Scrambling in Latvian Double-Object Constructions

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1. Outline

Since Latvian has relatively free word order, either object of a ditransitive verb can linearly precede the other (1). *Is this surface alternation derived via movement or does it reflect two distinct underlying configurations? If the former is right, then what are the properties of this type of movement?*

(1) a. Es **Aijai** iedevu **grāmatu**
I.NOM Aija.DAT gave.1SG book.ACC
'I gave Aija a book.'

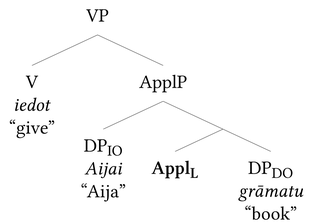
b. Es **grāmatu** iedevu **Aijai**
I.NOM book.ACC gave.1SG Aija.DAT
'I gave a book to Aija.'

The proposal: Latvian DOCs are **low applicatives** (Pylkkänen 2008), and the surface ACC-DAT word order is derived via **scrambling** of the DO. The lower copy of a scrambled element is intepreted either as a **higher-type trace** or as a **choice function**.

2. Structural and semantic properties of Latvian DOCS

I suggest that Latvians DOCs are Low Applicatives (Pylkkänen 2008) based on evidence from **transitivity restrictions** and **lexical semantics**.

(2)



(3) a. $[\![\text{Appl}_{\text{L}}]\!] = \lambda x_e.\lambda y_e.\lambda f_{\langle e,\langle v,t\rangle\rangle}.\lambda e_v.$ $f(x,e)$ & To-the-poss(x,y)

b. $[\![\text{ApplP}]\!] = \lambda f_{\langle e,\langle v,t\rangle\rangle}.\lambda e_v.$ $f(\text{book},e)$ & To-the-poss(book, Aija)

c. $[\![\text{VP}]\!] = \lambda e_v.$ Give(e) & Theme(book,e) & To-the-poss(book, Aija)

2.1 Transitivity restrictions

Unergative verbs cannot be applicativized in a low Appl language due to a type mismatch (Pylkkänen 2008). This prediction is borne out in Latvian (4).

(4) a. * Es **Jānim** skrēju.
I.NOM Jānis.DAT ran.1SG
Intended: 'I ran for Jānis.'

b. Es **Jānim** uzcepu *kūku.*
I.NOM Jānis.DAT baked.1SG cake.ACC
'I baked Jānis a cake.'

2.2 Lexical semantics

Low applicatives are not compatible with verbs that do not denote transfer of possession, such as static verbs (e.g., *hold*) (Pylkkänen 2008). (5a) is not a counterexample; instead I suggest it is a case of External Possession:

(1) The DAT must necessarily be interpreted as the possessor of the direct object (5a) and carries a salient possessor affectedness condition (Reinis Pauluks, p.c.).

(2) An overt possessive determiner is not licensed (5b).

(5) a. Es **Jānim** paturēju *somu.*
I.NOM Jānis.DAT held.1SG bag.ACC
'I held Jānis's bag (for him).'
NOT: 'I held a bag for Jānis.'

b. * Es **Jānim** paturēju *tavu somu.*
I.NOM Jānis.DAT held.1SG your.ACC bag.ACC
Intended: 'I held your bag for Jānis.'

3. Object asymmetries

I argue that surface ACC-DAT in Latvian DOCs is derived via movement from the same underlying low applicative structure on the basis of **scopal relations** and **pronominal binding**.

3.1 Scopal relations

Scope in Latvian is generally fixed in the base word order and inverse scope is dispreferred (6a). Scrambling of the object past the subject can extend scope (6b).

(6) a. Suns nolaizīja [*katru kaķi*].
dog.NOM licked.3 *each.ACC cat.ACC*
'A dog licked each cat.' (✓ ∃ ≫ ∀; ?∀ ≫ ∃)

b. [*Katru kaķi*]$_1$ nolaizīja suns ___$_1$.
each.ACC cat.ACC licked.3 dog.NOM
'Each cat, a dog licked.' (✓ ∀ ≫ ∃)

Similarly, scope of the IO and DO of a ditransitive is fixed in the DAT-ACC configuration (7a). Scrambling of the DO past the IO may extend (7b) or reconstruct (8) scope.

(7) a. Es **meitenei** iedevu [*katru grāmatu*].
I.NOM girl.DAT gave.1SG each.ACC book.ACC
'I gave a girl each book.' (✓ ∃ ≫ ∀; *∀ ≫ ∃)

b. Es [*katru grāmatu*]$_1$ iedevu **meitenei** ___$_1$.
I.NOM each.ACC book.ACC gave.1SG girl.DAT
'I gave each book to a girl.' (✓ ∀ ≫ ∃)

(8) Es *grāmatu*$_1$ iedevu **katrai meitenei** ___$_1$.
I.NOM book.ACC gave.1SG each.DAT girl.DAT
'I gave a book to each girl.' (✓ ∃ ≫ ∀; ✓ ∀ ≫ ∃)

It seems that covert QR is not available in Latvian. The lack of inverse reading for surface DAT-ACC follows if the underlying structure is DAT ≫ ACC. If ACC-DAT is derived via movement, then the DO may optionally reconstruct for scope.

3.2 Pronominal binding

The IO can bind a pronoun within the DO in the DAT-ACC configuration (9a), but scrambling of the DO past the IO does not reconstruct for pronominal binding (9b).

(9) a. Es [**katrai meitenei**$_i$] parādīju [*viņas*$_i$ *tēvu*] spogulī.
I.NOM each.DAT girl.DAT showed.1SG her father.ACC mirror.LOC
'I showed each girl her father in the mirror.'

b. * Es [*viņas*$_i$ *tēvu*]$_1$ parādīju [**katrai meitenei**$_i$] ___$_1$ spogulī.
I.NOM her father.ACC showed.1SG each.DAT girl.DAT mirror.LOC
Intended: 'I showed her$_i$ father to each girl$_i$ in the mirror.'

A pronoun within the IO cannot be bound by the DO in the DAT-ACC configuration (10a). Scrambling of the QP DO past the IO shows weak crossover effects (10b).

(10) a. * Es [**viņas**$_i$ **tēvam**] parādīju [*katru meiteni*$_i$] spogulī.
I.NOM her father.DAT showed.1SG each.ACC girl.ACC mirror.LOC
Intended: 'I showed her$_i$ father each girl$_i$ in the mirror.'

b. ?? Es [*katru meiteni*$_i$]$_1$ parādīju [**viņas**$_i$ **tēvam**] ___$_1$ spogulī.
I.NOM each.ACC girl.ACC showed.1SG her father.DAT mirror.LOC
Intended: 'I showed each girl$_i$ to her$_i$ father in the mirror.' WCO

The weak crossover facts receive a straightforward explanation if the underlying structure is DAT ≫ ACC and surface ACC-DAT is derived via scrambling. At the same time, it seems that scrambling does not reconstruct for pronominal binding.

4. Analysis: Scrambling and reconstruction

Following Poole and Keine (2024) and Lechner (1998, 2019), I assume that languages have access to a subset of mechanisms for interpreting movement dependencies. I propose that Latvian scrambling has access to two mechanisms: **higher-type traces** of a generalized quantifier of type $\langle et,t\rangle$ and **choice functions** of type $\langle et,e\rangle$ (Sauerland 1998; Ruys 2000).

(11) *Properties of scrambling in Latvian*
a. Displays weak crossover effects (10b)
b. Does not reconstruct for pronominal binding (9b)
c. Optionally extends or reconstructs for quantifier scope (7–8)

4.1 Weak crossover: No traces of type *e*

(12) *LF for weak crossover: Type-e trace* ***(to be rejected)***

I [each girl] [λx_e [showed [to her$_e$ father] x]]

(13) *LF for weak crossover: Higher-type trace or Choice-function*

a. I [each girl] [$\lambda Q_{\langle et,t\rangle}$ [showed [to her$_e$ father] Q]]
✗

b. I [each [$\lambda f^{\text{CH}}_{\langle et,e\rangle}$ [showed [to her$_e$ father] [f^{CH}(girl)]]]]
✗

4.2 Pronominal binding: No syntactic reconstruction

(14) *LF for pronominal binding: Higher-copy neglect* ***(to be rejected)***
I [~~her father~~] [showed [to each **girl**$_i$] [**her**$_i$ father]]

(15) *LF for pronominal binding: Higher-type trace*
I [her father] [$\lambda Q_{\langle et,t\rangle}$ [showed [to each girl] Q]]
✗

4.3 Scope reconstruction and extension

(16) *LF for reconstructed scope: Higher-type trace*
I [a book] [$\lambda Q_{\langle et,t\rangle}$ [gave [to each girl] Q]]

(17) *LF for scope extension: Choice-function*
I [a [$\lambda f^{\text{CH}}_{\langle et,e\rangle}$ [gave [to each girl] [f^{CH}(book)]]]]

Take-away message: The Latvian facts constitute a new entry to the typology of scrambling and provide evidence for higher-type traces as a necessary mechanism for semantic interpretation.

Selected references

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