

Ingush inflectional verb morphology:
a synchronic classification and historical analysis with comparison to Chechen

Zev Handel
University of Washington

Department of Asian Languages and Literature

Box 353521

Seattle, WA 98195-3521

zhandel@u.washington.edu

(206) 543-4863

Ingush inflectional verb morphology:
a synchronic classification and historical analysis with comparison to Chechen

Abstract

This paper is a first step toward a complete diachronic study of verbal inflection in Ingush and Chechen. The paper is divided into several parts: (1) an overview of Ingush verb inflections, describing the basic tense forms and establishing a new classification of inflectional paradigms; (2) a discussion of the historical evolution of the Ingush verbal system from umlaut to ablaut and of the historical origins of certain morphophonological features of Ingush verb stems and affixes; (3) a comparative study of Ingush and Chechen verb paradigms based on internal reconstruction of the verb paradigms of both languages. The result is a comprehensive attempt to explain phonological and morphophonological correspondences between Ingush and Chechen verbs and to reveal the historical origins of the Ingush verb paradigms.*

* The portions of this paper dealing with the synchronic classification of Ingush verb paradigms and with the evolution of Ingush ablaut inflection were first presented at the Tenth Annual Conference on Non-Slavic Languages of the former Soviet Union held at the University of Chicago, May 8-10, 1997. That analysis was based on data collected from a native Ingush speaker at Berkeley, California in 1995-96. Some of those findings have been incorporated into the Ingush Lexical Database, part of the Ingush Language Project at the University of California at Berkeley under the direction of Professor Johanna Nichols. (As of this writing, the database is searchable on the internet at <http://ingush.berkeley.edu:7012/ingush.html>.) Some of the additional data, both Ingush and Chechen, used in carrying out the historical analysis was kindly supplied by Professor Nichols (p.c.).

I would like to thank Professor Nichols for her criticism and assistance in the preparation of this paper, and an anonymous reviewer for many helpful comments and suggestions. I would also like to thank Issa Guliev for his invaluable contributions of data and analysis. All remaining faults and errors are of course my own responsibility.

0 Introduction; notation¹

Ingush, spoken in the Russian republic of Ingushetia, is a Northeast Caucasian (also called Nakh-Daghestanian) language, closely related to Chechen. Ingush is a richly inflectional language, historically agglutinative but now with a significant degree of fusional morphology. In terms of clause structure, Ingush is primarily a dependent-marking language. Clauses are usually verb-final, and with a few notable exceptions are unmarked for person or number. The grammatical relations of nominal arguments are indicated through a rich system of morphological case markers. In both morphology and syntax Ingush is an ergative language, so that subjects of transitive verbs are marked with an ergative case ending, while objects of transitive verbs and subjects of intransitive verbs are in the unmarked absolutive case. Every noun belongs to a specific noun class (or gender), lexically determined, which is manifested in agreement markers (one of /v/, /j/, /d/, /b/) found in a subset of verbs and adjectives. Those verbs containing such a prefixal noun-class agreement marker agree with the class of their absolutive argument. Verbs inflect for tense and aspect; these inflectional paradigms are the subject of this study.

In this treatment, Ingush verbs are cited in boldface in the *generic present tense*. For verbs showing noun-class agreement, citation form is D-class, with the class marker set off from the rest of the stem by a raised dot •. (This form should not be confused with the conventional Ingush citation form, the derived verbal noun ending in /-ar/.) In interlinears, class markers are capitalized for easy identification.

¹The general description of Ingush typology given here is based on Nichols 1994b.

Transliterated orthographic forms are given in angle brackets (e.g. <lurgda>²); morphophonemic forms in curly braces (e.g. {lugda}), phonemic forms in slashes (e.g. /ludda/)³ and phonetic forms in square brackets (e.g. [l̥ɔdd̥]). An unspecified noun class agreement marker is represented by {D}. In interlinears, all forms are given in phonemic notation, except words of Russian origin, which are placed in square brackets (e.g. [lispiet] ‘bicycle’).

Chechen forms are cited in italics in the *infinitive*.

1 Basic verb inflections

Before proceeding to historical analysis, it is first necessary to establish an accurate and comprehensive synchronic classification of Ingush verb paradigms. The analysis presented here goes beyond the preliminary description found in Nichols 1994b.

1.0 Verb structure; notation; principal parts

Simple Ingush verbs have monosyllabic stems of the form (C)V(C)(C)(C).⁴ The initial consonant may be a noun-class marker.⁵ With the exception of stem-final /-l/, the consonants in a verb stem do not generally show alternation. The vowels, on the other hand, undergo a complex process of ablaut.

²Ingush is currently written in a cyrillic-based script.

³The transcription employed here is summarized in Appendix III. My original data is in the Ingush Practical Orthography developed at the UC Berkeley Ingush Lexicon and Grammar Project, but that transcription has been modified here.

⁴At least one consonant must be present. Only one stem with a final triple consonant cluster is known: **d•arst** ‘gain weight’.

⁵According to Nichols (1994b), about 30% of verb roots have such a marker.

For regular verbs, the full conjugation can be determined from three forms: the *infinitive stem*, the *present stem*, and the *past stem*.⁶ The present stem is imperfective, while the past stem is perfective—this reflects the basic two-way aspectual system of Ingush.⁷ The three stems constitute the *principal parts* of a verb and appear in the following tenses and forms:

- Infinitive Stem: infinitive, imperative, deverbal noun
- Present Stem: generic present, imperfect, future, simultaneous converb⁸
- Past Stem: witnessed past, perfect, pluperfect, anterior converb⁹

1.1 Verb tenses

Basic verbal inflections are formed through a combination of ablaut and affixation. In other words, each inflected form is composed of one of the three verb stems and a suffix. The ten basic inflections (which I have loosely labeled *tenses* for convenience) are illustrated in Table 1, with the example verb **loac** ‘catch’ (stems: *laac-*, *loac-*, *leac-*).

⁶Historically, the infinitive stem is the verb *root*. Synchronically, however, it is by no means clear that the infinitive stem has any claim to being more basic than the present stem.

⁷For this reason *imperfective stem* and *perfective stem* might be considered technically more accurate terms. I have chosen *present stem* and *past stem* for their mnemonic usefulness.

⁸The present stem is also used in the formation of several derived verbal forms, which are not discussed in this paper.

⁹I now suspect that *simple past* and *remote past* are more suitable names for the tenses here labeled *perfect* and *pluperfect*. I have not yet seen any direct evidence that forms in the perfect tense connote present relevance of a past action, or that forms in the pluperfect tense indicate a relative past event. The terms *perfect* and *pluperfect* are retained for compatibility with previous descriptions of Ingush.

| STEM | SUFFIX | TENSE | EXAMPLE |
|----------------------------|------------------------------------|----------------------------|--------------------|
| Infinitive Stem (INFS) | {-a} | Infinitive (INF) | laaca |
| | {-a} | Imperative (IMP) | laaca |
| Present Stem (unmarked) | -- | Generic Present (PRES) | loac ¹⁰ |
| | {-az&} | Simultaneous Converb (SCV) | loacaz& |
| | {-ar} | Imperfect (IMPF) | loacar |
| | {-agDa} | Future (FUT) | loacadda |
| Past Stem (PAST) | {-ar} | Witnessed Past (WIT) | leacar |
| | {-aa} / {-na} ¹¹ | Anterior Converb (ACV) | leacaa |
| | {-aa} + {-D} / {-na} + {-D} | Perfect (PERF) | leacaad |
| | {-aa} + {-Dar} / {-na} + {-Dar} | Pluperfect (PLUP) | leacaadar |

Table 1. Composition of the basic tenses of Ingush.

The tenses and forms of Table 1 are briefly described and illustrated with example sentences below. These sentences all place the verb in a syntactic frame which uniquely restricts the verb to the form in question. These frames have proven to be useful tools for eliciting a desired inflectional form.

The *infinitive* occurs with a variety of optative verbs, such as **mog** ‘be able’ and **d•iez** ‘want’. The ending /-a/ is usually inaudible but its presence serves to block two phonological processes found in closed Ingush syllables: shortening of the stem vowel and affrication of stem-final fricatives. The *imperative* mood form is identical to the infinitive.

- (1) suo-na burgac-Ø laac-a mog-Ø
 1sg-DAT ball-ABS catch-INF able-PRES
 ‘I can catch the ball.’

¹⁰A handful of verbs have an -a suffix in the present tense. One example is **d•oagha** ‘come’.

¹¹The selection of alternate suffixes depends on the coda of the verb stem. This will be discussed in more detail below.

The *generic present* corresponds roughly to the simple present tense in English. It usually describes habitual action.

- (2) **Muusaa-Ø** **c'q'a-zah@** **lovz-Ø**
 Musa-ABS sometimes play-PRES
 'Musa sometimes plays.'

The *simultaneous converb* has several functions. It appears in chained clauses indicating simultaneous occurrence (as in (3)), and it can occur with a wide variety of auxiliary verbs. In (5) it is combined with **d•y** 'be (durative)' to form the *present progressive* tense.

- (3) **Muusaa-Ø** **Viel-az&** **aara-Veal-ar**
 Musa-ABS laugh-SCV out-go.PAST-WIT
 'Musa went out laughing.'
- (4) **Muusaa-Ø** **a-Vuoz&-az&** **suo-na** **b arg-Vej-r**
 Musa-ABS down-fall-SCV 1sg-DAT eye-see.PAST-WIT
 'I saw Musa falling.'
- (5) **s&Ø** **hanJ** **Bas&az&** **By**
 ice-ABS now melt-SCV is
 'The ice is melting now.'¹²

The *imperfect* describes habitual or repeated past action. The *past tense suffix* {-ar} is realized with a very reduced vowel, usually sounding like [-ɨ]. Following a verb stem with no

¹²In the case of transitive verbs, there are actually two syntactically distinct (though morphologically identical) types of present progressive, with pragmatic and/or aspectual differences which are beyond the scope of this paper. In the first type, both agent and object are in the absolutive case, with the agent actually a subject governed by the intransitive auxiliary **d•y** and the object governed by the simultaneous converb. In the second type, the agent is ergative, and both the auxiliary and the converb agree in gender with the absolutive object.

final consonant, it is phonemically /-r/. In rapid speech following stem-final /-z/ it assimilates to [-«ɹ].

- (6) aaz sɛ-Ø h@aalxa haara den-na kinas&jka-Ø Dies-ar
 1sg.ERG year-ABS ago every day-DAT book-ABS read-IMPF
 ‘Last year I read every day.’

The *future* tense suffix is derived historically from a fusion of the suffix *-rg and the auxiliary d•y ‘be (durative)’, and so shows noun-class agreement. The fused suffix is morphophonemically {-agDa}; in agreement with the four noun classes it is realized /-agva/, /-agja/, /-adda/, /-abba/, with assimilation of {g} to the place of articulation of a following /d/ or /b/. The morphophonemics are preserved in the orthography, so are still transparent to native speakers. Phonetically the first schwa is realized short and close, especially in /-adda/: [-ɪdd«]. In some contexts (particularly after stem-final /-l/) it may be elided completely, as in /vielagva/: [v ɪgv«]. In some verbs with stem-final /l/, the /-l/ is elided and the preceding vowel is centralized. (See Sections 1.3 and 2.3 below.)

- (7) Muusaa-z qoana kuor-Ø Diel-adDa
 Musa-ERG tomorrow window-ABS open-FUT
 ‘Musa will open the window tomorrow.’

The *witnessed past* describes completed events that occurred in the recent past. Aspectually it is perfective. The speaker must have direct knowledge of the event being described. This tense employs the same past tense suffix {-ar} as the imperfect, but it is affixed to the past stem of the verb.¹³

¹³Historically, the witnessed past was probably a simple aorist. It probably developed an evidential quality in opposition to the perfect tense (which by virtue of focussing on the present result of a past action often implies that the speaker did not actually witness the past event, but has merely deduced its occurrence). The perfect tense then moved in to fill the semantic gap left

- (8) aaz hanʃā burgac-Ø leac-ar
1sg.ERG just-now ball-ABS catch.PAST-WIT

‘I caught the ball just now.’

The *anterior converb* appears in chained clauses indicating perfective aspect. Unlike the simultaneous converb, it does not usually occur with auxiliaries. (See however the description below of the perfect tense, which is historically derived from the anterior converb.) The suffix has two allomorphs, derived historically from a common source. The more common allomorph is /-aa/. /-na/ occurs with vowel stems ending in /-n/ or a vowel. It also occurs with some vowel stems ending in /-l/, in which case the stem-final /-l/ assimilates to /-n/. (See Section 1.3 below.)

- (9) ajsa-Ø aara-’a Jean-na Jiil-ar
Aisha-ABS out-’a go-ACV laugh.PAST-WIT

‘Aisha went out and laughed (=Aisha, having gone out, laughed).’

- (10) Jiilxa-’a Jiilx-aa aara-Jeal-ar ajsa-Ø
cry.PAST-’a cry-ACV out-go.PAST-WIT Aisha-ABS

‘Aisha cried and went out (=Aisha, having cried, went out).’

The *perfect* tense is similar to the witnessed past in that it describes completed recent past action. It differs in that it is not used when there is direct knowledge of the event on the part of the speaker. It is formed by suffixing the agreement marker {-D} to the anterior converb; this marker is actually a reduced form of the verb **dy** ‘be (durative)’. When the converb ends in /-na/, the full suffix in agreement with the four noun classes is realized /-nuu/, /-nii/, /-nad/, /-nab/.

- (11) suo-na Muusaa-Ø sielxan lejz-aaV ean-na xaz-ar
1sg-DAT Musa-ABS yesterday play.PAST-PERF say-ACV hear.PAST-WIT

‘I heard that Musa played yesterday.’

by the former aorist and began to function as a simple past tense. This is a fairly common development in languages (Victor Friedman, p.c.).

Finally, the *pluperfect* is formed by affixing the past tense form {Dar} of **d•y** ‘be (durative)’ to the anterior converb. When the anterior converb ends in /-na/, the final schwa is fully elided and the full suffix is realized /-nvar/, /-njar/, /-ndar/, /-nbar/. The pluperfect is used for events that occurred in the remote past.

- (12) **Muusaa-Ø c a s&Ø h@aalxa leJz-aaVar**
 Musa-ABS one year-ABS ago play.PAST-PLUP
 ‘Musa (had) played one year ago.’

In addition to their roles in tense formation, the present and past stems may occur in isolation in certain syntactic contexts. One example occurs in (10) above, where the past stem of **d•ielx** ‘cry’ is reduplicated to provide an attachment slot for the clitic /-’a/.¹⁴ The clitic /-c&a’ when’ also attaches directly to either the present or past stem:

- (13) **ajs&Ø Jiilxa-c&a Muusaa-Ø aara-Veal-ar**
 Aisha-ABS cry.PAST-when Musa-ABS out-go.PAST-WIT
 ‘When Aisha cried Musa went out.’

It is not clear whether the final /-a/ in these stem forms is inherent or is inserted as part of the cliticization process.

1.2 Verb paradigms

Every regular Ingush verb belongs to one of eleven verb classes. The past stem vowel is predictable from the present stem vowel in all cases. The infinitive stem vowel is predictable from the present stem vowel except when the latter is /u/. For this reason the present stem is preferable to the infinitive as a citation form, even though historically the vowel of the infinitive is more basic. Each of the eleven verb classes has been named with the present stem vowel (with

¹⁴As David Peterson (1996) has shown, the clitic /’a/, which is obligatory in anterior non-finite chained clauses, always attaches to the last preverbal element in the clause. If no such element exists, the verb stem is reduplicated to fill the slot.

the exception of the eleventh) and an exemplar verb. At least four of the classes permit a further inflection which yields present and past stems in the *iterative aspect*. These will be discussed below in Section 1.4. Table 2 lists vowel inflections of the eleven regular verb classes.

| Class Name | Example Verb | Infinitive Stem | Present Stem | Past Stem | Iterative Present | Iterative Past |
|------------|--------------------------|-----------------|--------------|-----------|-------------------|----------------|
| 1 -ie- | d•ies& ‘read’ | -ie- | -ie- | -ii- | -- | -- |
| 2 -aa- | laatt ‘stand’ | -aa- | -aa- | -ea- | -- | -- |
| 3 -uo- | tuox ‘hit’ | -uo- | -uo- | -ie- | -- | -- |
| 4 -uu- | d•uuc ‘talk’ | -uu- | -uu- | -ii- | -- | -- |
| 5 -oa- | loac ‘catch’ | -aa- | -oa- | -ea- | -uu- | -ii- |
| 6 -o- | mol ‘drink’ | -a- | -o- | -a- | -ie- | -ii- |
| 7 -a- | lat ‘fight’ | -a- | -a- | -a- | -ie- | -ii- |
| 8 -ov- | lovz ‘play’ | -ov- | -ov- | -ej- | -uu- | -ii- |
| 9 -ej- | qejk ‘shout’ | -ej- | -ej- | -ej- | -- | -- |
| 10 -u- | ull ‘lie’ | -a- | -u- | -i- | -- | -- |
| 11 -y- | d•uz ‘fill’ | -y- | -u- | -i- | -- | -- |

Table 2. Ingush verb classes.

Table 3 illustrates the tense forms for the eleven exemplar verbs representing the eleven verb classes.

| | Infinitive | Imperfective | | | Perfective | | |
|----|------------|--------------|-----------|-----------|------------|-----------|-------------|
| | Infinitive | Present | Imperfect | Future | Wit. Past | Perfect | Pluperfect |
| 1 | dies&a | dies& | dies&ar | dies&adda | dii s&ar | dii s&aad | dii s&aadar |
| 2 | laatta | laatt | laattar | laattadda | leattar | leattaad | leattaadar |
| 3 | tuoxa | tuox | tuoxar | tuoxadda | tiexar | tiexaad | tiexaadar |
| 4 | duuca | duuc | duucar | duucadda | diicar | diicaad | diicaadar |
| 5 | laaca | loac | loacar | loacadda | leacar | leacaad | leacaadar |
| | (iter.) | luuc | luucar | luucadda | liicar | liicaad | liicaadar |
| 6 | mala | mol | molar | madda | malar | mannad | mannadar |
| | (iter.) | miel | mielar | mieladda | miilar | miinnad | miinnadar |
| 7 | lata | lat | latar | latadda | latar | lataad | lataadar |
| | (iter.) | liet | lietar | lietadda | liitar | liitaad | liitaadar |
| 8 | lovza | lovz | lovzar | lovzadda | lejzar | lejzaad | lejzaadar |
| | (iter.) | luuz | luuzar | luuzadda | liizar | liizaad | liizaadar |
| 9 | qejka | qejk | qejkar | qejkadda | qejkar | qejkaad | qejkaadar |
| 10 | alla | ull | ullar | ulladda | illar | illaad | illaadar |
| 11 | dyza | duz | duzar | duzadda | dizar | dizaad | dizaadar |

Table 3. Ingush verb paradigms.

Nearly 25% of all Ingush verbs fall into Class 1, the **dies** class.¹⁵ Class 9, the **qejk** class, contains only a single verb.

It is worth noting that in verbs of Classes 3 and 8 which have final consonant clusters—i.e. stems with structure (C)VCC—shortened allophones of the present stem vowels /uo/ and /ov/ are indistinguishable from /o/, all three being realized [o] in this environment. Verbs in Classes 3 and 8 should thus be carefully distinguished from those in Class 6 by examination of the past stem vowel.

There is conflicting evidence about the nature of the Class 11 vowel alternations. There is some evidence that, at least for some speakers, the past stem vowel is **-y-** (not **-i-**) and the infinitive stem vowel is **-i-** (not **-y-**).

¹⁵As of April, 1997, 65 of the 272 simple verbs in the Ingush database (including iteratives), or 24%, are in this class.

There is also considerable fluidity between Class 6 (with alternation **a-o-a**) and Class 7 (with alternation **a-a-a**). Some verbs are firmly in one class or another, while others seem to exhibit free variation between **-a-** and **-o-** in the present stem. In at least one instance a Class 7 verb has been observed to have **-a-** in the present tense but **-o-** in the imperfect, presumably to preserve a contrast between the imperfect and the witnessed past forms. In more conservative pronunciations, these Classes 6 and 7 may both have vowel **-e-** in the past stem or in some past stem forms.

1.21 Sub-regularities

Verbs which have no final consonant do not behave exactly as shown in Table 3. However, their behavior is not so chaotic nor so deviant from the regular verbs as to require them to be classified as irregular. Instead, these verbs can be described as belonging to subclasses.

For example, the verbs **d•uu** ‘be killed’; **d•uu** ‘sow’; **p arc&uu** ‘cuss out, curse, swear’; **luu** ‘scold, speak’; **quu** ‘grow; attain’; **h@uu** ‘knead’; **zuu** ‘observe, notice’ may all be identified as **Class 4 -u- duuc** verbs with distinctive infinitive forms.¹⁶ Compare the verbs **zuu** and **d•uuc**:

| | Infinitive | Imperfective | | | Perfective | | |
|----|--------------|--------------|---------------|-----------------|----------------|----------------|------------------|
| | | Present | Imperfect | Future | Wit. Past | Perfect | Pluperfect |
| 4 | duuca | duuc | duucar | duucadda | diicar | diicaad | diicaadar |
| 4a | zie | zuu | zuur | zuudda | ziir(a) | ziinad | ziindar |

Table 3a. Ingush verb subclass 4a.

Similarly, the verbs **gov** ‘be late’; **lov** ‘wish’; **tov** ‘be suitable’; **ov** ‘to accumulate’; **xov** ‘to know’ may be identified as **Class 8 -ov- lovz** verbs with distinctive infinitive stem vowels.

Compare the verbs **lovz**, and **xov** ‘sit (down)’:

¹⁶There is conflicting evidence about whether the witnessed past forms of these “Class 4a” verbs have an unexpected final /-a/.

| | Infinitive | Imperfective | | | Perfective | | |
|----|------------|--------------|-----------|----------|------------|---------|------------|
| | Infinitive | Present | Imperfect | Future | Wit. Past | Perfect | Pluperfect |
| 8 | lovza | lovz | lovzar | lovzagva | lejzar | lejzaav | lejzaavar |
| 8a | xaa | xov | xovar | xovagva | xejr | xejnuu | xejnvar |

Table 3b. Ingush verb subclass 8a.

1.3 Stem-final /-l/

/-l/ is the troublemaker among the stem-final consonants of Ingush verbs. The structure of the future tense and of the anterior converb and the tenses built on it (perfect and pluperfect) is different for some of the verbs with stem-final /-l/.

1.3.1 Stem-final /-l/ and the future tense

For verbs whose present stem ends in /-uul/, /-ol/, /-al/, or /-oal/, the final /-l/ is elided in the future tense.¹⁷ For example, the future tense of **d•uul** ‘go (iter.)’ is /duudda/ in D-class and /vuugva/ in V-class. Furthermore, when the stem vowel is /-o-/ or /-oa-/ the vowel in the future tense is centralized to /-a-/.¹⁸ The future tense form of **oal** ‘say’ is /adda/ and of **mol** ‘drink’ is /madda/.

The underlying present stem is recoverable by looking at the indirect causative form of the future tense. The indirect causative of any tense is formed by inserting the causative affix /-iit/

¹⁷I have no examples which illustrate whether the same thing occurs with the other back vowels /-ov-/ and /-uo-/.

¹⁸This vowel centralization may not be limited to stems ending in /-l/, but might also occur with stems having no final consonant; however, I have found no examples of Ingush verbs with stem vowel /o/ or /oa/ and no final consonant.

between the inflected verb stem and any tense suffixes.¹⁹ Consider for example the witnessed past form of the indirect causative:

- (14) aaz hanɯā ajsa-jga kinas&jka-Ø Diis&it-ar
 1sg.ERG just-now Aisha-ALL book-ABS read-ICAUS-WIT
 ‘I made/let Aisha read the book just now.’

The indirect future causative of **mol** ‘drink’ is /mol-iit-adda/ ‘will allow to drink’ and of **d•oal** ‘go out’ is /aara-voal-iit-agva/ (V-class) ‘will allow to go out’. In these forms the underlying present stem is apparent, indicating that the future tense forms of these verbs are indeed built on the present stem at the morphophonemic level.

We thus have the following representation for the future tense:

| <u>Verb</u> | <u>Orthographic</u> | <u>Morphophonemic</u> | <u>Phonemic</u> | <u>Phonetic</u> | <u>Class</u> |
|---------------------------|---------------------|-----------------------|-----------------|-----------------|---------------|
| mol ‘drink’ | <margda> | {molagda} | /madda/ | [mUdd<<] | 6 mol |
| oal ‘say’ | <argda> | {oalagda} | /adda/ | [?Udd<<] | 5 loac |
| d•uul ‘go (iter.)’ | <durgda> | {duulagda} | /duudda/ | [du : d<<] | 4 duuc |

Verbs with other stem vowels are not affected:

| | | | | | |
|----------------------|------------|------------|------------|-----------|----------------|
| d•iel ‘laugh’ | <delargda> | {dielagda} | /dieladda/ | [diɿId<<] | 1 diesh |
|----------------------|------------|------------|------------|-----------|----------------|

1.3.2 Stem-final /-l/ and the anterior converb

Some verbs with stem-final /-l/ take the /-na/ allomorph as the anterior converb suffix. This seems to be partly conditioned by the quality of the preceding vowel. (It also appears that verbs

¹⁹The indirect causative is one of two distinct derived causative verb forms in Ingush, the other being the direct causative. Detailed descriptions of verbal derivations are beyond the scope of this paper.

with stem-final geminate /-ll/ do not take the /-na/ allomorph.²⁰) The following verbs exhibit this behavior:

| <u>Verb</u> | <u>Past Stem</u> | <u>Anterior Converb</u> | <u>Class</u> |
|--------------------------------|------------------|-------------------------|--------------------|
| mol ‘drink’ | mal- | manna | 6 mol |
| tuol ‘defeat’ | tiel- | tienna | 3 tuox |
| xul ‘be (non-durative)’ | xal- | xanna | (irregular) |
| lu ‘give’ | dal- | danna | (irregular) |
| tul ‘err’ | til- | tinna | 11 duz |
| oal ‘say’ | eal- | eanna | 5 loac |
| d•oal ‘go’ | deal- | deanna | 5 loac |
| d•uul ‘go (iter.)’ | diil- | diinna | 4 duuc |
| d•ovl ‘go (pl.)’ | dejl- | dejna | 8 lovz |
| miel ‘drink (iter.)’ | miil- | miinna | 1 dies& |
| tiel ‘give (iter.)’ | tiil- | tiinna | 1 dies& |
| liel ‘go around’ | liil- | liinna | 1 dies& |

The following verbs do not:

²⁰A number of verbs orthographically have <-ll> but are read with /-l/. This suggests historical instability in the /-l/, /-ll/ distinction, which might account for some of the irregularity exhibited in the anterior converbs.

| <u>Verb</u> | <u>Past Stem</u> | <u>Anterior Converb</u> | <u>Class</u> |
|---------------------------------|------------------|-------------------------|--------------------|
| xaal ‘AUX’ ²¹ | xeal- | xealaa | 1 laatt ? |
| jis&oal ‘get hoarse’ | xeal- | xealaa | 5 loac |
| loal ‘melt; found’ | leal- | lealaa | 5 loac |
| qoal ‘gild, cover’ | qeal- | qealaa | 5 loac |
| q’ovl ‘close, cover’ | qejl- | qejlaa | 8 lovz |
| qoall ‘swallow’ | qeall- | qeallaa | 5 loac |
| ull ‘lie’ | ill- | illaa | 10 ull |
| d•ull ‘put’ | dill- | dillaa | 11 duz |
| tull ‘put on’ | till- | tillaa | 11 duz |
| d•ul ‘wash’ | dil- | dilaa | 11 duz |
| d•uoll ‘insert’ | diell- | diellaa | 3 tuox |
| quoll ‘cover’ | qiell- | qiellaa | 3 tuox |
| uoll ‘hang’ | iell- | iellaa | 3 tuox |
| d•oall ‘be (located)’ | deall- | deallaa | 5 loac |
| loall ‘drive (Sg.)’ | leall- | leallaa | 5 loac |
| d•iel ‘laugh’ | diil- | diilaa | 1 dies& |
| d•iell ‘open’ | diill- | diillaa | 1 dies& |

The listing above demonstrates that verb stems ending in /-l/ always take the /-aa/ allomorph.

Of the verbs in /-l/, the situation appears somewhat chaotic, with **Class 5** and **Class 8** verbs appearing in both categories. No clear conditioning factor is evident, and the choice of allomorph appears to be lexically determined.

²¹This auxiliary appears only in the verb **ca xaal** ‘set teeth on edge’. Its meaning is unclear.

1.4 The iterative aspect

Ingush verbs may take on an *iterative aspect*. The semantics of the iterative aspect may be roughly translated with the English adverbial phrase ‘many times’. The iterative aspect is in opposition to the unmarked *simulfactive aspect*. This iterative/simulfactive contrast is independent of the imperfective/perfective contrast reflected in the past and present stems of Ingush verbs. The following four sentences illustrate the use of the simulfactive and iterative verb forms in both the witnessed past and imperfect tenses.

Iterative witnessed past:

- (16a) **Muusaa-z** **ajsa-z** **h@qisa-cæ** **burgac-Ø**
 Musa-ERG Aisha-ERG here-throw.PAST.Nx-when ball-ABS
h@lic-ar
 here-catch.PAST-WIT.Nx
 ‘When Aisha threw the ball to Musa, he caught it (many times).’

Iterative imperfect:

- (16b) **Muusaa-z** **ajsa-z** **h@qisa-cæ** **burgac-Ø**
 Musa-ERG Aisha-ERG here-throw.PAST.Nx-when ball-ABS
h@huc-ar
 here-catch.Nx-IMPF
 ‘When Aisha would throw the ball to Musa, he would catch it (many times).’

These can be compared with the corresponding simulfactive forms:

Simulfactive witnessed past:

- (17a) **Muusaa-z** **ajsa-z** **h@qjsa-c&a** **burgac-Ø**
 Musa-ERG Aisha-ERG here-throw.PAST.1x-when ball-ABS
h@leac-ar
 here-catch.PAST.1x-WIT
 ‘When Aisha threw the ball to Musa, he caught it (once).’

Simulfactive imperfect:

- (17b) **Muusaa-z** **ajsa-z** **h@ejsa-c&a** **burgac-Ø**
 Musa-ERG Aisha-ERG here-throw.PAST.1x-when ball-ABS
h@loac-ar
 here-catch.1x-IMPF

‘When Aisha would throw the ball to Musa, he would catch it (each time).’

The iterative aspect may be expressed either lexically or morphologically. Verbs may be classed as either *lexically simulfactive*, *lexically iterative*, *inflectionally iterative*, or *invariant*.

Among lexicalized verb pairs are the following:

Lexically Simulfactive

d•uoz& ‘fall (sim.)’

luo ‘give (sim.)’

tuox ‘hit (sim.); strike’

oal ‘say’

Lexically Iterative

lieg ‘fall (iter.)’

tiel ‘give (iter.)’

d•iett ‘hit (iter.); beat’

d•uuc ‘talk’

The difference between the members of a pair is illustrated in (18):²²

- (18a) **Muusaa-z** **b iexal-aa** **q’artuo-Ø** **tuox-Ø**
 Musa-ERG snake-DAT stone-ABS hit(.1x)-PRES
 ‘Musa hits the snake with a stone (one blow).’

- (18b) **Muusaa-z** **b iexal-aa** **q’artuo-Ø** **Biett-Ø**
 Musa-ERG snake-DAT stone-ABS hit(.Nx)-PRES
 ‘Musa beats the snake with a stone (many blows).’

Lexically iterative verbs are always either **Class 1 dies&** verbs or **Class 4 duuc** verbs.

As demonstrated in Table 2, inflectionally iterative verbs are always in Classes 5 through 8 (**loac**, **mol**, **lat**, **lovz**).²³ The iterative inflections of the **loac** and **lovz** classes are themselves **Class**

²²In interlinears, I indicate lexically simulfactive and lexically iterative stems by placing the abbreviations 1x and Nx in parentheses.

²³In fact, it seems that the majority of verbs in these classes can undergo an iterative inflection.

A lexically simulfactive verb can be distinguished from an invariant verb in that the former does not accept the use of the adverb /**duqqaz**/ ‘many times’. Compare (20b) above with (21):

- (21) **Muusaa-z** ***duqqaz** **b iexal-aa** **q’artuo-Ø** **tiex-ar**
 Musa-ERG *many.times snake-DAT stone-ABS hit(.1x).PAST-WIT
 ‘Musa hit the snake with a stone (one blow) *many times.’

In order to retain /**doqquz**/ in (21), the iterative form /**Biittar**/ of **d•iett** ‘hit (iter.); beat’ would have to be used.

1.5 The plural inflection

In addition to the inflections for tense and aspect described above, some Ingush verbs inflect for number. These verbs may be said to have *singular* and *plural* forms, where the singular form is unmarked. The plural form reflects either multiple action or agreement with a plural noun in the absolutive.

The plural inflection may be marked by a change in vowel quality, by a change in the stem-final consonant, or both. In the case of verb stems which end in /-l/ (or /-ll/), the plural form is marked by a change of the stem-final consonant to /-xk/. For other stem-final consonants, the change does not appear to be regular. The following table lists a number of verbs which have a distinct plural inflection, along with their iterative and plural iterative forms, if they exist.

| <u>Gloss</u> | <u>Singular (Citation)</u> | <u>Plural</u> | <u>Iterative Singular</u> | <u>Iterative Plural</u> |
|--------------|----------------------------|---------------------|---------------------------|-------------------------|
| take; steal | d•oaqq | d•oax | | |
| break | ieqq | lielx ²⁵ | | |
| run | d•od | d•ovd | ud | |
| sprinkle | toss | tovs | tuus | |
| chase; drive | loall | loaxk | ²⁶ | liexk |
| hang up | uoll | uoxk | | |
| insert | d•uoll | d•uoxk | | |
| put | d•ull | d•oxk ²⁷ | | |
| be (located) | d•oall | d•oaxk | | |
| swallow | qoall | qoaxk | | |
| lie | ull | uxk | | |

Preliminary inspection of the data suggests that only verbs with non-front vowels may take a plural inflection.

2.0 Historical considerations

We are now ready to discuss the historical origins of the morphological alternations described in the preceding sections. An understanding of these historical processes will set the stage for the the comparison of Ingush and Chechen verbal paradigms carried out in Section 3.

2.1 Historically periphrastic verb tenses built on converbs

Three of the Ingush verb tenses described in Section 1.1 are formed historically through a combination of converbs and the verb **d•y** ‘be (durative)’. The *progressive* (see Example (5)

²⁵These forms do not appear to be morphologically related.

²⁶Chechen has an iterative singular form *liellan*. The equivalent Ingush form ***liell** is unattested.

²⁷The reason for the vowel change is unclear.

above) is formed through combination of auxiliary **d•y** with the simultaneous converb. The *future* is formed by attaching the suffix {-agDa} to the present stem; the {Da} portion of this suffix is derived from **d•y**.²⁸ The perfect is formed by suffixing the agreement marker {-D} to the anterior converb; again, this marker is derived from **d•y**. (See Table 1 and Example (5) above.) For example, the progressive, future, and perfect forms of the verb **loac** ‘to catch’ are, respectively, *loacaz& dy*, *loacadddeacaad*.

Note the three degrees of fusion of the verb **d•y** ‘be (durative)’ in these tense forms. It still functions as a fully independent auxiliary when combining with the simultaneous converb to form progressives. Its independence is evident in that it agrees in noun class with its subject (not the object of the main verb), which in turn is in the absolutive and never the ergative case. (These noun-class agreements are illustrated in (22) below; /Muusaa/ is V-class and /xii/ is D-class.) In the orthography the auxiliary is written as a separate word and is pronounced with full stress.

- (22) **Muusaa-Ø** **hanɹ** **xii-Ø** **mol-az&** **Vy**
 Musa-ABS now water-ABS drink-SCV is
 ‘Musa is drinking water now.’

In the future tense, verb **d•y** has been cliticized and has lost much of its syntactic independence. The vowel quality is reduced to /a/ and the verb retains its original valence. The class marker agrees with the absolutive subject or object of the main verb, always matching the stem-initial class agreement marker on the main verb (if one is present). This can be seen in (7), repeated here as (23).

- (23) **Muusaa-z** **qoana** **kuor-Ø** **Diel-adDa**
 Musa-ERG tomorrow window-ABS open-FUT
 ‘Musa will open the window tomorrow.’

Finally, **d•y** has essentially been reduced to an affix in the perfect tense. As in the future tense it does not affect the valence of the main verb. Phonologically it is even further reduced.

²⁸The {ag} portion of the suffix is derived from the future participle suffix *-rg.

The vowel is completely elided leaving only an agreement marker, and in the J- and V- classes this consonant may even become fully vocalized, as seen in the endings /-nii/ and /-nuu/. (24) illustrates the perfect tense:

- (24) **Muusaa-Ø** **sielxan** **lejj-aaV**
 Musa-ABS yesterday play.PAST-PERF
 ‘Musa played yesterday.’

Three different phases in the grammaticalization process of **d•y** are represented in these three forms. The present progressive tense reveals the earliest stage, the periphrastic construction which is syntactically and semantically transparent. The future tense represents the second stage, when cliticization and phonological reduction have taken place. In the third stage represented by the perfect tense, the origin of the fused ending is all but obscured.

2.2 Ingush ablaut and its historical origins in umlaut

The vowel changes observed in Ingush verb paradigms presented in Table 2 have their origin in umlaut. Specifically, the present and past stem vowels were conditioned by assimilation to the frontness or roundedness of suffixed vowels, which subsequently became reduced or elided. Historically, the root vowel was preserved in the infinitive, was rounded or fronted in the present stem, and was fronted in the past stem, due to the following affixes:²⁹

| | <u>Infinitive</u> | <u>Present</u> | <u>Past</u> |
|-------------|-------------------|----------------|-------------|
| Paradigm 1: | *-a> | *-u | *-ira |
| Paradigm 2: | *-a> | *-i | *-ira |

From a synchronic point of view, the question of whether these vowel changes should still be considered umlaut deserves some discussion. Nichols (1994b:89) describes the changes in Ingush as “[u]mlaut. Certain root vowels assimilate to the height, frontness, and/or rounding of a

²⁹See Nichols 1994a:16.

following **-i* or **-u*. (The conditioning vowel then undergoes posttonic reduction.)” This analysis may be unduly influenced by historical considerations.

A brief analysis of the eleven Ingush verb classes presented in Table 2 reveals that in all cases the past stem vowel is the fronted counterpart of the present stem vowel:

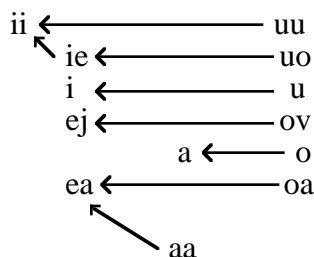


Figure 4. Fronting of past stem vowels.

(Here /*ie*/ is the fronted counterpart of /*uo*/ as well as being frontable to /*ii*/. /*a*/ patterns with the front vowels, taking the place of the marginal phoneme /*e*/³⁰. /*ii*/ is the fronted counterpart of both /*uu*/ and /*ie*/, and /*ea*/ of both /*oa*/ and /*aa*/.)

Thus we could identify this process—the derivation of the past stem from the present stem—synchronically as umlaut *if* we were willing to make two assumptions. First, we would need to posit the continued existence of an underlying high front vowel {*i*} affixed to the past stem (or incorporated in the tense suffixes associated with the past stem). Second, we would have to regard the present stem vowel as the root vowel; in other words, we would have to argue that the underlying phoneme being fronted by the affix {*i*} is the present stem vowel and *not* the infinitive vowel. If we were to try to derive the past stem vowel directly from the infinitive vowel, we would be unable to explain the different past stem reflexes of infinitive /*a*/ in Classes 6, 7, and 10.

Even if we are willing to make these two assumptions, however, we run into problems when we try to account for either (1) the present stem vowels in terms of the infinitive stem vowels, or (2) the infinitive stem vowels in terms of the present stem vowels. In either case the vowel

³⁰In other morphophonological environments in Ingush, /*a*/ may pattern with the back vowels.

alternations are not strictly predictable—see Classes 6, 7, 10, and 11 in Table 2. For example, the verbs **mol** ‘drink’, **lat** ‘fight’, and **ull** ‘lie’ all have the vowel **-a-** in the infinitive, but have different vowels in the present stem. The verbs **ull** ‘lie’ and **d•uz** ‘fill’ both have the vowel **-u-** in the present, but have different vowels in the infinitive. Moreover, no simple rule of phonological change—whether fronting, raising, rounding, unrounding, or some combination of these—can consistently derive the infinitive vowel from the present stem vowel.³¹ And it is precisely this quality of *mechanical derivation* that must be present if we want to characterize the alternations as umlaut.

For all these reasons the system as a whole is best viewed synchronically as one of ablaut, not umlaut. The verb paradigms are better described by a simple listing of the vowel alternation patterns in the stems (as in Table 2) than by positing underlying factors which phonologically condition the root vowel.

It is worth making a comparison here with Chechen, which is closely related to Ingush. According to the synchronic analysis by Beerle (1986), all Chechen verb forms are derived from three stems, as in Ingush, which differ only in the stem vowel (Beerle 1986:10). Beerle classifies all regular Chechen verbs into one of two “conjugations”, based on the alternation of the present-stem vowel and the infinitive-stem vowel. In the first conjugation this relationship is one of “fronting”, and in the second one of “rounding and lifting” (Beerle 1986:14). While these two classes do not correspond perfectly with the two classes of verbs that take present-tense ending **/-a/** and present-tense ending **/-u/**, they still demonstrate the quality of *mechanical derivation*, coupled with a conditioning environment, which would permit a synchronic description of “umlaut”. This kind of bipartite classification of verbs is not possible in Ingush.³²

³¹The difficulty is compounded when we consider also verb subclasses like **4a -uu duu**.

³²If we wished to sacrifice a certain amount of regularity in our description of Ingush verbs, we could also adopt a two-conjugation classification scheme. Conjugation One would consist of those verbs which have the same infinitive- and present-stem vowels, i.e. Classes 1, 2, 3, 4, 7, 8,

Looking again at Table 2 and Figure 4 notice that the past stem vowel is predictable from the present stem vowel in all cases. The infinitive stem vowel is predictable from the present stem vowel except when the latter is /u/. For this reason the present stem is preferable to the infinitive as a citation form, because in almost all cases it is sufficient to unambiguously indicate the conjugation class of the verb.

2.3 Stem-Final /-l/

In Section 1.3 it was noted that verb stems with final /-l/ display somewhat aberrant behavior in the formation of the future tense and the anterior converb. For example, the verb **oal** ‘to say’ has present stem *oal-* and past stem *eal-*. The future tense form, formed from the present stem, is *adda* instead of the more canonical **oaladda*, and the anterior converb, formed from the past stem *eal-*, is *eanna* instead of the expected form **ealna* or **ealaa*. These behaviors can be simply explained with reference to a few historical developments.

and 9. Conjugation 2 would consist of those verbs whose present-stem vowels are rounded counterparts of the infinitive-stem vowels, i.e. Classes 5, 6, and 11. This would force us to declare all Class 4a and Class 10 verbs as irregular. This scheme would also obscure the importance of the fact that synchronically a verb’s alternations can be uniquely identified by the present stem form, so that in some sense it would be a weaker descriptive tool. (In other words, it fails to account for the fact that the rounded counterpart of a Conjugation Two infinitive-stem vowel is never itself a Conjugation One infinitive-stem vowel—a phenomenon that suggests there has historically been analogic leveling based on the present-stem vowel.) Nevertheless, this type of analysis might be useful for developing a unified synchronic Chechen-Ingush verb classification scheme.

2.3.1 Stem-final /-l/ and the future tense

The future suffix /-ag/ originates in *-rg, which is still preserved in the Ingush orthography. When affixed to a verb stem with final *-l, the resulting cluster would be *-lrg. I propose that after back vowels, the velarized *-l fused easily with *-r-, leaving only a final *-rg. After front vowels, *-l was not velarized, and maintained its independence in the cluster. The *-r- dropped out at a later stage. Using <uu> to represent any back vowel and <ii> any front vowel, we have the following historical developments:

*-uulrg > *-uurg > -uug
*-iilrg > *-iilrg > -iilag

The centralization of vowels /o/ and /oa/ in the future tense is probably unrelated to the disappearance of /-l/, and may be attributed to the more recent loss of /-r-/. To adequately test this hypothesis, we would need to find an otherwise regular verb with present stem ending in /-o/ or /-oa/; it does not appear that Ingush has any such verbs.

2.3.2 Stem-final /-l/ and the anterior converb

The anterior converb suffix was historically *-ina. The form is still preserved in Chechen. The two Ingush allomorphs /-aa/ and /-na/ suggest that the historical development of this suffix was driven primarily by vowel reduction:

(1) *-ina > *-<na

For most verb stems, the development afterwards was quite straightforward (here C represents a stem-final consonant other than /n/ or /l/):

(2) *-C<na > *-C<\$a > *-C<a > -Caa

But after rule (1) had taken place, the schwa dropped out for stems ending in a vowel, in /-n/, or in /-l/ (except after high front vowels). The early loss of the schwa led to the preservation of the following nasal. Phonetically this development is quite plausible. Finally, the remaining *-a underwent reduction:

(3) *-V<na > *-Vna > -Vna

*-n«na > *-nna > -nna

*-l«na > *-lna > -nna

2.4 The iterative and plural inflections

The fact that all iterative and plural verb forms, whether lexical or inflectional, belong to a limited number of verb classes, suggests that all lexically iterative and plural forms were originally derived from simulfactive and singular forms, respectively, with subsequent loss or suppletion of those unmarked forms. This in turn suggests that iteratives and plurals were probably originally the product of some sort of affixation, especially given the historically agglutinative nature of Ingush. The high vowels found in the iterative forms, and the back consonants found in many plural forms, reinforce this supposition, since they look very much like the results we would expect from processes of affixation, umlaut and fusion.

Unfortunately, a complete exploration of the historical processes involved in the development of these inflectional forms will have to await further research.

3.0 Comparison of Ingush and Chechen verb paradigms

An examination of Chechen verb paradigms coupled with an analysis of Chechen and Ingush verb cognates reveals the historical origins of the Ingush verb paradigms, sheds light on phonological changes currently under way in Ingush, and illuminates the reasons why the historical process of umlaut has become obscured in Ingush, as described in Section 2.2.

This study differs from previous historical examinations (such as Nichols 1997b) in both its scope and approach. It is concerned not with the comparison and reconstruction of individual phonemes or morphophonemes, but rather of verbal paradigm vowel alternations considered as units of comparison. While it would be necessary to consider data from a variety of Chechen dialects in order to carry out a general reconstruction of Proto-Chechen or Proto-Chechen-Ingush, for the purposes of this study it is sufficient to rely on a single Chechen dialect (Plains Chechen) which preserves all the historical distinctions holding between verb paradigms.

Chechen is very closely related to Ingush. According to Nichols (1994b), “the two languages form a single speech community with most speakers of each language having at least a passive command of the other”. Chechen has a richer and more conservative vowel inventory than Ingush, including a number of front rounded vowels which have all disappeared in Ingush. Of the Chechen dialects, Plains Chechen, the dialect on which the literary language is based, “has the fullest implementation of umlaut and the largest vowel inventory” (Nichols 1997b:941), and is therefore preserves all the distinctions necessary for meaningful comparison with Ingush verb paradigms.

To carry out the analysis, I have assembled a database of Ingush and Chechen verb cognates which will be described in more detail in Section 3.2.

3.1 Internal reconstruction of Chechen verb classes

Before proceeding with a comparison, I will first present the verb classes of Chechen. The following charts list, for each class, the vowel alternations as described by Nichols, Beerle, and Komen. My own Proto-Chechen notation, based on internal reconstruction, is provided in the last column. These reconstructed forms are of critical importance in the comparison with Ingush, and have been incorporated into the cognate database.

In Chechen verb paradigms, the process of umlaut remains largely transparent. The infinitive ending */-an/* has no effect on the root vowel. There are two present tense endings, one in */-u/* and one in */-a/ < *-i/*; their use is lexically conditioned.³³ The aorist (equivalent to the Ingush witnessed past tense) ending is */-ira/*. The present tense ending */-u/* has a regularly predictable

³³The reconstruction of **-i* for the present tense ending */-a/* is based on the observed effects of umlaut and comparison of Chechen dialects. See Nichols 1985 and Nichols 1997b. Nichols (1985) notes that Chechen verbs which take the present ending */-a/* are overwhelmingly intransitive, and suggests that this class of verbs be considered marked; however, she finds no compelling evidence that verbs in this class are derived from verbs in the */-u/* class.

rounding effect on the root vowel. The aorist ending and the present tense ending /-a/ have regularly predictable fronting effects on the root vowel.

For this reason, in contrast to the eleven verb classes of Ingush, Chechen can be analyzed as having only two: those which take the /-u/ present suffix, and those which take the /-a/ present suffix.

Table 3 below is a chart of regular verb alternations. The number in the left column is an arbitrary designation for the Chechen verb class. (Although, as noted above, two broad verb classes—which I will refer to as Type A and Type B—are sufficient for a description of Chechen, I have labeled each distinct vowel alternation as a separate class in order to facilitate discussion and comparison with Ingush.) Following this is a code indicating which verb stem types appear in this verb class. ‘C’ indicates stems with a single final consonant. ‘CC’ indicates stems with a cluster or geminate³⁴ final consonant. ‘ ’ indicates stems which are pharyngealized, i.e. have either /h / or / / (in Komen’s notation) as either the initial or final consonant.

The example verb column contains the English gloss of a common Chechen verb representative of the class. To match the gloss in the Example Verb column with the Chechen verb, see Appendix II.

The next three columns give the vowel alternations of the verb class according to Nichols (1994a:6,16-19), Beerle (1988), and Komen (1996). Note that the information provided by Nichols is incomplete. The vowel systems and orthography of each author are summarized following the chart.

The last column gives my “Proto-Chechen reconstruction”. Because these forms have not been established based on comparison of Chechen dialects, they cannot be considered a true reconstruction of Proto-Chechen, nor do I make any claim that they are. Rather, they are a morphophonemic abstraction which groups together verb classes of common origin in a way that

³⁴For simplicity, I will refer to both cluster and geminate consonants as "cluster consonants" in the rest of this paper.

makes them suitable for comparison with Ingush. Alternatively, they could be considered to represent the verb paradigms of “Proto-Plains-Chechen” based on internal reconstruction.

The heuristic value of these forms is borne out by the fruits of the comparison to Ingush which they make possible, as will be seen below. Thus, for simplicity and the purposes of this study, I will refer to these forms as “Proto-Chechen” and henceforth dispense with the quotation marks.

Each Proto-Chechen class is identified with a capital letter. The methodology and reasoning behind the establishment of these proto-classes is also discussed below.

The double line separates Type A verb classes (characterized by the suffix /-a/ in the present tense and concomitant fronting of the infinitive stem vowel) from Type B verb classes (characterized by the suffix /-u/ in the present tense and concomitant rounding of the infinitive stem vowel). The thick horizontal lines serve to group together those verb classes which in my proto-forms differ from each other only in vowel length.

| Class/Stem type | Example Verb | Nichols | Beerle | Komen | Handel *Proto | |
|--------------------------|-----------------------|-----------|-----------|------------------------------|-----------------------------|--------|
| 1 CC/ only | ‘stare’ ³⁵ | a-a :-a | *a-a -a | a-ae-ae () aa-ae-ae (CC) | a-e-e () aa-ee-ee (CC) | A B |
| 2 C/CC only | ‘catch fire’ | a-e-e | a-e-e | a-e-e | a-e-e | A |
| 3 C/ only | ‘learn’ | a:-e:-e: | a@-e@-e@ | aa-ee-ee | aa-ee-ee | B |
| 4 CC only | ‘beat/milk’ | ye-ye-i | e-e-i | ie-ie-i | ie-ie-ii | C |
| 5 C/ only | ‘walk around’ | ie-ie-i: | e@-e@- @ | ie-ie-ii | ie-ie-ii | C |
| 6 C/ only | ‘shriek (iter.)’ | | @- @- @ | ii-ii-ii | ii-ii-ii | D |
| 7 CC only | ‘seem’ | | o-o -o | uo-ye-ye | uo-ye-ye | E |
| 8 C only | ‘win’ | | o@-o -u | uo-ye-yy | uo-ye-ye | E |
| 9 only | ‘ache’ | | ow-a w-a | wv-ov-ev | ov-ev-ev | F |
| 10 C only ³⁶ | ‘get sour’ | | ow-ew-ew | ov-ov-ev | ov-ev-ev | F |
| 11 CC/ only | ‘extract’ | | a-o-a | a-o-ae () aa-oo-ae (CC) | a-o-e () aa-oo-ee (CC) | G H |
| 12 C/CC only | ‘drink’ | a-o-e | a-o-e | a-o-e | a-o-e | G |
| 13 C only | ‘say’ | a:-o:-e: | a@-o@-e@ | aa-oo-ee | aa-oo-ee | H |
| 14 CC only ³⁷ | ‘cry’ | ie-u o - | ie-o -i | ie-ye-i | ie-ye-ii | I |
| 15 C/ only | ‘read’ | ie-u o - | ie@-o - @ | ie-ye-ii | ie-ye-ii | I |
| 16 all | ‘lie down’ | i-u -i | i-u -i | i-y-i | i-y-i ii-yy-ii (some CC) | J K |
| 17 C/ only | ‘talk’ | i:-u :-i: | @-u - @ | ii-yy-ii | ii-yy-ii | K |
| 18 CC/ only | ‘stand up’ | wo-u-w o | o-u-o | uo-u-ye | uo-uu-ye | L |
| 19 C/ only ³⁸ | ‘hit’ | uo-u:-u | :o@-u@-u | uo-uu-yy | uo-uu-ye | L |

³⁵There is disagreement about the classification of the verb *laattan* ‘stand’. Beerle and Komen place it in class (1), while Nichols lists it as class (3).

³⁶Based on comparison with the Type B equivalent class (23), I assume that the lack of ‘CC’ verbs in class (10) is an accidental gap.

³⁷There is one exception: the verb *iexan* ‘move’, cognate to Ingush **ux** ‘flow, go’, does not end in a cluster.

³⁸We would not expect classes (18) and (19) to both contain verbs with ‘ ’, since otherwise they appear to share a common origin. This discrepancy may be related to the fact that the aorist stem vowel of class (18) is not the expected short equivalent of the aorist stem vowel in class (19).

| | | | | | | |
|--------------|---------------|----------|-----------|-----------|-----------------------------|--------|
| 20 all | ‘fill’ | u-u-u | u-u-u | u-u-y | u-u-y uu-uu-yy (some CC) | M N |
| 21 C only | ‘dress’ | u:-u:-u | ʔu@-u@-u | uu-uu-yy | uu-uu-yy | N |
| 22 only | ‘spin thread’ | | ow-ow-a w | ov-ov-aev | ov-ov-ev | O |
| 23 C/CC only | ‘play’ | ow-ow-ew | ow-ow-ew | ov-ov-ev | ov-ov-ev | O |

Table 5. Comparative chart of “regular” Chechen verb classes.

The Chechen vowel system transcriptions of Nichols, Beerle, and Komen are largely commensurate, with some key differences. Some differences are purely orthographic (as in the notations representing long vowels), while others represent differing analyses.

Unlike Beerle and Komen, Nichols carries the vowel length distinction through all the simple vowels. Nichols uses the glide symbols <y> and <w> in place of <i> and <u> to indicate the short vowel counterparts of /ie u o uo/, which are historically monophthongs but are now realized with a diphthongal pronunciation. These short vowels occur in only a very limited environment (see Classes 4 and 18 in Table 5). Beerle instead classifies the diphthongs as short vowels without long counterparts. Beerle’s notation also lacks a long counterpart to /a /, and fails to distinguish /uo/ from /o/ (writing both as <o>) and /ie/ from /e/ (writing both as <e>). Komen does not record a length distinction for the four simple vowels /ie ye uo ae/³⁹.

My notation is based on Komen. This is to preserve some compatibility with his Practical Chechen Orthography and to facilitate comparison with Ingush forms transcribed in Ingush Practical Orthography. The vowel phonemes appearing in Proto-Chechen verb paradigms are given in the following chart:

³⁹Note that for Nichols <ye> represents the shortened counterpart of front unrounded vowel /ie/, while for Komen <ye> represents the front rounded counterpart of /uo/. In Nichols’ transcription, fronting is consistently indicated by umlauts.

| Monophthongs | | | Diphthongs | |
|--------------|----------------------|-------------|--------------|-------------|
| <u>front</u> | <u>front rounded</u> | <u>back</u> | <u>front</u> | <u>back</u> |
| i ii | y yy | u uu | | |
| ie | ye | uo | | |
| e ee | | o oo | ev ej | ov oj |
| | | a aa | | aj |

The interpretation of /ie ye uo/ as long vowels lacking phonemic short counterparts will be justified below.

The proto-forms listed on the right-hand side of Table 5 are arrived at through analysis of the distribution of the verb stem types labeled ‘C’, ‘CC’, and ‘ ’. For example, consider the classes (14) ‘cry’ and (15) ‘read’. As indicated by Nichols’ notation, the original stem vowel in both these cases is long (/ie/ in the infinitive). When the verb stem ends in a cluster or geminate, however, the aorist stem vowel becomes short /i/. Beerle has gone so far as to write the entire alternation pattern as short.

The important thing to note, however, is that the stem types are in complementary distribution, with ‘CC’ occurring only in class (14) and ‘C’ and ‘ ’ only in class (15). This is indicative of common origin with environmentally conditioned divergence. Even synchronically, one could argue that the past stem vowel in (14) is simply an environmentally conditioned shortened allophone [i] of /ii/. Both classes can therefore be reconstructed with the single alternation pattern *ie-ye-ii, which I have labeled type I. There is no short counterpart to this alternation pattern; this is not surprising, since there is no short counterpart to the infinitive stem vowel /ie/.

As a second example, consider the classes (16) ‘lie down’ and (17) ‘talk’. The latter does not contain any stems with cluster or geminate finals; however, we do not find the same pattern of complementary distribution that is found in classes (14) and (15). This means that these two classes do not share a single common origin. Since we have already observed that original long vowel /ii/ may become shortened before consonant clusters, we can conclude that in the

environment of ‘CC’ type stems the entire *ii-yy-ii alternation pattern has shortened and merged with the original *i-y-i pattern.

This means that some, but not all, verbs in class (16) with ‘CC’ type stems derive originally from long vowels, and should be grouped historically with class (17), while others derive originally from short vowels. The only way to assign the correct proto-class to a particular Chechen verb is by comparison with a related language such as Ingush. (See Section 3.2.2 below.)

It is interesting to note the lack of an /i-i-i/ paradigm, the expected short-vowel counterpart of class (6), just as class (16) is the short-vowel counterpart of (17). This is clearly related to the fact that class (6) lacks /ii-ii-ii/ verbs with ‘CC’ stems. Evidently the short counterpart of (6), as well as those verbs historically in class (6) which originally had ‘CC’ stems, merged into some other class; however, I am unable at this point to identify such verbs with certainty.

The most complex case is illustrated by the first three verb classes, (1) ‘stand’, (2) ‘catch fire’, and (3) ‘learn’. The pattern here might be described as overlapping partial complementary distribution. Each class contains exactly two of the three stem types ‘CC’, ‘C’, ‘ ’. (Phrased another way, each lacks exactly one of the three stem types.) Based on the findings of the previous two examples, I hypothesize that there were originally two classes, differing only in length: *aa-ee-ee and *a-e-e. In the long class, the vowels were shortened and lowered in ‘CC’ type stems, entering class (1). In the short class, pharyngealization caused lowering of *e to /ä/, and these verbs too entered class (1). Class (1) is thus entirely secondary; its ‘CC’ stems derive from the original long conjugation, and its pharyngealized stems derive from the original short conjugation. (Komen’s notation actually captures this development, perhaps indicating that there remain traces of it in current pronunciation.)

Continuing in this way, the twenty-three regular conjugation classes of Chechen can be reduced to eleven proto-classes, with four of these containing a length distinction, for an expanded total of fourteen. These may be summarized as:

A a-e-e / B aa-ee-ee

C ie-ie-ii

D ii-ii-ii

E uo-ye-ye

| | | | |
|------------|----------------------|------------|----------------------|
| F ov-ev-ev | G a-o-e / H aa-oo-ee | I ie-ye-ii | J i-y-i / K ii-yy-ii |
| L uo-uu-ye | M u-u-y / N uu-uu-yy | O ov-ov-ev | |

The identifying letters are listed in a column to the right of Table 5. I will henceforth refer to these proto-classes by letter, and dispense with any preceding asterisks.

We can now turn our attention to irregular verbs, shown in Table 6. Although irregular, many of these verbs exhibit similar behavior in their vowel alternations, and some grouping into classes is possible. The figure in parentheses in the left column indicates the number of verbs which are in the category. In addition to the symbols ‘C’, ‘CC’, and ‘ ’ which have the same meaning as in Table 5, the apostrophe ‘’ indicates the presence of a glottal stop in the root. To match the gloss in the Example Verb column with the Chechen verb, see Appendix II.

| Class/Stem type | Example Verb | Nichols | Beerle | Komen | Handel *Proto | |
|-----------------|----------------|---------|------------------|------------------|----------------------------|---|
| 1 (1) | ‘rest’ | | a-a-i | a-a-i | a-a-i | T |
| 2 '(1) | ‘be deposited’ | | a-a -a | a-ae-ae | a-e-e (A) | U |
| 3 '(2) | ‘wish’ | | a-a - @ | a-ae-i | a-a-i | T |
| 4 /'(1) | ‘bring’ | | a@-a- <i>ea</i> | aa-a-e | a-a-e | Y |
| 5 (1) | ‘rest (iter.)’ | | e@-a- @ | ie-a-ii | ie-ie-ii (C irr.) | X |
| 11 (1) | ‘carry off’ | | a(o)-a | a-(o)-ae | a-o-e (G) | S |
| 12 C (1) | ‘give’ | | a(o)-e | a-(o)-e | a-o-e (G) | S |
| 13 ', no -C (4) | ‘eat’ | | a-o- @ | a-o-i | a-o-e (G) | S |
| 14 C (1) | ‘go’ | | a-o -a | a-ye-a | | X |
| 15 CC (1) | ‘come (pl.)’ | | a-o-a | aa-oo-ae | aa-oo-ee | V |
| 16 '/no C (1) | ‘come (sg.)’ | | a@-o@- <i>ea</i> | aa-oo-e | aa-oo-ee | V |
| 17 no -C (4) | ‘lose’ | | a@-ow-ay | aa-ov-aj | aa-ov-aj (G) ⁴⁰ | R |
| 18 ', C (3) | ‘call out’ | | ay-oy-ay | aj-oj-aj | aj-oj-aj | Q |
| 19 '(1) | ‘understand’ | | i-u -i | i-y-i | i-y-i J | X |
| 20 no -C (8) | ‘knead’ | | e@-o - @ie-ye-ii | | ie-ye-ii (J) ⁴¹ | P |
| 21 '(1) | ‘lift (iter.)’ | | @-u - @ii-yy-ii | | ii-yy-ii K | X |
| 22 no -C (1) | ‘smash’ | | o@-o@-oy | uo-uo- <i>oj</i> | uo-uu-yy (N) | X |
| 23 '(2) | ‘suffice’ | | o-o -o | uo-ye-ye | uo-ye-ye (E) | W |

Table 6. Comparative chart of ‘irregular’ Chechen verb classes.

Beerle’s and Komen’s transcriptions diverge widely when it comes to irregular verbs. This is presumably because they are working with different dialects and/or written versus spoken forms. I tend to think Komen’s transcriptions are more trustworthy; on the other hand, if Beerle’s are based more on written forms, they may be more conservative.

The vast majority of the Chechen irregular verbs have a verb stem with no final consonant, or with a final glottal stop. This is no doubt the major cause of irregular vowel development.

⁴⁰Because there is no final consonant, we have *Ca-an, *Ca-u, *Ca-ina > Caan, Cou, Caina > Caan, Cov, Cajna. Thus this type is actually the same as **G a-o-a** with no final consonant.

⁴¹This is just regular type **I ie-ye-ii**, with no final consonant.

All verbs designated with letters **P** through **Y** are traditionally viewed as irregular. Types **P**, **Q**, **R**, and **S**, however, show regular patterns and correspondences. Each type has at least three verbs, and it may be appropriate to consider these as perfectly regular. The letters in parentheses in the Handel column of the chart indicate the regular class to which forms may originally have belonged. For example, **R** can be analyzed as a subclass of **G** (lacking a stem-final consonant) and **P** as a subclass of **J** (lacking a stem-final consonant).

The forms in the Handel column are more speculative than for the regular verbs; some are pure guesses which will have to await further comparison for verification or rejection. Until then, they can function purely schematically as a means of grouping forms.

Designations with **X** have only a single exemplar, and should not be considered part of a unitary class. Verbs in the **X** category must be assessed individually.

3.2 Ingush-Chechen cognates and their historical origins

Using the data in the Ingush Lexical Database (Nichols 1997) and from Beerle and Komen, I have assembled a database of Ingush and Chechen verb cognates.⁴²

As of this writing, the database of Ingush-Chechen cognates contains a total of 388 Chechen verb forms and 320 Ingush verb forms. (These include separate entries for iterative and plural inflections.) Out of these 708 forms, 261 cognate sets have been identified.

Each record in the database contains an Ingush-Chechen cognate pair, an Ingush form lacking a Chechen cognate, or a Chechen form lacking an Ingush cognate, for a total of 445 records.⁴³

⁴²I am grateful to Professor Nichols for her assistance in the identification of many cognates. It is my intention to make this database available on the world wide web as an adjunct to this article.

⁴³The mathematically inclined reader will note a slight discrepancy in numbers here, since 708 - 261 is 447, not 445. This is because in two cases the same Ingush form has been assigned as a potential cognate to two different Chechen verb forms.

Each Ingush form is labeled with its verb conjugation type (including an exemplar verb of that type) as laid out in Table 2. Each Chechen form is labeled with its proto verb conjugation type as outlined in Tables 5 and 6 above. The conjugation types have in both cases been preceded with a capital letter to facilitate sorting; for Chechen, the letters used are precisely those which appear to the right of Tables 5 and 6. In addition to the proto-Chechen types **A** through **X** and the Ingush types **A** through **M**, individual verbs in the database are designated type **Y** if their classification is uncertain or unknown. Finally, for sorting purposes, **Z** is used in records which lack a cognate form altogether, as well as in records where crucial information about a form is lacking.

A typical record in the database is illustrated here:

| | | | |
|---------------------------|-------------------|------------------------------|--------------|
| Ingush Citation | c'ovz | Ingush ID | 694 |
| Ingush Quick Gloss | shriek | | |
| Ingush Infinitive | c'ovza | Chechen Infinitive | c'ovzan |
| Ingush Gloss | cry (of bird) | Chechen Quick Gloss | shriek |
| Ingush Type | F ov-ov-ej [lovz] | Chechen Type [Komen] | 1:ov-ov-ey |
| Ingush Aspect | Simulfactive | Chechen Type [Handel] | F ov-ey-ey |
| Ingush Number | | Chechen Aspect | Simulfactive |
| | | Chechen Number | |
| | | Group Code | c'ovz |

This record asserts that the Ingush verb **c'ovz** 'cry (of a bird)' is cognate to Chechen *c'ovzan* 'shriek'; the former is of type **F ov-ov-ej [lovz]**, the latter of type **F ov-ev-ey**. The group code serves to link this record to the record containing Ingush **c'uuz** and Chechen *c'iizan*, the iterative forms of 'shriek', so that they can be sorted together.

The database is set up so that data can be easily grouped and sorted according to the verb classifications and other specifiable criteria. Appendix II contains a printout of one possible ordering of the database.

Using the database, it is possible to group individual lexical cognate sets in a way that reveals patterns of correspondence between Chechen and Ingush verb conjugation classes. These paradigmatic patterns of correspondence can then be used to shed light on historical developments in both languages; furthermore, individual cognate sets which deviate from the broader patterns can be isolated and an attempt can be made to explain their irregular development. Tables 7 and 8 below have been compiled from the database.

Table 7 lists Chechen-Ingush paradigmatic correspondences, along with the number of individual cognate sets supporting each correspondence. In this table I have arbitrarily chosen a minimum of two supporting sets as the cutoff for consideration as a regular correspondence. The horizontal double line separates the traditionally regular Chechen verbs from the traditionally irregular verbs; a second double line separates the traditionally irregular verbs into those that behave in a manner which I consider regular and those that do not. Note that no relationship is implied between regular correspondants and irregular correspondants appearing in the same row.

| Chechen Verb Type | Regularly Corresponds to Ingush Type: | # Sets | Irregularly Corresponds to Ingush Type: | # Sets |
|-----------------------|---------------------------------------|--------|---|--------|
| A a-e-e | B a-a-a [lat] | 13 | Y a-o-e | 1 |
| | I a-o-a [mol] | 11 | Y a-u-e | 1 |
| B aa-ee-ee | A aa-aa-ea [laatt] | 10 | B a-a-a [lat] | 1 |
| | G aa-oa-ea [oal] | 3 | I a-o-a [mol] | 1 |
| C ie-ie-ii | C ie-ie-ii [dies&] | 31 | D uu-uu-ii [duuc] | 1 |
| D ii-ii-ii | D uu-uu-ii [duuc] | 4 | | |
| E uo-ye-ye | H uo-uo-ie [tuox] | 2 | | |
| F ov-ev-ev | F ov-ov-ej [lovz] | 8 | | |
| G a-o-e | I a-o-a [mol] | 19 | A aa-aa-ea [laatt] | 1 |
| | B a-a-a [lat] | 2 | G aa-oa-ea [oal] | 1 |
| H aa-oo-ee | G aa-oa-ea [oal] | 29 | A aa-aa-ea [laatt] | 1 |
| | I a-o-a [mol] | 3 | K a-u-i [ull] | 1 |
| I ie-ye-ii | C ie-ie-ii [dies&] | 26 | D uu-uu-ii [duuc] | 1 |
| | | | K a-u-i [ull] | 1 |
| J i-y-i | J y-u-i [duz] | 6 | | |
| | K a-u-i [ull] | 2 | | |
| J i-y-i (K ii-yy-ii?) | J y-u-i [duz] | 4 | K a-u-i [ull] | 1 |
| | C ie-ie-ii [dies&] | 2 | | |
| | D uu-uu-ii [duuc] | 2 | | |
| K ii-yy-ii | D uu-uu-ii [duuc] | 10 | C ie-ie-ii [dies&] | 1 |
| L uo-uu-ye | H uo-uo-ie [tuox] | 18 | D uu-uu-ii [duuc] | 1 |
| M u-u-y | J y-u-i [duz] | 3 | D uu-uu-ii [duuc] | 1 |
| N uu-uu-yy | D uu-uu-ii [duuc] | 3 | | |
| O ov-ov-ev | F ov-ov-ej [lovz] | 6 | | |

| | | | | |
|----------------------|-------------------|-----------------|--|-----------------|
| P ie-ye-ii (< i-y-i) | E ie-uu-ii [duu] | 7 | | |
| Q aj-oj-aj | L ej-ej-ej [qejk] | 1 ⁴⁴ | | |
| R aa-ov-aj (< a-o-e) | M aa-ov-ej [lov] | 3 | F ov-ov-ej [lovz] | 2 ⁴⁵ |
| S a-o-e (G?) | | | M aa-ov-ej [lov] K a-u-i [ull] Y other | 1 1 4 |
| T a-a-i | M aa-ov-ej [lov] | 2 | | |
| U a-e-e (A?) | M aa-ov-ej [lov] | 1 | | |
| V aa-oo-ee | | | Y other | 3 |
| W uo-ye-ye (E?) | | | I a-o-a [mol] | 1 |
| X, Y | | | Y other | 3 |

Table 7. Comparison of Chechen-Ingush verb class correspondences.

Table 8 contains the same data as Table 7, but arranged by Ingush verb types.

⁴⁴Although there is only one supporting set, this correspondence is considered regular because there is only one Ingush verb in the **L ej-ej-ej** class.

⁴⁵This correspondence is placed in the irregular column because the two examples both involve the single Chechen verb *daan* ‘die’, which appears in two distinct database records as cognate to the Ingush etymological doublets **d•ov** ‘die’ and **d•ov** ‘disappear’.

| Ingush Verb Type | Regularly Corresponds to Chechen Type: | # Sets | Irregularly Corresponds to Chechen Type: | # Sets |
|--------------------|--|-------------------|--|------------------|
| A aa-aa-ea [laatt] | B aa-ee-ee | 10 | G a-o-e H aa-oo-ee | 1 1 |
| B a-a-a [lat] | A a-e-e G a-o-e | 13 2 | B aa-ee-ee | 1 |
| C ie-ie-ii [dies&] | C ie-ie-ii I ie-ye-ii J i-y-i (K ii-yy-ii ?) | 31 26 2 | K ii-yy-ii | 1 |
| D uu-uu-ii [duuc] | D ii-ii-ii K ii-yy-ii N uu-uu-yy J i-y-i (K ii-yy-ii ?) | 4 10 3 2 | C ie-ie-ii I ie-ye-ii M u-u-y L uo-uu-ye | 1 1 1 1 |
| E ie-uu-ii [duu] | P ie-ye-ii (< i-y-i) | 7 | | |
| F ov-ov-ej [lovz] | F ov-ev-ev O ov-ov-ev | 8 6 | R aa-ov-aj (< a-o-e) | 2 ⁴⁶ |
| G aa-oa-ea [oal] | H aa-oo-ee B aa-ee-ee | 29 3 | G a-o-e | 1 |
| H uo-uo-ie [tuox] | L uo-uu-ye E uo-ye-ye | 18 2 | | |
| I a-o-a [mol] | G a-o-e A a-e-e H aa-oo-ee | 19 11 3 | B aa-ee-ee W uo-ye-ye (E?) | 1 1 |
| J y-u-i [duz] | J i-y-i J i-y-i (K ii-yy-ii ?) M u-u-y | 6 4 2 | M u-u-y (N uu-uu-yy) | 1 |
| K a-u-i [ull] | J i-y-i | 2 | J i-y-i (K ii-yy-ii ?) H aa-oo-ee I ie-ye-ii S a-o-e (G?) | 1 1 1 1 |
| L ej-ej-ej [qejk] | Q aj-oj-aj | 1 | | |
| M aa-ov-ej [lov] | R aa-ov-aj (< a-o-e) T a-a-i | 3 2 | S a-o-e (G?) U a-e-e (A?) | 1 1 |

⁴⁶See the previous note.

| | | | | |
|---------|--|--|--------------|---|
| Y other | | | S a-o-e (G?) | 4 |
| | | | A a-e-e | 2 |
| | | | V aa-oo-ee | 3 |
| | | | Y other | 3 |

Table 8. Comparison of Ingush-Chechen verb class correspondences.

As the charts above indicate, the correspondences between Chechen and Ingush verb classes are quite regular. This regularity is not mechanically transparent, however; in other words, it is not obvious how to account for specific patterns of paradigmatic correspondence in terms of the historical development of individual Ingush and Chechen vowel phonemes. Put another way, the connection between phonemic correspondences between Ingush and Chechen and verb-paradigmatic correspondences between Ingush and Chechen is not a direct one.

The reasons for this are almost entirely due to developments in Ingush. The overall simplification of the vowel system (which is ongoing) with resulting mergers, the loss of some overt verbal suffixes and the subsequent shift of the verbal system from umlaut to ablaut, and the influence of paradigmatic leveling through analogy have all combined to obscure the evolutionary path of the Ingush verb classes.

The following sections make a preliminary attempt to catalog and trace these developments through a combination of internal and comparative reconstruction, and thus to explain the paradigmatic correspondences in terms of phonological developments.

3.2.1. Vocalic changes from Proto-Chechen-Ingush [PCI] to Ingush

The Chechen vowel system is clearly more conservative than the Ingush. In comparing the verb paradigms of the two languages, I assume as a working hypothesis that the Proto-Chechen system outlined above is essentially the same as the vowel system of Proto-Chechen-Ingush. In other words, I proceed as if the Ingush system were in essence directly derivable from the Proto-Chechen. Since the Chechen vowel alternations have already been transcribed in a rough version of Proto-Chechen, this effectively means we can speak of the Ingush forms as deriving from the Chechen forms.

We will of course modify this hypothesis as necessary to fit the data.

3.2.1.1 Breaking of long vowels (diphthongization)

The pure mid long vowels *oo and *ee have diphthongized to /oa/ and /ea/, respectively, in Ingush. This is purely a phonetic change which has not effected the Ingush phonological system.

3.2.1.2 Loss of front rounded vowels

Ingush has no rounded front vowels. The Chechen front rounded vowels, which in the present stem of verbs result from umlaut, have all become either back rounded or front unrounded in Ingush. The regular verb correspondences in the charts above indicate the following vowel correspondences:

| <u>Chechen</u> | <u>Ingush</u> |
|----------------|---------------|
| ye | uo, ie |
| yy | ii, (ie), uu |
| ev | ov, ej |
| y | u, i |

It should be stressed that these do not necessarily represent regular phonemic correspondences (even taking environmental conditioning factors into account) between Chechen and Ingush; rather, they represent correspondences which are observed within the specific context of the verb paradigm correspondences.⁴⁷

The apparently unconditioned development, in which the Chechen front rounded vowels have two independent developments in Ingush, becomes explicable when we focus our attention on the thirteen ‘regular’ Chechen verb paradigms which involve front rounded vowels. In all five cases where the corresponding Ingush vowel is back rounded, it is found to occur in the present

⁴⁷Since the front rounded vowels are originally the result of umlaut and do not occur in word roots, it may not be possible to say what their ‘regular’ development would be in Ingush!

stem. Of the eight cases where the Ingush vowel is front unrounded, six are in the past stem (and two in the present stem). For example, Chechen /y/ corresponds to Ingush /u/ in the present stem (cf. Chechen **J i-y-i**) but to Ingush /i/ in the past stem (cf. Chechen **M u-u-y**). The same is true of Chechen /yy/ and Ingush /uu/, /ii/ (cf. Chechen **K ii-yy-ii**). This suggests that the direction of shift in Ingush might be dependent on the particular inflected verb stem involved.

This would in fact be a natural development if the front rounded vowels were disappearing in Ingush before the verbal suffixes disappeared. At that time the Ingush inflectional system was still governed by rules of umlaut rather than ablaut, so that it would be natural for a vowel to remain rounded in the present stem with ending *-u and to remain fronted in the past stem with ending *-ira.

This neatly explains the fact that, for example, Chechen **E uo-ye-ye** has become Ingush **H uo-uo-ie** and Chechen **F ov-ev-ev** has become Ingush **F ov-ov-ej**.⁴⁸ In both cases the same Chechen phoneme (/ye/ in the first case and /ev/ in the second) has developed into two distinct Ingush vowels within a single paradigm.

I will refer to the tendency toward rounding of the present stem vowel and fronting of the past stem vowel accompanying the loss of front rounded vowels in Ingush as *stem-related shifts*. This explanation obviates the need to resort to appeals to analogic leveling to explain what otherwise look like complex and irregular vocalic developments.

3.2.1.3 Marginalization of the phoneme /e/ in Ingush

In Ingush /e/ has lost much of its independent phonemic status. In verb paradigms it has generally been centralized to /a/. (A number of Ingush verbs, such as **mog** ‘be able’, do retain original /e/ in some forms. The anterior converb of **mog** may be pronounced either /megaa/ (with

⁴⁸In Chechen orthography <ev> represents [flœ], the fronted counterpart of /ov/ and the rounded counterpart of /ej/.

assimilatory palatalization of the stem-final consonant: [mɛgʲ] or /magaa/. The perfect and pluperfect forms of **mog** show similar variation.)

We therefore observe a general correspondence in verbs between Chechen /e/ and Ingush /a/. Chechen **A a-e-e** has become in Ingush **B a-a-a**, while Chechen **G a-o-e** has become Ingush **I a-o-a**. Note that there has not been a parallel development in long vowels, where Chechen /ee/ corresponds to Ingush /ea/ (see 3.2.1.1 above).

3.2.1.4 Loss of short vowels /i/, /u/ in the infinitive stem, and of long /ii/ in infinitive and present

Ingush has no infinitive forms with stem vowel /i/ or /u/. (However, as noted in Section 1.2, there is an alternative synchronic analysis of Ingush **J y-u-i** as having alternation pattern /i-u-y/.) These vowels have both become /y/ in Ingush in this environment. That is, the distinction exemplified in the infinitives of Chechen **J i-y-i** and **M u-u-y** has become neutralized and the articulation centralized; both these types correspond to Ingush **J y-u-i**.⁴⁹ (Further changes exhibited in the full merger of these two types in Ingush were motivated by analogic leveling; see below.)

Ingush also has no infinitive or present stems with vowel /ii/. These have all lowered to /ie/ in Ingush, perhaps to maintain a distinction between these stems and the past stem in /ii/.

3.2.1.5 Change of /ea/ to /aa/ in the present stem

This development occurred in the one paradigm with an original *ee in the present stem, the Ingush **A aa-aa-ea [laatt]** class. We would expect the Ingush alternation pattern to be /aa-ea-ea/.

⁴⁹This change does not seem to be explicable purely in terms of regular phonological processes. While it is true that the Ingush phoneme /y/ appears only in open syllables—and infinitives fall into this class because of their final silent schwa—it is not true that /i/ and /u/ cannot occur in open syllables.

This aberrant development is unexplained, although may possibly be attributed to some sort of analogy with the short vowel equivalent classes (Chechen **A a-e-e** and Ingush **B a-a-a**).

The Ingush vocalic developments listed in 3.2.1.1 through 3.2.1.5 fully explain a number of the regular correspondences found in the chart above, namely:

| <u>Chechen</u> | <u>Ingush</u> | <u>Explanation</u> |
|----------------|---------------|--|
| A a-e-e | B a-a-a | Marginalization of /e/ |
| B aa-ee-ee | A aa-aa-ea | Infinitive /ea/ > /aa/ |
| C ie-ie-ii | C ie-ie-ii | no changes |
| E uo-ye-ye | H uo-uo-ie | Loss of front rounded vowels |
| F ov-ev-ev | F ov-ov-ej | Loss of front rounded vowels |
| G a-o-e | I a-o-a | Marginalization of /e/ |
| H aa-oo-ee | G aa-oa-ea | Diphthongization |
| J i-y-i | J y-u-i | Loss of infinitive /u/, loss of front rounded vowels ⁵⁰ |
| M u-u-y | J y-u-i | Loss of infinitive /u/, loss of front rounded vowels |
| N uu-uu-yy | D uu-uu-ii | Loss of front rounded vowels |
| O ov-ov-ev | F ov-ov-ej | Loss of front rounded vowels |

3.2.2. Indeterminate verbs

As noted earlier (for example in the discussion of Chechen verb class (16) in Section 3.1), a number of Chechen verbs are indeterminate as to their historical class because of mergers. In the database I therefore classified twelve Chechen verbs as **J i-y-i** (**K ii-yy-ii** ?) (nine of which have Ingush cognates) and one verb as **M u-u-y** (**N uu-uu-yy** ?). When the comparative evidence in the above charts is taken into account, however, the historical class of these verbs can be identified. The four Chechen forms labeled **J i-y-i** (**K ii-yy-ii** ?) which correspond to Ingush **J**

⁵⁰Recall that in our Chechen orthography <y> represents a front rounded vowel [y], while in Ingush orthography it represents a high central unrounded vowel [ɨ].

y-u-i [duz] and the one which corresponds to **K a-u-i** [ull] can now all be identified as **J i-y-i** verbs; the two corresponding to Ingush **C ie-ie-ii** [dies&] and the two to **D uu-uu-ii** [duuc] can now be identified as **K ii-yy-ii**.⁵¹ These identifications are based on Ingush correspondences to unambiguous **J i-y-i** and **K ii-yy-ii** Chechen verbs. We can thus rewrite the relevant portion of Table 7 as follows, eliminating the **J i-y-i** (**K ii-yy-ii** ?) type and all irregular correspondences:

| Chechen Verb Type | Regularly Corresponds to Ingush Type: | # Sets | Irregularly Corresponds to Ingush Type: | # Sets |
|-------------------|---------------------------------------|--------|---|--------|
| J i-y-i | J y-u-i [duz] | 10 | | |
| | K a-u-i [ull] | 3 | | |
| K ii-yy-ii | D uu-uu-ii [duuc] | 12 | | |
| | C ie-ie-ii [dies&] | 3 | | |

Table 7a. Revision of Table 7.

Table 7 already reflects the fact that the one Chechen verb of type **M u-u-y** (**N uu-uu-yy** ?) can now be definitively assigned to **M u-u-y**, since it corresponds to Ingush **J y-u-i** [duz].⁵³ (See

⁵¹Recall that these are Chechen verbs of class (16) which synchronically have an alternation /i-y-i/ and have stem-final -CC. Thus it is indeterminate whether they historically had short vowels or historically had long vowels shortened in the environment of the consonant cluster. The five verbs which can be identified as **J i-y-i** verbs are *listan* ‘wind up’, *tillan* ‘dress’, *dillan* ‘put, cover’, *dittan* ‘wash (clothes)’, and *willan* ‘lay’; the four verbs which can be identified as **K ii-yy-ii** verbs are *ghittan* ‘rise (iter.)’, *tittan* ‘push (iter.)’, *littan* ‘filter’, and *hittan* ‘stand (iter.)’.

⁵²These three forms (*ghittan*, *tittan*, *hittan*) are all iterative inflections. The fact that iteratives in Ingush fall into only two verb classes (**C ie-ie-ii** and **D uu-uu-ii**) indicates that mergers resulting from paradigm leveling may be more prevalent in iterative forms.

⁵³Recall that these are Chechen verbs of class (20) which synchronically have an alternation /u-u-y/ and have stem-final -CC. Thus it is indeterminate whether they historically had short vowels or historically had long vowels shortened in the environment of the consonant cluster. The verb in question is *dustan* ‘compare’.

Table 8 under **J y-u-i [duz]**.) (Note that the database does not reflect these revised assignments; I have chosen to retain the ambiguous classification there.)

3.2.3 Other factors affecting Chechen-Ingush verb correspondences

As we have seen, vocalic developments in Ingush alone account for a significant portion of the regular paradigm correspondences between Chechen and Ingush. Most of the remaining correspondences can be explained by four other factors: (1) Loss or absence of stem-final consonants in the proto-language; (2) Vowel length discrepancies; (3) Confusion/partial merger among Ingush verb classes; (4) analogic leveling.

3.2.3.1 Loss or absence of stem-final consonants

When the verb stem has no final consonant, the vocalic verb affixes interact directly with the stem vowels, obscuring their historical origin. Paradigms with historically short vowels may acquire long vowels in this way and then merge with an existing long vowel paradigm. Note that verbs lacking stem-final consonants are regularly lumped in with ‘irregular’ verbs (here labeled P through Y) in most analyses.

For example, my Proto-Chechen reconstruction for type **R** is **a-o-e**; these verbs are actually realized with vowels /aa/, /ov/, /aj/. My reconstruction is based on the assumption that in the infinitive stem the ending /aan/ is derived from stem-final *a and ending *-an, in the present stem the ending /ov/ is a fusion of *o with *-u, and in the past /ej/ is a fusion of *e with *-ira. The **R** class is thus originally the same as the **G** class, the only difference being that verbs in **G** have a stem-final consonant.

This hypothesis is supported by the parallel situation in Ingush. Chechen **R** type verbs correspond to Ingush **M aa-ov-ej [lov]** verbs, all having no stem-final consonant, while **G** type verbs correspond to **I a-o-a [mol]** type verbs. In Ingush, /aa-ov-ej/ is precisely the expected result of adding the appropriate endings to the vowels *a-o-e (the precursor to /a-o-a/ in Ingush).

Similarly, I have reconstructed type **P** as **i-y-i**, although in Chechen it is now **ie-ye-ii** and has merged with type **I ie-ye-ii**. Again, it is presumed that /ie-ye-ii/ is the result of the endings ***-an**, ***-u**, ***-ira** being appended to ***i-y-i**.

In addition to these rather regular paradigms, a number of truly irregular Chechen and Ingush verbs can be partly accounted for by vowel deformations resulting from the loss or lack of final consonants.

3.2.3.2 Vowel length discrepancies

A number of apparently irregular correspondences are due to vowel length confusion in one language or the other. Generally it is not possible to tell which language is more conservative in this regard. Most of the Ingush and Chechen paradigms can be paired as short-long equivalents.

For example, Chechen **G a-o-e** is the short equivalent of **H aa-oo-ee**, and Ingush **I a-o-a [mol]** is the short equivalent of **G aa-oa-ea [oal]**. Thus the correspondence of Ingush **I a-o-a [mol]** to Chechen **H aa-oo-ee** would be perfectly regular if the Chechen verbs in question had short vowels, or the Ingush verbs had long vowels. Since vowel length has a tendency toward instability in many languages, this is not a surprising development.

3.2.3.3 Confusion and partial merger among Ingush verb classes

As described above, the Ingush verb classes **B a-a-a [lat]** and **I a-o-a [mol]** are unstable and do not fully reflect their historical origins. While some verbs fall neatly into one class or another, other verbs exhibit variation between the two classes. This is almost certainly a recent development in Ingush, initiated by the development ***e > /a/** which brought the infinitive and past stem vowels of the two classes into alignment, and catalyzed by analogic leveling (as discussed in the next section). The result is that a number of verbs which historically belong to one class have joined the other, and vice versa. Further muddying the issue is continuing variation, which makes the synchronic classification of some of the verbs difficult and may be skewing the numbers in our charts.

3.2.3.4 Analogic leveling

Reduction in the vowel inventory of Ingush, the result of the loss of front rounded vowels and the near-loss of /e/, coupled with the loss of vocalic suffixes, has led to a situation where many historically distinct verb classes have become quite similar. This in turn has accelerated natural processes of analogic leveling among the verb paradigms.

A clear example is the confusion of the **B** and **I** classes (described in Section 3.3 above). The change *e > /a/ meant that only the present stem vowel was distinguished in these paradigms. The present tense suffixes *-a and *-u which had also served to distinguish the classes was lost in Ingush. This resulted in analogic pressure to make **I a-o-a [mol]** verbs conform to the **B a-a-a [lat]** class through leveling of the paradigm. At the same time, the merger of the imperfect and witnessed past tenses precipitated by the merger of present- and past-stem vowels has been an incentive to pronounce the imperfect with /o/ in verbs of both classes in order to retain a distinction between the imperfect and witnessed past. These two opposite tendencies have led to further erosion of the distinctions between the classes.

A number of verbs of Chechen type **A a-e-e** have Ingush cognates in **I a-o-a [mol]** rather than the expected **B a-a-a [lat]**. Two examples are Ingush **xoz** ‘hear’ (Ch. *xazan*) and **mog** ‘be able’ (Ch. *magan*). Presumably this is due to a process of analogical leveling prompted by a desire to preserve distinctions between present and past stem vowels (which is the only phonological factor distinguishing the imperfect and witnessed past tenses)⁵⁴.

The competing tendency toward the centralization of /o/ to /a/ is illustrated by the Ingush verb **d•as&melt**, presumably originally **B a-a-a** (cf. the Ch. cognate of type **A a-e-e** *dashan*). But orthographically most forms based on the present stem are written with <o>, indicating that like **xoz** and **mog** this verb was on the way to becoming an **I a-o-a** verb. Nevertheless, the vowel is

⁵⁴David Peterson (1996) claims that in at least one verb, **d•arst** ‘to gain weight’, the imperfect is distinguished from the perfect by “higher pitch and greater degree of stress” on the first syllable. The two forms are otherwise identical: /darstar/.

now pronounced /a/ everywhere except in the imperfect (again no doubt to preserve the distinction between the imperfect and witnessed past), suggesting the verb is returning to its origins.

There are several other cases in which, after historical developments have resulted in two Ingush paradigms sharing two out of three stem vowels, the third stem vowels may follow suit and create a merger. (See the list below.)

Another type of analogy is intra-paradigmatic, and is bringing the present and infinitive stem vowels into alignment in Ingush. (This is probably the explanation for the *ea > /aa/ change discussed in 3.2.1.5.) This may be part of the reason that the front rounded vowels in the Chechen **I ie-ye-ie** class have become /ie/ rather than /uo/ in Ingush.

The developments listed in 3.2.3.1 through 3.2.3.4 (when coupled with those in 3.2.1.1 through 3.2.1.5) explain additional regular correspondences found in the charts, namely:

| <u>Chechen</u> | <u>Ingush</u> | <u>Explanation</u> |
|----------------|---------------|---|
| A a-e-e | I a-o-a | Marginalization of /e/, confusion with B a-a-a |
| B aa-ee-ee | G aa-oa-ea | Confusion with A aa-aa-ea |
| D ii-ii-ii | D uu-uu-ii | Analogy with Chechen N uu-uu-yy |
| G a-o-e | B a-a-a | Confusion with I a-o-a |
| H aa-oo-ee | I a-o-a | Length discrepancy |
| I ie-ye-ii | C ie-ie-ii | Not fully explained |
| J i-y-i | J y-u-i | Loss of infinitive /u/, stem-related shifts |
| K ii-yy-ii | D uu-uu-ii | Stem-related shifts, analogy with Chechen N uu-uu-yy |
| K ii-yy-ii | C ie-ie-ii | Loss of /ii/ in infinitive, present |
| L uo-uu-ye | H uo-uo-ie | Loss of front-rounded vowels, analogy with Chechen E uo-ye-ye |
| P ie-ye-ii | E ie-uu-ii | Lack of stem-final consonant, loss of /ii/ in infinitive (from original *i-y-i) |

3.2.3.5 Other developments

Chechen has no */ej/ distinct from /aj/, and Ingush has no /oj/. Chechen **Q aj-aj** and Ingush **L ej-ej-ej** are probably descended from *ej-aj-ej, with *ej > /aj/ in Chechen and *oj > /ej/ in Ingush. The same *ej > /aj/ in Chechen accounts for /aj/ < *e + *-i in **R aa-ov-aj** (< *a-o-e).

This largely accounts for

| <u>Chechen</u> | <u>Ingush</u> |
|-------------------|-------------------|
| Q aj-aj | L ej-ej-ej |
| R aa-ov-aj | F aa-ov-aj |

Finally, we note the deformative effects of pharyngealization and glottal stops on verbs in both Ingush and Chechen, which has led to many irregularities. The existence of the Ingush **K a-u-i** class seems to be partially due to the effect of glottal stops. Of the six verbs in this class, four are phonemically vowel-initial (realized with a glottal initial): **ux** ‘flow; go (iter.)’, **ull** ‘lie down’, **uxk** ‘lie down (pl.)’, **ud** ‘run’ (iter.). A fifth, **d•u** ‘to eat’, has a glottal final. This sixth verb, which does not fit the pattern, is **xul** ‘to be’, which we might expect to be irregular by virtue of its semantics.

The Chechen verbs *da’an* ‘eat’, *la’an* ‘wish’ and *xa’an* ‘sit’ have /i/ in the past stem where /e/ would be expected, presumably because of the glottal stop. The pharyngeal in *hwa’an* ‘be deposited’ seems to have prevented this from happening, as this verb shows the alternation /a-ae-ae/ <? *a-e-e. That *la’an* and *hwa’an* were originally of the same type is suggested by the Ingush cognates **laa** ‘wish’ (/aa-ov-aj/) and **aa** ‘accumulate’ (/aa-ov-aj/), which clearly point to an earlier *a-o-e. Other Ingush verbs of type **M aa-ov-aj** are cognate to Chechen verbs of type **R aa-ov-aj** < *a-o-e, providing further evidence.

In addition to *da’an* and *xa’an*, Chechen type **S** includes the two verbs *dan* ‘make’ and *gan* ‘go’. These also have /i/ in the past stem, but no overt glottal stop. However, the historical presence of a glottal stop is indicated by the fact that these verbs have short vowels throughout their paradigms. Had the verbs originally had no stem-final consonant, they would have developed into type **R aa-ov-aj** verbs.

Now that the regular paradigmatic correspondences have been explained, we are in a position to look at the irregular correspondences in the charts—those with just a single exemplar—to see if we can explain them. I will confine myself to those irregular correspondences which involve regular verbs. A few have been discussed already and will not be touched on again.

The irregular correspondences listed on the right side of Tables 7 and 8 involve these regular verbs:

- Chechen *dahwan* (A) and Ingush **d•uh@** ‘risk, dare, not fear (to)’ (Y)

d•uh@ is an irregular verb with vowel alternation /a-u-e/. Based on the Chechen, we would expect Ingush /a-o-a/ < *a-o-e. Compare the Ingush verb **quh@** ‘bring’, which has exactly the same vowel pattern /a-u-e/ (but no Chechen cognate). This suggests the pharyngealized final may be involved in causing irregular development; however, note that the Ingush verb **oh@** ‘to grind’, with similar pharyngealization, is regular.

- Chechen *daxan* (A) and Ingush **d•ax** ‘get drunk’ (Y)

d•ax is an irregular verb with a clear origin as Type **I a-o-a**. The vowel alternation pattern is /a-a/o-e/. /a-o-e/ is a conservative pattern for type **I a-o-a** (cf. **mog**); the /a/o/ alternation is attested in other verbs which are in variation between types **B** and **I**.

- Chechen *waaman* (B) and Ingush **am** ‘learn’ (B)

am is of type **B**, the short counterpart of type **A**. This is a case of length discrepancy only.

- Chechen *waaban* (B) and Ingush **ob** ‘sufficed’ (I)

ob is of type **I**, the short counterpart of type **G**. This is a case of length discrepancy only.

- Chechen *q’ieq’an* (C) and Ingush **q’uuq’** ‘thunder’ (D)

The Chechen and Ingush are both iteratives of a simulfactive form with root **q’ovq’**. The Chechen form appears to be an irregularly derived iterative.

- Chechen *waxan* (G) and Ingush **aax** ‘bellow’ (A)

This is a length discrepancy only, probably influenced by the onomatopoeic quality of the word.

- Chechen *hwaxan* (G) and Ingush **h@oax** ‘smear’ (G)

This is a length discrepancy only.

- Chechen *jaach* (H) and Ingush **jaacən** ‘drizzle’ (A)

Confusion between types **A** and **G** (analogous to that found between types **B** and **D**).

- Chechen *liecan* (I) and Ingush **luuc** ‘catch (iter.)’ (D)

Analogous to situation with **q’uuq’** ‘thunder’ discussed above.

- Chechen *duozan* (L) and Ingush **duuz** ‘weave’ (D)

I have no explanation.

- Chechen *dustan* (M) and Ingush **d•ust** ‘measure’ (D)

This is a length discrepancy. The long equivalent to the Chechen type, **N uu-uu-yy**, regularly corresponds to Ingush type **D**.

- Chechen *daan* (R) and Ingush **d•ov** ‘die’ (F)

The Ingush verb has an irregular infinitive. All other Ingush verbs with present stem vowel **ov** and no final consonant are of the **M aa-ov-ej** type, the regular correspondent to Chechen **R**. The irregularity may be due to analogy with other Ingush Type **F** verbs.

Note that a disproportionate number of the verb sets listed (five of twelve) have pharyngealized vowels.

Since the remaining irregular correspondences involve irregular verbs in both Chechen and Ingush, I will not deal with them here.

4.0 Conclusion

In this paper I have presented a description and classification of Ingush verbal inflections, and further refined it through both internal reconstruction and comparison with Chechen verbal paradigms. In the process, I have sought to explain apparent discrepancies between the Ingush and Chechen systems, to trace the course of morphophonological changes in Ingush which have recently occurred or are currently underway, and to provide an overall architecture which could be applied to a reconstruction of Proto-Chechen-Ingush verbal inflection.

While a number of issues in the classification and understanding of Ingush verb paradigms have been resolved in this study, many more remain as topics for future research. A better understanding of the historical development of iterative and plural verb forms in Chechen-Ingush would clarify the overall verb paradigm classifications and improve the confidence with which specific verb form cognates are established. The origins of irregular verbs, while touched on here, remain poorly understood. It will be necessary to explore in more detail what we might call stem-deforming factors, such as pharyngealization, glottal stops, and other consonantal perturbances. Finally, data from other Chechen dialects, and from the related language Batsbi, should be brought into consideration. This would help fill gaps where cognate forms are currently lacking, and provide additional data to support, refine, or refute particular hypotheses about historical development.

REFERENCES

- Beerle, Werner. 1988. A contribution to the morphology of the simple verb in Chechen. *Studia Caucasologica I* (Proceedings of the Third Caucasian Colloquium, Oslo, July 1986), ed. by Fridrik Thordarson, 9-37. Oslo: Institute for Comparative Research in Human Culture, Norwegian University Press.
- Comrie, Bernard. 1976. *Aspect*. (Cambridge textbooks in linguistics). Cambridge: Cambridge University Press.
- Handel, Zev. 1997. The role of ablaut in the Ingush verb system. Paper presented to the Tenth Annual Conference on Non-Slavic Languages of the former Soviet Union, Chicago, May 8-10.
- Handel, Zev. 1998. Ingush-Chechen cognate database. Electronic database (Filemaker Pro format).
- Komen, Erwin. 1996. Electronic communication.
- Maciev, A. G. 1961. *Chechensko-russkii slovar*. Moscow: Gos. izd-vo inostrannykh i natsionalnykh slovarei.
- Nichols, Johanna. 1985. Transitivity and valence in Chechen-Ingush. *Proceedings of the Third International Conference on Non-Slavic Languages of the USSR*, ed. by Howard I. Aronson and J. Darden. Columbus: Slavica.
- Nichols, Johanna. 1994a. Chechen. *The indigenous languages of the Caucasus, 4: Northeast Caucasian languages, part 2*, ed. by Rieks Smeets, 1-78. Delmar, NY: Caravan Books.
- Nichols, Johanna. 1994b. Ingush. *The indigenous languages of the Caucasus, 4: Northeast Caucasian languages, part 2*, ed. by Rieks Smeets, 79-145. Delmar, NY: Caravan Books.
- Nichols, Johanna, et al. 1997. Ingush Lexical Database. Electronic document; searchable on the internet at <http://ingush.berkeley.edu:7012/ingush.html>. The data in this paper is taken from the version of August 1.
- Nichols, Johanna. 1997b. Chechen phonology. *Phonologies of Asia and Africa*, ed. by Alan S. Kaye, 941-971 (Volume 2). Winona Lake, Indiana: Eisenbrauns.

Peterson, David. 1996. Ingush *ʔa*. Paper for Linguistics 240 (Berkeley, 1995-96).

APPENDIX I: Key to Abbreviations

Verb stems (present stems are unmarked):

INFS Infinitive stem

PAST Past stem

Inflectional verb endings (“tense”):

INF Infinitive

IMP Imperative

PRES Generic present tense

SCV Simultaneous converb

IMPF Imperfect

FUT Future

WIT Witnessed past

ACV Anterior converb

PERF Perfect

PLUP Pluperfect

Inflectional noun endings (“case”):

ABS Absolutive

ERG Ergative

DAT Dative

ALL Allative

Other abbreviations:

ICAUS Indirect causative infix

1x Simulfactive inflection

Nx Iterative inflection

Sg Singular inflection (verbs)

Pl Plural inflection (verbs)

APPENDIX II: Forms in the Ingush-Chechen cognate database

This appendix is a printout of the Ingush-Chechen cognate database, ordered by English gloss of the Chechen forms. (These glosses are from Beerle 1988.) For each cognate record, the Chechen and Ingush forms and glosses are given, along with their conjugation type classification. All glosses are abbreviated for ease of reference. The appearance of apparent duplicate glosses is due to the fact that iterative and plural forms are listed in addition to plain forms. In order to save space, the database encodings identifying which forms are iterative and which plural have been omitted in this printout. Note that the last 59 records contain Ingush verbs lacking known Chechen cognates; these are sorted by Ingush citation form.

| <u>Chechen</u> | | | <u>Ingush</u> | | |
|------------------|--------------|--------------|--------------------|-------------|--------------------|
| <u>Gloss</u> | <u>Form</u> | <u>Type</u> | <u>Gloss</u> | <u>Form</u> | <u>Type</u> |
| ache | wovzhan | F ov-ev-ev | ache | ovz& | F ov-ov-ej [lovz] |
| ache | wiizhan | D ii-ii-ii | ache.Nx | uuz& | D uu-uu-ii [duuc] |
| add | laangan | H aa-oo-ee | toss_coin.Nx | lieng | C ie-ie-ii [dies&] |
| approach | duolan | L uo-uu-ye | approach | -- | Z |
| ask | xaattan | H aa-oo-ee | ask | xoatt | G aa-oa-ea [oal] |
| ask | xiettän | I ie-ye-ii | ask.Nx | -- | Z |
| attempt | ghuortan | L uo-uu-ye | attempt | -- | Z |
| attempt | ghiirtan | C ie-ie-ii | attempt.Nx | ghiirt | C ie-ie-ii [dies&] |
| AUX (be) | du [present] | Y | be | d•y | Y other |
| avenge | aaqan | H aa-oo-ee | avenge | -- | Z |
| bake | dattan | G a-o-e | bake | d•ott | I a-o-a [mol] |
| bathe | liichan | K ii-yy-ii | bathe (intr) | luuc& | D uu-uu-ii [duuc] |
| be | xilan | J i-y-i | be | xul | K a-u-i [ull] |
| be_able | magan | A a-e-e | able | mog | I a-o-a [mol] |
| be_bored | waatq'an | B aa-ee-ee | bored | aatq' | A aa-aa-ea [laatt] |
| be_bored | wietq'an | C ie-ie-ii | bored.Nx | -- | Z |
| be_deposited | hwa'an | U a-e-e (A?) | pile_up | ov | M aa-ov-ej [lov] |
| be_impressed | daashan | B aa-ee-ee | impressed | d•aas& | A aa-aa-ea [laatt] |
| be_intimidate | qieran | I ie-ye-ii | fear | qier | C ie-ie-ii [dies&] |
| d | | | | | |
| be_out_of_breath | diehwan | C ie-ie-ii | pant | -- | Z |
| be_parted | q'aastan | B aa-ee-ee | separate (intr) | q'aast | A aa-aa-ea [laatt] |
| be_parted | q'iestan | C ie-ie-ii | separate (intr).Nx | q'iest | C ie-ie-ii [dies&] |
| beg | tieq'an | C ie-ie-ii | pray | tieq' | C ie-ie-ii [dies&] |
| believe | tieshan | C ie-ie-ii | believe | ties& | C ie-ie-ii [dies&] |
| bellow | waxan | G a-o-e | bellow | aax | A aa-aa-ea [laatt] |

| | | | | | |
|---------------|----------|------------------------|-------------|-----------------|--------------------|
| bellow | wiexan | I ie-ye-ii | bellow.Nx | ie _x | C ie-ie-ii [dies&] |
| bend_down | sattan | A a-e-e | bend | sott | I a-o-a [mol] |
| bend_down | siettan | C ie-ie-ii | bend.Nx | siett | C ie-ie-ii [dies&] |
| blink | q'adan | A a-e-e | blink | q'ad | B a-a-a [lat] |
| blink | q'iedan | C ie-ie-ii | blink.Nx | -- | Z |
| boil | qiexkan | C ie-ie-ii | boil.Nx | qiexk | C ie-ie-ii [dies&] |
| braid | duucan | N uu-uu-yy | braid | d•uuz | D uu-uu-ii [duuc] |
| bring | daan | X aa-a-e | bring | -- | Z |
| build | duoghan | L uo-uu-ye | build | d•uogh | H uo-uo-ie [tuox] |
| build | diighan | K ii-yy-ii | build.Nx | -- | Z |
| burn | daagan | H aa-oo-ee | burn (intr) | d•oag | G aa-oa-ea [oal] |
| call/proclaim | qajqan | Q aj-oj-aj | call_out | qejk | L ej-ej-ej [qejk] |
| card | aalxan | H aa-oo-ee | card_wool | oalx | G aa-oa-ea [oal] |
| caress | hwaastan | H aa-oo-ee | caress | h@oast | G aa-oa-ea [oal] |
| caress | hwiestan | I ie-ye-ii | caress.Nx | -- | Z |
| carry_off | dahwan | S a-o-e (G?) | take/bring | d•ah@ | Y a-u-e |
| catch | laacan | H aa-oo-ee | catch | loac | G aa-oa-ea [oal] |
| catch | liecan | I ie-ye-ii | catch.Nx | luuc | D uu-uu-ii [duuc] |
| catch_fire | latan | A a-e-e | fight | lat | B a-a-a [lat] |
| catch_fire | lietan | C ie-ie-ii | fight.Nx | liet | C ie-ie-ii [dies&] |
| change | xiican | K ii-yy-ii | change.Nx | xuuc | D uu-uu-ii [duuc] |
| chew | wiishan | K ii-yy-ii | chew.Nx | -- | Z |
| chew | wovshan | O ov-ov-ev | chew | ovs& | F ov-ov-ej [lovz] |
| chisel | aagan | H aa-oo-ee | chisel | oag | G aa-oa-ea [oal] |
| choose | xaarzhan | H aa-oo-ee | choose | xorz& | I a-o-a [mol] |
| choose | xierzhan | I ie-ye-ii | choose.Nx | xierz& | C ie-ie-ii [dies&] |
| chop | daaran | H aa-oo-ee | chop | d•oard | G aa-oa-ea [oal] |
| collect | lawan | G a-o-e | take_apart | lo | I a-o-a [mol] |
| come | daan | V aa-oo-ee | come.Sg | d•oagha | Y other |
| come | daaxkan | V aa-oo-ee | come.Pl | d•oagha | Y other |
| come | daan | V aa-oo-ee | come | d•oa ? | Y x-oa-x |
| compare | dustan | M u-u-y (N uu-uu-yy ?) | compare | d•ust | J y-u-i [duz] |
| connect | xuottan | L uo-uu-ye | connect | xuott | H uo-uo-ie [tuox] |
| connect | xittan | J i-y-i (K ii-yy-ii ?) | connect.Nx | -- | Z |
| conserve | wawan | A a-e-e | conserve | -- | Z |
| contain | daallan | H aa-oo-ee | contain | d•oall | G aa-oa-ea [oal] |
| contain | daaxkan | H aa-oo-ee | contain.Pl | d•oaxk | G aa-oa-ea [oal] |
| cover | qaalan | H aa-oo-ee | cover | qoal | G aa-oa-ea [oal] |
| cramp | ziizan | D ii-ii-ii | itch | zuuz | D uu-uu-ii [duuc] |
| create | qoallan | L uo-uu-ye | create | -- | Z |
| creep | taqan | A a-e-e | creep | toq | I a-o-a [mol] |
| creep | tieqan | C ie-ie-ii | creep.Nx | tieq | C ie-ie-ii [dies&] |
| crush | hwashan | G a-o-e | crush | -- | Z |
| crush | hwieshan | I ie-ye-ii | crush.Nx | -- | Z |

| | | | | | |
|--------------|---------|------------------------|---------------|--------|--------------------|
| cry | dielxan | I ie-ye-ii | cry | d•ielx | C ie-ie-ii [dies&] |
| cut | qaadan | H aa-oo-ee | cut | -- | Z |
| cut_up | castan | G a-o-e | mince | cast | B a-a-a [lat] |
| cut_up | ciestan | I ie-ye-ii | mince.Nx | -- | Z |
| debate | q'iisan | K ii-yy-ii | argue.Nx | q'uus | D uu-uu-ii [duuc] |
| debate | q'ovsan | O ov-ov-ev | argue | q'ovs | F ov-ov-ej [lovz] |
| depend_on | daazan | H aa-oo-ee | depend_on | -- | Z |
| die | dalan | Y | die | lie | Y a-x-e |
| dig | aaxkan | H aa-oo-ee | dig | oaxk | G aa-oa-ea [oal] |
| drag | qiehwan | I ie-ye-ii | take/bring.Nx | qieh@ | C ie-ie-ii [dies&] |
| dress | tillan | J i-y-i (K ii-yy-ii ?) | dress | tull | J y-u-i [duz] |
| dress | taxkan | G a-o-e | dress.Pl | -- | Z |
| drink | malan | G a-o-e | drink | mol | I a-o-a [mol] |
| drink | miilan | K ii-yy-ii | drink.Nx | miel | C ie-ie-ii [dies&] |
| drip | liedan | C ie-ie-ii | drip | -- | Z |
| drip | liesan | C ie-ie-ii | drip | lies& | C ie-ie-ii [dies&] |
| drive | laallan | H aa-oo-ee | drive | loall | G aa-oa-ea [oal] |
| drive | laaxkan | H aa-oo-ee | drive.Pl | loaxk | G aa-oa-ea [oal] |
| drive | liellan | I ie-ye-ii | drive.Nx | -- | Z |
| drive | liexkan | I ie-ye-ii | drive.Nx.Pl | liexk | C ie-ie-ii [dies&] |
| drizzle | jaachan | H aa-oo-ee | drizzle | jaac& | A aa-aa-ea [laatt] |
| dry_up | laq'an | A a-e-e | dry_up | loq' | I a-o-a [mol] |
| dry_up | lieq'an | C ie-ie-ii | dry_up.Nx | -- | Z |
| dry_wet_bedd | juodan | L uo-uu-ye | dry_wet_bedd | -- | Z |
| ing_for_anim | | | ing_for_anim | | |
| als | | | als | | |
| eat | da'an | S a-o-e (G?) | eat | d•u' | K a-u-i [ull] |
| eat_a_little | qaallan | H aa-oo-ee | swallow | qoall | G aa-oa-ea [oal] |
| end | daalan | H aa-oo-ee | start/end | d•oal | G aa-oa-ea [oal] |
| end | dovlan | O ov-ov-ev | end | -- | Z |
| end | diilan | K ii-yy-ii | start/end.Nx | d•uul | D uu-uu-ii [duuc] |
| envy | hwagan | G a-o-e | crave | h@og | I a-o-a [mol] |
| envy | hwiegan | I ie-ye-ii | crave.Nx | -- | Z |
| exhaust | hwaxan | A a-e-e | exhaust | -- | Z |
| exhibit | daatan | H aa-oo-ee | exhibit | -- | Z |
| explain | tidan | J i-y-i | explain | -- | Z |
| extract | daaqqan | H aa-oo-ee | extract | d•oaqq | G aa-oa-ea [oal] |
| extract | daaxan | H aa-oo-ee | extract.Pl | d•oax | G aa-oa-ea [oal] |
| fall | duozhan | L uo-uu-ye | fall | d•uoz& | H uo-uo-ie [tuox] |
| fall | iegan | I ie-ye-ii | rock.Nx | ieg | C ie-ie-ii [dies&] |
| fall | liegan | C ie-ie-ii | fall.Nx | lieg | C ie-ie-ii [dies&] |
| fasten | q'iilan | K ii-yy-ii | fasten.Nx | -- | Z |
| fasten | q'ovlan | O ov-ov-ev | fasten | q'ovl | F ov-ov-ej [lovz] |
| fear_not | dahwan | A a-e-e | dare | d•uh@ | Y a-u-e |
| feed | qaaban | H aa-oo-ee | feed | qoab | G aa-oa-ea [oal] |

| | | | | | |
|----------------|-----------|------------------------|---------------|---------|--------------------|
| fill | duzan | M u-u-y | fill | d•uz | J y-u-i [duz] |
| filter | littan | J i-y-i (K ii-yy-ii ?) | filter.Nx | luutt | D uu-uu-ii [duuc] |
| fit_in | xuo'an | W uo-ye-ye (E?) | fit_in | -- | Z |
| fling | tasán | G a-o-e | fling | toss | I a-o-a [mol] |
| fling | tiisan | K ii-yy-ii | fling.Nx | tuus | D uu-uu-ii [duuc] |
| fold | dagan | G a-o-e | fold | d•og | I a-o-a [mol] |
| get_angry | hwaan | R aa-ov-aj (< a-o-e) | agitate | h@ov | M aa-ov-ej [lov] |
| get_cloudy | quolan | L uo-uu-ye | get_cloudy | -- | Z |
| get_drunk | daxan | A a-e-e | get_drunk | d•ax | Y a-o-e |
| get_drunk | daxan | A a-e-e | get_drunk | d•ox | I a-o-a [mol] |
| get_num | laxan | A a-e-e | get_num | -- | Z |
| get_sour | sovsan | F ov-ev-ev | ferment | sovs | F ov-ov-ej [lovz] |
| get_to_know | dovzan | F ov-ev-ev | get_to_know | d•ovz | F ov-ov-ej [lovz] |
| give | dalan | S a-o-e (G?) | give | lu | Y a-x-a |
| go | daxan | Y a-ye-a | go | d•uoda | Y a-x-a |
| go_astray | tilan | J i-y-i | err | tul | J y-u-i [duz] |
| go_down | duossan | L uo-uu-ye | descend | d•uoss | H uo-uo-ie [tuox] |
| go_down | dissan | J i-y-i (K ii-yy-ii ?) | descend | -- | Z |
| go_for_a_drive | xaaxkan | H aa-oo-ee | ride | xoaxk | G aa-oa-ea [oal] |
| go_for_a_drive | xiexkan | I ie-ye-ii | ride.Nx | xiexk | C ie-ie-ii [dies&] |
| graze | daacan | H aa-oo-ee | graze | -- | Z |
| grind | ahwan | G a-o-e | grind | oh@ | I a-o-a [mol] |
| gush_out | qovsan | O ov-ov-ev | gush_out | -- | Z |
| hang | qaazan | H aa-oo-ee | hang | -- | Z |
| hang_up | uollan | L uo-uu-ye | hang_up | uoll | H uo-uo-ie [tuox] |
| hang_up | uoxkan | L uo-uu-ye | hang_up.Pl | uoxk | H uo-uo-ie [tuox] |
| harden | daxchan | A a-e-e | harden | -- | Z |
| hash | ataan | H aa-oo-ee | pulverize | d•oat ? | G aa-oa-ea [oal] |
| hash | ataan | H aa-oo-ee | pulverize | oat | G aa-oa-ea [oal] |
| hear | xazan | A a-e-e | hear | xoz | I a-o-a [mol] |
| hide | lachq'an | A a-e-e | hide | loçǣ | I a-o-a [mol] |
| hide | liechq'an | C ie-ie-ii | hide.Nx | -- | Z |
| hit; milk | diettán | C ie-ie-ii | hit.Nx | d•iett | C ie-ie-ii [dies&] |
| hop | ieqqan | I ie-ye-ii | burst | ieqq | C ie-ie-ii [dies&] |
| howl | ughan | M u-u-y | howl | uugh | D uu-uu-ii [duuc] |
| hurt | lazan | G a-o-e | hurt | laz | B a-a-a [lat] |
| inconvenience | hwieghan | C ie-ie-ii | inconvenience | -- | Z |
| investigate | tallan | G a-o-e | investigate | -- | Z |
| jump | lielxan | C ie-ie-ii | burst.Pl | lielx | C ie-ie-ii [dies&] |
| kill | dien | P ie-ye-ii (< i-y-i) | kill | d•uu | E ie-uu-ii [duu] |

| | | | | | |
|---------------|-------------|------------------------|---------------|-------|--------------------|
| knead | hwien | P ie-ye-ii (< i-y-i) | knead | h@uu | E ie-uu-ii [duu] |
| knock | tuoxan | L uo-uu-ye | hit | tuox | H uo-uo-ie [tuox] |
| know | xa'an | T a-a-i | know | xov | M aa-ov-ej [lov] |
| lag | xaadan | B aa-ee-ee | break_off | xoad | G aa-oa-ea [oal] |
| lag | xiedan | C ie-ie-ii | break_off.Nx | -- | Z |
| lament | tiizhan | D ii-ii-ii | lament | -- | Z |
| lay | willan | J i-y-i (K ii-yy-ii ?) | lying_down | ull | K a-u-i [ull] |
| lay | waaxkan | H aa-oo-ee | lying_down.Pl | uxk | K a-u-i [ull] |
| lead | qiilan | K ii-yy-ii | lead | -- | Z |
| lead | digan | J i-y-i | lead_away | d•ug | J y-u-i [duz] |
| lean | tawan | A a-e-e | lean | ta | B a-a-a [lat] |
| lean | tiewan | C ie-ie-ii | lean.Nx | -- | Z |
| lean | tozhan | F ov-ev-ev | lean.Pl | -- | Z |
| learn | waaman | B aa-ee-ee | learn | am | B a-a-a [lat] |
| leave | ditan | J i-y-i | leave | d•ut | J y-u-i [duz] |
| lie_down | dizhan | J i-y-i | lie_down | -- | Z |
| lie_down | diishan | K ii-yy-ii | lie_down.Pl | -- | Z |
| lift | ii'an | X ii-yy-ii (K?) | lift.Nx | -- | Z |
| lift | aj'an | Q aj-aj-aj | lift | -- | Z |
| live | daaxan | B aa-ee-ee | live | d•aax | A aa-aa-ea [laatt] |
| live | daaxkan | H aa-oo-ee | live.Pl | -- | Z |
| load | duulan | N uu-uu-yy | load | -- | Z |
| look | hwazhan | G a-o-e | look | h@oz& | I a-o-a [mol] |
| look | hwovsan | O ov-ov-ev | look.Pl | -- | Z |
| look | hwiezhan | I ie-ye-ii | look.Nx | -- | Z |
| look | hwiiisan | K ii-yy-ii | look.Nx.Pl | -- | Z |
| look_gloomily | ch'achq'an | A a-e-e | frown | -- | Z |
| look_gloomily | ch'iechq'an | C ie-ie-ii | frown.Nx | -- | Z |
| lose | xaalan | H aa-oo-ee | lose | -- | Z |
| lose | daj'an | Q aj-aj-aj | lose | -- | Z |
| lose | daan | R aa-ov-aj (< a-o-e) | lose | d•ov | F ov-ov-ej [lovz] |
| lose | daan | R aa-ov-aj (< a-o-e) | die | d•ov | F ov-ov-ej [lovz] |
| love | diezan | C ie-ie-ii | love | d•iez | C ie-ie-ii [dies&] |
| make | dan | S a-o-e (G?) | make | d•u | Y other |
| melt | dashan | A a-e-e | melt | d•as& | I a-o-a [mol] |
| melt | laalan | B aa-ee-ee | melt | loal | G aa-oa-ea [oal] |
| mix | ien | P ie-ye-ii (< i-y-i) | mix | -'uu | E ie-uu-ii [duu] |
| mourn | latq'an | A a-e-e | mourn | latq' | B a-a-a [lat] |
| mourn | lietq'an | C ie-ie-ii | mourn.Nx | -- | Z |
| move | ixan | I ie-ye-ii | move.Nx | ux | K a-u-i [ull] |

| | | | | | |
|-------------------------|----------|------------------------|-----------------------|--------|--------------------|
| move_house | qalxan | A a-e-e | move_house | qalx | B a-a-a [lat] |
| multiply | dieban | C ie-ie-ii | multiply | -- | Z |
| multiply_(animals) | daxkan | A a-e-e | birth | d•axk | B a-a-a [lat] |
| need | ieshan | I ie-ye-ii | lack | ies& | C ie-ie-ii [dies&] |
| neigh | tarsan | A a-e-e | neigh | -- | Z |
| neigh | tiersan | C ie-ie-ii | neigh.Nx | -- | Z |
| obey | tigan | J i-y-i | obey | tug | J y-u-i [duz] |
| observe | zien | P ie-ye-ii (< i-y-i) | observe | zuu | E ie-uu-ii [duu] |
| ooze | lashan | A a-e-e | ooze | -- | Z |
| open | diellan | I ie-ye-ii | open | d•iell | C ie-ie-ii [dies&] |
| open_up | jieqan | C ie-ie-ii | clear_up | jieq | C ie-ie-ii [dies&] |
| open_wide | ghaartan | B aa-ee-ee | open_wide | -- | Z |
| open_wide | ghiertan | C ie-ie-ii | open_wide.Nx | -- | Z |
| overturn | xiercan | C ie-ie-ii | turn_over.Nx | -- | Z |
| pasture | daazhan | B aa-ee-ee | graze | d•aaz& | A aa-aa-ea [laatt] |
| pay | tielan | I ie-ye-ii | give.Nx | tiel | C ie-ie-ii [dies&] |
| perish | duoxan | L uo-uu-ye | perish | d•uox | H uo-uo-ie [tuox] |
| permit | xiecan | I ie-ye-ii | permit | xiec | C ie-ie-ii [dies&] |
| pierce | wuottan | L uo-uu-ye | pierce | uott | H uo-uo-ie [tuox] |
| pierce | wittan | J i-y-i (K ii-yy-ii ?) | pierce.Nx | -- | Z |
| play | lovzan | O ov-ov-ev | play | lovz | F ov-ov-ej [lovz] |
| play_music | laqan | G a-o-e | play_music | loq | I a-o-a [mol] |
| play_music | lieqan | I ie-ye-ii | play_music.Nx | lieq | C ie-ie-ii [dies&] |
| plough | aaxan | H aa-oo-ee | plow | oax | G aa-oa-ea [oal] |
| poke | uohwan | L uo-uu-ye | poke | -- | Z |
| poke | iehwan | I ie-ye-ii | poke.Nx | -- | Z |
| pour | duottan | L uo-uu-ye | pour | d•uott | H uo-uo-ie [tuox] |
| pour_out | waan | B aa-ee-ee | pour_out | -- | Z |
| pour_out | wienan | C ie-ie-ii | pour_out.Nx | -- | Z |
| pull | uozan | L uo-uu-ye | pull | uoz | H uo-uo-ie [tuox] |
| pull | iizan | K ii-yy-ii | pull.Nx | -- | Z |
| pump_up | duusan | N uu-uu-yy | pump_up | d•uus | D uu-uu-ii [duuc] |
| push | tattan | G a-o-e | push, move (trans.) | tott | I a-o-a [mol] |
| push | tittan | J i-y-i (K ii-yy-ii ?) | push.Nx | tiett | C ie-ie-ii [dies&] |
| put | daxkan | G a-o-e | put.Pl | d•oxk | I a-o-a [mol] |
| put,cover | dillan | J i-y-i (K ii-yy-ii ?) | put | d•ull | J y-u-i [duz] |
| put_on_(clothes,_shoes) | duuxan | N uu-uu-yy | wear | d•uux | D uu-uu-ii [duuc] |
| put_on_light_footwear | tuudan | N uu-uu-yy | put_on_light_footwear | -- | Z |

| | | | | | |
|-----------------------------------|-----------|------------------------|----------------|--------|--------------------|
| put_together | liewan | C ie-ie-ii | put_together | -- | Z |
| quarrel | ieghan | I ie-ye-ii | quarrel | iegh | C ie-ie-ii [dies&] |
| quiet_down | tien | P ie-ye-ii (< i-y-i) | quiet_down | tuu | E ie-uu-ii [duu] |
| reach | qaachan | H aa-oo-ee | reach | qoac& | G aa-oa-ea [oal] |
| read | dieshan | I ie-ye-ii | read | d•ies& | C ie-ie-ii [dies&] |
| reckon | xietan | C ie-ie-ii | seem | xiet | C ie-ie-ii [dies&] |
| reconcile | taan | R aa-ov-aj (< a-o-e) | reconcile | tov | M aa-ov-ej [lov] |
| rejoice_over_someone's_misfortune | qaardan | B aa-ee-ee | gloat | -- | Z |
| repay | taqan | G a-o-e | repay | toq | I a-o-a [mol] |
| repay | tieqan | I ie-ye-ii | repay.Nx | -- | Z |
| request | diexan | I ie-ye-ii | request | d•iex | C ie-ie-ii [dies&] |
| respect | laaran | H aa-oo-ee | respect | loarh | G aa-oa-ea [oal] |
| respect | lieran | I ie-ye-ii | respect.Nx | -- | Z |
| rest | wan | T a-a-i | rest | -- | Z |
| rest | wien | X ie-ie-ii (C?) | rest.Nx | -- | Z |
| return | dierzan | I ie-ye-ii | return | d•ierz | C ie-ie-ii [dies&] |
| revenge | dieqan | I ie-ye-ii | avenge | d•ieq | C ie-ie-ii [dies&] |
| rip | iet'an | C ie-ie-ii | tear.Nx | iett' | C ie-ie-ii [dies&] |
| ripen | hwiexan | C ie-ie-ii | ripen | -- | Z |
| rise | ghaattan | H aa-oo-ee | rise | ghott | I a-o-a [mol] |
| rise | ghovttan | O ov-ov-ev | rise.Pl | -- | Z |
| rise | ghittan | J i-y-i (K ii-yy-ii ?) | rise.Nx | ghiett | C ie-ie-ii [dies&] |
| roar | ghierghan | C ie-ie-ii | roar.Nx | -- | Z |
| roast | qarzan | G a-o-e | roast | qorz | I a-o-a [mol] |
| rock | lastan | A a-e-e | incline | lost | I a-o-a [mol] |
| rock | liestan | C ie-ie-ii | incline.Nx | -- | Z |
| roll | karchan | A a-e-e | roll (intr) | -- | Z |
| roll | kierchan | C ie-ie-ii | roll (intr).Nx | kierc& | C ie-ie-ii [dies&] |
| rot | talxan | A a-e-e | rot | talx | B a-a-a [lat] |
| run | dadan | G a-o-e | run | d•od | I a-o-a [mol] |
| run | dovdan | O ov-ov-ev | run.Pl | d•ovd | F ov-ov-ej [lovz] |
| run | idan | J i-y-i | run.Nx | ud | K a-u-i [ull] |
| run | hwadan | G a-o-e | run | -- | Z |
| run | hwovdan | O ov-ov-ev | run.Pl | -- | Z |
| say | aalan | H aa-oo-ee | say | oal | G aa-oa-ea [oal] |
| scatter | hwaars | H aa-oo-ee | scatter | -- | Z |
| scatter | qoaxkan | L uo-uu-ye | scatter.Pl | quoxk | H uo-uo-ie [tuox] |
| see | daan | R aa-ov-aj (< a-o-e) | see | -- | Z |
| see | gan | S a-o-e (G?) | see | gu | Y x-x-ej |
| seek | laxan | G a-o-e | seek | lox | I a-o-a [mol] |
| seek | liexan | I ie-ye-ii | seek.Nx | liex | C ie-ie-ii [dies&] |

| | | | | | |
|-----------------------|-----------|--------------------------|------------------|---------|--------------------|
| seem | muottan | E uo-ye-ye | seem | muott | H uo-uo-ie [tuox] |
| sell | duoxkan | L uo-uu-ye | sell | d•uoxk | H uo-uo-ie [tuox] |
| sense | tuosan | L uo-uu-ye | sense | -- | Z |
| sew | tiegan | I ie-ye-ii | sew | tieg | C ie-ie-ii [dies&] |
| sharpen | tuusan | N uu-uu-yy | sharpen | -- | Z |
| shave | daashan | H aa-oo-ee | shave | d•oas& | G aa-oa-ea [oal] |
| shear | largan | G a-o-e | shear | lorg | I a-o-a [mol] |
| shear | marcan | G a-o-e | singe | morc | I a-o-a [mol] |
| shine | liepan | C ie-ie-ii | shine | liep | C ie-ie-ii [dies&] |
| shine | siegan | C ie-ie-ii | shine.Nx | sieg | C ie-ie-ii [dies&] |
| shove_around _eggs | liisan | K ii-yy-ii | push_eggs_around | -- | Z |
| show | hwuoqan | L uo-uu-ye | show | h@uoq | H uo-uo-ie [tuox] |
| shriek | c'ovzan | F ov-ev-ev | shriek | c'ovz | F ov-ov-ej [lovz] |
| shriek | c'iizan | D ii-ii-ii | shriek.Nx | c'uuz | D uu-uu-ii [duuc] |
| shrink | xaban | A a-e-e | shrink | -- | Z |
| shrink | xieban | C ie-ie-ii | shrink.Nx | -- | Z |
| shut | ch'aaghan | H aa-oo-ee | shut | -- | Z |
| sieve | lovsan | O ov-ov-ev | winnow.Pl | lovs | F ov-ov-ej [lovz] |
| sieve | liisan | K ii-yy-ii | winnow.Nx | luus | D uu-uu-ii [duuc] |
| sieve | laasan | H aa-oo-ee | winnow | -- | Z |
| singe | chaxchan | A a-e-e | singe | -- | Z |
| sit | xiishan | K ii-yy-ii | sit.Nx | xuuz& | D uu-uu-ii [duuc] |
| sit | xa'an | S a-o-e (G?) | sit | xov | M aa-ov-ej [lov] |
| sit | xovshan | O ov-ov-ev | sit.Pl | -- | Z |
| slip | sharshan | A a-e-e | slide | s&s& | B a-a-a [lat] |
| slip | shiershan | C ie-ie-ii | slide.Nx | -- | Z |
| smash | duon | X uo-uu-yy (N?) | smash | -- | Z |
| smear | hwaxan | G a-o-e | smear | h@oax | G aa-oa-ea [oal] |
| smear | hwixan | I ie-ye-ii | smear.Nx | -- | Z |
| smile | q'azhan | A a-e-e | smile | q'oz& | I a-o-a [mol] |
| smile | q'iezhnan | C ie-ie-ii | smile.Nx | -- | Z |
| smile | dielan | I ie-ye-ii | laugh | d•iel | C ie-ie-ii [dies&] |
| sob | ch'iewan | C ie-ie-ii | sob | -- | Z |
| sound | diekan | C ie-ie-ii | chirp | d•iek | C ie-ie-ii [dies&] |
| sow | dien | P ie-ye-ii (< i- y-i) | sow | d•uu | E ie-uu-ii [duu] |
| sparkle | q'aagan | B aa-ee-ee | sparkle | q'aag | A aa-aa-ea [laatt] |
| sparkle | q'iegan | C ie-ie-ii | sparkle.Nx | q'ieg | C ie-ie-ii [dies&] |
| speak | diican | K ii-yy-ii | talk | d•uuc | D uu-uu-ii [duuc] |
| speak | baaxan | H aa-oo-ee | speak | joax | G aa-oa-ea [oal] |
| spin_(thread) | hwovzan | O ov-ov-ev | spin_(thread) | -- | Z |
| split_up | dieq'an | I ie-ye-ii | dole_out | d•ieq' | C ie-ie-ii [dies&] |
| spread_out | daarzhan | B aa-ee-ee | extend | d•aarz& | A aa-aa-ea [laatt] |
| sprinkle | sarsan | A a-e-e | sprinkle | -- | Z |

| | | | | | |
|-----------------------|----------|------------------------|----------------|---------|--------------------|
| sprinkle | siersan | C ie-ie-ii | sprinkle.Nx | -- | Z |
| squeeze | wiidan | K ii-yy-ii | wring.Nx | -- | Z |
| squeeze | wovdan | F ov-ev-ev | wring | ovd | F ov-ov-ej [lovz] |
| stand | huottan | L uo-uu-ye | stand_up | uott | H uo-uo-ie [tuox] |
| stand | hittan | J i-y-i (K ii-yy-ii ?) | stand_up.Nx | -uutt | D uu-uu-ii [duuc] |
| stand | laattan | B aa-ee-ee | stand | laatt | A aa-aa-ea [laatt] |
| stare | q'aarzan | B aa-ee-ee | stare | -- | Z |
| stare | q'ierzan | C ie-ie-ii | stare.Nx | q'ierz | C ie-ie-ii [dies&] |
| stay | disan | J i-y-i | stay | d•us | J y-u-i [duz] |
| steal_away | taban | A a-e-e | sneak | tab | B a-a-a [lat] |
| steal_away | tieban | C ie-ie-ii | sneak.Nx | tieb | C ie-ie-ii [dies&] |
| stick_through | duollan | L uo-uu-ye | insert | d•uoll | H uo-uo-ie [tuox] |
| stick_through | duoxkan | L uo-uu-ye | insert.Pl | d•uoxk | H uo-uo-ie [tuox] |
| stop | sacan | G a-o-e | stop | soc | I a-o-a [mol] |
| stop | sovcan | O ov-ov-ev | stop.Pl | -- | Z |
| stop | siecan | C ie-ie-ii | stop.Nx | siec | C ie-ie-ii [dies&] |
| stop_up | duq'an | M u-u-y | stop_up | d•uq' | J y-u-i [duz] |
| stride_(with_a_stick) | lovzan | O ov-ov-ev | stride | -- | Z |
| stride_(with_a_stick) | liizan | K ii-yy-ii | play.Nx | luuz | D uu-uu-ii [duuc] |
| strike | hwaqan | G a-o-e | wipe | h@oq | I a-o-a [mol] |
| strike | hwieqan | I ie-ye-ii | wipe.Nx | -- | Z |
| stroll | qarstan | A a-e-e | stroll | -- | Z |
| stroll | qierstan | C ie-ie-ii | stroll.Nx | -- | Z |
| stroll | lielan | C ie-ie-ii | walk_around | liel | C ie-ie-ii [dies&] |
| suck | xuudan | N uu-uu-yy | suck | -- | Z |
| suck_(breast) | daqan | A a-e-e | suckle | d•aq | B a-a-a [lat] |
| suffer/bear | laan | R aa-ov-aj (< a-o-e) | bear | lov | M aa-ov-ej [lov] |
| suffice | tuo'an | W uo-ye-ye (E?) | suffice | to' | I a-o-a [mol] |
| suffice | waaban | B aa-ee-ee | suffice | ob | I a-o-a [mol] |
| swell | darstan | A a-e-e | swell | d•arst | B a-a-a [lat] |
| swell | diestan | C ie-ie-ii | swell.Nx | d•iest | C ie-ie-ii [dies&] |
| swing | taxkan | A a-e-e | swing | tark | B a-a-a [lat] |
| swing | taxkan | A a-e-e | swing | tork | I a-o-a [mol] |
| swing | tiexkan | C ie-ie-ii | swing | tierk | C ie-ie-ii [dies&] |
| take | iecan | I ie-ye-ii | take | iec | C ie-ie-ii [dies&] |
| take_fright | q'aaxkan | B aa-ee-ee | take_fright | q'aaxk | A aa-aa-ea [laatt] |
| take_fright | q'ieckan | C ie-ie-ii | take_fright.Nx | q'ieck | C ie-ie-ii [dies&] |
| talk | lien | P ie-ye-ii (< i-y-i) | scold | luu | E ie-uu-ii [duu] |
| teach | hwiexan | I ie-ye-ii | teach | h@iex | C ie-ie-ii [dies&] |
| tear | daat'an | B aa-ee-ee | tear (intr) | d•oatt' | G aa-oa-ea [oal] |

| | | | | | |
|----------------|-----------|------------------------|----------------|---------|--------------------|
| test | zien | P ie-ye-ii (< i-y-i) | test | -- | Z |
| thicken_up | datan | A a-e-e | thicken_up | jat | B a-a-a [lat] |
| thresh | aaran | H aa-oo-ee | thresh | -- | Z |
| throw | quossan | L uo-uu-ye | throw | quoss | H uo-uo-ie [tuox] |
| throw | qiisan | K ii-yy-ii | throw.Nx | quuss | D uu-uu-ii [duuc] |
| thunder | q'ovq'an | F ov-ev-ev | thunder | q'ovq' | F ov-ov-ej [lovz] |
| thunder | q'ieq'an | C ie-ie-ii | thunder.Nx | q'uuq' | D uu-uu-ii [duuc] |
| tie | diexkan | I ie-ye-ii | bind | d•iexk | C ie-ie-ii [dies&] |
| touch | qovdan | F ov-ev-ev | touch | qovd | F ov-ov-ej [lovz] |
| touch | qiidan | K ii-yy-ii | touch.Nx | -- | Z |
| tremble | diegan | C ie-ie-ii | shake | d•ieg | C ie-ie-ii [dies&] |
| turn | xaarcan | H aa-oo-ee | turn | xoarc | G aa-aa-ea [laatt] |
| turn | xiercan | I ie-ye-ii | turn.Nx | -- | Z |
| turn_around | hwovzan | F ov-ev-ev | turn_around | h@ovz | F ov-ov-ej [lovz] |
| turn_around | hwiiizan | D ii-ii-ii | turn_around.Nx | h@uuz | D uu-uu-ii [duuc] |
| turn_over | xaarcan | B aa-ee-ee | turn_over | -- | Z |
| twinkle | gazhan | A a-e-e | twinkle | -- | Z |
| understand | qi'an | X i-y-i (J?) | understand | -- | Z |
| understand | qietan | C ie-ie-ii | understand | qiet | C ie-ie-ii [dies&] |
| understand | qietan | C ie-ie-ii | hit_target | qiet | C ie-ie-ii [dies&] |
| untie | daastan | H aa-oo-ee | untie | d•oast | G aa-aa-ea [laatt] |
| wash_(clothes) | dittan | J i-y-i (K ii-yy-ii ?) | laundry | d•utt | J y-u-i [duz] |
| wash_oneself | dilan | J i-y-i | bathe (intr) | d•ul | J y-u-i [duz] |
| weave | duozan | L uo-uu-ye | weave | d•uuz | D uu-uu-ii [duuc] |
| weigh | uozan | L uo-uu-ye | weigh | -- | Z |
| win | tuolan | E uo-ye-ye | win | tuol | H uo-uo-ie [tuox] |
| wind | dawan | H aa-oo-ee | wind | -- | Z |
| wind_round | hwaarchan | B aa-ee-ee | wind_round | h@aarr& | A aa-aa-ea [laatt] |
| wind_round | hwierchan | C ie-ie-ii | wind_round | -- | Z |
| wind_up | listan | J i-y-i (K ii-yy-ii ?) | wind_up | lust | J y-u-i [duz] |
| wish | la'an | T a-a-i | wish | lov | M aa-ov-ej [lov] |
| | -- | Z | rock | aag | A aa-aa-ea [laatt] |
| | -- | Z | ache? whine? | c&'axk | B a-a-a [lat] |
| | -- | Z | tire | d•aac ? | A aa-aa-ea [laatt] |
| | -- | Z | lie.Pl | d•aada | A aa-aa-ea [laatt] |
| | -- | Z | sitting_down | d•aagh | A aa-aa-ea [laatt] |
| | -- | Z | get_untied | d•aatt' | A aa-aa-ea [laatt] |
| | -- | Z | suckle | d•aq | B a-a-a [lat] |
| | -- | Z | impressed | d•as& | B a-a-a [lat] |
| | -- | Z | congeal | d•at | B a-a-a [lat] |
| | -- | Z | chirp | d•iek | C ie-ie-ii [dies&] |
| | -- | Z | must | d•iez | C ie-ie-ii [dies&] |

| | | | | |
|----------|---|------------------|-------------|--------------------|
| -- | Z | interpret | d•oas&x | G aa-oa-ea [oal] |
| -- | Z | pull (trigger) | d•oaz&a-d•u | Y unkno n |
| -- | Z | ruin | d•ovx | F ov-ov-ej [lovz] |
| dawan | Z | castrate | d•o | I a-o-a [mol] |
| -- | Z | be_born | d•u | Y other |
| -- | Z | get_rich | d•uq' | J y-u-i [duz] |
| -- | Z | pant | d•uuh@ | D uu-uu-ii [duuc] |
| -- | Z | extend | d•uul | D uu-uu-ii [duuc] |
| -- | Z | late | gov | M aa-ov-ej [lov] |
| -- | Z | pressed_for_time | gov | M aa-ov-ej [lov] |
| -- | Z | precipitate_out | h@a | B a-a-a [lat] |
| -- | Z | show | h@ovq | I a-o-a [mol] |
| -- | Z | turn_around | h@ovz | F ov-ov-ej [lovz] |
| -- | Z | show.Nx | h@uuq | D uu-uu-ii [duuc] |
| hwieq'an | Z | reap | h@uuq' | D uu-uu-ii [duuc] |
| -- | Z | complain | kad | B a-a-a [lat] |
| -- | Z | toss_coin | long | I a-o-a [mol] |
| -- | Z | filter | lott | I a-o-a [mol] |
| -- | Z | slip | lovz& | F ov-ov-ej [lovz] |
| -- | Z | slip | luuz& | D uu-uu-ii [duuc] |
| -- | Z | crush | oac& | G aa-oa-ea [oal] |
| -- | Z | rock | oag ? | G aa-oa-ea [oal] |
| -- | Z | grind | oard | G aa-oa-ea [oal] |
| -- | Z | smile | q'az& | B a-a-a [lat] |
| -- | Z | elect | q'ierd | C ie-ie-ii [dies&] |
| -- | Z | rotate.Nx | qiest | C ie-ie-ii [dies&] |
| -- | Z | swallow.Pl | qoaxk | G aa-oa-ea [oal] |
| -- | Z | rotate | qost | I a-o-a [mol] |
| -- | Z | cast | qovss | F ov-ov-ej [lovz] |
| -- | Z | take/bring.Nx | quh@ | Y a-u-e |
| -- | Z | scatter | quoll | H uo-uo-ie [tuox] |
| -- | Z | grow, attain | quu | E ie-uu-ii [duu] |
| -- | Z | curse.Nx | sierd | C ie-ie-ii [dies&] |
| -- | Z | burn | sog | I a-o-a [mol] |
| -- | Z | freeze | tac | B a-a-a [lat] |
| -- | Z | nap | tars | B a-a-a [lat] |
| -- | Z | sever | tied | C ie-ie-ii [dies&] |
| -- | Z | appropriate | tov | M aa-ov-ej [lov] |
| -- | Z | fling.Pl | tovs | F ov-ov-ej [lovz] |
| -- | Z | push.Pl | tovtt | F ov-ov-ej [lovz] |
| -- | Z | search | toxk | I a-o-a [mol] |
| twovsan | Z | fall_asleep | t ovs | F ov-ov-ej [lovz] |
| -- | Z | influence | atq' | B a-a-a [lat] |
| -- | Z | brag.Nx | xiest | C ie-ie-ii [dies&] |

| | | | | |
|----|---|------|-------|---------------------------------|
| -- | Z | brag | xoast | G aa- oa -ea [oal] |
| -- | Z | hop | xoxk | I a-o-a [mol] |
| -- | Z | low | z&ie& | C ie- ie -ii [dies&] |
| -- | Z | ring | zovz | F ov-ov-ej [lovz] |

APPENDIX III: The Ingush sound system

VOWELS

Simple vowels

ii uu
 i y u
 ie uo
 (e) a o
 ea aa oa

Falling diphthongs

ej aj oj ov
 aaj aav

CONSONANTS

p t c c& k q '
 tt qq
 p' t' c' c&' k' q'
 b d ʃ ʃ& g
 f s s& x h h@
 v z z& gh
 m n
 rh
 l r j

/a/ represents schwa.

/p' t'/ etc. are ejectives.

/'/ is a glottal stop. (It is not transcribed word initially.)

/ / is a pharyngealized glottal onset. The symbol < > is also used following a consonant (e.g.

/d a/) to mark pharyngealization.

/h@/ is a voiceless pharyngeal fricative.

/rh/ is a voiceless flap.

Details of phonetic realization are not discussed here.