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The Syntax of the Noun Phrase
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Case stacking below the surface: On the possessor case alternation in Udmurt (Assmann et al. 2014)

1 Basics

- Data:
  - In Udmurt (Uralic, Russia) possessors bear genitive case except in accusative DPs where they receive ablative case.

  ⇒ Case interaction
- Analysis (stepwise)
  1. Case features are stacked in syntax via Multiple Agree (Hiraiwa 2001).
  2. Postsyntactically feature sets are fused.
  3. ACC [+gov,-obl] + GEN [-gov,+obl] = ABL [+gov,+obl]

2 Data

- The highest possessors in an accusative DP receives ablative case.

(1) Ablative case *-leš* but no genitive case *-len* in direct object DP possessors.
  a. so-/leš eš-s-e ažži-śko
     he-ABL friend-3SG-ACC see-PRS.1SG
     'I see his friend.'
  b. *so-/len eš-s-e ažži-śko
     he-GEN friend-3SG-ACC see-PRS.1SG
     'I see his friend.'

- Elsewhere possessors receive genitive case

(2) Genitive case *-len* but no ablative case *-leš* in subject DP possessors.
  a. so-len anaj-ez siče ug diśaśki
     he-GEN mother-3SG such dress NEG.PRES.3
     'His mother does not dress in such a way.'
  b. *so-leš anaj-ez siče ug diśaśki
     he-ABL mother-3SG such dress NEG.PRES.3
     'His mother does not dress in such a way.'

- Possessor in passive subjects bear genitive case, not ablative case.

⇒ Ablative case is not restricted to patient role.

(3) a. Masha-len puny-jez zhug-em-yn val
     Masha-GEN dog-3SG beat-PTCP-INESS AUX.PST
     'Masha's dog was beaten.'
  b. *Masha-leš puny-jez zhug-em-yn val
     Masha-ABL dog-3SG beat-PTCP-INESS AUX.PST
     'Masha's dog was beaten.'

- Manner adverbs mark the left edge of the DP.
- Manner adverbs precede the passive subject.

⇒ The passive subject stays in the VP.

⇒ Ablative case is not restricted to VP-internal arguments.

(4) Tuzh zol Masha-len puny-jez zhug-em-yn val
very strong Masha-GEN dog-3SG beat-PARTC-INES AUX.PST.SG
'Masha's dog was beaten brutally.'

- Embedded possessor in an accusative DP bear genitive case marking.

(5) a. Petyr Masha-len apaj-ez-leš puny-z-e zhug-i-z
     Peter Masha-GEN sister-3SG-ABL dog-3SG-ACC beat-PST-3SG
     'Peter has beaten Masha's sister's dog.'
  b. *Petyr Masha-leš apaj-ez-leš puny-z-e zhug-i-z
     Peter Masha-ABL sister-3SG-ABL dog-3SG-ACC beat-PST-3SG
     'Peter has beaten Masha's sister's dog.'

- Empirical generalization: The highest possessor in accusative DPs is marked with ablative, possessors elsewhere bear genitive marking.

2.1 Problem

- The choice between ablative and genitive case depends on which case the D head itself receives.
- However, this information is not available when case assignment in the DP takes place.

⇒ Look-ahead problem

3 Analysis

- Morphological ablative case is a combination of syntactic genitive and accusative case features in this context.

3.1 Syntax

- All case bearing elements have two free case slots $[\ ]_{case}$ $[\ ]_{case}$.
- Case features are decomposed. (cf. (6))

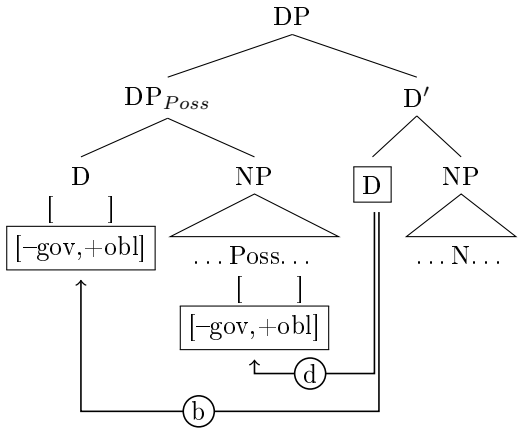
(6) Feature decomposition for Udmurt cases

NOM	[−gov,−obl]
GEN	[−gov,+obl]
ACC	[+gov,−obl]
ABL	[+gov,+obl] [−f,−g,...]
DAT	[+gov,+obl] [+f,−g,...]

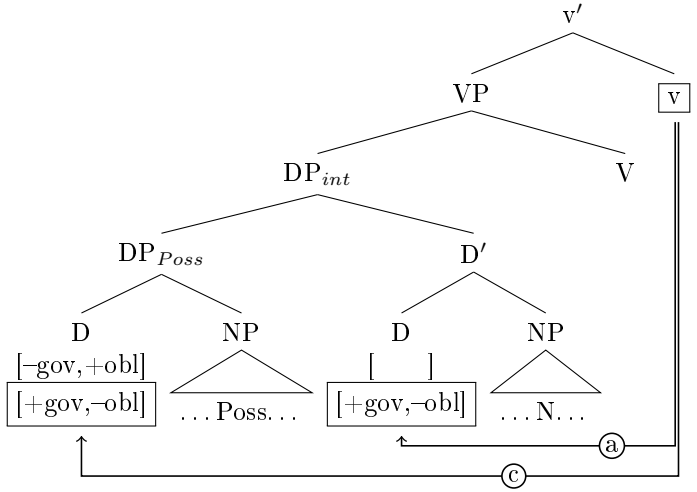
- Multiple Agree: A head agrees with all possible goals in its domain.

1. DP-internal (cf. tree in (7))
   (a) The possessor is merged as the specifier of the D head of the possessum.
   (b) Possessum D assigns genitive case [-gov,+obl] to possessor D in its Spec.
   (c) One case slot is filled: D [-gov,+obl] [ ].
   (d) Possessum D assigns genitive case [-gov,+obl] to possessor N in its Spec.
   (e) One case slot is filled: N [-gov,+obl] [ ].
   (f) Deeply embedded possessors receive genitive twice [-gov,+obl] [-gov,+obl] and cannot get further case features.
2. vP internal (if DP is internal argument) (cf. tree in (8))
   (a) Transitive v assigns accusative case [+gov,-obl] to the possessum D.
   (b) One case slot is filled [+gov,-obl] [ ].
   (c) Transitive v assigns accusative case [+gov,-obl] to the possessor D.
   (d) Both case slots are filled [-gov,+obl] [+gov,-obl].
3. TP internal (if DP is internal argument)
   (a) T assigns nominative case [-gov,-obl] to the possessum D.
   (b) Both case slots are filled [+gov,-obl] [-gov,-obl].
   (c) T cannot assign nominative to the possessor DP.
   (d) Both slots are already filled.
4. TP internal (if DP is external argument) (cf. tree in (9))
   (a) T assigns nominative case [-gov,-obl] to the possessum D.
   (b) One case slot is filled [-gov,-obl] [ ].
   (c) T assigns nominative case [-gov,-obl] to the possessor D.
   (d) Both slots are already filled [-gov,+obl] [-gov,-obl].

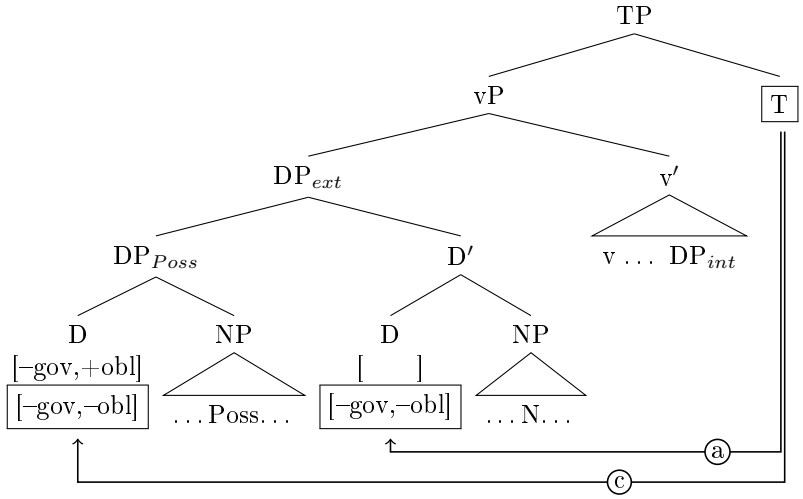
(7) DP-internal genitive case assignment



(8) vP internal accusative case assignment if DP is internal



(9) TP internal nominative case assignment with external DP



⇒ Syntactic case features are stacked in two case slots.

(10) Resulting specifications from syntactic case stacking

D$_{Subj}$	[−gov,−obl]	[ ]	NOM
D$_{Obj}$	[+gov,−obl]	[−gov,−obl]	ACC & NOM
P'or$_{Subj}$	[−gov,+obl]	[−gov,−obl]	GEN & NOM
P'or$_{Obj}$	[−gov,+obl]	[+gov,−obl]	GEN & ACC *NOM

3.2 Morphology

- Distributed Morphology (Halle & Marantz 1993) + filter against co-occurrence of two case exponents.

⇒ Repair operation fuses the two case slots into one feature set, identical values are reduced to one occurrence.

(11) Morphological fusion before Vocabulary insertion

D$_{Subj}$	[−gov,−obl]	[ ]	$\xrightarrow{fusion}$ [−gov,−obl]
D$_{Obj}$	[+gov,−obl]	[−gov,−obl]	$\xrightarrow{fusion}$ [+gov,−gov,−obl]
P'or$_{Subj}$	[−gov,+obl]	[−gov,−obl]	$\xrightarrow{fusion}$ [−gov,+obl,−obl]
P'or$_{Obj}$	[−gov,+obl]	[+gov,−obl]	$\xrightarrow{fusion}$ [+gov,−gov,+obl,−obl]

- Vocabularity insertion according to Specifity and Subset Principle

(12) Case-VIs in Udmurt with featural specifications

[+obl,+gov]	↔	/leš/	(ABL)
[+obl]	↔	/len/	(GEN)
[+gov]	↔	/e/	(ACC)
[ ]	↔	/∅/	(NOM)

(13) Inserted vocabulary items for the syntactic contexts

D$_{Subj}$	[−gov,−obl]	/∅/NOM
D$_{Obj}$	[+**gov**,−gov,−obl]	/e/ACC
P'or$_{Subj}$	[−gov,+**obl**,−obl]	/len/GEN
P'or$_{Obj}$	[+**gov**,−gov,+**obl**,−obl]	/leš/ABL

4 Conclusion

- Interaction between cases is modelled via the combination of Multiple Agree and syntactic case stacking.
- Postsyntactical fusion explains the possessor alternation in Udmurt.

5 Discussion

5.1 Controversial Issues

- What is the formal status of the case slots?
  - The same feature twice?
- Case filter has to be revised:
  - Every case bearing element should have at least one valued case lot.
- Terminal nodes can bear contradicting features, e.g. a possessor in an accusative DP is specified as [+gov,-gov].
- Can the unvalued second case slot in subjects be filled by anything else?
- Syntactical and morphological cases are always different, never the same.
  - Systematic difference: Morphological cases only use positive feature values, syntactic cases use binary features.
  - Universal?

5.2 Exercise

- Given the featural specification in (14) for vocabulary items in the German pronominal declension (Blevins 1995) and the featural decomposition for cases in (15) (Bierwisch 1967): if German′ had case stacking below the surface, what alternations would we expect?

(14) a. Featural specifications of VIs in German pronominal declension

a.	/n/	[+pl,+obj,+obl]	(dat.pl.)
b.	/m/	[–fem,+obj,+obl]	(dat.masc.sg./neut.sg.)
c.	/s/	[–fem,+obl]	(gen.masc.sg./neut.sg.)
d.	/r/	[+obl]	(dat./gen.fem.sg., gen.pl.)
e.	/n/	[+masc,–fem,+obj,–obl]	(acc.masc.sg.)
f.	/r/	[+masc,–fem]	(nom.masc.sg.)
g.	/s/	[–fem]	(nom./acc.neut.sg.)
h.	/e/	[ ]	(nom./acc.fem.sg./pl.)

b. Decomposition of Case features for German

NOM	[-obj,-obl]
GEN	[-obj,+obl]
DAT	[+obj,+obl]
ACC	[+obj,-obl]

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Appendix: Dative objects and other Semantic cases

- Possessors in dative objects and under a semantic case still bear genitive.

(15) Dative assigning verb:

a. Petyr Masha-len suzer-ez-ly akylt-e
Peter Masha-GEN sister-3SG-DAT bother-PRES.3SG
'Peter is bothering Masha's sister.'

b. *Petyr Masha-leš suzer-ez-ly akylt-e
Peter Masha-ABL sister-3SG-DAT bother-PRES.3SG
'Peter is bothering Masha's sister.'

(16) Ablative assigning verb:

a. Mon Petyr-len puny-jez-leš mözm-is'ko
1SG Peter-GEN dog-3SG-ABL miss-PRES.1SG
'I miss Peter's dog.'

b. *Mon Petyr-leš puny-jez-leš mözm-is'ko
1SG Peter-GEN dog-3SG-ABL miss-PRES.1SG
'I miss Peter's dog.'

- This is predicted under the present account, because syntactic dative and ablative case need to case slots.

⇒ They cannot be assigned to possessors (cf. tree in (17)).

- Assumption here: Semantic cases are assigned by zero P heads and dative case exponent is [+obl,+gov,+f] ↔ /li/
  - Problem: Why can't higher case assigners assign case afterwards?
  - Solution: PPs are absolute barriers.
- How can two case slots be filled at once?
- If sequentially: Why is there no incomplete valuation?

(17) Dative case assignment