# Ternate Malay : grammar and texts 

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## 2 Phonology

This chapter concerns the sound system of Ternate Malay. In § 2.1 the vowels are described and in $\S 2.2$ the consonants, followed by a list of minimal and nearminimal pairs of the vowels and consonants in § 2.3 and § 2.4. The next paragraph, $\S 2.5$, concerns the word stress while in § 2.6 the word structure, and in § 2.7 the syllable structure are discussed.

### 2.1 Vowels

The vowel system of Ternate Malay consists of five vowel phonemes and five diphthongs The five vowels are:

|  | Front | Back |
| :--- | :---: | :---: |
| High | i | u |
| Mid | e | o |
| Low |  | a |

The five diphthongs are /ai/, /ae/, /ao/, /oi/, and /ei/.
/a/ is realized as an open low back unrounded vowel [a] in open and closed syllables.

| /abis/ | ['abis] | 'finished' |
| :--- | :--- | :--- |
| /ada/ | ['ada] | 'be present' |
| /gantoy/ | ['ganton] | 'hang' |
| /ilay/ | ['ilay] | 'lost; disappear' |

/e/ can be realized as $[\mathrm{e}],[\varepsilon]$ or $[\mathrm{I}]$.
In word-final position /e/ is realized as a close high unrounded front vowel [r].

| /bale/ | ['balı] | 'turn around; reverse' |
| :--- | :--- | :--- |
| /bole/ | ['bolı] | 'may; be permitted' |
| /gate/ | ['gatı] | 'hook; cling to s.o./s.t.' |
| /gode/ | ['godr] | 'big (of a person); obese' |
| /kage/ | ['kagI] | 'startled' |
| /kore/ | ['korı] | 'scrape' |
| /pake/ | ['pakı] | 'use' |
| /pagge/ | $[$ 'pajgı] | 'call' |
| /pante/ | ['pantr] | 'beach' |
| /polote/ | [po'lotr] | 'explode' |

When [I] occurs in final position vowel harmony takes place so that the preceding /e/ whether in closed or open syllables is also realized as [I]. Some examples are the following.

| /bebe/ | ['bibı] | 'duck' |
| :---: | :---: | :---: |
| /nene/ | ['nimı] | 'grandmother' |
| /pece/ | ['picı] | 'mud; sludge' |
| /pende/ | ['pindi] | 'short' |
| /sebe/ | ['sibr] | 'father' |

In closed syllables /e/ is realized as an open mid unrounded front vowel $[\varepsilon]$, except when an [I] occurs in the following syllable and vowel harmony takes places, for instance in /pende/ which is realized as ['pindr].

| /benten/ | ['benten] | 'fortress' |
| :---: | :---: | :---: |
| /dokter/ | ['dok ${ }^{-1}$ tr] | 'doctor; physician' |
| /kabel/ | ['kabel] | 'cable' |
| /mo'del/ | [mo'del] | 'same; similar to' |
| /oben/ | ['oben] | 'screwdriver' |

Before the low variants $[\varepsilon, \circ]$ of the midvowels, the preceding /e/ in open syllables is also realized as $[\varepsilon]$. Examples are:

| /nener/ | ['nener] | 'small fish used as fish bait' |
| :---: | :---: | :---: |
| /beres/ | ['beres] | 'in order' |
| /mesel/ | ['mesel] | '(concrete) floor' |
| /rekey/ | ['rekeŋ] | 'count' |
| /leper/ | ['leper] | 'spoon' |
| /ekor/ | ['عkər] | 'tail' |
| /peot/ | ['peot ${ }^{\text {; }}$ 'pejot ${ }^{\text {T }}$ | ‘dented’ |

In other non-final open syllables /e/ is realized as a close mid unrounded front vowel [e]:

| /hela/ | ['hela] | 'pull; haul' |
| :--- | :--- | :--- |
| /kadera/ | [ka'dera] | 'chair' |
| /lebar/ | ['lebar] | 'broad; wide; extensive' |
| /lego/ | ['lego] | 'throw down' |
| /mera/ | ['mera] | 'red' |

A non-phonemic transitional glide [j] may appear when /e/ is followed by a back vowel.

| /bagea/ | [ba'gea; ba'geja] | 'k.o. biscuit; cookie' |
| :--- | :--- | :--- |
| /bagean/ | [ba'geay; ba'gejay] | 'division' |
| /pakeaŋ/ | [pa'keay; pa'kejay] | 'clothes' |
| /peot/ | [pest'; pe'jot'] | 'dented' |

/i/ is realized as a close high unrounded front vowel [i] in open and closed syllables:

| /gigi/ | ['gigi] | 'tooth; bite' |
| :--- | :--- | :--- |
| /gila/ | ['gila] | 'crazy' |
| /tingi/ | ['tingi] | 'high' |
| /sigga/ | ['singa] | 'stop by; visit' |
| /sopir/ | ['sopir] | 'chauffeur; driver' |
| /spit/ | [spit'] | 'high speed motorboat' |

A non-phonemic transitional glide [j] may appear when /i/ is followed by a back vowel:

| /biar/ | ['biar; 'bijar] | 'although' |
| :--- | :--- | :--- |
| /dia/ | ['dia; 'dija] | 'he; she; it' |
| /duriay/ | [du'riaj; du'rijan] | 'durian' |
| /cioy/ | ['cion; 'cijon] | 'kiss; sniff' |
| /kios/ | ['kios; 'kijos] | 'kiosk; stand' |
| /serius/ | [seri'us; 'seri'jus'] | 'serious' |
| /tiup/ | ['tiup'; 'tijup-] | 'blow' |

$/ \mathbf{u} /$ is realized as a closed high rounded back vowel [ u$]$ in open and closed syllables:

| /untuy/ | ['untun] | 'profit' |
| :--- | :--- | :--- |
| /urus/ | ['urus] | 'take care for' |
| /utu/ | ['utu] | 'complete' |
| /buku/ | ['buku] | 'book' |
| /bulu/ | ['bulu] | 'bamboo; feathers' |
| /gunuy/ | ['gunuy] | 'mountain' |
| /hidup/ | ['hidup'] | 'live; life' |
| /busu/ | ['busu] | 'putrid; rotten; bad' |
| /sambuy/ | ['sambuy] | 'connect' |
| /kunci/ | ['kunci] | 'key; lock' |

A non-phonemic transitional glide [w] may appear when /u/ is followed by the low back vowel /a/.

| /kua/ | ['kua; 'kuwa] | 'sauce' |
| :--- | :--- | :--- |
| /sabua/ | [s'bua; sa'buwa] | 'hut, temporary shelter' |
| /suar/ | ['suar; 'suwar] | 'sweat' |
| /jual/ | ['jual; 'juwal] | 'sell' |
| /kuat/ | ['kuat'; 'kuwat'] | 'strong' |
| /luar/ | ['luar; 'luwar] | 'outside' |

/o/ is realized as an open mid unrounded back vowel [o] in open syllables, except when it is followed by an [ 0 ] in the following syllable.

| /poloso/ | [po'loso] | 'squeeze' |
| :--- | :--- | :--- |
| /obat/ | $[$ 'obat $]$ | 'medicine' |
| /oben/ | $[' o b e n]$ | 'screwdriver' |
| /oray/ | $[$ 'oran] | 'person' |


| /oto/ | ['oto] | 'car' |
| :--- | :--- | :--- |
| /lobay/ | ['loban] | 'hole' |
| /model/ | [mo'del] | 'shape; similar' |
| /joni/ | ['joni] | 'you (plural)' |

When [0] occurs in the final syllable vowel harmony takes place so that the preceding /o/ in open syllables is also realized as [ 0 ].

| /bokor/ | ['bokor] | 'bowl' |
| :--- | :--- | :--- |
| /bo'loy/ | ['bolon] | 'not yet' |
| /doloy/ | ['dolon] | 'deep' |
| /poton/ | ['poton] | 'cut (off); slice' |
| /tofor/ | ['tofor] | 'shallow' |
| /jobot/ | ['jobot'] | 'swollen' |

In closed syllables /o/ is realized as an open mid rounded back [0] ${ }^{5}$ :

| /dokter/ | [dokter] | 'doctor' |
| :---: | :---: | :---: |
| /ron/ | [ron] | 'around' |
| /stop/ | [stop ${ }^{-}$] | 'stop; halt' |
| /toy/ | [toy] | 'barrel' |
| /ajcor/ | ['ancor] | 'shattered, destroyed' |
| /bajoy/ | ['bayoy] | 'wake up; get up' |
| /don/ | [dっŋ] | 'they' |

A non-phonemic transitional glide [w] may appear when /o/ is followed by the back vowel /a/:

| /goa/ | ['goa; 'gowa] | 'cave' |
| :--- | :--- | :--- |
| lloas/ | ['loas; 'lowas] | 'spacious; wide' |
| /roas/ | ['roas; 'rowas] | 'segment' |
| /loa-loa/ | ['loaloa; 'lowalowa] | 'without accompaniments' |

### 2.1.1 Diphthongs

/ai/ is in open as well as closed syllables realized as [a ${ }^{i}$ ].

| /tai/ | $\left[\mathrm{ta}^{\mathrm{i}}\right]$ | 'feces' |
| :--- | :--- | :--- |
| /mai/ | $\left[\mathrm{ma}^{\mathrm{i}}\right]$ | 'mother' |
| /rai/ | $\left[\mathrm{ra}^{\mathrm{i}}\right]$ | 'guess' |
| /pait/ | $\left[\mathrm{pat}^{{ }^{-}}\right]$ | 'bitter' |
| /mulai/ | $\left[\right.$mula $\left.^{\mathrm{i}}\right]$ | 'begin' |

[^0]$/ \mathrm{ae} /$ in open as well as closed syllables is realized as $\left[\mathrm{a}^{\mathrm{e}}\right]$ :

| /bae/ | $\left[\mathrm{ba}^{\mathrm{e}}\right]$ | 'good' |
| :--- | :--- | :--- |
| /nae/ | $\left[\mathrm{na}^{\mathrm{e}}\right]$ | 'go up; ascend' |
| /manael/ | $\left[\mathrm{mana}^{\mathrm{e}} \mathrm{l}\right]$ | 'to fish' |
| /aer/ | $\left[\mathrm{a}^{\mathrm{r} r}\right]$ | 'water; liquid' |
| /kaen/ | $\left[\mathrm{ka}^{\mathrm{C}} \mathrm{\eta}\right]$ | 'cloth; sarong' |
| /laen/ | $\left[a^{\mathrm{C}} \mathrm{\eta}\right]$ | 'different' |
| /maen/ | $\left[\mathrm{ma}^{\mathrm{C}} \mathrm{\eta}\right]$ | 'play' |

The /ao/ in open as well as closed syllables can be realized as $\left[a^{0}, a^{u}, a^{w}\right]$.

| /jao/ | $\left[\mathrm{fa}^{\circ} ; \mathrm{fa}^{\mathrm{u}} ; \mathrm{ja}^{\text {w }}\right]$ | 'far' |
| :---: | :---: | :---: |
| /lao/ | [ $\mathrm{a}^{\text {o }}$; $\left.\mathrm{la}^{\mathrm{u}} ; \mathrm{la}^{\mathrm{w}}\right]$ | 'sea' |
| /mao/ | [ $\mathrm{ma}^{\text {o }}$; $\mathrm{ma}^{\mathrm{u}} ; \mathrm{ma}^{\mathrm{w}}$ ] | 'want' |
| /parao/ |  | 'proa' |
| /pulao/ | ['pula ${ }^{\text {\% }}$ ' pula $^{\text {u }}$; 'pula ${ }^{\text {w }}$ ] | 'island' |
| /aos/ | [ ${ }^{\text {o }}$ s; $\mathrm{a}^{\mathrm{u}} \mathrm{s} ; \mathrm{a}^{\mathrm{w}} \mathrm{s}$ ] | 'thirsty' |
| /taoy/ | [ $\operatorname{ta}^{\circ} \mathrm{y} ; \operatorname{ta}^{\mathrm{u}} \mathrm{y}$; $\operatorname{ta}^{\mathrm{w}} \mathrm{y}$ ] | 'year' |
| /daon/ | [ $\mathrm{da}^{\circ} \mathrm{y}$; da ${ }^{\text {u }} \mathrm{y}$; da ${ }^{\text {W }} \mathrm{y}$ ] | 'leaf' |

$/ \mathrm{oi} /$ is realized as $\left[\mathrm{o}^{\mathrm{i}}\right]$.

| /koi/ | $\left[\mathrm{ko}^{\mathrm{i}}\right]$ | 'bed' |
| :--- | :--- | :--- |
| /coi/ | $\left[\mathrm{co}^{\mathrm{i}}\right]$ | 'steamed |
| /doi/ | $\left[\mathrm{do}^{i}\right]$ | 'money' |

/ei/ is realized as $\left[e^{i}\right]$ or [ey] and occurs mainly in words of non-Malay origin.

| /sei/ | $\left[\mathrm{se}^{\mathrm{i}}\right]$ | 'side' | $(<\mathrm{Du} . z i j(d e))$ |
| :--- | :--- | :--- | :--- |
| /frei/ | $\left[\mathrm{fre}^{\mathrm{i}}\right]$ | 'off' | $(<$ Du. vrij $)$ |
| /surfei/ | $\left[\right.$ surfe' $\left.^{\mathrm{i}}\right]$ | 'survey' | $(<$ Eng. survey $)$ |

### 2.2 Consonants

Ternate Malay has eighteen consonants and two semivowels.

| Place of articulation | Labial | Alveolar | Palatal | Velar | Glottal |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Voiceless Stop | p | t | c | k | ? |
| Voiced Stop | b | d | f | g |  |
| Nasal | m | n | n | $\mathrm{\eta}$ |  |
| Fricative | f | s |  |  | h |
| Lateral approximant |  | l |  |  |  |
| Trill |  | r |  |  |  |
| Semivowel | w |  | j |  |  |

In this chapter the palatals and the velar nasal are written with IPA symbols. In other chapters the palatal stop $[\mathrm{f}]$ is written as " j ", the palatal nasal [ n$]$ as "ny", the palatal semivowel $[\mathrm{j}]$ as " y ", while the velar nasal $[\mathrm{n}]$ is written as " ng ".

### 2.2.1 Stops

### 2.2.1.1 Voiceless stops

The voiceless stops /p, t, k/ appear in word-initial and medial position. Examples of some voiceless stops in syllable-final position are discussed in § 2.2.1.2.
$/ \mathrm{p} /$ is realized as $[\mathrm{p}]$ in word-initial and medial position.

| /palaka/ | [pa'laka] | 'upside down' |
| :--- | :--- | :--- |
| /pigi/ | ['pigi] | 'go' |
| /parao/ | [pa'rao] | 'boat' |
| /lapar/ | ['lapar] | 'hunger; hungry' |
| /apay/ | ['apan] | 'k.o. cake' |

/t/ is realized as a voiceless alveolar [ t ] in word-initial and medial position:

| /tabako/ | [ta'bako] | 'tobacco' |
| :--- | :--- | :--- |
| /tabal/ | [ta'bal] | 'thick' |
| /tako/ | ['tako] | 'afraid; frightened' |
| /mati/ | ['mati] | 'die; dead' |
| /putar/ | ['putar] | 'revolve, turn around' |
| /puti/ | ['puti] | 'white' |
| /putus/ | ['putus] | 'broken; loose' |
| /roti/ | ['roti] | 'bread' |

/c/ is realized as a voiceless palatal stop [c] and occurs only in initial and medial position. It does not occur word-finally.

| /colo/ | ['colo] | 'dip' |
| :--- | :--- | :--- |
| /carita/ | [ca'rita] | 'story; tell a story' |
| /pece/ | ['picı] | 'mud; sludge' |
| /panciy/ | ['pajcin] | 'fish; provoke' |

$/ \mathrm{k} /$ is realized as a voiceless velar stop [ k ] in word-initial and medial position:

| /kabel/ | ['kabel] | 'cable' |
| :--- | :--- | :--- |
| /kacili/ | [ka'cili] | 'small; little' |
| /kadera/ | [ka'dera] | 'chair' |
| /ika/ | ['ika] | 'tie, bind' |
| /makaŋ/ | ['makay] | 'eat' |

### 2.2.1.2 Neutralization of voice

There is no voice opposition in stops in word-final position. All stops in this position are realized as voiceless unreleased stops and no examples have been found to show $\mathrm{a} / \mathrm{b} /-/ \mathrm{p} /$ distinction. Some words from Arabic origin may have a voiced stop origi-
nally, but in Malay these sounds are all realized as voiceless unreleased stops. Other words may have been created on the base of words with a voiced stop, but when the position changes, the realization also changes. In the compound brigade mobil 'mobile brigade', the $/ \mathrm{b} /$ in mobil is realized as a voiced bilabial stop [b]. When used in the acronym brimob 'mobile brigade', the word-final position of $/ \mathrm{b} /$ changes its realization into a voiceless unreleased bilabial stop $\left[\mathrm{p}^{-}\right]$.

| /p/ and /b/ are realized as a unreleased voiceless bilabial stop $\left[p^{-}\right]:$ |  |  |
| :--- | :--- | :--- |
| /garap/ | $\left[\mathrm{ga'rap}^{-}\right]$ | 'funny' |
| /sadap/ | $\left[\mathrm{sa'dap}^{-}\right]$ | 'tasty, delicious' |
| /tetap/ | $\left[\mathrm{te}^{\prime} \mathrm{tap}^{-}\right]$ | 'permanent; fixed' |
| /lap/ | $\left[\right.$lap $\left.^{-}\right]$ | 'wipe; slap' |
| /brimob/ | $\left[\right.$brimop $\left.^{-}\right]$ | 'mobile brigade' |
| /wayib/ | $\left[\right.$wafip $\left.^{-}\right]$ | 'obligatory' |

/t/ and /d/ in final position are realized as a unreleased voiceless alveolar stop [ $\mathrm{t}^{-}$]. In the word abadi 'eternal' the /d/ is realized as a voiced dental stop [d]. In the word abad 'century', which comes from the same root, /d/ occurs in word-final position and is realized as a voiceless unreleased stop [ $\mathrm{t}^{-}$].

| /camat/ | ['camat] | 'subdistrict head' |
| :---: | :---: | :---: |
| /gawat/ | ['gawat ${ }^{\text {² }}$ | 'urgent; critical' |
| /hebat/ | ['hebat ${ }^{\text {² }}$ | 'tremendous, fantastic' |
| /ketat/ | [ $\mathrm{ke}^{\prime} \mathrm{tat}^{-}$] | 'tight; strict; precise' |
| /abad/ | ['abat ${ }^{-}$] | 'century' |

$/ \mathrm{k} /$ in syllable-final position is realized as a unreleased voiceless velar stop $\left[\mathrm{k}^{-}\right]$. There are only a few words with word-final /g/, i.e. caleg 'legislative candidate, an acronym for calon legislative 'legislative candidate'. The final $/ \mathrm{g} /$ is realized as an unreleased voiceless velar stop $\left[\mathrm{k}^{-}\right]$.

| /cek/ | $\left[\mathrm{cek}^{-}\right]$ | 'check' |
| :--- | :--- | :--- |
| /cok/ | $\left[\mathrm{cok}^{-}\right]$ | 'electrical plug' |
| /kontak/ | $\left[\mathrm{kontak}^{-}\right]$ | 'socket' |
| /waktu/ | $\left[' \mathrm{wak}^{-} \mathrm{tu}\right]$ | 'time' |
| /caleg/ | $\left[' c a l \varepsilon \mathrm{~K}^{-}\right]$ | 'legislative candidate' |

### 2.2.1.3 Glottal stop

The glottal stop [?] has only a marginal function. When a base with an initial vowel is preceded by the prefixes, amongst others, /ba+/, /baku+/, and /ta+/, a glottal stop $/ \mathrm{i} /$ appears between the two vowels. The glottal stop also occurs in words consisting of a base ending in a final vowel and followed by a suffix that has an initial vowel. The two examples given here are words adopted from Indonesian: perbedaan 'difference' and keadaan 'situation'. The word perbedaan consists of the base beda and the circumfix per- $+-a n$ and keadaan consists of the base ada and the circumfix ke-$+-a n$. Note that between the prefix $k e$ - and the base $a d a$ a glottal stop is realized.

| /ba+uni/ | [ba'Puni] | 'watch' |
| :---: | :---: | :---: |
| /ba+injay/ | [ba'Rinjay] | 'step on' |
| /baku+anka/ | [baku'Taŋka] | 'lift up together' |
| /ta+ure/ | [ta'Rurr] | 'tousled (of hair)' |
| /per+beda+an/ | [perbe'daPan] ${ }^{6}$ | 'difference' |
| /ke+ada+an/ | [kePa'daPan] | 'situation' |

A phonemic glottal stop appears occasionally between two identical vowels and between /o/ followed by /a/ and /a/ followed by /e/. It should be noted that these words have a non-Malay origin.

| /saPat/ | ['saPat'] | 'moment' |
| :---: | :---: | :---: |
| /maPaf/ | [ma'Raf] | 'pardon; forgive' |
| /dora/ | [do'1a] | 'prayer' |
| /so3al/ | ['soPal] | 'problem; matter' |
| /daPera/ | [da'Yera] | 'region; district' |
| /lapef/ | [la'Ref] | 'demented; forgetful' |

### 2.2.1.4 Voiced stops

The voiced stops $/ \mathrm{b}, \mathrm{d}, \mathfrak{f}, \mathrm{g} /$ occur only in initial and medial position. Voiced stops in word-final position are discussed in § 2.2.1.2.
/b/ is realized as a voiced bilabial stop [b]:

| /bagka/ | ['bayka] | 'swollen' |
| :--- | :--- | :--- |
| /bodito/ | [bo'dito] | 'accident; have an accident' |
| /mabo/ | ['mabo] | 'drunken' |
| /raba/ | ['raba] | 'grope; touch' |

/d/ is realized as a voiced alveolar stop [d]:

| /dolon/ | ['dolon] | 'deep' |
| :--- | :--- | :--- |
| /dusu/ | ['dusu] | 'chase' |
| /bodo/ | ['bodo] | 'stupid' |
| /tadi/ | ['tadi] | 'a while ago' |

$\mathfrak{f} /$ is realized as a voiced palatal stop $[\mathfrak{f}]$ :

| /jay/ | [fan] | 'don't' |
| :--- | :--- | :--- |
| /juga/ | ['juga] | ''also' |
| /jual/ | ['fual; 'juwal] | 'sell' |
| /bifi/ | ['bifi] | 'seed; kernel' |
| /laju/ | ['layu] | 'fast' |

[^1]$/ \mathrm{g} /$ is realized as voiced velar stop [g], which occurs in initial and medial position:

| /gode/ | ['godı] | 'big (of a person); obese' |
| :--- | :--- | :--- |
| /guraka/ | [gu'raka] | 'ginger' |
| /lego/ | ['lego] | 'throw down' |
| /bagus/ | ['bagus] | 'nice; beautiful' |

### 2.2.2 Fricatives

/f/ is realized as a labio-dental fricative [f], which occurs in initial, medial, and final position:

| /fuma/ | ['fuma] | 'stupid' |
| :--- | :--- | :--- |
| /foja/ | ['foja] | 'lie' |
| /fufu/ | ['fufu] | 'to smoke' |
| /ofu/ | ['ofu] | '(honey) bee' |
| /tofor/ | ['tofor] | 'shallow' |
| /maRaf/ | $[\mathrm{ma'Raf}]$ | 'pardon; forgive' |
| /laRef/ | $[$ la'Ref] | 'demented; forgetful' |

$/ \mathrm{s} /$ is realized as a alveolar fricative [ s ], which occurs in initial, medial and final position:

| /soma/ | ['soma] | 'k.o. fishing net' |
| :--- | :--- | :--- |
| /sugili/ | [su'gili] | 'k.o. eel' |
| /sisa/ | ['sisa] | 'remain' |
| /pasar/ | ['pasar] | 'market' |
| /kar'as/ | [ka'ras] | 'hard; tough' |
| /lap'as/ | [la'pas] | 'loose' |

$/ \mathrm{h} /$ is realized as a glottal fricative [h], which occurs in initial and medial position:

| /harijay/ | [ha'rinay] | 'light, not heavy' |
| :--- | :--- | :--- |
| /hoba/ | ['hoba] | 'glimpse' |
| /haga/ | ['haga] | 'stare at' |
| /pohoy/ | ['pohon] | 'tree' |
| /gohu/ | ['gohu] | 'k.o. dish' |

2.2.3 Nasals
$/ \mathrm{m} /$ is realized as a voiced bilabial nasal [m] and occurs in all positions.

| /molo/ | ['molo] | 'dive; swim under water' |
| :--- | :--- | :--- |
| /milu/ | ['milu] | 'corn' |
| /simore/ | [si'morr] | 'happy; pleased; glad' |
| /sama/ | ['sama] | 'same; similar'' |
| /tanam/ | ['tanam] | 'plant' |
| /siram/ | $[$ 'siram] | 'pour' |


| /n/ is realized as a voiced alveolar nasal [n] and occurs in all positions. |  |
| :--- | :--- |
| 'nener/ | ['nenعr] |
| 'napas/ | ['napas] |
| /nana/ | ['nana] |


| /panada/ | [pa'nada] | 'rice croquette with fish' |
| :--- | :--- | :--- |
| /laway/ | ['lawan] | 'opponent; oppose' |
| /tanay/ | ['tanan] | 'hand' |

In many cases final $/ \mathrm{m} /$ or $/ \mathrm{n} /$ may be replaced by the velar nasal $/ \mathrm{m} /$, resulting in doublets. Some examples in which $/ \mathrm{m} /$ and $/ \mathrm{n} /$ alternate with $/ \mathrm{\eta} /$ are:

| /anam/ | ['anam] | $\sim$ ['anay] | 'six' |
| :---: | :---: | :---: | :---: |
| /itam/ | ['itam] | $\sim$ ['itag] | 'black' |
| /kirim/ | ['kirim] | ~ ['kirin] | 'send s.o.' |
| /kolam/ | ['kolam] | ~ ['kolay] | '(swimming) pool' |
| /macam/ | ['macam] | ~ ['macan] | 'variety; similar' |
| /malam/ | ['malam] | $\sim$ ['malay] | 'night' |
| /minom/ | ['minom] | $\sim$ ['minəŋ] | 'drink' |
| /harijan/ | [ha'riyan] | ~ [ha'riŋag] | 'light, not heavy' |
| /jajan/ | ['fajan] | ~ ['faŋaŋ] | 'don't' |
| /nilon/ | ['nilon] | $\sim$ ['niloŋ] | 'nylon string for fishing' |
| /tahan/ | ['tahan] | $\sim$ ['tahay] | 'resist; hold' |
| /turun/ | ['turun] | ~ ['turug] | 'go down' |

However, non-Malay words such as words from Dutch and English origin do not have doublets

| /do'rom/ | [do'rom] | '(oil) drum' |
| :--- | :--- | :--- |
| /om/ | $[$ om] | 'uncle' |
| /ka'ram/ | $[\mathrm{ka'ram}]$ | 'cramped' |
| /strom/ | $[$ strom $]$ | 'electricity' |
| /ron/ | $[$ ron] | 'around' |
| /jeri'gen/ | $[$ jeri'gen $]$ | 'jerry can' |

In a few cases replacing final $/ \mathrm{m} /$ or $/ \mathrm{n} /$ with $/ \mathrm{y} /$ results in a change in meaning. These words do not have doublets.

| /fam/ | [jam] | 'hour', | but | /jay/ | [ $\ddagger$ a | 'don't' |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| /macan/ | ['macan] | 'ti | but | /macay | ['macay] | 'variety; similar' |
| en/ | [sen] | cent' | but | /sen/ | [sen] | 'inc |

$/ \mathrm{n} /$ is realized as a voiced palatal nasal $[\mathrm{n}]$ and occurs in initial and medial position.

| /nata/ | ['nata] | 'clear; obvious; evident' |
| :--- | :--- | :--- |
| /nawa/ | ['nawa] | 'life; soul' |
| /nonoke/ | [no'noki] | 'grumble' |
| /bona/ | ['bona] | 'lump, swelling' |

$/ \mathrm{\eta} /$ is realized voiced velar nasal $[\eta]$, which occurs in all positions.

| /yana/ | ['gana] | 'you (singular) |
| :--- | :--- | :--- |
| /joni/ | ['yoni] | 'you |
| /gurayo/ | [gu'rano] | 'shark' |
| /toray/ | ['toran] | 'we' |

### 2.2.4 Lateral approximant

$/ 1 /$ is realized as a lateral approximant [1] and occurs in initial, medial, and final position.

| /lego/ | ['lego] | 'throw down' |
| :--- | :--- | :--- |
| /lalar/ | ['lalar] | 'fly' |
| /gi'li/ | [gi'li] | 'tickle' |
| /bantal/ | ['bantal] | 'pillow' |
| /ta'bal/ | [ta'bal] | 'thick' |

2.2.5 Trill
$/ \mathrm{r} /$ is realized as alveolar trill [r] and occurs in initial, medial, and final position.

| /rambu/ | ['rambu] | 'hair' |
| :--- | :--- | :--- |
| /reno/ | ['reno] | 'gnaw; nibble' |
| /tarada/ | [ta'rada] | 'not' |
| /biru/ | ['biru] | 'blue' |
| /leper/ | ['lep $]$ | 'spoon' |
| /basar/ | [ba'sar] | 'large; big' |

### 2.2.6 Semivowels

The semivowel $/ \mathrm{w} /$ is realized as $[\mathrm{w}]$ and occurs in initial and medial position.

| /woka/ | ['woka] | 'k.o. palm tree' |
| :--- | :--- | :--- |
| /saway/ | ['saway] | 'hurry' |

The semivowel $/ \mathrm{j} /$ is realized as $[\mathrm{j}]$ and occurs in initial and medial position.

| /jakis/ | ['jakis] | 'monkey' |
| :--- | :--- | :--- |
| /jobot/ | ['jobot'] | 'swollen' |
| /foja/ | ['foja] | 'lie' |
| /kaju/ | ['kaju] | 'wood' |
| /mojay/ | ['mojan] | 'great-grandparent' |

### 2.3 Minimal and near minimal pairs of vowels

| /i/ - /a/: | libu/ 'mother' | /abu/ 'dust; ash' |
| :--- | :--- | :--- |
|  | /kita/ '1SG' |  |
|  | /kata/ 'word' |  |
| /milu/ 'corn' |  |  |
|  | /kaki/ 'foot, leg' | /malu/ 'shy; ashamed' |
|  | /kaka/ 'older sibling' |  |


| /i/ - /u/: | /itu/ 'that' <br> /bisa/ 'may; can; poison' <br> /lipa/ 'fold; crease' <br> /sisa/ 'remain' <br> /tinju/ 'to box; fight' | /utu/ 'complete' <br> /busa/ 'foam; spume' <br> /lupa/ 'forget' <br> /susa/ 'trouble; bother' <br> /tunju/ 'show' |
| :---: | :---: | :---: |
| /i/ - /o/: | /kita/ '1SG' <br> /besi/ 'iron' <br> /kali/ 'time' <br> /tari/ '(traditional) dance' | /kota/ 'town; city' /beso/ 'tomorrow' /kalo/ 'if; when' /taro/ 'put' |
| /e/ - /a/: | /mera/ 'red' <br> /seka/ 'rub; wipe’ <br> /cobe/ 'mortar' <br> /pele/ 'separate; divide off' <br> /leper/ 'spoon' | /mara/ 'angry' <br> /saka/ 'put in' <br> /coba/ 'try' <br> /pala/ 'nutmeg' <br> /lapar/ 'hunger; hungry' |
| /e/ - /o/: | /den/ 'and; with' <br> /feto/ 'grumble' <br> /seno/ 'nervous' <br> /tela/ 'brick' <br> /cek/ 'check' <br> /renda/ 'lace' | /doy/ 'they' <br> /foto/ 'photo' <br> /sono/ 'sleep’ <br> /tola/ 'push' <br> /cok/ 'electrical plug' /ronda/ 'make a tour/trip' |
| /e/ - /u/: | /seka/ 'rub; wipe’ /tete/ 'grandfather' /sebe/ 'father' /tetu/ 'peck' | /suka/ 'be fond of; enjoy' /tetu/ 'peck' <br> /subu/ 'dawn; daybreak' <br> /tutu/ 'shut; cover up/over' |
| /a/ - /u/: | /arus/ 'stream' <br> /karuy/ 'sack' <br> /malu/ 'shy; ashamed' <br> /mara/ 'angry' <br> /tasa/ 'bald' <br> /kaka/ 'older sibling' <br> /rampa-rampa/ 'seasoning' | /urus/ 'take care for' <br> /kuruy/ 'cage; imprison' <br> /mulu/ 'mouth' <br> /mura/ 'cheap' <br> /tusa/ 'cat' <br> /kuku/ 'nail' <br> /rumpu-rumpu/ 'litter' |
| /a/ - /o/: | /aray/ 'coal' /bakar/ 'burn; bake' /pas/ 'exact; punctual' /tagka/ 'catch' /tano/ 'glance; glimpse' /tana/ 'land' | /oray/ 'person' <br> /bokor/ 'bowl; wash basin <br> /pos/ 'post' <br> /tonka/ 'pole; support' <br> /tono/ 'soak' <br> /tono/ 'soak' |


| /u/ - /o/ | /utu/ 'complete' | /oto/ 'car' |
| :--- | :--- | :--- |
|  | /budo/ 'albino' | /bodo/ 'stupid' |
|  | /tutu/ 'shut; cover up/over' | /totu/ 'great-grandparent' |
|  | /mulu/ 'mouth' | /molo/ 'dive' |
|  | /susu/ 'milk; breast' | /soso/ 'penetrate' |

2.4 Minimal and near-minimal pairs of consonants

| /p/ - /t/: | /pa'lay/ ‘slow' <br> /pas/ 'exact; punctual' <br> /papa/ 'father' <br> /sapu/ 'broom; sweep’ <br> /ga'rap/ 'funny’ <br> /te'tap/ 'permanent' | /ta'lay/ 'swallow' <br> /tas/ 'bag' <br> /pata/ 'broken' <br> /satu/ 'one' <br> /ba'rat/ 'heavy' <br> /ke'tat/ 'tight; strict' |
| :---: | :---: | :---: |
| /p/ - /k/: | /pa/ 'to, for' <br> /pala/ 'nutmeg' <br> /papa/ 'father' <br> /la'pas/ 'free; loose' <br> /lupa/ 'forget' | $/ \mathrm{ka} /{ }^{\prime}$ to' <br> /kala/ 'defeated' <br> /paka/ 'slap' <br> /la'kas/ 'fast' <br> /luka/ 'wound' |
| /p/ - /b/: | /peda/ 'machete' <br> /pisa/ 'separate' <br> /pulu/ 'ten' <br> /apa/ 'what' <br> /rupa/ 'form; shape' <br> /sompon/ 'carry on shoulder' <br> /tampa/ 'place' | /beda/ 'difference' <br> /bisa/ 'may; can; poison' <br> /bulu/ 'bamboo; feathers' <br> /aba/ 'father' <br> /ruba/ 'change' <br> /somboy/ 'arrogant' <br> /tamba/ 'add' |
| /t/ - /k/: | ```/tali/ 'rope' /toy/ 'barrel' /tore/ 'crispy' /tua/ 'old' /buta/ 'blind' /kata/ 'word' /pata/ 'broken' /puti/ 'white' /sate/ 'satay' /cet/ 'paint' /spit/ 'high-speed motorboat'``` | /kali/ 'river; time' <br> /kon/ 'then' <br> /kore/ 'scrape' <br> /kua/ 'sauce' <br> /buka/ 'open' <br> /kaka/ 'older sibling' <br> /paka/ 'slap' <br> /puki/ 'vulva' <br> /sake/ 'ill' <br> /cek/ 'check' <br> /spik/ 'speak (foreign <br> language)' |
| /t/ - /d/: | /(ana) tiri/ 'step(child)' <br> /tola/ 'push' <br> /tusu/ 'stab; sting' | /diri/ 'self' <br> /dola/ 'chase' <br> /dusu/ 'chase' |


| /t/ - /c/: | /tamat/ 'graduate' <br> /tamu/ 'guest' <br> /kata/ 'word' <br> /matay/ 'cooked' /pete/ 'pick' | /camat/ 'subdistrict head' /camu/ 'chew' /kaca/ 'glass; mirror' /macay/ 'like; similar' /pece/ 'mud; sludge' |
| :---: | :---: | :---: |
| /k/ - /g/: | /kawat/ 'wire' <br> /kaja/ 'rich, similar' <br> /kaka/ 'older sibling' <br> /banka/ 'swollen' <br> /tajka/ 'catch' | /gawat/ 'urgent; critical' <br> /gaja/ 'style' <br> /gaga/ 'strong; beautiful' <br> /banga/ 'proud' <br> /tanga/ 'ladder; staircase' |
| /b/ - /d/: | /bapa/ 'father; mister' <br> /bara/ 'coal; ember' <br> /beso/ 'tomorrow' <br> /buka/ 'open' <br> /buku/ 'book' <br> /bulu/ 'bamboo; body hair' <br> /busu/ 'putrid; rotten; bad' <br> /sa'bab/ 'because' <br> /suba/ 'greet respectfully' | /dapa/ 'get' <br> /dara/ 'blood; land' <br> /deso/ 'snare; trap' <br> /duka/ 'sorrow' <br> /duku/ 'k.o. fruit' <br> /dulu/ 'before; past' <br> /dusu/ 'chase' <br> /sa'dap/ 'tasty, delicious' <br> /suda/ 'already' |
| /b/ - /g/: | /baray/ 'thing, material' <br> /baru/ 'new' <br> /bibi/ 'form of address' <br> /gaba/ 'midrib of sago leaf' | /garay/ 'salt' <br> /garu/ 'scratch' <br> /gigi/ 'tooth; bite' <br> /gaga/ 'stylish; strong' |
| /m/ - /n/: | /mana/ 'where' <br> /masi/ 'still; yet' <br> /sama/ 'same; similar' | /nana/ 'pus' <br> /nasi/ 'cooked rice' <br> /sana/ 'there' |
| $/ \mathrm{m} /-\mathrm{l} / \mathrm{l}$ : | /mana/ 'where' /yam/ 'hour' | / nana/ 'you (singular)' <br> /fay/ 'don't' |
| /m/-/n/: | /mata/ 'eye' | /nata/ 'clear; obvious |
| /n/-/n/: | /nana/ 'pus' /macan/ 'tiger' /sen/ 'cent' | /yana/ 'you (singular)' /macay/ 'variety; similar' /sey/ 'zinc' |
| /n/- $/ \mathrm{n} /$ : | /tana/ 'land' | /tana/ 'ask' |
| $/ \mathrm{n} / \mathrm{-} / \mathrm{n} /$ : | /teja/ 'middle' | /tana/ 'ask' |

### 2.5 Word stress

Stress in Ternate Malay generally falls on the penultimate syllable, but there are a number of polysyllabic words where the stress falls on the final syllable.

| /bisa/ | ['bisa] | 'may; can; poison' |
| :--- | :--- | :--- |
| /gonofu/ | [go'nofu] | 'coir, dried coconut fibres' |
| /gunuy/ | ['gunur] | 'mountain'' |
| /kita/ | ['kita] | '1SG' |
| /tarada/ | [ta'rada] | 'not' |
| /totofore/ | [toto'fori] | 'shiver' |

In a number of cases stress is placed on the final syllable. ${ }^{7}$ Some examples are given here.

| /ba'nay/ | [ba'nan] | 'thread' |
| :--- | :--- | :--- |
| /bo'loy/ | [bo'lon] | 'not yet' |
| /ca'pat/ | [ca'pat'] | 'fast' |
| /gi'li/ | [gi'li] | 'tickle' |
| /ka'ras/ | [ka'ras] | 'hard; tough' |
| /ke'tat/ | [ke'tat'] | 'tight; strict; precise' |
| /la'kas/ | [la'kas] | 'fast' |
| /la'la/ | [la'la] | 'tired' |
| /pa'lay/ | [pa'lay] | 'slow' |
| /sa'dap/ | [sa'dap] | 'tasty; delicious' |
| /ta'bal/ | [ta'bal] | 'thick' |
| /tam'bus/ | [tam'bus] | 'get through' |

In some cases the position of stress is meaning distinguishing:

| /'anka/ | ['Payka] 'lift up' | /an'ka/ | [Pan'ka]'k.o. cake' |
| :--- | :--- | :--- | :--- |
| /ba'gara/ | [ba'gara] 'tease s.o.' | /baga'ra/ | [baga'ra] 'move' |
| /'barat/ | ['barat'] 'west' | /ba'rat/ | [ba'rat'] 'heavy' |
| /'kiriy/ | ['kiriy] 'send' | /ki'riy/ | [ki'riy] 'dry' |
| /'pasan/ | ['pasan] 'turn on' | /pa'say/ | [pa'san] 'order' |
| /'bolon/ | ['bolon] 'hole' | /bo'loy/ | [bo'lon] 'not yet' |

[^2]In multi-morphemic words containing a prefix word stress remains on the stressed syllable of the base. When the base cet 'paint' is prefixed with $b a$-, the stress remains on the last syllable. A similar phenomenon happens when gara 'move' which has final stress is prefixed with $b a$-. Prefixation with pang- and $b a$ - are productive morphological processes in Ternate Malay.

| /ba-cet/ | $\left[\right.$ ba'cet $\left.^{-}\right]$ | 'paint' |
| :--- | :--- | :--- |
| /ba-ron/ | [ba'ron] | 'go around' |
| /pan-ga'rap/ | [payga'rap-] | 'clown; funny person' |
| /ba-ga'ra/ | $[$baga'ra] | 'move' |

Stress will only be indicated when it does not fall on the penultimate syllable.

### 2.6 Syllable structure

The syllable structure of Ternate Malay is (C)(C)(C)V(C)(C)(C).
Syllables with an empty onset may occur in all positions of the word. Mono-syllabic words without an onset are es 'ice' and om 'uncle'. The first syllable of ini 'this', uru 'massage', and ofu '(honey) bee' are syllables with an empty onset. Syllables with an empty onset are also found in the last syllable of goa 'cave', kuat 'strong', and hiu 'shark'.

| /es/ | 'ice' |
| :--- | :--- |
| /om/ | 'uncle' |
| /a-sam/ | 'sour' |
| /i-ni/ | 'this' |
| /u-ru/ | 'massage' |
| /o-fu/ | '(honey) bee' |
| /go-a/ | 'cave' |
| /ku-at/ | 'strong' |
| /hi-u/ | 'shark' |

All consonants occur in the onset of a syllable. Examples are the onset of the first syllable of each word.

| p | /pa-ku/ | 'nail' |
| :--- | :--- | :--- |
| t | /ta-yan | 'hand' |
| c | /ca-lon/ | 'candidate' |
| k | /ku-da/ | 'horse' |
| b | /bu-ta/ | 'blind' |
| d | /da-ging/ | 'meat' |
| f | /ji-wa/ | 'soul' |
| g | /ga-ris/ | 'line' |
| m | /mu-ka/ | 'face, front' |
| n | /ne-ne/ | 'grandmother' |
| j | /na-na/ | '2 SG' |
| j | /na-mu/ | 'mosquito' |


| f | /fu-ma/ | 'stupid' |
| :--- | :--- | :--- |
| s | /sapu/ | 'broom' |
| h | /har-ga/ | 'price' |
| r | /ra-jin/ | 'diligent' |
| l | /la-gu/ | 'song' |
| w | /wa-ruy/ | 'stall' |
| j | /ja-kis/ | 'monkey' |

A consonant sequence at the onset is limited to not more than three consonants. The third consonant can only be either a lateral approximant /l/ or a trill /r/. Consonant sequences at the beginning of words may be the result of a process in which the number of syllables in words containing two or more syllables is reduced (see below). Only consonant clusters consisting of voiced obstruents followed by a lateral approximant /l/ or a trill /r/ may occur in the onset. No examples of consonant sequences consisting of nasals together with another consonant in the onset of a syllable have been found. Consonant clusters in the onset of a syllable in Ternate Malay consist of an obstruent [- sonorant] followed by a sound which is [+ sonorant]. Plosives cannot be followed by a nasal.

| pl | /pla-fon/ <br> /play-play/ | 'ceiling' <br> 'slowly' |
| :--- | :--- | :--- |
| pr | /pren-ta/ | 'command' |
| pj | /pja-ra/ | 'bring up' |
| tr | /tray/ | 'bright' |
| tl | /tla-lu/ | 'very' |
| cl | /cla-na/ | 'trousers' |
| cr | /cri-ta/ | 'story' |
| kr | /kri-bo/ | 'curly hair' |
| bl | /bla-nan/ | 'wok' |
| br | /bra-pa/ | 'how much' |
| bj | /bja-sa/ | 'common' |
| bw | /bwa-ja/ | 'crocodile' |
| gl | /glap/ | 'dark' |
| gr | /gropa/ | 'grouper' |
| fl | /flun-ku/ | 'fist' |
| sr | /sri-ka-ja/ | 'k.o. fruit' |
| sl | /slalu/ | 'always' |
| sm | /smu-a/ | 'all' |
| sw | /swa-ra/ | 'voice' |

The fricative /s/ does not only occur in sequences with sonorants, but may also occur in sequences with voiceless plosives.

| st | /ste-ya/ | [stena] | 'half' |
| :--- | :--- | :--- | :--- |
| sp | /spay-gal/ | [spangal] | 'part' |
| sk | /ska-kar/ | [skakar] | 'stingy' |

In words of Dutch origin, the a consonant sequence of the three consonants /str/ may occur in the onset, like in strom 'electricity' (< Du. stroom). Three other examples are:
str /strep/ [strep] 'stripe’ (< Du. streep)
/stri-ka/ [strika] '(flat) iron' (< Du. strijken)
/strop/ [strop] 'syrup' (< Du. stroop)
All the voiceless consonants (sonorants and voiceless obstruents) may occur in the coda of a syllable. The $/ \mathrm{c} / \mathrm{l} / \mathfrak{f} /$, and $/ \mathrm{h} /$ do not occur in the coda of a syllable. The [h] only incidentally occurs in the coda of a syllable in words such as ahtret [ahtret ${ }^{-}$] 'move backwards' and ahli [ah'li] 'expert', which are both non-Malay words originated from Dutch and Arabic respectively. The following consonants may occur in the coda.

| /p/ | /sa-dap/ | 'delicious' |
| :--- | :--- | :--- |
| /t/ | /de-kat/ | 'close' |
| /k/ | /tem-bak/ | 'shoot |
| /m/ | /a-yam/ | 'chicken' |
| /n/ | /a-man/ | 'secure' |
| /n/ | /o-ran/ | 'person' |
| /n/ | /kin-cin/ | 'urinate' |
| /f/ | /ma-af/ | 'pardon; forgive' |
| /s/ | /ba-gus/ | 'beautiful' |
| /r/ | /ba-sar/ | 'big' |
| /l/ | /ma-hal/ | 'expensive' |

Consonant sequences in the coda do not occur, except for a few examples with two consonants in the coda, and a single example of a word with three consonants in the coda. The examples contain $/ \mathrm{ks} /$ and $/ \mathrm{rps} /$ in the coda and have a non-Malay origin.

| /ks/ | /teks/ | 'text' | (< Du. tekst $)$ |
| :--- | :--- | :--- | :--- |
| /kom-pleks/ | '(housing) complex' | (< Du. complex) |  |
| /rps/ | /korps/ | 'corps' | (< Du. corps) |

Consonant sequences in medial position consist generally of a plosive preceded by a homorganic nasal: /mp/, /mb/, /nt/, /nd/, /nc/, /nf/, /nk/, /ng/. No examples have been found of consonant sequences with nasals $/ \mathrm{NC} /$ in the onset; the syllable boundary in these words falls between the two consonants. Some examples are:

| /mp/ | /tam-pa/ | 'place' |
| :--- | :--- | :--- |
| /mb/ | /gam-bar/ | 'picture' |
| /nt/ | /kin-tal/ | 'lot' |
| /nd/ | /din-ding/ | 'wall' |
| /nc/ | /kun-ci/ | 'lock' |
| /nj/ | /jan-ji/ | 'promise' |
| /nk/ | /lin-kar/ | 'circle' |
| /ng/ | /pin-gir/ | 'side' |

Other consonant sequences in medial position are less common and restricted to words of non-Malay origin, for example from Arabic (Ar.), Chinese (Chin.), Sanskrit (Skt.), Portuguese (Port.) or Dutch (Du.). Some examples are:

| /ps/ | /nap-su/ [nap-su] | 'desire' (Ar.) |
| :--- | :--- | :--- |
| /ts/ | /fet-sin/ [fetsin] | 'MSG, monosodium glutamate' (Chin.) |
| /tr/ | /pu-tri/ [putri] | 'princess' (Skt.) |
| /kt/ | /wak-tu/ [wak-tu] | 'time' (Ar.) |
| /ks/ | /sik-sa/ [sik'sa] | 'torture' (Skt.) |
| /bt/ | /sab-tu/ [sap'tu] | 'Saturday' (Ar.) |
| /gr/ | /ma-grib/ [ma'grip-] | 'sunset' (Ar.) |
| /lt/ | /sul-tan/ [sultan] | 'sultan' (Ar.) |
| /ld/ | /sol-da-do/ [ssldado] | 'soldier' (Port.) |
| /rp/ | /kar-pus/ [kar'pus] | 'hood' (Port./Du.) |
| /rt/ | /kar-tas/ [kar'tas] | 'paper' (Ar.) |
| /rs/ | /per-sen/ [per'sen] | 'percentage' (Du.) |
| /rl/ | /per-lu/ [per'lu] | 'necessary' (Ar.) |
| /sj/ | /mis-fid/ [mis'jit'] | 'mosque' (Ar.) |

The prefix kas- adds a causative meaning aspect to the verb it is attached to. When the base begins with a vowel, a glottal stop [?] precedes the base and result in a /s?/ sequence.

| /u/ | kas- uru 'massage' | [kas?uru] |
| :--- | :--- | :--- |
| /i/ | kas- ija 'remember | [kas?ija] |
| /o/ | kas- ofor 'pass to' | [kas?ffr] |
| /a/ | kas- anka 'lift' | [kas?anka] |
| /e/ | kas- erat 'tight' | [kas?erat'] |

When the base begins with a consonant, the prefixation with kas- results in the following consonant sequences.

| /sp/ | kas-pulay 'go home' | [kaspulay] |
| :---: | :---: | :---: |
| /sb/ | kas- bafoya 'lie' | [kasbafoya] |
| /st/ | kas- tunfuy 'point at' | [kastunjuy] |
| /sd/ | kas- depar 'hear' | [kasdejar] |
| /sk/ | kas- kaluar 'go out' | [kaskaluwar] |
| /sg/ | kas-gara 'tease' | [kasgara] |
| /sc/ | kas- cebo 'clean oneself' | [kascebo] |
| /s ${ }^{\text {f/ }}$ | kas- faton 'fall' | [kasfatoy] |
| /sf/ | kas-fufu 'to smoke' | [kasfufu] |
| /ss/ | kas-suru 'order' | [kasuru] |
| /sl/ | kas- lari 'run' | [kaslari] |
| /sr/ | kas-rubu 'collapse' | [kasrubu] |
| /sm/ | kas-mason 'enter' | [kasmason] |
| /sn/ | kas-nae 'go up' | [kasnae] |

Some other lexical items that contain a consonant sequence are those with a fossilized prefix bar-. This process of prefixation is not productive in Ternate Malay. Two examples are given here:

| $/ \mathrm{rm} /$ | bar -+ maey 'play' | [barmaey] |
| :--- | :--- | :--- |
| $/ \mathrm{rd} /$ | bar -+ dosa 'sin' | [bardosa] |

Only a few examples are found with consonant sequences with three consonants in word-medial position. These words have a non-Malay origin. The word kontrak 'contract' is originally from Dutch, while mantri 'medical assistant' and istri 'wife' have their origins in Sanskrit.

| /ntr/ | /kontrak/ | 'contract' (Du.) |
| :--- | :--- | :--- |
| /mantri/ | 'medical assistant' (Skt.) |  |
| /str/ | /istri/ | 'wife' (Skt.) |

### 2.7 Word structure

The smallest structure of a content word found in Ternate Malay is a monosyllabic word with a VC structure. These are es 'ice' and om 'uncle', two words originally from Dutch and adopted into the language (and other Malay varieties in the region). These words could thus be ignored and one could state that the smallest structure of a native content word of Ternate Malay is: CVCV. The words have most commonly a trochaic metrical foot.
/ma-ta/ 'eye'
/ki-ta/ ' 1 SG '
/to-re/ 'crispy'
/bu-lu/ 'bamboo'

There are a number of words that only consists of one syllable, $\mathrm{CV}(\mathrm{C})$. These words are mainly function words and consist of, amongst others, prepositions (/di/, /pa/, $/ \mathrm{ka} /$ ), conjunctions (/la/, /dey/, /koŋ/), shortened pronouns (/de/,/don/,/toy/) and epithets (/ci/, /ya/). These and some other examples are the following:
/ci/ epithet for female person
/de/ '3SG' (short form of dia '3SG')
/dey/ 'with, and'
/di/ 'in, at'
/don/ '3PL' (short form of third person dorang 'they')
/ka/ 'to'
/kon/ 'and then'
/la/ 'and then'
/mu/ 'want' (short form of mau 'want')
/ni/ 'this' (short form of ini 'this')
/pa/ 'to'
/pi/ 'go' (short form of pigi 'go')
/su/ 'COMP' (short form of sudah 'COMP')

| /toy/ | '1PL' (short form of first person torang 'we') |  |  |
| :---: | :---: | :---: | :---: |
| /tu/ | 'that' (short form of itu 'that') |  |  |
| /ja/ | epithet for older woman (short for yaya 'mother') |  |  |
| Other monosyllabic words may have the following shapes: |  |  |  |
| VVC | /aos/ | [ $\mathrm{Pa}^{\circ} \mathrm{s}$ ] | 'thirsty' |
|  | /aer/ | [ $\mathrm{aa}^{\text {e }}$ ] | 'water' |
| CVV | /bae/ | [ $\mathrm{ba}^{\text {e }}$ ] | 'good' |
|  | /tao/ | [ta ${ }^{\circ}$ ] | 'know' |
|  | /lao/ | $\left[1 a^{\circ}\right]$ | 'sea' |
| CVC | /kos/ | [kos] | 'T-shirt' |
|  | /cap/ | [ $\mathrm{cap}^{-}$] | 'seal' |
|  | /cet/ | [ $\mathrm{cet}^{-}$] | 'paint' |
| CVCC | /teks/ | [tzks] | 'text' |
| CCCVC | /strep/ | [strep ${ }^{-}$] | 'stripe' |
|  | /strom/ | [strom] | 'electric |
|  | /strop/ | [strop ${ }^{-}$] | 'syrup' |


| Words of two syllables occur in various shapes: |  |  |  |
| :---: | :---: | :---: | :---: |
| V-CV | /ana/ | [3ana] | 'child' |
|  | /itu/ | [3itu] | 'that' |
|  | /oto/ | [3oto] | 'car' |
| V-CVC | /ular/ | [?ular] | 'snake' |
|  | /umur/ | [?umur] | 'age' |
|  | /ikay/ | [ 2 ikay] | 'fish' |
| VC-CV | /anka/ | [Rayka] | 'lift up' |
|  | /ampa/ | [Pampa] | 'four' |
| VC-CVC | /untuy/ | [Puntug] | 'profit' |
|  | /ancor/ | [Pajcor] | 'destroyed' |
|  | /ember/ | [?عmber] | 'bucket' |
| CV-V | /tua/ | [tuwa] | 'old' |
|  | /goa/ | [gowa] | 'cave' |
|  | /hiu/ | [hiju] | 'shark' |
| CV-VC | /kuat/ | [ $\mathrm{kuwat}^{+}$] | 'strong' |
|  | /niat/ | [nijat ${ }^{-}$] | 'intention' |
|  | /loas/ | [lowas] | 'wide' |


| CV-CV | /kata/ | [kata] | 'word' |
| :---: | :---: | :---: | :---: |
|  | /tiga/ | [tiga] | 'three' |
|  | /muka/ | [muka] | 'face; front' |
| CV-CVC | /bokor/ | [bokər] | 'bowl' |
|  | /tajay/ | [tagay] | 'hand, arm' |
|  | /putus/ | [putus] | 'break' |
| CV-CCV | /putri/ | [putri] | 'princess' |
| CCCV-CV | /strika/ | [strika] | '(flat) iron' |
| CVC-CV | /banka/ | [bajka] | 'swollen' |
|  | /pintu/ | [pintu] | 'door' |
|  | /lombo/ | [lombs] | 'soft' |
| CVC-CVC | /bonkar/ | [borkar] | 'take apart' |
|  | /bujkus/ | [buykus] | 'pack' |
|  | /dindiy/ | [dindig] | 'wall' |
|  | /guntiy/ | [guntiy] | 'scissors' |
| CVC-CCV | /mantri/ | [mantri] | 'medical assistant' |
| Words of three syllables also occur in various shapes: |  |  |  |
| V-CCV-CV | /istana/ | [?istana] | 'palace' |
|  | /istila/ | [Ristila] | 'term' |
|  | /astaga/ | [?astaga] | 'gosh' |
| V-CV-CVC | /alamat/ | [?alamat ${ }^{-}$] | 'address' |
| VC-CV-CV | /antara/ | [?antara] | 'between' |
|  | /antero/ | [Pantero] | 'entire' |
|  | /umpama/ | [?umpama] | 'example' |
| CV-CV-CV | /sadiki/ | [sadiki] | 'a little' |
|  | /guraka/ | [guraka] | 'ginger' |
|  | /bagini/ | [bagini] | 'like this' |
|  | /bicara/ | [bicara] | 'talk' |
| CV-CV-VC | /duriay/ | [durijay] | 'k.o. fruit' |
|  | /tabuan/ | [tabuway] | 'thrown away' |
|  | /pakeay/ | [pakejan] | 'clothes' |
| CV-CV-CVC | /balakay/ | [balakay] | 'back, behind' |
|  | /hawatir/ | [hawatir] | 'worry' |


|  | /jerigen/ <br> /kerikil/ | [ $\ddagger$ rrigen] [kerikil] | 'jerry can' <br> 'gravel' |
| :---: | :---: | :---: | :---: |
| CV-V-CV | /kiapa/ /buaya/ /piara/ /puasa/ | [kijapa] [buwaja] [pijara] [puwasa] | 'why' <br> 'crocodile' <br> 'bring up' <br> 'fasting' |
| CV-V-CVC | /kiamat/ | [kijamat ${ }^{-}$] | 'disaster' |
| CV-VC-CV | /suangi/ /ta?aŋka/ | [suwangi] <br> [taPagka] | 'nocturnal spirit' 'lifted up' |
| CV-CVC-CV | /parenta/ <br> /petinfu/ <br> /talunfu/ | [parenta] <br> [petinfu] <br> [talunju] | 'command' 'boxer' 'index finger' |
| CVC-CV-CV | /cemburu/ <br> /gargafi/ <br> /fandela/ <br> /sambiki/ | [cemburu] <br> [gargayi] <br> [fandela] <br> [sambiki] | 'jealous' <br> 'saw' <br> 'window' <br> 'pumpkin' |
| A few examples of V-CV-CV-CV | quadrisyllabic <br> /apalagi/ <br> /ekonomi/ | ords are: <br> [Rapalagi] <br> [?ekonomi] | 'moreover' 'economy' |
| CV-CV-CV-CV | /halifuru/ /bagimana/ /parabola/ | [halifuru] <br> [bagimana] <br> [parabola] | 'unsophisticated' 'how' <br> 'dish antenna' |
| CV-CV-VC-CV | /keluarga/ | [keluwarga] | 'family' |

### 2.7.1 Vowel deletion

It is not uncommon for words of more than two syllables to be reduced and become two syllabic words. Only when the onset of the second syllable has a liquid, may the vowel of the first syllable be omitted, resulting in a consonant sequence in the onset of the first syllable of the word. This only occurs with an unstressed syllable, otherwise the vowel cannot be deleted. The word bólong 'perforate' cannot become *blong or gáris 'line' cannot become *gris. The resulting consonant sequences can only consist of a stop or a fricative followed by a lateral /l/ or $/ \mathrm{r} /$. No examples have been found of consonant sequences of a voiced alveolar stop /d/ and a voiced palatal stop $/ \mathfrak{y} /$ followed by a liquid. Some examples are:

| bl | balákay | $>$ | blakan | 'back, behind' |
| :--- | :--- | :--- | :--- | :--- |
| bolón | $>$ | blon | 'not yet' |  |
| tl | talapás | $>$ | tlapas | 'loose' |


| $\operatorname{tr}$ | turús | $>$ | trus | 'continue' |
| :--- | :--- | :--- | :--- | :--- |
| kl | kalúar | $>$ | kluar | 'go out' |
| gr | gorópa | $>$ | gropa | 'grouper' |

As is described above, when $/ \mathrm{u} /$ is followed by /a/, a transitional glide [w] may occur between the two vowels (see $\S 2.1$ ). When in three-syllabic words $/ \mathrm{u} /$ is followed by a stressed vowel the glide may occur while the $/ \mathbf{u} /$ is omitted (the only examples found are with a stressed /a/):

| /suangi/ | [su'waygi] | $>$ | ['swaygi] | 'nocturnal spirit' |
| :--- | :--- | :--- | :--- | :--- |
| /suara/ | [su'wara] | $>$ | ['swara] | 'voice' |
| /buaya/ | [bu'waja] | $>$ | ['bwaja] | 'crocodile' |

A similar process is noted when /i/ is followed by an /a/. When in three-syllabic words $/ \mathrm{u} /$ is followed by a stressed vowel the glide occurs while the $/ \mathrm{i} / \mathrm{is}$ omitted (the only examples found are with a stressed /a/).

| /biasa/ | [bi'jasa] | $>$ | ['bjasa] | 'common; accustomed' |
| :--- | :--- | :--- | :--- | :--- |
| /kiamat/ | [ki'jamat'] | $>$ | ['kjamat $\left.^{-}\right]$ | 'disaster; misfortune' |
| /kiapa/ | [ki'japa] | $>$ | ['kjapa] $^{\text {'kjapa }}$ | 'why; what's the matter' |
| /piara/ | [pi'jara] | $>$ | ['pjara] | 'bring up; raise; look after' |

### 2.7.2 Assimilation

Consonant sequences in medial position may consist of a nasal followed by a plosive consonant. The nasal in these sequences are homorganic to the following plosive. A few examples of words containing such consonant sequences are:

| /mp/ | /lempen/ | [lempen] | 'slab' |
| :--- | :--- | :--- | :--- |
| /mb/ | /pombo/ | [pombo] | 'pigeon' |
| /nt/ | /panta/ | [panta] | 'buttocks' |
| /nd/ | /tanda/ | [tanda] | 'sign' |
| /nc/ | /ancor/ | [?ajcэr] | 'destroyed' |
| /nj/ | /panfang/ | [panjan] | 'long' |
| /nk/ | /banka/ | [bajka] | 'swollen' |
| /ng/ | /manga/ | [manga] | 'mango' |

A process of assimilation occurs when new words are formed by the prefixation of $/ \mathrm{pay} /$ to a base. When the base begins with an initial plosive $/ \mathrm{b} /$, /p/, /d/, /t/, $\mathfrak{f} / \mathrm{l} / \mathrm{c} /$, $/ \mathrm{g} /$ or $/ \mathrm{k} /$ the nasal of the prefix $/ \mathrm{pay} /$ assimilates to the following stop and becomes a nasal homorganic to the following consonant.

With bases beginning with $/ \mathrm{b} / \mathrm{or} / \mathrm{p} /$ the prefix is realized as [pam]. With bases beginning with $/ \mathrm{d} /$ or $/ \mathrm{t} /$, the prefix is realized as [pan], while the prefix is realized as [pan] when the base begins with $/ \mathrm{c} /$ or $/ \mathfrak{f} /$. Finally, when a base starts with $/ \mathrm{g} / \mathrm{or} / \mathrm{k} /$ the prefix is realized as [pay].
$/ \mathrm{b} /$,/p/ $\quad / \mathrm{pa} \mathrm{\eta}-/ \rightarrow$ [pam-]
$/ \mathrm{d} /$, /t/ $/$ pan-/ $\rightarrow$ [pan-]
/f/, /c/ /pay-/ $\rightarrow$ [pan-]
$/ \mathrm{g} /$, /k/ /pay-/ $\rightarrow$ [pay-]

A few examples of this process are the following. The result of prefixation of the word pele 'screen off' with pan- is pampele [pampele] 'screen'. When bodo 'foolish' is prefixed with pay-, it becomes pambodo [pambodo] 'fool', while a word beginning with /d/ such as diam 'quiet' results in pandiam [pandiam] 'silent person' when it is prefixed with pay-. Note that this word could also be realized as [pandiay], because in some words the final $/ \mathrm{m} /$ or $/ \mathrm{n} /$ may become a velar nasal $/ \mathrm{m} /$.

When the base starts with $/ \mathrm{c} /$ or $/ \mathfrak{y} /$ the prefix $p a N$ - is realized as [pap]. Examples are pancuri [pancuri] 'thief' of which the base is curi 'steal' and panjaga [panfaga] 'guard' of which the base is jaga 'guard'. The velar nasal $/ \mathrm{y} /$ of the prefix pay-does not undergo any changes when it is prefixed to a base beginning with $/ \mathrm{k} /$ or $/ \mathrm{g} /$, because it is already homorganic to these two consonants. When kotor 'dirty' is prefixed with pay- the result is pangkotor [pajkotor] 'dirty person' and when garap 'funny' is prefixed with pay-, the result is panggarap [panga'rap'] 'comic'.

| /pele/ | screen off' | /panpele/ | [pampele] | 'screen' |
| :---: | :---: | :---: | :---: | :---: |
| /bodo/ | 'stupid' | /pajbodo/ | [pambodo] | 'fool' |
| /terek/ | 'tease' | /panterek/ | [panterek ${ }^{\text {- }}$ | 'teaser' |
| /diam/ | 'quiet' | /pajdiam/ | [pandijam] | 'silent person' |
| /kotor/ | 'dirty' | /pajkotor/ | [pagkotor] | 'dirty person' |
| /garap/ | 'funny’ | /panga'rap/ | [pangarap] | 'comic' |
| /curi/ | 'steal' | /pajcuri/ | [pancuri] | 'thief' |
| /jaga/ | 'guard' | /panłaga/ | [panłaga] | 'guard' |

When prefix pay- is attached to a base that begins with a nasal, the nasal of the prefix is dropped, while only the nasal of the base remains. No suitable example with $/ \mathrm{\eta} /$ could be found, but the assumption is that it behaves similarly to the other bases that start with a nasal.

| /m/ | pay- madai | /pamadai/ | [pamada $\left.{ }^{\text {i }}\right]$ | 'flirter' |
| :--- | :--- | :--- | :--- | :--- |
| $/ \mathrm{n} /$ | pay- napsu | /panapsu/ | [panapsu] | 'person with strong desire' |
| /n/ | pay- panonoke | /panonoke/ | [panonokı] | 'grumbler' |

When the base starts with a fricative /f/, /s/, or /h/ , a liquid /l/ or /r/ and when the base starts with a semivowel $/ \mathrm{w} / \mathrm{or} / \mathrm{j} /$, the prefix pal- is attached to the base without any phonological change.

| /f/ | pay- foya | /panfoja/ | [panfoja] |
| :---: | :---: | :---: | :---: |
| /s/ | pay-sabar | /paysabar/ | [pajsabar] |
| /h/ | pay- hoba | /payhoba/ | [pajhoba] |
| /1/ | pay- lupa | /panlupa/ | [paplupa] |
| /r/ | pay- rasa | /pagrasa/ | [pagrasa] |
| /w/ | pay- waras | /pajwaras/ | [paywaras] |
| /j/ | pay- jakin | /panjakin/ | [panjakin] |

A word beginning with a vowel can be prefixed with pay- without resulting in any phonological change. A few examples are given here.

| /a/ | pay- alas | [pajalas] |
| :--- | :--- | :--- |
| $/ \mathrm{u} /$ | pay-urus | [pajurus] |


| /i/ | pay- isap | [payisap ${ }^{\text {² }}$ |
| :---: | :---: | :---: |
| /o/ | pay- о孔о | [paŋofo] |
| /e/ | pay- efa | [pajefa] |

Note that some words such as pamalas 'lazy', panako 'afraid', and panyake 'illness' are not the result of prefixation with pang- because this process would result in *pangmalas, *pantako, and *pangsake respectively. These words pamalas, panako, and panyake are considered to be monomorphemic words in Ternate Malay.

Assimilation may occur with larger segments such as compounds. Two examples are given here: sarung bantal '(lit.) cover pillow' and sarung tangan '(lit.) cover hand'. In the first example, the velar nasal [ n$]$ is realized as a labial nasal [ m ] following a labial consonant [b]. In the second example, the velar nasal [ $\eta$ ] of sarung is realized as [ n ] under the influence of the coronal [ t ] of the following segment. In ikang paus 'whale', the velar nasal $[\mathrm{n}]$ is realized as [ m ] following the labial nasal [p].

| /saruy bantal/ | [sarum'bantal] | 'pillowcase' |
| :--- | :--- | :--- |
| /saruy tangan/ | [sarun'tanan], [sarun'tanay] | 'glove' |
| /ikay paus/ | [ikam'pa"s] | 'whale' |

The same assimilation may occur between words. In the following two sentences the velar nasal $[\mathrm{\eta}]$ of the first word assimilates with the initial consonant of the following word. In the first sentence the $/ \mathrm{g} /$ is realized as a labial nasal [ m ] under the influence of the following labial consonant/b/, while in the second sentence the velar nasal $[\mathrm{n}]$ is realized as a coronal nasal $/ \mathrm{n} /$ under the influence of the $/ \mathrm{d} /$.

| /don pukul/ | [dom pukul] | 'they hit (him)' |
| :--- | :--- | :--- |
| /kon dia talucur/ | [kon diya talucur] | 'and it's slipping down' |


[^0]:    ${ }^{5}$ In Dutch loanwords, however, /o/ in closed syllable may be realized as [ o ], for instance /om/ [om] 'uncle' (< Du. oom [om] 'uncle'); /strom/ [strom] 'electricity' (< Du. stroom [strom] 'electricity', and /strop/ [strop'] 'syrup' (< Du. stroop [stropp] 'syrup'). The realization of [o] in these cases may be considered an allophone of / $\mathrm{o} /$, occurring in monosyllabic (loan)words.

[^1]:    ${ }^{6}$ It seems that in this example the stress falls on the penultimate syllable, while generally affixation does not influence the stress pattern. This may be an indication that this word is not considered to be a multi-morphemic word. Affixation with per $-+-a n$ is not a productive process in Ternate Malay. Something similar is found in keadaan which consists of ada and the circumfix $k e-+-a n$.

[^2]:    ${ }^{7}$ This could historically be explained by the fact that these words are related to words in other Malay varieties which have a schwa in the penultimate syllable. In these words, stress falls on the following (final) syllable, and Ternate Malay, which does not have a schwa, seems to have adopted this stress pattern. However, there are exceptions, all but one with a closed penultimate syllable ending nasal, where in Ternate Malay the words have penultimate stress for instance /'manta/ 'raw, unripe'; /'tampa/ 'place'; /'lombo/ 'soft, weak'; /'konto/ 'fart'; /'banka/ ['banka] 'swollen'; /'anam/ ['anam] 'six'; /'ampa/ ['ampa] 'four'. In words from Arabic (which also occur in other Malay varieties) and Dutch origin, stress may also fall on the final syllable, for instance /du'na/ [du'na] 'world' (M1. dunia); i'blis [i'blis] 'devil' (M1. iblis); /do'?a/ [do'ia] 'prayer' (M1. doa); /ma'Raf/ [ma'Raf] 'pardon; forgive' (M1. maaf); /laRef/ [la'Ref] 'demented; forgetful' (Ml. laif 'weak'); /ga'rap/ [ga'rap`] 'funny’ (< Du. grap 'joke'); /ka'ram/ [ka'ram] 'cramped' (< Du. kramp 'cramp'), /mo'del/ [mo'del] 'same; similar' (< Du. model 'type').

