Verb stem alternation and successive cyclic movement in Falam Chin

Introduction. Falam Chin (South-Central Tibeto-Burman; Burma/Myanmar) exhibits the phenomenon of *verb stem alternation* (VSA) (Osburne 1975; Thuan 2008; King 2010) common to Chin languages (e.g., King 2009; Bedell et al. 2009). VSA manifests as non-affixal morphological change across a subset of stems, with alternants – henceforth stems I and II – falling into several disparate classes of change (e.g., final [ŋ] → [n] as in *cing/cin* 'plant'; addition of final stop as in *pe/pek* 'give'; low → falling tone as in *zùm/zûm* 'believe', a.o.). While the precise distribution of stem I vs. II varies across the family, (2-3) exemplify their complementary distribution with *wh*-questions in Falam: **stem I** appears in **subject** *wh*-questions (2), while **stem II** appears in **non-subject** *wh*-questions (3). (1) shows the **stem I default**. Note that Falam is SOV, morphologically ergative, and *pro*-drop; the data in this abstract come from elicitation.

(1) *Basic transitive clause: stem I*
lothlopa=in vainim a **-cing/*cin**
farmer=ERG corn 3-**plant.I/*plant.II**
'The farmer planted corn.'

(2) *Subject wh-question: stem I*
zo=in saw vainim a **-cing/*cin**?
who=ERG FOC corn 3-**plant.I/*plant.II**
'Who planted corn?'

(3) *Non-subject wh-question: stem II*
ziang saw lothlopa=in a **-cin/*cing**?
what FOC farmer=ERG 3-**plant.II/*plant.I**
'What$_i$ did the farmer plant $___i$?'

Claim. On the basis of contrasts such as in (2)-(3), King (2009) claims in descriptive work that VSA serves a disambiguating function, treating stems I and II as 'agentive' vs. 'nonagentive', respectively (s.a. Osburne's (1975) notion of 'thematic focus'). I build on this work but argue instead that **choice of stem** in (2-3) cannot be thematic, but is **conditioned by whether successive cyclic movement** (Chomsky 1973, 1977, 1986) **has taken place through spec, vP**.

Evidence that stem change is best analyzed as a reflex of successive cyclic movement comes from: **i)** the fact that the same complementary distribution of stem forms is found in other instances of subject vs. non-subject A′-movement; **ii)** the behavior of stem change in long-distance *wh*-questions; and **iii)** the fact that stem change does **not** occur when A′-movement does not take place, in *wh*-in-situ contexts.

Stem change as a reflex of successive cyclic movement. Just as some languages show morphological evidence of successive cyclic movement through the edge of CP (e.g., Irish, McCloskey 1979; Dinka, van Urk 2015), others show similar evidence of movement **through the edge of vP** (e.g., Indonesian, Saddy 1991; Asante Twi, Korsah & Murphy 2020); see overviews in Georgi 2017; van Urk 2020. Such movement is taken to be triggered by an edge/EPP feature on v^0 that allows its specifier to serve as an an escape hatch for subsequent movement (4). Evidence that stem change in Falam is a reflex of such successive cyclic movement through spec, vP comes first from predicted **asymmetries** in A′-movement: **only movement of non-subjects triggers stem II** in matrix *wh*-questions ((2) vs. (3)) and beyond. The same complementary distribution of stem forms is also found in **relative clauses** and **topicalization**. (5) shows that subject relatives require stem I, while non-subject relatives require stem II (6). (7) moreover shows a passive involving topicalization of an underlying object, in which stem II is likewise required. (Topicalization of subjects, not shown here, triggers stem I). Note that both **adjunct** *wh*-**questions and relatives likewise require stem II**, but are not shown here due to space limitations.

(4) $[_{CP}\ \text{Obj}\ [_{C'}\ \text{C} \ldots [_{vP}\ \text{Obj}\ [_{v'}\ \text{v}_{[EPP]}\ [_{VP} \ldots \cancel{\text{Obj}} \ldots]]]]]$

Intermediate movement to Spec, vP

Subsequent movement to Spec, CP

(5) *Subject relative: stem I*
[uico a-lo **-pe/*pek** -tu] lothlopa ka-bawm
[dog 3-2.OBJ**-give.I/*give.II**-REL] farmer 1-help
'I helped the farmer$_i$ that $___i$ gave you the dog.'

(6) *Non-subject relative: stem II*
[lothlopa=ih a-lo **-pek/*pe** -mi] uico ka-bawm
[farmer=GEN 3-2.OBJ**-give.II/give.I**-REL] dog 1-help
'I helped the dog$_i$ that the farmer gave you $___i$.'

(7) *Object topicalization: stem II*
Bor cu **hmuh/*hmu** -zo a-si
Bor TOP **see.II/*see.I**-PERF 3-be
'Bor$_i$ was seen $___i$.'

Evidence from long-distance *wh*. If *wh*-movement is successful cyclic, and stem change is triggered by an edge feature on v^0, then a prediction of the present analysis is that stem change should occur in the **matrix verb** of both **long-distance non-subject** *and* **subject questions** (s.a. Korsah & Murphy 2020), as successive cyclic movement should proceed stepwise through the specifier of the matrix vP in both cases. Crucially, this is borne out: In **non-subject** (8), both embedded and matrix verbs appear in stem II. In **subject** (9), embedded 'cook' remains stem I (as expected), but matrix 'believe' surfaces as stem II:

(8) *Long-distance **non-subject** wh-question*
Ziang saw Bor=in a **-suan** na **-zûm**?
what FOC Bor=ERG 3**-cook.II** 2**-believe.II**
'What$_i$ do you think that Bor cooked $__{}_i$?'

(9) *Long-distance **subject** wh-question*
Zo=in saw buh a **-suang** ti na **-zûm**?
who=ERG FOC rice 3**-cook.I** C 2**-believe.II**
'Who$_i$ do you think $__{}_i$ cooked rice?'

Evidence from *wh***-in-situ**. Further evidence that stem II is the reflex of successive cyclic movement comes from the fact that **stem II is disallowed when A′-movement does not take place**. Falam allows *wh-in-situ* in addition to *wh*-movement (differing with respect to fronting and the presence of the focus marker *saw*; King 2009). Crucially, stem change is **not triggered** in the context of *wh*-in-situ: the contrast in (10) shows that stem I *is* permissible in non-subject questions only if the *wh*-phrase remains in its base position (10a). Notably, Falam likewise allows for **long-distance** *wh***-in-situ** (with evidence against covert movement coming from island insensitivity alongside focus intervention effects; Beck 2006). We thus further predict that, in these contexts, stem change should not be triggered on *either* the embedded or matrix verb, as there is **no movement at all** through vP. This is also borne out as in (11-12): no stem change is found on either verb in non-subject (11) (cp. (8)) or subject (12) (cp. (9)) questions alike.

(10) *Ex situ (stem II) vs. in situ (stem I) wh-object*
a. lothlo=in **ziang** a **-cing/*cin**?
farmer=ERG **what** 3**-plant.I/*plant.II**
b. **ziang saw** lothlo=in a **-cin/*cing**?
what Foc farmer=ERG 3**-plant.II/*plant.I**
'What$_i$ did the farmer plant $__{}_i$?'

(11) *Long-distance non-subject question (wh-in-situ)*
Bor=in ziang a **-suang** na **-zùm**?
Bor=ERG what 3**-cook.I** 2**-believe.I**
'What$_i$ do you think that Bor cooked $__{}_i$?'

(12) *Long-distance subject question (wh-in-situ)*
mizaan=ah zo=in rawl a **-suang** na **-zùm**?
last.night=OBL who=ERG food 3**-cook.I** 2**-believe.I**
'Who$_i$ do you think $__{}_i$ cooked last night?'

Taken together, these data all support an analysis in which stem II is triggered by successive cyclic movement through spec, vP, as stem change is triggered just in case A′-movement through this position has taken place.

Stem alternation as contextually-conditioned allomorphy. Drawing a parallel with the treatment of morphosyntactically-conditioned stem change within Distributed Morphology (e.g., Germanic umlaut conditioned by features such as past tense; see esp. Embick & Halle 2005; Embick 2012, 2016), I analyze stem change in Falam as the result of contextual conditioning (Harley & Noyer 1998; Bobaljik 2000) by an EPP feature on a local v^0 (cp. McCloskey's (2002) analysis of C in Irish; cf. Korsah & Murphy 2020). Given the patterns laid out above, recall that there are two derivations for Falam *wh*-questions: one involving *wh*-movement (13), the other *wh*-in-situ (14) (illustrated as SVO for exposition):

(13) *wh-movement through vP*
$[_{vP}$ *what* $[_{v'}$ $\mathbf{v}^0{}_{[\mathbf{EPP}]}$ $[_{VP}$ plant ~~*what*~~]]]

(14) *wh-in-situ*
$[_{vP} \ldots$ $[_{v'}$ $\mathbf{v}^0$ $[_{VP}$ plant *what*]]]

In case *wh*-movement occurs, v^0 bears an EPP/edge feature triggering movement through its specifier. We can then understand stem change on a given verb (with the specific change listed by class; see Thuan 2008; King 2009) as conditioned by locality to such a v^0, consistent with Bobaljik's (2012) adjacency condition for root allomorphy, which requires that the trigger for allomorphy be adjacent to the root.

Outlook. This work offers the first formal analysis of VSA in Falam, demonstrating that stem change is not thematically conditioned, but a reflex of successive cyclic movement through Spec, vP. These data add further support for such movement, with a novel morphological signature in the form of stem allomorphy. In the talk, I also show how the analysis accounts for stem change in temporal adjuncts.

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