The morphotactics of the Limbu verb: A postsyntactic analysis of the suffix domain

Claim: Recent work has explored the idea that there is displacement of exponents in morphology (e.g. Myler 2013; Müller 2020; Kalin 2022; Gleim et al. 2022). We argue that transitive verb agreement in Limbu (Kiranti: Nepal) provides a further argument for postsyntactic displacement of affixes. The surface position of certain affixes is derived by displacement from an underlying prefix/inner suffix position driven by morphotactic constraints. This accounts for patterns of displacement/doubling (familiar from Arregi & Nevins 2012, 2018) in addition cases where displacement is blocked. This allows for a better understanding of the mapping from syntax to PF in Limbu that does not rely on disjunctive rule blocks or multiple exponence (e.g. Stump 2017).

Limbu agreement: Transitive verbs in Limbu may show distinct affixes for agreement with subject and object in both person and number (van Driem 1987). The position of affixes is highly variable, van Driem identifies up to 3 prefix positions and 10 possible suffix positions. (NB: Positions 3, 6 and 10 are for negation, 2 is for tense).

(1)

	S→O	1	2	3	stem	1	2	3	4	5	6	7	8	9	10
a.	3du→2pl	kɛ- 2.O	m(ɛ)- 3PL.S									-i -PL.O			
b.	3pl→1du.in	a- 1IN.O	m(ɛ)- 3PL.S									-si -DU.O			
c.	1sg→3sg								-u -3.O	-ŋ -1SG.S					
d.	1du.ex→3sg							-s(i) -DU.S	-u -3.O					-ge -1EX.S	
e.	1pl.ex→3sg								-u -3.O	-m -1/2PL.S				-ge -1EX.S	
f.	1sg→3du/pl								-u -3.O	-ŋ -1SG.S		-si -DU.O	-ŋ -1SG.S		
g.	1du.ex→3du/pl							-s(i) -DU.S	-u -3.O			-si -DU.O		-ge -1EX.S	
h.	1pl.ex→3du/pl								-u -3.O	-m -1/2PL.S		-si -DU.O	-m -1/2PL.S	-ge -1EX.S	

Subject/object person can be marked by prefixes (1a,b) or suffixes (1d). The order of prefixes is regular: subject agreement occupies slot 2, while object agreement is in slot 1. Suffix distribution is less regular: Subject number always precedes object number (1g), but subject number may either precede object person marking (*-s(i)* in (1d)) or follow it (*-m* in (1e)). Subject person suffixes are typically final. In addition, certain subject exponents (*-m, -ŋ*) are doubled following the object number suffix *-si*, e.g. in (1f, h) (DU/PL is neutralized in 3rd SUBJ/OBJ).

Analysis: Multiple suffixes positions and apparent multiple exponence are a challenge for the syntax-PF interface if affixes are functional heads. Assumptions: v in Limbu agrees with the agent in person and number (assigning ergative), while T assigns absolutive to and agrees with the object (2) (Murasugi 1992; Müller 2009).

(2) $[_{T}\,[_{vP}\,DP_{S}\,[_{v'}\,[_{VP}\,DP_{O}\,V\,]\,v_{[\pi:\,\square,\,\#:\,\square]}\,]]\,T_{[\pi:\,\square,\,\#:\,\square]}\,]$

(3) $[_{T}\,[_{v}\,V\,[_{v}\,v_{\pi}\quad v_{\#}\,]\,]\,[_{T}\,T_{\pi}\quad T_{\#}\,]\,]$ ⇒ mɛ- kɛ- -i

$[_{T}\,T_{\pi}\,[_{T}\,[_{v}\,v_{\pi}\,[_{v}\,V\,v_{\#}\,]]\,[_{T}\,T_{\#}\,]\,]]$ kɛ- mɛ- -i

Both v and T undergo Fission to provide distinct head positions for person and number. Given the head-finality of Limbu, we assume that the heads in (2) are linearized as suffixes. If the exponent of a head is prefixal, the Fissioned terminal undergoes rebracketing, so that the prefix c-commands the suffix, shown for (1a) in (3). This derives the fact that subject prefixes are closer to the stem than object prefixes. The order of number suffixes in (1e) follows, as the subject dual suffix *-s(i)* is closer to the stem than object dual *-si*. For (1e), the linearization of the underlying order in (4) is not correct. The subject person suffix *-ge* should appear at the end of the verb, while subject number *-m* appears after the object person suffix *-u* (unlike agent *-s(i)*). We propose that these deviations from the underlying order are the result of morphotactic operations that trigger displacement within the linearized verb string (Arregi & Nevins 2012, 2018). Taking the underlying order in (1e) in (4), we propose that there is a morphotactic operation that displaces *-ge* to end of the word. Also, a nasal exponent (such as *-m*, but also *-ŋ* in (1c,f)) metathesizes with an adjacent T head. This derives the desired order in (5). We formalize these displacements (following A&N) in terms of Harris & Halle's (2005) *Generalized Reduplication* framework. A prediction of this formalism is that we should find doubling in addition to displacement. In (1h), the agent number suffix *-m* follows object number and is also repeated after the object number suffix *-si*. The agent suffix *-ŋ* in (1f) has the same distribution.

(4) $[_T\ [_v\ V\ [_v\ v_\pi \quad v_\#\ ]\ ]\ [_T\ T_\pi \quad T_\#\ ]\ ]$
-ge -m -u -Ø

(5) V * ~~v_π~~ * ~~$v_\#$~~ * T_π * $v_\#$ * $T_\#$ * v_π
~~-ge~~ ~~-m~~ -u -m -Ø -ge

We propose an additional morphotactic rule that doubles a nasal exponent of v (*-m*, *-ŋ*) across a T head with the (dual) specification ([−sg], realized as *-si*) (6). Doubling will apply after the prior metathesis step in (5) if that T head bears [−sg]. This analysis in which suffixes are moved to the right, sometimes with doubling, is reminiscent of plural mesoclisis in Spanish (Arregi & Nevins 2018). The standard Spanish plural imperative is *vénda* ***-n*** *-lo* (sell -PL -CL.3SG – 'Sell it (pl.)!'), yet in some dialects, the plural *-n* suffix can move across *-lo* with optional doubling: *vénda (**-n**) -lo **-n***.

(6) V * ~~v_π~~ * ~~$v_\#$~~ * T_π * $v_\#$ * $T_\#$ * $v_\#$ * v_π
~~-ge~~ ~~-m~~ -u -m -si -m -ge

Negation: Another domain for morphotactics in Limbu involves negation. Negation in Limbu has three potential forms (two prefixes *mɛ-* and *n-* and a suffix *-n*), of which only two may surface at once. van Driem's generalizations are: (i) we find *mɛ-* and *-n* when there is no other prefix, (ii) we have *n-* and *-n* when there is another prefix. We can see (i) in the negated form of (1a) in (7). In cases without any other prefix, e.g. (1e), we have prefixal *mɛ-* (8). We analyze this as follows: Neg is underlyingly prefixal and undergoes Fission into Neg_1 and Neg_2. Neg_1 has the form *mɛ-* and the allomorph *n-* when preceded by a prefix. The suffix Neg_2 is not inherently specified as a prefix or suffix. This morpheme undergoes morphotactic displacement to the end of the word, as in (9), in addition to the other suffix displacements we have already seen.

(7) 3DU→2PL NEG NON-PRET
kɛ- mɛ- **n-** V -i **-n**
2.O- 3DU/PL- NEG -PL.O -NEG

(8) 1PL.EX→3SG NEG NON-PRET
mɛ- V -u -m -ge **-n**
NEG- -3.O -1/2PL.S -1EX.S -NEG

(9) $[_T\ [_v\ [_{\text{Neg}}\ [_{\text{Neg}}\ \text{Neg}_1 \quad \text{Neg}_2\ ]\ V\ ]\ [_v\ v_\pi \quad v_\#\ ]\ ]\ [_T\ T_\pi \quad T_\#\ ]\ ]$
mɛ-/n- n -ge -m -u -Ø

On closer inspection, we see that Neg_2 actually inverts to a position following the verb and then moves cyclically to the end of the verb. This is motivated by examples such (10) where we observe the same pattern of doubling across object *-si* that we saw with subject agreement exponents *-m* (1h) and *-ŋ* (1f). We therefore assume that Neg_2's exponent first targets a position between Tense, which is sometimes realized as an overt preterite suffix *-ɛ*, and v (11). From this position, it can then undergo the same inversion steps we proposed for *-m/-ŋ*, first crossing *-u* and doubling across *-si*.

(10) 3DU→3DU NEG PRET
mɛ- V -ɛ -s(i) -u **-n** -si **-n**
NEG- -PRET -DU.S -3.O -NEG -DU.O -NEG

(11) $[_T\ [_v\ [_{\text{Tense}}\ [_{\text{Neg}}\ [_{\text{Neg}}\ \text{Neg}_1 \quad \text{Neg}_2\ ]\ V\ ]\ \text{Tense}\ ]\ [_v\ v_\pi \quad v_\#\ ]\ ]\ [_T\ T_\pi \quad T_\#\ ]\ ]$
mɛ- n -s(i) -u -n -si -n

The idea that the negative 'suffix' inverts cyclically from an underlying prefixal position is also supported by an exception to the rule. There are only two contexts in which we find two negative prefixes and no suffix, namely when there is a portmanteau suffix. This is in negative preterite contexts, where a suffix such as *-baŋ* (12) or *-mʔna* (13) jointly expresses tense, object number and subject agreement. The suffix *-n* is exceptionally absent.

(12) 1SG→3SG NEG PRET
mɛ- **n-** V -baŋ
NEG- NEG- -NEG.PRET.3O.1SG.S

(13) 1PL.EX → 3DU NEG PRET
mɛ- **n-** V -mʔna -si
NEG- NEG- -PRET.3O.1EX.PL.S -DU.O

This follows if the suffix is underlyingly a prefix. With a portmanteau suffix, there is no position in the linearized structure between Tense and v that Neg_2 can target (14). Thus, displacement of Neg_2 as a suffix is thus blocked.

(14) $[_T\ [_v\ [_{\text{Tense}}\ [_{\text{Neg}}\ [_{\text{Neg}}\ \text{Neg}_1 \quad \text{Neg}_2\ ]\ V\ ]\ \text{Tense}\ ]\ [_v\ v_\pi \quad v_\#\ ]\ ]\ [_T\ T_\pi \quad T_\#\ ]\ ]$
mɛ- n -baŋ/-mʔna (-si)

Implications: The Limbu paradigm, which has often been treated as idiosyncratic (Stump 2017; Loreau Unger 2023), is regular, albeit complex. It provides an argument for affix displacement via morphotactic constraints, and does not justify alternative approaches to competition (rule blocks) or insertion (multiple exponence).