

Missing Elsewhere: Domain Extension in Contextual Allomorphy<sup>\*</sup>

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Much work in Distributed Morphology (Embick 2010, 2015; Bobaljik 2012; Harley, Tubino, and Haugen 2017; Bobaljik and Harley, to appear) holds that morphosyntactically conditioned contextual allomorphy, including suppletion, can only work in a very local fashion: two morphemes must be linearly or structurally adjacent for one to determine the morphological exponence of the other. Recently, however, the existence of nonlocal patterns has come into focus, with growing evidence that nonlocal allomorphy is an attested empirical option.<sup>1</sup> In this squib, I discuss the allomorphy of verb stems in the Nakh-Daghestanian language Aqusha Dargwa and argue that the choice between allomorphs in morphological causatives in that language is determined nonlocally by tense–aspect–mood (TAM), proposing that Vocabulary Insertion can be exempt from locality requirements under certain conditions.

### 1 Verb Stems in Aqusha Dargwa

Aqusha is a language of the Dargwa branch of the Nakh-Daghestanian family spoken in Daghestan (Russia) (a brief grammatical sketch of Aqusha can be found in van den Berg 2001). Each verb in Aqusha has two stems, traditionally called perfective and imperfective. A typical feature of Dargwa languages is that the relation between these two stems is irregular in the majority of the verbal lexicon; only a few verbs have one stem used in all contexts. Aqusha has about 20 different patterns of correlation between the stems, each accounting for at least half a dozen verbs. In addition, a few unique patterns exist, each attested with only one verb, including some examples of strong suppletion, as shown in Table 1. Synchronically, the difference between the two stems cannot be reduced to phonologically conditioned or otherwise regular changes: the choice of the pattern is generally unpredictable.<sup>2</sup>

Table 1. Patterns of stem formation in Aqusha (based on van den Berg 2001:34–35).<sup>3</sup>

The choice between the two stems is conditioned by the TAM category: for example, the Past Habitual is based on the imperfective stem, whereas the Aorist is only compatible with the perfective stem, as shown in (1).<sup>4</sup>

(1)	‘do, make’	‘leave’	‘steal’	‘say’
N.SG-ROOT-AOR	b-ar-ib	b-at-ur	b-iʔ-un	ʔ-ib
N.SG-ROOT-PST.HAB	b-ir-i	b-alt-i	b-ilʔ-i	ir-i

On a first approximation, the picture is very similar to what we observe in other languages, including English and Romance: roots are outwards-sensitive to the TAM suffix they combine with.<sup>5</sup> VI-rules for the root ‘do, make’ are as in (2).

(2) VI-rules for the root ‘do, make’ (to be revised later)

- a.  $\sqrt{\text{MAKE}} \rightarrow -\text{ar-} / \_\_\_\_\_ \text{Asp[pfv]}^6$   
 b.  $\sqrt{\text{MAKE}} \rightarrow -\text{ir-} / \text{elsewhere}$

As trivial as it might seem, Aqusha verbs display one unusual feature: roots and TAM markers remain sensitive to each other in non-adjacent environments, as evidenced by causative formation. In Aqusha, morphological causatives are formed by means of the suffix *-aq* attached directly to the root, preceding all inflectional suffixes. Importantly, the root allomorph in causatives is still determined by the TAM suffix which follows the causative morpheme, see (3).

(3)	‘do, make’	‘leave’	‘steal’	‘say’
N.SG-ROOT-CAUS-AOR	b-ar-aq-ib	b-at-aq-ur	b-iʔ-aq-un	ʔ-aq-ib
N.SG-ROOT-CAUS-PST.HAB	b-ir-aq-i	b-alt-aq-i	b-ilʔ-aq-i	ir-aq-i

Importantly, the semantic interpretation of causative forms indicates that the order of functional heads in syntax corresponds to what is observed in morphology: the causative component is always obligatorily interpreted below tense-aspect, as in (4).

(4) *rasul-li murad-li-zi ?inc-bi d-il?-aq-i.*

Rasul-ERG Murad-OBL-LOC apple-PL.ABS N.PL-steal.IPF-CAUS-PST.HAB

i. ‘Rasul used to make Murad steal apples.’

ii. \* ‘Rasul (once) caused Murad to regularly steal apples.’

Another confirmation that the tense-aspect head triggering allomorphy is located above the causative one is the fact that certain TAM forms can be selected by matrix predicates regardless of whether the causative is present or not, such as, for example, noncontrolled complements of desiderative verbs headed by the perfective converb. On the assumption that the causative morpheme is located above the aspectual one, we would expect that the selection of the aspectual form would be blocked by the intervening causative morpheme, contrary to fact, as shown in (5).

(5) *nab dig-ul-ra [ rasul-li murad-li-zi ?inc-bi*

I.DAT want-PRS-1 Rasul-ERG Murad-OBL-LOC apple-PL.ABS

*d-i?-aq-i / \*d-il?-aq-uli ].*

N.PL-steal.PF-CAUS-PF.CVB N.PL-steal.IPF-CAUS-IPF.CVB

‘I want Rasul to make Murad steal apples.’

Note also that the stems themselves are not perfective or imperfective semantically, that is, root allomorphy is triggered here by TAM suffixes above the root rather than by situation (lexical) aspect expressed by the root itself (Travis 2010),

as seen from mismatches between telicity and the choice of aspectual stem. For example, the prohibitive (negative imperative) can only be formed from the imperfective stem but is not inherently associated with atelic events, as in (6) showing the prohibitive of the telic event ‘read this letter’. Likewise, the aorist based on the perfective stem can express the perfective aspect of atelic events, as in (7) where it expresses the delimitative aspect of the atelic event ‘fumble around’.

(6) *iš kaʁar ma-lug-ad.*

this letter.ABS PROH-read.IPF-PROH.2SG

‘Don’t read this letter!’

(7) *urši arc d-arg-es kis-ma-ħiw χaluq-un.*

boy.ABS money.ABS N.PL-find.PF-INF pocket-PL-LOC M.fumble.PF-AOR

‘The boy fumbled around in his pockets to find some money.’ (Yusupov 2017)

I therefore conclude that the choice between the root allomorphs is in fact nonlocal in (3), determined by TAM across the causative morpheme.

The rest of this squib is organized as follows. In Section 2, I briefly discuss two major proposals for structural locality, outlining their predictions for the ability of non-adjacent inflectional heads to trigger root allomorphy and introducing my own proposal. In Section 3, I argue that the causative morpheme in Aqusha is not category-defining. Section 4 discusses the implications and sketches the proposed analysis.

## 2 Structural Locality in Vocabulary Insertion

If nonlocal allomorphy does exist, the question is what the limits are of this nonlocal pattern. The definition of cyclic domain therefore becomes crucial in a theory without linear/structural adjacency restricting how far the trigger can be from the target.

Existing proposals for structural locality (Embick 2010, 2015; Moskal 2015a,b) assume that Vocabulary Insertion (phonological realization) is triggered by cyclic (category-defining) heads, after which the material cannot be further modified and becomes unavailable to the morphemes outside the cyclic domain for allomorphic purposes.

Embick (2010, 2015) suggests that Vocabulary Insertion of the domain of the cyclic head  $x$  is triggered only upon the merger of the higher cyclic head  $w$ . The domain of cyclic  $x$  includes  $x$  itself and all noncyclic heads coming between  $x$  and the trigger  $w$ . When two morphemes are present in the same cyclic domain, they are visible to each other for allomorphic purposes, see (8).

(8) [ROOT- $x$ - $Y$ - $Z$ ]<sub>CYCLIC DOMAIN- $w$</sub>

Embick demonstrates the impact of cyclic syntactic heads on morphological exponence using English deverbal nouns and gerunds as an example. Deverbal nouns, such as *destruction* and *refusal*, show that the root and the nominalizing head  $n$  (realized as the nominalizing suffix) are sensitive to each other, presumably because both belong to the same cyclic domain: [ROOT- $n$ ]<sub>CYCLIC DOMAIN</sub>. By contrast, gerunds, such as *destroying* and *refusing*, contain an additional cyclic (verbalizing) head between the root and the nominalizer  $n$ : [ROOT- $v$ ]<sub>CYCLIC DOMAIN</sub>- $n$ . As a result, the latter two appear in different domains and show no allomorphic sensitivity to each other.

Note that Embick's theory is built on the assumption that linear adjacency also plays a crucial role in constraining allomorphy, so the cyclic domain alone has very little restrictive power and does not exclude much: any number of morphemes can intervene between the root and the trigger of allomorphy as long as they are noncyclic. Illustrating the importance of linear order in his discussion of agreement

exponence in Latin verbal inflection, Embick (2010) observes that the perfect-specific set of agreement suffixes is available only when they are linearly adjacent to the suffix of the perfect, as in the Perfect Indicative. In other environments, such as the Pluperfect Indicative, where the agreement suffix is separated from the perfect marker by another TAM suffix, the special exponents of agreement do not appear.

Based on data from pronominal allomorphy, Moskal (2015a,b) excludes linear/structural adjacency from the theory of contextual allomorphy and puts forth another proposal defining the accessibility domain as the cyclic node above the root, plus one noncyclic node above that, as in the schematic representation in (9).

(9)  $[\text{ROOT-}x\text{-}Y]_{\text{ACCESSIBILITY DOMAIN-Z}}$

In (9),  $x$  is a cyclic node above the root, so it triggers Vocabulary Insertion at the ROOT node. The accessibility domain associated with this cycle includes root, the  $x$  head itself, and one node above the latter, that is,  $Y$ . Note that only the highest cyclic head in a sequence of adjacent cyclic heads counts here as a delimiter of the accessibility domain, which can potentially give rise to more than two degrees of separation between the root and the trigger.

The two approaches to structural locality give different predictions depending on the exact identity—cyclic or noncyclic—of functional heads in a sequence of heads to be realized as a single word. In structures like that in (10a) where the cyclic head  $x$  has another cyclic head  $y$  immediately dominating it, Embick’s theory of cyclic domain entails that the head  $Z$  above  $y$  lies outside the cyclic domain of  $x$  and cannot affect the realization of the root. By contrast, Moskal’s definition predicts that it is theoretically possible for  $Z$  to trigger root allomorphy.

(10) a.  $\text{ROOT-}x\text{-}y\text{-}Z$

b. [ROOT- $x$ ]<sub>EMBICK'S DOMAIN</sub>- $y$ - $Z$

c. [ROOT- $x$ - $y$ - $Z$ ]<sub>MOSKAL'S DOMAIN</sub>

In structures like (11a) where the cyclic head  $x$  has a noncyclic head  $Y$  immediately dominating it, the predictions of the two theories for  $Z$  are exactly the opposite. On Embick's approach, both  $Y$  and  $Z$  are in the cyclic domain of  $x$  and thus can both trigger root allomorphy, see (11b). On Moskal's approach, only  $Y$  is a potential trigger of root allomorphy, while  $Z$  lies outside of  $x$ 's accessibility domain and cannot contribute to the choice of root allomorphs, as shown in (11c).

(11) a. ROOT- $x$ - $Y$ - $Z$

b. [ROOT- $x$ - $Y$ - $Z$ ]<sub>EMBICK'S DOMAIN</sub>

c. [ROOT- $x$ - $Y$ ]<sub>MOSKAL'S DOMAIN</sub>- $Z$

Much work is still needed to see how the two approaches capture known patterns of contextual allomorphy before we can adjudicate between them. For what it's worth, both theories seem to overgenerate and may thus require some fine-tuning. For example, Moskal's theory predicts that gerunds of the structure ROOT- $v$ - $n$ -*NUMBER*, representing (10a), may show root allomorphy sensitive not only to the nominalizer  $n$  but also to the number head above the latter, which seems unlikely and, to my knowledge, has not been attested so far. On the other hand, the adjacency-free version of Embick's theory predicts that root nominalizations of the structure ROOT- $n$ -*NUMBER-CASE* with an overt nominalizer, instantiating (11a), are potentially able to demonstrate root allomorphy conditioned by the number and case heads, the pattern unattested thus far.<sup>7</sup>

While allomorphy in nominalizations of various kinds is interesting in itself and deserves further exploration, this squib pursues another angle, exploring data from



morphological causatives in Aqusha Dargwa. I argue that the Aqusha causative instantiates the structure in (11a) and show that only Embick's cyclic domain, but not Moskal's accessibility domain, correctly predicts allomorphic variation in this language.<sup>8</sup> Instead of choosing in favor of Embick's approach, though, I argue that the nonlocal pattern in Aqusha causatives arises due to an extension of the accessibility domain. Specifically, I propose that Vocabulary Insertion of a root is delayed when *all* its contextual allomorphs contain a reference to a higher head outside the accessibility domain. Due to the lack of an elsewhere form, the root cannot receive exponence and Vocabulary Insertion needs to be suspended until the relevant information is accessed upon the merger of the higher head conditioning allomorphy.

### 3 The Causative Head is not Cyclic

The causative suffix intervening between the root and the TAM morpheme plays no role in Vocabulary Insertion in Aqusha, thus confirming the findings of Moskal and Smith (2016) that allomorphy can occur in environments where the immediately dominating head is inert with respect to the choice between allomorphs, contra Merchant (2015). So, the question now is how this nonlocal pattern fits in with existing definitions of cyclic domain in Vocabulary Insertion.

Depending on whether or not the causative head is cyclic, both Moskal (2015a,b) and the adjacency-free version of Embick (2010, 2015) allow the possibility for the TAM marker to determine root allomorphy in Aqusha causatives. In current work in Distributed Morphology (Bobaljik 2012, Embick 2015), the definitional criterion of whether a clausal head is category-defining or not is the ability to verbalize roots. According to this criterion, the causative in Aqusha should be considered non-category-defining, since it selects complements that are already verbal but has no

verbalizing properties; instead, the light verb *GM-ar-* ‘do, make’ is used to verbalize acategorical roots, as seen in (12).

(12)	causative	complex verb
a. <i>ħunt'en</i> ‘red’	* <i>ħunt'en-aq-</i>	<i>ħunt'en GM-ar-</i> ‘reddeñ’
b. <i>alaw</i> ‘around’	* <i>alaw-aq-</i>	<i>alaw GM-ar-</i> ‘surround’
c. <i>sabur</i> ‘patience’	* <i>sabur-aq-</i>	<i>sabur GM-ar-</i> ‘endure, tolerate’

Even though earlier literature proposed that productive causatives lexicalize  $v^0$  (Miyagawa 1998), recent research suggests that they instead instantiate  $\text{Caus}^0$ , a dedicated causative element in the clausal spine above  $vP$ , unlike lexical causatives which are better analyzed as instances of  $v^0$  (see Harley 2017 and references therein). One important advantage of the analysis in terms of the dedicated functional head is that it derives the ban on recursion in productive causatives in a natural way. The fact that Aqusha also displays the ban on double causatives, demonstrated in (13), then indirectly confirms again that the causative is a noncyclic functional head in the inflectional layer, along with  $\text{Asp}^0$ , and  $T^0$ , rather than the verbalizing head  $v^0$ .<sup>9</sup>

(13)	‘do, make’	‘leave’	‘steal’
N.SG-ROOT-CAUS-AOR	<i>b-ar-aq-ib</i>	<i>b-at-aq-ur</i>	<i>b-iʔ-aq-un</i>
N.SG-ROOT-CAUS-CAUS-AOR	* <i>b-ar-aq-aq-ib</i>	* <i>b-at-aq-aq-ur</i>	* <i>b-iʔ-aq-aq-un</i>

We have to conclude then that no independent evidence is available that the causative morpheme is category-defining. Assuming that  $v^0$  is cyclic and  $\text{Caus}^0$  is not, Aqusha causatives instantiate the diagnostic configuration in (11a), which allows us to empirically distinguish between Embick’s and Moskal’s definitions of Spell-Out domain; see the configuration and the predictions of both theories in (14).

(14) a. *ROOT-v-CAUS-ASP-TENSE-MOOD*

b. [ROOT-*v*-*CAUS-ASP-TENSE-MOOD*]<sub>EMBICK'S DOMAIN</sub>

c. [ROOT-*v*-*CAUS*]<sub>MOSKAL'S DOMAIN</sub>-*ASP-TENSE-MOOD*

As can be seen, TAM-conditioned root allomorphy in Aqusha causatives violates Moskal's locality. It seems, then, that accessibility domain as formulated in her work is not a universal restrictor of allomorphy. Embick's definition thus appears more empirically adequate, as it predicts that the root and the TAM morpheme are in the same cyclic domain and may affect each other for allomorphic purposes.

#### 4 Discussion

One less pleasant aspect of Embick's definition of cyclic domain is that it basically leaves us without theoretical limits on nonlocal allomorphy. Recall that in Embick's theory, cyclicity is designed to team up with linear adjacency in order to restrict allomorphy. In the absence of linear restrictions, be it classical piece adjacency or Merchant's span adjacency, cyclicity allows any inflectional morpheme, however high, to condition root allomorphy, as long as no cyclic morpheme intervenes between the root and that inflectional morpheme. By contrast, Moskal's approach to structural locality is generally more restrictive and would therefore be conceptually preferable. Note that her approach already has a number of built-in mechanisms allowing non-adjacent-triggered allomorphy and is flexible enough to incorporate much of the attested variation. For example, based on the assumption that pronouns are structurally more deficient than nouns, it correctly predicts that nouns and pronouns will show different patterns of case- and number-driven allomorphy (Moskal 2015a,b); see other examples in Moskal and Smith 2016.

We thus have a dilemma. On the one hand, Embick's definition of cyclic domain is more empirically adequate in dealing with Aqusha causatives, while

Moskal's approach to accessibility in contextual allomorphy fails to predict their behavior. On the other hand, Moskal's theory is more restrictive and would ideally need to be thoroughly tested first before we give in to considerably more permissive Embick's cyclic domains and embrace the theoretically almost unrestricted nature of morphosyntactically conditioned allomorphy, letting go of restrictions in terms of cyclic domains.

Leaving this dilemma to future research, I propose here that the Aqusha data introduced above is in fact exempt from whatever is usual restrictions on contextual allomorphy and thus is not indicative of whether it is Embick's or Moskal's approach that is ultimately correct. I propose that under certain conditions Vocabulary Insertion has to be delayed and accessibility domain needs to be extended. More specifically, I suggest that the kind of domain extension observed in Aqusha occurs due the lack of elsewhere VI-rules.

The usual way to deal with contextual allomorphy in Distributed Morphology is to identify a set of vocabulary items for a particular morpheme distributed by context with standard principles – like the Elsewhere Principle (Kiparsky 1973) – governing the choice between them. As discussed above, the choice between two stems in Aqusha productive causatives is TAM-conditioned. In locally conditioned allomorphy, the VI-rules can be formulated either with, as in (2) above, or without reference to the elsewhere allomorph (by specifying the context for each of the allomorphs). In nonlocal allomorphy, though, in order for domain extension to be triggered, the inventory of vocabulary items competing for insertion cannot include an elsewhere allomorph. Otherwise, the elsewhere allomorph will always be inserted locally without any need for domain extension (cf. Kilbourn-Ceron et al. 2016).<sup>10</sup> To

(15) Vocabulary Insertion of a root is delayed when all its contextual allomorphs contain a reference to a feature not present in the accessibility domain.

Technically, the proposed extension can be implemented using hyper-contextual rules of Vocabulary Insertion, which make reference to multiple nodes, as proposed by Moskal (2015a) and Moskal & Smith (2016). The rules for Aqusha verb stems then could be written out as in (16), superseding the original version in (2).<sup>12</sup>

a.  $\sqrt{\text{MAKE}} \rightarrow \text{-ar-}$  /        ] Asp[pfv]

An alternative option would be to assume that head movement can extend the accessibility domain *à la* den Dikken's (2007) Phase Extension or Gallego's (2010) Phase Sliding. The issue as to whether head movement exists in Aqusha has not been addressed yet in the literature, though some phenomena, such as the prefixal position of negation and the absence of 'do'-support, could be taken as evidence that Aqusha

does have *v*-to-*T* movement. While a den Dikken (2007)-style analysis of domain extension cannot be ruled out for Aqusha at this point, such movement, as I point out below, seems to be an obligatory side-effect of the lack of elsewhere VI-rules of the sort I am arguing for here and is not enough to trigger domain extension on its own.

Ideally, if the proposal in (15) is on the right track, the absence of an elsewhere allomorph should manifest itself in phenomena other than long-distance contextual allomorphy, allowing us to define a system without the default form, like in (16), on principled noncircular grounds. Without hoping to fully resolve this issue here, some heuristics can be proposed. The first one concerns markedness relations between the allomorphs of a root. In the most typical cases, one of the allomorphs has a very broad distribution without a contextual specification and usually applies to a nonnatural set of environments, which is “the defining property of a default or elsewhere form” (Embick 2015:147). In contrast to that, the opposition between two verb stems in Aqusha is equipollent, so that neither requires more specific context than the other.<sup>13</sup> We thus expect that in a system without the elsewhere form, none of the allomorphs can be considered underspecified.

The second phenomenon that can be used to diagnose the lack of the elsewhere allomorph is systematic gaps in the paradigm, as first proposed by Arregi and Nevins (2014) to analyze the defective paradigm of the Spanish verb *abolir* ‘abolish’. If a root only has VI-rules restricted to specific contexts but no elsewhere form, then the root cannot be assigned an exponent in contexts other than those specified by the VI-rules, which means that fragments of the paradigm not covered by VI-rules would be missing. This is what we actually find in Aqusha where some verbs only have the imperfective stem: *GM-us-* ‘sleep’, *GM-is-* ‘cry’, *GM-urb-* ‘fight’, *GM-uz-* ‘work’.

Instead of employing their single stem in all forms, these verbs simply have a gap in their paradigm and lack all forms based on the perfective stem.<sup>14</sup> The existence of systematic paradigmatic gaps in Aqusha is also one of the reasons that make me disadvantage the analysis exclusively in terms of verb movement mentioned above, since the movement-driven extension would not predict the absence of perfective-based forms with verbs like ‘sleep’, ‘cry’, and ‘work’. The perfective aspect must be specified as the context for the single stem with these verbs in any case, thus making an appeal to head movement unnecessary and redundant in Aqusha.

Finally, the absence of an elsewhere form would mean that the root must never be able to show up without the head that triggers root allomorphy, which in case of TAM-conditioned allomorphy means that no phenomena associated with the separate spell-out of VP or *v*P would be available for that verb, such as ‘do’-support or VP-/*v*P-restructuring complements. By contrast, the ability of a verb to participate in any such phenomena is an unambiguous diagnostic showing that the verb has an elsewhere form underspecified with regard to higher inflectional heads. While a detailed discussion of these phenomena is clearly outside the scope of this squib, both are in fact absent from Aqusha, thus matching the predictions of the proposal sketched here. If this logic is on the right track, it also implies that a language like Aqusha must have obligatory *v*-to-T movement; otherwise, it would be simply impossible to realize lexical verbs in a language with the massive number of verb stems lacking the elsewhere allomorph. As mentioned above, preliminary empirical evidence from Aqusha also bears out this prediction. If head movement is a natural outcome of the lack of elsewhere VI-rules, the viability of the den Dikken-style analysis of domain extension and nonlocal allomorphy depends not on whether head movement can in

principle extend the cyclic domain but rather on whether it is able to do so on its own. It is unclear whether head movement would be enough to extend the cyclic domain to allow for a non-adjacent trigger of root allomorphy, for two reasons. First, as indicated above, head movement alone would not predict paradigmatic gaps the way the proposal advocated here does. Second, given the cross-linguistic preponderance of *v*-to-T movement, we would expect nonlocal allomorphy to be better attested on the assumption that head movement alone drives domain extension for Vocabulary Insertion.

In the final analysis, the conclusion as to whether the idea formulated above is anything close to correct rests with empirical evidence. Nonlocal allomorphy does exist and further cross-linguistic searching for examples of long-distance allomorphy is needed for us to narrow down the set of theoretical options.

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Table 1.

gloss	PF	IPF	PF → IPF
‘do, make’	GM-ar-	GM-ir-	vowel alternation
‘steal’	GM-iʔ-	GM-ilʔ-	<i>l</i> -insertion
‘read’	GM-elč’-	GM-uč’-	<i>el</i> → <i>u</i>
‘beat’	GM-it-	it-	GM drop
‘write’	GM-elk’-	luk’-	GM drop and <i>el</i> → <i>lu</i>
‘wash’	GM-irc-	ic-	GM drop and <i>r</i> -omission
‘say’	ʔ-	ir-	
‘cut’	alʔ-	awl-	unique
‘come’	GM-ak’-	la <sup>ʕ</sup> GMq’-	

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<sup>1</sup> Moskal (2015a,b) documents examples of nonlocal allomorphy, such as case-driven allomorphy in pronouns. In addition, Bobaljik (2012) and Merchant (2015) present evidence that a non-adjacent head can trigger root allomorphy when intervening heads between the root and that non-adjacent head also contribute to the choice of an allomorph. See also Bruening 2018, Deal 2018, Wu 2018.

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<sup>2</sup> Daniel (2018) indicates that the imperfective stem is often predictable from the perfective stem, but only if we know the pattern a specific verb follows. While historically the imperfective stem was most likely derived from the perfective stem, synchronically, no single direction of derivation can be identified in the formation of Dargwa aspectual stems, as routinely pointed out in the descriptive literature (see Sumbatova and Lander 2014:102 on Tanti Dargwa, Daniel 2018 on Mehweb Dargwa, Forker [forthcoming] on Sanzhi Dargwa).

<sup>3</sup> GM- stands for *gender marker*. Whether or not a given verb has the gender agreement slot is lexically determined: many verbs are lexically specified to have the gender agreement marker, whereas other verbs do not have it. Morphosyntactically, the agreement marker is assumed here to lexicalize  $\phi$ -features on  $v$ , following analyses of the same phenomenon in other Nakh-Daghestanian languages (Gagliardi et al. 2014 for Tsez and Lak, Polinsky 2016 for Archi). The status of agreement morphemes spelling out  $\phi$ -features on clausal heads deserves a separate study. For now, I assume that they make no additional contribution to the delimitation of accessibility domains.

<sup>4</sup> The abbreviations follow the Leipzig Glossing Rules (<https://www.eva.mpg.de/lingua/resources/glossing-rules.php>), with the following additions: AOR — Aorist, GM — gender marker, PST.HAB — Past Habitual, IPF — imperfective stem, PF — perfective stem.

<sup>5</sup> In addition, some verbal suffixes are inwards-sensitive; that is, their morphological exponence is determined by the root they attach to. In the Aorist, for example, all roots fall into four classes using four different suffixes, see examples in

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(1).

<sup>6</sup> Note that Asp[pfv] is used here as a formal morphological feature distinguishing verbal forms built on the basis of the perfective stem and is not meant to imply that all those forms are in fact perfective.

<sup>7</sup> Number- and, more rarely, case-driven allomorphy is in fact observed in nouns like *person/people* and some others, instantiating this structure. The point here is that the adjacency-free version of Embick's theory predicts allomorphy/suppletion not only in examples like these with a null *n* head, where *n* can be subject to Pruning (Embick 2010), but also in structures with an overt nominalizer.

<sup>8</sup> The discussion here assumes Late Insertion of roots (see Halle and Marantz 1993 and Haugen and Siddiqi 2013 for opposing views) and root-outwards direction of vocabulary insertion (Bobaljik 2000, Embick 2010). I remain agnostic on the issue of readjustment rules (though see Haugen and Siddiqi 2013, Haugen 2017 for arguments to eliminate them from theory), since the dataset in Table 1 does not lend itself for an account solely in terms of readjustment, so the main point stands anyway.

<sup>9</sup> Note that the language has no examples of verbs where one causative morpheme would correspond to double causative semantics, thus excluding an analysis in terms of an exclusively phonological ban on double causatives (haplology).

<sup>10</sup> The latter option is what is usually observed in other known examples of the configuration root-*x*-*Z*, where the elsewhere allomorph is used in case a morpheme *Y* intervenes between *x* and *Z*, thus blocking root suppletion normally triggered by *Z* (see Moskal 2015a for a discussion of Slavic diminutives and other phenomena;

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Arregi and Nevins (2014) propose a similar analysis for disuppletive pairs like *worse/badden*).

<sup>11</sup> Aqusha does not allow anything apart from the causative suffix to intervene between the root and tense-aspect morphology and thus does not seem to offer anything revealing about whether there are any limits on the potential distance between the trigger and the target of allomorphy. While the absence of theoretical limits on allomorphy in the analysis proposed here might seem as unrestricted as Embick's definition of cyclic domain, my proposal is assumed to be a reasonably well-defined exception rather than a rule applicable by default to all instances of allomorphy (see below).

<sup>12</sup> I remain agnostic as to whether VI-rules refer to conditioning features as an unstructured bundle or a hierarchically complex structure (cf. Bobaljik 2012:161-162, Smith et al. Forthcoming). Suffice it to say here that the absence of a condition on structural or linear adjacency in Aqusha causatives may suggest that the context for allomorphy is only featurally, but not structurally, complex.

<sup>13</sup> See Daniel 2018 on the distribution of aspectual stems in Mehweb Dargwa, which is very similar to Aqusha in this respect, who concludes that neither of the stems is more marked in terms of inflectional categories derived (i.e., in terms of context) than the other.

<sup>14</sup> All imperfective-only verbs are atelic, but this gap is not due to the inability of atelic verbs to have the perfective stem, since other atelic verbs do have one: PF *GM-ah-* ~ IPF *GM-al-* 'know', PF *GM-at'* ~ IPF *GM-alt'* 'scold', PF *GM-uq-* ~ IPF *GM-ulq-* 'cost'; see also example (7).