# Speedlang Challenge #26 Showcase

Hosted and written by Odenevo

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# Màwâè (Heleuzyx)

#### Overview

Màwâè is a generally agglutinative language that features syllabic tone and a restrictive syllable structure, with a complex relationship between the underlying forms of roots/syllables and their surface realisations. The phonemic inventory of consonants and vowels are both moderately large (19 consonants, 8 vowels, 16 if counting nasal vowels as distinct), but it should be noted that even underlyingly, the number of consonants that are contrastive in the coda are substantially smaller (only 12).

The language's morphosyntactic typology can be described as double-marking, with nouns being marked for case and number (which adjectives agree with), and verbs being marked for person (not number), tense, and mood synthetically. Topic/focus is indicated via both word order and explicit marking, with topic-fronting and marking via a particle being the way that prominence is achieved for a given argument within a clause.

There are a large number of cases, which are all fused with number marking (singular/plural), while postpositions are used for more complex case relations. Verbs are marked for tense and mood synthetically, with tense being marked by consonantal suffixes, which are followed by -V or -VC suffixes that are fused person/mood markers. Additional moods are marked with prefixes, and aspect is marked with particles.

This language fulfils all of the required constraints of the challenge. For the bonus constraints, Màwâè does have cluster restrictions that differ from the initial onset/final coda restrictions, specifically in forbidding internal coda nasals outside of homorganic clusters, while word-finally nasals are permitted. None of the other bonus constraints were fulfilled.

# **Phonological Constraints**

**Tone/phonation:** Màwâè has syllabic tone, with five possible tones on any given surface level syllable. However, most surface tones appear as a result of coda consonant loss, as on the surface level, syllables can only end in glottal stops, or have a nasal vowel (derived from a coda nasal consonant). Màwâè has an interesting system of tone sandhi, wherein syllables are paired together within stems<sup>1</sup>, forming what can best be described as bisyllabic feet, counting from the right-edge to the left-edge; the second syllable of a pair/foot undergoes sandhi dependent on the preceding syllable's tone. This prevents certain combinations of tones from appearing within these pairs/feet, specifically blocking the appearance of  $F\{R,H,F\}$ ,  $R\{H,R\}$ , and LH feet. Notably, there is no sandhi affecting  $H\{R,F,L\}$ , meaning that high tones may be followed by any tone within a foot.

**Onset/coda consonant assyemmetry:** On the surface level, Màwâè allows all consonants in its inventory in the onset, but only allows a glottal stop in the coda, and furthermore allows nasal vowels in open syllables. Word-finally and before homorganic consonants, coda nasals are permitted (in place of nasal vowels). Underlyingly all consonants, except glides, implosives, and affricates are allowed in the coda.

Bonus (internal clusters distinct from initial onsets/final codas): Nasals are permitted word-finally, but word-internally, they only occur before a homorganic consonant.

**Hiatus resolution:** Màwâè does not allow clusters, except homorganic nasal-consonant clusters, and resolves them by removing coda consonants, which have an effect of leaving tone on their syllable. This means that morpheme final consonants, except nasals, are not realised, unless the morpheme is followed by a vowel-initial morpheme, where the underlying consonant is realised, and the tone of the vowel will return to its underlying tone (usually high tone, but not always). Màwâè allows morphemes-final nasals, but these are vocalised when followed by a consonant-initial morpheme; when followed by a vowel, they will realise as their underlying nasal, except in the case of surface final  $[\eta]$ . There are two ways to resolve morpheme final  $[\eta]$  when followed by a vowel, due to it being a result of two underlying phonemes: it may surface as  $[\eta]$  (from  $|\eta|$ ) or as  $[\gamma]$  (from  $|\gamma|$ ). Màwâè also does not allow vowel hiatus, which is resolved by inserting a glottal stop.

<sup>&</sup>lt;sup>1</sup> Heleuzyx refers to these as 'roots', but I would say this is a misnomer as the most underlying roots are *monosyllabic*, while derived/compounded stems are *polysyllabic*.

# **Morphosyntactic Constraints**

Closed class of words: Màwâè has a closed set of nouns, referring to animals and plants specifically that use initial consonant mutation to mark the plural. This is interesting in that it causes a number of possible forms to become homophonous in the plural as each initial consonant that mutates merges with at least two other consonants.

**Homophonous morphemes:** Màwâè has two homophonous morphemes, the 3rd person subjunctive (-un) and the dative/instrumental case suffix (-un). These two morphemes could not be confused both because they apply to different word classes (verbs/nouns) and because of Màwâè's VSO default word order. Even when word-order is shifted to topicalise a noun, a topic marker is used. This means that in the rare case there would be a verb/noun homophonous pair, the noun would require the topic marker when marked in the dative/instrumental case and occurring in a clause-initial position.

## **Sociolinguistic Constraints**

**Dialects:** Màwâè has three dialects described by Heleuzyx, with the main described dialect being the Central Dialect.

In phonology, these are distinguished primarily by phonetic differences in the consonants and vowels, rather than any phonemic distinctions. The exception to this is the Western dialect having merged the retroflex series of consonants with a new series of post-alveolar consonants that arise from the palatalisation of alveolars before /i e/. This means, for example, hypothetical Central dialect forms *Ce* /t§ĕ?/ and *Te* /tĕ?/, would merge in the Western dialect as *Ce* /tʃĕ?/.

In grammar, the Western dialect differs from the Central/Eastern dialects by lacking the subjunctive mood (and thus, the homophony of the dative/instrumental and subjunctive morphemes), while the Eastern dialect differs from the Western/Central dialects by having a V2 word order, where the topic generally occurs before the verb, but lacks the topic marker found in the other dialects, with the original order and topic marker only occurring in formal speech. This may allow for confusion between the dative/instrumental and subjunctive forms in the rare case where V1 order still occurs.

# <u>Cúúysung (Heaven\_Tree)</u>

#### **Overview**

Cúúysung is a moderately synthetic language that features a notable amount of fusional/apophonic morphology, along with a breadth of agglutinative morphology, primarily on the verb. The phonemic inventory of consonants is moderately large (19) and the inventory of vowels is average (5, with short/long pairs). The language has a smaller set of allowed coda consonants, which are generally realised differently to their onset counterparts, especially in the case of continuant consonants. Additionally, coda clusters are more complex than onset clusters (only consonant + glide is allowed in the onset), with the overall permitted syllable structure being (C)(G)V(C)(C). There is an marked/unmarked tone system, with a marked high tone and an unmarked 'level' tone, where the tones are marked on a syllable level, though the high tone has a tone sandhi affect causing any following syllable to be low tone, even when it might be underlyingly high.

The word order of the language is SVO, with a generally head-intial syntax for clauses (both main and relative) and verbs, while noun phrases are head-final. The language has a complex system of derivation, primarily using prefixes and the lenition/forition of final consonants of a root.

The language has a restricted polypersonal agreement system, which only occurs with a small, closed class of verbs. This agreement system does mark number, but it is only consistently reflected with patients, and in the 1st person for agents/subjects; number of subjects/agents is consistently marked however through tone changes (level vs. high tone) which occur with all verbs, irrespective of whether they belong to the class of agreeing verbs of not. TAM (imperfective, perfective, future/habitual, categories are marked through a combination of tone changes, suffixes, and final-consonant alternations (fortition/lenition).

Nouns are marked for possession, definiteness, and number, with the amount and kind of marking depending on the semantics/classification of a noun, with alienable/inalienable nouns being distinguished by how they mark possession, and a small set of animate nouns having a unique pluralisation strategy when compared to all other nouns. There are also classifiers/measure words when numbers are used, as well as differential object marking depending on whether a patient is human or not.

Cúúysung fulfills all of the primary constraints of the challenge. Additionally the bonus constraints for phonology and grammar have been fulfilled. The bonus constraint for clusters/medial segments is fulfilled by initial onsets and medial onsets differing by the latter allowing all consonants, as opposed to the restricted set allowed in initial onsets. The bonus constraint for multiple closed subclasses has been fulfilled by the fact that there are the (apparently) closed set of inalienable nouns, closed set of animate nouns (taking unique plural marking), closed set of prenominal adjectives that take no marking, and the closed set of verbs that have agreement marking.

#### **Phonological Constraints**

**Tone/phonation:** Cúúysung has two underlying phonemic level syllabic tones, those being high and low tones, which can be treated as a marked/accented (high) and unmarked/unaccented (level/mid) tone based on Heaven\_Tree's description of their behaviour. There is a tone sandhi/assimilation rule applying to high tones that directly follow another high tone, where the second high tone is lost, as high tones require that the following syllable be low tone. I should note that this assimilation rule is never actually presented in the description, or in any examples, so I believe it is a wholly allophonic rule that is not meant to be represented orthographically.

Furthermore, there are two rules affecting tone, where fricatives and voiced stops cause a low tone on underlyingly high tone syllables. Both of these lowerings are reflected as a wholly low tone on syllables with a short vowel, and as high-to-low falling tone on syllables with a long vowel, but only voiced stop lowering is apparently contrastive due to the neutralisation of voiced stops in word-final (and apparently also in coda) position.

Unmarked/unaccented tone vowels may be devoiced when they are short and are between two voiceless consonants, unless in empathic speech. These devoiced vowels may also be deleted entirely in rapid speech, syncopating the vowel and creating consonant clusters.

Onset/coda consonant assyemmetry: Cúúysung has a rather drastic asymmetry between its onset and coda consonants, and has more restrictions specifically for word-initial and word-final consonants. Broadly, the restrictions are as follows: nasal consonants only occur in the coda, the glottal stop may only occur word initially, while f t c k s f j w/ are the only other stops permitted word-initially, and in the coda position any consonant in the inventory except the glottal stop may occur. Additionally onset consonants except glides may be followed by a glide, and a few coda clusters are permitted, of the following shapes: homorganic nasal-voiced stop, f-voiceless stop, or approximant-consonant (unsure what consonants can occur here, but most likely non-approximants). Voiced stops, nasals, and f may occur in medial onsets, though this isn't explicitly stated by Heaven\_Tree in the section on phonotactics, which primarily concerns *root* shape as opposed to general syllable shape, but these consonants are present in the data.

**Bonus (internal clusters distinct from initial onsets/final codas):** Glottal stops are only permitted word-initially, or at the start of morphemes underlyingly.

**Cluster/hiatus resolution:** The rules for intramorphemic cluster resolution are quite complex, and thus definitely fulfil the constraint. The rules are summarised as follows:

- Glottal stops are lost when following another syllable, and cause that syllable to become high tone.
  - When two vowels are made adjacent due to glottal stop loss, they contract into a long vowel with high tone.
- Unstressed vowels in hiatus are lost, or become glides (presumably /a/ is lost, and other vowels become glides of respective frontness/rounding).
- Nasals assimilate in place of articulation to following consonants.
- When part of an affix, as opposed to a root, /s r l/ are lost when followed by a consonant. /l/ additionally causes vowel rounding/backing when lost.
- /n t d k g s l/+/j/ coalesce into palatalised consonants /n c J c J  $\int j/$ . Additionally, when /j/ follows a palatal consonant, /j/ is deleted.
- When a voiced stop is followed by a voiceless stop that is part of an affix, the voiced stop is devoiced and the voiceless stop is deleted.
  - This is presented as occurring in word-final position, and might not occur when the affixed consonant is followed by a vowel.
- When an affixed voiceless stop follows a nasal consonant, the stop is voiced.

In addition to these rules, lenition and fortition apply as morphological rules where certain morpheme combinations trigger lenition (voicing of /f t c k/ > /b d  $\mathfrak{z}$  g/) or fortition (devoicing of /b d  $\mathfrak{z}$  g/ > /f t c k/)². These rules appear to have arisen from the loss of geminates and voicing assimilation which phonemicised lenition, which must have originally occurred in all intervocalic positions, and fortition, which was no longer predictable.

# **Morphosyntactic Constraints**

Closed class of words: Heaven\_Tree describes Cúúysung as having a closed set of verbs that may take agent/patient agreement marking via suffixation, which otherwise does not occur with verbs. The agreement system is complicated by the fact that transitive verbs do not take separate agreement suffixes for the agent and patient, instead having portmanteau suffixes that cover both person

 $<sup>^2</sup>$  The patterning of /f/ with /b/ in the fortition/lenition rules suggests that /f/ is derived from an earlier /p/, and Heaven\_Tree states as such later in the document.

categories, with a large degree of syncretism between various agent-patient portmanteau forms, and even different subject-marking suffixes with intransitive verbs. I should note that it is unclear which verbs use agreement and which that do not beyond observing their usage in the examples within the document, though based off of wording of the constraint and evidence in examples, it can be presumed that the class consists of a small number of frequently used verbs, such as *sal* 'go', *tiw* 'see', and *ee* 'be'.

**Bonus (additional closed class of words):** Adjectives belong to two classes, a small closed class of what might best be described as "true adjectives", which lack any inflectional morphology but can use comparative, superlative and negative superlative suffixes, that contrasts with the broad open class of adjectives that are mostly derived from verbal roots, but lack their usual verbal morphology (tense/aspect/mood marking). These adjectives require the preposition of a particle *i*, which is also used to form relative clauses. These adjectives form their comparatives and superatives periphrastically with a comparative and superlative marked forms *taayii* and *taayii*, respectively.

Nouns can be divided up into two classes which arises from an alienability distinction, where the inalienable closed class of nouns consists of kinship terms, body parts, and a few other nouns. Beyond taking the usual marking of possession, definiteness, and number, inalienable nouns are also marked for the number/person of their possessor, with this possession marking being obligatory. When these nouns do not have a known or explicit possessor, they instead use the generic possessive suffix *-i* (homophonous with the plural and definite suffix).

There are further divisions of nouns based on the presence or absence of morphology, such as nouns that require count nouns/classifiers, nouns referring to humans requiring the use of a preposition when it is used as a patient, and a small set nouns that take a plural suffix -*i* (homophonous with the possessive suffix and definite suffix), as opposed to most nouns that instead use a postnominal particle *say*.

**Homophonous morphemes:** Cúúysung has a prominent number of morphemes that are pronounced with a high front vowel, and three of these are complete homophones, pronounced as -i /-i/. These are the definite suffix, the plural suffix (for a small set of nouns), the generic possessive suffix (for inalienable nouns). Since these are technically used in the same syntactic context, attaching to a head noun, making them syncretic noun suffixes, this homophony does not actually fulfil the constraint as described<sup>3</sup>. However, there is an additional morpheme that is homophonous, the negative particle i /i/, which helps fulfil the constraint of homophonous morphemes used in different contexts. Additionally, I should note that there is syncretism between agreement markers (3SG/3PL, 2SG/2PL), with the TAM marking of irregular/suppletive verbs, and the future/habitual singular and plural forms of verbs.

# **Sociolinguistic Constraints**

**Dialects:** Heaven\_Tree described two dialects of Cúúysung, alongside the dialect described in the document, which is referred to by the name given throughout my description here. These dialects are *Cúúysung* or *Cúúy Oosung* (the language of the palace, the official language), *Kukoňi-Kól-Fúň* (spoken in the city of the same name, an informal/low prestige variety), and *Túng* (a rural dialect spoken outside of Kukoňi-Kól-Fúň). These varieties are on a spectrum, with *Túng* being more distinct from *Cúúysung* than it is from *Kukoňi-Kól-Fúň*, and vice versa. Heaven Tree gave a very informative

<sup>&</sup>lt;sup>3</sup> I take fault here for not wording the constraint clearly enough to specify different *syntactic* contexts, with the word 'syntactic' absent from the prompt.

description of the sociolinguistic context of these varieties, and their origins, and I commend them for it, though I won't get into those details here, as I want to present *how* these dialects differ from the standard language.

#### Kukoňi-Kól-Fúň:

- Loss of voicing distinction in stop series, phonemicising low tone that was allophonically caused by these consonants.
- Loss of coda sibilants, phonemicisng low tone was allophonically caused by these consonants.
- /f/ is realised as /p/ (archaic pronunciation as opposed to a merger).
- Initial glides are not devoiced, and /w/ becomes /v/. Coda /m/ is realised as [v] instead of [w].
- Affricates are phonemicised due to the loss of glides in onset clusters.

#### Túng:

- Loss of voicing distinction in stop series, phonemicising low tone that was allophonically caused by these consonants.
- /f/ is realised as /p/ (archaic pronunciation as opposed to a merger).
- All coda nasals are lost, nasalisation has spread to preceding vowels.
- Onset stops become nasals when followed by nasal vowels.
- Habitual aspect is explicitly marked with the particle *con* [pɔ̃:].
- Lack of -i suffix to mark definiteness, plurality, and possession. However, it does occur in the speech of younger speakers.
- Agreement marking appears on a smaller set of verbs.
- More vocabulary from a substrate language, compared to the other two dialects.

# T'éoyú'sði (tealpaper)

#### **Overview**

T'éoyú'sài is a highly fusional language that utilises ablaut/tone change/stem alternations to a degree that is seemingly chaotic and irregular at a glance, and has a large inventory of consonants (32-33), and a large inventory of vowels (12), with three length distinctions, five tones (with less contrasts on short vowels), and three phonations. The phonotactic structure is comparatively simple, with a (C)V(C) syllable structure. There are a few restrictions on where certain consonants can occur, such as /h/, /j/, voiced fricatives, glottal stops, and glottalised consonants, reducing the number of contrastive consonants in the coda. There is also a system of vowel harmony, which splits the vowels of the language into sets based on tongue root position. There are irregular, somewhat unpredictable sandhi rules which apply between morphemes, to ensure the phonotactic constraints of the language are followed, as well as preventing certain combinations of consonants.

The syntax of the language is generally head-final, with SOV being the default word order. The language does have a mixture of prepositions and postpositions, with most being the latter. Noun phrase word order is rigidly head-final, while on a clause level, phrases/arguments may be moved about more freely for the purposes of topic/focus and emphasis. In the Western dialect of the language, the word order may become SVO or SAuxOV if the predicate of the sentence is focused, which cannot occur in the other two dialects.

There are four cases in the language: nominative, accsuative, genitive, and dative, with these cases generally behaving as would be expected, though all non-nominative cases may combine with adpositions to form obliques. These cases, as well as number, are marked through complex alternations (varying their tone/consonants/vowels/tone/phonation). In the Eastern dialect of the language, in "non-agentive" prefective past clauses, the nominative behaves like an ergative case, while the accusative behaves like an absolutive case. The language has pronouns that distinguish number, and gender (in the 3rd person), as well as demonstratives that behave like 3rd person pronouns in that they have the same gender distinctions.

Verbs are marked via alternations for a number of categories, mostly tense, aspect, and voice/valency categories, though is an 'accidental' mode, which indicates events that are accidental. Prefixal reduplication is used to mark the causative/reflexive/reciprocal voices (along with other morphology), and various suffixes are used to mark aspect, mood, agreement, negation, and further voice distinctions.

Additionally, tealpaper wanted us to guess where the language was meant to be situated in the real world, as if it was meant to be a real world isolate language, but with all the actual details on neighbouring languages and the location blanked out. My guess is the far east of the Sudan savanna, reaching into the Ethiopian highlands, in South Sudan, and partially in Ethiopia. This guess is based on the general similarity of T'éoyú'sèi with the Omotic languages and the Sudanic languages, sharing features from both groups, and the geographical details that were given in the introduction.

T'éoyú's ài fulfills all of the primary constraints of the challenge. Additionally the bonus constraint of additional closed class of words was fulfilled by there being two closed classes that alternate in the same manner, nouns and verbs that have their initial consonants mutate, as opposed to the rest of their stem (which does regularly occur with all nouns and verbs).

#### **Phonological Constraints**

**Tone/phonation:** T'éoyú'sèi has three contrastive vowel phonations: modal, creaky, and breathy, and five tonemes, which occur on a syllable level, being low, mid, high, rising, and falling, with rising/falling tones being restricted to long vowels. Tone is lexical and grammatical, in that it can be used to inflect or derive nouns and verbs.

Let's briefly discuss how tone and phonation are used in the grammar of the language. Noun inflections in T'éoyú'sài are quite irregular, at least at a glance, with apophony, tone, and phonation changes distinguishing different case and number forms of nouns. These alternations are *not* regular, in that the citation form of a noun (say, the nominative singular) cannot predictably determine the other case/number marker forms of a noun, even with affixes (as opposed to alternations) not being predictable based on the form of the noun. Verbs are similar, except they have a large number of stems that part a number of tense, aspect, or voice categories, or are non-finite forms such as a gerund and participle. These stems differ in various ways, such as by vowel quality/length, phonation, tone, and the presence of additional vowels/consonants. Some appear to be more regular than others, with the accidental 'mode' of the verb stem commonly featuring a final /g/.

**Onset/coda consonant asymmetry:** T'éoyú'sèi has a few restrictions on where consonants may occur, mostly consonants that only occur in the onset or only occur in the coda. /h/, non-geminate /j/, and glottalised consonants can only occur in the onset. /?/ may only occur in the coda.

Cluster/hiatus resolution: Affixes and clitics have a variety of alternations that determine how they resolve clustering/hiatus, but boundaries between stems (either in compounds, or between independent words) have a generally predictable and regular set of ways in which they resolve clusters/hiatus.

- Word-final consonants become onsets following vowel-initial words. If the following word is not a 'glottalising word' (an underlying trait that a vowel-initial word may have), a coda glottalised consonant will become deglottalised when it becomes an onset.
- If a word final consonant is followed /h/, /h/ is lost, and the preceding vowel is lengthened.
- If a voiceless-voiced pair of obstruents cluster, they are both realised as voiced.
- Word-final coronal frictatives assimilate to following coronal fricatives in terms of POA and voicing.
- Otherwise clusters may be broken by an epenthetic /ə/ or /i/.
- If a word-final vowel precedes a glottalising word, then the vowel may become creaky. If that final vowel is short, it may be elided and the preceding consonant would become glottalised.
- Otherwise, if there is vowel hiatus between vowels of the same vowel quality, an epenthetic glottal stop may be inserted in careful speech, but otherwise vowels directly flow from one to another (presumably as a long or overlong vowel).

These rules were given in this order with no subgrouping, so any statement of 'otherwise' is unclear as to whether it applies to all remaining possible clusters/hiatus contexts, or to the preceding resolution and its context.

### **Morphosyntactic Constraints**

Closed class of words: Nouns and verbs do not usually mutate the root's initial consonant, instead only alternating the vowel/phonation/tone and coda, but a small, closed set of nouns and verbs do alternate in this fashion. These were treated as one kind of 'subclass' by tealpaper, despite the distinction existing within two separate word classes, nouns and verbs.

**Bonus (additional closed class of words):** See the above point about nouns and verbs both having subclasses that undergo initial consonant mutation, which means that the conlang fulfils the bonus constraint of having more than one closed subclass.

**Homophonous morphemes:** The middle voice suffix and emphatic pronominal suffix are homophonous  $-^h(t)\hat{a}a$ , though these two morphemes are actually cognate, just with very distinct usages. These both have a reflexive meaning, which was presumably the original meaning/usage of this morpheme, which led to it being used for emphatic pronouns when attached to pronouns, and forms the middle voice when attaching to verbs.

# **Sociolinguistic Constraints**

**Dialects:** The main described dialect is the Central dialect, while there are Western and Eastern dialects that differ in terms of their phonological and grammatical structures. The following features were given by tealpaper to fulfil the constraints of the challenge, but do by no means give all the distinctions found in those dialects when compared to the Central dialect.

#### **Western Dialect:**

1. The phoneme /ç/ being realized as [ʃ].

- 2. Relict of split ergativity in the "non-agentive" perfective past clauses, where the alignment switches from nominative/accusative to ergative/absolutive, with the accusative case forms being treated as an absolutive case, and the nominative case forms being treated as an ergative case.
- 3. The use of the verbal suffix -k(i) as the sole indicator of non-imperative verbal negation. The Central dialect double marks negation with the addition of the preverbal particle  $m\dot{u}$ .

#### **Eastern Dialect:**

- 1. The vowel qualities /y, y/ often merging with /i, ɪ/.
- The occasional usage of SVO and SAuxOV word order in certain contexts instead of the usual SOV and SOVAux word order. This appears to be a flipping of head-directionality on a clause level.
- 3. The use of the preverbal particle  $m\dot{u}$  as the sole indicator of non-imperative verbal negation. The Central dialect double marks negation with the addition of the suffix -k(i).

# Vàăls (Clean Willow 3077)

#### **Overview**

Vails is a moderately agglutinative, primarily head-marking language. It has a small inventory of consonants (12-14, depending on the dialect) and an above average inventory of vowels (6-7, depending on the dialect), with moderately complex phonotactics, allowing syllables of the shapes (C)V(C)(C), but has a restriction against stops in the coda (either as an element of a cluster, or as a single consonant). The language has a pitch accent, where the stressed syllable may have one of three tones. Dialectally there are mid centralising diphthongs /eə oə/, and word-final palatalised or palatal consonants, in place of word-final /i/.

The language has a SOV word order, and a generally head-final syntax, though one of the dialects has a V2 word order, where the finite verb must occur in the second position of a clause. Nouns are marked for their number and noun class by a prefix, which any nominal adjectives it has must agree with their head with the same prefixes. Notably, there are two classes of adjectives, nominal adjectives, which agree with their head nouns, taking the same prefixes, and verbal adjectives, which are a closed class, limited in number, and function like verbs, marked for person, number, tense, and aspect like verbs are.

Verbs are marked with suffixes, which mark tense and aspect, or form an infinitive. Additionally, verbs agree with both their agent and patient, using prefixes that are not distinguished by case role, meaning that you have to disambiguate what role the agreement marker indicates from context. The future tense is formed periphrastically with the copula combined with the usual tense/aspect marking, which take on emergent meanings in this context, with the past perfective being a subjunctive, and the past imperfective being a conditional, while the present imperfective and present perfective are used for actual future events.

Vàăls fulfills all the primary constraints of the challenge. Additionally, it fulfills the bonus constraint of having distinct clusters/medial consonants as compared to initial onsets and final codas. Fricative followed by stop clusters are not permitted, while geminate stops may occur medially, but they cannot occur in any other contexts.

## **Phonological Constraints**

**Tone/phonation:** Vāāls has three level tones, which are fixed to/associated with an unpredictably stressed syllable, low, middle, and high; this constitutes a 'pitch accent', at least in a way similar to the pitch accents of Norwegian and Swedish. These tones do not occur in the Ārsāh dialect, which instead has fixed initial stress.

**Onset/coda consonant asymmetry:** Vàăls restricts where exactly stops may occur. On the surface level, they may only occur in onset position, or as part of a geminate that crosses syllable boundaries. Though it is not explicitly stated, it appears that underlyingly, all geminate stops are actually realisations of /v s j x/ followed by a stop.

Bonus (internal clusters distinct from initial onsets/final codas): Due to the fact that geminate stops may occur word medially, and  $v \le j \times v + s$  top clusters may not occur medially, this bonus constraint is fulfilled.

**Cluster/hiatus resolution:** Between morphemes, when /j/ or a fricative is at the right-edge and followed by a stop, the fricative or /j/ is dropped and geminates the following stop. Vowel hiatus does not occur intramorphemically, and when it does occur between morphemes, an epenthetic /n/ is inserted.

### **Morphosyntactic Constraints**

Closed class of words: Vāāls has two classes of adjectives. Nominal adjectives constitute the majority of adjectives, which decline like nouns, agreeing with their head noun in terms of using a number prefix. Verbal adjectives constitute a small minority, and a closed class, which are conjugated for person/tense like verbs.

**Homophonous morphemes:** Vàăls does not appear to have any homophonous morphemes that occur in the same kind of position, though there are some morphemes that are homophonous on a phonetic level (ignoring position), such as the past imperfective suffix *-pam* /-pam/ and the 2nd person singular pronoun *pam* /pam/ and agreement prefix *pam-* /pam-/, and the infinitive suffix *-eh* /-ex/ and the inanimate plural prefix *eh-* /ex-/. As position was not specified in the constraint, these morphemes all fulfil the constraint, and the presence of two forms that are used for more than one context means the bonus constraint of having more than one homophonous morpheme is fulfilled.

## **Sociolinguistic Constraints**

**Dialects:** Clean\_Willow\_3077 described the dialects of Vaals (standard, Ùcata, and Ārsāh) dialects throughout their description of the language, and I will summarise the features of these dialects here to show how they fulfilled the constraints of the challenge.

#### Ùcata:

- $/e \text{ o}/> [e_2 \text{ o}_2]$  when followed by /e/ in the next syllable.
- /ə/ merges with /a/.
- Word-final /i/ is lost, leaving palatalisation on the preceding consonant, which can shift the consonant's place of articulation i.e. /ki# tʃi# si# xi#/ > [ki# tʃi# si# xi#] > [c# te# ʃ# ç#].
- Future tense is formed by using the infinitive, instead of a periaphrastic construction.

• Has a unique set of 'stressed variants' of pronouns that are used for emphasis as well as genitive/possessive pronouns.

#### Ārsāh:

- $\sqrt{a}$  merges with  $\sqrt{a}$ .
- /x/ is realised as [h].
- Human adjectival agreement prefixes (*ar* SG, *hāsar* PL) are used for adjectives with animate (non-human) nouns, instead of the usual (*ă* SG, *hāsā* PL).
- Word order is V2, where the verb must take the second position in the clause, after the subject, but non-finite verbs must go clause-finally, fitting with the otherwise SOV word order. The default word order is SOV in the other dialects.