text{FLOWER}(y)]$

The binding and control properties are not addressed in the DP/NP literature. There is, however, a promising way to derive them from the $\langle e,t\rangle$-denotation of NPs. In (21) and (22), we provide the LFs for the binding configurations in (10). Following Heim and Kratzer (1998), binding requires movement of the binder, which subsequently binds its trace and every pronoun co-indexed with it. We believe that the LF in (22) is blocked for independent reasons, thus resulting

5. Other ways to resolve the compositionality problem is by adopting a new compositional mode to combine predicates and verbs (Chung and Ladusaw 2004) or by assuming a type-shifting determiner on PNI-ed nouns (Driemel 2020a,b).

in the unacceptability of (10b).

(21) a. **Koyangi-ka**$_1$ [ku casin-ul]$_1$ halth-ass-e. *(repeated from (10a))*

b. DP$_1$ $\lambda f_e$ ... $[trace_e]_1$ ... $[pronoun_e]_1$

(22) a. ***Koyangi**$_1$ [ku casin-ul]$_1$ halth-ass-e. *(repeated from (10b))*

b. NP$_1$ $\lambda f_{\langle e,t\rangle}$ ... $[trace_{\langle e,t\rangle}]_1$ ... $[pronoun_{\langle e,t\rangle}]_1$

Recently, Poole (2017, 2018) has argued that there are no higher type traces, based on a number constructions involving property-type arguments which can only undergo movement operations that obligatorily reconstruct. This ban on higher type traces is formulated in (23). Given that the LFs in (21) and (22) require scope-shift movement, (22b) is blocked by the TIC. Consequently, if NPs denote properties, they cannot act as binders.

(23) TRACE INTERPRETATION CONSTRAINT (TIC) (Poole 2018: 217)
*[XP$_1$ [$\lambda f_\sigma$ [ ... [$f_\sigma$]$_1$ ... ]]], where $\sigma$ is not an individual type

The control facts follow without further ado, if we assume that for a control relation to be established the control argument has to bind PRO (Chomsky 1981; Manzini 1983; Landau 2015).

(24) a. Yusu-ka **haksayng-ul**$_1$ [PRO$_1$ ttena-la-ko] seltukhay-ss-e. *(repeated from (14a))*

b. ... DP$_1$ $\lambda f_e$ ... $[trace_e]_1$ ... [ $[\text{PRO}_e]_1$ ... ] ...

(25) a. *Yusu-ka **haksayng**$_1$ [PRO$_1$ ttena-la-ko] seltukhay-ss-e. *(repeated from (14b))*

b. ... NP$_1$ $\lambda f_{\langle e,t\rangle}$ ... $[trace_{\langle e,t\rangle}]_1$ ... [ $[\text{PRO}_{\langle e,t\rangle}]_1$ ... ] ...

Now that we have developed a DP/NP account covering all semantic interactions with case loss, we come back to the Korean data set. Note that attributing the loss of case marking to the NP status will not suffice, as demonstratives and numeral classifiers do not have to be case marked to take wide scope and/or undergo binding or control. Hence, we propose to combine the DP/NP account with the rationale of a definiteness scale, shown in (26), where NPs instantiate the lowest scale mates and all other scale mates are syntactically bigger than an NP.

(26) *Definiteness scale in Korean*

(3RD) PRONOUN $\succ$ DEF $\succ$ DP-INDEF $\succ$ DEM $\succ$ NUM-CL $\succ$ NP-INDEF$_{\langle e,t\rangle}$

CASE $\Leftarrow$ | OPTIONAL CASE | $\Rightarrow$ NO CASE

The semantic effects (scope/binding/control) for indefinites derive from the size difference: NPs denote properties. NP indefinites are also never marked for case since they constitute the lowest member of the definites scale. Finally, the scale-based approach has to leave open the possibility for a set of noun types which are optionally marked for case.

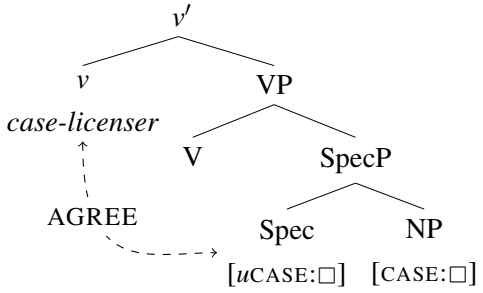
## 5 Case-marking in syntax

How and in which module do we implement the definiteness scale? Kalin (2018) proposes that prominence scales can be translated into privative nominal projections (see also Tyler 2019; Levin 2019). A definite argument e.g., is different from an indefinite specific argument by containing one more nominal projection layer (27). The number of projections increases, the higher the noun type is ranked on the prominence scale.

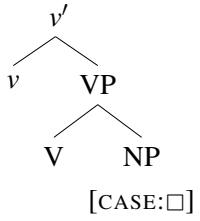
(27) *definite:* [$_{\text{DefP}}$ Def [$_{\text{SpecP}}$ Spec NP]] vs. *specific indefinite:* [$_{\text{SpecP}}$ Spec NP]

Kalin assumes that an uninterpretable case feature [*u*CASE:□] must be licensed via AGREE, in contrast to an interpretable case feature [CASE:□], and languages vary as to which nominal projection introduces [*u*CASE:□]. The result of AGREE can be detected as agreement morphology on the verb and/or case morphology on the noun. In order to derive the case properties of Korean indefinites, we have to assume that case marked indefinites constitute SpecPs, where the Spec head comes with an uninterpretable case feature that needs to be licensed (28), while non-case marked indefinites constitute NPs with an interpretable case feature that does not have to be licensed (29).

(28) DP-INDEF:

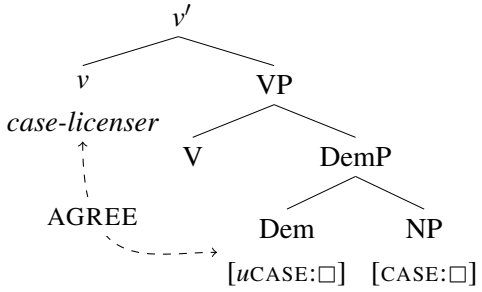



(29) NP-INDEF:

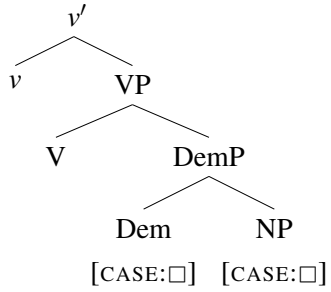



One problem we encounter with this apporach is that Kalin's system does not per se predict noun types to exist that show optional case marking. Given the privative nature of the nominal projections, we expect a one-to-one mapping of a scale mate with the presence/absence of a morphological marker. Hence, we are forced to enrich Kalin's account with the assumption that some nominal layers can introduce both [*u*CASE:□] and [CASE:□], illustrated for Korean demonstratives in (30) and (31).

(30) DEM:




(31) DEM:




The second, potentially more severe, problem concerns the prediction that differential case marking interacts with other AGREE-related operations. As is shown in (32), this prediction is not borne out in Korean. Korean displays honorific agreement (e.g. Choi and Harley 2019) as well as honorific differential case marking. Kalin's theory predicts that without the honorific case marker there should be no honorific agreement marker either, as the AGREE operation has not taken place. Case marking, however, is independent of agreement, as shown in (32).

(32) Halapeci(-kkeyse) cenyek-ul capswu-si-n-ta.
grandfather-HON.NOM dinner-ACC eat-HON-PRS-DECL
'Grandfather is having dinner.'

We conclude that the case licensing account is not tenable in light of the Korean data. The next section will explore a different proposal how to implement prominence scales.

## 6 Case-marking in post-syntax

Another way to derive the effects of a prominence scale like (26) is to translate the scale into an OT-ranking (Aissen 1999, 2003), which regulates the realization of case features based on economy and iconicity pressures. We will entertain the post-syntactic version of this OT-account (Keine and Müller 2011, 2015) since the absence of case marking does not seem to interact with other syntactic operations. We propose that the only size difference relevant in this system is the one between NP and DP, where NPs constitute the lowest member of the scale, but DPs can instantiate different nominal types, depending on the feature bundles of the D heads. The scale in (33) is a representation of (26) in terms of feature bundles. Note that only the lowest scale mate lacks a [+D] feature. This is the argument type which is interpreted at LF as a property.

(33) *Definiteness scale in Korean*

$[3,\text{+D}] \succ [\text{+DEF,+D}] \succ [\text{-DEF,+D}] \succ [\text{+DEM,+D}] \succ [\text{+CL,+D}] \succ [\text{-DEF}]_{\langle e,t\rangle}$

CASE $\Leftarrow$ | OPTIONAL CASE | $\Rightarrow$ NO CASE

The syntactic features are accessible in post-syntax. They are made reference to via faithful-

ness constraints, locally conjoined with MAX-C which preserves case marking. The markedness constraint *[-OBL] (captures both nominative and accusative) triggers case deletion and is ranked depending on the cut-off point on the definiteness scale. The constraints for DEM and NUM-CL are not ranked with respect *[-OBL], hence case marking is optional with them.

(34) *Constraint ranking*:

$$\left\{\begin{array}{l} *[3,+D] \,\&\, \textsc{Max-C} \\ *[+DEF,+D] \,\&\, \textsc{Max-C} \\ *[-DEF,+D] \,\&\, \textsc{Max-C} \end{array}\right\} \gg \left\{\begin{array}{l} *[+DEM,+D] \,\&\, \textsc{Max-C} \\ *[+CL,+D] \,\&\, \textsc{Max-C} \\ *[-OBL] \end{array}\right\} \gg \left\{ *[-DEF] \,\&\, \textsc{Max-C} \right\}$$

Every argument type is assigned case in syntax proper. Thus, each input for the OT tableaux will contain a decomposed case feature. The ranking of the constraints, however, decides whether [-OBL] will be realized. Local conjunction produces constraint ties (a tie is not violated if at least one constraint of the tie is satisfied). Thus, a constraint like *[-DEF,+D] & MAX-C expresses that the feature bundle [-DEF,+D] can be realized as long as it is case marked. Since the markedness constraint *[-OBL] is ranked lower, DP-INDEF will always be case marked, see (35). By the same rationale, NP-INDEF will never be case marked, as the faithfulness constraint *[-DEF] & MAX-C is ranked lower than *[-OBL], shown in (36).

(35) DP-INDEF case-marked

| [-DEF,+D][-OBL] | *[+DEF,+D] & MAX-C | *[-DEF,+D] & MAX-C | *[+DEM,+D] & MAX-C | *[+CL,+D] & MAX-C | *[-OBL] | *[-DEF] & MAX-C |
|---|---|---|---|---|---|---|
| a. [-DEF,+D] | | *! | | | | |
| b. ☞ [-DEF,+D][-OBL] | | | | | * | |

(36) NP-INDEF not case-marked

| [-DEF][-OBL] | *[+DEF,+D] & MAX-C | *[-DEF,+D] & MAX-C | *[+DEM,+D] & MAX-C | *[+CL,+D] & MAX-C | *[-OBL] | *[-DEF] & MAX-C |
|---|---|---|---|---|---|---|
| a. ☞ [-DEF] | | | | | | * |
| b. [-DEF][-OBL] | | | | | *! | |

According to the ranking in (34), the faithfulness constraints for demonstratives and numeral classifiers are not ranked wrt. *[-OBL], indicated in (37) and (38) with dotted lines. This leads to optionality of case marking.

(37) DEM optionally case-marked

| [+DEM,+D][-OBL] | *[+DEF,+D] & MAX-C | *[-DEF,+D] & MAX-C | *[+DEM,+D] & MAX-C | *[+CL,+D] & MAX-C | *[-OBL] | *[-DEF] & MAX-C |
|---|---|---|---|---|---|---|
| a. ☞ [+DEM,+D] | | | * | | | |
| b. ☞ [+DEM,+D][-OBL] | | | | | * | |

(38) NUM-CL optionally case-marked

| [+CL,+D][-OBL] | *[+DEF,+D] & MAX-C | *[-DEF,+D] & MAX-C | *[+DEM,+D] & MAX-C | *[+CL,+D] & MAX-C | *[-OBL] | *[-DEF] & MAX-C |
|---|---|---|---|---|---|---|
| a. ☞ [+CL,+D] | | | | * | | |
| b. ☞ [+CL,+D][-OBL] | | | | | * | |

This section has shown how post-syntactic case realization guided by scale-based reasoning and a categorial distinction between DP and NP can derive the full set of Korean data.

## 7 Summary and outlook

In Korean, case marking is optional for a number of noun types. As these noun types rank low on the definiteness scale, the case-marking properties can be identified as differential argument marking. Only a subset of noun types, however, show an interaction of case marking with semantic effects in terms of scope, binding, and control. The semantic effects can be explained by DP/NP accounts, often proposed for the phenomenon of pseudo-incorporation. We have shown that Korean case marking can be modeled via (post-syntactic) realization of case features, regulated by an OT-ranking which maps to the definiteness scale. While the current account is able to capture the differential case marking properties in Korean, there are at least two more aspects of the pattern, we will address in the remainder of the paper.

One property which we have considered so far is mobility. PNI-ed arguments have been argued to be immobile in languages like Tamil, Sakha, and Mongolian (Baker 2014; Guntsetseg 2016), whereas other languages like Hindi do not show movement restrictions (Dayal 2011), implying that there is considerable cross-linguistic variation. For Korean, we can observe that indefinites without case marking are limited in their movement properties, in the same way that VPs are limited. In fact, there is a connection between VP-movement and PNI-movement across a number of PNI languages (Driemel 2020b). The movement restrictions challenge the DP/NP account proposed in this paper and potentially call for a different account of differential case marking, see Driemel (2020a,b) for discussion.

Finally, let us address the class of noun types we have so far excluded from the discussion. In Korean, weak definite noun phrases, proper names, and local 1st/2nd person pronouns also show optional case marking. For these noun types there seems to be an interaction between case loss and semantic effects. Hence, they pattern with indefinites in Korean, which is somewhat unexpected from a typological perspective. Since there is no space to run through all diagnostics, we will simply present the basic data and sketch a preliminary analysis. We refer the reader to Driemel (2020a) for a complete representation and discussion of the semantic interactions.

In (39), we demonstrate that case marking is optional for local pronouns in subject and object

position. The data in (40) shows that this is also true for proper names.

(39) a. Yusu-ka na(-lul)/ne(-lul) manna-ss-e.
Yusu-NOM I-ACC/you-ACC meet-PST-INT
'Yusu met me/you.'

b. Na(-ka)/ne(-ka) wus-ess-e.
I-NOM/you-NOM laugh-PST-INT
'I/you laughed.'

(40) a. Yusu-ka nwutheylla(-ul) sa-ss-e.
Yusu-NOM Nutella-ACC buy-PST-INT
'Yusu bought Nutella.'

b. Suzi(-ka) wus-ess-e.
Suzi-NOM laugh-PST-INT
'Suzi laughed.'

Recall from section 2 that case marking is obligatory for 3rd person pronouns and anaphoric definite phrases. One way in which local pronouns and proper names are different from these noun types is that interlocuters immediately agree on the referent in (39) and (40) without the need for a preceding context. In contrast, 3rd pronouns and and anaphoric definites require an antecedent to determine their referent. If this is what matters for differential case marking in Korean, we predict that uniqueness based definites should also allow for optional case marking. This is only partially true, as can be seen in (41), where the non-case marked definite *yewang* is only acceptable if it co-occurs with the determiner *ku*.

(41) a. Na-nun yewang-ul eceyspam mannasse.
I-TOP queen-ACC last.night met
'I met the queen last night.'

b.?* Na-nun yewang eceyspam mannasse.
I-TOP queen last.night met
'I met the queen last night.'

c. ?Na-nun ku yewang eceyspam mannasse.
I-TOP DEM queen last.night met
'I met the queen last night.'

The status of *ku* is subject to debate (Ch. Lee 1989, 1992; Kang 2015, 2021; Ahn 2017). Sohn (1999: 210) ascribes *ku* the function of a demonstrative which, in contrast to *ce/i*, signals that the referent is "known to both speaker and hearer". We believe that the pattern in (41) suggests an analysis of *ku* as the overt spell-out of an ident-type shifter (Partee 1986), which additionally presupposes that interlocutors universally agree on the referent of the singleton set created by the type shifter, see (42).

(42) $[\![ku]\!] = \lambda x_e \lambda y_e [x = y]$,
*defined iff speaker and hearer can universally agree on x's referent*

The type-shifter applies to *yewang* in (41c) to derive the definite reading, while at the same time turning the argument into a property, thereby enabling differential case marking. This proposal presupposes that the type shifter also changes the syntactic category from DP to NP. We can extend this analysis to (39) and (40), albeit with the additional assumption that the ident-type shifter does not always have to be spelled out overtly.

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