morphophonemics
Tulu provides two sets of morphophonemic alternations of which one is optional while the other is compulsory. The former operates between two free forms or 'words' and may be called external sandhi. It is optional in the sense that, a juncture may optionally occur between the two forms and thus the morphophonemic change that is expected in that place. The other set of alternations which necessarily operate, may be called internal sandhi. It occurs between two bound forms or a bound form and a free form.

Features of internal sandhi are partly identical with those of external sandhi and partly different.

In general, the morphophonemic changes can be described as the effects of the following three processes: 1) elision, 2) insertion and 3) complete or partial assimilation. Both vowels and consonants may be subject to elision and assimilation, but consonants alone are subject to insertion.

ELISION:

Vowels. As seen in the previous section, the language does not allow any vowel clusters. Hence, an elision or an insertion becomes compulsory in cases where a morpheme ending in a vowel is directly followed by another morpheme beginning with a vowel. The criterion for a choice between the two is mostly phonological, but sometimes morphological. Generally, when two vowels come together, if the first is a high back and short vowel, (whether rounded or unrounded), it is elided. The following are the examples provided by both the types of sandhis.

Internal Sandhi.

\[\text{4 + 1 balasi + 1 balasi} \quad \text{'serve food!(pl.)'}\]
These two high back /ʊ/ short vowels get elided when followed by a morpheme beginning with a consonant also. In internal sandhi, the restriction in such cases is that the vowel should be the final phoneme of a verbal base. This type
of elision is noted in the following environments:

**Vowel /a/**

\[ \hat{a} + r \text{ daːntrə + rə} \quad \text{daːntrə} \quad 'having crossed off' \]
\[ \hat{a} + y \text{ seːrə + ye} \quad \text{seːrye} \quad 'he joined' \]
\[ \hat{a} + t \text{ balastə + tə} \quad \text{balastə} \quad 'having served food' \]
\[ \hat{a} + n \text{ badalə + nə} \quad \text{badalnə} \quad 'it changed' \]
\[ \hat{a} + l \text{ lakə + la} \quad \text{lakə} \quad 'get up!' \]
\[ \hat{a} + v \text{ oresə + və} \quad \text{oresə} \quad 'I will rub' \]

**Vowel /u/**

\[ \hat{u} + r \text{ muṭṭu + rətə} \quad \text{muṭṛtə} \quad 'having touched off' \]
\[ \hat{u} + y \text{ buːlu + ye} \quad \text{buːlye} \quad 'he fell' \]
\[ \hat{u} + t \text{ muːstu + tu} \quad \text{muːstu} \quad 'having smelt' \]
\[ \hat{u} + n \text{ muṭṭu + nə} \quad \text{muṭnə} \quad 'it reached' \]
\[ \hat{u} + l \text{ cucco + la} \quad \text{cucla} \quad 'bite!' \]
\[ \hat{u} + v \text{ olipu + və} \quad \text{olipə} \quad 'I preserve' \]

In external sandhi, /u/ + /i/ usually becomes /u/ as in the case /duddu/ + /iḍdi/ /dudduddi/ 'don't have money', but, when it is the final vowel of the form /ntu/ 'thus', the vowel /u/ is elided before /i/ as may be seen in the example given above, /pidaːdontitte/ 'he was stprarting'.

Other vowels are also found to be elided in external sandhi. Generally, 1) if the two vowels are identical, one of them is dropped, which can be considered as the first one (see 2.)

\[ \hat{i} + l \text{ oŋjil + ili} \quad \text{oŋjilə} \quad 'one house' \]
\[ \hat{e} + s \text{ kaytə + endoːtu} \quad \text{kaytolendoːtu} \quad 'putting near by' \]
\[ \hat{u} + u \text{ avlu + undu} \quad \text{avlundu} \quad 'it is there' \]
\[ \hat{o} + o \text{ nammo + ora} \quad \text{nammora} \quad 'we once,' \]
\[ \hat{a} + a \text{ dhayryyya + antətə} \quad \text{dhayryantə} \quad 'being bold' \]

2) if the second is long but identical in quality with the other, the first is dropped.
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\(e + e\): kasyade + e:na kasyade:na 'myself, nearby'

\(i + i\): a:nī + i:tā a:nī:tā 'this much on that day'

\(a + a\): aːcarya + aːpunu aːcaryaːpunu 'feel surprised'

3) if the second is a short high non-identical vowel, the first is retained, and the second is dropped.

\(i + u\): kinnī + uppunaga kinnippunaga 'when young'

\(a + i\): prataːpa + itti prataːpatti 'having valour'

\(e + i\): icca + itnā iccaːtā 'had a desire'

\(u + i\): duddī + iddi dudduddi 'no money'

\(e + i\): dante + itti dantetti 'that which does not (exist)'

4) the low vowel /a/ is dropped when followed by a short vowel.

\(a + o\): ampoːna + eːña ampoːneːna 'how to do'

\(a + o\): kallīda + oːṛji kallīdoːṛji 'one of stone'

5) /a/ is dropped when preceded by the vowel /e/ also.

\(a + \text{arjuna} + aːnaː\): arjuneːna 'Arjuna, thus'

6) the vowel /aː/ is dropped when preceded by /oː/, /eː/ and /e/ and the vowel retained gets lengthened.

\(o + a\): eːcino + aːndla eːcinoːndla 'whatever it may be'

\(e + a\): umbye + aːtā umbyeːtā 'this fellow by himself'

\(ε + a\): ēradda + aːtā ēraddaːtā 'with sincerity'

Consonants: Internal sandhi provides two types of consonantal elision both being phonologically conditioned. As the language does not allow geminated consonants directly before or after a consonant, one of the two identical consonants get elided whenever followed by some suffix beginning with a consonant. Cases of this type arise by the dropping of the vowels /ə/ and /u/ before consonants.

\(jekkā + la\) *jekla 'wash!'

\(baggā + la\) bagla 'bend!'
The second type of consonant elision is the dropping of the phoneme /p/ before /t/, a case arising by the elision of the vowel /u/ before consonants.

| Biocu + na | Bionu | 'it got untied' |
| Kullu + ye | Kulye | 'he sat' |
| Kutu + ve | Kutve | 'he pricks' |

The second type of consonant elision is the dropping of the phoneme /p/ before /t/, a case arising by the elision of the vowel /u/ before consonants.

| Tadepu + to | Tadete | 'he prevented' |
| Talipu + tâs | Talitâs | 'I have sprinkled' |
| Oypu + tonyu | Oytonu | 'pull yourself' |
| Kadpu + tontu | Kadtonu | 'cutting' |

**INSERTION:**

In the case of internal sandhi, if among the two juxtaposed vowels the former is /i/ or /i:/, the palatal semivowel /y/ is inserted between them. Only /o/ or /a/ is found to occur as the following vowel.

| I + o | Mugi + ontu | Mugiyontu | 'finishing' |
| I + a | Mugi + adâ | Mugiyadâ | 'let it finish' |
| I: + a | Mi: +uddy | Mi:yyodu | 'should bathe' |
| I: + a | Mi: + arc | Mi:yarc | 'to bathe' |

If the preceding consonant is /r/ in the above case, the inserted /y/ is retained, but the vowel is /i/ is dropped.

| Barpuri + o | Barpuryo | 'we don't come' |
| Kolpuri + a | Kolpurya | 'you don't give' |

A /y/ insertion is also found to take place in internal sandhi, when the base ends in /y/ and the following suffix begins in a vowel.

| Y + a | Koy + arc | Koyyar | 'to cut' |
| Y + o | Bey + odu | Beyyodu | 'must be cooked' |

Insertion of the labial semivowel is found to occur in the following instances provided by internal sandhi.
Insertion of the dental nasal /n/ is found to occur in internal sandhi, when a nominal base ending in /a/ is followed by a vocative suffix.

- simma + e simmane 'O lion!'
- petta + e pettane 'O cow!'

In external sandhi, it occurs when 1) a nominal base ending in /e/ or /a/ is followed by the emphatic particle.

- vastra + e vastrane 'cloth itself'
- aye + e ayeñe 'he himself'
- puruse + e purusene 'husband himself'

2) when a noun or a plural form of a noun is followed by the pronominal form /a:klu/ 'they'.

- akke + a:klu akkena:klu 'sisters'
- akkerē + a:klu akkerena:klu 'sisters'

When the final /4/ of a root of the type (C)V4 (where S is a stop) is dropped, being followed by a morpheme beginning with a vowel, a stop, identical with the S is inserted. (ie. the stop S gets geminated).

- kaṭē + uṇa kaṭṭuna 'to tie'
- lakē + e lakke 'I may get up'
- sikē + anē sikkana 'it won't be got'
- sutu + uṇa suttuna 'wearing'
The above feature is found among verbs only.

When a retroflex lateral precedes a dental lateral, there is complete assimilation.

kul + la  
\text{kulla} 'sit!'

When a lateral follows a nasal, it gets freely varying complete assimilation.

tin + la  
tinna  \sim  tin\text{\text Bundesliga} 'eat!'

pan + la  
panla  \sim  pan\text{\text Bundesliga} 'say!'

OTHER CHANGES:

There are three more types of changes provided by internal sandhi, which do not come under anyone of these subheadings.

1) when followed by a suffix beginning with a consonant,

a) bases ending in /ε/ change their final vowel to /ə/.

\text{kuńʈε} 'log of wood'  
\text{kuńʈanə} (accusative)

baːlə 'plantain'  
baːləgə (dative)

möre 'face'  
moːɾəɡə (locative)

kere 'tank'  
kereʃə (locative)

b) bases ending in /ε/ change their final vowel to /a/.

\text{kuńʈε} 'lam man'  
\text{kuńʈanə} (accusative)

aːye 'he'  
aːyagi (dative)

manusta 'man'  
munusta (accusative)

2) Nominal bases ending in /a/ change their final vowel to a) /ə/ or /ə/ when followed by the dative or the plural suffix, b) to /ə/ when followed by the locative suffix, and
vastara 'cloth' vastranta (instrumental)
pustaka 'book' pustakatlu (plural)
kamba 'pilfer' kambatalu (plural)
banna 'colour' bannantu (locative)
kaṣṭa 'trouble' kaṣṭontu (locative)
vastra 'cloth' vastranta (instrumental)
uḷiga 'service' uḷiganta (instrumental)

This change does not take place if the base is of the type (c)(c)V.CV.

mara 'tree' maratā (locative)
brams 'illusion' brametā (locative)

3) The initial voiced stops of a suffix gets devoiced when preceded by a) monosyllabic bases, b) bases of the type (c)(c)V.CV, and c) all other bases ending in the vowel /a/.

caː + gā caːkā 'for tea'
poː + ga poːka 'let us go'
pan + ga panka 'how shall I say?'
kay + ḍā kayṭā 'in the hand'
pili + ḍā piliṭa 'with the tiger'
tars + ḍā tarekā 'for the head'
kedu + ḍā keduṭu 'in the tank'
brams + ḍā brametā 'in illusion'
kaṣṭa + ḍā kaṣṭontu 'in distress'
puspa + ḍā puspatā 'of the flower'

4) When followed by the emphatic morpheme /ː/, a) short vowels become long, and b) single consonants become geminated. (see page 32-33).

bahaːla 'much' bahaːlā 'very much'
The morphophonemic features described above explain most of the variations found in the phonemic representation of Tulu morphemes. However, these are not exhaustive. There are exceptions to some of these rules, and the most frequent of them will be described in the form of allomorphic statements of particular bases or suffixes.

It may be noted here, that some of the features that are discussed in the section on phonology rightly belong to morphophonemics. One such feature in Tulu is the behaviour of aspirated stops. Since aspiration is considered a phonemic in the language, a variation between two morphs - one with an aspirated sound and another without it - is phonologically relevant, but not morphologically so, and thus, has its place under morphophonemics. All morphemes, represented by sequences of phonemes with some aspirated sound among them, will be characterised by this feature.
morphology
MORPHOLOGY.

Generally, the morphemes of Tulu may be divided into two groups, bases and suffixes, which can be distinguished on the ground of their semantic contents, and a difference in their functions. If compared with the suffixes, base morphemes are also larger in number, and of lesser text frequency. A morphological construction consists of only base morpheme, (compound bases being treated as syntactic constructions), while it may have even up to six suffixes in it.

Suffixes are further divisible into two groups: inflectional and derivational. The former are smaller in number. They form two distinct groups, and both of them have sets of bases occurring before them, which are almost exclusive of each other. All of them are not form-closing suffixes, even though they occur always after the derivational. Some of them like the tense suffixes are always non-final, while some others like the plural in nouns are both final and non-final. And some, like the case suffixes are always final. Their relative positions in different morphological constructions will be discussed under the section on verbs and nouns.

All the remaining suffixes are called derivational. They are comparatively larger in number, and are mostly unproductive. Their place in morphological constructions is mostly before the inflectional suffixes, but they can also occur as form-closing suffixes, as in indeclinable derivatives. They differ from inflectionals in being necessary in some instances as when occurring in constructions whose other member is a unique constituent.
On the basis of the suffixes that follow (or do not follow), the base morphemes can be further divided into three groups: nouns, verbs and indeclinables.

Verbal bases: morphemes taking one or more of the inflectional suffixes grouped in the section on verb, fall under this group. These morphemes are also called as verbal roots. We can expand this class by including all the morphological constructions that can be substituted for these root morphemes. Thus, verbal base will be a cover term for both verbal roots and derivatives.

Nominal bases: morphemes taking one or more of the inflectional suffixes grouped in the section on noun, fall under this group. As in the case of the verbal bases, this class can also be expanded further to include all the derivative forms which can be substituted for nominal roots.

Indeclinables: There are a few morphemes and derived forms which do not fall under any one of these two classes. They together constitute the third class, called indeclinables. Except for the few derivative suffixes they take, they have nothing much to do with morphology. But, their function in syntax is quite complex. They form different sub-groups, some of which consist of single individuals as their members.
In most of the Dravidian languages, the base of a verbal form functions alone as the second person singular imperative, and can thus easily be isolated. In Tulu, however, the case is slightly different. In the imperative singular, the base is followed by the suffix of imperative /l/ and the personal suffix /a/. But, this full imperative form may be replaced by a bare base in some certain environments, as may be seen in the section on imperatives, and, in such cases we can formulate an easy and clear rule that the base of a Tulu verb is the one which is found to occur alone as an utterance to denote second person singular imperative and which can replace a suffixed imperative form in second person singular. When such is not the case, the decision will have to be based on the type of paradigm the base provides. The general rule is that, by removing all the inflectional suffixes, we get the bare base.

The verbal base, obtained in that way, consists of a root morpheme optionally followed by one or more derivative suffixes, described below. The root morphemes are mainly of two types: 1) free forms, not always followed by any derivative suffixes, and capable of taking inflectional suffixes directly, and 2) bound forms, always followed by one or more derivative suffixes.

In the data collected so far, 306 roots are of the first type. They are further divided into two groups: group 1) consisting of monosyllabic roots and roots ending in the vowel /i/ or /e/ and group 2) consisting of all the other remaining roots. Of the 63 roots belonging to group 1), 24 are monosyllabic, and all the rest are of the type (O)V(CV). The above grouping is based on the distribution of the allomorphs of different inflectional suffixes, directly
following roots.

Group 1)

<table>
<thead>
<tr>
<th>Po</th>
<th>'to go'</th>
<th>Mi</th>
<th>'bath'</th>
</tr>
</thead>
<tbody>
<tr>
<td>A:</td>
<td>'come'</td>
<td>Un</td>
<td>'eat'</td>
</tr>
<tr>
<td>Ker</td>
<td>'kill'</td>
<td>Kol</td>
<td>'give'</td>
</tr>
<tr>
<td>Koy</td>
<td>'pluck'</td>
<td>Iji</td>
<td>'keep'</td>
</tr>
<tr>
<td>Bare</td>
<td>'write'</td>
<td>Giri</td>
<td>'wander'</td>
</tr>
<tr>
<td>Ode</td>
<td>'break'</td>
<td>Bigi</td>
<td>'be tight'</td>
</tr>
</tbody>
</table>

It may be seen that all free roots ending in /e/ or /i/ are of the type (C)VGV, or (C)V: and thus belong to this group.

Group 2)

<table>
<thead>
<tr>
<th>Kati</th>
<th>'tie'</th>
<th>Siká</th>
<th>'reach'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutu</td>
<td>'wear'</td>
<td>Raštá</td>
<td>'splash'</td>
</tr>
<tr>
<td>Koccu</td>
<td>'brag'</td>
<td>Endá</td>
<td>'stand'</td>
</tr>
<tr>
<td>Badká</td>
<td>'live'</td>
<td>Kirmbu</td>
<td>'itch'</td>
</tr>
<tr>
<td>Guru</td>
<td>'fix'</td>
<td>Oidu</td>
<td>'read'</td>
</tr>
<tr>
<td>Malté</td>
<td>'bend'</td>
<td>Aidá</td>
<td>'move'</td>
</tr>
<tr>
<td>Minta</td>
<td>'force out'</td>
<td>Undu</td>
<td>'press'</td>
</tr>
<tr>
<td>Magálá</td>
<td>'fall'</td>
<td>Oragá</td>
<td>'lean back'</td>
</tr>
<tr>
<td>Aleddá</td>
<td>'cry'</td>
<td>Muruntu</td>
<td>'shrivel'</td>
</tr>
</tbody>
</table>

Some of the trisyllabic roots put under the above group may allow further morphemic divisions as can be seen in the following list:

<table>
<thead>
<tr>
<th>Karanțu</th>
<th>'be scorched'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muruntu</td>
<td>'shrivel'</td>
</tr>
<tr>
<td>Kuruntu</td>
<td>'shrivel'</td>
</tr>
<tr>
<td>Sirințu</td>
<td>'shrivel'</td>
</tr>
</tbody>
</table>

But the data does not provide enough evidence for a satisfactory cut in these instances.
There are altogether 146 roots in the data, which are of the second type (bound forms). They take one or more of the following classificatory suffixes before taking any other derivative suffixes like the causative or the reflexive. The most frequent among these suffixes is /pu/. It occurs after 118 morphemes to form verbal bases.

There are altogether 146 roots in the data, which are of the second type (bound forms). They take one or more of the following classificatory suffixes before taking any other derivative suffixes like the causative or the reflexive. The most frequent among these suffixes is /pu/. It occurs after 118 morphemes to form verbal bases.

<table>
<thead>
<tr>
<th>Root</th>
<th>Meaning</th>
<th>Root</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>oğou</td>
<td>'pluck'</td>
<td>oyou</td>
<td>'drag'</td>
</tr>
<tr>
<td>ampu</td>
<td>'do'</td>
<td>layyou</td>
<td>'jump'</td>
</tr>
<tr>
<td>yonupu</td>
<td>'ton up a child'</td>
<td>kaipu</td>
<td>'wait'</td>
</tr>
<tr>
<td>boiipu</td>
<td>'instruct'</td>
<td>rakiipu</td>
<td>'protect'</td>
</tr>
</tbody>
</table>

The consonant /p/ of this suffix gets geminated when the preceding root is either of the pattern (C)V or (C)CVV.

geppu | 'take' |
jappu | 'descend' |
uppu | 'be' |

The change, however, is optional after roots of (C)CVV pattern.

<table>
<thead>
<tr>
<th>Root</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>oleppu</td>
<td>olepu</td>
</tr>
<tr>
<td>adippu</td>
<td>adipu</td>
</tr>
<tr>
<td>bulippu</td>
<td>bulipu</td>
</tr>
<tr>
<td>hajappu</td>
<td>hajapu</td>
</tr>
<tr>
<td>koreppu</td>
<td>korepu</td>
</tr>
</tbody>
</table>

The following are less frequent:

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>/su/</td>
<td>bayasu</td>
</tr>
<tr>
<td>berasu</td>
<td>'mix'</td>
</tr>
<tr>
<td>/isu/</td>
<td>bo:lisu</td>
</tr>
<tr>
<td>/o:/</td>
<td>mitto:</td>
</tr>
<tr>
<td>/mulso/</td>
<td>mullo:</td>
</tr>
</tbody>
</table>

bayakp | 'wish (N)' |
berakp | 'mixture' |
bo:lu | 'shaved' |
mitti | 'above' |
mull | 'corner' |
Transitive:

Tulu makes a distinction between transitive and intransitive bases in the sense that it uses the suffix /pu/ to convert some of the syntactically intransitive bases into transitive.

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>oli</td>
<td>'remain'</td>
</tr>
<tr>
<td>olipu</td>
<td>'preserve'</td>
</tr>
<tr>
<td>bole</td>
<td>'grow'</td>
</tr>
<tr>
<td>bolepu</td>
<td>'grow (plants)'</td>
</tr>
<tr>
<td>ode</td>
<td>'break'</td>
</tr>
<tr>
<td>odope</td>
<td>'break something'</td>
</tr>
<tr>
<td>bigi</td>
<td>'become tight'</td>
</tr>
<tr>
<td>bigipu</td>
<td>'make tight'</td>
</tr>
</tbody>
</table>

There are altogether 25 roots in the data which take the suffix /pu/ to become transitive.

It must be noted here, that the suffix /pu/ 'transitive' is distinct from the classificatory suffix /pu/. Bases consisting of the latter suffix need not necessarily be transitive.

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>balipu</td>
<td>'run away'</td>
</tr>
<tr>
<td>uppu</td>
<td>'be'</td>
</tr>
<tr>
<td>kodipu</td>
<td>'sprout'</td>
</tr>
<tr>
<td>bulipu</td>
<td>'weep'</td>
</tr>
<tr>
<td>olegp</td>
<td>'call'</td>
</tr>
</tbody>
</table>

Similarly, bases can be transitive even if they do not consist of the suffix /pu/ or any other suffix whatsoever, and, but for the conversion of the above 25 roots into transitive, the distinction between transitive and intransitive bases is not morphologically pertinent.

<table>
<thead>
<tr>
<th>Base</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>koy</td>
<td>'pluck'</td>
</tr>
<tr>
<td>tikki</td>
<td>'rub (something)'</td>
</tr>
<tr>
<td>u:ndu</td>
<td>'press'</td>
</tr>
<tr>
<td>ker</td>
<td>'kill'</td>
</tr>
<tr>
<td>iji</td>
<td>'keep'</td>
</tr>
<tr>
<td>talli</td>
<td>'push'</td>
</tr>
</tbody>
</table>
Causative:

The suffix /oː/ is used to form causatives from non-causative bases.

- oppu 'agree' → oppo: 'cause to agree'
- tall4 'push' → tallo: 'cause to push'
- ubbu 'swell' → ubbo: 'cause to swell'
- la:ypu 'jump' → laypo: 'cause to jump'
- balipu 'run' → balipo: 'cause to run'
- kat4 'tie' → kaṭto: 'cause to tie'

It has the allomorh /oː/ and /poː/ after mono- and bases of the type (C)V.CV ending in /a/ or /i/.

- tin 'eat' → timpo: 'cause to eat'
- bar 'come' → barpo: 'cause to come'
- pogipogi 'enter' → pogipo: 'cause to enter'
- mude 'plait' → mudepo: 'cause to plait'
- me: 'graze' → meipo: 'cause to graze'
- mi: 'bathe' → miipo: 'cause to bathe'
- po: 'go' → po:po: 'cause to go'

The allomorphs /oː/ and /poː/ freely vary after the following bases:

1. Disyllabic bases in which the first syllable is open and long and the second ending in the vowel /u/ or /i/.
   - bu:lu 'fall' → bu:lpo: ~ bu:lo: 'ca. to fall'
   - se:rá 'reach' → se:repo: ~ se:ro: 'ca. to reach'
   - tu:ku 'swing' → tu:kepo: ~ tu:ko: 'ca. to swing'
   - o:du 'read' → o:depo: ~ o:do: 'ca. to read'
   - ta:da 'gore' → ta:depo: ~ ta:do: 'ca. to gore'

2. After trisyllabic bases in which all the syllables are open and short.
   - bogal4 'bark' → bogalo: ~ bogalo: 'ca. to bark'
   - kerejad 'scrape' → kerejo: ~ kerejo: 'ca. to scrape'
oragá 'lean' oragọ: 'cs. to lean'
uduru 'drop off' udurọ: 'cs. to drop'

It must be noted, however, that when both these types of bases have the consonant /a/ as the onset of their last syllable, the free variation does not occur, and the suffix has the allomorph /o:/ after them.

mu:su 'smell' mu:so: 'causē to smell'
halasé 'serve' halaso: 'cause to serve food'
oresé 'rub (floor)' oreso: 'cause to rub'

There is another freely varying allomorph /o:/ for the causative suffix, whose distribution cannot be definitely stated. It occurs quite frequently after a few bases as in the following.

se:râ 'join' se:ro: 'cs. to join'
lôgâ 'dry (water) lôgọ: 'cs. to dry' in cooking rice)

It is less frequent in the following:
lakâ 'get up' lakso: 'cs. to get up'
o:du 'read' o:do: 'cs. to read'
badálâ 'change' badalo: 'cs. to change'
mugî 'finish' mugiso: 'cs. to finish'

However, it certainly does not occur after the following:
1. monosyllabic bases.
2. polysyllabic bases whose final syllable has a sibilant or a nasal as the onset.

A more definite statement about the distribution of this particular allomorph will be desirable, but the data does not allow any such statement.
Reflexive:

Except bases ending in the suffix /-ou/, all take /-onu/ to form reflexive bases.

- koy 'pluck' koyonu 'pluck oneself'
- su: 'see' suvonu 'see oneself'
- mi: 'bathe' miyonu 'bathe oneself'
- paita 'put' paidonu 'put oneself'
- kat: 'tie' kattonu 'tie oneself'
- balasâ 'serve food' balasonu 'serve oneself'
- bare 'write' barevonu 'write oneself'

After bases ending in /-ou/, it has the allomorph /-onu/.

- kadru 'cut' kadoonu 'cut oneself'
- oyru 'pull' oyonu 'pull oneself'
- geyru 'take' gettonu 'take oneself'

The base /kullu/ 'sit' has the allomorph /-o/ before it.

- kullu 'sit' kudonu 'sit oneself'

It may be noted here, that historically, these forms represent a past participle followed by a particular root, as can be seen in Kannada reflexive forms like ma: dikonda 'he did himself' or ma: dikollutte;ne 'I will do myself'. In Tulu also, we find morphophonemic changes taking place both in the base and in the initial consonant of the suffix.

- amru 'do' antonu 'do oneself'
- pan 'say' panonu 'say oneself'
- tin 'eat' tindonu 'eat oneself'
- pattâ 'hold' pasonu 'hold oneself'

However, in a synchronic study of Tulu, there cannot be any place for a past particle or a past verbal suffix in a reflexive base. A historical remnant of this type
may also be seen in the completive, perfect and the converbial suffixes.

**Compleitive:**

The completive suffix has the allomorphs /trā/ - /ttārē/ occurring after 1) monosyllabic bases, 2) causative bases, 3) bases of the type (0)VCV ending in the vowel /i/ or /e/ and also, 4) bases ending in the suffix /pu/. The allomorph /ttārē/ occurs only when followed by a suffix beginning with a consonant and is in free variation with /trā/ in that position.

1) go: 'go' po: 'write' po:trā 'write out'
2) bare 'bathe' mis: 'bathe' mis:trā 'bathe away'
3) koyyo: 'cs. to pluck' koyo:trā 'cs. to pluck out'
4) kadū: 'cut' ka:trā 'cut away'
    ampū: 'do' antrā 'do away'

It has the allomorph /drā/ after bases ending in /l/.

1) kol 'give' koldrā 'give away'

It has the allomorph /rā/ after all the remaining bases.

1) kattā 'tie' katrā 'tie away'
2) dāntā 'cross' dāntrā 'cross away'
3) oragā 'lean' oragrā 'lean away'

As in the reflexive bases, the morphophonemic changes that take place in the consonant /t/ of the completive suffix and also in the base occurring before it are similar to those found in the consonant /t/ of the past suffix and the base occurring before it.
un 'eat' undrā 'eat away'
tin 'eat' tindrā 'eat away'
ampu 'do' antrā 'do away'

A final classification of all these verbal bases may be given as follows:

set I:  a) all monosyllabic bases.
       b) bases of the type (C)V.CV ending in the
          vowel /i/ or /e/.
       c) causative bases.
set II: all bases ending in the suffix /pu/.
set III: all the remaining bases.

Inflection:

Tulu makes a three-fold distinction of tense in the
indicative: present-future, past and perfect. All the three
suffixes are followed by one of the four personal suffixes,
first, second, third non-neuter and third neuter. The third
person non-neuter may be further followed by the feminine
suffix in the singular, and also, all the four personal
suffixes may be followed by the plural suffix. (In plural,
there is no distinction between masculine and feminine).
The general nature of the forms in these paradigms may be
depicted as follows:

Base + tense suffix + personal suffix (+) feminine suffix
or
plural suffix.

For example, the verbal form /nušgu/ 'they swallowed'
consists of the verbal base /nušgu/ 'swallow', the tense
suffix /y/ indicating the past action, the personal suffix
/e/ indicating third person non-neuter, and the plural
suffix /rā/.

In the subjunctive, the tense distinction is only
two-fold: present and perfect. The present subjunctive is
formed by adding the subjunctive suffix directly to a base. But, in the case of the perfect subjunctive, it follows the perfect suffix. There is also a present negative subjunctive whose formation is similar to that of the present subjunctive, the negative suffix being added directly to the base. The formation of these paradigms is as follows:

Present or present negative subjunctive:

Base + Pr. subj. or neg. subj. + personal suffix (+) fem. or pl.

Perfect subjunctive:

Base + perfect + subjunctive + personal suf. (+) fem. or pl.

For example, in the form /tínuf/ 'I may eat', the base is /tín/ 'eat', /v/ the subjunctive suffix, and /ς/ the personal suffix denoting first person singular number. In /tínal/ 'I will not eat', /tín/ is the base, /ay/ the negative subjunctive suffix, and /ς/ the personal suffix. In /tínvar/ 'you might have eaten', /tín/ is the base, /t/ the perfect suffix, /v/ the subjunctive suffix, /a/ the personal suffix denoting second person, and /r/ the plural suffix.

The tense distinction is two-fold in the negative also. They are the present and the perfect, the paradigms being formed by adding the negative suffix after the present-future and the perfect suffixes. They are further followed by the personal suffixes and the feminine or the plural suffix.

Present-future fem.
Base + or + negative + personal suf. (+) or
perfect pl.

For example, in the form /koltarér/ 'you (pl.) have not given', /kót/ 'give' is the base, /t/ the perfect suffix /ι/ the negative suffix, /a/ the personal suffix denoting second person, and /r/ the plural suffix. In /kolturél/
Imperative is confined to the second person only. It shows a distinction of singular and plural, and also a distinction of positive and negative. The general nature of the paradigm is as follows:

- **Positive Imp.**
  - Base + or + personal suffix (+) plural
  - negative imp.

For example, in the form /tinla/ 'you (sg.) eat', /tin/ 'eat' is the base, /l/ is the positive imperative suffix, and /a/ the personal suffix.

The concessive is confined to first and third persons only. In first person, the two-fold number distinction is observed, whereas, in third person, there is neither the distinction of number nor of gender. The forms consist of the following elements:

- Base + concessive suffix + personal suffix (+) plural.

In the form /amuga/ 'let us do', for example, /amugu/ 'do' is the base, /g/ is the concessive suffix, and /a/ the personal suffix denoting first person.

The prospective does not distinguish persons, number or gender. It has two forms, a present obtained by adding the suffix directly to a base, and a perfect, obtained by adding the suffix after a perfect suffix.

- Base (+ perfect suffix) + prospective suffix.

In the form /tintoli/ 'could have eaten', /tin/ 'eat' is the base, /t/ the perfect suffix, and /oli/ the prospective suffix.
The assertive is similar to the above one, but differs from it in having an additional present negative form.

Present or present negative:

\[ \text{Base} + \text{poq \ assertive} \]

or

\[ \text{Base} + \text{neg. assertive} \]

Perfect:

\[ \text{Base} + \text{perfect suffix} + \text{assertive suffix} \]

Thus, in the form /ampoðu/ 'should do', /ampu/ 'do' is the base, and /oðu/ is the assertive suffix. And, in /antoðu/ 'should have done', /an/ (allomorph of /ampu/), is the base, /t/ the perfect suffix, and /oðu/ the assertive suffix.

Among non-finite verbal forms, there are three participles, showing the three-fold distinction of present-future, past, and perfect, and also, a negative particula. And, there are three converbs, positive, negative and purposive.

The following is a complete paradigm of the verbal base /kaṭá/ 'tie' showing all the ninety-one inflectional forms, described above.

**Indicative:**

**Present-future.**

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>kaṭye</td>
<td>kaṭvo</td>
</tr>
<tr>
<td>II</td>
<td>kaṭva</td>
<td>katvarə</td>
</tr>
<tr>
<td>III M</td>
<td>kaṭve</td>
<td>kaṭverə</td>
</tr>
<tr>
<td>F</td>
<td>kaṭvala</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>kaṭtunu</td>
<td>kaṭvo</td>
</tr>
<tr>
<td></td>
<td>Past</td>
<td>Present</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>I</td>
<td>kaṭye</td>
<td>kaṭto</td>
</tr>
<tr>
<td>II</td>
<td>kaṭya</td>
<td>kaṭtaya</td>
</tr>
<tr>
<td>III M</td>
<td>kaṭye</td>
<td>kaṭtaye</td>
</tr>
<tr>
<td>F</td>
<td>kaṭyalə</td>
<td>kaṭtayərə</td>
</tr>
<tr>
<td>N</td>
<td>kaṭnə</td>
<td>kaṭto</td>
</tr>
</tbody>
</table>

**Subjunctive:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>kaṭādo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>kaṭāda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III M</td>
<td>kaṭāde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>kaṭādalə</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>kaṭādānə</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Perfect:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>kaṭāduva</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>kaṭāduva</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Present</td>
<td>Imperative</td>
<td>Perfect</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>kaṭāduve</td>
<td>kaṭāduvā</td>
<td>kaṭāduverā</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>kaṭāduvala</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>kaṭādu</td>
<td>kaṭāduvo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Negative:**

<table>
<thead>
<tr>
<th>Case</th>
<th>Present</th>
<th>Imperative</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>kaṭṭuri</td>
<td>kaṭṭuryo</td>
<td>kaṭṭuryo</td>
</tr>
<tr>
<td>F</td>
<td>kaṭṭurya</td>
<td>kaṭṭuryarā</td>
<td>kaṭṭuryerā</td>
</tr>
<tr>
<td>N</td>
<td>kaṭṭuri</td>
<td>kaṭṭuryo</td>
<td>kaṭṭuryo</td>
</tr>
</tbody>
</table>

**Imperative:**

<table>
<thead>
<tr>
<th>Case</th>
<th>Positive</th>
<th>Imperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>kaṭādari</td>
<td>kaṭādarya</td>
</tr>
<tr>
<td>F</td>
<td>kaṭādaya</td>
<td>kaṭādarya</td>
</tr>
<tr>
<td>N</td>
<td>kaṭādari</td>
<td>kaṭādarya</td>
</tr>
</tbody>
</table>

**Concessive:**

<table>
<thead>
<tr>
<th>Case</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
<td>kattāya</td>
</tr>
<tr>
<td>III</td>
<td></td>
<td>kattāya</td>
</tr>
</tbody>
</table>

**Prospective:**

<table>
<thead>
<tr>
<th>Case</th>
<th>Present</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>kattoli</td>
<td>katādoll</td>
</tr>
</tbody>
</table>
**Assertive:**

<table>
<thead>
<tr>
<th>Tense</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>kaṭṭodu</td>
</tr>
<tr>
<td>Perfect</td>
<td>kaṭṭādu</td>
</tr>
<tr>
<td>Pr. negative</td>
<td>kaṭṭoːtri</td>
</tr>
</tbody>
</table>

**Participle:**

<table>
<thead>
<tr>
<th>Tense</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>kaṭi</td>
</tr>
<tr>
<td>Past</td>
<td>kaṭi</td>
</tr>
<tr>
<td>Perfect</td>
<td>kaṭādi</td>
</tr>
<tr>
<td>Negative</td>
<td>kaṭant</td>
</tr>
</tbody>
</table>

**Urā:**

<table>
<thead>
<tr>
<th>Tense</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>kaṭāṭā</td>
</tr>
<tr>
<td>Negative</td>
<td>kaṭanta</td>
</tr>
<tr>
<td>Purposive</td>
<td>kaṭṭarə</td>
</tr>
</tbody>
</table>

**Analysis**

**Indicative:**

The base is /kaṭā/ 'tie'. It drops its final vowel before all suffixes except the perfect. In present-future neuter singular, the consonant /t/ of the base is doubled.

The base is followed by the following suffixes:

<table>
<thead>
<tr>
<th>Tense</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present-future</td>
<td>v</td>
</tr>
<tr>
<td>Past</td>
<td>y</td>
</tr>
<tr>
<td>Perfect</td>
<td>d</td>
</tr>
</tbody>
</table>

After removing the base and the tense suffixes from indicative forms, we get the following residue:

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>o</td>
</tr>
<tr>
<td>a</td>
<td>arā</td>
</tr>
</tbody>
</table>
In both II person plural and III person non-neuter plural, we can make further morphemic cuts to separate /r4/ as the plural suffix and /a/ and /e/ as the personal suffixes. In first person plural and third person neuter plural, /o/ can be considered as the plural suffix, personal suffixes in both cases being zero.

In third person singular, the feminine form may be considered to have /a/ as the allomorph of third person non-neuter suffix, and /l4/ as the feminine suffix.

The personal suffixes will then be,

I
II
III non-neuter
neuter

\( e \sim (\text{zero}) \)
\( a \)
\( e \sim a \)
\( n4 \sim umu \sim (\text{zero}) \)

The tense suffixes show allomorphic changes when preceded by bases of different types.

1. When preceded by a base belonging to set I, the paradigm is of the following type: (forms of first person singular are given)

   a) monosyllabic base:

   \[
   \begin{array}{ll}
   \text{Present-future} & p0:p\alpha \\
   \text{Past} & p0:y\varepsilon \\
   \text{Perfect} & p0:t\varepsilon \\
   \end{array}
   \]

<table>
<thead>
<tr>
<th>Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>p0:p\alpha</td>
<td>'go'</td>
</tr>
<tr>
<td>p0:y\varepsilon</td>
<td>koy`ps</td>
</tr>
<tr>
<td>p0:t\varepsilon</td>
<td>koytz</td>
</tr>
</tbody>
</table>
b) a base of the type (C)V(C) ending in /e/ or /i/:

- **bare** 'write'
- **pogi** 'enter'
- **pogipz**
- **pogiyc**
- **pogits**

**past**
- **bareyz**
- **pogits**

**perfect**
- **barets**
- **pogits**

3. When preceded by a base belonging to set II, the paradigm is of the following type:

- **balipu** 'run'
- **alipu** 'destroy'
- **balipy**
- **alipy**
- **balits**
- **alits**
- **balitádz**
- **alitádz**

Bases belonging to this set drop their final vowel before the tense suffix, and also the consonant /p/ when followed by /t/.

3. Bases belonging to set III show paradigms similar to those of the base /kaṭá/ 'tie' given above.

- **badká** 'live'
- **o:du** 'read'
- **o:duv**
- **o:dy**
- **o:du**
- **o:duv**
- **o:dy**
- **o:du**
4. After monosyllabic bases ending in a nasal, past
has the allomorph /d/; which becomes /q/ after /n/.

<table>
<thead>
<tr>
<th></th>
<th>tin 'eat'</th>
<th>pan 'say'</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>tinPA</td>
<td>panPA</td>
</tr>
<tr>
<td>past</td>
<td>tinJ</td>
<td>panJ</td>
</tr>
<tr>
<td>perfect</td>
<td>tinT</td>
<td>panT</td>
</tr>
</tbody>
</table>

Reflexive bases also show a similar paradigm.

<table>
<thead>
<tr>
<th></th>
<th>se:ronu 'join oneself'</th>
<th>undonu 'eat oneself'</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>se:ronPA</td>
<td>undonPA</td>
</tr>
<tr>
<td>past</td>
<td>se:ronJ</td>
<td>undonJ</td>
</tr>
<tr>
<td>perfect</td>
<td>se:ronT</td>
<td>undonT</td>
</tr>
</tbody>
</table>

5. After the base /ke:nA/ 'hear' also, the past has the
allomorph /d/, but the paradigm differs from the above one
in present-future and perfect.

<table>
<thead>
<tr>
<th></th>
<th>ke:nA</th>
<th>ke:nA</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>ke:nA</td>
<td>ke:nA</td>
</tr>
<tr>
<td>past</td>
<td>ke:nA</td>
<td>ke:nA</td>
</tr>
<tr>
<td>perfect</td>
<td>ke:nA</td>
<td>ke:nA</td>
</tr>
</tbody>
</table>

6. Bases /bar/ 'come' and /konar/ 'bring' show the
following forms:

<table>
<thead>
<tr>
<th></th>
<th>barA</th>
<th>konarA</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>barA</td>
<td>konarA</td>
</tr>
<tr>
<td>past</td>
<td>barA</td>
<td>konarA</td>
</tr>
<tr>
<td>perfect</td>
<td>barA</td>
<td>konarA</td>
</tr>
</tbody>
</table>

7. Bases of the type (C)VttA and (C)Vttu become (C)Vsu
in past and (C)Vsu and (C)Vsu respectively in perfect.

<table>
<thead>
<tr>
<th></th>
<th>patta 'touch'</th>
<th>uttu 'weak'</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>patta</td>
<td>uttu</td>
</tr>
<tr>
<td>past</td>
<td>patts</td>
<td>utts</td>
</tr>
<tr>
<td>perfect</td>
<td>patts</td>
<td>utts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>usuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>present-future</td>
<td>usuts</td>
</tr>
<tr>
<td>past</td>
<td>usuts</td>
</tr>
<tr>
<td>perfect</td>
<td>usuts</td>
</tr>
</tbody>
</table>
The above change does not occur in the case of the base /suttu/ 'wear'.

- present-future: sutv
- past: suty
- perfect: suttu

8. The base /uppu/ 'be' shows the following paradigm:

- present-future: urve ~ uríc
- past: itte
- perfect: ittâde

To summarize, the allomorphs of the three tense suffixes are as follows:

<table>
<thead>
<tr>
<th>Suffixes</th>
<th>Set I</th>
<th>Set II</th>
<th>Set III</th>
<th>Reflexives and Those Ending in a Nasal</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-flu.</td>
<td>p</td>
<td>v</td>
<td>v</td>
<td>p</td>
</tr>
<tr>
<td>past</td>
<td>y</td>
<td>t</td>
<td>y</td>
<td>d~d</td>
</tr>
<tr>
<td>perfect</td>
<td>t</td>
<td>ṭd</td>
<td>d</td>
<td>t</td>
</tr>
</tbody>
</table>

The three bases /bar/ 'come', /konar/ 'bring' and /uppu/ 'be' are not included in the above table.

Subjunctive:

The present subjunctive is formed by adding /v/ directly to a base.

- mugi: 'finish'  mugive: 'I may finish'
- bare: 'write'  bareve: 'I may write'
- po: 'go'  pove: 'I may go'
- bar: 'come'  barev: 'I may come'
- katto: 'ca. to tie'  kattove: 'I may cause to tie'
The suffix has a zero allomorph after bases belonging set II and III.

- Ballpu 'run' balipe *I may run*
- Geppu 'take' gappe *I may take*
- Alipu 'destroy' alipe *I may destroy*
- O:du 'read' o:da *I may read*
- Orag4 'lean' orage *I may lean*
- Suttu 'wear' sutse *I may wear*
- Ks:n4 'hear' ks:ns *I may hear*

After monosyllabic bases ending in a nasal, and after the reflexive bases, it has the allomorph /uv/ and /b/, both being in free variation. The final nasal of a monosyllabic base changes to /m/ before /b/.

- Pap 'say' paimuv ~ pamb *I may say*
- Tin 'eat' tinuva ~ timbs *I may eat*
- Se:ronu 'join oneself' se:ronuva ~ 'I may join myself' se:rombs

When preceded by a perfect suffix, it has the allomorph /uv/ ~ /v/, of which /v/ occurs when the perfect suffix is /t/ and /uv/ elsewhere.

- Tinte 'I have eaten' tinte *I might have eaten*
- Suttu 'I have seen' sutve *I might have seen*
- Barete 'I have written' barete *I might have written*
- End4de 'I have stood' end4du *I might have stood*
- Kerej4de 'I have scraped' kerej4du *I might have scraped*
- Bu:lude 'I have fallen' bu:lude *I might have fallen*

In the case of bases ending in /pu/, the perfect subjunctive may be formed by adding the subjunctive suffix after both past and perfect suffixes.
When followed by a neuter suffix, which has the allomorph /u/ after this suffix, the subjunctive has a zero allomorph in perfect.

The present negative subjunctive forms are obtained by adding the suffix /ay/ directly to the base.

It has the allomorph /a/ before the third person neuter suffix.

Negative:

The negative suffix is /uri - ury/ of which /ury/ occurs before a suffix beginning with a vowel, and /uri/ elsewhere.
negative suffix after a present-future suffix, and the perfect forms by adding it after the perfect suffix.

<table>
<thead>
<tr>
<th>Base Word</th>
<th>Present-Future</th>
<th>Present-Future Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>'eat'</td>
<td>tlnwuri 'does not eat'</td>
<td>tlnwuri 'did not eat'</td>
</tr>
<tr>
<td>'go'</td>
<td>po:uri 'does not go'</td>
<td>po:sturi 'did not go'</td>
</tr>
<tr>
<td>'write'</td>
<td>barepuri 'does not write'</td>
<td>baretari 'did not write'</td>
</tr>
</tbody>
</table>

After bases of set II and III, the present-future suffix has a zero allomorph when followed by a negative suffix, while the perfect suffix is retained.

<table>
<thead>
<tr>
<th>Base Word</th>
<th>Present-Future</th>
<th>Present-Future Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>'run'</td>
<td>balipuri 'does not run'</td>
<td>balipuri 'did not run'</td>
</tr>
<tr>
<td>'laugh'</td>
<td>telipuri 'does not laugh'</td>
<td>telipuri 'did not laugh'</td>
</tr>
<tr>
<td>'take'</td>
<td>gepuri 'does not take'</td>
<td>gepdurit 'did not take'</td>
</tr>
<tr>
<td>'bite'</td>
<td>cuccuri 'does not bite'</td>
<td>cuccuduri 'did not bite'</td>
</tr>
<tr>
<td>'fall'</td>
<td>bu:luri 'does not fall'</td>
<td>bu:lduri 'did not fall'</td>
</tr>
<tr>
<td>'tie'</td>
<td>kat:turi 'does not tie'</td>
<td>kat:tduri 'did not tie'</td>
</tr>
</tbody>
</table>

Imperative:

The imperative suffix is /l/. The personal suffix /a/ denoting second person occurs directly after it. In the plural form, the suffix /e/ may be considered as a compound representing both second person and plural number.

<table>
<thead>
<tr>
<th>Base Word</th>
<th>Imperative</th>
<th>Imperative Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>'tie'</td>
<td>kat:la 'tie!(sg.)'</td>
<td>kat:le 'tie!(pl.)'</td>
</tr>
</tbody>
</table>
The base /bar/ 'come' drops its final consonant before it.

The second person singular form may be replaced by the bare base in the following cases:

1. All the bases belonging to set II and III.
   - jekké ~ jekla 'wash!'
   - bašasé ~ bašasla 'serve food!'
   - kúllu ~ kúllá 'sit!'
   - bilišu ~ bilišla 'fall!'
   - gišcix ~ gišola 'scratch!'
   - bikišu ~ bikišla 'throw!'
   - odarišu ~ odarišla 'pluck!'
   - gepušu ~ gepuela 'take!'

2. All the reflexive bases.
   - antonu ~ antonla 'do yourself!'
   - barevonu ~ barevonla 'write yourself!'
   - suttenu ~ suttenu 'wear yourself!'

3. Mono-syllabic bases of the type (0)VCV.
   - mude ~ mudela 'plait!'
   - bare ~ barela 'write!'
   - kodí ~ kodila 'soil!'

4. Bases /me:/ 'graze', /po:/ 'go' and /mi:/ 'bathe'
   - po ~ po:la 'go!'
   - mi ~ mi:la 'bathe!'
5. Monosyllabic bases ending in a consonant (except y).
However, these take the vowel /u ~ å/ when not followed by the imperative suffix.

- tin 'eat' — tinä ~ tinla 'eat!
- bud 'leave' — budü ~ budla 'leave!

The negative imperative or prohibitive is formed by adding the suffix /ad/ to the verbal base, instead of /l/.

- ker 'kill' — keräda 'don’t kill (sg.)'
- amp 'do' — ampada 'don’t do (sg.)'
- savru 'cut off' — savrada 'don’t cut off (sg.)'

Concessive:

The concessive has the allomorph /g/ in first person and /adu/ in the third person. After it, there is no gender or number distinction in the third person. The morph /a/ occurring in first person plural form may be considered as a conjunct, representing first person and plural number.

- amp 'do' — ampuge '(let me) do'
- jokk 'wash' — jokkaga '(let me) wash'

Prospective:

The prospective is formed by adding the suffix /oli/ directly to the base.
mi: 'bath' mi:yoli 'can bathe'
tin 'eat' tinoli 'can eat'
bar 'come' baroli 'can come'
bare 'write' bareyoli 'can write'
baliyu 'run' balipoli 'can run'

The perfect prospective is obtained by adding the suffix /oli/ to base after the perfect suffix.

ampu 'do' amtaoli 'could have done'
po: 'go' po:toli 'could have gone'
tin 'eat' tintoli 'could have eaten'
kati 'tie' kati:oli 'could have tied'
o:du 'read' o:du:oli 'could have read'

Assertive:

The present assertive is formed by adding the suffix /odu/ directly to a base.

po: 'go' po:odu 'should go'
koy 'pluck' koy:odu 'should pluck'
bare 'write' bare:odu 'should write'
geppu 'take' gepp:odu 'should take'

The perfect assertive is formed by adding the suffix /odu/ to a base after a perfect suffix.

ampu 'do' antado:du 'should have done'
pan 'say' pant:odu 'should have said'
japu 'descend' jatado:du 'should have descended'
ore: 'rub' ore:ado:du 'should have rubbed'

The present negative assertive is obtained by adding the suffix /o:tri/ to a base.

po: 'go' po:vo:tri 'should not go'
It may be noted here, that historically, the suffix /o:du/ is connected with the modal form /bo:du/ 'want', and /o:tri/ with the negative of it, /bo:tri/ 'do\'nt want'.

Participle:

The three participles, present-future, past and perfect are formed by adding the suffix /l/ to a base, after the present-future, past and perfect suffixes respectively.

<table>
<thead>
<tr>
<th>Base</th>
<th>Present-future</th>
<th>Past</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>su:</td>
<td>su:pí</td>
<td>su:yí</td>
<td>su:tí</td>
</tr>
<tr>
<td>pr. fu.</td>
<td>su:pi</td>
<td>paní</td>
<td>paní</td>
</tr>
<tr>
<td>past</td>
<td>su:yí</td>
<td></td>
<td>pañí</td>
</tr>
<tr>
<td>perfect</td>
<td>su:tí</td>
<td></td>
<td>pañí</td>
</tr>
</tbody>
</table>

The present-future suffix has a zero allomorph before the suffix when / precedes a base belonging to set II.

<table>
<thead>
<tr>
<th>Base</th>
<th>Present-future</th>
<th>Past</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>oyu:</td>
<td>oyu:pi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pr. fu.</td>
<td>oyu:pi</td>
<td>balíni</td>
<td></td>
</tr>
<tr>
<td>past</td>
<td>oyu:tí</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect</td>
<td>oyu:tádi</td>
<td>balitádi</td>
<td></td>
</tr>
</tbody>
</table>

After bases belonging to set III, both present-future and past suffixes have zero allomorphs, when followed by this suffix.

<table>
<thead>
<tr>
<th>Base</th>
<th>Present-future</th>
<th>Past</th>
<th>Perfect</th>
</tr>
</thead>
<tbody>
<tr>
<td>ka:tá</td>
<td>to:du</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pr. fu.</td>
<td>ka:tí</td>
<td></td>
<td></td>
</tr>
<tr>
<td>past</td>
<td>ka:tí</td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfect</td>
<td>ka:tádi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The negative participle is formed by adding the suffix /i/ to a base, after the negative converb suffix /ant/.

- paŋanti: 'that which is not told'
- poivanti: 'that which is not gone'
- baliranti: 'that which has not run'

**Converb:**

The positive converb is formed by adding the suffix /tA/ to a base.

- bare: 'write' → bateté: 'having written'
- lji: 'keep' → liji: 'having kept'
- koy: 'pluck' → koyté: 'having plucked'
- o:du: 'read' → o:dotu: 'having read'
- oypu: 'pull' → oyté: 'having pulled'
- olepu: 'call' → oleté: 'having called'

- It has a freely varying zero allomorph after bases belonging to set II.
  - kaŋ: 'tie' → kaŋté: 'having tied'
  - naŋ: 'search' → naŋté: 'having searched'
  - tirŋ: 'wander' → tirŋté: 'having wandered'

After a completive base also, it has a freely varying zero allomorph.

- kadtraté → kadtrá: 'having cut off'
- daŋtraté → daŋtá: 'having crossed off'

The reflexive j has the allomorph /on/ before this suffix. The form obtained by the use of a reflexive base j has the meaning of continuity also.
kađtonu 'cut oneself'  kađontu 'cutting'
barevønu 'write oneself'  barevontu 'writing'
mi: you 'bathe oneself'  mi: yontu 'bathing'
gottonu 'take oneself'  gettontu 'taking'

The negative converb is formed by adding the suffix /ante/ directly to a verbal base.

kadpante 'without cutting'  pante 'without saying'  da:ntante 'without crossing'  po: vante 'without going'

The prospective converb is formed by adding the suffix /are/ to the base.

ro: 'go'  po: vare 'to go'  pan 'say'  pannare 'to say'  kate 'tie'  kattare 'to tie'  bare 'write'  barevare 'to write'  mugi 'finish'  mugiyare 'to finish'  pattare 'catch'  pattare 'to catch'

It has two more allomorphs, /yara/ and /are/, all the three being in free variation. / are/ is the most frequent one.

pattare ~ pattare ~ patyara 'to catch'  timare ~ timare ~ tinyara 'to eat'

After bases ending in /r/, it has the allomorph /re/.

bar 'come'  barrre 'to come'  konar 'bring'  konarre 'to bring'

Modals:

There are a few bases which are not inflected for person, tense, number or gender, but show two or three
forms as may be seen below. The cover term modal is given to them.

1. andá 'yes, is' a:tí 'no, is not'
2. bo:du 'want' bo:tri 'do not want'
3. pa:pu 'enough' pa:paná 'not enough'

Of these, the last one also shows a positive conversational form /pa:ton tu/ as jú in the sentence /ávu pa:ton tu itu/ 'it was sufficient'.

4. dantu 'without' danti 'that which was not' "having"

This one has only a negative sense, and has two forms, first a conversational and second, a participial.
NOUN

The nominal bases of Tulu are defined as those that take one or more case suffixes. They function alone as nominatives, and thus their morphologically basic form is easily found out. They may be divided into two groups, those that take a plural suffix and those that do not.

1. Nominal bases taking a plural suffix:
   o:ni 'lane'  o:ni:lu 'lanes'
   magga 'loom'  maggo:klu 'looms'
   la:te 'pully'  la:te:lu 'pulleys'
   uggelâ 'well'  uggel:lu 'wells'

2. Nominal bases not taking a plural suffix:
   hondike 'fitness'
   ínci 'of this type'
   gali:ji 'dirty'
   ní:rá 'water'

The morphological constructions into which the nouns enter show differences according to the canonical form of the base and its final phoneme. This makes it necessary to classify them on the basis of their final vowel (consonant endings are few and rare), and the canonical shape of the noun itself. Results of a statistical study of the nominal root morphemes collected so far, is also given under this grouping.

It is interesting to note that, the vowel /i/ does not occur at the end of a base of (C)(C)V CV pattern, and /e/, /e/ and /i/ are not allowed in monosyllabic bases.

In addition to these nominal bases, there are bound bases which occur in combination with one or more formative suffixes.
Nominal bases are mostly derived from morphemes which are distinct from those used in verbal forms. They consist of root morphemes optionally followed by one or more formative suffixes. In some cases these root morphemes are identical with verbal roots, which may be followed optionally by both verbal and nominal formative suffixes. They may also be formed from verbal bases by the addition of one or more nominal formative suffixes. Examples are given below:

1. Nominal bases consisting of single nominal morphemes (nominal roots).

<table>
<thead>
<tr>
<th>alpa</th>
<th>'mean'</th>
</tr>
</thead>
<tbody>
<tr>
<td>mara</td>
<td>'tree'</td>
</tr>
<tr>
<td>ṭa:rā</td>
<td>'tar'</td>
</tr>
<tr>
<td>avare</td>
<td>'beans'</td>
</tr>
<tr>
<td>guhe</td>
<td>'cave'</td>
</tr>
</tbody>
</table>

2. Nominal bases consisting of nominal roots followed by one or more formative suffixes.

<table>
<thead>
<tr>
<th>ga:ṇige</th>
<th>'oil mill'</th>
</tr>
</thead>
<tbody>
<tr>
<td>makkē</td>
<td>'awn of grain'</td>
</tr>
<tr>
<td>kariye</td>
<td>'black man'</td>
</tr>
<tr>
<td>kari</td>
<td>'soot'</td>
</tr>
</tbody>
</table>
3. Nominal bases consisting of single morphemes which are identical with verbal roots.

- ulku 'sprain'
- begari 'sweat'
- musu 'smell'
- gobu 'play'
- kandi 'dull'

4. Nominal bases identical with verbal bases, consisting of verbal roots followed by formative suffixes.

- ba:pu 'swelling'
- olepu 'call'
- tappu 'mistake'
- munipu 'anger'

5. Nominal bases formed by adding formative suffixes to verbal bases.

- oppu 'consent'
- miri:ke 'transgression'
- beypili 'boiled'
- muccel 'lid'

It may be noted here, that single root morphemes, which take different formative suffixes to form verbal or nominal bases are also found to occur in the language.

- magta 'fold'
- kadta 'cut'
- kadavu 'ferry'
- bajane 'singing service'
- raksha: 'protection'
Comparatively a large number of derivative suffixes are used in forming nominal bases. A fairly complete study of these suffixes found in the data is given below. Nominal derivatives are grouped under following three classes:

1. Those derived from verbal bases,
2. Those derived from nominal bases, and
3. Those derived from roots which cannot be classified as either nominal or verbal; these are bases to which by adding certain formative suffixes we get verbal bases, and by adding certain other suffixes we get nominal bases.

1. Derived from verbal bases:

There are four sets of suffixes to derive nouns from verbal bases.

a. having an agentive sense:

\[
\begin{align*}
\text{/i/} & \quad \text{meñçi} '\text{lightning}' & \quad \text{meñçi} '\text{to shine}' \\
& \quad \text{gutti} '\text{stump}' & \quad \text{kuttu} '\text{to prick}' \\
\text{/e/} & \quad \text{olendele} '\text{wanderer}' & \quad \text{olendela} '\text{wandering}'
\end{align*}
\]

b. having the sense of an object:

\[
\begin{align*}
\text{/i/} & \quad \text{kutti} '\text{peg}' & \quad \text{kuttu} '\text{to thump}' \\
\text{/ɛ/} & \quad \text{katte} '\text{raised seat of earth}' & \quad \text{katí} '\text{to build}' \\
\text{/na/} & \quad \text{katto:na} '\text{building}' & \quad \text{katto:} '\text{to cause to build}' \\
\text{/aŋa/} & \quad \text{tirgana} '\text{screw}' & \quad \text{tirga} '\text{to turn}' \\
\text{/eļa/} & \quad \text{jappeļa} '\text{ebb tide}' & \quad \text{jappu} '\text{to descend}' \\
\text{/vu/} & \quad \text{me:vu} '\text{food for cattle}' & \quad \text{me:} '\text{to graze}'
\end{align*}
\]
o. having the sense of the instrument or means:

/e/ patte 'sign, mark' patté 'catch'
arips 'sieve' aripu 'to sift'
/el̂̂/ mucelé 'lid' mucou 'to cover'
kaçekpele 'grinding stone' kaçipu 'cattle to chew'

I. having the sense of the result:

/a/ tumba 'full' tumbu 'to fill'
/b/ badali 'substitute' badali 'to change'
/ɛ/ ketts 'chip' ketté 'to chisel'
/ku/ murku 'imperfect' muri 'to bend and break'
/匠/ bedariks 'alarm' bedari 'to be alarmed'
/ke/ birks 'crack' biri 'to crack'
/ɛɛ/ mettiges 'pavement' mette 'to smear'
/tt/ mecciges 'approval' meccé 'to approve'
/bi/ bittiges 'sowing' bitté 'to sow'
kettiges 'carving' ketté 'to chisel'
/oppiges 'agreement' oppu 'to agree'
poliges 'sewing' polu 'to sew'
/van-=ige/
baravanige 'education' bare 'to write'
meravanige 'procession' mere 'to display'
/anda/ oppanda 'agreement' oppu 'to agree'
/di/ tinči 'special food' tin 'to eat'
/al̂̂/ ka:vali 'watch' ka: 'to wait'
/el̂̂/ kirmbeli 'itching' kirmbu 'to itch'
muranţeli 'shrivelled' murunţu 'to shrivel'
randeli 'begging' randé 'to beg'
bolcelá 'shying'
garcelá 'fruit half eaten by squirrel etc.'
baipelá 'swelling'

/elá/ followed by the agentive /e/.

kandele 'thief'
olele 'wanderer'
boqele 'drummer'
mukkle 'gobbler'
girylele 'wanderer'
madapelle 'absent minded fellow'

Also the following:

koddelá 'sambar'
kaqtelá 'broken'
oodtelá 'broken'

/p-elá/

beypelá 'boiled'
kodippelá 'hot'

/ãk-elá/

oodjakelá 'broken'

/sâg-elá/

ba:paqgelá 'swelling'
ja:raqgelá 'slippery'
ba:daqgelá 'withered'

/e:l/ followed by the agentive /e/.

bagge:le 'one who walks'

baggá 'to bend'
 Derived from other nominal bases:

 a. having a feminine sense: All of these are added to nouns belonging to the masculine gender group.

 /l/  
 kuruđi 'blind woman'  
 keppi 'deaf woman'  
 gośđi 'stupid woman'  
 ajji 'grandmother'  
 mamı 'mother-in-law'

 /tli/  
 gurka:rti 'headman's wife'  
 aos:rti 'carpenter's wife'  
 mulyti 'woman of the caste'  
 marti 'mad woman'

 /ttl/  
 posabetti 'stranger (fem.)'  
 sa:lyetti 'weaver's wife'

 Both the suffixes /tli/ and /ttl/ are productive. After the suffix /tli/ the final vowel of the base gets elided.

 b. kinship suffix: occurring after all kinship terms, when followed by the plural suffix only.

 /adi/  
 ajjiyadiklų 'grandmothers'  
 ajjadiklų 'grandfathers'  
 purusadiklų 'husbands'  
 atyadiklų 'sisters-in-law'  
 barvadiklų 'brothers-in-law'  
 pašia:dyadiklų 'cousins'

 /və/  
 kalavu 'theft'  
 kala 'to loose'
c. having a sense of possession:

/alá/ kinmalá 'small cup'  kimí 'small'

/a:sá/ banda:sá 'boasting'  banda 'pride'

/igá/ cariga 'vessel to cook rice'  caru 'oblation of rice'

mukkaliga 'three legged chair'  mukkalá 'three-fourth'

/igá/ followed by the agentive /e/.

gannige 'oil miller'  ga:na 'oil mill'

/elá/ kondelá 'wash'  kondi 'hook'
makkelá 'irritating'  makká 'awn of grassin'
muttelá 'steps'  mutta 'near'

/elá/ followed by the agentive /e/.

oakkele 'weak fellow'  oakká 'weak'

keñoole 'one having reddish hair'  keño 'reddish'

batiyele 'noisy man'  bayi 'mouth'

/elá/ followed by the agentive /e/.

bañjelé 'glutton'  bañji 'stomach'

/gá/ besige 'soldering'  besi 'hot'

/gá/ followed by the agentive /e/.

gattige 'clever fellow'  gatti 'hard'

da:r/ followed by the agentive /e/.

ume:dvare 'volunteer'  une:da 'liking'

ja:gi:rda:re 'landlord'  ja:gi:rá 'rent free land'

/b/ followed by the agentive /e/.

posabe 'stranger'  posa 'new'
<table>
<thead>
<tr>
<th>/ya/</th>
<th>bo:gya</th>
<th>'crop'</th>
<th>bo:ga</th>
<th>'pleasure'</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ja/</td>
<td>savlyya</td>
<td>'health'</td>
<td>suka</td>
<td>'happiness'</td>
</tr>
<tr>
<td>/la/</td>
<td>baylā</td>
<td>'futile kind of rice field'</td>
<td>bay</td>
<td>'straw'</td>
</tr>
<tr>
<td></td>
<td>kaylā</td>
<td>'saddle'</td>
<td>kay</td>
<td>'hand'</td>
</tr>
<tr>
<td></td>
<td>bisilā</td>
<td>'sunshine'</td>
<td>besi</td>
<td>'hot'</td>
</tr>
<tr>
<td></td>
<td>bajilā</td>
<td>'crushed rice'</td>
<td>baji</td>
<td>'crushed'</td>
</tr>
</tbody>
</table>

/st/ followed by the agentive /e/.

- madyaste  | 'arbitrator' | madya  | 'middle' |
- mukyaste  | 'chief'      | mukya  | 'important' |

d. having the sense of quality or position.

/a:tigs/  

- bhigastige | 'relation by marriage' | bi:ge  | 'relative by marriage' |
- birsastige | 'cleverness' | birse   | 'clever fellow' |

/1k/  

- mallashtigas | 'superiority' | mallaste | 'superior' |
- madyastigas | 'arbitration' | madyaste | 'arbitrator' |
- guma:stigas | 'clerkship' | guma:ste | 'clerk' |
- gråhastigas | 'responsibility of a house' | gråhaste | 'married man' |

/m/  

- gurka:rmie | 'headman's job' | gurka:re | 'headman' |

/tigs/  

- gurka:rtige | 'headman's job' | gurka:re | 'headman' |

/ya/  

- sa:lya | 'childhood' | bails   | 'child' |
- rai:ya  | 'kingdom' | re:je   | 'king' |

/e/  

- mahatme | 'greatness' | maha:tle | 'great man' |

e. having a sense of bigness:

/iges/  

- sa:ranige | 'big sieve' | sa:rmie | 'sieve' |
f. the following words add no special meaning:

/el/  made  'screen'
/el/ followed by the agentive /a/.
  doːːnte  'lean fellow'
/at/  cappaː  'tasteless'
  kefiː  'reddish'

The following are a few derivatives obtained from bound nominal roots:

/al/  madali  'coconut leaf'
/al/  kajel  'after birth'
/nt/  bejant  'dried cowdung'
/pr/  kappu  'black'
/muppu  'old age'
/hep  'likewarm'

The following sets of nominal bases may also be noted:

gatti  'hard'
/gati  'kind of hard cake'
/gadi  'cut'
/mabbu  'dim'
/muku  'demon's headwear'
/gunda  'place where an idol is kept'

3. Derived from roots which are neither verbal nor nominal. No special meaning can be attached to these suffixes.

/aka/  bardaka  'inconvenience'
  badipu  'to afflict'
| /aŋ/ | bramańš | 'whirling'  | bramipu | 'to confuse' |
|      | mannāns | 'respect!'  | mannipu | 'to honour'  |
|      | rakšańś | 'protection' | rakšipu | 'to protect' |
| /eŋ/ | bo:dans | 'instruction' | bo:dipu | 'to instruct' |
|      | bajans  | 'singing service' | bajipu | 'to adore' |
|      | ba:vans  | 'thought'  | ba:vipu | 'to think' |
| /iya/ | muriya  | 'cry'  | muriipu | 'to cry' |
| /kt/ | berake  | 'mixture' | berasapu | 'to mix' |
|      | bayakš | 'desire'  | bayasapu | 'to wish' |
|      | mudriks  | 'seal'  | mudrisapu | 'to seal' |
| /tə/ | ka:ta  | 'wound'  | ka:tapu | 'to cut' |
| /ts/ | magts  | 'fold'  | magtipu | 'to turn' |
| /lə/ | oyələ  | 'force of stream' | oyipu | 'to pull' |
| /vu/ | ka:da:vu | 'ferry'  | ka:da:ppu | 'to cross' |
|      | ka:vu  | 'heat'  | ka:y | 'to boil' |
## Pronouns

The following are the personal pronouns of Tuulu:

<table>
<thead>
<tr>
<th></th>
<th>singular</th>
<th>plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>e:ná</td>
<td>e:klu (exclusive)</td>
</tr>
<tr>
<td>II</td>
<td>1</td>
<td>ni:klu</td>
</tr>
<tr>
<td>honorific</td>
<td>i:rá</td>
<td></td>
</tr>
</tbody>
</table>

### Remote:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>a:ye</td>
<td>a:klu</td>
</tr>
<tr>
<td>Feminine</td>
<td>a:la</td>
<td>a:klu</td>
</tr>
<tr>
<td>honorific</td>
<td>a:ra</td>
<td>ayklu</td>
</tr>
<tr>
<td>neuter</td>
<td>avu</td>
<td></td>
</tr>
</tbody>
</table>

### Proximate:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>umbye - umbe</td>
<td>mu:klu (rational)</td>
</tr>
<tr>
<td>Feminine</td>
<td>umba:la</td>
<td>undeklu (animate)</td>
</tr>
<tr>
<td>neuter</td>
<td>undu</td>
<td>neklu (inanimate)</td>
</tr>
<tr>
<td>Reflexive:</td>
<td>ta:ná</td>
<td>tanklu</td>
</tr>
</tbody>
</table>

### Interrogative:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>non-neuter</td>
<td>e:ra</td>
<td></td>
</tr>
<tr>
<td>neuter</td>
<td>ovu</td>
<td>oyklu</td>
</tr>
</tbody>
</table>

### Analysis of the pronouns:

The morph /ju/ in the plural forms may be considered as the allomorph of the plural suffix (inflectional), /k/ being an insertion. The exception will be the pronoun...
/na:vu/ 'we (inclusive)', after which, we μῆλ /s/ have to posit a zero allomorph for the plural suffix. The interrogative non-neuter form does not show any number distinction.

Among the forms in the singular, /ς/ can be considered as the honorific suffix, occurring after the morpheme 귓 of second person and the remote demonstrative morpheme. It is used in contexts 啴 where the highest honour is due to somebody as when referring to god or to the religious teacher ( Yapı Swamigala).

In third person, we can consider /aː ~ a/ as the allomorph of the remote demonstrative morpheme and /ǔmb ~ un ~ muː/ as the allomorphs of the proximate demonstrative morpheme.

The masculine suffix is /e ~ ye/, and the feminine suffix is /alā ~ alā/. There is no masculine-feminine distinction before the plural suffix.

The allomorphs of the neuter suffix are, /ṽy ~ y/ after the morpheme /a/ 'remote', PEndPoint of the latter occurs when followed by the plural suffix. It has the allomorph /ṽ/ /du ~ de/ after the morpheme /un/, the first occurring in singular and the second in plural.

There are three demonstrative bases in the language, used to denote remoteness, proximity and interrogation. The following are the nominal bases formed by adding different suffixes to these bases:

aŋcį 'of that type' iŋcį 'of this type' eŋcį 'of what type' (, 'there',  LogLevel 'here' oŋcį 'where?'
a:tá 'that much' i:tá 'this much' e:tá 'how much'
a:nį 'on that day' ini 'on this day' e:pną 'when'
av:lu 'there' mu:lu 'here' o:lu 'where'
The following is a list of the fundamental numerals, showing the different allomorphic variations of the numeral morphemes.

(0. sonn) 10. patta
1. oñji 11. pattoñji
2. eradá 12. padára:da
3. mu:ji 13. padámu:ji
4. na:1á 14. padána:1á
5. ayná 15. padáñayná
6. a:ji 16. padána:ji
7. e:1á 17. padáne:1á
8. emma 18. padánenma
9. ormba 19. padánormba
20. irva 21. irvattoñji
30. mappa 22. irvatteradá
40. na:mpa 23. irvatmu:ji
50. a:vá 24. irvattana:1á
60. ajpa 25. irvattayná
70. elpa 33. muppatmu:ji
80. enpe 46. na:rpatta:ji
90. sonpa 88. empattonna
100. mus:du 101. nuttoñji
200. emmu:du 102. nuttateradá
300. munmu:du 103. nuttateradá
400. na:ilmu:du 104. nuttattana:1á
500. aynmu:du 105. nuttattayná
600. ajimu:du 110. nuttappattá
700. elmu:du 203. ermuttamu:ji
800. emmu:mu:du 1000. sa:vira
900. ormbamu:du 2000. eradá sa:vira
There are ten distinct morphemes, denoting numerals from one to ten, (zero being kept apart). The decades from twenty onwards up to 90 are formed by combining the morpheme /va - pa/ 'ten' with the eight morphemes (two to nine), which precede it.

In contrast with this, the 'teens 11, 12, 13 etc. are formed by reversing the position of the two morphemes: numerals one to nine following the morpheme 'ten'. And, the preceding morphemes take the genitive suffix. (Evidently, the 'teens are syntactical constructions).

Numerals 21, 22, 23, 31 etc. are formed in the same way as the 'teens, the morpheme 'ten' being replaced by the respective decades, which also take the genitive suffix.

There are two distinct morphemes to denote 'hundred' and 'thousand'. Their function is similar to that of the morpheme /pattá/ 'ten', in forming numerals like 101, 102, 110, 121, 1,100 etc., and also, 200, 300, 2,000 etc., as may be seen from the list given above.

Ordinals are formed by adding the suffix /ane/ to the numerals:

- ońji 'one' - ońjane 'first'
- erađá 'two' - erađane 'second'
- pattá 'ten' - pattane 'tenth'
- irvattońji 'twentyone' - irvattońjane 'twentyfirst'
- nu:du 'hundred' - nu:duane 'hundredth'

The ordinal suffix has the allomorph /ne/ after the bases /a:tá/ 'that much', /1:tá/ 'this much', and /e:tá/ 'how much'.

- a:tá 'that much' - a:tna 'of that much'
- e:tá 'how much' - e:tna 'of which?'
The Plural Suffix.

The place of a plural suffix in a nominal form is always immediately before a case suffix. It also occurs in verbal forms following the personal suffixes. After nominal bases ending in the /e/ vowel /e/, it has the allomorph /ê/ /e/ and after all other nominal bases, it has the allomorph /lu/.

a) bases ending in /e/.

<table>
<thead>
<tr>
<th>Base</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>ajje</td>
<td>'grandfather'</td>
<td>ajji 'grandfathers'</td>
</tr>
<tr>
<td>kudke</td>
<td>'fox'</td>
<td>kudkerá 'foxes'</td>
</tr>
<tr>
<td>marle</td>
<td>'mad man'</td>
<td>marlerá 'mad men'</td>
</tr>
<tr>
<td>gattige</td>
<td>'clever fellow'</td>
<td></td>
</tr>
</tbody>
</table>

b) other bases.

<table>
<thead>
<tr>
<th>Base</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>karadi</td>
<td>'bear'</td>
<td>karadilu 'bears'</td>
</tr>
<tr>
<td>ani</td>
<td>'nail'</td>
<td>anilu 'nails'</td>
</tr>
<tr>
<td>ploce</td>
<td>'cat'</td>
<td>plocelu 'cats'</td>
</tr>
<tr>
<td>raste</td>
<td>'road'</td>
<td>rastelu 'roads'</td>
</tr>
<tr>
<td>arasu</td>
<td>'king'</td>
<td>arasulu 'kings'</td>
</tr>
<tr>
<td>mullu</td>
<td>'thorn'</td>
<td>mullulu 'thorns'</td>
</tr>
<tr>
<td>kann4</td>
<td>'eye'</td>
<td>kannulu 'eyes'</td>
</tr>
<tr>
<td>e:dá</td>
<td>'goat'</td>
<td>e:dulu 'goats'</td>
</tr>
</tbody>
</table>

An insertion of /k/ is found to occur between the base and the plural suffix in the following instances:

1. When the base is of the type (C)VCV:

<table>
<thead>
<tr>
<th>Base</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>pili</td>
<td>'tiger'</td>
<td>piliklu 'tigers'</td>
</tr>
<tr>
<td>ire</td>
<td>'leaf'</td>
<td>ireklu 'leaves'</td>
</tr>
<tr>
<td>mara</td>
<td>'tree'</td>
<td>maraklu 'trees'</td>
</tr>
<tr>
<td>kedu</td>
<td>'tank'</td>
<td>keduklu 'tanks'</td>
</tr>
<tr>
<td>krama</td>
<td>'custom'</td>
<td>kramaklu 'customs'</td>
</tr>
</tbody>
</table>
2. When the base is monosyllabic.

pu: 'flower'  pu:klu 'flowers'
kay 'hand'  kayklu 'hands'

The following bases, having monosyllabic allomorphs before the plural suffix, also belong to this group.

e:ma 'I'  e:glu 'we (excl.)'
i 'You (sg.)'  ni:glu 'you (pl.)'
t:ma 'oneself'  ta:glu 'oneself (pl.)'
aiye 'he'  ai:glu 'they'
ai:la 'she'  ai:glu 'they (neuter)'
avu 'it'  av:glu 'they (neuter)'

3. When the base ends in the suffix /adi/ 'kinship', which occurs before the plural suffix only.

atys 'sister-in-law'  atyadiklu 'sisters-in-law'
ba:ve 'brother-in-law'  ba:vadiklu 'brothers-in-law'
pali 'sister'  paliyadiklu 'sisters'

4. When the base ends in the vowel /a/, (even if it is not monosyllabic or of the type (C)(C)V(CV).

simma 'lion'  simmoklu 'lions'
pustaka 'book'  pustakoklu 'books'

5. After the following bases:

a) undu 'this one'  unde:klu 'these beings'
b) maj:ge 'monkey'  maj:geklu 'monkeys'
c) bra:mmma 'Brahmin'  bra:mmma:klu 'Brahmins'
d) de:vate 'god'  de:vate:klu 'gods'

The two bases /ba:la:/ 'child' and /petta/ 'cow' have the allomorphs /ba:ru:/ and /petto/ respectively before the plural suffix.

ba:la: 'child'  ba:ru:lu 'children'
The Case Suffixes.

There are altogether eight distinct case forms in Tulu. They are: nominative, accusative, instrumental, dative, ablative, genitive, locative, and vocative. Of these, the nominative represents the bare base, to which other case suffixes are added. The following is a sample paradigm, with illustrative sentences against each form.

N. kañji  kañji batná  'the calf came'
Acc. kañjiná  kañjiná kopola  'take away the calf'
Ins. kañjida  kañjida gobbontulle  'he is playing with the calf'
Da. kañjigá  kañjigá kolla  'give to the calf'
Ab. kañjittá  kañjittá j ja:do guna  'what is the use of a calf?'
Gen. kañjida  kañjida kai:rá  'the cow's leg'
Loc. kañjida  kañjida pulu a:tná  'worms have grown on the calf'
Voc. kañjiye  inõi bala kañjiye  'come here, calf!'

If the above paradigm is analysed, we get /kañji/ 'calf' as the bare morpheme, and the following allomorphs to represent different case suffixes.

nominate  no suffix  ablative  tta
acessative  ná  genitive  da
instrumental  da  locative  dá
dative  gi  vocative  e

Nominal bases may be grouped into three sets, on the basis of the allomorphic variations shown by the case suffixes that follow them.

set I  monosyllabic bases and bases of the type (c)(c)V.CV.
set II  all the remaining bases ending in the vowel /a/.
set III  all the remaining bases.
Bases belonging to set I show the following type of noun paradigm:

1. monosyllabic bases:
   
   - N. kay 'hand' ca 'tea'
   - Ac. kayné ca:né
   - Ins. -- --
   - Da. kayká ca:ká
   - Ab. kaytá ca:ttá
   - G. kayta ca:ta
   - Loc. kaytá ca:tá

2. Bases of the type (C)(C)V.CV.
   
   - N. iren 'leaf' krámi 'worm' mara 'tree'
   - Ac. irená kráminá maraná
   - Ins. -- kráma:ta --
   - Dat. ireká krámi:ká maraká
   - Ab. irettá krámitá marattá
   - G. ireta krámita marata
   - Loc. irettá krámitá marattá

The allomorphs of the case suffixes found in the above paradigms are:

- Acc. ná G. ta
- Ins. tà L. ŏtá
- Da. ká
- Ab. ttá ŏtá

Among the allomorphs of the Ablative, /tá/ occurs after bases ending in a consonant, and /ttá/ elsewhere.

Bases belonging to set II show the following type of paradigm:

- N. simma 'lion' vastra 'cloth'
- Acc. simmaná vastraná
Nominal bases belonging to the above set show allomorphic variations before dative, genitive and locative suffixes. The final vowel of these changes to /o/ before dative and locative and the bases take /ŋ/ before the dative and /n/ before genitive and locative. The allomorphs of the case suffixes occurring after these bases are,

<table>
<thead>
<tr>
<th>Case</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>accusative</td>
<td>ŋā</td>
<td>ŋā</td>
<td>ŋā</td>
</tr>
<tr>
<td>instrumental</td>
<td>ūa</td>
<td>ūa</td>
<td>ūa</td>
</tr>
<tr>
<td>dative</td>
<td>kā</td>
<td>ku</td>
<td>ǵā</td>
</tr>
<tr>
<td>ablative</td>
<td>ūtā</td>
<td>ūtā</td>
<td>ūtā</td>
</tr>
<tr>
<td>genitive</td>
<td>ūa</td>
<td>ūa</td>
<td>ūa</td>
</tr>
<tr>
<td>locative</td>
<td>ūtā</td>
<td>ūtā</td>
<td>ūtā</td>
</tr>
</tbody>
</table>

The paradigms of the remaining bases (set III) are similar to that of the base /koŋju/ 'calf' given above.

All the allomorphs of the case suffixes may be tabulated as follows:

<table>
<thead>
<tr>
<th>set</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>ŋā</td>
<td>ŋā</td>
<td>ŋā</td>
</tr>
<tr>
<td>II</td>
<td>ūa</td>
<td>ūa</td>
<td>ūa</td>
</tr>
<tr>
<td>III</td>
<td>kā</td>
<td>ku</td>
<td>ǵā</td>
</tr>
<tr>
<td>IV</td>
<td>ūtā</td>
<td>ūtā</td>
<td>ūtā</td>
</tr>
<tr>
<td>V</td>
<td>ūa</td>
<td>ūa</td>
<td>ūa</td>
</tr>
<tr>
<td>VI</td>
<td>ūtā</td>
<td>ūtā</td>
<td>ūtā</td>
</tr>
</tbody>
</table>
The vocative morpheme has the allomorphs /a - e - ə - o/
whose distribution cannot be brought under the above table.
The suffix does not occur after all bases, and, wherever
it occurs, the following allomorphic distribution is observed:

<table>
<thead>
<tr>
<th>allomorph</th>
<th>environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>after bases ending in /ə/</td>
</tr>
<tr>
<td>e</td>
<td>after bases ending in /a/ or /ə/</td>
</tr>
<tr>
<td>o</td>
<td></td>
</tr>
<tr>
<td>ajje</td>
<td>'grandfather'</td>
</tr>
<tr>
<td>ajji</td>
<td>'grandmother'</td>
</tr>
<tr>
<td>simma</td>
<td>'lion'</td>
</tr>
<tr>
<td>arasu</td>
<td>'king'</td>
</tr>
<tr>
<td>arasulu</td>
<td>'kings'</td>
</tr>
<tr>
<td>eru</td>
<td>'ox'</td>
</tr>
<tr>
<td>ajju</td>
<td>'grandfather'</td>
</tr>
<tr>
<td>ajjiye</td>
<td>'grandmother'</td>
</tr>
<tr>
<td>simmane</td>
<td>'lion'</td>
</tr>
<tr>
<td>arasoe</td>
<td>'king'</td>
</tr>
<tr>
<td>arasuels</td>
<td>'kings'</td>
</tr>
<tr>
<td>eruves</td>
<td>'ox'</td>
</tr>
</tbody>
</table>

After all bases denoting human beings and those ending
in the vowel /ə/ (i.e., after all bases belonging to the
non-neuter group), the genitive has the allomorph /na/.

| puruṣe    | 'husband'                           |
| iste     | 'friend'                            |
| o:da:ri  | 'potter'                            |
| kudke    | 'fox'                               |
| magalā   | 'daughter'                          |
| kurudi   | 'blind woman'                       |
| ma:pilla | 'Muslim'                            |
| guru     | 'teacher'                           |
| puruṣana | 'of the husband'                    |
| istana   | 'friend's'                          |
| o:da:rina| 'potter's'                          |
| kudkana  | 'fox's'                             |
| magalna  | 'of the daughter'                   |
| kurudina | 'blind woman's'                     |
| ma:pillena| 'Muslim's'                         |
| guruna   | 'teacher's'                         |

After bases ending in /a/ or /ə/, it freely varies
with /ə/.

| puruṣe    | 'husband'                           |
| puruṣana | 'husband's'                         |
After the plural suffix also, the allomorph of the genitive suffix is /na/.

After the plural suffix is preceded by a consonant, the suffix has the allomorph /ena/.

Before all case suffixes except genitive, the final vowel of a plural suffix or the feminine suffix /i/ changes to /e/.

The base /illə/ 'house' has the allomorph /illa/ before ablative and /illo/ before locative; also, after this base, dative has a freely varying allomorph /adə/ and locative has the allomorph /lu/ instead of /də/. gen. has /tta ~ da/.

The base /tiga/ 'honey', though rightly belongs to set I according to its syllabic pattern (CV.CV), shows a paradigm of the type found with bases of set II.
The personal pronouns have typically distinct set of allomorphs before the case morphemes that follow them:

- N. ena 'I'
- Acc. enaná
- Ins. enata
- Dat. enata

- N. enaná 'we (incl.)'
- Acc. enantená
- Ins. enata
- Dat. enata

- N. ena 'you (sg.)'
- Acc. ena
- Ins. enata
- Dat. enata

- N. ena 'oneself'
- Acc. ena
- Ins. enata
- Dat. enata

Bases /na:nu/ 'we (incl.)', /i/ 'you (sg.)' and /tan:/ 'oneself' have similar forms, but the base /avu/ 'it' has a different type of paradigm as shown below:

- N. avu 'it'
- Acc. avu
- Ins. avu
- Dat. avu

All these allomorph-hc variations of the pronominal bases may be tabulated as follows:

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The allomorphs of case suffixes occurring after these bases are the same as those occurring after bases of set I, except that the genitive has the allomorph /na - ma/ after the first five bases. When the pronominal bases are followed by a plural suffix, the case suffixes show allomorphs identical with those found after any other plural form.
N.  niklu  'you (pl.)'
Acc.  niklenná
Ins.  nikleđa
Dat.  nikleđá

Ab.  niklätá
G.  nikléná
Loc.  nikleđá

Bases /mulu/ 'here', /avlú/ 'there', and /olu/ 'where' show allomorphic variations before case suffixes as shown below:

Ab.  multá  'from this place'
altná  'from that place'
ołtu  'from which place'

Gen.  multa  'of this place'
alta  'of that place'
ołta  'of what place'

They do not take any other case suffixes.

Declension of the base /undu/ 'this one' is a bit more complicated.

N.  undu  'this one'
Acc.  undéná  unená
Ins.  undeta  ý́́ netta
Dat.  undéná  nikká
Ab.  undettá  nettá
G.  undeta  netta
Loc.  undetá  netta

Here, the base /undu/ 'this one', even though structurally belongs to set III, takes suffixes from set I. The base /apida/ 'next' has a similar declension in the sense that, it changes its final vowel to /e/ before all case suffixes and takes suffixes from set I instead of set II.

a:pida'tá  'in the next one' (Loc.)
a:pidettátá  'from the next one' (Ab.)
The base /ovu/ 'which one' changes to /oy/ before dative, ablative, genitive and locative. Before accusative, it is alternately /oy/ and eve/.

Acc. oyná - evená  Loc. oyta

The interrogative /e:pa/ 'when' shows three distinct forms: /e:pa/ /e:pagá/ and /e:pala/, all meaning the same. But, the second occurs only when the predicate verb is in present-future, and third, when it is in past. The first can replace both of them. The suffix /gá/ is used as dative elsewhere, and /ta/ as locative.

Both a:ra 'he (hun)' and /i:ra/ 'you (hun)' have allomorphs /a:re/ and /i:re/ respectively before all case suffixes except genitive.

a:regá 'to him (hun.)'

i:rená 'you (hun.) (acc.)'