3.1 Word Stress

Word stress is on the penultimate syllable of multisyllabic roots.² This is much the same as Galela (Shelden 1989), but different from Loloda and Tobelo (van Baarda 1904:356-9) and Tabaru, where stress can occur on the antepenultimate or penultimate syllable depending on affixation (Kotynski 1988:156). This is also much different than Sahu, where the stress is phonemic (Visser and Voorhoeve 1987:19). Tidore stress is as follows:

(3)	ane	['ane]	'forehead'
	gumi	['gumi]	'moustache'
	dofolo	[do'folo]	'head'

There are several words in Tidore which at first glance sound as if they have ultimate stress, but when listened to in slow speech the last vowel appears to be lengthened (see discussion on geminate vowels, Sec. 3.2.7). These geminate vowels, however, were not used in the Tidore orthography since the people themselves felt uncomfortable writing them. Instead, an accent mark was chosen when it was proved to be phonemic. The following examples show how geminate vowels affect stress:

(4)	karé	[ka'ree]	'here'
	katá	[ka'taa]	'there'
	mafú	[maˈfuu]	'to sell'
	halí	[ha'lii]	'family'
	kombó	[kom'boo]	'little'

3.2 Phonemes

3.2.1 Consonant Inventory

Tidore has a total of 19 consonants including eight stops, three fricatives, four nasals, one lateral, one vibrant, and two semivowels. These are listed in the table below.

Table 1. Tidore Consonants.

	<u>labial</u>	<u>alveolar</u>	<u>alveopalatal</u>	<u>back</u>
	р	t	С	k
voiced stops	b	d	j	g
fricative	f	s	-	h
nasal	m	n	ny	ng
laterals		1	·	-
vibrant			r	
semivowels	w			У

Phonetically Tidore has a glottal stop, but this is not phonemic, so it will not be written in any further discussion of Tidore. When the glottal stop is used, it is found word initially before vowels, and word finally after vowels. This is different than in Sahu where the glottal stop is phonemic (Visser and Voorhoeve 1987:12-16). Some examples of the phonetic occurrence of the glottal stop are shown below:

(5)	['?uku]	'fire'
	['?ing]	'tooth'
	['nene?]	'grandmother'
	['tete?]	'grandfather'

3.24 Vowel Inventory

Tidore has five underlying vowels which is much in keeping with the other North Halmaheran languages. A simple table is presented below.

Table 2. Tidore Vowels.

	front	<u>central</u>	<u>back</u>
high	i		u
mid	e		0
low		а	

3.2.7 Vowel Sequences

Vowel sequences in Tidore are not uncommon, and occur most frequently in the word-final position, although they do occur in both word-initial and word-medial positions. Although a phonetic inventory of Tidore reveals the presence of diphthongs and lengthened vowels, these are best analyzed phonemically as consisting of separate VV sequences, with each vowel representing a nuclear vowel.

One of the reasons for analyzing the ambiguous VV sequences and all lengthened vowels as two phonemic vowel segments is that, with the exception of /ie/, /iu/, /eo/, /eu/, all vowels can occur in a VV sequence:

(54)	iV	buria halí fio	(bu'ria) (ha'lii) ['fio]	'baby-sitter' 'family' 'when'
(55)	eV	tabea karé gelei	[ta'bea] [ka'ree] [ge'lei]	'excuse me' 'here' 'little finger'
(56)	aV	katá lae rasai tamao yau	[ka'taa] ['lae] [ra'sai] [ta'mao] ['yau]	'there' 'thread' 'pretty' 'ax' 'to fish with a line'
(57)	uV	ua bue-bue tui fuo mafú	['ua] ['bue-'bue] ['tui] ['fuo] [ma'fuu]	'no, not' 'swing' 'bamboo' 'green bean' 'to sell'
(58)	٥V	toa oe rimoi kombó cou	['toa] ['oe] [ri'moi] [kom'boo] ['cou]	'to give' 'yes' 'one' 'little' 'tribute'

The second reason for regarding vowel sequences as two separate phonemic segments is that this analysis is compatible with the generalized stress rule, which, as pointed out previously, states that stress normally falls

on the penultimate syllable. If sequences were treated as monosyllabic diphthongs, each instance would produce an exception to an otherwise highly regular penultimate stress rule.

The third reason for analyzing VV sequences as separate segments is that such sequences often occur in word-final position. This would mean that if the /i/ or /u/ were considered to be the semivowels /y/ or /w/, the result would be a consonant in the word-final position. Such a pattern would be very inconsistent with Tidore phonology, which has no word-final consonants with the exception of nasals and those found in borrowed words (see Section 4).

Finally, one may be tempted to posit the hypothesis that ambiguous VV sequences ending in /i/ and /u/ should be viewed either as diphthongs or as vowel-semivowel combinations ending in /y/ and /w/. This hypothesis however would be unacceptable, since the ambiguous segments which need to be considered are not just limited to Vi and Vu. Instead, we see /ae/ and /ao/ sequences as well, which pattern in the same way as Vi and Vu. Since all the VV examples below are spoken with the same timing by native speakers, it would be undesirable to consider some of the examples as diphthongs, while considering others VV combinations.

(59)	gelei	[ge'lei]	'little finger'
	jau	['jau]	'to hold on'
	dae	[dae]	'weapon'
	lao	['lao]	'eye'

In the light of the above discussion, it seems best to interpret all VV sequences as separate vowels rather than as diphthongs or as semivowel sequences.

4. SYLLABLE STRUCTURE

The basic syllable pattern in Tidore may be written as (C) V (C). The possible combinations from this basic pattern are as follows; V, CV, CVC. However, Tidore does not exhibit the VC syllable sequence. This is different from both Pagu (Wimbish 1991:11) and Galela (Shelden 1989:83) which have a VC syllable sequence, but similar to Sahu (Voorhoeve 1987:19) which does not. Thus Tidore syllable patterns are limited to V, CV, and CVC.

The V pattern can occur word initially or word finally

(60)	ofu	'bee'	V.CV
	ea	'sleepy'	$\mathbf{V}.\mathbf{V}$

The number of V syllables in succession is limited to two without an intervening C.

(61)	ea	'sleepy'	V . V
	limau	'city'	CV.CV.V

CV is the most common syllable formation.

(62)	danata	'to pickpocket'	CV.CV.CV
	laga	'to jump'	CV.CV

CVC combination also occurs frequently in both initial and final syllables.

(63)	tufang	'numb'	CV.CVC
	honci	'kerosene lamp'	CVC.CV

Of the consonants found in syllable-final position, the nasals are most common with the exception of /ny/. The following non-nasals have also been found, but very infrequently: /l/, /r/, and /d/. Below are some examples of consonants in the syllable-final position. All also occur in the CVC syllable structure.

(64)	dalfuku	'knot'
	kornono	'dark'
	had	'week'
	fang	'to pay'
	gam	'village'
	gan	'louse'

All consonant clusters occur across syllable boundaries and are rare. Only /ng/, /m/ and /n/ were found with any frequency in syllable-final monosyllabic words. There were only 10 words in 2500 that had syllable-final consonants other than nasals within consonant clusters, making these ten highly suspect; possibly they should be attributed to loan words or frozen forms of Proto-North Halmahera.

All consonants occur word initially and word medially in Tidore. However word-final consonants are limited to seven. Of these seven, /l/, /k/, /t/, and /s/ only occur in loan words or frozen forms of Proto-North Halmahera which included these forms (Wada 1980:508; Voorhoeve 1984:6), while /n/, /m/, /ng/ occur more generally in Tidore words. While Tidore has word-final nasals, Galela (Shelden 1989:82) and Sahu (Visser and Voorhoeve 1987:12,18) do not have any. There is comparative evidence that Proto-North Halmahera allowed all consonants except voiced stops in word-final position. In contrast to previous statements positing Tidore as a language with no word-final consonants (Shelden 1989:86; Voorhoeve 1982:41) Tidore does in fact allow three nasal consonants to occur word finally. Other than these three nasals, it appears that Tidore, like other North Halmahera languages has dropped the word-final consonants (Wada 1980:508; Voorhoeve 1984:6). A few examples of word-final nasal consonants are as follows:

(65)	nong	'charcoal'		
	mom	'to wake up'		
	dun	'daughter-in-law'		

It should also be noted that although Tidore allows stems of up to five syllables, two-syllable stems are the most common.

5. MORPHOPHONEMICS

5.1 N- Prefix

The N- prefix which is consistently found in North Halmaheran languages (Kern 1891: 493-530) has also been found to be productive in Tidore. Although there remains many questions regarding the use of this prefix, it appears that in Tidore, the N- prefix can (1) derive nouns from verbs, and (2) change the transitivity of a verb. This is much in keeping with other North Halmaheran languages such as Galela (van Baarda 1908:18-29), Tabaru (Fortgens 1928:373-4, 401-4; Kotynski 1988:187), Tobelo (Hueting 1936:320-23), Sahu (Visser and Voorhoeve 1987:20-22), and Pagu (Wimbish 1991:30-32). When the N- prefix is added, it creates a number of phonological changes at morphophonemic boundaries (van der Veen 1915:105).

In Tidore, the surface form of the N- prefix is [g] which evidences itself when affixed to vowel initial roots.³ This is quite similar with Pagu (Wimbish 1991:30-32) where in all but a very few cases, the N- prefix surfaces as a [g] on vowel-initial roots. Those that do not appear as a [g] in Pagu and Loloda (van Baarda 1904:344) appear as an [ng]. When a root begins with a voiceless consonant, the manner and point of articulation stay the same, but a voicing rule is added, much like Tabaru (Kotynski 1995:8). Since the surface form of the N- prefix in Tidore is g-, all subsequent references will follow that identification rather than N-. The phonological changes in Tidore at the boundaries of consonant-initial roots are shown in the table below:

Table 3. Root-initial changes with N-prefix.

k	\rightarrow	g
t	\rightarrow	d
h	\rightarrow	ng
p, f	\rightarrow	b
j	\rightarrow	С

Several examples of the modification of the consonant-initial syllable roots that serve to derive nouns from verbs are shown in the following examples:

(66)	talabutu	'to bargain'	\rightarrow	dalabutu	'sale items'
	caga	'to branch out'	\rightarrow	jaga	'branch, stalk'
	ciko	'to turn, bend'	\rightarrow	jiko	'a curve'
	forero	'to order'	\rightarrow	borero	'an order'

Modification may be coupled with reduplication in which case the initial consonant is reduplicated along with the vowel /o/. The order of application is that modification comes first, with reduplication following. In this case, nouns are also derived from verbs as shown in the examples below.

(67)	toa	'to give'	\rightarrow	dodoa	'gift'
	tila	'to divide'	->	dodila	'section, part'
	uci	'to go down'	\rightarrow	goguci	'descendant'
	togu	'to stop'	->	dodogu	'the end'

When prefixes are applied to roots, the same phonological changes take place as shown in Table 3. The set of examples below show intransitive roots becoming transitive by adding the so- prefix. In this case, the modification process takes place first, with the affixation following.

(68)	tagi	'to walk'	\rightarrow	sodagi	'to walk someone'
	pane	'to ride'	\rightarrow	sobane	'to transport something'
	fugo	'to go out'	\rightarrow	sobugo	'to throw away something'

The second set of examples show transitive roots receiving an increase in valency by adding the soprefix.

(69)	hotu	'to dry'	\rightarrow	songotu	'to dry something out'
	ciko	'to bend, turn'	\rightarrow	sojiko	'to bend something'
	toa	'to give'	\rightarrow	sodoa	'to hand over something'
	kone	'to tie'	\rightarrow	sogone	'to tie something up'
	togu	'to stop'	\rightarrow	sodogu	'to stop something'

5.2 Borrowings

Tidore restructures borrowed words to fit the phonological system. This is done by the simplification of consonant clusters as shown in the following examples of Tidore words borrowed from Indonesian and Dutch.

(70)	campur	(Indonesian)	\rightarrow	capu	'to mix'
	knoop	(Dutch)	\rightarrow	kenop	'button'
	semangka	(Indonesian)	\rightarrow	samaka	'melon'
	jendela	(Indonesian)	\rightarrow	janela	'window'
	tanduk	(Indonesian)	\rightarrow	tadu	'horn'
	stopfles	(Dutch)	\rightarrow	tafales	'glass jar'

In the case of other borrowed words ending in a consonant, Tidore restructures the syllable to fit the favored CV syllable pattern. This may mean dropping or adding a vowel after the final consonant to maintain a CV pattern. This is different than Galela which only adds a vowel (Shelden 1989:85). Some examples are as follows:

(71)	cobek CV.CVC	(Indonesian)	\rightarrow \rightarrow	cobe CV.CV	'mortar'
	gunting CVC.CVC	(Indonesian)	\rightarrow \rightarrow	guti CV.CV	'to cut'
	layang-layang CV.CVC - CV.CVC	(Indonesian)	\rightarrow \rightarrow	lianga CV.V.CV	'kite'
	tas CVC	(Indonesian)	\rightarrow	tasi CV.CV	'bag'

DESCRIPTIVE STUDIES IN LANGUAGES OF MALUKU PART II

Edited by

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1995

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Linguistic Studies of Indonesian and Other Languages in Indonesia

VOLUME 38

ISSN 0126 - 2874