

Dedicated to Gufferdk.

Branch: canon

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0.1 | Introduction

1 | Phonology and orthography

1.1 | Phoneme inventory

Middle Rymakonian underwent several sound changes from Lek-Tsaro, in the following order:

$s \rightarrow \text{ɬ}$	$(\blacklozenge\{w, j, u, y\})$	<i>NB this is a whistled sibilant.</i>
$\eta \rightarrow \text{jɲ}$	$(\square\blacklozenge)$	
$\theta x \rightarrow \theta$	$\neg(\blacklozenge\square)[x = \emptyset]$	
$C_1[+fr] \rightarrow C_1[+v]$	$(V_1\blacklozenge V_2)$	
$\text{ɹ} \rightarrow \text{z}$	$(V_1\blacklozenge V_2)$	
$\{x, u\} \rightarrow \text{ɥ}$		
$V_1[+r] \rightarrow V_1[-r]$		
$k \rightarrow c$	$(\blacklozenge i)$	
$t \rightarrow \text{tʃ}$	$(\blacklozenge i)$	
$r \rightarrow \text{r}$		

Thus Middle Rymakonian has the following phoneme inventory:

Table 1.1: The consonants of Middle Rymakonian.

	Bilabial	Dental	Alveolar	Palatal	Velar	Glottal
Nasal	m		n	ɲ	ŋ	
Plosive	p b		t d	c ɟ	k g	ʔ
Fricative	f v	θ ð	s z	ʃ ʒ	x ɣ	
(coarticulated)	fx vɣ	θx ðɣ		fʃ vʒ		
(whistled)			ɬ ʣ			
Affricate			ts	tʃ		
Lateral fricative			ɬɮ ɮɬ			
Approximant			ɹ	j	w	
Lateral approximant			l			
Tap			r			

Table 1.2: The vowels of Middle Rymakonian.

	Front	Central	Back
High	i	ɤ	u
Mid	ɛ		ʌ
Low		a	

In addition to consonants and vowels, Middle Rymakonian has rod signals, represented by numbers. Rod A is blue and held by one's dominant hand and B is red and held by one's non-dominant hand. Rod signals can occur only at the end of words.

1. Rod A is raised to one's chest, while B is pointed down.
2. Rods A and B are crossed in the front.
3. Rod B is raised upwards in front of the nondominant arm, while rod A is lowered.
4. Rod A is pointed sideways near one's nondominant arm, while rod B is lowered.
5. Rods A and B are extended to the sides.
6. Rods A and B are extended, facing forward.
7. Rod A is raised forward, while B is pointed to the side.
8. Rod B is raised forward, while A is pointed to the side.

Lowering both rods is interpreted as an absence of a rod signal.

If the use of rods are unavailable, the numerals of the positions may be pronounced.

1.2 | Hacmisation

As using IPA is quite wieldly, we shall use the following hacmisation, with superscript letters to indicate phonemes not found in Arka.

Table 1.3: The consonants of Middle Rymakonian.

	Bilabial	Dental	Alveolar	Palatal	Velar	Glottal
Nasal	ɒ		n	n ^ɥ	n ^ɸ	
Plosive	d b		f ɳ	f ^ɥ ɳ ^ɥ	ɭ ɸ	.
Fricative	ɑ u	j ^a z ^u	j z	l s	ɭ ^l ɸ ^s	
(coarticulated)	ɑ ^h u ^h	j ^h z ^h		ɑ ^l u ^s		
(whistled)			j ^o z ^o			
Affricate			ɸ	ɸ ^l		
Lateral fricative			l ^l s ^l			
Approximant			ɸ	ɥ	o	
Lateral approximant			l			
Tap			ɳ			

Rod signs are represented by the hacm digits <1 2 3 4 5 6 7> attached to the end of the verbs they encompass. Proper words are preceded by a backslash <\>.

Note that the hacmisation is slightly different from Lek-Tsaro's use of hacm. Lek-Tsaro's <h s> are now written using <ɭ^l l^l>, for instance.

Table 1.4: The vowels of Middle Rymakonian.

	Front	Central	Back
High	ɕ	ʑ	ə
Mid	e		ɔ
Low		ɪ	

1.3 | Phonotactics

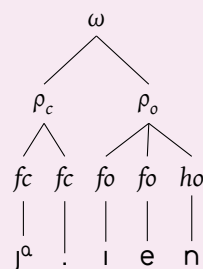
Table 1.5: Categories of phonemes.

Category	Phonemes
Full-open	ɪ e ɛ ɔ ə ʊ u z ^u z z ^o s ʃ ^s s ^l ʏ o ʔ ɿ
Half-open	ɜ ʊ ɪ ɒ n n ^u n ^ʊ j ^l ɣ
Neutral	j j ^o l l ^l u ^h z ^h u ^s ɬ ɰ
Half-closed	ɑ l ɿ ^l ɾ Δ
Full-closed	j ^a a ^h j ^h a ^l d b ɾ ɒ ɾ ^u ɒ ^u ɳ ʋ ʋ ^l ɾ ^l . ʔ ʈ

These are converted into *actual categories* as follows:

- Full-open and full-closed phonemes are always realised as open and closed, respectively.
- Half-open phonemes are open unless the previous phoneme is full-closed.
- Half-closed phonemes are closed unless the previous phoneme is full-open.
- Neutral phonemes that do not occur word-initially inherit the actual category of the phoneme before it.
- Neutral phonemes that occur word-initially are closed.

A *phonorun*, then, is a maximal sequence of phonemes that are either all open or all closed within a word. For instance, take $\langle \text{j}^{\text{a}}.\text{ien} < \text{xj}^{\text{h}}.\text{ien} \rangle$:



Note that two phonemes in the word were metathesised when it was derived from Lek-Tsaro. In general, a word with n spoken phonemes cannot have more than $\lceil n/2 \rceil$

phonoruns. Therefore, the following changes are executed in order until an application of one rule reduces the number of phonoruns to an acceptable number, after which the other rules are not executed:

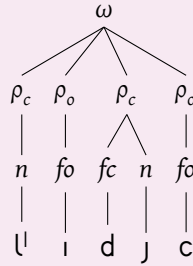
$$\begin{aligned}
 X_1[do]X_2[dc]R[do] &\rightarrow X_2X_1R \\
 X_1[dc]X_2[do]R[dc] &\rightarrow X_2X_1R \\
 X_1[dc]X_2[do]\uparrow X_3[do] &\rightarrow X_1\uparrow X_2X_3 \\
 X_1[do]\uparrow X_2[do]X_3[dc] &\rightarrow X_1X_2\uparrow X_3 \\
 X_1[op \geq 0]X_2[dc]X_3[do]X_4[op \leq 0] &\rightarrow X_1X_3X_2X_4 \quad [X_1.op + X_3.op - X_2.op - X_4.op \geq 6] \\
 X_1[op \leq 0]X_2[do]X_3[dc]X_4[op \geq 0] &\rightarrow X_1X_3X_2X_4 \quad [X_2.op + X_4.op - X_1.op - X_3.op \geq 6] \\
 X_1[do]X_2[dc]X_3[do] &\rightarrow X_1X_3X_2 \quad \text{for ever} \\
 X_1[dc]X_2[do]X_3[dc] &\rightarrow X_2X_1X_3 \quad \text{for ever}
 \end{aligned}$$

where R means a rod signal, X represents a spoken phoneme and op stands for *openness* (full-open = 2, neutral = 0, full-closed = -2). do is short for $op > 0$, and dc is short for $op < 0$.

All of the rules above move from right to left and do not occur across compound boundaries. The last two rules are executed alternately in a loop until the number of phonoruns is reduced to an acceptable number or both rules converge to a fixed point. This process will hereafter be called *phonorun reduction*.

In the example above, $\langle xj^a.i.en \rangle$ had $4 > \lceil 5/2 \rceil$ phonoruns, so the third rule was applied. This changed the word into $\langle j^a.i.en \rangle$, which has $2 \leq \lceil 5/2 \rceil$ phonoruns.

An example where phonorun reduction does not result in a word with few enough phonoruns is $\langle l^i.dj.c \rangle$ *soup*, which has the starting phonoruns



Obviously, the first four rules do not match anywhere in the word. The sixth rule seems promising because it matches the pattern at $\langle l^i.dj- \rangle$, but the required sum is $0 + 2 + 2 + 0 < 6$, so this rule does not match. In addition, the last two rules do not match, and we encounter a fixed point. In such cases, the anomaly is allowed to pass.

The dictionary lists forms of roots *before* the phonorun reduction happens, because affixes can radically affect which phonemes are switched.

1.3.1 | Prosody

The time taken to utter a phonorun is given by the model:

$$t_o = K \cdot (1 + v \cdot \alpha + c \cdot \beta) \quad (\text{phonorun is open}) \quad (1.1)$$

$$t_c = K \cdot \eta \cdot (\gamma + v \cdot \alpha + c \cdot \beta) \quad (\text{phonorun is closed}) \quad (1.2)$$

where K is a constant varying from person to person, v is the number of vowels and c is the number of consonants in the run. α , β , γ and η are also constants such that $\beta < \alpha$, and both γ and η are less than 1. In other words:

- There is a fixed cost for starting a new phonorun. This cost is less for closed phonoruns than open.
- Closed phonoruns are faster to say than open runs with the same number of consonants and vowels.
- Closed phonoruns are also more length-dependent than open runs.
- It takes less time to utter consonants than vowels.

An estimate of the constants for the standard dialect would be $\alpha = 0.37$, $\beta = 0.46$, $\gamma = 0.82$ and $\eta = 0.61$.

1.4 | Vowel harmony

Middle Rymakonian inherits vowel harmony from Lek-Tsaro. Thus <ɕ e> are front vowels, <ə ɔ> are back vowels and <ɪ ʌ> are neutral. Most roots with neither front nor back vowels act as if they had front vowels, though some might behave as if they had back vowels. Many affixes will change depending on which vowels are present.

If by some odd chance a word has both front and back vowels, then the rightmost vowel (before phonorun reduction) takes precedence.

2 | Syntax

2.1 | Basic word order

The basic word order is VSO. Descriptors follow what they modify.

However, unlike Lek-Tsaro, Middle Rymakonian has oblique arguments. As these were historically formed from a preclause, all obliques precede V. Likewise, any arguments with conjunctions also precede V. Such arguments that were formed from a clause will be called *historically clausal arguments* (HCAs).

Usually, oblique arguments are prepared by prepositions and fall before what they modify, but if an oblique argument is a conjunctive phrase or governs an HCA, it uses a postposition instead and precedes its antecedent.

2.2 | Questions

Binary questions have the interrogative polarity marker and no change to syntax.

In wh-questions, the wh-word is pulled to the front (i. e. before the verb). This requires case marking for the wh-word:

[TODO: example]

This applies only to questions, not interrogative-mood clauses that act as relative clauses:

[TODO: example]

2.3 | Multiple clauses

A sentence might have multiple clauses. Each clause in a sentence follows the basic VSO order, and clauses are separated with commas.

3 | Nouns

Nouns are declined for number, case and definiteness.

3.1 | Number

Countable nouns come in two numbers: *dual* and *non-dual*.

There are two different conceptualisations of the dual number. Some dialects use the dual number to refer to all cases with two objects (we say that they have the *unpaired dual*); others use it only to refer to objects in pairs (these lack the unpaired dual). In general, dialects without the unpaired dual are more prevalent in cities, as well as northern regions.

Each countable noun has an *inherent number*. A noun whose number agrees with its inherent number receives no marking; a mismatch causes the noun to receive a special affix.

3.2 | Case

In a clause with both the subject and object directly expressed in that order, both the subject and object are declined in the nominative case (and their roles are inferred through word order). In a clause where only one is present, or where both are expressed in the opposite order, the subject will receive the nominative case and the object will receive the accusative case.

3.3 | Noun classes

There are three overarching groups of noun classes.

1. Countable
 - (a) Sentient – such as humans, AIs, deities.
 - (b) Non-sentient – anything else.
2. Measurable
 - (a) Measure – all measurable nouns, especially units of measurement.
3. Uncountable
 - (a) Edible – edible (to humans).

- (b) Inedible – inedible (to humans).
- (c) Abstract – abstract ideas.

3.4 | Definiteness

The definite form of a noun is formed regularly by reduplicating the first syllable (without the coda): <DIZI> “a person” becomes <DIDIZI> “the person”.

3.5 | Declension table

Here, the inflected forms of words are shown both before and after phonorun reduction to illustrate the pattern. The declension patterns for each class is shown, both for roots ending with consonants and those ending with vowels.

Note that noun declensions for countable respect vowel harmony. For nouns with back vowels, replace the front vowels with the back vowels of the same height and rounding, and vice versa. (Noun declensions for measurable and uncountable classes do not respect vowel harmony.)

3.5.1 | Countable classes

Table 3.1: Declensions for countable nouns.

	Direct #	Inverse #
Sentient: <xDIZI> “person”		
Nominative	DIZI (DIZI)	DIZI (DIZI)
Accusative	DIZIn (DIZIn)	DIZInIl (DIZInIl)
Sentient: <xj ⁰ .en> “magician”		
Nominative	j ⁰ .en (j ⁰ .en)	j ⁰ .el (j ⁰ .el)
Accusative	j ⁰ .ezcn (j ⁰ .ezcn)	j ⁰ .epcl (j ⁰ .epcl)
(Note that the final consonant is preserved only in the direct nominative form.)		
Non-sentient: <xD3n ⁰ ɔ> “rabbit”		
Nominative	D3n ⁰ ɔ (D3n ⁰ ɔ)	D3n ⁰ ɔ.ə (D3n ⁰ ɔ.ə)
Accusative	D3n ⁰ ɔD (D3n ⁰ ɔD)	D3n ⁰ ɔuə (D3n ⁰ ɔuə)
Non-sentient: <x.cDen> “house”		
Nominative	.cDen (.cDen)	.cDe.c (.cDec.)
Accusative	.cDezCD (.cDezCD)	.cDeɲcuc (.cDeɲcuc)

3.5.2 | Measurable and uncountable classes

Table 3.2: Declensions for measurable and uncountable nouns.

	Direct
Measure: <xμ3D3> “day (continuous)”	
Nominative	μ3D3 (μ3D3)
Accusative	μ3D3n (μ3D3n)
Measure: <xDeI> “volume” (in expressions such as <xDeI–ɥ3ɔ> “cupful”)	
Nominative	DeI (DeI)

	Direct
Accusative	de ^z cn (de ^z cn)
Edible: <xfe ^u .c> “beef”	
Nominative	fe ^u .c (fe ^u .c)
Accusative	fe ^u .cn (fe ^u cn.)
Edible: <xɔɪn> “rice”	
Nominative	ɔɪn (ɔɪn)
Accusative	ɔɪncn (ɔɪncn)
Inedible: <xpəɔ> “gold”	
Nominative	pəɔ (pəɔ)
Accusative	pəɔbe (pəɔbe)
Inedible: <xɪɔɪj> “stone”	
Nominative	ɪɔɪj (ɪɔɪj)
Accusative	ɪɔɪjde (ɪɔɪjde)
Abstract: <xə ^h əɔ> “empathy”	
Nominative	ə ^h əɔ (ə ^h əɔ)
Accusative	ə ^h əɔcn ^ʰ (ə ^h əɔcn ^ʰ)
Abstract: <xɸɔj> “[the number] five”	
Nominative	ɸɔj (ɸɔj)
Accusative	ɸczcn ^ʰ (ɸczcn ^ʰ)
Here, the final consonant is voiced if it is a fricative.	

(NB: be sure to change any <ɪ> and <ɸ> into <ɪ^ʰ> and <ɸ^ʰ> respectively before <ɔ>.)

3.6 | Pronouns

Personal pronouns are not divided into first, second and third persons as in most languages. Instead, they fall into four categories which exhibit different behaviour depending on whether they occur as the first non-oblique noun in the clause or elsewhere (second noun, verb inflection, oblique):

Table 3.3: Pronoun persons and their functions.

Person	Role in first position	Role elsewhere
Near	The speaker.	The first argument of the sentence. The person with which the first argument is conversing. An entity that is neither the speaker, the listener nor the first argument.
Far	The listener.	
Other	A third entity.	
Generic	A generic entity (akin to “one”).	
Anaphoric Subject	The subject of the previous clause. Also used on the verb when an oblique or conjunction is present.	
Anaphoric Object		
	The object of the previous clause.	

In wh-questions, the wh-word assumes the second position and the other argument becomes the first.

If a clause has no explicit arguments, the first argument is understood to be the subject.

Table 3.4: Personal pronouns (before phonorun reduction).

	Nominative		Accusative	
	Non-dual	Dual	Non-dual	Dual
Near	fi	aczc	fin	aczen
Far	dc	bpi	dcn	bpin
Other	nc	lizc	ncn	lizen
Anaph. Sub.	pi	n ⁴ cpc	pin	n ⁴ cpen
Anaph. Obj.	pc	n ⁴ apc	pcn	n ⁴ apcn
Generic	.ə		.ən	

3.6.1 | Last-clause pronouns

The anaphoric pronoun <ebj> (accusative: <bezen>) is grammatically an other pronoun, and it refers to the previous clause said. Likewise, <bdecj> (accusative: <bdecn>) refers to the clause before the previous one. All of these pronouns should undergo phonorun reduction inside a compound.

3.7 | Compounding

Nouns can be compounded together in a head-initial manner. When that happens, only the leftmost noun is the one to be declined.

del-μɜɟɔ-ɑ¹ɜμə-φcɟ
 volume-cup-water-five
 five cupfuls of water

Note that pronouns can modify other nouns, in which personal possession is indicated:

del-μɜɟɔ-ɑ¹ɜμə-φcɟ-fi
 volume-cup-water-five-PR.NEAR.NONDUAL
 (arg1)'s five cupfuls of water

Descriptors can also compound on nouns. Unlike in Lek-Tsaro, this is the only way to have descriptors modify nouns.

ɖɪzɪ-lfəi
 ɖɪzɪ-ləfi
 person-old
 old people

3.8 | Possession

“X’s Y” is translated as <Y=ɖɪ X> (plus phonorun reduction). The possessive construction is also used to create appositives. (Note the head-marking!)

Observe that possession marks the head, and <–Dɪ> is a clitic, not an affix, as in the following example:

D3D3ŋ⁰ɔ–a^lʒpə–Dɪ j^h.ien
 D3D3ŋ⁰ɔ–a^lʒpə–Dɪ j^h.en
 DEF~rabbit-water=GEN magician
 the magician's water rabbit

This construction is also used when compounding would otherwise be used, but the dependent is larger than a single noun or descriptor:

nɣizɪDɪ i.lle an fɪj
 cat=GEN 4096 and two
 4098 cats

4 | Verbs

Verbs are conjugated for person of the subject, tense, polarity and tellicity, in two paradigms. Conjugation respects vowel harmony. In addition, a final <-j> or <-z> in the stem of a first- or second-conjugation verb becomes whistled in the generic form.

The dictionary lists the stem of the verb and the conjugation scheme used.

Table 4.1: Person-tense conjugations for first-conjugation verbs, using <ɒɪ-> “(S) eats (O)”, before and after phonorun reduction.

	Nonpast	Past
Near	ɒɪɪn (ɒɪɪn)	ɒɪɪf (ɒɪɪf)
Far	ɒɪɪn (ɒɪɪn)	ɒɪɪʒ (ɒɪɪʒ)
Other	ɒɪɪ (ɒɪɪ)	ɒɪɪʒ (ɒɪɪʒ)
Anaph. Sub.	ɒɪe (ɒɪe)	ɒɪel (ɒɪel)
Anaph. Obj.	ɒɪc.e (ɒɪ.ce)	ɒɪc.el (ɒɪ.cel)
Generic	ɒɪc (ɒɪc)	ɒɪc (ɒɪc)

Table 4.2: Person-tense conjugations for second-conjugation verbs, using <nən-> “(S) kills (O), (O) dies”, before and after phonorun reduction.

	Nonpast	Past
Near	nənɪn (nənɪn)	nənɪf (nənɪf)
Far	nənɪn (nənɪn)	nənɪʒ (nənɪʒ)
Other	nənɪ (nənɪ)	nənɪʒ (nənɪʒ)
Anaph. Sub.	nənɔ (nənɔ)	nənɪl (nənɪl)
Anaph. Obj.	nənɛ.ɔ (nənɛ.ɔ)	nənɛ.ɪl (nənɛ.ɪl)
Generic	nənɛ (nənɛ)	nənɛ (nənɛ)

Notes:

- The polarity-tellicity suffix is added after the person-tense ending.
- “Negative atelic” means something akin to “unsuccessfully tried to avoid doing X”.
- The interrogative polarity, in addition to marking questions, is used to mark clauses that may or may not be true but are referred to later in the sentence.

Table 4.3: Person-tense conjugations for third-conjugation verbs, using <peu-> “(S) spreads (O)”, before and after phonorun reduction.

	Nonpast	Past
Near	peucn (peucn)	peucf (peucf)
Far	peuin (peuin)	peu3j (peu3j)
Other	peui (peui)	peu3 (peu3)
Anaph. Sub.	peue (peue)	peel (peuel)
Anaph. Obj.	peuc.e (peuc.e)	peuc.el (peuc.el)
Generic	peu3 (peu3)	peu3 (peu3)

Table 4.4: Polarity-telicity suffixes for verbs (before phonorun reduction). The interrogative affix can also follow a negative affix.

	Positive	Negative	Interrogative
Telic	–	–f ⁴ e / –ɔ	–l ¹
Atelic	–ɔc / –ɔə	–ɟ	–ɔ3

Some examples:

ɔilɔn l¹ɔle f¹ɔ3ɔ.
eat-NEAR.NONPAST fish flower
Fish eat flowers.

ɔilɔn l¹ɔle f¹ɔ3ɔ, ɔilɔn nɔɟɔɟɔ ɟɟ.
eat-NEAR.NONPAST fish flower, eat-NEAR.NONPAST cat PR.ANAPH_SUB
Fish eat flowers, and cats eat fish.

ɔilɔn l¹ɔle f¹ɔ3ɔ, ɔilɔn ɟɟɟɟɟɟ.
ɔilɔn l¹ɔle f¹ɔ3ɔ, ɟɟɟɟɟɟɟɟ.
eat-NEAR.NONPAST fish flower, eat-ANAPH_SUB.NONPAST grass-ACC
Fish eat flowers, and they eat grass.
(Grass is inedible to humans, but edible to fish.)

ɟɟɟɟɟɟ f¹ɔ3ɔ l¹ɔle.
ɟɟɟɟɟɟ f¹ɔ3ɔ l¹ɔle.
eat-NEAR.NONPAST-NEG flower fish
Flowers don’t eat fish.

ɟɟɟɟ nc l¹ɟɟɟɟɟɟɟɟ, ɟɟɟɟ l¹ɟɟɟ.
ɟɟɟɟ nc l¹ɟɟɟɟɟɟɟɟ, ɟɟɟɟ l¹ɟɟɟ.
carry-NEAR.NONPAST PR.OTHER DEF~book, worry-NEAR.NONPAST PR.NEAR
PR.LAST_CLAUSE
He has the book; that worries me.
or: That he has the book worries me.

ɟɟɟɟɟ nc l¹ɟɟɟɟɟɟɟɟ, ɟɟɟɟ l¹ɟɟɟ.
ɟɟɟɟɟ nc l¹ɟɟɟɟɟɟɟɟ, ɟɟɟɟ l¹ɟɟɟ.

carry-NEAR.NONPAST-INTERROGATIVE PR.OTHER DEF~book, worry-NEAR.NONPAST
 PR.NEAR.INT PR.LAST_CLAUSE
 He might have the book; that worries me.
 or: That he might have the book worries me.

4.1 | Aspect

Verbs can also be marked for aspect, either using a rod sign directly on the verb, or a particle with a rod sign, placed anywhere between the verb it modifies and the next verb.

Table 4.5: Aspect markers. Those with hyphens are attached to verb. Those without hyphens are placed as separate particles anywhere after the verb.

Aspect name	Marking	Meaning
Imperfect	–1	An action that is currently going on. Also used to distinguish static actions as opposed to dynamic (e. g. <i>wear</i> as opposed to <i>put on</i>).
Interrupted	ʃc11	An action that was interrupted.
Perfect	–J	An action that has already finished. Changes present tense to immediate past. Also used to distinguish dynamic actions as opposed to static (e. g. <i>put on</i> as opposed to <i>wear</i>).
Gnomic	–ʔ	A general truth or aphorism, or an action done habitually.
Gnomic dubitative	ʃc1ʔ	A general truth or aphorism that the speaker considers to be false.
Deontic necessity	–n	An action that the speaker insists on happening.
Epistemic necessity	ʎəɗn	An action that the speaker infers is happening.
Deontic potential	–ʔ	An action that the speaker permits to occur.
Epistemic potential	ʎəɗʔ	An action that the speaker infers that might happen.
Unexpected	–ɿ	An action that is unexpected (akin to using “but”).
Comparative	deɿ	Indicates an action of greater intensity than what was described in the previous clause.
Nonexclusive subject	ʃc1	Indicates that the subject comprises not only of what is explicitly mentioned, but also other things.
Nonexclusive object	cʃcʔ	Indicates that the object comprises not only of what is explicitly mentioned, but also other things.
Nonexclusive argument	cʃcɗ	Combination of both nonexclusive subject and nonexclusive object.

An attached rod signal reverts $\langle j^a \ z^u \rangle$ to $\langle j^h \ z^h \rangle$, respectively, and might affect phonorun reduction.

An example:

$\text{f}^{\text{h}}\text{i}^{\text{h}}\text{l}^{\text{h}}\text{f}^{\text{h}}\text{d}^{\text{h}}\text{c}^{\text{h}}1 \ \text{f}^{\text{h}} \ \text{nc}, \ \text{lcnc.el}^{\text{h}} \ \text{d}^{\text{h}}\text{z}^{\text{h}}\text{n}^{\text{h}}\text{i}^{\text{h}}\text{u}^{\text{h}}\text{a}^{\text{h}}-\text{p}^{\text{h}}\text{i}.$
 $\text{f}^{\text{h}}\text{i}^{\text{h}}\text{l}^{\text{h}}\text{f}^{\text{h}}\text{d}^{\text{h}}\text{c}^{\text{h}}1 \ \text{f}^{\text{h}} \ \text{nc}, \ \text{lcnc.el}^{\text{h}} \ \text{d}^{\text{h}}\text{z}^{\text{h}}\text{n}^{\text{h}}\text{i}^{\text{h}}\text{u}^{\text{h}}\text{a}^{\text{h}}-\text{p}^{\text{h}}\text{i}.$
 fight-NEAR.PAST-ATELIC-IMPERFECT PR.NEAR PR.OTHER, shoot-ANAPH_OBJ.PAST-
 UNEXPECTED knee-INV.ACC-PR.ANAPH_SUB
 I tried to fight them, but they shot my knee.

4.2 | Historically clausal arguments

Historically clausal arguments (HCAs) are arguments of a sentence that are derived from clausal constructions. They include obliques and conjunctions. HCAs precede V.

An HCA that modifies a verb causes it to be conjugated in the anaphoric subject person.

4.2.1 | Obliques

An oblique expresses a relation between the verb of a sentence or some argument thereof.

An oblique phrase that modifies a verb falls before it. An oblique phrase that modifies either S or O pulls it before the verb as well.

If the argument of the oblique phrase is not an HCA, then it uses a preposition and follows its antecedent (unless it is the main verb). If the argument is an HCA, then the phrase uses a postposition and precedes its antecedent.

Consider the preposition $\langle \text{ln} \rangle$ *in, on, at (location)* (from Lek-Tsaro $\langle \text{ln} \rangle$ (S) *is at* (O)). The sentence *Ryze is hiding from me in the tree* would be translated as:

$\text{ln} \ \text{f}^{\text{h}}\text{u}^{\text{h}}\text{a}^{\text{h}} \ \text{nepae}^{\text{h}}1 \ \text{f}^{\text{h}}\text{in} \ \text{p}^{\text{h}}\text{z}^{\text{h}}\text{e}$
 in tree hide-ANAPH_SUB.NONPAST-IMPERFECT PR.NEAR.ACC Ryze

Now say that we want to translate *Ryze is hiding from me in the tree with fruit*. *With* would be translated as $\langle \text{dp} \rangle$ (from Lek-Tsaro $\langle \text{dp}^{\text{h}}\text{c}^{\text{h}}\text{n} \rangle$ *hold, carry*, which also begets $\langle \text{pn} \rangle$), but now we have nested obliques, which means we need to use $\langle \text{ln} \rangle$ as a postposition:

$\text{f}^{\text{h}}\text{u}^{\text{h}}\text{a}^{\text{h}} \ \text{pn} \ \text{f}^{\text{h}}\text{z}^{\text{h}}\text{a} \ \text{lnf} \ \text{nepae}^{\text{h}}1 \ \text{f}^{\text{h}}\text{in} \ \text{p}^{\text{h}}\text{z}^{\text{h}}\text{e}$
 tree with fruit in-POST hide-ANAPH_SUB.NONPAST-IMPERFECT PR.NEAR.ACC Ryze

Deriving a postposition from a preposition is done *after* phonorun reduction. Prepositions that end with a closed phonorun receive $\langle -\text{f} \rangle$, and those that end with an open phonorun receive $\langle -\text{z} \rangle$.

4.2.2 | Conjunctions

Conjunctions are derived from verbs as well; for instance, $\langle \text{an} \rangle$ *and* is derived from Lek-Tsaro $\langle \text{acn} \rangle$ *join*. However, in Middle Rymakonian, conjunctions are infixes:

$\text{p}^{\text{h}}\text{z}^{\text{h}}\text{e} \ \text{an} \ \text{f}^{\text{h}}\text{i}^{\text{h}}\text{z}^{\text{h}}\text{a} \ \text{p}^{\text{h}}\text{ie} \ \text{f}^{\text{h}}\text{epc}^{\text{h}}..$

\pʒze an \ʒɪʒl ɒle fep.c.
Ryze and Tazyl eat-ANAPH_SUB.NONPAST beef

(Note that as long as S still precedes O, no case marking is needed.)

Unlike Lek-Tsaro's approach, this approach works well with more complex sentences:

\pʒze an \ʒɪʒl fep.c. an l'idjc ɒle.
\pʒze an \ʒɪʒl fep.c an l'idjc ɒle.
Ryze and Tazyl beef and soup eat-ANAPH_SUB.NONPAST

An entire conjunctive phrase can be modified by treating the conjunction as a nominal antecedent:

nɪɪɪ an-ləfɪ ɒʒnɔ
nɪɪɪ an-ləfɪ ɒʒnɔ
cat and-old rabbit
old cats and rabbits

4.3 | Connectors

(This section will refer to section 2.11 of \ybl ɒ ɒlɒ /lɒ'hnnɔln extensively.)

Middle Rymakonian uses connectors to express relationships between clauses. In Middle Rymakonian, connectors do not occupy an indexed position in the clause; however, they tend to be placed near items that should receive less emphasis than others. Two connectors cannot occur consecutively unless the number of connectors is more than one plus the number of other words.

A connector is composed of three parts:

- The *type* (see table 4.6) specifies the semantic role of the connector.
- The *sequence identifier* (hereafter *seqid*) disambiguates the use of multiple connectors of the same *type* within a sentence. This is an arbitrary continuation of the last phonorun of the *type*.
- The *parity* allows the reuse of *seqids* within a *type*. This is <-f> or <-l> if the *type* ends with a closed phonorun, and <-i> or <-z> if it ends with an open phonorun.

Unlike most parts of speech, a complete connector, composed of the three parts above, does not undergo phonorun reduction.

Connectors *x* and *y* are part of the same *set S* iff all of the following conditions hold:

- *x* and *y* are identical (i. e. all three parts are the same between *x* and *y*)
- they belong to clauses α and β , respectively (NB: it is possible that $\alpha = \beta$)
- there are no clauses between α and β that has a connector with the same *type* and *seqid* but a different *parity* from *x* or *y*

Table 4.6: Connector types.

Name	Arity	Middle Rymakonian	Explanation
Ordinary	n	lj–	Covers both the sequential and parallel connectors of Jbl.
Analogous	2	ld–	“For the same reason α is true, β is also true.” Also used as an “and” without stating any order.
Subversive	2	ld–	“ α but β .”
Augmentative	n	ɔψ ^s –	Later statements apply to a greater extent than earlier statements.
Explanatory	n	cd–	“ θ_1 causes θ_2 causes θ_3 etc.”
Conditional	2	cj–	“If α , then β .”

Note that “belonging to the same connector set” is an equivalence relation.
 Clauses of a connector set are joined by the relation of the connector used therein:

ɔlɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 ɔlɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 eat-NEAR.PAST fish flower ORDINARY-⟨e⟩-0
 The fish ate the flower.

 ʔɔl nɔɔɔ ʔɔl ʔɔl ʔɔl.
 ORDINARY-⟨e⟩-0 dance-NEAR.PAST child tree
 Then the child danced around the tree.

 ʔɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 ʔɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 eat-ANAPH_SUB.PAST ORDINARY-⟨e⟩-0 DEF~fish-ACC
 Then the child ate the fish.

 ɔlɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 ɔlɔl ʔɔl ʔɔl ʔɔl ʔɔl.
 imitate-NEAR.PAST-IMP frog ORDINARY-⟨e⟩-1 PR.FAR
 At another time, a frog was imitating me. (...)

4.4 | Comparatives

The comparative is a function $\text{cmp} : A \times A \times (A \rightarrow \mathbb{R}) \times (A \times A \rightarrow \{0, 1\}) \rightarrow \{0, 1\}$,
 where $\text{cmp}(a, b, f, \sqsupset) = f(a) \sqsupset f(b)$.

Consider the following sentences:

Fish eat flowers more than cats.
 More fish eat flowers than cats.

Semantically, they can be translated to:

$$\text{cmp}(\text{fish}, \text{cats}, a \mapsto (\# \text{ of flowers eaten by } a), >) \quad (4.1)$$
$$\text{cmp}(\text{fish}, \text{cats}, a \mapsto (\# \text{ of } a \text{ that eat flowers}), >) \quad (4.2)$$

The heart of comparatives in Middle Rymakonian is the quadrivalent verb $\langle \alpha \beta \gamma \delta \rangle$. Thus:

eat-GENERIC-Q flower-ACC-how_many, CMP-NEAR fish cat PR.ANAPH_OBJ >
Fish eat more flowers than cats.

Dilç'i .ə-jʰcn fɛzɔ, nəzin l'inde nqızı pı nef.

eat-GENERIC-Q PR.GENERIC-how_many flower,CMP-NEAR fish cat PR.ANAPH_SUB >

More fish eat flowers than cats.

Note that we place a clause whose argument is the generic pronoun before the comparative clause. From the dozan-clause, we refer to the function using the anaphoric pronoun referring to the position of the return value.

Table 4.7: Comparators in Middle Rymakonian.

\sqsubset	Comparator
$>$	nef
$<$	acj
$=$	fen ^φ
\geq	f4j
\leq	dcj
\neq	.3j
\approx	pej
\gg	a ^h e
\ll	oin

4.5 | Ditransitive-like constructions

In English, some verbs such as *give* take two objects: the item being given and the recipient of the item. Because of Middle Rymakonian's heritage, this is translated into a compound statement:

ሰጠኛ ስ ስፑሶብዳን, nebel ህጓዝ.
 ሰጠኛ ስ ስፑሶብዳን, nebel ህጓዝ.
 lose-NEAR.PAST PR.NEAR DEF~book, give_to-ANAPH_SUB.PAST Ryze-ACC
 I gave the book to Ryze.

4.6 | Transitivity

Verbs that are used intransitively (i. e. have no object passed at this time) can be turned into a causative form with the prefix <ΦC->:

5 | Descriptors

Descriptors act as adjectives or adverbs. They follow what they modify, and are inflected for the noun class or verbal person of their antecedents.

Modifying nouns is done through compounding, but there are special forms for modifying verbs. These are separate words.

Table 5.1: Descriptor declensions, using the descriptors <ᵐᵉḍf- > “large” and <ᵐᵉf- > “old”.

Person	Declined form	
<i>Nouns</i>	ᵐᵉḍᶠᵢ (ᵐᵉḍᵢḥ)	ᵐᵉḍᶠᵢ (ᵐᵉḍᵢ)
Near	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐḥ)	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐ)
Far	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐḥ)	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐ)
Other	ᵐᵉḍᶠᵉᵐ (ᵐᵉḍᵉᵐḥ)	ᵐᵉḍᶠᵉᵐ (ᵐᵉḍᵉᵐ)
Anaph. Sub.	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐḥ)	ᵐᵉḍᶠᵢᵐ (ᵐᵉḍᵢᵐ)
Anaph. Obj.	ᵐᵉḍᶠᵉᵐ (ᵐᵉḍᵉᵐḥ)	ᵐᵉḍᶠᵉᵐ (ᵐᵉḍᵉᵐ)
Generic	ᵐᵉḍᶠᶜᵐ (ᵐᵉḍᶜᵐḥ)	ᵐᵉḍᶠᶜᵐ (ᵐᵉḍᶜᵐ)

Note that a final <-j> or <-z> in a stem becomes whistled in the generic form.

6 | Tree mode

As mentioned in section ??, anaphoric referents in a linked-list sentence are sometimes insufficient for expressing complex sentence structures. While the easiest method of resolving this issue is using definite nouns, Middle Rymakonian also provides a mode where sentences are not linked lists of clauses, but rather (binary) trees.

6.1 | Activation

Tree mode is enabled automatically when the treeing particle <ᵿᵿ> is used, and disabled at the end of a sentence.

6.2 | Branch-switching

The aforementioned particle <ᵿᵿ> marks the beginning of the right branch of the tree. The right branch is ended by the particle <ᵿᵿΔ>, which causes the next clause to join the left and right branches.

(N. B. <ᵿᵿ> and <ᵿᵿΔ> can occur only between clauses. If the particles are represented by left and right brackets, respectively, then the brackets should match.)

6.3 | Anaphoric pronouns in joiner clauses

In clauses that join two branches, anaphoric pronouns require marking whether the antecedent occurs in the left predecessor <ᵿᵿ> or the right predecessor <ᵿᵿΔ>. This is done by marking the pronoun with <-ᵿ> or <-Δ>.

Likewise, verbs can be modified with <-ᵿ> or <-Δ> to indicate which branch the subject came from.

6.4 | Errors

The following are ungrammatical:

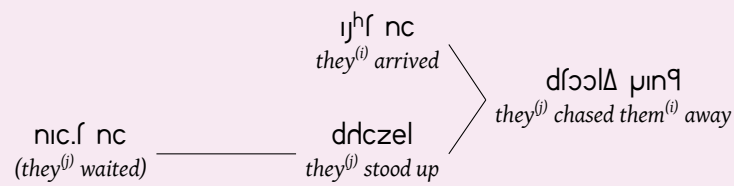
- Using the particle <ᵿᵿΔ> or the branched anaphoric pronouns when tree mode is disabled
- Using the particle <ᵿᵿΔ> other than to close a corresponding <ᵿᵿ>
- Using the unbranched anaphoric pronouns in clauses with two predecessors

- Using the branched anaphoric pronouns in clauses with one predecessor
- Starting a new branch with <ᵐᵃᵐᵃ> when the current branch is empty

6.5 | Example

ᵐᵃᵐᵃ ᵐᵃ, ᵐᵃᵐᵃ ᵐᵃ.ᶠ ᵐᵃ, ᵐᵃᵐᵃᶠ, ᵐᵃᵐᵃ ᵐᵃᵐᵃᶠ ᵐᵃᵐᵃ.
 ᵐᵃᵐᵃ ᵐᵃ, ᵐᵃᵐᵃ ᵐᵃ.ᶠ ᵐᵃ, ᵐᵃᵐᵃᶠ, ᵐᵃᵐᵃ ᵐᵃᵐᵃᶠ ᵐᵃᵐᵃ.
 go-NEAR.PAST PR.OTHER, BRANCH wait-NEAR.PAST PR.OTHER, stand_up-
 ANAPH_SUB.PAST,JOIN chase-ANAPH_SUB.PAST-RIGHT PR.ANAPH_SUB.ACC-LEFT
 When they⁽ⁱ⁾ arrived, they⁽ⁱ⁾ stood up and chased them⁽ⁱ⁾ away.

The resulting tree is shown below:



7 | Numerals

Unlike Lek-Tsaro, which used a downright unusual numbering system, Middle Rymakonian uses base 16 consistently.

7.1 | Irregular numerals

Here are the numerals that do not follow the usual pattern, before phonorun reduction:

Table 7.1: Irregular numerals.

base 10	base 16	word
0	0	μ3D
1	1	a3l
2	J	fiJ
3	?	Ω ⁴ on
4	0	a ⁴ μ
5	†	φcJ
6	?	Dye
7	9	βcJ
8	Δ	dən
9	L	l ^l ed
10	F	b3n ⁹
11	7	nə
12	£	le
13	#	j ^a cd
14	A	yin
15	V	f ⁴ el
16	10	.μ
17	11	l ^l el
18	1J	l ^l ela3l
19	1?	l ^l elfiJ
33	J1	aDil
34	JJ	Dil
119	99	Dlβ
256	100	f ⁴ l ^l a3
323	10?	l ^l izilfin

base 10	base 16	word
4199	10f9	l.ɔle

Note that digits above 9 use capital latin letters.

7.2 | Double-digit numerals

Numerals of the form $x \cdot 16$ with $1 \leq x < 16$ are formed by concatenating $\langle .\mu \rangle x$. For instance, $128 = 80_{16}$ is written $\langle .\mu d \rangle n \rightarrow \langle .\mu \partial n \rangle$.

Numerals for integers of the form $x \cdot 16 + y$ with both x and y between 1 and 15, inclusive, and not listed in table 7.1, are formed by concatenating $x \langle \mu \rangle y \langle \mu \rangle$ (before PR). For instance, $89 = 59_{16}$ is written $\langle \phi c j \mu l e d \mu \rangle \rightarrow \langle \phi c j \mu l d e \mu \rangle$.

7.3 | Numerals up to 4096

Numerals for integers of the form $x \cdot 256 + y$ with $0 \leq x < 16$ and $0 \leq y < 256$, and not listed in table 7.1, are formed by concatenating $y \langle \mu l a \rangle x$. This is done after phonorun reduction. For instance, $2018 = 7E2_{16}$ is written $\langle \mu \partial \mu \mu \mu \mu \mu l a \partial c \beta j \rangle$.

Note that there is no special case for $y = 0$; $512 = 200_{16}$ is written $\langle \mu \partial \mu l a \partial c \beta j \rangle$.

7.4 | Larger numerals

Multiples of 4096 (up to 65536) are written by concatenating $\langle .l e l \rangle x$ before phonorun reduction: $8192 = 2000_{16}$ is written $\langle .l e l f j \rangle$. The exception is 4096 itself, which is $\langle .l l e \rangle$.

Then other numerals up to 65536 are written as a conjunctive phrase: $10000 = 2710_{16}$ is written $\langle .l e l f j \text{ an } .\mu \mu l a \partial c \beta j \rangle - 2 \cdot 4096 + 16 + 7 \cdot 256$.

Romanisation

In this text, the romanisation is used only to transcribe names into English. Whenever possible, the hacmisation should be used.

Table 2: The consonants of Middle Rymakonian.

	Bilabial	Dental	Alveolar	Palatal	Velar	Glottal
Nasal	m		n	ɲ	ŋ	
Plosive	p b		t d	tʃ dʃ	k g	ʔ
Fricative	f v	θ ð	s z	ʃ ʒ	h ɦ	
(coarticulated)	fh vɦ	ph ðɦ		fʃ vʒ		
(whistled)			ʂ ʐ			
Affricate			ts	tʃ		
Lateral fricative			ʂ ʐ			
Approximant			r	j	w	
Lateral approximant			l			
Tap			ɾ			

Table 3: The vowels of Middle Rymakonian.

	Front	Central	Back
High	i	y	u
Mid	e		o
Low		a	

The digraphs <fh vɦ ph ðɦ fʃ vʒ ts tʃ> correspond to coarticulated consonants and affricates. An apostrophe can be placed between the two letters if this is not desired.

Rod signs are represented by the Arabic digits <1 2 3 4 5 6 7 8> attached to the end of the verbs they encompass. Proper words are preceded by a backslash <\>.

<ɲ> should be capitalised as <Ŋ> only if one can depend on the majuscule glyph appearing like an N with a hook. Otherwise, it should be spelled <Ng>.

A | Dictionary

An entry looks like this:

ᄁᄁᄁ- v1 (S) eats (O)

From left to right:

1. The entry – the Middle Rymakonian term listed.
2. The part of speech of the corresponding entry:
 - *n* – a noun
 - *-d-* – inherently dual
 - *-sent* – sentient noun
 - *-nonsent* – nonsentient noun
 - *-meas* – measure noun
 - *-edib* – edible noun
 - *-ined* – inedible noun
 - *-abst* – abstract noun
 - *v1, v2, v3* – first-, second- and third- conjugation verbs
 - *desc* – a descriptor
 - *pp* – a preposition
 - *-(b)* – this entry has only neutral vowels but acts as if it had back vowels
 - *-(ŋ)* – this entry came from a word that started with <ŋ⁰-> and thus certain prefixes will revert it back
3. The definition – the gloss for the corresponding entry.
 - (S) – subject
 - (O) – direct object
4. If applicable, any special grammatical or semantic notes for this term.
5. Optionally, examples of usage.

| .

.cᄁᄁᄁ *n*nonsent house

| ʃ

ʃʀlezɕ *nsent* child (young person)
 ʃʉɸ- *v1* lose an object
 ʃʉɕʉ *nnonsent* tree
 ʃʉɸʉ *nnonsent* bed
 ʃʉlə *nedib* ice
 ʃʉləʃ *nedib* frost
 ʃep.ɕ *nedib* beef

| ʃʰ

ʃʰʉʃ- *v1* (S) fights (O)
 ʃʰɕʀ- *v3* (S) falls on (O)
 ʃʰɕɸɸ- *v3* (O) breaks (S)
 ʃʰɕɕ *nnonsent* flower

| ʃʰ

ʃʰɕɕə *nnonsent* fruit

| ʃʰ

ʃʰɸ *pp* in, on, at (location)
 ʃʰʉɕ *nnonsent* moon
 ʃʰʉʃ *nined* stone
 ʃʰəʃ- *desc* old

| ʃʰ

ʃʰɸɕʀen *nnonsent* book

| ʃʰ

ʃʰɕɸ- *v1* (S) shoots an arrow to (O)

| ʃʰ

ʃʰʉɸɕ *nedib* soup
 ʃʰʉʃ *nnonsent* fish

| ʃʰ

ʃ- *v3* copula
 ʃeʃʰe *nnonsent* land, country
 ʃen- *v1* (S) is worried by (O)

| ʃʰ

ʃʰʉ.en *nsent* magician
 ʃʰʉɕ- *v3* (S) creates, makes (O)
 ʃʰɕɸ *nabst* how many?

| ʃʰ

ʃʰ- *v1* (S) goes toward (O)
 ʃʰɕ *pp* written by

| ʃʰ

ʃʰɸʉɕ *nnonsent* cat
 ʃʰʉ- *v3* (S) waits for/until (O), temporal verb, if
 ʃʰɕɸ- *v3* (S) dances around (O)
 ʃʰeb- *v1* (S) gives something to (O)
 ʃʰepʉ- *v3* (S) hides from (O)
 ʃʰen- *v2* (S) kills (O), (O) dies

| ʃʰ

ʃʰɕɕ- *v1(ʃ)* (S) thinks, ponders about (O)

| ʃʰ

ʃʰepʉe *nnonsent* coin
 ʃʰɕ.ɕ *nabst* centre, origin
 ʃʰɸɸ *pp* according to
 ʃʰɕe *nabst* light
 ʃʰɕeʃʉɕ *nabst* moonlight
 ʃʰeo- *v3* jump

| ʃʰ

ʃʰɕɸə *nedib* potable water

| ʃʰ

ʃʰəɸɕ *nabst* empathy

D

ድጓጎጎ *nnonstent* rabbit
 ድሀ- v1 (S) eats (O)
 ድጎጎ *nedib* rice
 ድጓጎ *nsent* person
 ድጓጎ- v2 (S) produces, makes (O)
 ድጓጎጎ *nnonstent* head
 ድድ- v3 err, miss
 ድድህ- v1 (S) resembles (O)
 ድድ *nmeas* volume
 ድድጎ- v3 (S) imitates (O)

፩

፩ጓጎ- v2 comparative verb
 ፩ድ- v1 (S) sleeps

፪

፪ጎጎ- v3 (S) lowers their own (O)
 ፪ሀጎ- v1 (S) raises their own (O)
 ፪ህጎጎ *nnonstent* frog

d

ድጓጎጎ *ndnonstent(b)* knee

ድሀጎጎ *nabst* ground, floor

ድሀጎጎ- v1 stand, get up

ድህ *pp* with (comitative)

ድህ- v3 hold, carry, instrumental
verb

ድህጎ- v2 (S) chases away (O), (O)
flees from (S)

ሀ

ሀ- v1 (S) sees (O), because

ሀ

ሀጓጎ *nnonstent* cup

ሀጎ *pp* with (instrumental)

ሀህ *pp* in front of

ሀጓጓጓ *nmeas* day (continuous)

ሀሀጎ *nined* grass

ሀሀጎ- v1 (S) climbs, rises in (O)

ሀህ- v3 (S) spreads (O)

ሀሀጎ *nnonstent* place

ሀሀጎህጎጎ *nnonstent* hometown,
home village, (figurative) Rymako

ሀሀጎ *nined* gold