

Pseudo-noun Incorporation and Differential Object Marking: A crosslinguistic study

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The topic of this talk

Pseudo-noun incorporation (PNI) is a phenomenon, where a nominal argument, reduced in its morpho-syntactic properties, forms a closer-than-usual relation with the verb (Massam 2001). Most often this reduced form is reflected in case drop.

(1) Turkish (Öztürk 2005: 32,39)

a. Ali **kitab-ı** da **okudu**.

Ali.NOM book-ACC also read.

‘Ali also read the book.’

b. Ali **kitap** da **okudu**.

Ali.NOM book also read.

‘Ali also did book reading.’

pseudo-incorporation

Case drop often correlates with:

- Size effect: usually indefinite, sometimes non-specific, nouns → overlap with **Differential Object Marking** (DOM) (Bossong 1991, Aissen 2003)
- Obligatory low scope readings
- No binding or control for PNI-ed nouns
- Limited distribution (with considerable cross-linguistic variation)

What this talk is not about

The term pseudo-incorporation is related to “true” noun incorporation, where a noun and a verb form some sort of compound (Mithun 1984).

(2) Tongan (Chung 1978:152)

a. Na^ʔe **haka** [^ʔe he sianá] [^ʔa e **ika**].
PST cook ERG the man ABS the fish
‘The man cooked the fish.’

b. Na^ʔe **haka-ika** [^ʔa he sianá].
PST cook-fish ABS the man
‘The man cooked fish.’

noun incorporation

(3) Turkish (Öztürk 2005:32,39)

a. Ali **kitab-ı** da **okudu**.
Ali.NOM book-ACC also read.
‘Ali also did book reading.’

b. Ali **kitap** da **okudu**.
Ali.NOM book also read.
‘Ali also did book reading.’

pseudo-noun incorporation

Size effect

The size effect is common to both PNI and DOM. Case drop becomes more likely the less prominent the noun type is.

(4) Spanish (López 2012: 12-13)

- a. Juan vio a {todas las chicas} / {la chica} / Pedro / mí.
Juan saw DOM all the girls / the girl / Pedro / me
'Juan saw all the girls / the girl / Pedro / me.'
- b. *Juan vio \emptyset {todas las chicas} / {la chica} / Pedro / mí.
Juan saw all the girls / the girl / Pedro / me
'Juan saw all the girls / the girl / Pedro / me.'

(5) *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

Specificity

Arguments without case-marking are often non-specific. This is prominently discussed for DOM languages.

(6) Spanish (López 2012: 16)

- a. María busca **a una gestora.** *specific/non-specific*
María seeks DOM a manager
'Maria is looking for a (certain) manager.'
- b. María busca **una gestora.** *non-specific*
María seeks a manager
'Maria is looking for a (*certain) manager.'

(7) *Definiteness scale for Spanish*

(Silverstein 1976, Aissen 1999, 2003)

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

CASE ←←

⇒⇒ OPT. CASE

Low scope

Arguments without case-marking are restricted to low scope.

(8) Hindi (Dayal 2011: 127,137)

a. Anu **bacce-ko** sambhaaltii hai
Anu child-ACC look.after.IMP be.PRS
'Anu looks after the child.'

b. Anu **bacca** nahiiN samhaalegii
Anu child not look.after.FUT
'Anu will not look after children.'

¬∃, *∃¬

(9) Tamil (Baker 2014: 7,18)

a. Maala veegamaa **anda pustagatt-e** paḍi-cc-aa.
Mala quickly the book-ACC read-PST-3.F.S
'Mala read the book quickly.'

b. Naan **pustagam** vanga-lle.
1SG.NOM book buy-NEG
'I didn't buy (any) book.'

¬∃, *∃¬

Binding and control

Arguments without case marking cannot bind a pronoun and cannot act as a controller. These properties are rarely discussed for PNI and DOM languages.

(10) Turkish (Öztürk 2009: 343)

a. Ali [cerceve-si-ne_{1/2}]₃ **resm-i**₁ ___₃ koy-du.
Ali frame-POSS.3SG-DAT picture-ACC put-PST
Ali put the picture in its/his frame.

b. Ali [cerceve-si-ne_{*1/2}]₃ **resim**₁ ___₃ koy-du.
Ali frame-POSS.3SG-DAT picture put-PST
Ali picture-put in his frame.

(11) Spanish (López 2012: 53,58)

Juan forzó [*(a) un niño]₃ [PRO₃ a hacer los deberes].
Juan forced DOM a boy to do.INF the homework
'Juan forced a boy to do his homework.'

Movement

Mobility of caseless nominals is limited (though there is considerable cross-linguistic variation).

(12) Hindi (Dayal 2011: 137)

kitaab₁ anu zaroor ___₁ becegii.
book Anu definitely sell-FUT
'Anu will definitely sell books.'

(13) Tamil (Baker 2014: 8-9)

*naan **pustagam**₁ anda pombale-kittē ___₁ kuḍu-tt-ēen
1SG.NOM book the woman-LOC give-PST-1SG.S
'I gave a book to the woman.'

Subject PNI

Pseudo-incorporation for subjects has been documented for Turkish (Kornfilt 2003, 2008) and Korean (Kwon and Zribi-Hertz 2008).

(14) Korean (Kwon and Zribi-Hertz 2008: 265)

- a. **Beoseu-ga** o-goiss-da.
bus-NOM come-PROG-DECL
'There is a/the bus coming.'
- b. **Beoseu** o-n-da.
bus come-PRES-DECL
'Here comes the bus.'

(15) Turkish (Jo and Palaz 2018)

[Ali-yi **arı(-nin)** sok-tuğ-u-nu] duy-du-m.
Ali-ACC bee-GEN sting-NMLZ-POSS.3SG-ACC hear-PFV-1SG
'I heard that a bee stung Ali.'

A cross-linguistic study on PNI/DOM (Driemel 2023)

- Most studies of PNI/DOM focus on indefinites and bare nouns. In contrast, this study will take a large number of noun types into consideration and provide comparable data across a number of languages.
- This study uses case loss as a diagnostic correlating with ...
 - 1 obligatory low scope readings
 - 2 lack of binding
 - 3 lack of control
 - 4 limited movement capacity
- Investigated languages: *Tamil, Mongolian, Korean, Turkish, German*
- The proposed theory will be able to explain:
 - why most of the PNI properties are stable across languages
 - why at least one PNI property is subject to cross-linguistic variation
 - why case loss does not affect every noun type in equal ways

Results of Driemel (2023)

- PNI : case drop correlates with low scope, less mobility, lack of binding and control
- DAM : case drop possible but does not correlate with low scope, less mobility, lack of binding and control
- Conclusions for Hindi and Spanish are tentative (not part of the study, observations from literature)

	CASE DROP DUE TO PNI OR DAM										
	BA	IND	#	wQ	DEMP	WD	sQ	PRO	PN	PossP	sD
<i>Mongolian</i>	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
<i>Tamil</i>	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
<i>Turkish</i>	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
<i>Korean</i>	✓	✓	✓	✗	✓	✓	✗	✓/✗	✓	✗	✗
<i>German</i>	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
<i>Hindi</i>	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
<i>Spanish</i>	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗

Table: BA = bare argument; IND = indefinite; # = numeral; wQ = weak quantifier; DEM P = demonstrative phrase; WD = weak definite; PRO = pronoun; PN = proper noun; PossP = possessor phrase; sQ = strong quantifier; sD = strong definite

Scope: Mongolian vs. Tamil

Tamil bare nouns without case are restricted to low scope. Case-less indefinites are not.

(18) *A friend of mine wants to sell three books and after looking at them I bought two books.* ($\exists \neg$)

- a. Naan **oru pustagath-ai** vanga-lle. INDEF
1SG.NOM one book-ACC buy-NEG
'I didn't buy a book.'
- b. Naan **oru pustagam** vanga-lle. INDEF, PNI
1SG.NOM one book buy-NEG
'I didn't buy a book.'
- c. #Naan **pustagam** vanga-lle. BARE, PNI
1SG.NOM book buy-NEG
'I didn't buy a book.'

(19) *A friend of mine wants to sell three books and after looking at them I didn't buy any books.* ($\neg \exists$)

- a. #Naan **pustagath-ai** vanga-lle. BARE
1SG.NOM book-ACC buy-NEG
'I didn't buy a book.'
- b. Naan **pustagam** vanga-lle. BARE, PNI
1SG.NOM book buy-NEG
'I didn't buy a book.'

Binding: Tamil vs. Turkish

Tamil bare nouns without case cannot bind. Indefinites can still bind, even without case-marking.

- (20) Kumar ata-ode₁ kadasi pakkam varai **book-ai**₁ padi-c-aan. BARE
Kumar that-GEN last page until book-ACC read-PST-3SG.M
'Kumar read a book until its last page.'
- (21) *Kumar ata-ode₁ kadasi pakkam varai **book**₁ padi-c-aan. BARE, PNI
Kumar that-GEN last page until book read-PST-3SG.M
'Kumar read a book until its last page.'
- (22) Kumar ata-ode₁ kadasi pakkam varai [**oru book-ai**]₁ padi-c-aan. INDEF
Kumar that-GEN last page until one book-ACC read-PST-3SG.M
'Kumar read a book until its last page.'
- (23) Kumar ata-ode₁ kadasi pakkam varai [**oru book**]₁ padi-c-aan. INDEF,PNI
Kumar that-GEN last page until one book read-PST-3SG.M
'Kumar read a book until its last page.'

Binding: Tamil vs. Turkish

Turkish bare nouns and indefinites without case cannot bind.

- (24) [sahib-i-ni₁ köpeğ-in₁ ısır-dığ-ı-nı] duy-du-m. BARE
owner-POSS.3SG-ACC dog-GEN bite-NMLZ-POSS.3SG-ACC hear-PFV-1SG
'I heard that a dog bit its owner.'
- (25) * [sahib-i-ni₁ köpek₁ ısır-dığ-ı-nı] duy-du-m. BARE, PNI
owner-POSS.3SG-ACC dog bite-NMLZ-POSS.3SG-ACC hear-PFV-1SG
'I heard that a dog bit its owner.'
- (26) [sahib-i-ni₁ [bir köpeğ-in]₁ ısır-dığ-ı-nı] duy-du-m. INDEF
owner-POSS.3SG-ACC a dog-GEN bite-NMLZ-POSS.3SG-ACC hear-PFV-1SG
'I heard that a dog bit its owner.'
- (27) * [sahib-i-ni₁ [bir köpek]₁ ısır-dığ-ı-nı] duy-du-m. INDEF, PNI
owner-POSS.3SG-ACC a dog bite-NMLZ-POSS.3SG-ACC hear-PFV-1SG
'I heard that a dog bit its owner.'

Control: Turkish vs. Korean

Turkish bare nouns and indefinites cannot undergo control without case marking, shown here for object control. Subject control and adjunct control patterns are similar.

- (28) Sen [PRO₁ silah-ı bırak-ma-ya] suçlu-yu₁ zorla-dı-n. BARE
you weapon-ACC drop-NMLZ-DAT criminal-ACC force-PFV-2SG
'You forced the criminal to drop the weapon.'
- (29) *Sen [PRO₁ silah-ı bırak-ma-ya] suçlu₁ zorla-dı-n. BARE, PNI
you weapon-ACC drop-NMLZ-DAT criminal force-PFV-2SG
'You forced the criminal to drop the weapon.'
- (30) Sen [PRO₁ silah-ı bırak-ma-ya] [bir suçlu-yu]₁ zorla-dı-n. INDEF
you weapon-ACC drop-NMLZ-DAT a criminal-ACC force-PFV-2SG
'You forced a criminal to drop the weapon.'
- (31) *Sen [PRO₁ silah-ı bırak-ma-ya] [bir suçlu]₁ zorla-dı-n. INDEF, PNI
you weapon-ACC drop-NMLZ-DAT a criminal force-PFV-2SG
'You forced a criminal to drop the weapon.'

Control: Turkish vs. **Korean**

Korean bare nouns cannot undergo control without case marking, shown here for object control. Subject control and adjunct control patterns are similar.

- (32) Yusu-ka **haksayng-ul**₁ [PRO₁ ttena-la-ko] seltukhaysse. BARE
Yusu-NOM student-ACC leave-IMP-COMP persuaded
'Yusu persuaded a student to leave.'
- (33) *Yusu-ka **haksayng**₁ [PRO₁ ttena-la-ko] seltukhaysse. BARE, PNI
Yusu-NOM student leave-IMP-COMP persuaded
'Yusu persuaded a student to leave.'

(There is no indefinite equivalent in Korean.)

Movement: Korean vs. Mongolian

Korean case-less bare nouns can undergo (intermediate) scrambling. In contrast, Mongolian case-less bare nouns are immobile.

- (34) **chayk-ul**₁ Yusu-ka Suzi-eykey __₁ cwuesse. KOREAN, BARE
book Yusu-NOM Suzi-DAT gave
'Yusu gave Suzi books.'
- (35) **chayk**₁ Yusu-ka Suzi-eykey __₁ cwuesse. KOREAN, BARE, PNI
book Yusu-NOM Suzi-DAT gave
'Yusu gave Suzi books.'
- (36) **ojuutn-yg**₁ zaxiral __₁ šalga-san. MONGOLIAN, BARE
student-ACC director.NOM examine-PST
'The director examined a student.'
- (37) ***ojuutan**₁ zaxiral __₁ šalga-san. MONOGLIAN, BARE, PNI
student director.NOM examine-PST
'The director examined a student.'

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<i>Turkish</i>	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
<i>Korean</i>	✓	✓	✓	✗	✓	✓	✗	✓/✗	✓	✗	✗
<i>German</i>	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
<i>Hindi</i>	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
<i>Spanish</i>	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗

Table: BA = bare argument; IND = indefinite; # = numeral; wQ = weak quantifier; DEM P = demonstrative phrase; WD = weak definite; PRO = pronoun; PN = proper noun; PossP = possessor phrase; sQ = strong quantifier; sD = strong definite

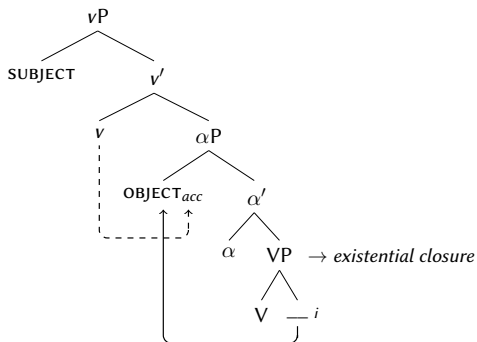
Previous accounts of PNI/DOM

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).

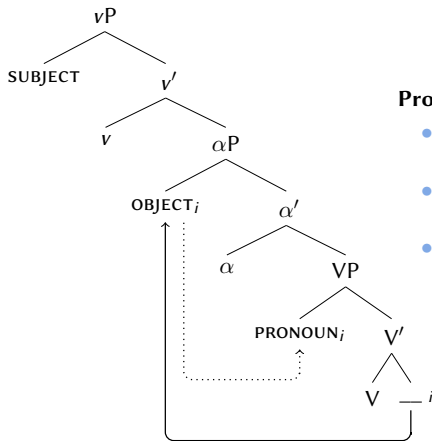
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Raising analyses of DOM/PNI

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). These PNI/DOM properties are discussed only for objects.

(39)



Problems:

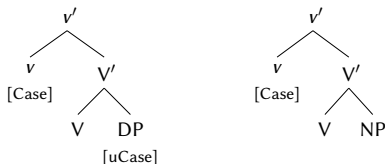
- The binding and control diagnostics also hold for subjects in Korean and Turkish.
- Even for objects, the rationale is only valid for adjunct control, and not object control.
- Noun types where case drop does not correlate with semantic properties are not predicted.

DP/NP approaches of PNI/DOM

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

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

(40)



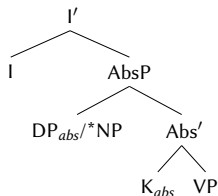
- case-marking is tied to the highest projection in an elaborate nominal projection structure (Kalin 2018, van Urk 2019, Levin 2019), often used for DOM-patterns related to animacy and specificity

DP/NP approaches

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

- smaller arguments have been argued to have no need to move to a case position, hence they stay in their base positions (Massam 2001)

(41)



Niuean (Massam 2001: 165)

- smaller arguments have been argued to have no phase status (López 2012), hence they cannot move
- smaller arguments have been argued to have to stay V-adjacent in order get case-licensed by the verbal projection via local dislocation in post-syntax (Levin 2015, Fong 2021)

DP/NP approaches of PNI/DOM

The **size** of the noun phrase correlates with **meaning**, mobility, 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)

$$(42) \quad a. \quad \llbracket \text{seek} \rrbracket = \lambda y_e \lambda x [\text{SEEK}(x, y)] \quad (\text{van Geenhoven 1998})$$

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

$$(43) \quad a. \quad \llbracket \text{catch} \rrbracket = \lambda x_e \lambda y \lambda e [\text{CATCH}(e) \ \& \ \text{AG}(e) = y \ \& \ \text{TH}(e) = x] \quad (\text{Dayal 2011})$$

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

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: Problems

- 1 The inability to bind or control is not addressed in the DP/NP literature and does not immediately follow from the NP status. Though see [Driemel and Lee \(2022\)](#) for a recent idea.
- 2 At least a syntactic case-licensing account falls short of explaining why there is no correlation between case drop and (ϕ -)Agree or case drop and valency.

(44) [köy-e **doktor(-un)** gel-diğ[-i]-ni] duy-du-m. *Turkish*
village-DAT doctor-GEN come-NLMZ-3SG-ACC hear-PFV-1SG
'I heard the/a doctor came to the village.'

(45) [köy[-ü] **bir haydut(-un)** bas-tığ-ın-ı] duy-du-m. *Turkish*
village-ACC a robber-GEN raid-NMLZ-3SG-ACC hear-PST-1SG
'I heard that a (certain) robber raided the village.' ([Kornfilt 2008: 84](#))

- 3 As with the raising accounts, noun types where case drop does not correlate with low scope are not predicted.
- 4 Immobility is not a constant feature of PNI. In fact, PNI-ed arguments seem to move like VPs in the respective languages.

PNI-ed arguments move like VPs

Case-less bare nouns in Korean can undergo short and intermediate scrambling but not long scrambling.

- (46) Yusu-ka **chayk(-ul)**₁ Suzi-eykey __₁ cwuesse. *short*
Yusu-NOM book-ACC Suzi-DAT gave
'Yusu gave Suzi books.'
- (47) **chayk(-ul)**₁ Yusu-ka Suzi-eykey __₁ cwuesse. *intermediate*
book-ACC Yusu-NOM Suzi-DAT gave
'Yusu gave Suzi books.'
- (48) **chayk*(-ul)**₁ Suzi-nun [Minho-ka __₁ ilk-nun-ta-ko] saynkakhay. *long*
book-ACC Suzi-TOP Minho-NOM read-PRES-DEC think
'Suzi thinks that Minho is book-reading.'

PNI-ed arguments move like VPs

It seems like VPs pattern with case-less arguments, i.e. they can undergo short and intermediate scrambling but not long scrambling.

- (49) Suzi-ka [Hannah-lul sokay-hay-ess-e]₁ Minsu-eykey __ 1.
Suzi-NOM Hannah-ACC introduce-V-PST-DECL Minsu-DAT
'Suzi introduced Hannah to Minsu.' *short*
- (50) [Hannah-lul sokay-hay-ess-e]₁ Suzi-ka Minsu-eykey __ 1.
Hannah-ACC introduce-V-PST-DECL Suzi-NOM Minsu-DAT
'Suzi introduced Hannah to Minsu.' *intermediate*
- (51) * [Chayk-ul ilk-nun-ta-ko]₁ Suzi-nun [Minho-ka __ 1] saynkakhay.
book-ACC read-PRES-DEC Suzi-TOP Minho-NOM think
'Suzi thinks that Minho is book-reading.' *long*

VP-movement is not the obvious analysis here since along with the verbs move tense and C elements.

PNI-ed arguments move like VPs

Remnant VPs also pattern with case-less arguments! We test with a low manner adverb.

- (52) Suzi-ka [ppalli Hannah-lul ___₂]₁ Minsu-eykey ___₁ sokay₂-hay-ess-e.
Suzi-NOM quickly Hannah-ACC Minsu-DAT introduce-V-PST-DECL
'Suzi quickly introduced Hannah to Minsu.' *short*
- (53) [Ppalli Hannah-lul ___₂]₁ Suzi-ka Minsu-eykey ___₁ sokay₂-hay-ess-e.
quickly Hannah-ACC Suzi-NOM Minsu-DAT introduce-V-PST-DECL
'Suzi quickly introduced Hannah to Minsu.' *intermediate*
- (54) * [Ppalli chayk-ul ___₂]₁ Minsu-nun [Suzi-ka ___₁ ilk₂-ess-ta-ko]
quickly book-ACC Minsu-TOP Suzi-NOM read-PST-DECL-C
saynkakhay.
thinks
'Minsu thinks that Suzi was quickly book-reading.' *long*

The correlation between VP-movement and PNI-ed nominals can also be found for Mongolian, Tamil, Turkish, and German (Driemel 2020b).

Proposal:

The effects of pseudo-noun incorporation are not related to
size or position but to *category*.

An observation

The diagnostics used for identifying PNI can be interpreted as verbal properties. So it appears that PNI-ed nouns have nominal AND verbal properties.

verbal properties

- scope inertness
- often no case
- no binding or controller capacity
- not easy to move

nominal properties

- argument of the verb
- contribute a θ -role
- can be modified by adjectives
- number-morphology

The verbal properties in detail

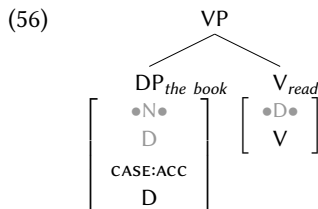
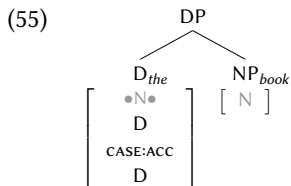
- *Low scope*
 - Verb movement never affects scopal relations.
 - Consequences: Head movement on PF (Chomsky 2000, 2001, Boeckx and Stjepanović 2001, Merchant 2002, Harley 2004, Schoorlemmer and Temmerman 2012, Zwart 2017); obligatory reconstruction of verb denotations (Goldberg 2005, Matushansky 2006, Keine and Bhatt 2016)
- *No case morphology*
 - Principles and Parameters (Chomsky 1981, Stowell 1981): [+N]-categories are assigned case, [-N]-categories assign case
 - *Dependent Case* (Marantz 1991, Wunderlich 1997, Stiebels 2006): Case assignment defined for nominal categories
 - Nichols (1986): Φ -features are primarily head marking strategy, case-features are primarily dependent-marking strategy
- *No binding or control*
 - Chomsky (1981): Binding as a relation between nouns in A-positions
 - Büring (2005): Binder-rule defined for nominal categories
 - Baker (2004): Nouns are distinguished from verbs through the presence of a referential index
 - Control requires that an argument binds PRO (Chomsky 1981, Manzini 1983, Koster 1984, Landau 2015, 2017).
- *PNI-movement = VP-movement*

PNI-ed arguments start off as nominal categories, but become a verbal category in the process of the derivation.

- PNI-ed arguments are different from proper arguments. This is not a different in size, but in category.
- The categorial switch from nominal to verbal is implemented in a silent determiner (PNID).

Implementation

- We need a derivational (minimalist) model (Chomsky 1995, 2000, 2001).
- Sentences are built through checking of categorial features.
- Feature stacks form syntactic units (Stabler 1997, Müller 2009), i.e. features are ordered and only the highest feature on the stack is accessible.
- Features become inactive once they have taken part in a derivation.

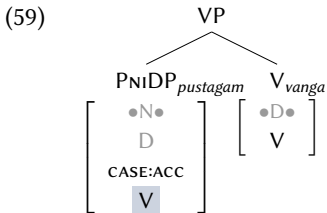
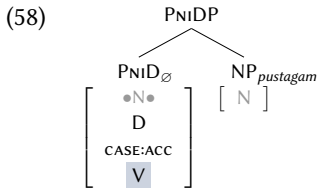


Implementation

Pseudo-incorporation:

- In PNI contexts, nouns are merged with a determiner that comes with a nominal D feature and a verbal V feature.
- I call this determiner PNID – a sequential hybrid.

(57) Naan **pustagam** vanga-lle.
1SG.NOM book buy-NEG
'I didn't buy any book.' (Baker 2014: 18)

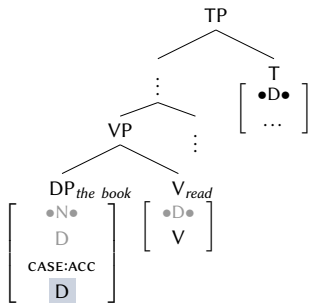


PNI-movement = VP-movement

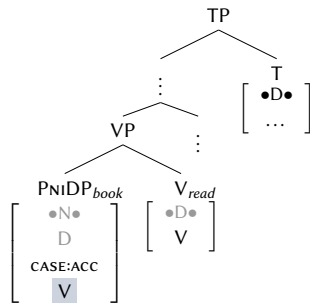
Movement features are distinguished by category:

- Movement is triggered by (internal) Merge, features relevant here are [$\bullet D \bullet$] and [$\bullet V \bullet$].
- Precedence for VP-movement triggered by [$\bullet V \bullet$]: Massam (2001), Mahajan (2003), Müller (2004).
- Heads with [$\bullet D \bullet$] move constituents of category [D] in their specifier; see also Chomsky (1995), Kitahara (1997), Epstein et al. (1998) for scrambling and EPP, etc.

(60)



(61)

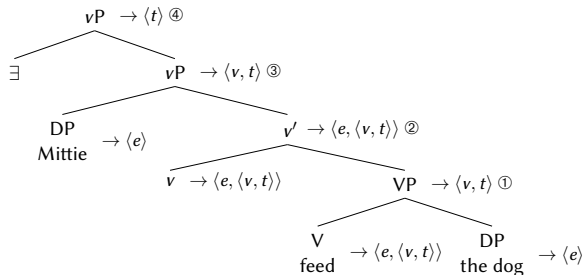


Low scope

Framework: **Neo-Davidsonian event semantics** (Parsons 1995, Kratzer 1996)

- Verbal projections are predicates of events $\langle v, t \rangle$. Sentences are propositions based on existential claims about events.
- External arguments are introduced by v which links the agent θ -role to the event via *Event Identification* (EI). The event variable is existentially closed off (EC) at the vP -level.

(62) Kratzer (1996: 121)



(63) ① $\lambda x \lambda e [\text{FEED}(x)(e)] (d) = \lambda e [\text{FEED}(d)(e)]$

FA

② $\lambda x \lambda e [\text{AGENT}(x)(e)], \lambda e [\text{FEED}(d)(e)] = \lambda x \lambda e [\text{AGENT}(x)(e) \wedge \text{FEED}(d)(e)]$

EI

③ $\lambda x \lambda e [\text{AGENT}(x)(e) \wedge \text{FEED}(d)(e)] (m) = \lambda e [\text{AGENT}(m)(e) \wedge \text{FEED}(d)(e)]$

FA

④ $\exists e [\text{AGENT}(m)(e) \wedge \text{FEED}(d)(e)]$

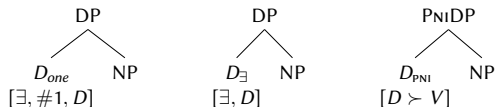
EC

Low scope

The majority of PNI-ed arguments receive an indefinite reading. This reading can be modeled via existential quantifiers but it does not lead to obligatory low scope readings.

Proposal: The verbal property of PNI determiners is encoded as an event variable (65c): The second argument of the quantifier is a function from individuals to predicates of events.

(64) *Options for indefinites and bare nouns:*

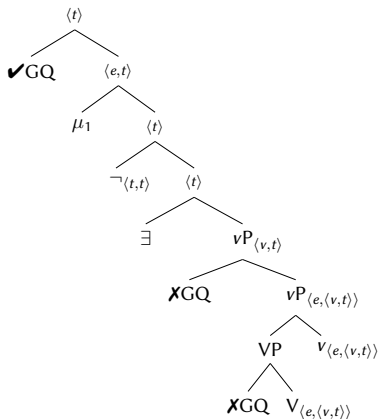
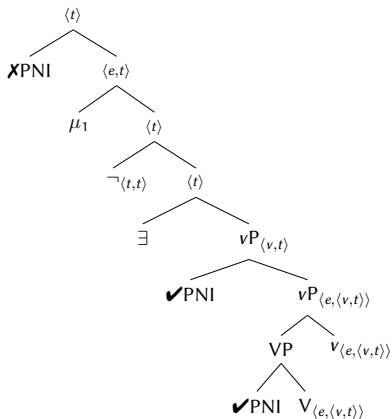


(65) *Denotations of determiners:*

- a. $\llbracket \exists, \#1, D \rrbracket = \lambda P_{\langle e,t \rangle} \lambda Q_{\langle e,t \rangle} \exists z [P(z) \wedge |z| = 1 \wedge Q(z)]$ D_{one}
- b. $\llbracket \exists, D \rrbracket = \lambda P_{\langle e,t \rangle} \lambda Q_{\langle e,t \rangle} \exists z [P(z) \wedge Q(z)]$ D_{\exists}
- c. $\llbracket D > V \rrbracket = \lambda P_{\langle e,t \rangle} \underbrace{\lambda Q_{\langle e, \langle v,t \rangle \rangle}}_{\text{low scope!}} \lambda e \exists z [P(z) \wedge Q(z)(e)]$ D_{PNI}

Low scope

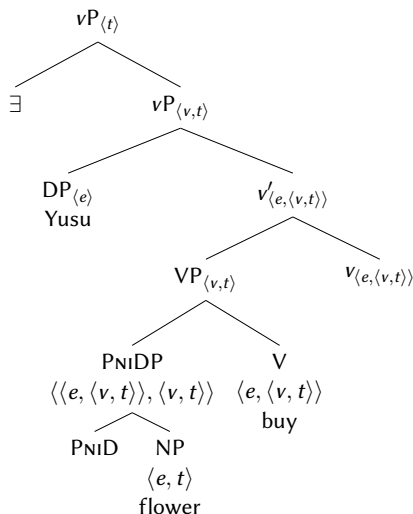
Generalized quantifiers (GQ) are of type $\langle\langle e, t \rangle, t\rangle$. Thus, they must move out of the event domain to be interpreted (Landman 2000). Negation applies not lower than existential closure of the event variable (Chung and Ladusaw 2004, Penka 2010, von Stechow 2012).



Low scope

(66) Yusu-ka **kkoch** sa-ss-e.
 Yusu-NOM flower buy-PRT-INT
 'Yusu bought flowers.'

- 1 Case drop signals PNIID:
 $\lambda P_{\langle e,t \rangle} \lambda Q_{\langle e, \langle v,t \rangle \rangle} \lambda e \exists z [P(z) \wedge Q(z)(e)]$
- 2 PNIID takes NP as argument
 $= \lambda Q_{\langle e, \langle v,t \rangle \rangle} \lambda e \exists z [\text{FLOWER}(z) \wedge Q(z)(e)]$
- 3 PNIID takes V as argument
 $= \lambda e \exists z [\text{FLOWER}(z) \wedge \text{BUY}(z)(e)]$
- 4 PNIID can only be interpreted in the event domain.
- 5 After the event variable is closed off above vP , PNIID cannot be interpreted anymore.
- 6 PNI in subject position is also possible.



Lack of binding and control

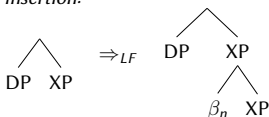
Recall that binding is blocked for PNI-ed arguments, shown here for subject PNI in Korean:

- (67) a. **Koyangi-ka**₁ [ku casin-ul]₁ halth-ass-e.
 cat-NOM 3SG SELF-ACC lick-PST-DECL
 'A cat washed itself.'
- b. ***Koyangi**₁ [ku casin-ul]₁ halth-ass-e.
 cat 3SG SELF-ACC lick-PST-DECL
 'A cat washed itself.'

I follow [Büring \(2001, 2004, 2005\)](#) and implement binding via a binder rule that inserts a binder prefix below the binder, which is co-indexed with the pronoun.

- (68) a. β -insertion:

([Büring 2001: 56](#), [Büring 2004: 25](#))



where n is an index, and DP occupies an A-position

- b. *Binder Index Evaluation rule (BIER)*:

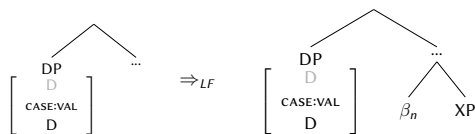
$$\llbracket \beta_n \text{ XP} \rrbracket^g = \lambda x. \llbracket \llbracket \text{XP} \rrbracket^{g[m \rightarrow x]}(x) \rrbracket$$

Lack of binding and control

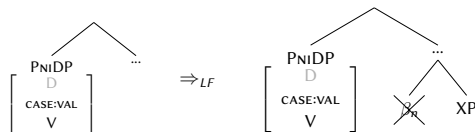
Binding: Since the binder rule is defined for nominal categories, it cannot be applied for verbal categories.

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).

(69) a. β -insertion for DPs/NPs

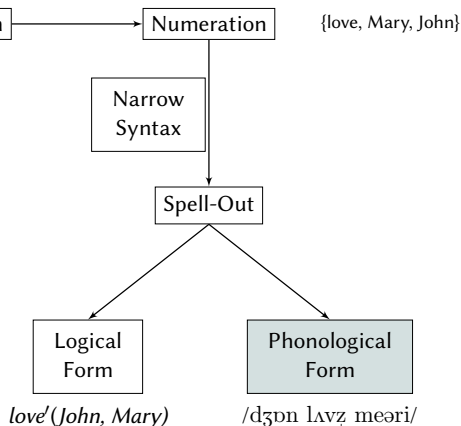


b. No β -insertion for PnIDPs



Case drop

Case drop happens **post-syntactically** since there seems to be no interaction with other syntactic operations. Hence, case drop means non-insertion of exponents.



- Feature stacks will be pronounced at PF via vocabulary insertion.
- PNI-arguments (PNI-DPs) are assigned case in syntax.
- Case information is deleted before vocabulary insertion (DM solution) or will not be realized through markedness constraints (OT solution).
- A zero case marker (*elsewhere*) realizes impoverished case information.

Case drop

Tools in post-syntax:

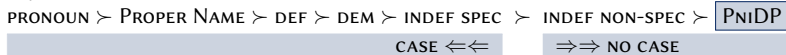
- 1 Non-realization of case features can be achieved via impoverishment rules (Keine 2007, 2010, Bány 2017, Weisser 2017, 2018) or allomorphy (López 2012, Lidz 2006, Nüger 2010).
 - DM impoverishment rules can make use of the [V] feature of PniDP

- (70) a. [+gov] $\rightarrow \emptyset$ / [V] *Tamil, Mongolian, Hindi*
- b. [-obl] $\rightarrow \emptyset$ / [V] *Korean*
- c. [+struct] $\rightarrow \emptyset$ / [V] *Turkish*

- impoverishment rules have to be adjusted for interactions with specificity, animacy; additional rules for DOM-marking if necessary

- 2 Non-realization of case features can also be modelled in an OT-system based on markedness scales (Aissen 1999, 2003). A post-syntactic version is proposed by Keine and Müller (2008, 2011).

(71) *Definiteness scale*



Case drop

Example Hindi: Caseless bare nouns pseudo-incorporate, i.e. case loss correlates with low scope. Case loss with indefinites does not correlate with low scope. It correlates with animacy and specificity.

(72) Dayal (2011: 128), Dayal (1999: 35)

- a. Anu bacca nahiiN samhaalegii ¬∃,*∃¬
Anu child not look.after.FUT
'Anu will not look after children.'
- b. Anu ek kitaab nahiiN paRhegii ¬∃,∃¬
Anu one book not read.F
'Anu won't read any book./There is a book Anu won't read'

(73) Bhatt (2007: 2)

- a. Mina ek bacca uṭhhaa rahii hai. -spec
Mina a/one child lift PROG.F be.PRS.3SG
'Mina is picking up a child.'
- b. Mina ek bacce-ko uṭhhaa rahii hai. +spec
Mina a/one child-ACC lift PROG.F be.PRS.3SG
'Mina is picking up a particular child.'

Case drop

Keine's (2010: 60) analysis of DOM in Hindi:

(74) *Vocabulary items for case exponents*

a. /-ko/ \leftrightarrow [-OBL,+OBJ]

b. /-ne/ \leftrightarrow [-OBL,+SUBJ]

c. /- \emptyset / \leftrightarrow []

(75) *Context for insertion*

ACC: [-obl,+obj]

(76) *DOM-impooverishment for indefinites*

[+OBJ] $\rightarrow \emptyset$ / [-HUM,-SPEC]

Here is what we need to add:

(77) *PNI-impooverishment for bare nouns*

[+OBJ] $\rightarrow \emptyset$ / [V,-HUM]

Summary

- PNI can be robustly diagnosed with a package of tests:
 - 1 case optionality
 - 2 low scope
 - 3 binding
 - 4 control
 - 5 movement
- Proposal: Pseudo-incorporation is the result of a PNI determiner, which comes with nominal and verbal properties.
- The proposal is flexible enough to explain (i) why most of the PNI properties are robustly found across languages and (ii) why at least the movement property seems to vary across languages.
- The PNI account is compatible with post-syntactic DOM theories – which is important since there are languages (e.g. Tamil and Korean) where both PNI and DOM exist and apply depending on the noun type.

References I

- Aissen, J. (1999). Markedness and Subject Choice in Optimality Theory. *Natural Language and Linguistic Theory*, 17:673–711.
- Aissen, J. (2003). Differential Object Marking: Iconicity vs. Economy. *Natural Language and Linguistic Theory*, 21:435–483.
- Baker, M. (2004). *Lexical Categories: Verbs, Nouns and Adjectives*. Cambridge University Press, Cambridge.
- Baker, M. (2014). Pseudo Noun Incorporation as Covert Noun Incorporation: Linearization and Crosslinguistic Variation. *Language and Linguistics*, 15:5–46.
- Baker, M. (2015). *Case. Its Principles and Parameters*. Cambridge University Press, Cambridge.
- Bárány, A. (2017). *Person, case, and agreement: The morphosyntax of inverse agreement and global case splits*. Oxford University Press, Oxford.
- Barrie, M. and Li, A. (2015). The Semantics of (Pseudo) Incorporation and Case. In Borik, O. and Gehrke, B., editors, *The Syntax and Semantics of Pseudo-Incorporation*, pages 159–188. Brill, Leiden/Boston.
- Bhatt, R. (2007). Unaccusativity and case licensing. Talk presented at McGill University.
- Bhatt, R. and Anagnostopoulou, E. (1996). Object shift and specificity: Evidence from ko-phrases in Hindi. In Dobrin, L., Singer, K., and McNair, L., editors, *Papers from the 32nd Regional Meeting of the Chicago Linguistic Society*, pages 11–22. Chicago Linguistic Society, Chicago.
- Boeckx, C. and Stjepanović, S. (2001). Head-ing toward PF. *Linguistic Inquiry*, 32:345–355.
- Bosson, G. (1991). Differential Object Marking in Romance and Beyond. In Kibbee, D. A. and Wanner, D., editors, *New Analyses in Romance Linguistics*, pages 143–170. John Benjamins, Amsterdam.
- Büring, D. (2001). A Situation Semantics for Binding out of DP. In Hastings, R., Jackson, B., and Zvolenski, Z., editors, *Proceedings from Semantics and Linguistic Theory XI*, pages 56–75, Ithaca. CLC.
- Büring, D. (2004). Crossover situations. *Natural Language Semantics*, 12(1):23–62.
- Büring, D. (2005). *Binding Theory*. Cambridge University Press, Cambridge.
- Chomsky, N. (1981). *Lectures on Government and Binding*. de Gruyter, Berlin.
- Chomsky, N. (1995). *The Minimalist Program*. The MIT Press, Cambridge, Massachusetts.

References II

- Chomsky, N. (2000). Minimalist inquiries: The framework. In Martin, R., Michaels, D., and Uriagereka, J., editors, *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, pages 89–155. MIT Press, Cambridge, Massachusetts.
- Chomsky, N. (2001). Derivation by phase. In Kenstowicz, M., editor, *Ken Hale: A Life in Language*, pages 1–52. MIT Press, Cambridge, Massachusetts.
- Chung, S. (1978). *Case Marking and Grammatical Relations in Polynesian*. University of Texas Press, Austin, TX.
- Chung, S. and Ladusaw, W. A. (2004). *Restriction and Saturation*, volume 42 of *Linguistic Inquiry Monograph*. MIT Press, Cambridge, MA.
- Dayal, V. (1999). Bare NP's, Reference to Kinds, and Incorporation. In Matthews, T. and Strolovitch, D., editors, *Proceedings of SALT 19*, pages 34–51. Cornell University, Ithaca, NY.
- Dayal, V. (2011). Hindi pseudo-incorporation. *Natural Language and Linguistic Theory*, 29:123–167.
- Diesing, M. (1992). *Indefinites*. MIT Press, Cambridge.
- Dobrovie-Sorin, C., Bleam, T., and Espinal, M. T. (2006). Bare nouns, number and types of incorporation. In Vogeleer, S. and Tasmowski, L., editors, *Non-definiteness and Plurality*, pages 51–79. John Benjamins, Amsterdam/Philadelphia.
- Driemel, I. (2020a). *Pseudo-incorporation across languages*. PhD thesis, Leipzig University.
- Driemel, I. (2020b). Pseudo-incorporation and its movement patterns. *Glossa: a journal of general linguistics*, 5:106.
- Driemel, I. (2023). *Pseudo-noun Incorporation and Differential Object Marking*. [in press] for the series Oxford Studies in Theoretical Linguistics. Oxford University Press, Oxford.
- Driemel, I. and Lee, H. (2022). Pseudo-incorporation vs. Differential Argument Marking in Korean. In Du, Y., Chen, Z., Li, X., Xu, Z., and Pan, V. J., editors, *Proceedings of GLOW in Asia XIII.*, pages 75–90. The Chinese University of Hong Kong, Hong Kong.
- Epstein, S., Groat, E., Kawashima, R., and Kitahara, H. (1998). *A Derivational Approach to Syntactic Relations*. Oxford University Press, Oxford.
- Fong, S. (2021). Nominal licensing via dependent case: the view from Pseudo Noun Incorporation in Wolof. Talk at NELS 52.
- Frey, W. (2015). NP-Incorporation in German. In Borik, O. and Gehrke, B., editors, *The Syntax and Semantics of Pseudo-Incorporation*, pages 225–261. Brill, Leiden/Boston.

References III

- van Geenhoven, V. (1998). *Semantic Incorporation and Indefinite Descriptions*. CSLI, Palo Alto.
- Goldberg, L. M. (2005). *Verb-Stranding VP Ellipsis: A Cross-Linguistic Study*. PhD thesis, McGill University.
- Grewendorf, G. (1995). German. Syntactic Sketches. In Jacobs, J., von Stechow, A., Sternefeld, W., and Vennemann, T., editors, *Handbooks of Linguistics and Communication Science*, volume 9, pages 1288–1319. De Gruyter Mouton, Berlin/Boston.
- Grewendorf, G. and Sternefeld, W. (1990). Scrambling Theories. In Grewendorf, G. and Sternefeld, W., editors, *Scrambling and Barriers*, pages 3–37. John Benjamins, Amsterdam/Philadelphia.
- Harley, H. (2004). Merge, conflation, and head movement: The First Sister Principle revisited. In Moulton, K. and Wolf, M., editors, *Proceedings of NELS 34*, pages 239–254, Amherst. GLSA.
- Heim, I. and Kratzer, A. (1998). *Semantics in Generative Grammar*. Blackwell, Oxford.
- Jo, J. and Palaz, B. (2018). Licensing Pseudo-Noun Incorporation in Turkish. Poster at NELS 49.
- Jo, J. and Palaz, B. (2019). Licensing Pseudo-Noun Incorporation in Turkish. In Baird, M. and Pesetsky, J., editors, *Proceedings of the 49th Annual Meeting of the North East Linguistic Society*. GLSA, Amherst, MA.
- Kalin, L. (2018). Licensing and Differential Object Marking: The View from Neo-Aramaic. *Syntax*, 21:112–159.
- Kang, A. (2015). *(In)definiteness, disjunction and anti-specificity in Korean: A study in the semantics-pragmatics interface*. PhD thesis, University of Chicago.
- Keine, S. (2007). Reanalysing Hindi Split-Ergativity as a morphological phenomenon. In Trommer, J. and Opitz, A., editors, *1-2-many*, pages 73–127. Linguistische Arbeitsberichte 85, Leipzig.
- Keine, S. (2010). *Case and agreement from fringe to core: A minimalist approach*. De Gruyter, Berlin.
- Keine, S. and Bhatt, R. (2016). Interpreting verb clusters. *Natural Language and Linguistic Theory*, 34:1445–1492.
- Keine, S. and Müller, G. (2008). Differential Argument Encoding by Impoverishment. In Richards, M. and Malchukov, A., editors, *Scales*, pages 83–136. Linguistische Arbeitsberichte 86, Leipzig.
- Keine, S. and Müller, G. (2011). Non-Zero/Non-Zero Alternations in Differential Object Marking. In Lima, S., Mullin, K., and Smith, B., editors, *Proceedings of NELS 39*, pages 441–454. GLSA, Amherst.

References IV

- Kelepir, M. (2001). *Topics in Turkish syntax: Clausal structure and scope*. PhD thesis, MIT.
- Kitahara, H. (1997). *Elementary Operations and Optimal Derivations*. MIT Press, Cambridge.
- Kornfilt, J. (2003). Scrambling, Subscrambling, and Case in Turkish. In Karimi, S., editor, *Word Order and Scrambling*, pages 125–155. Blackwell Publishing, Oxford.
- Kornfilt, J. (2008). DOM and Two Types of DSM in Turkish. In de Hoop, H. and de Swart, P., editors, *Differential Subject Marking*, pages 79–112. Springer, Dordrecht.
- Koster, J. (1984). On binding and control. *Linguistic Inquiry*, 15:417–459.
- Kratzer, A. (1996). Severing the external argument from its verb. In Rooryck, J. and Zaring, L., editors, *Phrase Structure and the Lexicon*, pages 109–137. Kluwer, Dordrecht.
- Kwon, S.-N. and Zribi-Hertz, A. (2008). Differential Function Marking, Case, and Information Structure: Evidence from Korean. *Language*, 84:258–299.
- Landau, I. (2015). *A Two-Tiered Theory of Control*. MIT Press, Cambridge.
- Landau, I. (2017). Direct Variable Binding and Agreement in Obligatory Control. In Patel-Grosz, P., Grosz, P. G., and Zobel, S., editors, *Pronouns in Embedded Contexts*, pages 1–41. Springer, Dordrecht.
- Landman, F. (2000). *Events and Plurality: The Jerusalem Lectures*. Blackwell Publishing, Oxford, UK.
- Lee, HanjungHa.Lee (2006). Iconicity and variation in the choice of object forms in Korean. *Language Research*, 42:323–355.
- Levin, T. (2015). *Licensing without Case*. PhD thesis, MIT.
- Levin, T. (2019). On the nature of differential object marking: Insights from Palauan. *Natural Language and Linguist Theory*, 37:167–213.
- Lidz, J. (2006). The grammar of accusative case in Kannada. *Language*, 82:10–32.
- López, L. (2012). *Indefinite Objects. Scrambling, Choice Functions, and Differential Marking*. The MIT Press, Cambridge, Massachusetts.
- Mahajan, A. (2003). Word Order and (Remnant) VP Movement. In Karimi, S., editor, *Word Order and Scrambling*, pages 217–237. Blackwell Publishing.

References V

- Manzini, R. (1983). On Control and Control Theory. *Linguistic Inquiry*, 14:421–446.
- Marantz, A. (1991). Case and Licensing. In Westphal, G., Ao, B., and Chae, H.-R., editors, *Proceedings of the Eighth Eastern States Conference on Linguistics*, pages 234–253. University of Maryland.
- Massam, D. (2001). Pseudo noun incorporation in Niuean. *Natural Language and Linguistic Theory*, 19:153–97.
- Matthewson, L. (1999). On The Interpretation of Wide-scope Indefinites. *Natural Language Semantics*, 7:79–134.
- Matushansky, O. (2006). Head Movement in Linguistic Theory. *Linguistic Inquiry*, 37:69–109.
- Merchant, J. (2002). Swiping in Germanic. In Zwart, C. J.-W. and Abraham, W., editors, *Studies in Comparative Germanic Syntax: Proceedings from the 15th Workshop on Comparative Germanic Syntax*, pages 289–315. John Benjamins, Amsterdam/Philadelphia.
- Merchant, J. (2009). Polyvalent case, geometric hierarchies, and split ergativity. In Bunting, J., Desai, S., Peachey, R., Straughn, C., and Tomkova, Z., editors, *Proceedings of the 42nd annual meeting of the Chicago Linguistics Society*, pages 57–76. University of Chicago Press, Chicago.
- Mithun, M. (1984). The Evolution of Noun Incorporation. *Language*, 60:847–894.
- Müller, G. (1998). *Incomplete Category Fronting*. Kluwer, Dordrecht.
- Müller, G. (2004). Verb-Second as vP-First. *Journal of Comparative Germanic Linguistics*, 7:179–234.
- Müller, G. (2009). Ergativity, accusativity, and the order of Merge and Agree. In Grohmann, K. K., editor, *Explorations of Phase Theory: Features and Arguments*, pages 269–308. Mouton de Gruyter, Berlin/New York.
- Müller, G. (2018). Pseudo-incorporation by structure removal. Handout, Talk at CGSW 33, Göttingen.
- Nichols, J. (1986). Head-Marking and Dependent-Marking Grammar. *Language*, 62:56–119.
- Nuger, J. (2010). *Architecture of the Palauan verbal complex*. PhD thesis, University of California, Santa Cruz.
- Öztürk, B. (2005). *Case, Referentiality and Phrase Structure*. John Benjamins, Amsterdam/Philadelphia.
- Öztürk, B. (2009). Incorporating agents. *Lingua*, 119:334–358.
- Parsons, T. (1995). Thematic relations and arguments. *Linguistic Inquiry*, 26:635–662.

References VI

- Partee, B. (1986a). Ambiguous Pseudoclefts with Unambiguous Be. In Berman, S., Choe, J.-W., and McDonough, J., editors, *Proceedings of NELS 16*, pages 354–366. University of Massachusetts, Amherst, MA.
- Partee, B. (1986b). Noun Phrase Interpretation and Type-shifting Principles. In Groenendijk, J., de Jongh, D., and Stokhof, M., editors, *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, pages 115–143. Foris, Dordrecht.
- Penka, D. (2010). *Negative Indefinites*. Oxford University Press, Oxford.
- Polinsky, M. (1992). Maori “He” Revisited. *Oceanic Linguistics*, 31:229–250.
- Poole, E. (2017). *Movement and the semantic type of traces*. PhD thesis, University of Massachusetts, Amherst.
- Poole, E. (2018). Constraining (shifting) types at the interface. In Sauerland, U. and Solt, S., editors, *Proceedings of Sinn und Bedeutung 22*, page 217–234, Berlin. ZAS.
- Postal, P. (1994). Contrasting extraction types. *Journal of Linguistics*, 30:159–186.
- Rodríguez-Mondoñedo, M. (2007). *The syntax of objects: Agree and Differential Object Marking*. PhD thesis, University of Connecticut.
- Schoorlemmer, E. and Temmerman, T. (2012). Head Movement as a PF-Phenomenon: Evidence from Identity under Ellipsis. In Choi, J., Hogue, E. A., Punske, J., Tat, D., Schertz, J., and Trueman, A., editors, *Proceedings of WCCFL 29*, pages 232–240, Amherst. GLSA.
- Silverstein, M. (1976). Hierarchies of features and ergativity. In Dixon, R. M. W., editor, *Grammatical categories in Australian Languages*, pages 112–171. Australian Institute of Aboriginal Studies, Canberra.
- Stabler, E. (1997). Derivational Minimalism. In Retoré, C., editor, *Logical Aspects of Computational Linguistics*, pages 68–95, Heidelberg. Springer.
- von Stechow, A. (2012). Syntax and semantics: An overview. In Maienborn, C., Heusinger, K. v., and Portner, P., editors, *Semantics, Handbooks of Linguistics and Communication Science*, pages 2173–2223. De Gruyter Mouton.
- von Stechow, A. and Sternefeld, W. (1988). *Bausteine syntaktischen Wissens*. Westdeutscher Verlag, Opladen.
- Stiebels, B. (2006). Agent Focus in Mayan Languages. *Natural Language and Linguistic Theory*, 24:501–570.
- Stowell, T. (1981). *Origins of phrase structure*. PhD thesis, MIT.

References VII

- Testelets, Y. G. and Arkadiev, P. M. (2014). Differential nominal marking: The pervasive case alternation in Circassian. *Syntax of the World's Languages VI*. Pavia.
- Torrego Salcedo, E. (1999). El complemento directo preposicional. In Bosque, I. and Demonte, V., editors, *Gramática descriptiva de la lengua española. Las construcciones sintácticas fundamentales. Relaciones temporales, aceptuales y modales*, volume 2, pages 1779–1805. Espasa Calpe, Madrid.
- van Urk, C. (2019). Object Licensing in Fijian and the role of adjacency. *Natural Language and Linguist Theory*, 38:313–364.
- Weisser, P. (2017). A Purely Morphological Approach to Differential Object Marking in Tamil and Beyond. Handout, GGS 43.
- Weisser, P. (2018). NOM-NOM in Mari. Handout, Shrinking Trees Workshop.
- Wunderlich, D. (1997). Cause and the Structure of Verbs. *Linguistic Inquiry*, 28:27–68.
- Zwart, J.-W. (2017). An argument against the syntactic nature of verb movement. In Bailey, L. R. and Sheehan, M., editors, *Order and structure in syntax I: Word order and syntactic structure*, pages 29–47. Language Science Press, Berlin.