

# Pseudo-Noun Incorporation in Korean

## Aims of this talk:

- overview of PNI properties in Korean
- point out problems of existing analyses
- present an analysis that makes use of a silent operator

## 1 Introduction: NI vs. PNI

- Noun incorporation (NI):

“In this construction, generally referred to as noun incorporation (NI), a N stem is compounded with a V stem to yield a larger, derived V stem.”

*(Mithun 1984:847)*

- Pseudo-noun incorporation (PNI):

“[A] defining a subset of NI constructions in semantic terms opens the door to the inclusion of constructions without the morphology of NI, but with the same or similar semantics [...] These cases have recently been termed pseudo-noun-incorporation (PNI) [...] In such cases, there is no true morphological incorporation, but there is a reduced or stripped nominal object phrase that forms a closer-than-usual relation with the verb.”

*(Massam 2009:1087)*

### noun incorporation:

① fusion

(1) Tongan (Chung 1978:152)

- a. *Naʔe haka ʔe he sianá ʔa e ika.*  
 PST cook ERG the man ABS the fish  
 ‘The man cooked a fish.’
- b. *Naʔe haka-ika ʔa he sianá.*  
 PST cook-fish ABS the man  
 ‘The man cooked fish.’

### pseudo-noun incorporation:

① no fusion

(2) Sakha (Baker 2014:7-8)

- a. *Erel kinige-ni atylas-ta.*  
 Erel book-ACC buy-PAST.3SG.S  
 ‘Erel bought the book/a certain book.’
- b. *Erel kinige atylas-ta.*  
 Erel book buy-PAST.3SG.S  
 ‘Erel bought a book/books.’

## ② grammatical function change

## (3) Ponapean (Rehg 1981: 212)

- a. *I pahn perek-i lohs-o.*  
I will unroll-TRANS mat-that  
'I will unroll that mat.'
- b. *I pahn perek-Ø-los.*  
I will unroll-INTRANS-mat  
'I will mat-unroll.'

## ③ no modifiers

## (4) Mapudungun (Baker 2009: 153)

- a. *Pedro ngilla-fi-y küme pulku.*  
Pedro buy-3O-IND.3SGS good wine  
'Pedro bought good wine.'
- b. *Pedro ngilla-(\*küme)-pulku-pe-y.*  
Pedro buy-good-wine-PST-IND.3SGS  
'Pedro bought (\*good) wine.'

## ④ adjacency required

## (5) Ponapean (Mithun 1984: 850)

- a. *I kanga-la wini-o.*  
I eat-COMP medicine-that  
'I took all the medicine.'
- b. *I keng-winih-la.*  
I eat-medicine-COMP  
'I completed my medicine taking.'

## ⑤ restricted to low scope

## (6) Inuit (van Geenhoven 1998: 31)

*Arnajaraq*                    ¬∃,\*∃¬  
Arnajaraq.ABS  
*aalisaga-si-nngi-l-a-q.*  
fish-buy-NEG-IND-[-TR]-3SG  
'Arnajaraq did not buy any fish.'

## ② grammatical function change optional

## (7) Niuean (Massam 2001: 157)

- a. *Takafaga tūmau nī e ia e*  
hunt always EMPH ERG he ABS  
*tau ika.*  
PL fish  
'He is always fishing.'
- b. *Takafaga ika tūmau nī a ia.*  
hunt fish always EMPH ABS he  
'He is always fishing.'

## (8) Adyghe (Testelefs and Arkadiev 2014: 6)

*Pšaše-m žane(-r) ə-də-v.*  
girl-ERG dress-ABS 3SG.ERG-sew-PST  
'The girl made a/(the) dress.'

## ③ modifiers allowed

## (9) Niuean (Massam 2001: 158)

*Ne inu kofe kono a Mele.*  
PST drink coffee bitter ABS Mele  
'Mele drank bitter coffee.'

## ④ adjacency not required

## (10) Turkish (Öztürk 2005: 39)

*Ali kitap(-ı) da okudu.*  
Ali book-ACC also read.  
'Ali also did book reading.'

## ⑤ restricted to low scope

## (11) Hindi (Dayal 2011: 127,137)

- a. *Anu bacca/bacce-ko sambhaaltii*  
Anu child/child-ACC look.after.IMP  
*hai*  
be.PRS  
'Anu looks after (one or more) children/the child.'                    ¬∃,∃¬
- b. *Anu bacca nahiiN samhaalegi*  
Anu child not look.after.FUT  
'Anu will not look after children.'                    ¬∃,\*∃¬

## ⑥ non-specific readings

(12) Inuit (Bittner 1994: 119)

*Juuna allagar-si-v-u-q.*  
 Juuna.ABS letter-get-IND-[-TR]-3SG  
 ‘Juuna got a letter/letters. Not: Juuna  
 got the letter(s).’

⑦ size restriction<sup>a</sup>

(13) Chamorro

(Chung and Ladusaw 2004: 85,88)

- a. *Man-gäi-[guma’ hayu].*  
 AGR-have-house wood  
 ‘They have a wood house.’
- b. *\*Pära un-gäi-[häm].*  
 FUT AGR-have-us  
 ‘You would have us.’
- c. *\*Gäi-[hafa]?*  
 AGR.have-what?  
 ‘What does he have?’

## ⑧ conventionalized activity

(14) Gurindji (Mithun 1984: 855)

*pina-karri*  
 ear-stand  
 ‘to listen’

(15) Comanche (Mithun 1984: 855)

*waa-hima*  
 cedar.tree-take  
 ‘to celebrate Christmas’

<sup>a</sup>See Barrie and Mathieu (2016) for counter-examples in Ojibwe and Onondaga.

## ⑥ non-specific readings

(16) Spanish (López 2012: 16)

- a. *María busca a una gestora.*  
 María seeks DOM a manager  
 ‘Maria is looking for a (certain) manager.’
- b. *María busca una gestora.*  
 María seeks a manager  
 ‘Maria is looking for a (\*certain) manager.’

## ⑦ size restriction

(17) Mongolian (Guntsetseg and Klein 2009)

*Bi tuun\*(-ig) / Tuya\*(-g) / ene*  
 I 3-ACC / Tuya-ACC / this  
*uul\*(-ig) har-san.*  
 mountain-ACC see-PST  
 ‘I saw him/her/Tuya/this mountain.’

## ⑧ conventionalized activity

(18) Mandarin (Barrie and Li 2015: 171)

- a. *Ni chi zhe-shuang kuaizi ba!*  
 you eat this-CL chopsticks SFP  
 ‘You eat with this pair of chopsticks!’
- b. *\*Ni chi zhe-ba chazi ba!*  
 you eat this-CL fork SFP  
 ‘You eat with this fork!’

## 2 Previous accounts of PNI

### Post-syntactic lowering or impoverishment

- Wojdak (2008): PNI as a result of verbs being affixal in need of a host (Nuu-chah-nulth)
- ?: PNI is M-Merger (Balinese)
- Weisser (2017, 2018): PNI is the result of impoverishment

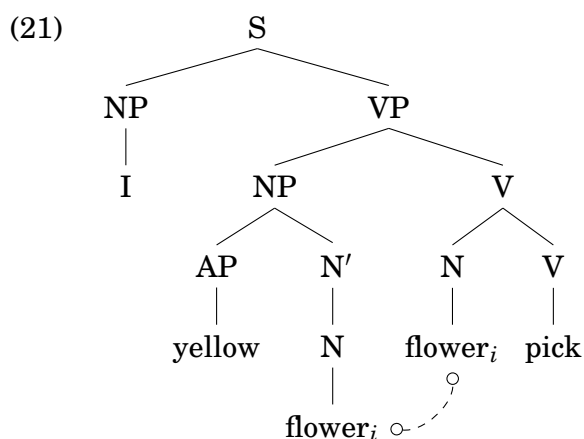
- (19) a.  $[DP_{nonspec} \text{ ACC} \rightarrow \emptyset] / \_\_\_ V$  *Mari / Tamil*  
 b.  $[DP_{nonspec} \text{ ACC} \rightarrow \emptyset] / \_\_\_ \text{ }_{VP}$  *Turkish*  
 c.  $[DP_{nonspec} \text{ ACC} \rightarrow \emptyset]$  *Caucasian Urum*

*Conceptual problem:* Correlation between scope restrictions and morpho-syntactic effects can only be accounted for if semantic information is written into post-syntactic rules

### Head movement

*Baker (2014): Pseudo-incorporation as vacuous head movement*

- (20) Baker (2014: 7,9)
- a. *Erel kinige-ni atylas-ta.* *Sakha*  
 Erel book-ACC buy-PAST.3SG.S  
 ‘Erel bought the book/a certain book.’
- b. *Min saharxaj sibekki ürgee-ti-m.*  
 I yellow flower pick-PAST-1SG.S  
 ‘I picked (a) yellow flower(s).’



*Analysis:*

- head movement as in noun incorporation
- since it is not feature-triggered but vacuous, no linearization issue arises → derives adjacency
- head movement triggers complex predicate formation (Dayal 2011)
- case-drop (and default agreement) in Sakha and Tamil due to a PF deletion rule

*Empirical problems:*

1. limits the type of arguments which can incorporate: have to be low enough to move to the verb → excludes subject incorporation in Adyghe (Testelefs and Arkadiev 2014), Turkish (Öztürk 2005, 2009, Jo and Palaz 2018), and Korean (Kwon and Zribi-Hertz 2008), excludes incorporation of locatives and instrumentals (Niuean, Tamil)
2. languages in which case-less can move away or where adjacency is not required must excorporate Ns (Hindi, Korean, Turkish, ...)

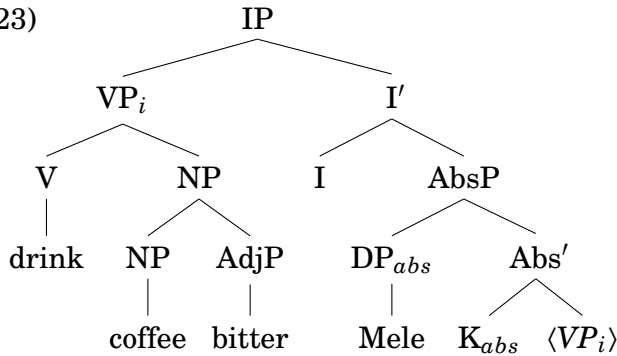
## DP/NP approaches

Massam (2001, 2009): Pseudo-incorporation derived by DP-sensitive movement

(22) Massam (2001: 158)

*Ne inu kofe kono a Mele.* *Niuean*  
 PST drink coffee bitter ABS Mele  
 ‘Mele drank bitter coffee.’

(23)



Analysis:

- pseudo-incorporated nouns are NPs, they don't move for case
- intransitives derived by lack of  $vP$  which assigns ergative
- VP fronts due to [PRED] on I
- NPs denote properties, hence do not refer

Core idea of DP/NP approaches:

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

- case-marking is often tied to a [+D]-feature and case assignment has been proposed to be category-sensitive (Dayal 2011, Barrie and Li 2015, Müller 2018)
- the lack of case marking implies less structure, which in turn has been interpreted as no phase status (López 2012) or no need to move to a case position (Massam 2001)
- less structure can also be interpreted to restrict incorporated arguments to semantic objects of type  $\langle e, t \rangle$ , creating the need either for incorporation verb denotations (van Geenhoven 1998, Dayal 2011) or a new compositional mode (Chung and Ladusaw 2004, López 2012) to combine predicates and verbs

(24) van Geenhoven (1998)

- $\llbracket \text{seek}_{inc} \rrbracket = \lambda P \lambda x \exists y [\text{SEEK}(x, y) \wedge P(y)]$
- $\llbracket \text{seek} \rrbracket = \lambda y \lambda x [\text{SEEK}(x, y)]$

(25) Dayal (2011)

- $\llbracket \text{catch} \rrbracket = \lambda x \lambda y \lambda e [\text{CATCH}(e) \ \& \ \text{AG}(e) = y \ \& \ \text{TH}(e) = x]$
- $\llbracket \text{catch}_{inc} \rrbracket = \lambda P \lambda y \lambda e [P\text{-CATCH}(e) \ \& \ \text{AG}(e) = y],$   
 where  $\exists e [P\text{-CATCH}(e)] = 1$  iff  $\exists e' [\text{CATCH}(e') \ \& \ \exists x [P(x) \ \& \ \text{TH}(e') = x]]$

- case-marked objects can be of type  $\langle e \rangle$  or  $\langle et, t \rangle$  or constitute choice functions which enables them to take flexible scope

*Problems:*

1. enrichment of the lexicon: every verb has its usual denotation as well as an incorporation denotation (van Geenhoven 1998, Massam 2001, Dayal 2011)
2. c-selection: if RESTRICT (Chung and Ladusaw 2004, López 2012) as a separate compositional mode is made use of, one still has to propose that verbs select for NPs as well as DPs
3. immobility is not a constant feature of pseudo-incorporation → there has to be some room for variation

### 3 PNI Properties in Korean

- Observation so far:
  - Lee (1992) first reported the condition for the case drop on NPs with respect to specificity and definiteness.
  - ?Lee (2011), conducted quantitative studies with respect to focus types, animacy and specificity of NPs based on corpus.
  - Kwon and Zribi-Hertz (2006, 2008) discuss case-less arguments in the perspective of PNI.
- Today, we focus on structural case drop (NOM and ACC):

(26) *Yusu-ka kkoch(-ul) sasse.*  
 Yusu-NOM flower-ACC bought.  
 ‘Yusu bought flower(s).’

(27) *Pesu(-ka) onye.*  
 bus-NOM come  
 ‘(A) bus is coming.’

- Case drop does not induce any change in grammatical function:

(28) *Yusu-ka chayk-ul ilkesse.*  
 Yusu-NOM book-ACC read.  
 ‘Yusu read book(s).’

(29) *Yusu chayk-ul ilkesse.*  
 Yusu book-ACC read.  
 ‘Yusu read book(s).’

**Size of arguments for PNI**

- Pseudo-incorporated nouns in Korean are shown in a wide range:

(30) *demonstrative*

- a. *Yusu-ka i/ce kkoch(-ul) sasse.*  
 Yusu-NOM this/that flower-ACC bought.  
 ‘Yusu bought this/that flower(s).’
- b. *I/ce pesu(-ka) pwusecyesse.*  
 this/that bus-NOM be.broken  
 ‘This/that bus is broken.’

(31) *adjective*

- a. *Yusu-ka nolan kkoch(-ul) sasse.*  
 Yusu-NOM yellow flower-ACC bought  
 ‘Yusu did yellow flower-buying.’
- b. *Ppalkan pesu(-ka) wa.*  
 red bus-NOM come  
 ‘(A) red bus is coming.’

(32) *plural*

- a. *Yusu-ka totuk-tul(-ul) capasse.*  
 Yusu-NOM thief-PL-ACC caught  
 ‘Yusu caught two or more thieves.’
- b. *Ai-tul(-i) oney.*  
 kid-PL-NOM come  
 ‘Two or more kids are coming.’

(33) *numeral+ classifier*

- a. *Yusu-ka kkoch(-ul) twu-songi sasse.*  
 Yusu-NOM flower-ACC two-CL bought  
 ‘Yusu bought two of the flowers.’
- b. *Pesu(-ka) twu-tay oney.*  
 bus- NOM two-CL bought  
 ‘Two of the buses are coming.’

(34) *pronouns [+human, 1/2]*

- a. *Yusu-ka na/ne(-lul) mannasse.*  
 Yusu-NOM I/you-ACC met  
 ‘Yusu met me/you.’
- b. *Na/ne(-ka) tochakhaysse.*  
 I/you-NOM arrived  
 ‘I/you arrived.’

(35) *proper names*

- a. *Yusu-ka nwutheylla(-ul) sassta.*  
 Yusu-NOM Nutella-ACC bought  
 ‘Yusu bought Nutella.’
- b. *Daniel(-i) salacyessta.*  
 Daniel-NOM disappeared  
 ‘Daniel disappeared.’

- The following classes of nominal elements and configurations require cases:

(36) *pre-nominal numerals*

- a. *Yusu-ka twu kkoch<sup>??</sup>(-ul) sasse.*  
 Yusu-NOM two flower-ACC bought  
 ‘Yusu bought two of the flowers.’
- b. *Twu pesu<sup>?</sup>(-ka) oney.*  
 two bus-NOM come  
 ‘Two of the buses are coming.’

(37) *possessor phrases*

- a. *Yusu-ka Neytellantu-uy kkoch<sup>?</sup>(-ul) kacyewasse.*  
 Yusu-NOM Netherlands-GEN flower-ACC brought  
 ‘Yusu brought Netherlands’ flowers.’
- b. *Leipzig-uy pesu<sup>?</sup>(-ka) oney.*  
 Leipzig-GEN bus-ACC come  
 ‘Leipzig’s bus is coming..’



(38) *pronouns [+human, 3rd]*

- a. *Yusu-ka ku(nye)<sup>?</sup>(-lul) mannasse.*  
 Yusu-NOM (s)he-ACC met  
 ‘Yusu met her/him.’
- b. *Ku(nye)<sup>\*?</sup>(-ka) tochakhaysse.*  
 (s)he-NOM arrived  
 ‘She/he arrived.’

- Quantifiers and *wh*-phrases show subject-object asymmetry with case drop:

(39) *Strong quantifier ‘all’*

- a. *Yusu-ka motun kkoch(-ul) sasse.*  
 Yusu-NOM all flower-ACC bought  
 ‘Yusu bought all the flowers.’
- b. *Motun pesu<sup>??</sup>(-ka) oney.*  
 all bus-NOM come  
 ‘all the buses are coming’

(40) *Strong quantifier ‘most’*

- a. *Yusu-ka taypwupwun-uy kkoch<sup>??</sup>(-ul) sasse.*  
 Yusu-NOM most-GEM flower-ACC bought  
 ‘Yusu bought most of the flowers.’
- b. *Taypwupwun-uy pesu<sup>??</sup>(-ka) oney.*  
 most-GEN bus-NOM come  
 ‘Most of the buses are coming’

(41) *Weak quantifier ‘a few’*

- a. *Yusu-ka myechmyech chayk<sup>??</sup>(-ul) sasse.*  
 Yusu-NOM a.few book-ACC bought  
 ‘Yusu bought a few books.’
- b. *Myechmyech pesu<sup>??</sup>(-ka) oney.*  
 a.few bus-NOM come  
 ‘A few buses are coming’

(42) *wh-phrases [-human]*

- a. *Yusu-ka mwues(-ul) sass-ni?*  
 Yusu-NOM what-ACC bought-Q  
 ‘What did Yusu buy?’
- b. *Mwues\*(-i) pwusecyess-ni?*  
 what-NOM be.broken-Q  
 ‘What was broken?’

(43) *wh-phrases [+human]*

- a. *Yusu-ka nwukwu(-ul) mannass-ni?*  
 Yusu-NOM who-ACC met-Q  
 ‘Who(m) did Yusu meet?’
- b. *Nwukwu\*(-ka) John-ul mannass-ni?*  
 who-NOM John-ACC met-Q  
 ‘Who meet John?’

**Definiteness**<sup>1</sup>

- we are using weak (presupposes uniqueness) and strong contexts (presupposes uniqueness and familiarity) to test definites (Schwarz 2009)
- Weak definite nouns exhibit case drop (but only if *ku* is present):

- (44) a. *Ku yewang-i eceyspam ttenasse.* *ku + N<sub>weak definite</sub>*  
 DEM queen-NOM last.night left  
 ‘The queen left last night.’
- b. *Yewang-i eceyspam ttenasse.* *N<sub>weak definite</sub>*  
 queen-NOM last.night left  
 ‘The queen left last night.’
- c. *?Ku yewang eceyspam ttenasse.* *ku + N<sub>weak definite</sub>*  
 DEM queen last.night left  
 ‘The queen left last night.’
- d. *?\*Yewang eceyspam ttenasse.* *N<sub>weak definite</sub>*  
 queen last.night left  
 ‘The queen left last night.’

<sup>1</sup>Lee (1989, 1992) observes that bare nouns function as weak definites but need to be case-marked, whereas *ku* acts as an anaphoric determiner. Although they do not consider case-drop, both Kang (2015, 2018) and Ahn (2017, 2018) agree with Lee (1989, 1992) that bare nouns license weak definite contexts. They, however, disagree on anaphoric contexts. Kang claims *ku* is optional in anaphoric context, whereas Ahn thinks *ku* is obligatory.

- (45) a. *Na-nun ku yewang-ul eceyspam mannassee.* *ku + N<sub>weak definite</sub>*  
 I-TOP DEM queen-ACC last.night met  
 ‘I met the queen last night.’
- b. *Na-nun yewang-ul eceyspam mannassee.* *N<sub>weak definite</sub>*  
 I-TOP queen-ACC last.night met  
 ‘I met the queen last night.’
- c. ?*Na-nun ku yewang eceyspam mannassee.* *ku + N<sub>weak definite</sub>*  
 I-TOP DEM queen last.night met  
 ‘I met the queen last night.’
- d.?\**Na-nun yewang eceyspam mannassee.* *N<sub>weak definite</sub>*  
 I-TOP queen last.night met  
 ‘I met the queen last night.’

- Given the following immediate context, weak definite nouns are not felicitous with case drop (unless it is repaired with *ku*):

- (46) Context: *Suzi and Jamin are close friends each other. They are supposed to hang-out together by going to Karaoke. Everytime they go to the Karaoke place they usually run into a small gray stray cat. On the way to the Karaoke place, they met the same gray cat approaching to them. Suzi says to Jamin,*
- a ... *Jamin-a ku koyangi-ka o-ney!* *ku + N<sub>weak definite</sub>*  
 Jamin-VOC DEM cat-NOM come-C  
 ‘Jamin, the cat is coming!’
- b ... *Jamin-a koyangi-ka o-ney!* *N<sub>weak definite</sub>*  
 Jamin-VOC cat-NOM come-C  
 ‘Jamin, the cat is coming!’
- c ?... *Jamin-a ku koyangi o-ney!* *ku + N<sub>weak definite</sub>*  
 Jamin-VOC DEM cat come-C  
 ‘Jamin, the cat is coming!’
- d \*... *Jamin-a koyangi o-ney!* *N<sub>weak definite</sub>*  
 Jamin-VOC cat come-C  
 ‘Jamin, the cat is coming!’

- In contrast, strong definite nouns cannot undergo case drop:

- (47) *Ecey na-nun yeca-lul mannassee...*  
 Yesterday I-TOP woman-ACC met  
 ‘I met a woman.’

- a. ... *Na-nun ku yeca-lul kulyesse.*  $ku + N_{strong\ definite}$   
 I-TOP DET woman-ACC painted  
 ‘I painted the woman.’
- b.?\*... *Na-nun ku yecal kulyesse.*  $ku + N_{strong\ definite}$   
 I-TOP DET woman painted  
 ‘I painted the woman.’
- c. ... *Na-nun yeca\*(-lul) kulyesse.*  $N_{strong\ definite}$   
 I-TOP woman-ACC painted  
 ‘I painted the woman.’
- d.?\*... *Na-nun yeca kulyesse.*  $N_{strong\ definite}$   
 I-TOP woman painted  
 ‘I painted the woman.’
- (48) *Ecey na-nun yeca-lul mannassee...*  
 Yesterday I-TOP woman-ACC met  
 ‘I met a woman.’
- a. ... *Ku yeca-ka chwumchuesse.*  $ku + N_{strong\ definite}$   
 DET woman-NOM danced  
 ‘The woman danced.’
- b.?\*... *Ku yeca chwumchuesse.*  $ku + N_{strong\ definite}$   
 DET woman danced  
 ‘The woman danced.’
- c. ... *Yeca-ka chwumchuesse.*  $N_{strong\ definite}$   
 woman-NOM danced  
 ‘The woman danced.’
- d.?\*... *Yeca chwumchuesse.*  $N_{strong\ definite}$   
 woman danced  
 ‘The woman danced.’

### Scope

- Pseudo-incorporated nouns show low scope restriction with respect to a universal quantifier, which is only attested with scrambled version:

- (49) *Haksayng-ul<sub>i</sub> motun kyoswunim-i t<sub>i</sub> mannassee.*  $\forall E, \exists V$   
 student-ACC all professor-NOM met  
 ‘All professors met (a) student.’

- a.✓ *Gereon-un Imke-lul, Barbara-nun Luise-lul, kuliko Jochen-un*  
 Gereon-TOP Imke-ACC Barbara-TOP Luise-ACC CONJ Jochen-TOP  
*Jelena-lul mannassee.*  
 Jelena-ACC met  
 ‘Gereon met Imke, Barbara met Luise, and Jochen met Jelena.’
- b.✓ *Ku haksayng-un Imke-ya.*  
 That student-TOP Imke-C  
 ‘That student is Imke.’
- (50) *Haksayng<sub>i</sub> motun kyoswunim-i t<sub>i</sub> mannassee.*  $\forall \exists, * \exists \forall$   
 student all professor-NOM met  
 ‘All professors met (a) student.’
- a.✓ *Gereon-un Imke-lul, Barbara-nun Luise-lul, kuliko Jochen-un*  
 Gereon-TOP Imke-ACC Barbara-TOP Luise-ACC CONJ Jochen-TOP  
*Jelena-lul mannassee.*  
 Jelena-ACC met  
 ‘Gereon met Imke, Barbara met Luise, and Jochen met Jelena.’
- b. #*Ku haksayng-un Imke-ya.*  
 That student-TOP Imke-C  
 ‘That student is Imke.’

- Case-less subjects can have only low scope reading:

(51) Context B:

*Kangwu lives very close to the bus stop where 5 buses are running around. Since yesterday, the bus companies have gone on a strike and all the buses stopped running. Kangwu’s younger sister, Jiswu, does not know about this news. She wonders why today is quite more silent than the other days. Kangwu says to Jiswu,*  $\neg > \exists$

- a. ... *Pesu-ka an tany-e*  
 bus-NOM NEG come-C  
 ‘(A) bus has not come.’
- b. ... *Pesu an tany-e*  
 bus NEG come-C  
 ‘(A) bus has not come.’

(52) Context A:

*Kangwu and Hannah are close classmates and live next door to each other. They usually take the same bus number 107 at the nearby bus stop to go to University. One day in the morning Kangwu is waiting for the bus 107, but the bus did not come at the time when it supposed to do for some reason. Hannah woke up late today and comes to the bus stop 20 minutes later, and wonders why Kangwu is*

*still waiting at this stop. Kangwu says to Hannah,*

∃ > ¬

a. ... *Pesu-ka an wass-e.*  
 bus-NOM NEG come-C  
 ‘(A) bus has not come.’

b. #... *Pesu an wass-e.*  
 bus NEG come-C  
 ‘(A) bus has not come.’

### Adjacency, mobility

- Case-less nouns can be modified post-nominally with a focus adverb, which does not necessarily requires a strict adjacency to a verb:

(53) *Yusu-ka chayk-man(-ul) sasse.*  
 Yusu-NOM book-only-ACC bought  
 ‘Yusu bought only books.’

- Case-less objects can scramble over the indirect object and the subject:

(54) a. *Yusu-ka chayk(-ul)<sub>i</sub> Suzi-eykey t<sub>i</sub> cwuesse.*  
 Yusu-NOM book-ACC Suzi-DAT gave  
 ‘Yusu gave Suzi books.’ *short scrambling*

b. *Chayk(-ul)<sub>i</sub> Yusu-ka Suzi-eykey t<sub>i</sub> cwuesse.*  
 book Yusu-NOM Suzi-DAT gave  
 ‘Yusu gave Suzi books.’ *intermediate scrambling*

c. *Chayk<sup>?</sup>(-ul)<sub>i</sub> Minho-ka t<sub>i</sub> ilkesse.*  
 book Minho-NOM read  
 ‘Minho read book(s).’

- Case-less object, however, cannot undergo scrambling over the clause boundary:

(55) *Chayk\*(-ul)<sub>i</sub> Suzi-nun [Minho-ka t<sub>i</sub> ilk-nun-ta-ko] saynkakhay.*  
 book Suzi-TOP Minho-NOM read-PRES-DEC think  
 ‘Suzi thinks that Minho is book-reading.’ *long scrambling*

- The case less subject cannot undergo scrambling over manner adverbs:

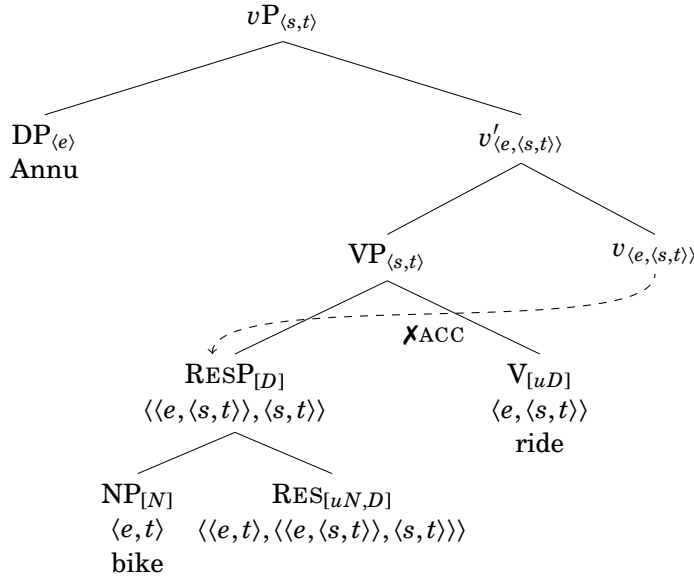
(56) *Yumi-<sup>??</sup>(ka) pwunmyenghi t<sub>i</sub> ppalli talli-ney.*  
 Yumi-NOM evidently fast run  
 ‘Yumi is evidently running fast.’

## 4 Proposal

$$(57) \quad \llbracket \text{RES} \rrbracket = \underbrace{\lambda P_{\langle e, t \rangle}}_{NP} \underbrace{\lambda Q_{\langle e, \langle s, t \rangle \rangle}}_V \lambda e \exists z [P(z) \wedge Q(z)(e)]$$

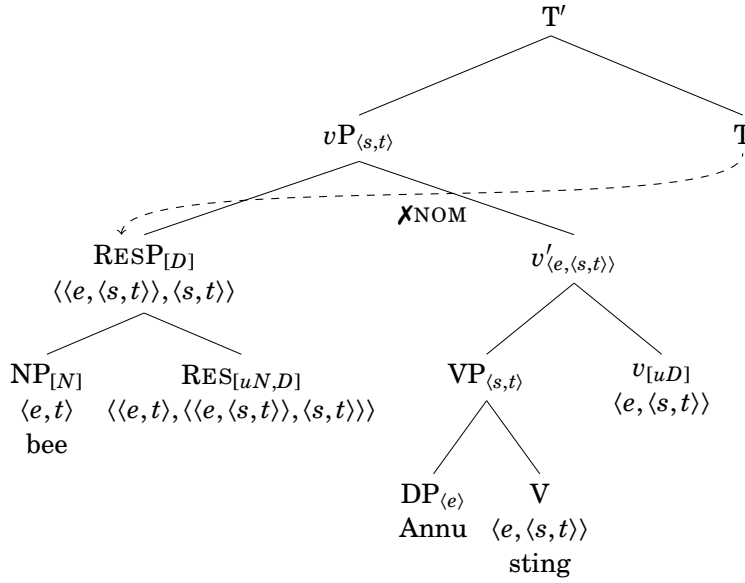
- ❖ derives one-to-one relation between low scope and case drop
- ❖ no constraint on mobility but requires reconstruction
- ❖ no grammatical function change

(58) a. RES combines with object:



- b.  $\llbracket NP \rrbracket = \lambda y [\text{BIKE}(y)]$   
 $\llbracket \text{RES} \rrbracket(\llbracket NP \rrbracket) = \lambda Q_{\langle e, \langle s, t \rangle \rangle} \lambda e \exists z [\lambda y [\text{BIKE}(y)](z) \wedge Q(z)(e)]$  (57), *FA*  
 $= \lambda Q_{\langle e, \langle s, t \rangle \rangle} \lambda e \exists z [\text{BIKE}(z) \wedge Q(z)(e)]$  *LR*
- c.  $\llbracket V \rrbracket = \lambda x \lambda e [\text{RIDE}(x)(e)]$   
 $\llbracket \text{RESP} \rrbracket(\llbracket V \rrbracket) = \lambda e \exists z [\text{BIKE}(z) \wedge \lambda x \lambda e [\text{RIDE}(x)(e)](z)(e)]$  *FA*  
 $= \lambda e \exists z [\text{BIKE}(z) \wedge \text{RIDE}(z)(e)]$  *LR*
- d.  $\llbracket v \rrbracket = \lambda x \lambda e [\text{AG}(x)(e)]$   
 $\llbracket VP \rrbracket, \llbracket v \rrbracket = \lambda x \lambda e \exists z [\text{BIKE}(z) \wedge \text{RIDE}(z)(e) \wedge \text{AG}(x)(e)]$  *EI*
- e.  $\llbracket vP \rrbracket = \lambda x \lambda e \exists z [\text{BIKE}(z) \wedge \text{RIDE}(z)(e) \wedge \text{AG}(x)(e)](a)$  *FA*  
 $= \lambda e \exists z [\text{BIKE}(z) \wedge \text{RIDE}(z)(e) \wedge \text{AG}(a)(e)]$  *LR*
- f.  $EC : \lambda P \in D_{\langle s, t \rangle}. \exists x \in D_s [P(x)]$
- g.  $\exists e \exists z [\text{BIKE}(z) \wedge \text{RIDE}(z)(e) \wedge \text{AG}(a)(e)]$  *EC:(58f)*

(59) a. RES combines with subject:



- b.  $\llbracket NP \rrbracket = \lambda y[\text{BEE}(y)]$   
 $\llbracket \text{RES} \rrbracket(\llbracket NP \rrbracket) = \lambda Q_{\langle e, \langle s, t \rangle \rangle} \lambda e \exists z [\lambda y[\text{BEE}(y)](z) \wedge Q(z)(e)]$  (57), FA  
 $= \lambda Q_{\langle e, \langle s, t \rangle \rangle} \lambda e \exists z [\text{BEE}(z) \wedge Q(z)(e)]$  LR
- c.  $\llbracket v' \rrbracket = \lambda x \lambda e [\text{STING}(a)(e) \wedge \text{AG}(x)(e)]$  FA, LR, EI
- d.  $\llbracket \text{RESP} \rrbracket(\llbracket v' \rrbracket) = \lambda e \exists z [\text{BEE}(z) \wedge \lambda x \lambda e [\text{STING}(a)(e) \wedge \text{AG}(x)(e)](z)(e)]$  FA  
 $= \lambda e \exists z [\text{BEE}(z) \wedge \text{STING}(a)(e) \wedge \text{AG}(z)(e)]$  LR
- e.  $\exists e \exists z [\text{BEE}(z) \wedge \text{STING}(a)(e) \wedge \text{AG}(z)(e)]$  EC:(58f)

### Assumptions

- arguments receive case via functional heads: ERG/ACC from  $v$ , NOM/ABS from  $T$
- RESP builds a shell around the incorporated argument and blocks case assignment (let us claim for now that RESP constitutes a phase); this has no influence on the other structural argument in the sentence
- RES selects for an NP of type  $\langle e, t \rangle$
- RES is equipped with a [D]-feature and checks the c-selectional [uD]-feature on  $v$  and/or  $V$

### Advantages

- ✓ low scope correlates with case-drop bare indefinite nouns: the presence of RESP blocks case assignment while also enforcing narrow scope by the operator's need to be interpreted in its base position (flexible scope of case-marked indefinites is derived by optional QR/reconstruction of existential quantifiers)



- ✓ no grammatical function change predicted: NOM-case drop on the subject does not detransitivize the verb, i.e. the object does not get NOM-case<sup>2</sup> (advantage over head movement)
- ✓ subjects are also predicted to incorporate (advantage over head movement)
- ✓ case-less arguments are predicted to be able to scramble away from  $v$  or  $V$ , as long as the movement reconstructs (advantage over head movement and possibly also DP/NP approach)
- ✓ verbs uniformly c-select for [D]: RES checks the c-selectional feature on  $V$  or  $v$ ; the operator selects for an NP
- ✓ RES introduces incorporation semantics: no need for  $V_{inc}$  denotations or an additional compositional mode like RESTRICT (advantage over DP/NP approach)

### Size issue

Below we show a summary of the case-drop data, indicating what is traditionally assumed in terms of types and phrase size. The last column evaluates whether case-drop matches these properties.

	case drop		±anaphoric	±unique	type	syn-sem match
	subject	object				
<i>N (weak def.)</i>	??	??	−anaphoric	+unique	$\langle e \rangle$	no (NP)
<i>N (strong def.)</i>	*	*	+anaphoric	+unique	$\langle e \rangle$	no (NP)
<i>proper names</i>	✓	✓	−anaphoric	+unique	$\langle e \rangle$	no (DP)
<i>demonstrative + N</i>	✓	✓	exophoric	+unique	$\langle e \rangle$	no (DP)
<i>ku + N (weak def.)</i>	✓	✓	−anaphoric	+unique	$\langle e \rangle$	no (DP)
<i>ku + N (strong def.)</i>	*	*	+anaphoric	+unique	$\langle e \rangle$	no (DP)
<i>adjective + N</i>	✓	✓	−anaphoric	−unique	$\langle e, t \rangle$	yes (NP)
<i>N-pl<sup>3</sup></i>	✓	✓	−anaphoric	−unique	$\langle e, t \rangle$	yes (NP)
<i>N Num-Cl</i>	✓	✓	−anaphoric	−unique	$\langle e, t \rangle$	yes (NP)
<i>Num N<sup>4</sup></i>	??	??	±anaphoric	partitive	$\langle e, t \rangle$	yes (PartP)
<i>Poss + N</i>	?*	?*	±anaphoric	+unique	$\langle e \rangle$	yes (DP)
<i>3rd pronoun</i>	*	?*	+anaphoric	+unique	$\langle e \rangle$	yes (DP)
<i>1st / 2nd pronoun</i>	✓	✓	−anaphoric	+unique	$\langle e \rangle$	no (DP)
<i>quantifier</i>	?*	✓	−anaphoric	−unique	$\langle \langle e, t \rangle, t \rangle$	yes/no (DP)
<i>wh-phrase</i>	*	✓	−anaphoric	−unique	$\langle \langle e, t \rangle, t \rangle$	yes/no (DP)

### Some ingredients for the analysis...

- ① Schwarz (2009) proposes two different determiners:

- (i) weak contexts (global and immediate): uniqueness

<sup>2</sup>For some PNI languages which in fact do show GF change, e.g. Niuean (Massam 2001), or Nakh-Daghestanian languages like Archi and Tsez (Forker 2012, Polinsky 2016), a dependent case analysis suggests itself.

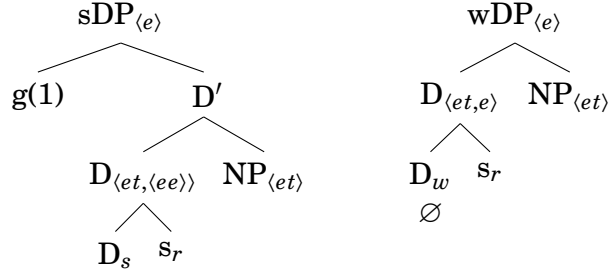
<sup>3</sup>See Kim and Melchin (2018) for analyzing PL as an  $nP$ -modifier.

<sup>4</sup>See Ahn (2018) for an analysis of the prenominal numeral as an underlying partitive.

(ii) strong (anaphoric): uniqueness + familiarity

- (60) a. The queen is 87 years old. LARGER/GLOBAL SITUATION  
 b. The projector is not being used today. IMMEDIATE SITUATION  
 c. John bought a book today. The book was expensive. ANAPHORIC

(61) Schwarz (2009: 265):



(62) Schwarz (2009: 148, 260)

- a.  $\llbracket wD \rrbracket = \lambda s \lambda P : \exists! x P(x)(s). \iota x. (P)(x)(s)$   
 b.  $\llbracket sD \rrbracket = \lambda s \lambda P \lambda y : \exists! x [P(x)(s) \wedge x = y]. \iota x [P(x)(s) \wedge x = y]$

② Cheng et al. (2017) propose that some arguments can be born as properties with MAX presupposition, see (63a); they become arguments with a type shifter, see (63b)

(63) Cheng et al. (2017: 89) for weak determiners:

- a.  $\llbracket wD \rrbracket = \lambda P_{\langle et \rangle} \lambda x : \exists x [\text{MAX}(P) = x]. P(x)$   
 b. type shifter MAX: freely available to take singleton/maximal properties and return their unique/maximal element

*Analysis for Korean:*

- bare nouns in weak and strong contexts do not permit case drop because they are both of type  $\langle e \rangle$ , either via (62a) or (62b), both D heads are spelled out as  $\emptyset$

(64) bare nouns derived by silent determiners:

- a.  $\llbracket \emptyset_{wD} \rrbracket = \lambda s \lambda P : \exists! x P(x)(s). \iota x. (P)(x)(s)$   
 b.  $\llbracket \emptyset_{sD} \rrbracket = \lambda s \lambda P \lambda y : \exists! x [P(x)(s) \wedge x = y]. \iota x [P(x)(s) \wedge x = y]$

- *ku* is an NP modifier which has the semantics of (63a), i.e. it turns a property into a singleton property, hence *ku* + *N* gets licensed in weak definite contexts

(65)  $\llbracket ku \rrbracket = \lambda s \lambda P_{\langle et \rangle} \lambda x : \exists x [\text{MAX}(P)(s) = x]. P(x)(s)$

- before the type shifter (63b) turns singleton properties into arguments  $\langle e \rangle$ , RES can apply  $\rightarrow ku + N$  do not have to get case-marked
- if RES is not present, type shifter (63b) applies to  $ku + N$  which results in case-marking
- $ku + N$  without case cannot get licensed in strong contexts because in order to do so (64b) has to be present, automatically turning  $ku + N$  from  $\langle e, t \rangle$  into  $\langle e \rangle$
- we adopt the proposal by Wolter (2006) where demonstratives require a non-default situation, see also Ahn (2017); demonstratives are also NP modifiers

$$(66) \quad \llbracket ce/i \rrbracket = \lambda s \lambda P_{\langle et \rangle} \lambda x : \exists x [\text{MAX}(P)(s) = x \wedge s \text{ is non-default}].P(x)(s)$$

- proper names denote singleton properties, thus case is dropped if RES applies

$$(67) \quad \llbracket Yumi \rrbracket = \lambda x : \exists x [\text{MAX}(\text{YUMI}) = x].\text{YUMI}(x)$$

- 1st/2nd pronouns also denote singleton properties, thus case is dropped if RES applies; 3rd pronouns denote variables, hence no case-drop

$$(68) \quad \text{a. } \llbracket na \rrbracket = \lambda x : \exists x [\text{MAX}(SP) = x].SP(x)$$

$$\text{b. } \llbracket ne \rrbracket = \lambda x : \exists x [\text{MAX}(H) = x].H(x)$$

$$\text{c. } \llbracket ku_1 \rrbracket = g(1)$$

## 5 Binding and Control

- Case-less subjects cannot bind the reflexive pronouns:

$$(69) \quad \text{a. } \text{Cinwu-ka}_i \quad ku \text{ casin-ul}_i \text{ chingchanhaysse.}$$

Cinwu-NOM he self-ACC prasied  
'Cinwu<sub>i</sub> praised himself<sub>i</sub>.'

$$\text{b.?*Cinwu}_i \text{ ku casin-ul}_i \text{ chingchanhaysse.}$$

Cinwu he self-ACC prasied  
'Cinwu<sub>i</sub> praised himself<sub>i</sub>.'

- Pseudo incorporated objects/subjects cannot control PRO anymore.

## (70) Object Control

- a. *Yusu-ka<sub>i</sub> Sohyung-ul<sub>j</sub> [PRO<sub>\*i/j</sub> ttena-la-ko] seltukhaysse.*  
 Yusu-NOM Sohyung-ACC leave-IMP-C persuaded  
 ‘Yusu persuaded Sohyung to leave.’
- b. *Yusu-ka<sub>i</sub> Sohyung<sub>j</sub> [PRO<sub>\*i/\*j</sub> ttena-la-ko] seltukhaysse.*  
 Yusu-NOM Sohyung leave-IMP-C persuaded  
 ‘Yusu persuaded Sohyung to leave.’

## (71) Subject Control

- a. *Yusu-ka<sub>i</sub> Sohyung-eykey<sub>j</sub> [PRO<sub>i/\*j</sub> keyss-ta-ko] yaksokhaysse.*  
 Yusu-NOM Sohyung-DAT leave-VOL-DECL-C promised  
 ‘Yusu promised Sohyung to leave.’
- b. *Yusu<sub>i</sub> Sohyung-eykey<sub>j</sub> [PRO<sub>\*i/\*j</sub> keyss-ta-ko] yaksokhaysse.*  
 Yusu Sohyung-DAT leave-VOL-DECL-C promised  
 ‘Yusu promised Sohyung to leave.’

- under the assumption that binding and control require a c-command relation and RESP cannot carry an index, these tests provide convincing evidence for our analysis
- under a classic DP/NP approach lack of binding and control is explained by the fact that incorporated arguments denote properties, hence do not refer
- note, however, that the examples above are construed with proper names as binders and controllers, which is a type of argument for which it is counter-intuitive to assume that they do not refer to an individual

## 6 Conclusion

- we have investigated the properties of PNI in Korean
- we proposed, in essence, a DP/NP-style account, albeit with the help of a silent operator
- the RESP analysis correlates obligatory low scope with case-drop and allows for scrambling of pseudo-incorporated objects
- our analysis allows for weak definites (i.e. *ku+N*, *dem+N*, proper names, 1st/2nd pronouns) to be incorporated
- subject incorporation is allowed under this analysis
- open question: asymmetry with quantifiers, *wh*-phrases

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