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Differential case marking in Korean: bare nouns vs. numeral classifiers and demonstratives

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The phenomenon

Optional case marking correlating with semantic effects is often analyzed as **pseudo-noun incorporation** (PNI), where a nominal forms a closer-than-usual relation with the verb (*Massam 2001*), or **differential object marking** (DOM), where the addition of a case marker signals more discourse prominence (*Bossong 1991, Aissen 2003*).

(1) *Turkish*

(Öztürk 2005)

a. Ali **kitab**-I da okudu.

Ali.NOM book-ACC also read.

‘Ali also read the book.’

b. Ali **kitab** da okudu.

Ali.NOM book also read.

‘Ali also did book reading.’

PNI/DOM

A size effect:

PNI/DOM is often restricted to bare nouns with indefinite, sometimes non-specific, meaning.

Subjects and objects can undergo PNI/DOM

Subjects and objects show optional case marking in Korean.

- (2) 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.'

Similar observations have been made for Turkish (*Kornfilt 2003, 2008, Öztürk 2009*).

We will henceforth talk about **differential argument marking** (DAM) when referring to the Korean data set.

Size effect

Case drop often affects the least prominent noun type in PNI/DOM languages.

(3) *Mongolian*

(Guntsetseg 2016)

- a. Bi **tuun*(-ig)** / **Tuya*(-g)** / **ene uul*(-ig)** har-san.
I 3.ACC / Tuya-ACC / this mountain-ACC see-PST
'I saw her/Tuya/this mountain.'
- b. Delxij **nar*(-yg)** tojr-dog.
earth 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 my collection-ABL a book-ACC/book-ACC steal-PST
'Someone stole a specific book / a non-specific book from my collection.'

(4) *Definiteness scale*

(Silverstein 1976, Aissen 1999, 2003)

PRONOUN \succ PROPER NAME \succ DEF \succ DEM \succ INDEF SPEC \succ INDEF NON-SPEC

CASE $\leftarrow \leftarrow$

$\Rightarrow \Rightarrow$ NO CASE

Size effect in Korean (Ha. Lee 2006, 2008, Kwon and Zribi-Hertz 2006, 2008)

In Korean, significantly more noun types are affected by case drop.

- (5) a. **Ku^{??}(-ka)/Kunye^{??}(-ka)** wus-ess-e. *Korean*
he-NOM/she-NOM laugh-PST-INT
'She/he laughed.'
- b. Ecey na-nun yeca-lul manna-ss-e. Na-nun **yeca*(-lul)** kuly-ess-e.
yesterday I-TOP woman-ACC meet-PST-INT I-TOP woman-ACC paint-PST-INT
'I met a woman yesterday. I painted the woman.'
- c. Yusu-ka {i/ce **kkoch(-ul)**} / {**kkoch(-ul)** **twu-songi**} sa-ss-e.
Yusu-NOM this/that flower-ACC flower-ACC two-CL buy-PST-INT.
'Yusu bought {this/that flower} / {two flowers}.'
- d. Minho-ka **chayk(-ul)** ilk-nun-ta.
Minho-NOM book-ACC read-PRS-DECL
'Minho is reading a book (specific or non-specific).'

(6) *Definiteness scale in Korean*

(3RD) PRONOUN \succ DEF \succ DEM \succ NUM-CL \succ INDEF SPEC \succ INDEF NON-SPEC

CASE $\leftarrow\leftarrow$

$\Rightarrow\Rightarrow$ NO CASE

Questions for the talk

- ▶ Are PNI and DOM two sides of the same coin? If not, what is the difference?
- ▶ Are there languages where some noun types can be pseudo-incorporated and others undergo DOM?
- ▶ Which one affects bare nouns?
- ▶ How would current DOM and PNI accounts capture languages which display pseudo-incorporated noun types as well as DOM-marked noun types?

Outline of the talk

Since there is more than one noun type which can show optional case marking, Korean provides a good case study to test for each noun type whether case loss always correlates with semantic effects.

- We investigated **demonstrative phrases**, **numeral classifier phrases**, and **bare nouns** wrt. established PNI/DAM diagnostics:
 - 1 case loss correlating with obligatory low scope (Kelepir 2001, Öztürk 2009, Dayal 2011)
 - 2 case loss correlating with lack of binding (Leonetti 2004, López 2012, Öztürk 2009)
 - 3 case loss correlating with lack of control (Öztürk 2009, Lyutikova and Pereltsvaig 2013)
- Results:
 - Only bare nouns show a correlation between case marking and scope.
 - Only bare nouns show a correlation between case marking and binding.
 - Only bare nouns show a correlation between case marking and control.

Outline of the talk

What can we learn from the Korean data more generally?

- **Optional case marking does not necessarily imply a correlation with scope/binding/control.**
 - Case loss with bare nouns due to NP-status (PNI).
 - Case loss with demonstratives and numeral classifiers due to position on prominence scale (DOM).
- *Theoretical implications:*
 - 1 Raising accounts¹ cannot capture the Korean data.
 - 2 DP/NP approaches² can account for the data set more readily.
 - 3 However, a syntactic case licensing approach³ makes the wrong predictions.
 - 4 A post-syntactic case marking approach⁴ based on OT-rankings is required.

¹Bhatt and Anagnostopoulou (1996), Kelepir (2001), Öztürk (2005, 2009), Bhatt (2007), Dobrovie-Sorin et al. (2006), López (2012), Baker (2015)

²van Geenhoven (1998), Massam (2001), Dayal (2011), Barrie and Li (2015), Kalin (2018)

³Kalin (2018), Levin (2019), Tyler (2019), van Urk (2019)

⁴Aissen (1999, 2003), Keine and Müller (2008)

Data

Size effect in Korean

- (7) 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. *bare noun*
Minho-NOM book-ACC read-PRS-DECL
'Minho is reading a book (specific or non-specific).'

Scope: bare nouns

Indefinites cannot receive a wide scope reading wrt. negation if they are not marked for case, see (9b). Similar interactions have been observed for *Spanish* (López 2012), *Turkish* (Keleşir 2001), *Kannada* (Lidz 2006), *Tatar* (Ljutikova and Pereltsvaig 2013), *Hindi* (Dayal 2011) etc.

(8) Context $\neg\exists$:

Yusu's friend is 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. case
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. no case
flower Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

(9) Context $\exists\neg$:

Yusu's friend has only a few flowers left to sell and he wants to sell everything by the end of the day. Yusu decides to buy some of them but not all. So there is at least one flower he did not buy.

- a. **Kkoch-ul**₁ Yusu-ka ___₁ sa-ci anh-ass-ta. case
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. no case
flower Yusu-NOM buy-CI NEG-PST-DECL
'Yusu did not buy a flower.'

Scope: numeral classifiers

In contrast, case marking on numeral classifiers is not sensitive to wide scope contexts.

(10) *Context 1*→:

Yusu's friend wanted to sell three flowers and Yusu bought two from him. So there is one flower Yusu did not buy.

a. [Kkoch-ul han-songi]₁ Yusu-ka ___₁ sa-ci anh-ass-ta. *case*
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. *no case*
flower one-CL Yusu-NOM buy-CI NEG-PST-DECL
'One flower, Yusu did not buy.'

(11) *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. *case*
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. *no case*
bus one-CL to.my.surprise come-CI NEG-PST-DECL
'One bus, did not come.'

(Demonstrative phrases cannot be tested for scopal effects.)

Binding: bare nouns

Korean indefinites without case marking cannot bind a pronoun.

(12) Bare nouns

- a. **Koyangi-ka**₁ [ku casin-ul]₁ halth-ass-e. *case*
cat-NOM 3rd self-ACC lick-PST-INT
'A cat washed itself.'
- b. ***Koyangi**₁ [ku casin-ul]₁ halth-ass-e. *no case*
cat 3rd self-ACC lick-PST-INT
'A cat washed itself.'

Similar effects have been observed for DOM in *Hindi* (Bhatt 2007), DOM in *Spanish* (Leonetti 2004, López 2012), and DAM in *Turkish* (Öztürk 2009).

Binding: demonstratives and numeral classifiers

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

(13) Demonstratives

- 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.'

(14) Numeral classifiers

- 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.'

Control: bare nouns

Korean indefinites without case marking cannot control into a complement clause. Similar effects have been observed for DOM in *Hindi* (Bhatt 2007), DOM in *Spanish* (Leonetti 2004, López 2012), DAM in *Turkish* (Öztürk 2009), and DOM in *Tartar* (Lyutikova and Pereltsvaig 2013).

(15) Object control for bare nouns

- a. Yusu-ka **haksayng-ul**₁ [PRO₁ ttena-la-ko] seltukhay-ss-e. *case*
Yusu-NOM student-ACC leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'
- b. *Yusu-ka **haksayng**₁ [PRO₁ ttena-la-ko] seltukhay-ss-e. *no case*
Yusu-NOM student leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'

(16) Subject control for bare nouns

- a. **Haksayng-i**₁ [PRO₁ ttena-keyss-ta-ko] kyelsimhay-ss-e *case*
student-NOM leave-VOL-DECL-COMP decide-PST-INT
'A student decided to leave.'
- b. ***Haksayng**₁ [PRO₁ ttena-keyss-ta-ko] kyelsimhay-ss-e *no case*
student leave-VOL-DECL-COMP decide-PST-INT
'A student decided to leave.'

Control: demonstratives and numeral classifiers

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

- (17) a. [I/ce **haksayng(-i)**]₁ [PRO₁ ttena-keyss-ta-ko] kyelsimhay-ss-e
DEM student-NOM leave-VOL-DECL-COMP decide-PST-INT
'This student decided to leave.'
- b. [**Haksayng(-i) han-myeng**]₁ [PRO₁ ttena-keyss-ta-ko]
student-NOM one-CL leave-VOL-DECL-COMP
kyelsimhay-ss-e
decide-PST-INT
'One student decided to leave.'
- c. [**Haksayng(-i) twu-myeng**]₁ [PRO₁ ttena-keyss-ta-ko]
student-NOM two-CL leave-VOL-DECL-COMP
kyelsimhay-ss-e
decide-PST-INT
'Two students decided to leave.'

Interim summary

Korean	CASE			CASE DROP		
	DEM	NUM-CL	INDEF	DEM	NUM-CL	INDEF
<i>wide scope</i>	–	✓	✓	–	✓	✗
<i>binding</i>	✓	✓	✓	✓	✓	✗
<i>control</i>	✓	✓	✓	✓	✓	✗

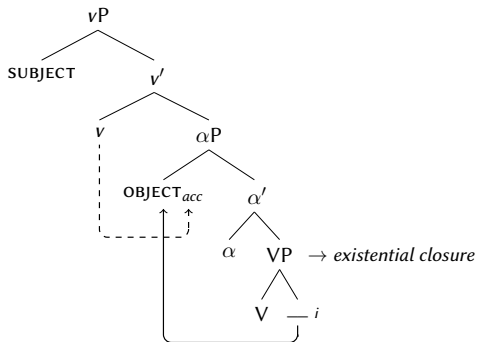
Theoretical implications

Raising analyses of DOM/PNI

Raising accounts of DOM model the interaction of case marking and low scope via **object shift**. The raised position has been taken to be the locus of ...

- case assignment (Torrego Salcedo 1999, Öztürk 2005, 2009, Dobrovie-Sorin et al. 2006, Rodríguez-Mondoñedo 2007, Merchant 2009, López 2012, Baker 2015)
- the escape of existential closure (Diesing 1992, Kelepir 2001)
- or both (Bhatt 2007, Bhatt and Anagnostopoulou 1996).

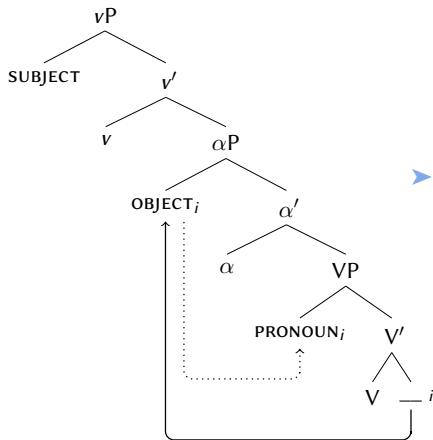
(18)



Raising analyses of DOM/PNI

The binding and the control facts are rarely addressed. Some accounts propose to derive these effects from the landing site of the case-marked object (Bhatt 2007, López 2012).

(19)

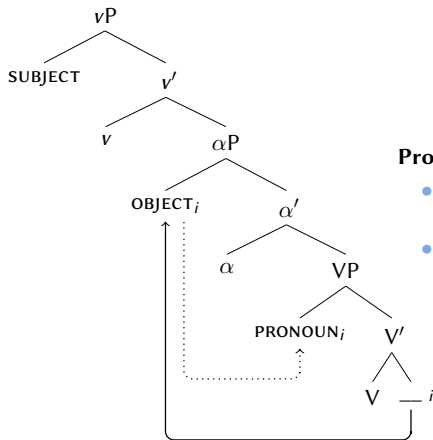


- This argument has been made for DOM-marked object binding reflexives in object position and DOM-marked objects binding into an adjunct control clause.

Raising analyses of DOM/PNI

The binding and the control facts are rarely addressed. Some accounts propose to derive these effects from the landing site of the case-marked object (Bhatt 2007, López 2012).

(20)



Problem I:

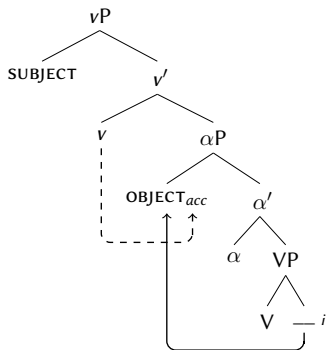
- The binding and control diagnostics also hold for subjects in Korean.
- Even for objects, the rationale is only valid for adjunct control, and not object control.

Raising analyses of DOM/PNI

Problem II:

- Recall that *numeral classifiers* and *demonstratives* are optionally marked for case without an effect on binding and control.
- The high case assignment position cannot be the precondition to act as a binder or controller.

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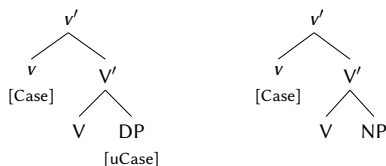


DP/NP approaches of PNI/DOM

The **size** of the noun phrase correlates with meaning and **case**.

- smaller arguments like NPs do not need case (Massam 2001, Dayal 2011, Barrie and Li 2015, Müller 2018), DPs need case

(22)



- case-marking is tied to the highest projection in an elaborate nominal projection structure (Kalin 2018, van Urk 2019, Levin 2019), often used for DOM-patterns related to animacy and specificity

DP/NP approaches of PNI/DOM

The **size** of the noun phrase correlates with **meaning** and case.

- DP can be of type $\langle e \rangle$ or $\langle et, t \rangle$ or constitute choice functions which enables them to take flexible scope
- NP are properties: $\langle e, t \rangle$, they don't take scope
- compositionality: incorporation denotations for V/v (van Geenhoven 1998, Dayal 2011, Jo and Palaz 2019); a new compositional mode to combine predicates and verbs (Chung and Ladusaw 2004); a type-shifting determiner on PNI-ed nouns (Driemel 2023)

$$(23) \quad \text{a. } \llbracket \text{seek} \rrbracket = \lambda y_e \lambda x [\text{SEEK}(x,y)] \quad (\text{van Geenhoven 1998})$$

$$\text{b. } \llbracket \text{seek}_{inc} \rrbracket = \lambda P_{\langle e,t \rangle} \lambda x \exists y [\text{SEEK}(x,y) \wedge P(y)]$$

$$(24) \quad \text{a. } \llbracket \text{catch} \rrbracket = \lambda x_e \lambda y \lambda e [\text{CATCH}(e) \ \& \ \text{AG}(e) = y \ \& \ \text{TH}(e) = x] \quad (\text{Dayal 2011})$$

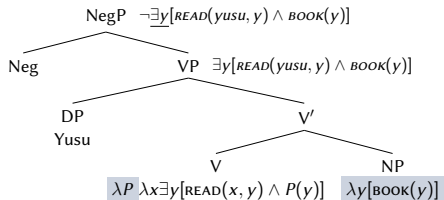
$$\text{b. } \llbracket \text{catch}_{inc} \rrbracket = \lambda P_{\langle e,t \rangle} \lambda y \lambda e [P\text{-CATCH}(e) \ \& \ \text{AG}(e) = y],$$

where $\exists e [P\text{-CATCH}(e)] = 1$ iff $\exists e' [\text{CATCH}(e') \ \& \ \exists x [P(x) \ \& \ \text{TH}(e') = x]]$

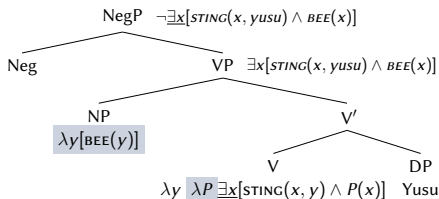
DP/NP approaches of PNI/DOM

A simplified illustration of the scope properties is given below.

(25) No case on indefinite object:



(26) No case on indefinite subject:



DP/NP approaches of PNI/DOM

The binding and control properties are often not addressed in the literature. There is, however, a promising way to derive them from the $\langle e, t \rangle$ -denotation of NPs.

- (27) a. **Koyangi-ka**₁ [ku casin-ul]₁ halth-ass-e.
cat-NOM 3SG SELF-ACC lick-PST-DECL
'A cat washes itself.'
- b. DP₁ $\lambda f_e \dots [trace_e]_1 \dots$ *pronoun*₁ ... *variable binding à la Heim and Kratzer (1998)*
- (28) a. ***Koyangi**₁ [ku casin-ul]₁ halth-ass-e.
cat 3SG SELF-ACC lick-PST-DECL
'A cat washes itself.'
- b. NP₁ $\lambda f_{\langle e, t \rangle} \dots [trace_{\langle e, t \rangle}]_1 \dots$ *pronoun*₁ ...

Based on observations by Postal (1994), Poole (2017, 2018) argues that there are no higher type traces, see (29). We think (28b) is blocked by the TIC.

- (29) TRACE INTERPRETATION CONSTRAINT (TIC) (Poole 2018:217)
*[XP₁ [λf_σ [... [f_σ]₁ ...]]], where σ is not an individual type

The TIC

Evidence for the TIC comes from four different constructions (*existential constructions, change-of-color verbs, naming verbs, predicate nominals*) which arguably require $\langle e, t \rangle$ -type arguments since simple pronouns are blocked from appearing.

- (30) TRACE INTERPRETATION CONSTRAINT (TIC) (Poole 2018:217)
* $[XP_1 [\lambda f_\sigma [\dots [f_\sigma]_1 \dots]]]$, where σ is not an individual type
- (31) a. Megan painted the house **magenta**.
b. *Megan liked the color magenta, and she painted the house **it**.

$\langle e, t \rangle$ -type arguments can undergo *wh*-movement but not topicalization. This is explained by the TIC: Only *wh*-movement allows for reconstruction; topicalization obligatorily shifts the scope of the moved argument, hence it is blocked due to the TIC.

- (32) a. $[\text{what color}]_1$ did Megan paint the house $__1$? *wh-movement*
b. Q $[\text{what color}]_1 \dots [\text{what color}]_1$ \rightarrow *reconstruction*
- (33) a. * $[\text{magenta}]_1$, Megan painted the house $__1$. *topicalization*
b. * $[\text{magenta}]_1 [\lambda f_{\langle e, t \rangle} [\dots [f_{\langle e, t \rangle}]_1]]] \rightarrow$ *scope-shift movement*

DP/NP approaches of PNI/DOM

Binding: If NPs denote properties, they cannot act as binders.

- (34) a. ***Koyangi**₁ [ku casin-ul]₁ halth-ass-e.
cat 3SG SELF-ACC lick-PST-DECL
'A cat washes itself.'
- b. *NP₁ $\lambda f_{\langle e,t \rangle}$... [*trace* _{$\langle e,t \rangle$}]₁ ... *pronoun*₁ ...

Control: Control relations will be blocked if it is assumed that for a control relation to be established the control argument has to bind PRO (Chomsky 1981, Manzini 1983, Koster 1984, Landau 2015, 2017).

- (35) a. Yusu-ka **haksayng-ul**₁ [PRO₁ ttena-la-ko] seltukhay-ss-e.
Yusu-NOM student-ACC leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'
- b. ... DP₁ λf_e ... [*trace* _{e}]₁ ... [PRO₁ ...] ...
- (36) a. *Yusu-ka **haksayng**₁ [PRO₁ ttena-la-ko] seltukhay-ss-e.
Yusu-NOM student leave-IMP-COMP persuade-PST-INT
'Yusu persuaded a student to leave.'
- b. *... NP₁ $\lambda f_{\langle e,t \rangle}$... [*trace* _{$\langle e,t \rangle$}]₁ ... [PRO₁ ...] ...

DP/NP approaches of PNI/DOM

The DP/NP account can be combined with the rationale of a definiteness scale, which is needed to account for the Korean data.

NPs instantiate the lowest scale mates (see also von Stechow and Kaiser 2007)

(37) *Definiteness scale*

(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 definiteness scale.
- The scale-based approach must leave open the possibility for a set of noun types which are optionally marked for case.

Interim summary

The Korean data set shows that **size-based** accounts fair better than **raising** accounts:

- Scope/binding/control interactions with case marking can be found in object and in subject position. Only DP/NP approaches provide a principled account for this.
- A subset of noun types do not display semantic effects but show optional case marking and can be ranked fairly low on the definiteness scale.
- DP/NP approaches are better equipped to combine with prominence scales as scale mates are already distinguished by nominal types.

Next question:

How are prominence scales implemented?

Case-marking in syntax

(38) *Definiteness scale*

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

CASE \Leftarrow

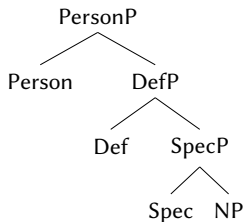
OPTIONAL CASE

\Rightarrow NO CASE

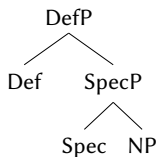
How and in which module do we implement differential case marking?

- Kalin (2014, 2018) proposes that prominence scales can be translated into privative nominal projections (see also Tyler 2019, Levin 2019).

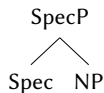
(39) (3RD) PRONOUN:



(40) DEF:



(41) DP-INDEF:

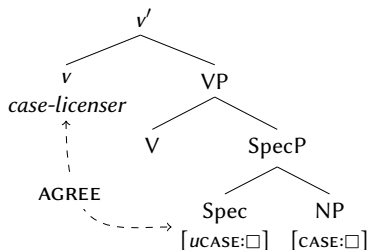


Case-marking in syntax

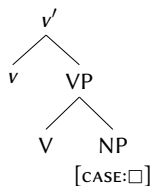
Assumptions:

- (i) Only some nominal heads bear uninterpretable case, i.e. [$u\text{CASE}:\square$]
- (ii) Uninterpretable case must be licensed via AGREE \rightarrow ends up as morphological case marking.

(42) DP-INDEF:



(43) NP-INDEF:



Case-marking in syntax

(44) *Definiteness scale*

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

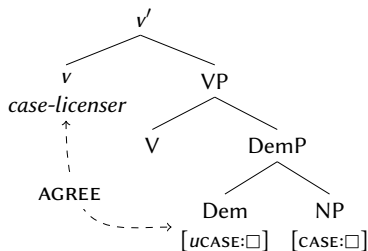
CASE \Leftarrow

OPTIONAL CASE

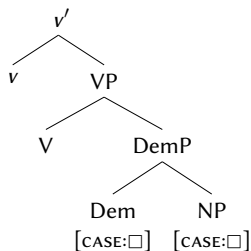
\Rightarrow NO CASE

Problem I: Optional case marking for some scale mates is not predicted. Can certain heads come with both, interpretable and uninterpretable, case features?

(45) DEM:



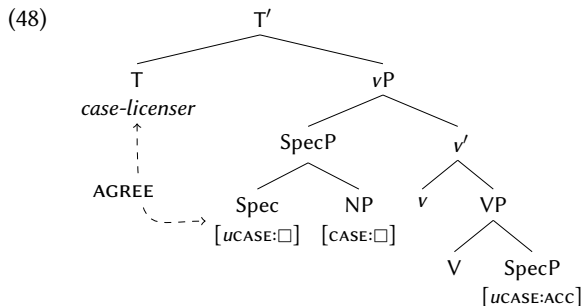
(46) DEM:



Case-marking in syntax

Problem II: The theory predicts an interaction of DAM with other AGREE-related operations. Honorific AGREE (e.g. Choi and Harley 2019) is, however, independent of case marking.

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



Case-marking in post-syntax

(49) *Definiteness scale*

(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

How else can we implement differential case marking?

- The scale can be translated into an OT-ranking (Aissen 1999, 2003, Keine and Müller 2008, 2011, 2015) which regulates the realization of case features post-syntactically based on economy and iconicity pressures.
- The only size difference relevant in syntax is the one between NP and DP.
- DPs, however, can instantiate different nominal types, depending on the feature bundles of the D heads.

(50) *Definiteness scale*

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

CASE \leftarrow

OPTIONAL CASE

\Rightarrow NO CASE

Case-marking in post-syntax

(51) *Definiteness scale*

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

CASE \Leftarrow

OPTIONAL CASE

\Rightarrow NO CASE

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

(52) *Constraint ranking:*

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

Case-marking in post-syntax

(53) *Definiteness scale*


(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

(54) 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]						*!	

(55) 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]						*	

Case-marking in post-syntax

(56) *Definiteness scale*

(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

(57) 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]					*	

(58) 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]					*	

Summary

- Korean displays a set of noun types where case marking is optional.
- As these noun types rank low on the definiteness scale, the case-marking properties can be identified as **differential argument marking**.
- Only a subset shows an interaction of case marking with semantic effects wrt. scope/binding/control.
- The semantic effects can be explained by DP/NP accounts, often proposed for the phenomenon of **pseudo-incorporation**.
- Korean case marking is modeled via (post-syntactic) realization of case features, regulated by an OT-ranking which maps to the definiteness scale.

Outlook

- Another language which shows a set of noun types where case marking is optional, is Tamil. As in Korean, indefinites are the only noun types where case marking leads to semantic effects. A similar analysis can be applied, see Driemel (2023) for data description.
- There is one property which we have ignored so far: mobility.
 - PNI-ed arguments have been shown to be immobile in languages like Tamil, Sakha, and Mongolian (Baker 2014, Guntsetseg 2016).
 - Other languages such as Hindi do not show movement restrictions (Dayal 2011). Hence, there is cross-linguistic variation.
 - Korean indefinites without case marking are also limited in their scrambling 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, see Driemel (2020) for discussion.
- There is also a class of noun types we have ignored (weak definites, proper names, local pronouns) which show optional case marking with semantic effects, see Driemel (2023) for discussion.

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Appendix: Weak definites

Weak definite nouns exhibit case drop but only if *ku* is present, see (59):

- (59) a. Na-nun ku yewang-ul eceyspam mannassee. *ku + N_{weak definite}*
I-TOP DEM queen-ACC last.night met
'I met the queen last night.'
- b. Na-nun yewang-ul eceyspam mannassee. *N_{weak definite}*
I-TOP queen-ACC last.night met
'I met the queen last night.'
- c. ?Na-nun ku yewang eceyspam mannassee. *ku + N_{weak definite}*
I-TOP DEM queen last.night met
'I met the queen last night.'
- d. ?*Na-nun yewang eceyspam mannassee. *N_{weak definite}*
I-TOP queen last.night met
'I met the queen last night.'

The unique definites (e.g. the moon) can also drop case but NPs cannot co-occur with *ku* in the maximal salient contexts (Kang 2015: 195-196).

Appendix: Proper names and pronouns

What makes Korean stand out from the other languages in the data set is that proper names and pronouns are also optionally case-marked, as shown in (60) and (61):

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

1st, 2nd person pronouns

b. Na(-ka)/ne(-ka) tochakhay-ss-e.
I-NOM/you-NOM arrive-PST-INT
'I/you arrived.'

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

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

Proper names

b. Daniel(-i) salacy-ess-e.
Daniel-NOM disappeare-PST-INT
'Daniel disappeared.'

c. Suzi(-ka) swuyengha-yss-e/wus-ess-e.
Suzi-NOM swim-PST-INT/laugh-PST-INT
'Suzi swam/laughed.'

Appendix: The *ident*-type shifter

This class of argument types (i.e. weak definites and proper names as well as 1st and 2nd person pronouns) patterns with indefinites wrt. to the PNI/DAM diagnostics! This is somewhat unexpected from a typological perspective. They are usually prevented from pseudo-incorporating since they constitute DPs and denote semantic objects of type $\langle e \rangle$.

- We propose that Korean can make use of *ident*, a type-shift operator which maps elements onto their singleton sets (Partee 1986a,b), thereby creating objects of type $\langle e, t \rangle$ (see also Driemel 2023).

(62) The *ident*-type shifter

$$\llbracket \textit{ident} \rrbracket = \lambda x_{\langle e \rangle} \lambda y_{\langle e \rangle} [x = y],$$

defined iff speaker and hearer can universally agree on x's referent

- Potential evidence might come from the weak definite paradigm, i.e. ‘the queen’, which can occur without case only in the presence of *ku*. This morpheme might spell out the type shifter.