A structural ambiguity account for non-local allomorphy and *ABA violations using complex affixes

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October 22, 2025

Abstract

Locality is considered a core condition on application of Vocabulary Insertion rules (Embick 2010; Bobaljik 2012). The evidence comes from adjacency requirements on contextual allomorphy and *ABA generalizations in various morphological domains. Both have been met with counterexamples (Moskal & Smith 2016; Ganenkov 2020; Dolatian & Guekguezian 2023; Ganenkov 2018; Middleton 2021; Davis 2021; Zompì 2023; Caha 2024b among others). The proposal of this paper rests on the idea of complex affix formation (Bobaljik 2012; Matushansky 2025): functional heads forming a constituent in exclusion of the terminal that undergoes allomorphy via base-generation. Based on a novel explicit formalization of a DM-style system with bottom-up Vocabulary Insertion and non-terminal Vocabulary Insertion rules, I provide novel analyses for a range of cases of non-local allomorphy and *ABA violations.

1 Introduction

In Distributed Morphology (Halle & Marantz 1993), Vocabulary Insertion rules (VI rules) are often subject to a locality condition: a context-sensitive rule like (1a) only applies if its target and its trigger are structurally adjacent (Bobaljik 2012; see Embick 2010 for an alternative view based on linear adjacency).[1]

(1) A toy VI system for English plural

a. [PL] ↔ /∅/ / $\sqrt{\text{GOOSE}}$] ___

b. [PL] ↔ /-z/

Cross-linguistically, however, we find both locality-compliant and locality-violating patterns. Contrast the third person pronominal paradigm in Khakas (< Turkic) and the first person pronominal paradigm in Tamil (< Dravidian), both patterns are presented as reported in Moskal & Smith (2016). Khakas presents a local pattern: the suppletive VI rule for pronominal stem fails to apply because the stem *o*∼*an* ceases to be adjacent to the case affix *-nɨ*/*-dA* (since the plural affix *-lar-* comes in between). A typographic convention, employed when necessary: the target of suppletion is boxed, **the trigger** is boldfaced, the intervener is underlined.

(2) Khakas third person pronominal paradigm: intervention

	SG	PL
NOM	*ol*	*o-lar*
ACC	*a* ***-nɨ***	*o* ***-lar-nɨ***
LOC	*an* ***-de***	*o* ***-lar-da***

Tamil, on the other hand, presents a non-local pattern: case-conditioned pronominal stem undergoes suppletion regardless of the presence of an intervening plural affix. Thus, the suppletive VI rule for the pronominal stem applies despite the fact that the stem *naan*∼*en* ceases to be adjacent

[1] This paper only discusses morphosyntactically conditioned allomorphy. While the phonologically-conditioned suppletive allomorphy is largely thought to be local (Embick 2010; Bonet & Harbour 2012; Scheer 2016; Kalin & Rolle 2023 among many others), the discussion of it is outside the scope of this work. A final remark is required: I take all patterns reported in the literature to be morphosyntactically conditioned as such, leaving a possibility open that they are rather phonologically conditioned or their analysis should be phonological.

to the case affix *-akku/-ukku* (since the plural affix *-gal-* comes in between).

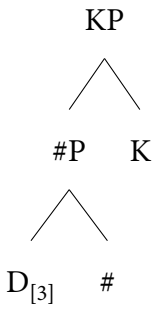
(3) Tamil first person pronominal paradigm: non-local allomorphy

	SG	PL
NOM	*naan*	*naan-ga*
DAT	*en*-***akku***	*en*-*gal*-***ukku***

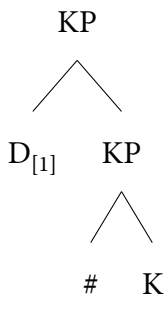
An account of locality in morphosyntactically conditioned allomorphy should be strict enough to provide a principled account of blocking by intervention and loose enough to allow non-local allomorphy. The claim in this paper is that the locality condition need not be abandoned in light of Tamil-style cases or other counterexamples. To take the Tamil case, it is problematic for the structural adjacency variant of the locality condition only if the structure of the Tamil third person pronominals is the same as the structure of the Khakas third person pronominals. I propose to revisit this assumption. Inspired by Bobaljik (2012) and Matushansky (2025), I suggest that the D-#-K affix order is structurally ambiguous due to the possibility of complex affix formation: the # and K terminals might form a constituent of category KP in exclusion of the DP. If so (as is the case in Tamil), the pronominal stem is always structurally adjacent to the case affix, satisfying the locality condition.

(4) Structures for Khakas and Tamil, side by side

a. Iterative affixation (Khakas)



b. Complex affix formation (Tamil)



I believe the solution to be theoretically attractive: structural ambiguity is a widely celebrated property of natural language syntax and, thus, expected to be occur in natural language morphology given a syntax-centric theory of morphology. Therefore, the idea behind this paper is to generalize the complex affix formation account to all types of violations of the locality condition: I argue that

complex affix formation accounts for violations of *ABA-generalization: the complex affix structure in (4b) differs from iterative affixation in (4a) not only by having D adjacent to K but also by lacking structural adjacency between D and #. It is the latter property that underlies ABA patterns.

The paper is structured as follows. Section 2 argues that the locality condition on application of VI rules is indispensable while providing a model for VI with a locality condition and a novel step-by-step VI procedure that allows non-terminal insertion. I then highlight some existing counterexamples to the locality condition (cases of non-local allomorphy and exceptions to *ABA as traditionally construed). Section 3 presents an explicit model of complex affix formation and applies it to non-local allomorphy, focusing on the Tamil first person pronominal stem suppletion (Moskal & Smith 2016) and Aqusha Dargwa aspect-conditioned verbal root suppletion (Ganenkov 2020). Section 4 is concerned with ABA patterns: complex affix formation provides an account for ABA patterns exemplified by pronominal suppletion in Ingush (Ganenkov 2018) and Malayalam (Middleton 2021; Blix 2021). Section 5 compares the complex affix approach to other responses to non-local allomorphy. Section 6 concludes and outlines directions for further application of the idea.

2 Locality in vocabulary insertion

Let me state the version of the locality condition that I work with: the context of application of a VI rule should be a sister to its target, assuming no distinction between heads and phrases. It is worth stating the system of application of VI rules in whole due to the fact that I assume non-terminal insertion (see Radkevich 2010; Haugen & Siddiqi 2016; Banerjee 2021, among others, for a variety of arguments) and there is no consensus in the DM literature on how non-terminal insertion works. In the current system, targets of VI rules are spans, but the contexts of VI rules are not. This is done for the sake of restrictiveness and simplicity. My goal to provide an explicit procedure for matching target spans to VI rules that realize them. Whichever procedure matches context spans to VI rules on a view where contexts for VI rules are spans is compatible with the current system. The definition of a span is given in (5).

(5) Span (Merchant 2015: 288)

An ordered n-tuple of terminal nodes $\langle t_1, \ldots, t_n \rangle$ is a span iff

a. for each $i < n - 1$, a projection of t_i is a complement of t_n

b. all terminals are in the same extended projection

The condition on application of VI rules requires two notions: matching and adjacency. The definition of matching for terminals and terminal descriptions in given in (6). Terminals are the parts of the actual syntactic structure while terminal descriptions are specifications of the target of a VI rule. The notion of matching is the Subset Principle of DM: the terminal $T_{[+PST,\ 2PL]}$ matches the terminal description $T_{[+PST]}$. If person-number agreement is neutralized in past tense (i.e., there is no person-number value-specific VI rule), the VI rule that references T[+PST] as the target description should apply. The definition of terminal matching thus provides the necessary relation between the actual syntactic terminal and the target description in the VI rule.

(6) Terminal matching (see Halle 1997; Embick & Noyer 2007: 298)

A terminal X matches a terminal description Y iff all features referenced by Y are present on X

$\equiv$

The terminal X matches the target Y of a VI rule iff all features of Y are present on X

Matching for spans is defined in (7): it is a mix of the Subset Principle of DM (defined above) and the Superset Principle of Nanosyntax (Starke 2009; Baunaz & Lander 2018b). The Nanosyntax-like part is that a prefix-span matches a span (so, the span $\langle v, \text{Asp} \rangle$ matches the span $\langle v, \text{Asp}, \text{T} \rangle$). The standard DM-like part is that for each terminal position in the spans X and Y, matching requires that all features of Y_i are present on X_i (so, the span $\langle v, \text{Asp}, T_{[+PST]} \rangle$ matches the span $\langle v, \text{Asp}, T_{[]} \rangle$).

(7) Matching

A span X of length n matches the span description Y of length m iff

a. $n \leq m$

b. for all i between 0 and n, the terminal X_i matches the terminal description Y_i.

For the locality condition on application of VI rules, a notion of structural adjacency is required. For the purposes of this paper, I consciously do not address existing arguments in favor of a linear

adjacency condition (see Embick 2010; Ostrove 2018; Bruening 2020; Paparounas 2024). Recall that the targets of VI rules are spans, but the contexts of VI rules are terminals.

(8) Structural adjacency

A span X of length n is adjacent to the terminal Y if:

a. a projection of X_1 is a sister of a projection of Y (down-adjacent) or

b. a projection of X_n is a sister of a projection of Y (up-adjacent)

With the notions of adjacency and matching, it is possible to state the working condition on application of VI rules. A VI rule $X \rightarrow /\alpha/ \ / \ Z \ ] \ \_\_\_ \ ] \ Y$ applies to a span if the target (H) matches the description of the target (X) and is down-adjacent to Z and is up-adjacent to a terminal that matches the right context description Y.

(9) A VI rule $\mathbb{R}$ of the form $X \rightarrow /\alpha/ \ / \ Z \ ] \ \_\_\_ \ ] \ Y$ applies to H iff

a. H matches X

b. i. H is down-adjacent to a terminal Z' that matches the description Z (possibly null)
ii. H is up-adjacent to a terminal Y' that matches the description Y (possibly null)

Finally, I assume a variant of the Specificity condition: the most specific VI rule must be preferred. For spans that means that the VI rule referring to the smallest span wins (the Nanosyntactic *Minimize Junk!* principle; see Baunaz & Lander 2018b). If two or more VI rules referring to spans of the same size are competing, the rule that references the most featurally specified span wins.

(10) Specificity (see Halle 1997; Embick & Noyer 2007: 298)

If two VI rules apply to H, the most specific rule is preferred.

My statement of the condition on application of VI rules explicitly characterizes locality (construed as structural adjacency) as both necessary and sufficient. Next subsection presents the evidence, for which I will provide explicit analyses to substantiate the preceding abstract discussion which will also allow me to present a bottom-up VI procedure for the proposed non-terminal insertion system.

2.1 Locality as a necessary and sufficient condition

The necessity of a locality condition on allomorphy comes from blocking of VI rules when the locality condition is not met. A prominent example is blocking by intervention (Embick 2010): a VI rule does not apply even though the features of its context of application are present—they are too far away. Without an appropriate locality condition, such patterns do not receive a principled account. The simplest case comes from interaction between diminutive formation and root suppletion in Russian (see Božic 2017 for a similar pattern in Slovenian). The suppletive variant *lʲud-* does not appear in the plural of *čeloveč-ek* 'human-DIM' because the Dim affix *-(e)k* intervenes.

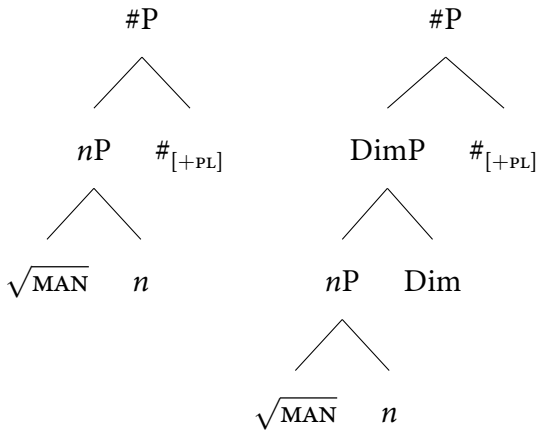
(11) Blocking by intervention in Russian

	SG	PL	
N	čelovek	lʲudʲ-**i**	'human'
N+DIM	čeloveč-ek	človeč-kʲ-**i**	
	$\sqrt{\text{RT}}$-(Dim)	$\sqrt{\text{RT}}$-(Dim)-PL	

The Russian pattern exhibits blocking of a VI rule that realizes the span $\langle\sqrt{\text{MAN}}, n\rangle$ as /lʲud/ in the context of $\#_{[\text{PL}]}$. The rule is blocked because the DIM head combines with the *n*P before $\#_{[\text{PL}]}$ does, making the span $\langle\sqrt{\text{MAN}}, n\rangle$ not adjacent to $\#_{[\text{PL}]}$.

(12) Structure and VI rules for the Russian case

a. Structures for *lʲudʲ-i* and *čelovʲečʲ-kʲ-i*



b. VI rules for root suppletion

i. $\langle\sqrt{\text{MAN}}, n\rangle \leftrightarrow$ /lʲud/ / ___$\#_{[+\text{PL}]}$

ii. $\langle\sqrt{\text{MAN}}, n\rangle \leftrightarrow$ /čelovek/

iii. $\langle\#_{[+\text{PL}]}\rangle \leftrightarrow$ /-i-/

iv. $\langle\text{Dim}\rangle \leftrightarrow$ /-(e)k/

How are the VI rules applied? The procedure is to realize the largest span for which there is an applicable VI rule (similarly to the *Minimize Exponence!* principle of Siddiqi 2006). Note that the relevant notion of bottom-up here is not root-outwards but rather identifies a complementless head as a starting point (see Myler 2017 for a related proposal).

(13) The procedure for VI rule application

a. Start with the span $\langle X_1 \rangle$ where X_1 is a terminal with no complement

b. While the span $\langle X_1, \ldots, X_i \rangle$ can be realized by some VI rule, add the node X_{i+1} which takes a projection of X_i as a complement into the span.

c. When the span $\langle X_1, \ldots, X_i \rangle$ cannot be realized by any VI rule, realize the previous span $\langle X_1, \ldots, X_{i-1} \rangle$.

d. Start again with the span $\langle X_i \rangle$ and go to step (b).

e. If no nodes are left, you're done.

The derivations for *ljud'-i* 'human-PL' and *človeč-k-i* 'human-DIM-PL' are provided below. The core difference is that the VI rule (12a.i) applies in (14a) but not (14b). An important note regarding VI application tables: the presence of down-/up-adjacent terminals does not mean that they are referenced in the applicable VI rule. For readability, irrelevant adjacent terminals are in gray.

(14) Application of VI rules: case of Russian

a. Deriving *ljud'-i*

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle \sqrt{\text{MAN}} \rangle$		n	Rule (12a.ii)
	$\langle \sqrt{\text{MAN}}, n \rangle$		$\#_{[+\text{PL}]}$	Rule (12a.i)
	$\langle \sqrt{\text{MAN}}, n, \#_{[+\text{PL}]} \rangle$			None
ljud-	$\langle \#_{[+\text{PL}]} \rangle$	n		Rule (12a.iii)
ljud'-i	No terminals left!			

b. Deriving *človeč-k-i*

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle \sqrt{\text{MAN}} \rangle$		n	Rule (12a.ii)
	$\langle \sqrt{\text{MAN}}, n \rangle$		Dim	Rule (12a.ii)
	$\langle \sqrt{\text{MAN}}, n, \text{Dim} \rangle$		$\#_{[+\text{PL}]}$	None
čelovek-	$\langle \text{Dim} \rangle$	n	$\#_{[+\text{PL}]}$	Rule (12a.iv)
čelovek-	$\langle \text{Dim}, \#_{[+\text{PL}]} \rangle$	n		None
čelovek-k	$\langle \#_{[+\text{PL}]} \rangle$	Dim		Rule (12a.iii)
čelovek-k-i	No terminals left!			

The Russian case, while illustrative, can be criticized since diminutives are often considered to be instantiations of *n* and thus the blocking effect might be attributed to the domains of allomorphy (Embick 2010; Moskal 2015). A case that does not involve category-defining heads comes from Khakas third person pronominals (Moskal & Smith 2016). The case-sensitive vocabulary insertion rule for the pronominal stem *ol*∼*a(n)* does not apply when the plural affix *-lar-* comes in between the pronominal stem and the case affix. Again, an intervening affix contributes to blocking of a case-sensitive VI rule that inserts the pronominal stem.

(15) Khakas third person pronominal

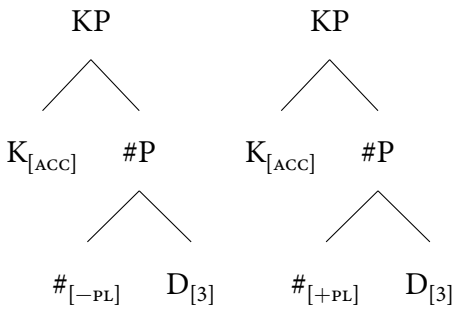
	SG	PL
NOM	*ol*	*o-lar*
ACC	*a*-***nɨ***	*o*-*lar*-***nɨ***
LOC	*an*-***de***	*o*-*lar*-***da***

A blocking by intervention account posits that the plural affix structurally intervenes. Under the assumptions about the structure of pronominals adopted in Moskal (2015), the structures for the Khakas 3SG.ACC and 3PL.ACC are given in (16). Blocking of the suppletive VI rule is achieved by two things: first, there is no $\langle \text{D}_{[3]}, \#_{[-\text{PL}]} \rangle$ span in the structure and therefore, by matching, the VI rules in (16b.i-ii) will apply to $\langle \text{D}_{[3]} \rangle$, the subspan of $\langle \text{D}_{[3]}, \#_{[-\text{PL}]} \rangle$. However, the span $\langle \text{D}_{[3]} \rangle$ is not structurally adjacent to the terminal $\text{K}_{[\text{ACC}]}$ which conditions the suppletive VI rule in (16b.i).

Therefore, the suppletive VI rule (16b.i) is blocked by intervention of $\#_{[+\text{PL}]}$.[2].

(16) An intervention account of the Khakas pronominal paradigm.

a. Structures for the relevant forms



b. Vocabulary Insertion rules

i. $\langle \text{D}_{[3]}, \#_{[-\text{PL}]} \rangle \leftrightarrow$ /ol/ / ___$\text{K}_{[\text{ACC}]}$

ii. $\langle \text{D}_{[3]}, \#_{[-\text{PL}]} \rangle \leftrightarrow$ /an/

iii. $\langle \#_{[+\text{PL}]} \rangle \leftrightarrow$ /-lar-/

iv. $\langle \text{K}_{[\text{ACC}]} \rangle \leftrightarrow$ /-nɨ-/

(17) The derivation for 3SG.ACC and 3PL.ACC in Khakas

a. 3SG.ACC: *a-nɨ*

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle \text{D}_{[3]} \rangle$		$\#_{[-\text{PL}]}$	Rule (16b.ii)
	$\langle \text{D}_{[3]}, \#_{[-\text{PL}]} \rangle$		$\text{K}_{[\text{ACC}]}$	Rule (16b.i)
	$\langle \text{D}_{[3]}, \#_{[-\text{PL}]}, \text{K}_{[\text{ACC}]} \rangle$			None
a-	$\langle \text{K}_{[\text{ACC}]} \rangle$	$\#_{[-\text{PL}]}$		Rule (16b.iv)
a-nɨ	No terminals left!			

b. 3PL.ACC: *o-lar-nɨ*

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle \text{D}_{[3]} \rangle$		$\#_{[+\text{PL}]}$	Rule (16b.ii)
	$\langle \text{D}_{[3]}, \#_{[+\text{PL}]} \rangle$		$\text{K}_{[\text{ACC}]}$	None
o	$\langle \#_{[+\text{PL}]} \rangle$	$\text{D}_{[3]}$	$\text{K}_{[\text{ACC}]}$	Rule (16b.iii)
o	$\langle \#_{[+\text{PL}]}, \text{K}_{[\text{ACC}]} \rangle$	$\text{D}_{[3]}$		None
o-lar	$\langle \text{K}_{[\text{ACC}]} \rangle$	$\#_{[+\text{PL}]}$		Rule (16b.iv)
o-lar-nɨ	No terminals left!			

[2]The current account captures the intervention effect without a committment to a privative structural representation of number, unlike previous intervention accounts (see the discussion of the role of privativity in analyses of intervention effects in Moskal & Smith 2016, whose resulting account of Khakas is not dissimilar to mine)

Blocking by intervention shows that locality is a necessary condition for application of vocabulary insertion rules. The argumentation for locality as a sufficient condition is more intricate. Bobaljik's (2012) discussion revolves around a typological gap, the first of many *ABA generalizations to come: no adjective undergoes suppletion in the comparative form without undergoing suppletion in the superlative form. In other words, Bobaljik's claim is that there are no adjectival paradigms that exemplify an ABA pattern. For current discussion, the absence of AAB patterns is left aside.

(18) Possible patterns of adjectival suppletion (Bobaljik 2012: 29)

	POS	CMPR	SPRL	
Regular	A	A	A	*big — bigger — biggest* (English)
Suppletive	A	B	B	*good — better — best* (English)
Doubly suppletive	A	B	C	*bonus — melior — optimus* (Latin)
Unnattested	A	B	A	
Unnattested	A	A	B	

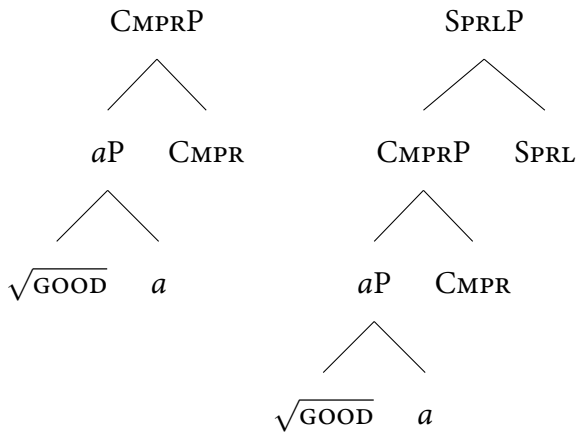
The analysis rests on the idea that the structure of the comparative form is contained in the structure of the superlative form (for which there is independent evidence from overt morphological containment). If the structure is always [[ADJ CMPR] SPRL], the local trigger for allomorphy cannot be ignored. For the analysis to work, locality should be sufficient for contextual allomorphy: in absence of superlative-triggered supletion, the VI rule in (19a) must apply in both structures, giving rise to an ABB pattern like English *good-better-best*. An underappreciated part of the discussion is that ABB patterns constitute the majority in the sample of Bobaljik's typological study. If the containment claim for comparatives and superlatives is correct, ABB patterns only receive a principled account if locality is a sufficient condition for application of VI rules.

(19) Bobaljik-style approach to *ABA

a. VI rule:

$\langle \sqrt{\text{GOOD}}, a \rangle \leftrightarrow$ *bett-* / ___CMPR

b. The structures:



Work that builds on Bobaljik's finding presents a large body of evidence in favor of *ABA and, correspondingly, availability of ABB patterns (see Baunaz & Lander 2018a; Smith et al. 2019; Middleton 2021; Sudo & Nevins 2022 among others), thus supporting a stringent locality condition on application of Vocabulary Insertion rules.

The next subsection shows that certain predictions of the locality condition are not borne out consistently: a wholesale ban on ABA patterns and non-local allomorphy is too strong. In light of this, I must emphasize that the typological gaps are not the only piece of evidence for the locality condition. The matter of fact is that the intervention effects and ABB patterns are given an analysis without homophony only if locality is a necessary and sufficient condition on application of VI rules. Therefore, the locality condition should not be abandoned. Only now are we ready for the complications in the locality-positive picture I have laid out.

2.2 Deviations from locality

2.2.1 Non-local allomorphy

As mentioned in the introduction, Tamil pronominal paradigm provides an example of non-local suppletion: case-sensitive allomorphy of the pronominal stem ignores the overt plural affix.

(20) Tamil first person pronouns (Moskal & Smith 2016)

	SG	PL
NOM	*naan*	*naan-ga*
DAT	*en*-*akku*	*en*-*gal*-***ukku***

Insofar as the structure behind Tamil first person pronouns is parallel to the structure behind Khakas third person pronouns, blocking by intervention is predicted, contrary to the data. It should be noted, though, that Tamil has been given at least two locality-compliant reanalyses: Newell (2023) gives a phonological analysis, while Caha (2024a) argues that the non-local characterization of the pattern assumes that the structure behind the plural affix is constant, while suggesting dropping that assumption. However, other cases of non-local allomorphy have been pointed out in the literature: see Bonet & Harbour (2012); Deal (2018); Bruening (2018); Bešlin (2024) (among others). For example, Ganenkov (2020) reports that verbal root allomorphy in Aqusha Dargwa ignores an intervening causative suffix.

(21) Aqusha Dargwa TAM-sensitive root allomorphy

	AGR-ROOT-CAUS-AOR	AGR-ROOT-CAUS-PST.HAB
do	*b*-*ar*-*aq*-***ib***	*b*-*ir*-*aq*-***i***
leave	*b*-*at*-*aq*-***ur***	*b*-*alt*-*aq*-***i***
steal	*b*-*iʔ*-*aq*-***un***	*b*-*ilʔ*-*aq*-***i***

Even this short illustration raises serious issues for the view that locality is a necessary condition on allomorphy. Locality as a sufficient condition faces problems too.

2.2.2 *ABA violations

While *ABA has been proposed initially for adjectival degree paradigms (Bobaljik 2012), another major result came from Smith et al. (2019) regarding case-sensitive pronominal suppletion. The result is that *ABA obtains regarding the unmarked case < dependent case < lexical case hierarchy.

(22) Generalization of Smith et al. (2019):

If the pronominal stem undergoes suppletion in the dependent case, it must be suppletive in

lexical cases too.

There are, however, counterexamples. Ganenkov (2018) highlights that Nakh-Dagestanian languages exhibit ABA patterns in case-sensitive pronominal suppletion. For example, Ingush seems to exhibit surface *ABA in 1SG, 1PL.EXCL, 2SG, and 2PL pronouns.

(23) ABA in Ingush pronominals (Nichols 2011: 174)

	ABS	ERG	LAT
1SG	so	aa-z	so-gh
1PL.EXCL	txo	oax-a	txo-gh
2SG	hwo	w-a	hwo-gh
2PL	sho	oash-a	sho-gh

Nakh-Dagestanian data discussed by Ganenkov does not appear to be the only counterexample. For example, Caha (2024b) highlights that Khakas demonstrative pronoun shows a clear ABA pattern.

(24) Khakas demonstratives (Caha 2024b)

	NOM	ACC	DAT
this.SG	*pu*	*mini*	*pu-ɣa*
	A	B	A+X

The illustration on the basis of case-sensitive pronominal suppletion is sufficient to highlight that there are reasons to doubt *ABA as a general principle of natural language morphology.

2.3 Whence the conflict

The contents of this section are in conflict with each other. Section 2.1 argued that locality provides a clear picture of how Vocabulary Insertion proceeds. Section 2.2 argues that locality provides a crucial insight into the nature of intervention effects and prevalence of ABB patterns. The price is the prediction that neither non-local allomorphy nor ABA patterns exist, contrary to the cross-linguistic data. The next section argues that non-local allomorphy can be accommodated without abandoning the locality condition if the syntactic structures behind complex words are more complicated than

meets the eye, introducing complex affix formation. The section after that shows that the complex affix approach accounts for reported ABA patterns as well. The conclusion to be drawn is that structural adjacency can be maintained in light of the counterexamples.

3 Complex affix formation and non-local allomorphy

3.1 Introducing the proposal

The claim is that the so-called 'non-local' allomorphy is, in fact, local. That is hardly a novel idea (see Toosarvandani 2016; Myler 2017; Dolatian & Guekguezian 2023; Bešlin 2025 among others), but the implementation, as far as I am aware, is. Inspired by Bobaljik (2012) and Matushansky (2025), I suggest that cases of apparent non-local allomorphy involve *complex affix formation*: where two functional heads combine with each other first. Consider again the Khakas and Tamil pronominal stem suppletion data. Both Khakas and Tamil exhibit case-sensitive stem suppletion, but while Khakas shows an intervention effect of the plural affix, Tamil does not.

(25) Contrasting Khakas and Tamil: the data

a. Khakas third person pronominals: blocking of suppletion by intervention of the plural

	SG	PL
NOM	*ol*	*o-lar*
ACC	*a*-***nɨ***	*o*-*lar*-***nɨ***
LOC	*an*-***de***	*o*-*lar*-***da***

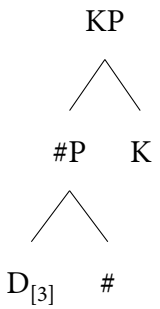
b. Tamil first person pronominals: no blocking of suppletion by intervention of the plural

	SG	PL
NOM	*naan*	*naan-ga*
DAT	*en*-***akku***	*en*-*gal*-***ukku***

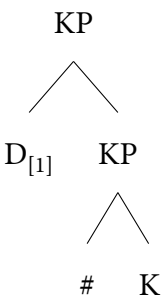
The idea I pursue here is that the D-#-K affix order is structurally ambiguous between a [[D #] K] structure (Khakas) and a [D [# K]] structure (Tamil). D is not structurally adjacent to K in the former, but is in the latter: thus, the plural affix cannot block suppletion in Tamil.

(26) Contrasting Khakas and Tamil: the structures

a. Iterative affixation (Khakas)



b. Complex affix formation (Tamil)



Consider the VI rules in the spirit of my characterization of Khakas in section 2.1. The system of VI rules is similar for Khakas and Tamil but the patterns of suppletion differ by the virtue of different structures.

(27) VI rules for Khakas and Tamil

a. Khakas

i. $\langle D_{[3]}, \#_{[-PL]} \rangle \leftrightarrow$ /ol/ / ___$K_{[ACC]}$

ii. $\langle D_{[3]}, \#_{[-PL]} \rangle \leftrightarrow$ /an/

b. Tamil

i. $\langle D_{[1]} \rangle \leftrightarrow$ /en/ / ___$K_{[ACC]}$

ii. $\langle D_{[1]} \rangle \leftrightarrow$ /naan/

With this analytical move, two questions arise. The first is whether the syntactic part of the grammar is able to generate complex affix structure. The second is whether the complex affix structures only have utility for allomorphy considerations. The subsection 3.3 addresses whether the syntactic engine is able to generate complex affix structures (it can). Before that, however, let me show that complex affix structures have been employed in previous literature. The only novel move I am making is to extend the structural pattern to inflectional morphology.

3.2 Previous uses of complex affixes

3.2.1 Roots within affixes, affixes within affixes

A somewhat widespread idea is that affixes may contain roots of their own (Lowenstamm 2015; De Belder & van Craenenbroeck 2015; Creemers, Don & Fenger 2018). A less widespread idea is that affixes may contain other affixes. Here I focus on Gouskova & Bobaljik (2022), whose focus is on the dual behavior of the Russian affix *-(o)nok*: it can act as a baby diminutive affix or as an

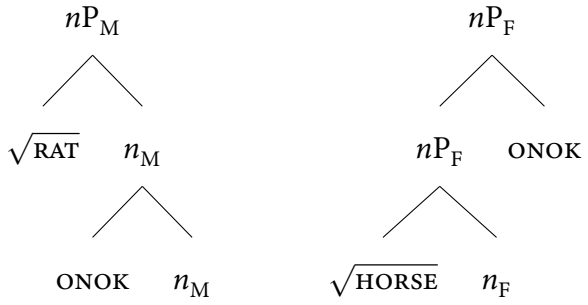
evaluative affix. The evaluative *-(o)nok* is an adjunct while the baby diminutive *-(o)nok* is a head, as evidenced by the fact that the evaluative derivation inherits the gender of its base while the baby diminutives are invariably masculine (see Gouskova & Bobaljik 2022 for thorough evidence).

(28) Russian *-onok*, in brief (Gouskova & Bobaljik 2022: 1076, slightly modified)

	BASE	GDR	GLOSS	SINGULAR	GDR	GLOSS
BABY.DIM	kr̠is-a	F	'rat'	kr̠is^{j}-onok	M	'baby rat'
EVAL	loʂad^{j}	F	'horse'	loʂad^{j}-onk-a	F	'horse' (eval.)

Gouskova and Bobaljik's solution is that the baby diminutive *-(o)nok* is composed of the evaluative *-(o)nok* and a silent nominalizer, making the baby diminutive essentially a complex affix.

(29) Baby diminutive vs. evaluative *-onok* (Gouskova & Bobaljik 2022: 1103, slightly modified)



Similarly, the works that argue in favor of certain derivational affixes containing roots can be read as arguing in favor of $[\sqrt{\text{RT}_1}\ [\sqrt{\text{RT}_2}\ n]]$ structures where the affix is itself a complex syntactic entity. Insofar as complex affixes like Russian *-(o)nok* are possible, complex affix structures must be allowed.

3.2.2 Affix order

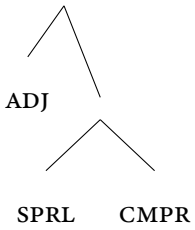
Another application of the complex affix idea comes from Bobaljik (2012) discussion of the cases of ADJ-SPRL-CMPR affix order, which cannot be base-generated under the SPRL > CMPR > ADJ containment hypothesis.

(30) Finnish(Bobaljik 2012: 56, 125)

	POS	CMPR	SPRL
'thick'.ALL	paksu-un	paksu-mpa-an	paksu-i-mpa-an
'good'.ALL	hyvä-än	pare-mpa-an	parha-i-mpa-an
'many'	monet	usea-mmat	use-i-mmat

Bobaljik entertains the idea that the superlative and the comparative might form a complex affix, allowing for the affix order to be freely generated (Bobaljik stays uncommital relative to the label of the complex affix, which I repeat here). [3]

(31)



In fact, existing movement-based approaches to affix order (see, for example, Kloudová 2020 for an extensive exploration of nominal affix order) end up with the same constituent structure but by relying on movement for which there is no independent evidence. Even though affix order is not a focus of this paper, it is clear that complex affixes allow for analysing certain affix orders without committing to a movement analysis.

3.2.3 Dummy affixes in recategorization

Coming closer to this paper's implementation of complex affixes, let me discuss Matushansky (2025), the direct inspiration for the proposal. Matushansky's concern are patterns like (32). In (32), there are examples of both *tel'-n-* adjectives in Russian that retains the usual 'agentive' semantics of the

[3] The contents of next chapter suggest that my theory cannot treat the fact that Finnish exhibits ABB despite complex affix formation. However, I find that there is good evidence in favor of a 'split' comparative structure where there are two heads, C1 and C2, corresponding to Bobaljik's CMPR. See Caha, De Clercq & Vanden Wyngaerd (2019) for motivation. Under this view, only C2 and SPRL form a complex affix while C1 forms a portmanteau with the adjective, resulting in suppletion.

telʲ nominalizer and *telʲ-n-* adjectives that do not. Interestingly, the distinction is observed with homophonous adjectives (see *predstavi-telʲ-n-ɨj* 'representative (agentive) / dignified (non-agentive)').

(32) Two types of adjectives formed with *telʲ-n-*

a. With agentive semantics
muči-telʲ-n-ɨj torment-AGENT-ADJ-M.SG 'agonizing' (cf. *muči-telʲ* 'a tormentor')
predstavi-telʲ-n-ɨj present-AGENT-ADJ-M.SG 'representative' (cf. *predstavi-telʲ* 'a representative')

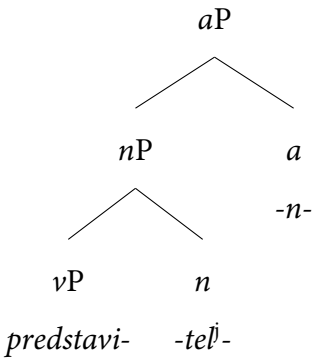
b. Without agentive semantics
razdraži-telʲ-n-ɨj irritate-AGENT-ADJ-M.SG 'irritable'
predstavi-telʲ-n-ɨj present-AGENT-ADJ-M.SG 'impressive, dignified'

Based on the observation that the Russian adjectivizer *-n-* is strictly denominal, Matushansky concludes that the *-telʲ-* affix is present to satisfy the selectional properties of the adjectivizer, even if its semantics is suppressed. Matushansky proposes a complex affix structure as the point of difference between the variant without agentive semantics and with agentive semantics (with an additional mechanism of LF deletion for the complex affix variant that need not concern us).[4] The structures are already familiar to us: the core thing is that they implicate the fact that *a* selects for *n*P and that an *n* selects for a *v*P in a non-trivial manner.

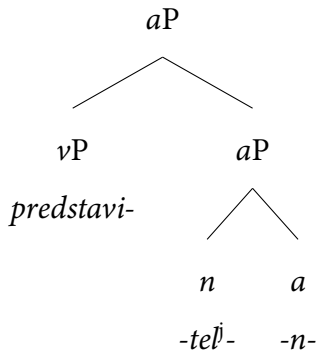
(33) Contrasting agentive and non-agentive *predstavi-telʲ-n-ɨj*

[4]There are two ways to read Matushansky's proposal. Either the complex affix structures necessarily lead to absence of semantic import of the lower affix, or the complex affix structures create the structural contexts for the semantic suppression of the lower affix. I assume the second way, since, otherwise, my proposal would be highly implausible.

a. Iterative affixation (agentive)



b. Complex affix formation (non-agentive)



There are two things that Matushansky's account leaves open: (i) how the nominalizer's selectional features are transmitted to the complex affix as a whole; (ii) what distinguishes between an iterative suffixation structure and a complex affix structure in the lexical specifications of the functional heads. Here is how they can be closed.

3.3 The mechanics

3.3.1 Complex affix formation via selection

The constituent structure given by complex affixes provides the structural relations required for non-local allomorphy to occur. However: what determines whether a set of functional heads will form an iterative affixation structure or a complex affix structure? My solution comes from c-selection and the distribution of c-selectional features.[5] I suggest that complex affix formation occurs when the higher functional head has the same c-selectional feature as the lower one, both allowing percolation and providing a condition for complex affix formation.

(34) A condition for complex affix formation

Syntactic objects X and Y may form a complex affix when X and Y share a selectional feature.[6]

[5] In fact, the original proposal of Matushansky (2025) is motivated by selectional properties. Matushansky's concern comes from 'vacuous' intermediate affixes that seem to be present only to satisfy the outer affix' selectional properties: consider *classif-ic-at-ion* and **classific* where *-ic-* seems to be present for the purposes of *-at-* and has no business composing with *classify* on its own.

[6] I refer to 'syntactic objects' instead of syntactic heads here to leave open a possibility that a complex affix may be formed from three or more syntactic heads if the highest and the lowest share a selectional feature. Given that I assume percolation of selectional features (Zeijlstra 2019), the definition referring to syntactic objects suffices.

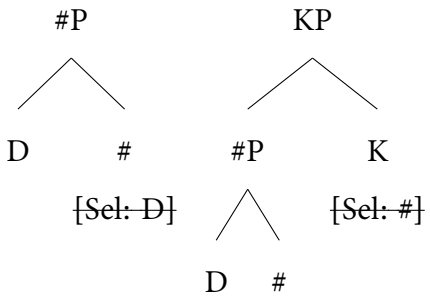
Here are the features required to drive iterative affixation and complex affix formation for the D, #, K triple referenced in discussion of Khakas and Tamil pronominal stem suppletion: # and K form a complex affix by the virtue of both selecting for D.

(35) Distribution of selectional features

a. Iterative affixation	b. Complex affix formation
K: [Sel: #]	K: [Sel: #], [Sel: D]
#: [Sel: D]	#: [Sel: D]

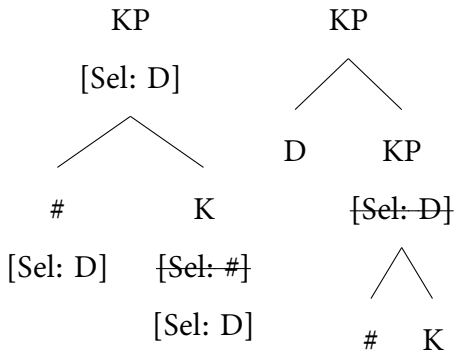
Here is a syntactic derivation for the iterative suffixation structure. First, the # combines with D, satisfying #'s selectional feature. Then, K combines with #P, satisfying K's selectional feature.

(36) Two-step derivation for iterative suffixation



For complex affix formation, the way to satisfy both K and # selectional features is to first combine # and K, assuming that unsatisfied selectional features project from both sisters (Zeijlstra 2019), and then combine D with the KP, satisfying the selectional features. From this point onward, I only provide a full derivation with selectional feature if required — otherwise, the derivation like the one below is implied.

(37) Derivation of a complex affix structure



What I do not address here is the question of semantic composition. I leave the question unresolved, but I believe that a version of Delayed Saturation employed in existing DM work (Myler 2016) suffices (note that it is a variant of the Function Composition rule of Combinatory Categorial Grammar; see Steedman 2014 for an overview, among his other works).

3.3.2 How Vocabulary Insertion proceeds

Another issue raised by the complex affix structures is the procedure of VI rule application. In a complex affix structure there are two terminals that take no complement and, thus, two possible starting points for Vocabulary Insertion. Consider a structure like $_{DP}[_{BP}[A\ B]\ _{DP}[C\ D]]$. The Vocabulary Insertion procedure as provided in section 2.2 relies on possible spans that start with terminals without a complement (in this case, A and C). The question, therefore, is what such spans are possible given the structure. Clearly, spans ⟨A,B⟩ and ⟨C,D⟩ are available. Given that spans are sequences of heads in a head-complement relation with each other (Svenonius 2012), there is no ⟨A,B,D⟩ or ⟨A,B,C⟩ span.

If we understand the Vocabulary Insertion procedure as traversion through a span (all terminals inside a span must be realized somehow), the Vocabulary Insertion procedure for a complex affix structure might be conceived of as traversion of the ⟨A,B⟩ span followed by traversion of the ⟨C,D⟩ span and further on (since D projects). In other words, the [A B] part is realized on its own, independently of the rest of the structure (with the exception of the sisterhood relation between B and D). In other words, a complex affix forces its sister to be interpreted independently at PF (not suprisingly, given that its sister is a specifier).

3.4 Analyzing cases of non-local allomorphy

Now I am in the position to provide explicit analyses for cases of non-local allomorphy beyond the informal presentation in the beginning of the section. First, I provide an account of Tamil pronominals. Then, I examine the case of Aqusha Dargwa verbal aspect-sensitive suppletion that ignores the intervening causative affix. This case allows me to explicate what the account says about the cases when the heads that compose into a complex affix have their own selectional properties beyond the extended projection.

3.4.1 Tamil pronominals

The reason why Tamil first person pronominal stem undergoes case-triggered suppletion despite the presence of the plural affix is because the $D_{[1]}$ head is adjacent to K thanks to the $[\# K]_{KP}$ complex affix, as shown in the structure in (38d).

(38) Tamil non-local allomorphy

a. Data of Tamil first person pronouns (Moskal & Smith 2016)

	SG	PL
NOM	*naan*	*naan-ga*
DAT	*en*-***akku***	*en*-*gal*-***ukku***

b. Lexicon

#: [Sel: D];

K: [Sel: #], [Sel: D]

c. VI rules

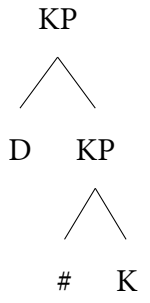
i. $\langle D_{[1]} \rangle \leftrightarrow$ /en/ / ___$K_{[DAT]}$

ii. $\langle D_{[1]} \rangle \leftrightarrow$ /naan/

iii. $\langle \#_{[+PL]} \rangle \leftrightarrow$ /-gal/

iv $\langle K_{[DAT]} \rangle \leftrightarrow$ /-ukku/

d. Structure



Since the K head is always structurally adjacent to D, suppletion occurs in the oblique cases regardless of the plural affix. The Vocabulary Insertion procedure for the DAT.PL form of the Tamil first person pronominal is provided below.

(39) Vocabulary Insertion procedure for Tamil first person pronominals

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle D_{[1]} \rangle$		$K_{[DAT]}$	Rule (38b.i)
en-	Next span!			
en	$\langle \#_{[+PL]} \rangle$		$K_{[DAT]}$	Rule (38b.iii)
en	$\langle \#_{[+PL]}, K_{[DAT]} \rangle$		$D_{[1]}$	No rule
en-gal	$\langle K_{[DAT]} \rangle$		$D_{[1]}$	Rule (38b.iv)
en-gal-ukku	No terminals left!			

The next subsection discusses a case that is of interest given the reliance of the syntactic part of the analysis on the mechanics of selection.

3.4.2 Aqusha Dargwa verbs

Consider the Aqusha Dargwa pattern (Ganenkov 2020). The non-local pattern is that the verbal stem suppletion is sensitive to Asp regardless of the intervening CAUS.

(40) Aqusha Dargwa non-local verbal stem suppletion

	AGR-ROOT-CAUS-AOR	AGR-ROOT-CAUS-PST.HAB
do	*b-*$\boxed{ar}$*-aq-**ib***	*b-*$\boxed{ir}$*-aq-**i***
leave	*b-*$\boxed{at}$*-aq-**ur***	*b-*$\boxed{alt}$*-aq-**i***
steal	*b-*$\boxed{i?}$*-aq-**un***	*b-*$\boxed{il?}$*-aq-**i***

What is interesting about the Aqusha Dargwa pattern is that the CAUS head employed by Ganenkov must introduce the causer argument, which provides an opportunity to show the utility of the projection of the selectional features. For the purposes of allomorphy, Asp and Caus must form a complex affix, which is seemingly in conflict with the fact that CAUS must introduce its own DP. The morphological part of the analysis for the pattern is provided below. For illustration purposes, I assume that the imperfective variant of the stem is the elsewhere one, but nothing hinges on this assumption. If anything, Ganenkov's analysis with no elsewhere rule may be applicable too—what I wish to maintain, however, is that the allomorphic relation is nevertheless local, *contra* Ganenkov.

(41) Aqusha Dargwa non-local allomorphy (ignoring allomorphy of the aorist)

a. Lexicon

Asp: [Sel:*v*], [Sel: Caus]

Caus: [Sel: *v*], [Sel: D]

b. VI rules

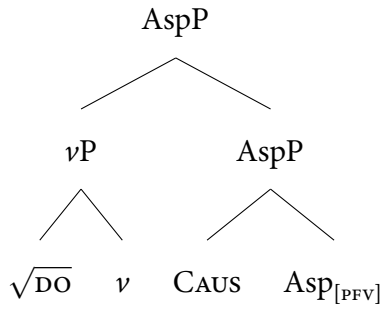
i. $\langle\sqrt{\text{DO}}, v\rangle \leftrightarrow$ /ar/ / __$\text{Asp}_{[\text{PFV}]}$

ii. $\langle\sqrt{\text{DO}}, v\rangle \leftrightarrow$ /ir/

iii. $\langle\text{CAUS}\rangle \leftrightarrow$ /aq/

iv. $\langle\text{Asp}_{[\text{PFV}]}, \text{T}_{[+\text{PST}]}\rangle \leftrightarrow$ /ib/

c. The structure



The Vocabulary Insertion procedure for the verb 'do' is provided below. While that isn't presented in the structure above, I assume that aorist realizes the $\langle\text{Asp}_{[\text{PFV}]}, \text{T}_{[+\text{PST}]}\rangle$ span. I also abstract away from the agreement prefix.

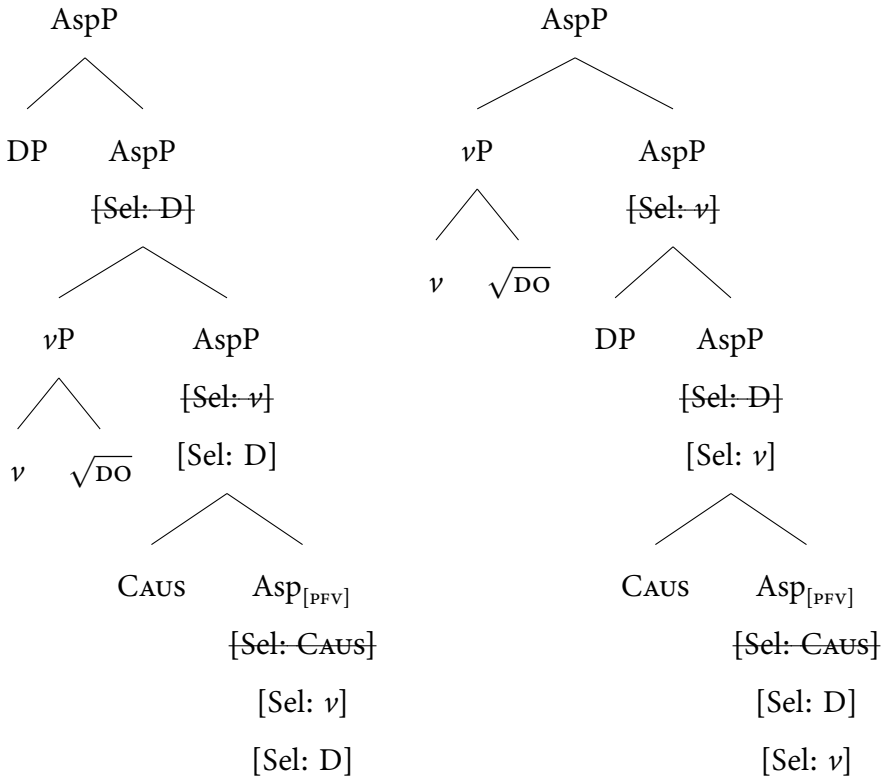
(42) Vocabulary Insertion procedure for Aqusha Dargwa causatives

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle\sqrt{\text{DO}}\rangle$		*v*	Rule (41b.ii)
	$\langle\sqrt{\text{DO}}, v\rangle$		$\text{Asp}_{[\text{PFV}]}$	Rule (41b.i)
ar-	Next span!			
ar-	$\langle\text{CAUS}\rangle$		$\text{Asp}_{[\text{PFV}]}$	Rule (41b.iii)
ar-	$\langle\text{CAUS}, \text{Asp}_{[\text{PFV}]}\rangle$		$\text{T}_{[+\text{PST}]}$	No rule!
ar-aq	$\langle\text{Asp}_{[\text{PFV}]}\rangle$		$\text{T}_{[+\text{PST}]}$	Rule (41b.iv)
ar-aq	$\langle\text{Asp}_{[\text{PFV}]}, \text{T}_{[+\text{PST}]}\rangle$			Rule (41b.iv)
ar-aq-ib	No terminal left!			

While the morphological part of the analysis works fine, the causative also needs to introduce the causer argument (as indicated by the [Sel:D] on CAUS in the lexicon). Assuming projection of unsatisfied selectional features, the causer argument is introduced in Spec,AspP. While the solution is unconventional, I see no direct problem for this approach based on the data presented in Ganenkov (2020). Another way to introduce the cause argument would be before the complex affix structure merges with *v*P, resulting in a multiple specifier configuration, essentially. What might prove to be

more puzzling, however, are cases that involve multiple argument-introducing heads. I leave such exploration for further work. My only goal here is to show that no major conflicts with existing systems for c-selection arise.

(43) Two ways of introducing the Causer argument



There is one final theoretical question that Aqusha Dargwa pattern allows us to address: if Caus is a head of its own category (as argued by Ganenkov), Asp should have a selectional feature for Caus. What happens if Caus is absent? This is quite a general question, faced by any theorist who wishes to analyze functional hierarchy-like effects using selectional features. The disjunctive selection mechanism proposed by Bruening (2019) suffices here: Asp's first selectional feature will be represented as [Sel: CAUS ∨ *v*]. If there is no CAUS in the structure, Asp merges directly onto *v*P, satisfying both [Sel: CAUS ∨ *v*] and [Sel: *v*]. However, I find the topic largely orthogonal to the allomorphy-centric discussion and do not discuss the details of disjunctive selection further.

3.5 Intermediate summary

This section has shown how non-local allomorphy is treated by the complex affix approach proposed in this paper. Next section shows that the same approach provides an insight into the reported violations of the *ABA generalizations.

4 Capturing *ABA violations

While the proposal in the previous section works for non-local allomorphy, it is yet unclear what are the advantages compared to other works treating non-local allomorphy (but see section 5 for comparisons). This section's goal is to substantiate an empirical advantage of the current approach: complex affix analysis accounts for unidimensional *ABA violations (see Middleton 2021; Blix 2021; Caha 2024b for discussion). The argument in favor of the complex affix approach is thus one based on parsimony considerations: if an approach captures both types of locality violations (non-local allomorphy and ABA patterns), it should be preferred.

The core idea is that a complex affix structure like [A [B C]] disrupts the structural adjacency between A and B, giving rise to an *ABA pattern. Before we go into the details, it is worth discussing whether there is any utility in providing a structural adjacency account for violations of *ABA if the price is that the proposed system generates ABA patterns freely. I must remind that my defense of *ABA is not a defense of *ABA as a typological generalization, but rather a defense of *ABA as a consequence of the locality condition on application of VI rules when combined with certain structural assumptions (such as structural containment of comparative in the superlative). As highlighted in Section 2, the locality condition provides an explanation for intervention effects and ABB patterns without resorting to accidental homophony. *ABA generalizations and locality of allomorphy are a mere byproduct and I am not committed to *ABA generalizations having the status of complete typological gaps.

4.1 An ABA pattern cookbook

In the current perspective, *ABA effects are indicative of sufficiency of locality for contextual allomorphy. In order to maintain locality as a sufficiency condition, then, violations of *ABA should

be analysed through non-adjacency. That is achieved by the complex affix analysis: in the structures in (44), CMPR ceases to be adjacent to the adjectival root if it forms a complex affix with SPRL. Therefore, the necessary structural adjacency relation between the $\langle\sqrt{\text{GOOD}}, a\rangle$ span and the CMPR node obtains only in the comparative form, resulting in an ABA pattern.

(44) How to derive an ABA pattern

a. Lexicon

CMPR: [Sel: *a*]

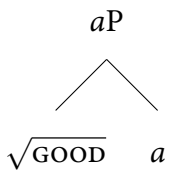
SPRL: [Sel: CMPR], [Sel: *a*]

b. VI rules

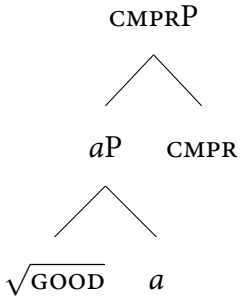
i. $\langle\sqrt{\text{GOOD}}, a\rangle \leftrightarrow$ /bett-/ / ___CMPR

ii. $\langle\sqrt{\text{GOOD}}, a\rangle \leftrightarrow$ /good/

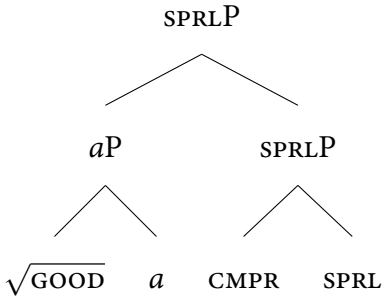
c. The structure for the positive form



d. The structure for the comparative form



e. The structure for the superlative form



Here, I apply the idea to two cases of *ABA violations: the allomorphy-related counterexamples raised by Ganenkov (2018) and the pseudo-ABA pattern discussed by Middleton (2021) and Blix (2021). I believe that these cases are similar enough to most cases in the literature to show what kinds of patterns are easily analyzed by the complex affix approach: ABA may arise by destruction of contexts for contextual allomorphy or by destruction of the required structural configuration for non-terminal insertion.

The pseudo-ABA discussion also has the merit of showing a way to adapt complex analyses of ABA patterns couched in Nanosyntax without employing the unorthodox theoretical machinery of Nanosyntax: the core idea is that complex affix formation provides the constituent structure derived by the Nanosyntactic analyses to work without commiting the analyst to spell-out driven movement. I therefore open the door to subsuming the structural insights behind contemporary

Nanosyntactic analyses without committing to their theoretical machinery.

4.2 Ingush pronominals

Take, for example, the Ingush data from Ganenkov (2018): if the ERG head is first combined with a higher K head (like LAT), ERG ceases to be adjacent to the pronominal stem in the oblique case form, resulting in an ABA pattern. Here, I focus on the 1SG row of the table below. I follow Ganenkov's decomposition of the form *aa-z*. Nichols (2011: 127) claims that the distribution of the *-z* allomorph of the ergative case is phonological. It will thus be ignored here. My final remark regarding the data is that the LAT case is chosen for the clarity of presentation: as shown by Ganenkov (2018), the pattern extends to 'core' oblique cases like dative too, so a prepositional reanalysis is implausible.

(45) ABA in Ingush pronominals (Nichols 2011: 174)

	ABS	ERG	LAT
1SG	so	aa-z	so-gh
1PL.EXCL	txo	oax-a	txo-gh
2SG	hwo	w-a	hwo-gh
2PL	sho	oash-a	sho-gh

Let's sketch an account. The idea would be to employ the idea that cases correspond to a hierarchy of K heads (Caha 2009) and that $K_{[OBL]}$ selects for both $K_{[ERG]}$ and D (assuming that absolutive is unmarked for simplicity).

(46) Deriving ABA in Ingush pronominals (1SG as an example)

a. Lexicon

#: [Sel: D]

$K_{[LAT]}$: [Sel: #], [Sel: $K_{[ERG]}$]

$K_{[ERG]}$: [Sel: #]

b. VI rules

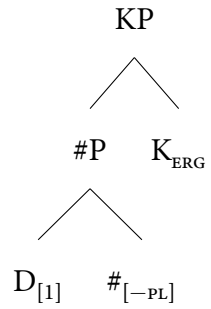
i. $\langle D_{[1SG]}, \#_{[-PL]} \rangle \leftrightarrow$ /aa-/ / ___K_{ERG}

ii. $\langle D_{[1SG]}, \#_{[-PL]} \rangle \leftrightarrow$ /so-/

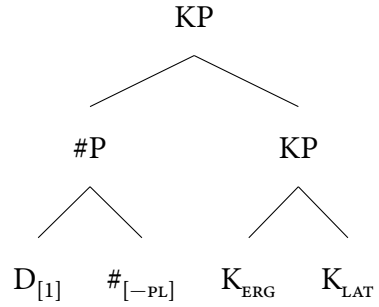
iii. $\langle K_{ERG} \rangle \leftrightarrow$ /-z/

iv. $\langle K_{ERG}, K_{LAT} \rangle \leftrightarrow$ /-gh/

c. Structure for the ergative case



d. Structure for oblique cases (here, LAT)



In the provided structure, the pronominal stem ($D_{[1SG]}$) is structurally adjacent to the $K_{[ERG]}$ head only in the ergative case, not in the oblique case, thanks to complex affix formation that takes place in the oblique forms. Therefore, an ABA pattern is predicted. I provide the Vocabulary Insertion procedures for the ergative and for the lative forms below.

(47) Vocabulary Insertion procedure for:

a. 1SG.ERG

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle D_{[1]} \rangle$		$\#_{[-PL]}$	Rule (46b.ii)
	$\langle D_{[1]}, \#_{[-PL]} \rangle$		$K_{[ERG]}$	Rule (46b.i)
	$\langle D_{[1]}, \#_{[-PL]}, K_{[ERG]} \rangle$			No rule!
aa-	$\langle K_{[ERG]} \rangle$			Rule (46b.iii)
aa-z	No terminal left!			

b. 1SG.LAT

String	Span under consideration	Down	Up	Applicable VI rule
	$\langle D_{[1]} \rangle$		$\#_{[-PL]}$	Rule (46b.ii)
	$\langle D_{[1]}, \#_{[-PL]} \rangle$		$K_{[LAT]}$	Rule (46b.ii)
so-	Next span!			
so-	$\langle K_{[ERG]} \rangle$			Rule (46b.iii)
so-	$\langle K_{[ERG]}, K_{[LAT]} \rangle$			Rule (46b.iv)
so-gh	No terminal left!			

The complex affix approach as outlined here is applicable to ABA patterns that involve blocking of non-terminal insertion as well, dubbed pseudo-ABA by Middleton (2021).

4.3 Pseudo-ABA: Malayalam pronominals

On the basis of a typological study of pronominal morphology, Middleton (2021) presents cases where an ABA triple involves a portmanteau form in the middle cell (a similar pattern was later discussed by Davis 2021 with conclusions similar to Middleton's). Let's focus on the Malayalam pattern. Assuming Middleton's [[PRONOUN DIAPHOR] ANAPHOR] containment structure (abbr. to [[P D] A]), Malayalam presents an ABA pattern: the affix *avan* is only present in the PRONOUN form and the ANAPHOR form. Middleton (2021) argues that the pattern involves competition between non-terminal insertion rules: a rule that targets the ⟨D,A⟩ span blocks the rule that targets the ⟨P,D⟩ span, requiring look-ahead in the system of VI.

(48) A pseudo-ABA pattern: pronominal paradigm in Malayalam (Middleton 2021).

PRONOUN	DIAPHOR	ANAPHOR
avan	*tan*	*avan-avan*
avan	*tan*	*avan*-RED
PRON	DIAPH	PRON-ANAPH

The complex affix approach gets by without look-ahead. Thanks to the [D A] complex affix, P ceases to be adjacent to D in the anaphor form, making it impossible for a rule that targets the ⟨P,D⟩ span to apply. This is not a novel perspective on the problem: by getting the Nanosyntactic represen-

tations just right, Blix (2021) is also able to formalize the idea that P ceases to be adjacent to D in the anaphor form. The complex affix account, however, provides the resulting structures of Blix' approach without Nanosyntactic movement. Given the theoretical issues with Nanosyntactic movement (see Embick 2017), I consider this a welcome result.

(49) An account for Malayalam pronominal paradigm

a. Lexicon

D: [Sel: P]

A: [Sel: D], [Sel: P]

b. VI rules

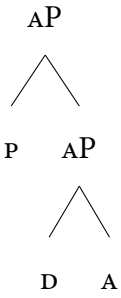
i. ⟨P, D⟩ ↔ /tan/

ii. ⟨P⟩ ↔ /avan/

iii. ⟨D, A⟩ ↔ /RED/

c. Structure for DP

d. Structure for AP



The vocabulary insertion procedures are given below.

(50) Vocabulary Insertion procedures for Malayalam

a. DIAPHOR /tan/

String	Span under consideration	Down	Up	Applicable VI rule
	⟨P⟩		D	Rule (49b.ii)
	⟨P, D⟩			Rule (49b.i)
tan	No terminal left!			

b. ANAPHOR /avan-RED/

String	Span under consideration	Down	Up	Applicable VI rule
	⟨P⟩		A	Rule (49b.ii)
avan-	Next span!			
avan	⟨D⟩		A	Rule (49b.iii)
avan-	⟨D, A⟩		P	Rule (49b.iii)
avan-RED	No terminal left!			

I therefore have provided a somewhat novel account of pseudo-ABA phenomena: while the crucial

details are the same as in Blix (2021), the account is achieved using the DM architecture outlined in Section 2. This concludes my parsimony argument in favor of the complex affix approach: it gives an account of ABA patterns in addition to non-local allomorphy. Next section provides a comparison of my approach with other DM work concerned with non-local allomorphy.

5 Comparison to other responses to locality violations

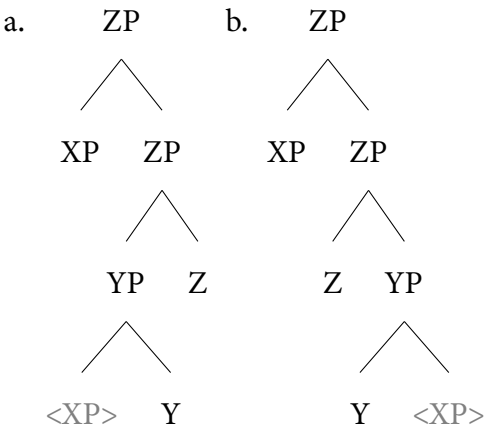
5.1 Adjunction-based approaches

The first line of attack at apparent non-local allomorphy is based on adjunction: insofar as the relevant notion of locality is structural, if the apparent intervener is an adjunct, structural adjacency still obtains. Bešlin (2025) explicitly defends this approach. In principle, I find the adjunction approach attractive and, in fact, inevitable under a structural adjacency approach. What I find dubious, however, is its generality. Recall the Aqusha Dargwa pattern (Ganenkov 2020; Sections 2.2 and 3.3): a causative suffix is transparent for the purposes of Asp-conditioned allomorphy of the verbal root. Bešlin (2025) employs 'change in distribution' as a heuristic for adjunction: adjectival negation in BCS has no effect on the syntactic distribution of the adjective. The same cannot be said for the Aqusha Dargwa causative: the presence of the causative affix is related to the presence of an additional Causer argument. I am unaware of any proposal that treats causative morphology as adjuncts and thus conclude that the approach outlined by Bešlin (2025) does not provide a complete account of non-local allomorphy.

5.2 Movement-based approaches

Another syntactic idea is based on the notion of word-internal phrasal movement (Koopman 2005; Myler 2017; Zyman & Kalivoda 2020). Despite apparent non-adjacency between X and Z, XP moves to Spec, ZP (see 51a), resulting in the required adjacency relations: X is now adjacent to Z, making it possible for allomorphy conditioning to ignore Y.

(51) Word-internal movement



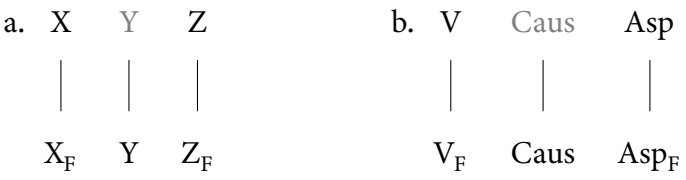
As I highlighted in the discussion of Blix (2021), the complex affix approach provides the same constituent structure that movement derived without the issues that arise from Nanosyntactic movement. The problems raised by Embick (2017) transfer for Nanosyntax apply to allomorphy-motivated word-internal phrasal movement as well—the issue boils down to inability to diagnose the required movement steps (altough Zyman & Kalivoda 2020 is a notable exception). There is, however, one application of word-internal phrasal movement that is not easily accommodated by the current approach: namely, to derive Mirror Principle-violating morpheme orders (Myler 2017; see 51b). While there might be a way to derive this pattern using complex affixes without employing movement, it falls outside the scope of this paper. For now, I wish to note that, as was the case with the adjunction-based view of non-local allomorphy, there is nothing in the approach proposed in this paper that is in conflict with word-internal movement approaches.

5.3 Relativized locality

The final idea I discuss comes from Dolatian & Guekguezian (2023) (with Toosarvandani 2016 as a predecessor). The idea is similar to Relativized Minimality (Rizzi 1990): the relevant notion of locality is relativized to a certain feature. So, even if X and Z are not local due to the presence of Y, they are local relative to a shared feature [F], the lack of which renders Y transparent (as indicated by gray color in 52a). The restrictiveness of this approach, however, comes from the repertoire of employed features. Again, I find the Aqusha Dargwa case (Ganenkov 2020; Sections 2.2 and 3.3) to be illustrative here. For the relativized locality view to work, there should be a feature that V and

Asp have while Caus lacks (as highlighted in 52b).

(52) Relativized locality approach to non-local allomorphy



I can't think of a substantive feature that fits the description. Of course, one might resort to diacritic features (as Dolatian & Guekguezian 2023 do), but then no restrictivity claims are possible. To be transparent about it, the present complex affix approach makes no restrictivity claims at all: the argument laid out in this paper is based on unification of non-local allomorphy and *ABA violations. The relativized locality approach, however, provides no insight into *ABA violations. On its own, then, it either has rather weak empirical predictions due to not ruling anything out, or is unable to account for cases like the Aqusha Dargwa one.

6 Conclusion and further outlook

This paper has argued in favor of complex affix formation as a possible morphosyntactic process. As shown in this work, the resulting complex affix structure provide a way to analyze non-local allomorphy and *ABA violations without abandoning the locality condition. Finally, I have compared the present approach to a number of alternative analyses of non-local allomorphy and *ABA violations and have concluded that my approach is more general while maintaining core insights of other approaches.

A couple of promissory notes fit in a conclusion. Recent work by Zompì (2023) highlights that standard DM tools undergenerate ABA patterns in pronominal number-case paradigms. If the current approach is to be pursued, an account of ABA in pronominal paradigms must be provided. In general, the present account seems to provide a way to generate allomorph distributions that are 'unnatural' relative to the natural classes available in bundles of features—because this paper's system crucially relies on the structure of morphological entities. In line with the research programme outlined by Caha (2021) and Blix (2021), complex affix formation might prove itself useful

for a reductionist conception of declension classes. Finally, the notion of a complex affix might be able to account for cases where certain affixes behave 'as a group' relative to, for example, affix order—templatic patterns may lie in reach of the complex affix analysis, when combined with suitable linearization proposals (for example, Bobaljik (2012:56–61) entertains an idea similar to the one presented in this paper for the purposes of affix order).

What I hope to have shown in this paper is that structural ambiguity, while fully expected on a word-internal level in a theory like DM, is underutilized analytically. It remains to be seen whether application beyond allomorphy conditioning is possible.

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