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## ***Univerbation via liaison and the evolution of lexicon and grammar in Northern Akhvakh***

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### **ABSTRACT**

One of the most striking particularities of Northern Akhvakh is the pervasiveness of a phonological process for which I use the term *liaison*, traditional in French linguistics. This phonological process blurs word boundaries, possibly resulting in various lexicalization and grammaticalization phenomena. In this paper, after describing the phonological process and discussing its conditioning, I examine its role in the evolution of the lexicon, the emergence of new grammatical forms, the development of infixation, and changes in the valency properties of Akhvakh verbs.

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## *Univerbation via liaison and the evolution of lexicon and grammar in Northern Akhvakh*

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### 1. Introduction

The term ‘univerbation’, commonly defined as the diachronic process by which a sequence of two (or more) words is converted into a new single word, does not point to just one type of process. It encompasses structurally diverse phenomena that all fall under this definition. Univerbation processes play a crucial role in the evolution of both the lexicon and the grammar.

In the evolution of grammar, univerbation is an essential aspect of the cline *grammatical word* > *clitic* > *affix* (Henning 2010: 126-131). In the evolution of the lexicon, a sequence of words that frequently recur together tends to acquire the status of lexical unit with a specific meaning, as for example English *perhaps* < *per haps*, which still was a sequence of two words in fifteenth century English, with the plural of a disappeared noun *hap* still recognizable in *happen* (Ježek 2005: 6 – see also Cruse 2011: 82-91, Booij 2007: 19).

This article aims at describing univerbation as the possible outcome of a phonological process of word sandhi in Northern Akhvakh, a Nakh-Daghestanian language in which this process is synchronically productive and can thus be evidenced at different stages. The Akhvakh data analyzed in this paper may consequently provide interesting insights into the scenarios according to which forms which puzzle linguists in other Nakh-Daghestanian languages may have arisen.

Akhvakh (*aš<sup>w</sup>aLi mič'i*, Russian *axvaxskij jazyk*) belongs to the Andic group of languages included in the Northeast Caucasian (or Nakh-Daghestanian) family. Four varieties are recognized. One of them (the most important as regards the number of speakers) is designated as Northern Akhvakh, whereas the other three are grouped under the label of Southern Akhvakh. Northern Akhvakh is spoken in four villages of the Axvaxskij Rajon in the western part of Daghestan (Tadmagitl', Lologonitl', Kudijab-Roso, and Izani), in recent settlements in the lowlands of Daghestan (Kamyškutan, Sovetskoe),

and in Axaxdərə near Zaqatala (Azerbaijan). The Southern Akhvakh varieties are spoken in one village each (Cegob, Tljanub and Ratlub), all situated in the Šamil'skij Rajon of Daghestan.

As already noted by Magomedbekova in her description of Akhvakh,<sup>1</sup> one of the most striking particularities of Northern Akhvakh is the pervasiveness of a phonological process of word sandhi for which I use the term *liaison*, traditional in French linguistics. This phonological process blurs word boundaries, possibly resulting in various lexicalization and grammaticalization phenomena.

In this paper, after a brief presentation of the sounds of Akhvakh (Section 2), I describe the phonological process of liaison and discuss its conditioning (Section 3). In the following sections I examine its potential role in the evolution of the lexicon (Section 4), the emergence of new grammatical forms (Section 5), the development of infixation (section 6), and the possible incidences of univerbation via liaison on the valency properties of Akhvakh verbs (Section 7). Section 8 puts forward some concluding remarks.

The data analyzed in this paper are extracted from texts collected in Tadmagitl' and Lologonitl' with the help of Indira Abdulaeva, to whom I want to express my thanks for her collaboration.

## 2. The sounds of Akhvakh

### 2.1. Vowels

Akhvakh has five distinctive vowel qualities:

i	u
e	o
a	

For each of these vowel qualities, there is a four-way distinction *short oral* / *short nasal* / *long oral* / *long nasal*.

Length is phonemic in the sense that it cannot be analyzed as conditioned by phonological factors (such as syllable structure, or stress). However, vowel length can often (although not always) be analyzed as resulting from the fusion of two underlying vowels at morpheme juncture.

Comparison of Northern Akhvakh forms with cognate forms in Southern Akhvakh or other Avar-Andic languages provide evidence that, in the history of Akhvakh, vowel nasality developed from nasal consonants in coda position. Cf. *šāhu* 'soap', Southern

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<sup>1</sup> "К очень распространенным фонетическим явлениям в ахвахском языке принадлежит соединение слов в одно целое и выпадение слогов при встрече двух слов." (Magomedbekova 1967: 20)

Akhvakh **šapun(i)**, or **t'āša** 'taste', Southern Akhvakh **t'ašam(i)**, etc.<sup>2</sup> There is ample evidence that, at some stage in the history of Northern Akhvakh, consonants in coda position were deleted, but in the particular case of nasal consonants, their nasal feature was transferred to the first vowel of the word.

## 2.2. Consonants

The consonant system of Northern Akhvakh is presented in the following chart, in which fortis consonants are transcribed with a macron:<sup>3</sup>

p	t	c	č	l	k	q		
		c̄	č̄	l̄		q̄		
p'	t'	c'	č'	l'	k'	q'		ʔ
		c̄'	č̄'	l̄'	k̄'	q̄'		
b	d		ž		g			
		s	š	ʈ		χ	ħ	h
		s̄	š̄	ʈ̄	x̄	χ̄		
		z	ž			ʁ	ʕ	
(m)	n							
w	r			l	j			

Note that:

- (a) If [CwV] syllables are analyzed as phonologically /C<sup>w</sup>V/, an additional distinction between non-labialized and labialized consonants must be introduced for non-labial obstruents.
- (b) In the chart above, **m** is given between brackets because, at least in the words belonging to the native lexicon of Akhvakh, [m] can be analyzed as an allophone of /b/ followed by a nasal vowel. More precisely, syllables perceived as [mV] can be analyzed as underlyingly /bV̄/, and this interpretation greatly simplifies the description of morphophonological processes. For example, in verbal inflection, the non-human singular prefix **b-** surfaces as **m-** in combination with roots including a nasal vowel. In a diachronic perspective, words such as **meti** 'wedding' (Southern Akhvakh **berten**) or **mešu** (Southern Akhvakh **bešun**) confirm the validity of this analysis, since as explained above, the general rule is

<sup>2</sup> Southern Akhvakh forms are quoted from Magomedova & Abdulaeva (2007).

<sup>3</sup> Columns (from left to right): bilabials / dentals / alveolar sibilants / palato-alveolar sibilants / laterals / palatals / velars / uvulars / pharyngeals / glottals; lines (from top to bottom): weak voiceless aspirated plosive / weak voiceless aspirated plosive / weak voiceless glottalized plosive / strong voiceless glottalized plosive / voiced plosive / weak voiceless fricative / strong voiceless fricative / voiced fricative / nasal / non-nasal sonorant.

that the deletion of nasal consonants in final position was compensated by nasalization of the first vowel of the word.

- (c) The other nasal consonant (**n**) cannot be analyzed as an allophone of any other consonant, but neutralization of the /r/ vs. /n/ distinction occurs in suffixes after roots including a nasal vowel. For example, the infinitive suffix **-urula** surfaces as **-unula** in combination with roots including a nasal vowel.

### 2.3. Phonotactics

As has been alluded to above, comparison with Southern Akhvakh varieties and with the other Andic languages shows that, at some point in the history of Northern Akhvakh, either consonants in coda position were deleted (with the development of compensatory vowel nasalization if the deleted consonant was a nasal), or vowels were added in order to avoid having consonants in coda position. Cf. for example **miſa** ‘nose’ (Karata **miſar**), **kʷani** ‘light’ (Southern Akhvakh **kʷan**), etc. In present-day Northern Akhvakh, consonants in coda position are attested to a very limited extent in word-internal position, but never in word final position.

Another important constraint in Northern Akhvakh phonotactics is the total ban on consonant clusters in onset position.

## 3. Liaison and its conditioning

### 3.1. The phonological process

Liaison as a phonological process can be described as follows:<sup>4</sup>

- at the boundary between two words that are not separated by a pause, the initial consonant of the second word may be deleted, which automatically brings two vowels into contact, since no Northern Akhvakh word ends with a consonant;
- the vowels brought into contact by the deletion of the initial consonant of the second word merge into a long vowel.

Some variation can be observed in the quality of the long vowel resulting from this process. The sequences **a+i** and **a+u** consistently fuse into **ē** and **ō**, respectively. The sequences **u+i**, **u+e**, and **u+a** consistently fuse into **ʷī**, **ʷē**, and **ʷā**, respectively. In the

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<sup>4</sup> Note however that, in cases when liaison is not attested in synchrony but reconstructed as a historical process, the forms of the two words that merged may have changed since the time when the merging occurred, and consequently the form resulting from the historical process may be slightly different from the form that would be predicted by applying the synchronic rule to the forms attested in present-day Akhvakh.

other possible combinations, the predominant tendency is that the long vowel resulting from the liaison process has the same quality as the second underlying vowel, but it may also have the same quality as the first underlying vowel, without any apparent conditioning.

As regards nasality, the rule is simply that, if one of the two vowels involved in the liaison process is nasal, its nasal feature is retained by the long vowel resulting from the process.

Ex. (1) illustrates the effect of liaison on the analytic verb form **beq'ida bik'wari** 'would have come (N)', in which an inflected form of the auxiliary **bik'urula** 'be' combines with an imperfective form of the auxiliated verb **beq'urula** 'come'.<sup>5</sup>

- (1) **beq'ida bik'wari** → **beq'idēk'wari** (...a bi... → ...ē...)  
 b-eq'-ida b-ik'<sup>w</sup>-ari  
 N-come-IPF N-be-PF  
 'would have come (N)'

If the deleted consonant is **m**, as explained above, the following vowel is underlyingly nasal, and the long vowel resulting from fusion retains the nasality feature, as in (2):

- (2) **ha miša** → **hēša** (...a mi... → ...ē...)  
 ha miša  
 PROX place  
 'this place'

If the first vowel is labial and the second one non-labial, they merge into a non-labial vowel, but the preceding consonant is labialized, as in (3):

- (3) **beq'u mača** → **beq'<sup>w</sup>āča** (...u ma... → ...<sup>w</sup>ā...)  
 b-eq'-u ma-č-a  
 HPL-come-INF HPL-be.found-IMP  
 'let them come!'

As can be expected, a process of liaison limited to the fusion of two vowels may also occur in sequences in which the second word has no initial consonant, as in (4).

<sup>5</sup> Akhvakh verbs are quoted in the long form of the infinitive. The infinitive suffix has a short allomorph **-u** and a long allomorph **-urula**. The two allomorphs are syntactically and semantically equivalent. The choice of the short allomorph depends exclusively on prosodic factors, and the long allomorph is always possible in slow speech. Note also that the verbs that require a gender-number agreement prefix are quoted in the neuter singular form, i.e. with a **b-** or **m-** prefix.

- (4) **ila** **ima** → **ilēma** (...a i... → ...ē...)  
 ila ima  
 mother father  
 'parents'

### 3.2. Evidence that liaison really blurs word boundaries

Evidence that the process described in 3.1 really blurs word boundaries is provided by its effect on nasality spreading. As already mentioned above, several suffixes include an **r** alternating with **n** if the stem to which they attach includes a nasal vowel. In Ex. (5), liaison affects a sequence consisting of an auxiliated verb in converbial form followed by the infinitive or the auxiliary verb **bik'urula** 'be' (here in the masculine singular form **wuk'urula**). If liaison does not occur, the **r** of the infinitive suffix attached to the auxiliary is not nasalized by the nasal vowel included in the auxiliated verb form **l̃'ō**, but it is converted into an **n** if liaison occurs.<sup>6</sup>

- (5) **l̃'ō wuk'urula** → **l̃'ūk'unula**  
 l̃'ō w-uk'-urula  
 sleep-CVB.M M-be-INF  
 'sleep (M)'

**\*l̃'ō wuk'unula** (nasality spreading without liaison) and **\*l̃'ūk'urula** (liaison without nasality spreading) would be equally incorrect.

### 3.3. The grammatical conditioning of liaison

Liaison is not conditioned by the morphological status of the segments involved in the process. The last vowel of the first word may be the last segment of a root, as in (4), but it may also be the last segment of a suffix, as in (1), or represent by itself a suffix, as in (3) or (5). The first syllable of the second word may be the first syllable of a root, as in (2), but it may also consist of a consonantal prefix and the first vowel of a root, as in (1) or (5).

Syntactically, liaison is not limited to a particular type of syntactic construction. Provided the syntactic link between a word beginning with one of the consonants that can be a target of deletion as part of liaison (see Section 3.4 below), and the preceding word is such that they are normally uttered within the same intonational phrase, even in relatively slow and careful speech, liaison seems to be always possible, and tends to be usual if for some reason the two words in contact constitute a usual collocation. Here is a list of syntactic contexts in which liaison is commonly observed:

<sup>6</sup> Note that, from a theoretical point of view, a formalized account of this phenomenon in frameworks such as Lexical Phonology would be somewhat problematic, since it involves a word-internal process operating after a process affecting word boundaries.



- the boundary between the head of a phrase and a grammatical word having this phrase under its scope (in particular, the boundary between auxiliated verb forms and the auxiliary);
- the boundary between modifiers and their head;
- the boundary between the non-verbal element of light verb compounds and the light verb;
- compound nouns formed by juxtaposition of two nominal lexemes;
- compound adjectives formed by juxtaposition of two adjectival lexemes;
- lexicalized combinations of two verbs with the first verb in a converbial form.

A more precise account of the frequency with which liaison occurs in various types of constructions would require frequency counts based on large corpora of natural oral speech, and the data I was able to collect in my field work on Akhvakh are too limited to lend themselves to such a study. All I can say is that liaison was pervasive in the texts I recorded, and constituted a major source of difficulty in their elicitation.

### 3.4. The phonological conditioning of liaison

Liaison is restricted by the nature of the initial consonant of the second word involved in the process. In my data, liaison as defined in Section 3.1 is attested with word sequences in which the second word begins with **b**, **d**, **g**, **m**, **w**, **r**, or **j**.

The consonants whose deletion is attested in the liaison process do not seem to be analyzable as constituting a natural class in the phonological system of Akhvakh. All of them are voiced, but several of the voiced consonants (including some sonorants: **n** and **l**) do not seem to lend themselves to this process.

It is interesting to observe that five of the consonants with which liaison is possible are precisely those occurring as gender-number prefixes: **w**- (M), **j**- (F), **b**- ~ **m**- (N & HPL), and **r**- (NPL). It would however not be correct to analyze liaison in terms of gender-number prefix deletion, since:

- as illustrated by ex. (2) above, liaison is also attested with words in which the consonants in question cannot be isolated as representing a gender-number prefix,
- as illustrated by ex. (6), liaison also occurs with words beginning with **d** and **g**, which never can be isolated as prefixes.

- (6) a. **danē diḅōrula** → **danēḅōrula**  
 dan-ē diḅ-ōrula  
 pull-CVB.N stretch-CAUS.INF  
 ‘stretch’ lit. ‘pull and stretch’

- b. **kakib**<sup>a</sup>**gūrula** → **kakib**<sup>ō</sup>**rula**  
 kakiba g-ūrula  
 prayer do-INF  
 'pray' lit. 'do prayer'

Apart from the nature of the initial consonant of the second word, I am aware of no other phonological feature that could play a role in the conditioning of liaison.

### 3.5. On the optionality of liaison and its historical significance

As a synchronic process, liaison is clearly optional rather than context-dependent, in the sense that it is not possible to state conditions in which a sequence of two words that can undergo the liaison process would obligatorily appear in fused form.

However, for reasons that I am not in a position to state more precisely, for some individual word sequences or types of word sequences, the form resulting from the liaison process tends to be particularly usual, and the awareness of the underlying sequence may eventually blur in the speakers' mind. For example, the first Akhvakh consultant with whom I worked in Axaxdərə (Azerbaijan) used only the fused variants of several of the constructions presented in this paper and was not aware of the existence of the analytic variants in the idiolect of other speakers. Forms resulting from liaison may thus cease to be synchronically analyzable as the optional realization of an underlying word sequence.

## 4. Liaison and the lexicon

With particularly frequent word combinations, in particular with lexicalized word combinations whose meaning is not entirely predictable from the meaning of each word taken individually, liaison may result in the conversion of initially transparent word combinations formed according to the rules of syntax into more opaque lexical units. The examples in Sections 4.1. to 4.7 illustrate the variety of word combinations from which liaison may yield forms analyzable as emerging lexemes.

### 4.1. Noun + noun → noun

- (7) **k'eha miʃa** → **k'ehēʃa**  
 k'eha miʃa  
 eye nose  
 'face'

**4.2. Adjective/participle + noun → noun**

- (8) **ilada mik'e** → **iladēk'e**  
 ilada mik'e  
 orphan child  
 'orphan'

**4.3. Demonstrative + noun → deictic noun**

- (9) **ha miša** → **hēša**  
 ha miša  
 PROX place  
 'this place'

**4.4. Adjective + adjective → adjective**

- (10) **īk<sup>w</sup>a īk'a** → **īk<sup>w</sup>ēk'a<sup>7</sup>**  
 īk<sup>w</sup>a īk'a  
 small big  
 'big or small'

**4.5. Adverb + verb → verb<sup>8</sup>**

- (11) **geĭa bašurula** → **geĭāšurula**  
 geĭ-a ba-š-urula  
 inside-ALL HPL-gather-INF  
 'withdraw (HPL)'

**4.6. Converb + verb → verb**

Liaison in lexicalized combinations of two verbs with the first verb in converbial form, already illustrated by Ex. (5) & (6), is particularly common. Ex. (12) provides an additional illustration.

<sup>7</sup> According to the rules formulated in Section 2.1, the second vowel in **īk<sup>w</sup>ēk'a** is expected to be nasalized. A plausible explanation of this apparent exception is a dissimilation rule due to a constraint according to which, in Northern Akhvakh, two successive syllables with nasalized vowels are not allowed within the limits of a single word.

<sup>8</sup> In Northern Akhvakh, spatial adverbs such as **geĭi/a/u** 'inside' show the same locative / allative / ablative endings as nouns, but do not have the other inflected forms that would justify analyzing them as nouns, and cannot be found in core argument function.

- (12) **jeĭĕ jik'ōrula** → **jeĭik'ōrula**  
 j-eĭ-ē j-ik'-ōrula  
 F-leave-CVB.F F-be-CAUS.INF<sup>9</sup>  
 'abandon (F)'

#### 4.7. Noun + verb → verb (incorporation)

As illustrated by Ex. (13) & (14), liaison is also particularly common in lexicalized *noun + verb* combinations. Where the original *noun + verb* construction still exists with the same meaning, the result of liaison can be viewed as a case of morphological incorporation.

- (13) **rik'a bequrula** → **rik'āqurula**  
 rik'a b-eq-urula  
 lump N-form-INF  
 'form a lump'

- (14) **q'eli biḡurula** → **q'eliḡurula**  
 q'eli b-iḡ-urula  
 mouth N-hold-INF  
 'fast'

### 5. Liaison and grammaticalization

In this section, I present forms resulting from the liaison process that can be viewed as emerging grammatical forms, with suffixes resulting from the blurring of some of the original boundaries between adjacent formatives. Some of the emerging grammatical forms presented below have no functional equivalent among the already existing grammatical forms, but it may also happen that liaison yields a functional equivalent of an already existing form. In other words, liaison may contribute either to the enrichment or to the renewal of morphology.

#### 5.1. Participle + riĭi → temporal converb

In Akhvakh, temporal subordination can be expressed by means of participial clauses modifying **riĭi**, locative form of **ri** 'moment'. In this construction, liaison yields forms that can be characterized as emerging temporal converbs – Ex. (15).

<sup>9</sup> The causative suffix **-a(j)-** includes a **j** which may be deleted, depending on the following suffix. The deletion of **j** triggers fusion of **a** with the following vowel, here **a(j) + u → ō**.

- (15) a. **w-oq'-ā ri-ī-i** → **w-oq'-ēī** 'when he came'  
M-come-PF moment-OS-LOC M-come-PF.CVB
- b. **m-ač-ida ri-ī-i** → **m-ač-idēī** 'when he tells'  
N-tell-IPF moment-OS-LOC N-tell-IPF.CVB
- c. **b-uṣ-idi ri-ī-i** → **b-uṣ-idīī** 'when they fall'  
HPL-fall-IPF.HPL moment-OS-LOC HPL-fall-IPF.HPL.CVB
- d. **ũ-k-il-a ri-ī-i** → **ũ-k-il-ēī** 'when he has not eaten'  
M-eat-NEG-PF moment-OS-LOC M-eat-NEG-PF.CVB
- e. **g-o-la ri-ī-i** → **g-o-l-ēī** 'when there is not'  
COP-N-NEG moment-OS-LOC COP-N-NEG-PF.CVB

## 5.2. Negative converb + bik'urula → negative infinitive

In Northern Akhvakh, the negation of the infinitive can be formed analytically by combining the negative form of the general converb with **bik'urula**, infinitive of 'be', but this combination is commonly realized with liaison. As indicated in the gloss of Ex. (16), the resulting form could be reanalyzed as including a complex suffix consisting of three successive elements:

- the negation marker **-il-** that initially was part of the ending of the auxiliated verb in converbial form,
- a gender-number agreement marker **-ē-** resulting from the fusion of the converbial ending with the first syllable of the auxiliary;
- an allomorph of the infinitive suffix **-k'urula** whose initial consonant initially belonged to the root 'be'.

- (16) **k'eha b-iṭ-il-ē b-ik'-urula** → **k'eha b-iṭ-il-ē-k'urula**  
eye N-put-NEG-CVB.N N-be-INF eye N-put-NEG-N-INF  
'not to put the evil eye'

## 5.3. Infinitive + miča 'let it be found' → optative

In addition to a synthetic form of the optative marked by a suffix **-aī'a** resulting from the grammaticalization of the imperative of the verb 'say', Northern Akhvakh has an analytic form of the optative consisting of the infinitive of the auxiliated verb combined with **miča**, imperative of **mičunula** 'be found'.<sup>10</sup> This combination is however

<sup>10</sup> The root of this verb is **-ič-**; in nasal context, the neuter singular prefix **b-** and the infinitive suffix **-urula** surface as **m-** and **-unula** respectively.

commonly realized with liaison, yielding a form that could be reanalyzed as including a new optative suffix **-ča** preceded by a gender-number agreement marker – Ex. (17).

- (17) a. **b-ik'-u**    **m-ič-a**                      → **b-ik'ʷ-ĩ-ča** 'let it be!'  
           N-be-INF    N-be\_found-IMP                      N-be-N-OPT
- b. **b-eq'-u**            **ma-č-a**                      → **b-eq'ʷ-ã-ča** 'let them come!'  
           HPL-come-INF    HPL-be\_found-IMP                      HPL-come-HPL-OPT

#### 5.4. Infinitive + **mičala** 'if it is found' → 'if only'

In Northern Akhvakh, an analytic verb form expressing 'if only' can be obtained by combining the infinitive of the auxiliated verb with **mičala**, conditional of **mičunula** 'be found'. Here again, the realization with liaison is very common, yielding a form that could be reanalyzed as including a suffix **-čala** 'if only' preceded by a gender-number agreement marker – Ex (18).

- (18) a. **rafil-āhe**            **j-ik'-u**    **j-ĩč-ala**  
           have\_time-CVB.F    F-be-INF    F-be\_found-COND
- **rafil-āhe**            **j-ik'ʷ-ĩ-čala**  
           have\_time-CVB.F    F-be-F-if\_only  
           'if I only had time (F)' <sup>11</sup>
- b. **rafil-ēhi**            **ba-k'-u**    **ma-č-ala**  
           have\_time-CVB.HPL    HPL-be-INF    HPL-be\_found-COND
- **rafil-ēhi**            **ba-k'ʷ-ã-čala**  
           have\_time-CVB.HPL    HPL-be-HPL-if\_only  
           'if we only had time'

#### 5.5. Liaison in analytic verb forms involving a tense auxiliary

Liaison is common in analytic verb forms involving inflected forms of **bik'urula** 'be' in its function of tense auxiliary, yielding forms that could be reanalyzed as new synthetic tense forms with a complex suffix consisting of an imperfective marker, a gender-number agreement marker, and a past marker whose initial consonant is the reflex of the root of the former tense auxiliary: Ex. (19).

<sup>11</sup> The first person in the translation of this example is justified by the context in which it was found, but in other contexts, it could equally be interpreted as 'if you (F) only had time', or 'if she only had time'. A similar remark applies to (18b).

(19) a. **j-eq'-ida j-ik'<sup>w</sup>-ari** → **j-eq'-id-ē-k'<sup>w</sup>ari** 'would have come (F)'  
 F-come-IPF F-be-PF F-come-IPF-F-PST

b. **w-oq'-ida w-uk'-ari** → **w-oq'-id-ō-k'ari** 'would have come (M)'  
 M-come-IPF M-be-PF M-come-IPF-M-PST

### 5.6. Converb + **boḷurula** 'occur' → terminative aktionsart

Liaison may affect an analytic verb form consisting of the general converb of the auxiliated verb combined with **boḷurula** 'occur, finish' in its function of phase auxiliary,<sup>12</sup> yielding forms that could be reanalyzed as synthetic terminative verb forms: Ex. (20).

(20) **č'aj-ē b-oḷ-urula** → **č'aj-ōḷ-urula** 'finish burning'  
 burn-CVB.N N-occur-INF burn-TERM-INF

### 5.7. Adjective + **boḷurula** 'become' → adjective-to-verb derivation

Akhvakh has a verbalizing suffix **-ṭ-** deriving verbs from adjectives (and marginally nouns). This suffix results from the grammaticalization of a former verb reconstructed as **\*ṭ-** 'become' (Alekseev 1988: 35). Interestingly, liaison might result in the creation of another suffix with the same function originating from **boḷurula** (root **-oḷ-**) already encountered in section 5.6. in phase auxiliary function.

**boḷurula** is a polysemous verb also used in combination with nouns or adjectives in predicate function with the meaning 'become', and in this construction, liaison yields forms that could be reanalyzed as verbs derived from nouns or adjectives by means of a new verbalizing suffix **-oḷ-** functionally equivalent to the old verbalizing suffix **-ṭ-**. The meaning 'become big' expressed in Ex. (21) by this emerging form is traditionally expressed in Akhvakh by the form **īk'a-ṭ-urula**, which in contrast to the emerging form in (21) includes no agreement marker.

(21) **īk'-idi b-oḷ-urula** → **īk'-id-ōḷ-urula** 'become big' (HPL)  
 big-HPL HPL-become-INF big-HPL-VBZ-INF

### 5.8. **buḡurula** 'fall' → obligative marker

**buḡurula** 'fall' (root **-uḡ-**) has a grammaticalized use in which it expresses obligation in combination with the infinitive of the auxiliated verb. In this construction, liaison is common, resulting in the emergence of an obligative marker **-ūḡ-** inserted between the verb stem and the inflectional suffixes: Ex. (22).

<sup>12</sup> A *phase auxiliary* is one with a meaning 'start', 'stop', 'begin', 'finish', etc.

- (22) **m-iq'-u**                      **b-uṡ-ida** → **m-iq'-ūṡ-ida**    'it must be enough'  
          N-be\_enough-INF   N-fall-IPF            N-be\_enough-OBLG-IPF

### 5.9. **bit'urula** (causative auxiliary) → causative marker

The intransitive verbs whose stem underlyingly ends with ...**aj** (i.e. intransitive verbs whose infinitive ends with **-ō(rula)**, underlyingly **aj-u(rula)**) cannot be causativized by means of the causative suffix **-aj-** (reflex of the Proto-Andic causative suffix) used with the other intransitive verbs. They occur in an analytic causative construction in which the auxiliated verb is in the short form of the infinitive, and the causative auxiliary function is fulfilled by **bit'urula** (root **-it'-**) 'become straight, straighten, direct'. However, liaison is particularly common in this construction, possibly resulting in the emergence of a new causative suffix in complementary distribution with the traditional causative suffix. The underlying form of this emerging causative suffix could be analyzed as **-ut'-** – Ex. (23).<sup>13</sup>

- (23) **bič'ilō**    **bit'urula**                      → **bič'ilōt'urula**    'make understand'  
          b-ič'ilaj-u   b-it'-urula                      bič'ilaj-ut'-urula  
          N-understand-INF   N-cause-INF            understand-CAUS-INF

### 5.10. **bal'ige** 'at the edge of' → spatial case

'At the edge of' can be expressed in Akhvakh by combining nouns with a spatial form of the noun **bal'a** 'edge'. In this combination, contrary to the productive rules of Akhvakh syntax, at least some nouns occur in the nominative. If liaison occurs, the resulting form can be viewed as including an emerging spatial case ending with an orientation marker **-ālig-** 'at the edge of':<sup>14</sup>

- (24) **qu bal'ige**                      → **q<sup>w</sup>āl'ige**                      'at the edge of the field'  
          qu    bal'i-g-e                      q<sup>w</sup>-āl'ig-e  
          field   edge-OR-LOC            field-OR-LOC

Note however that this reanalysis of the fused variant of 'N + **bal'ige**' as an additional spatial case in the inflection of Northern Akhvakh nouns would be at odds with the rule

<sup>13</sup> The frequency of verb whose stem ends with ...**aj** in the lexicon of Akhvakh is largely due to the existence of a very productive suffix **-ilaj** used to 'naturalize' Avar verbs. For example, **bič'ilōrula** comes from Avar **b-ič'-ize** 'understand'.

<sup>14</sup> In Northern Akhvakh, as in other Daghestanian languages, spatial case endings consist of two successive segments. The choice of the first one, designated here as 'orientation marker', encodes distinctions between possible types of spatial configurations, whereas the second one expresses the distinction between locative, allative, and ablative.



according to which case endings do not attach to the nominative form of nouns, but to the so-called oblique stem.<sup>15</sup>

## 6. Liaison as a possible source of gender-number agreement markers in unusual positions

In the Nakh-Daghestanian language family, gender-number agreement is reconstructed as originally expressed by prefixes, but lexicalization and grammaticalization processes may be responsible for the development of forms with gender-number agreement markers in other positions. In particular, as illustrated by several of the examples above, liaison may result in the emergence of words with suffixed agreement markers, or even with agreement markers in typologically unusual positions.

### 6.1. The development of agreement markers inserted between a root and a derivative suffix

Cross-linguistically, derivative affixes tend to stand closer to the root of morphologically complex words than agreement markers and other inflectional affixes. However, Ex. (21), repeated here as (24), shows that liaison may be responsible for the emergence of grammatical forms including an agreement marker inserted between the root and a derivative suffix (in this example, the emerging verbalizing suffix).

(24) **ik'-idi b-oī-urula** → **ik'-id-ōī-urula** 'become big' (HPL)  
           big-HPL   HPL-become-INF      big-HPL-VBZ-INF

### 6.2. The development of infixed agreement markers

Infixed gender-number agreement markers may appear when liaison converts already lexicalized combinations of two words into single words. For example, in Akhvakh, 'sit' is usually expressed as **Ɂade bik'urula**, lit. 'be (**bik'urula**) on the ground (**Ɂade**)', and this expression is lexicalized in the sense that 'being on the ground' does not necessarily imply 'sitting', and 'sitting' does not necessarily imply 'on the ground'. Interestingly, this lexicalized combination of the adverb 'on the ground' and the verb 'be' tends to be used in a fused form, and the obsolescence of the analytic variant would result in the creation of a discontinuous verbal lexeme **Ɂad...k'w-** 'sit' combining with infixed agreement markers, as indicated in (25).<sup>16</sup>

<sup>15</sup> In Creissels 2014 I discuss another case of grammaticalization of a suffix (the functive-transformative suffix) functionally analyzable as a case, which however does not attach to the oblique stem of nouns, but to the nominative form.

<sup>16</sup> In the presentation of the following examples, angle brackets indicate infixed agreement markers.

- (25) a. **ɣade**                      **ba-k'-urula**                      → **ɣad<ā>k'-urula** 'sit' (HPL)  
           on\_the\_ground HPL-be-INF                      <HPL>sit-INF
- b. **ɣade**                      **j-ik'-urula**                      → **ɣad<ī>k'-urula** 'sit' (F)  
           on\_the\_ground F-be-INF                      <F>sit-INF
- c. **ɣade**                      **w-uk'-urula**                      → **ɣad<ū>k'-urula** 'sit' (M)  
           on\_the\_ground M-be-INF                      <M>sit-INF

In such cases, if an agreement marker is present at the beginning of the first word too, liaison might result in the creation of verbs showing 'exuberant agreement' (Harris 2008), i.e. including with both prefixed and infix agreement markers referring to the same argument, as illustrated in Ex. (26) by the fused variant ...**eĭ...k'w-** of the lexicalized combination 'having left' + 'be' → 'abandon'.

- (26) a. **j-eĭ-ē**                      **j-ik'-urula**                      → **j-eĭ<ī>k'-urula** 'abandon' (F)  
           F-leave-CVB.F    F-be-INF                      F-<F>abandon-INF
- b. **w-oĭ-ō**                      **w-uk'-urula**                      → **w-oĭ<ū>k'-urula** 'abandon' (M)  
           M-leave-CVB.M    M-be-INF                      M-<M>abandon-INF

## 7. The valency properties of the verbs emerging from liaison

### 7.1. General observations

As already mentioned in Section 4.7, one of the consequences of liaison is that, as a rule, lexicalized combinations of a noun and a verb have an optional variant in which the noun can be described as morphologically incorporated, unless the verb does not take agreement prefixes and begins with a consonant that cannot be elided. Since in most cases, the nouns involved in such combinations constitute the nominative term of the construction, this incorporation process yields verb forms whose construction includes no slot for a nominative NP, creating thus potential exceptions to the rule according to which the valency frame of an Akhvakh verb must minimally include a nominative term controlling gender-number agreement. Insofar as the variant in which the noun is not incorporated still subsists, this can be analyzed as an optional synchronic process of 'nominative absorption' that does not contradict the principle of obligatoriness of the nominative term. But if the analytic variant ceases being used, the verb historically resulting from the incorporation of the nominative term triggered by liaison can be expected to show an exceptional valency frame including no slot for a nominative NP. Haspelmath (1993: 178–180) describes this process in Lezgi.

There is thus an apparent contradiction between the fact that many Akhvakh verbs can be suspected to originate from the univerbation of 'noun + verb' compounds

that cannot be used as such anymore, and the fact that verbs with exceptional valency frames including no nominative term are quite rare in Akhvakh. The only possible explanation is that the predictable effect of the univerbation of ‘noun + verb’ compounds on the valency system of Akhvakh must be counterbalanced by a tendency to eliminate exceptional valency frames.

## 7.2. A case study: etymology and valency properties of *hādaṣurula* ‘listen’

Among Andi languages, Godoberi expresses ‘listen’ by means of a light verb construction **hant’uk’ja rikki** whose literal meaning is ‘hold one’s ears toward’ (**hant’uk’ja** ‘ear’, **-ikki** ‘hold’ – compare with expressions such as English **prick up one’s ears**, French **tendre l’oreille vers**, etc.), and such a light verb construction is the plausible etymology both of Tindi **aniṣ’iṭ’a** ‘listen’ (cf. **hank’it’a** ‘ear’ **-iṣ’iṭ’a** ‘hold’) and Northern Akhvakh **hādaṣurula** ‘listen’ (cf. **hāde** ‘ear’, **-iṣurula** ‘hold’). Interestingly, the Tindi verb has the exceptional coding frame <ERG, ALL>, with the same case marking of the two arguments as in the Godoberi light verb construction, whereas in Akhvakh, **hādaṣurula** ‘listen’ shows the regular valency frame <NOM, ALL>, with the nominative NP encoding the listener.

Formally, the light verb construction used by Godoberi to express ‘listen’ follows the regular valency pattern <ERG, ALL, nom>, in which lower-case ‘nom’ means that the noun ‘ear’ forming a lexicalized combination with the verb ‘hold’ occupies the nominative slot. The univerbation of such a compound is probably responsible for the fact that Tindi has a verb ‘listen’ with the exceptional case frame <ERG, ALL>.

In Akhvakh too, ‘hold one’s ears towards’ is the obvious etymology of **hādaṣurula** ‘listen’, in spite of the fact that this verb has the regular case frame <NOM, ALL>: in **hādaṣurula** ‘listen’, it is not difficult to identify **hāde** ‘ear’ and **biṣurula** ‘hold’. Compare the Akhvakh sentence in (27a) with its Godoberi equivalent (27b) – Saidova (2006: 117).

- (27) a. **waša imo-g-a hādaṣ-u w-uṣ-ida.** (Akhvakh)  
 son father-OR-ALL listen-INF M-must-IPF  
 ‘The son must listen to his father.’
- b. **wašu-di imu-ḡ-i hant’uk’ja r-ikk-i r-ukk-ida** (Godoberi)  
 son-ERG father-CFG-LOC/ALL ear NPL-hold-INF NPL-must-IPF  
 ‘The son must listen to his father.’

It is therefore reasonable to think that:

- originally, ‘listen’ was expressed in Akhvakh by a light verb construction that, transposed into present-day Akhvakh, would be **hādela riṣurula** ‘hold the ears’, with the valency pattern <ERG, ALL, nom>;

- the univerbation of the light verb compound triggered by liaison yielded a verb with an exceptional valency frame <ERG, ALL> similar to that found in Tindi;
- in Northern Akhvakh (but not in Tindi), after the original light verb construction ceased to be used as such, the valency frame of the subsisting synthetic variant of the construction was regularized as <NOM, ALL>.

## 8. Conclusion

The importance of univerbation (defined as the conversion of a word sequence into a single word) in language change is unanimously acknowledged by historical linguists. However, in most languages, univerbation as a synchronic process is sporadic, and consequently cannot be the subject of a systematic account within the frame of synchronic description. The originality of Northern Akhvakh is the existence of a synchronically productive process of liaison resulting in that free variation between sequences of two words and emerging words resulting from the blurring of the boundary between successive words is pervasive in this language. It is therefore possible to observe in Northern Akhvakh an exceptionally wide variety of lexicalization and grammaticalization phenomena at an early stage at which the original word sequences still co-exist with the emerging lexemes or grammatical forms resulting from their conversion into single words.

## Abbreviations

ALL: allative; CAUS: causative; COND: conditional; COP: copula; CVB: converb; F: feminine; HPL: human plural; IMP: imperative; INF: infinitive; IPF: imperfective; LOC: locative; M: masculine; N: non-human; NEG: negative; NPL: non-human plural; OBLG: obligative; OPT: optative; OS: oblique stem marker; PF: perfective; PROX: proximal; PST: past; TERM: terminative; VBZ: verbalizer

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