

A Reverse Wackernagel Clitic: Negation in Udmurt and Mari Verb Clusters

An argument for the ordering of post-syntactic movement operations

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Claim: We investigate the properties of negated verb clusters in Udmurt and Mari against a formal Minimalist perspective and defend the following claims: ① The verb cluster is not formed via syntactic head-movement but via the postsyntactic operation Local Dislocation (LD). Evidence against a head-movement account and for a postsyntactic account comes from (a) the relative position of the verb and the auxiliary which crucially depends on the presence or absence of negation and (b) the interaction of cluster formation and cliticization ② This postsyntactic operation is triggered by a nonfinality requirement of the negative head. The negation, even though linearized as the final head in the relevant domain, is subject to a requirement not to be the rightmost element of the cluster. This requirement triggers LD and leads to what we call the *Reverse Wackernagel-effect*, i.e. that negation shows up in second-to-last position. ③ To account for variation between Udmurt and Mari wrt. the distribution of ϕ -features over the verbal elements we propose that the languages differ wrt. whether the ϕ -probe is simplex (Mari) or split (Udmurt). In Udmurt the person probe is located above NEG^0 and number below it so that NEG^0 is inflected for person and the dependent verb for number.

Background: Negation in Mari and Udmurt is expressed by a finite negative auxiliary that governs a special form of dependent auxiliaries or verbs, referred to as the connegative stem (glossed: CN), cf. (1) (Edygarova 2015, Saarinen 2015) suggesting that NEG^0 is the highest verbal head in the verb cluster. This is supported by its semantics since NEG^0 always scopes over auxiliaries and lexical verbs. We thus posit the structure in (2).

(1) $V_{infinitive}$ $AUX_{connegative}$ NEG_{finite} (2) $[NegP [AuxP [VP V] Aux] Neg]$

In verb clusters consisting only of a lexical verb and an auxiliary, we find the order [V-AUX] (3a), in line with the strict head-finality of Mari. Remarkably though, negation can never be the final element in a verb cluster. It precedes the lexical verb in 2-verb-clusters (3b). In 3-verb clusters with V_{inf} , AUX and NEG, we either find the order [V_{inf} -NEG-AUX] (4a) or [NEG-AUX- V_{inf}] (4b). All other orders are out. The facts show that (a) Negation does not occur in the position where it is interpreted, (b) Negation is never the final element in the cluster and (c) Auxiliaries may precede the lexical verb only in the presence of negation.

<p>(3) a. Tud-$\hat{\text{o}}\text{m}$ u\check{z}-$\hat{\text{o}}\text{n}$ kert-am 3SG-ACC see-INF can-1SG 'I can see her/him'</p> <p>b. Tud-$\hat{\text{o}}\text{m}$ o-m u\check{z} 3SG-ACC NEG-1SG see.CN 'I don't see her/him'</p>	<p>(4) a. Tud-$\hat{\text{o}}\text{m}$ u\check{z}-$\hat{\text{o}}\text{n}$ o-m kert. 3SG-ACC see-INF NEG-1SG can.CN</p> <p>b. Tud-$\hat{\text{o}}\text{m}$ o-m kert u\check{z}-$\hat{\text{o}}\text{n}$. 3SG-ACC NEG-1SG can.CN see-INF 'I cannot see her/him.'</p>
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All examples from Mari

Analysis: ① We argue that verb clusters in the two languages are not formed by means of syntactic head-movement. First, we think that this should be the null hypothesis since (a) the morpheme order in Mari and Udmurt does not reflect their semantic scope and (b) syntactic processes, including head-movement (Lechner 2007), can at least potentially affect interpretation. Second, a strong argument comes from the relative position of the verb and the auxiliary: While the verb and the auxiliary show the expected base order in 2-verb-clusters, they may invert in the presence of negation. If this inversion were triggered by head-movement, a look-ahead problem would arise: For the verb to end up in the final position there would have to be early head-movement of V to AUX, a step that is not independently motivated. Another argument against a head-movement account comes from the interaction of adverbial enclitics with cluster formation. Crucially, while the clitics can occur in between verbal elements, they never affect the relative order of verbal elements per se. We will show that a head-mvt approach cannot derive the possible orders discussed below.

② We propose that the position of the negation in the cluster comes about by means of a post-syntactic operation, viz., Local Dislocation (LD) (Embick & Noyer 2001). There are two general advantages of assuming a post-syntactic operation: The lack of semantic effects follows automatically and the fact that cluster formation interacts with cliticization, a PF-process in Mari/Udmurt, is architecturally more plausible if both operations take place in the post-syntactic component. Furthermore, the placement facts, namely that AUX can precede the verb only in the presence of negation, can be captured more straightforwardly if the reordering process is directly linked to properties of the negation. We propose that the reverse Wackernagel effect that is observed with negated verb clusters should be linked to a non-finality requirement of the negative clitic: It must not be the last verbal element in the cluster. This requirement triggers LD of negation to the left (cf. Arregi & Nevins 2012 for LD as a response to a non-initiality requirement in Basque). The cluster orders in (3) and

(4) are derived as follows: To avoid the cluster-final position, the negation undergoes LD; it thus attaches to the verbal element to its left and inverts with it. This leads to the NEG-V order in 2-verb clusters (3b) and the V-[NEG-AUX] order in 3-verb clusters (4a)/(5a). In the latter, there can optionally be another instance of LD, which inverts the entire [NEG+AUX]-complex with the lexical verb (4b)/(5b), in conformity with the structure preservation principles posited for LD in Embick & Noyer (2001). The position of the AUX before the lexical verb in 3-verb clusters can thus naturally be linked to movement of the negation, and the look-ahead problem does not arise. The second LD-step can be motivated by assuming that the grammar contains a second, equally-ranked constraint that requires the negation to be the initial verbal element in the cluster. Crucially, what may initially look like non-local displacement of NEG is in fact simply the result of successive-cyclic LD under our analysis.

- (5) a. $[V] \succ [AUX] \succ [NEG]$
↑
 b. $[V] \succ [NEG+AUX]$
↑

The clitic placement possibilities in the verb cluster (Arkhangelskiy 2014) can be related to different ordering possibilities between cliticization and LD: Since clitics preferably occur after the AUX in clusters consisting of V+AUX, i.e. undergo encliticization to AUX, cf. (6a), we assume that VP-related clitics are (initially) linearized between AUX and NEG: [V AUX CL NEG]. Crucially, however, clitics can precede the AUX and the lexical verb in the presence of negation (6c), (7b–d), (8):

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|-----|------------------|-----|------------------|-----|------------------------------|---------------------|
| (6) | 2-verb clusters: | (7) | 3-verb clusters: | (8) | ö-d=n'i | vetl-e |
| | a. V-AUX-CL | | a. V-NEG-AUX-CL | | NEG.PAST-2=ANYMORE | go-PL |
| | b. NEG-V-CL | | b. V-NEG-CL-AUX | | 'you (pl) didn't go anymore' | |
| | c. NEG-CL-V | | c. NEG-AUX-CL-V | | | example from Udmurt |
| | | | d. NEG-CL-AUX-V | | | |

The options in 2-verb clusters with NEG and V depend on the relative ordering of LD and cliticization. If cliticization precedes LD, the clitic first attaches to the V before NEG inverts with [V+CL] as in (6b). If LD applies first, NEG will undergo LD with the clitic and subsequently [NEG+CL] inverts with V, leading to (6c)/(8). In 3-verb clusters, if cliticization precedes LD, the clitic first attaches to the AUX, followed by LD of Neg with [AUX+CL], leading to (7a) and, after another instance of LD, (7c). If LD precedes cliticization, NEG will first invert with the clitic before the [NEG+CL] complex inverts with AUX, leading to (7b), and, after another instance of LD, to (7d). Again, just like the AUX can only precede V in the presence of negation, the clitics can only precede V or AUX in the presence of negation. In both cases, this pattern follows from the fact that it is the negation that moves. Under a syntactic head-movement account, it would be impossible to derive the order in (7c): Since V would first (right-)adjoin to Aux, the clitic could not occur between the two but only either before or after the [AUX+V]-complex.

③ To complete the picture, we will show how cluster formation interacts with the distribution of ϕ -features among the verbal elements (cf. also Mitchell 2006). In Mari, all ϕ -features are on the highest verbal element (including NEG), see (3)&(4), whereas in Udmurt, person is expressed on NEG and number is on AUX, cf. (8). Thus, the Udmurt data show the need for split probes (Bejar 2003) with number located below NEG and person above NEG (Sigurðsson & Holmberg 2008). Under the structure in (9), this is accounted for by assuming that person agreement is lowered to NEG and number agreement to the connegative verb (AUX or V). Unlike cliticization, Lowering (an early PF-process) cannot be interleaved with LD so that the distribution of ϕ -features is unaffected by the order in the verb cluster.

- (9) Structure for Udmurt: [PersonP [NegP [NumP [AuxP [VP V] Aux] Num] Neg] Person]

Conclusion: The ordering facts in the verb cluster in Mari and Udmurt provide strong arguments for a postsyntactic treatment of verb cluster formation as opposed to a purely syntactic one. Our account also supports the modularization of the post-syntactic component (Arregi & Nevins 2012); the system we develop here rests on the assumption that overall there is a strict order of post-syntactic operations across submodules (Lowering vs. Local Dislocation); but to account for the full range of linear orders, operations within the same module (i.e. LD vs. cliticization) must allow for a certain amount of optionality in their relative order.

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