

## Possessor case in Udmurt: multiple case assignment feeds postsyntactic fusion

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**Claim:** We claim that an alleged non-local case dependency in the Uralic language Udmurt can be reanalyzed as a local dependency. This local reanalysis crucially depends on the assumption of a postsyntactic morphological component. According to the literature, Udmurt exhibits a case split: the actual case value of a possessor (Poss) in a DP depends on the grammatical function (GF) of that DP, an information that is not locally available at the point of case assignment in the DP. However, the traditional formulation of the generalization is ambiguous because GFs are not defined precisely. We disambiguate the term by testing predictions of potential interpretations of the generalization and present new data that show that the correct generalization is not about GFs but rather about the case value of the DP that contains Poss. These findings facilitate a local reanalysis in terms of case stacking: arguments in Udmurt possess two case slots to which case values are assigned locally in the syntactic component. In a postsyntactic morphological component, the two case values are fused into one. This resulting value is realized by an exponent that is different from the exponents that would have realized each of the two original case values, thus creating the illusion of a case split. By discussing two alternatives that build on a presyntactic morphology, we show that a local analysis of the case split in Udmurt must necessarily adopt a postsyntactic morphology.

**An alleged non-local case dependency:** In Udmurt, Poss can bear either genitive (GEN) or ablative (ABL). The case values are in complementary distribution: According to the literature, GEN is the default possessor case; ABL occurs if the DP that contains Poss functions as a direct object (DO), cf. (1) (Csúcs 1988, Kel'makov 1993, Vilkuna 1997, Winkler 2001, Nikolaeva 2002, Suihkonen 2005, Edygarova 2009).

- (1) a. so-len/\*-leš eš-ez siče ug dišaški                      b. so-leš/\*-len eš-s-e                      ažžiško  
he-GEN/ABL friend-3SG such dress NEG.PRES.3SG                      he-ABL/GEN friend-3SG-ACC see.PRES.1SG  
'His friend does not dress such a way.'                      'I see his friend.' (Edygarova 2009)

Under a strictly derivational model of grammar in which the structure unfolds step by step in a bottom-up fashion (cf. Chomsky 1995 et seq.), case assignment to Poss in Udmurt seems to be non-local: Poss is assigned its case within the DP that contains Poss and possessum. But the choice of the concrete case value of Poss seems to depend on the information whether the whole phrase is a DO or not, which is not available at the point when case assignment within the DP takes place; hence, there is a *look-ahead* problem. Assigning case to Poss after this information is available does not help either: In this case, case assignment would be *counter-cyclic*, affecting only elements in the DP cycle. Facing these problems, two questions arise: (a) Where does ABL come from?, and (b) How can the non-locality of case assignment be modeled in a strictly derivational grammar without look-ahead?

**Distribution of the ablative:** The answers depend on the concrete conditions in which ABL is used, i.e., on the concrete definition of the term 'direct object'. Three possibilities come to mind: (a) Thematic role: Poss gets ABL if the DP containing the Poss has the macro-role patient; (b) Position in the tree: Poss gets ABL if the DP containing Poss is in the VP, i.e., selected by the head V; (c) Case: Poss gets ABL if the DP containing Poss is assigned accusative (ACC) case by a transitive verb. These hypotheses make different predictions that we tested with a native speaker (data in (2) to (5) from Svetlana Edygarova). Hypothesis (a) predicts that ABL should be preserved on Poss under passivization (passive changes the GF but not the thematic role of the object DP in (2a)). As (2b) shows, ABL changes to GEN under passivization; this falsifies hypothesis (a). Hypothesis (b) predicts that if the sole argument DP of the passivized verb in (2b) remains within its VP-internal base position, Poss should get ABL case. However, this prediction is not borne out, as shown in (3) (that the DP is still in the VP can be seen because it stands to the right of the adverb *tolon* 'yesterday' which marks the VP boundary).

- (2)a. Petyr Masha-leš puny-z-e zhug-i-z                      b. Masha-len/\*-leš puny-jez zhug-em-yn val  
Peter Masha-ABL dog-3SG-ACC beat-1PST-3SG                      Masha-GEN/-ABL dog-3SG beat-PST-PART AUX.1PST  
'Peter beat Masha's dog.'                      'Masha's dog was beaten.'
- (3) Tolon Masha-len puny-jez zhug-em-yn val.  
yesterday Masha-GEN dog-3SG beat-PST-PART AUX.1PST  
'Yesterday Masha's dog was beaten.'

Thus, only hypothesis (c) is compatible with the data. Furthermore, it predicts that (i) if a transitive verb assigns a case different from ACC to its internal argument, Poss will get GEN; and (ii) in an ECM

construction, the Poss of the embedded ACC marked subject gets ABL. (i) and (ii) are borne out (cf. (4) and (5)). Note that the data in (4) are also an argument against hypotheses (a) and (b) (the DP is within VP and gets the patient role, but Poss bears GEN). We are now able to formulate the *new generalization*: Poss in Udmurt bears ABL, if the DP in which Poss is contained is assigned ACC. It bears GEN elsewhere.

- (4) Petyr [Masha-len suzer-ez-ly] akylt-e  
 Peter Masha-GEN sister-3SG-DAT bother-PRES.3SG  
 ‘Peter is bothering Masha’s sister.’ dative assigning verb
- (5) Petyr Masha-leš puny-z-e tyloburdo-os-ty kutyl-e malpa.  
 Peter Masha-ABL dog-3SG-ACC bird-PL-ACC.PL catch-PRES.3SG think.PRES.SG  
 ‘Peter believes Masha’s dog to catch birds.’ ECM construction

**A local analysis of the case split:** We claim that under the new generalization, the case split can be reanalyzed locally. We propose that Poss is always assigned GEN case from D inside the DP under Spec-Head agreement with D; this is a local operation. In addition, Poss can get another case value from the head that selects the DP, i.e., Udmurt exhibits an instance of case stacking (similarly to languages like Huallaga Quechua with overt case stacking, cf. (6)). The external head assigns a case to the DP that is transferred to all nominal elements inside DP, including Poss, via concord (modeled by feature-sharing, cf. Frampton & Gutman 2006). This case assignment operation is also local. Cross-linguistically, there are restrictions on case stacking (Richards 2007): Only a structural and an oblique case can stack, but not two structural or two oblique cases. Since genitive is an oblique case in Udmurt, Poss can only be assigned another structural case, i.e., nominative (NOM) or accusative (ACC). If the external head assigns an oblique case to the DP, it cannot spread onto Poss which thus ends up with only a single case. The prohibition against assignment of two oblique or two structural cases can be modeled by postulating two case slots on Poss that are prespecified for obliqueness [+obl(ique)] and [-obl]. The assigned cases have to match these prespecified values. Since GEN matches the [+obl] slot, the second slot can only be filled by a non-oblique case, i.e., by NOM or ACC, cf. (7). As we assume that case values are not primitives, but are decomposed into abstract binary case features such as [ $\pm$ obl], [ $\pm$ obj(ect)] (Bierwisch 1967), etc., and that case assignment is copying of features that are not prespecified on Poss. To summarize, Poss in a DP<sub>nom</sub> or DP<sub>acc</sub> ends up with two cases in the syntactic component: [gen+nom] and [gen+acc], respectively; if the DP is assigned a case other than NOM or ACC, Poss is only assigned GEN. The structure with case values is then sent to the morphological component where these values are realized postsyntactically (Halle & Marantz 1993). There is only a single case slot in Udmurt that can be morphologically realized. In case of two case values on Poss, the feature structures of GEN and the structural case must fuse into a single feature structure. The condition for this fusion is that in case of feature conflict, the positive values of a feature remain in the resulting structure. Cases are decomposed as follows: nom = [-obl, -obj], acc = [-obl, +obj], gen = [+obl, -obj], abl = [+obl, +obj] (the various oblique cases are further distinguished by semantic-based features that need not concern us here). Fusing NOM and GEN results in the feature structure of GEN, i.e., only the GEN marker is realized (cf. (8-a)). Fusion of GEN and ACC results in an oblique case (cf. (8-b)). Since ABL is the default oblique case in Udmurt (it is used in a variety of different contexts), the ABL marker will realize the resulting oblique feature structure. To conclude, the ABL is not assigned to Poss in the DP via a non-local dependency; rather, Poss is always assigned GEN in the syntactic component, but due to the one-slot condition + fusion in the morphological component, it is realized as ABL if Poss has been assigned ACC as well, creating the illusion of a non-local dependency.

- (6) *Case stacking in H. Quechua (Plank 1995):*      (7) *Structure of the DP in Udmurt:*
- |   |  |
|---|--|
| Hipash-nin-ta      kuya-: Hwan-pa-ta<br>daughter-3POSS-ACC love-1 Juan-GEN-ACC<br>‘I love Juan’s daughter.’ | $  \begin{array}{c}  [{}^v \text{ } [DP \text{ Poss} [c : -obl, \_ ] [c : +obl, \_ ] [D' \text{ } DN [c : \_ ] ]]] \\  \left\{ \begin{array}{l} [c : -obl, +obj] \uparrow \\ [c : +obl, -obj] \uparrow \end{array} \right.  \end{array}  $ |
|---|--|
- (8) a. gen+nom = [+obl, -obj] + [-obl, -obj]  $\xrightarrow{\text{fusion}}$  [+obl, -obj] = morph. genitive  
 b. gen+acc = [+obl, -obj] + [-obl, +obj]  $\xrightarrow{\text{fusion}}$  [+obl, +obj] = morph. ablative

**Discussion:** The analysis presented above is built upon the assumption of a postsyntactic morphological module. *Ceteris paribus*, there are two possible analyses with a presyntactic morphology. However, both are not able to derive the Udmurt data correctly: (a) presyntactic morphological fusion: Poss in Udmurt enters the syntactic component bearing GEN or ABL already due to presyntactic fusion of the two case values. In syntax, this fused case must be checked against the case value of D, which, however, always bears the same case value, presumably GEN. Consequently, case checking of Poss and D in syntax fails due to a case mismatch, incorrectly ruling out ABL as possessor case. (b) Phonological fusion: Fusion applies in the phonological component after syntax. The ABL marker *-leš* must then be the result of fusion

of GEN *-len* and ACC *-e*. However, there is no general phonological rule in Udmurt which ensures that fusion applies in this context, again making it impossible for ABL to be a possessor case. In conclusion, a local analysis of the case split in Udmurt suggests that (at least part of) morphology applies after syntax.

**Selected references:** Csúcs, S. (1988): Udmurt. In: D. Abondolo, The Uralic Languages, 276-304. • Edygarova, S. (2009): 'Attributive Possession in Udmurt Language', *Linguistica Uralica* XLV, 101-118. • Kel'makov, V.K. (1993): Udmurtskij jazyk. In: B. Comrie, *Jazyki mira: ural'skie jazyki*, 239-255. • Plank, F. (1995): (Re-)Introducing Suffixaufnahme. In: F. Plank, *Double Case: Agreement by Suffixaufnahme*, 3-110. • Winkler, E. (2001): Udmurt. *Languages of the world: Materials* 212.