

## STRESS IN THAI

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Not until recently have linguists given much attention to the idea of stress in Thai. The question of stress arose when phonologists asked themselves about the rather striking consistency of some phenomena of vowel shortening, glottal-stop deletion, and tone alteration. Since these patterns were first noted there have been discussions of the role of stress in Thai, dealing primarily with the distinction between *weak* stress and *normal* stress syllables.

In his early study of Thai, Noss (1964) cited examples of words that come together to form compounds and pointed out that in these compounds some syllables receive weak stress while others receive strong stress. Later Noss (1975) looked into the studies of stress, tone, and vowel quality done by instrumental phonologists (Abramson 1962, 1974; Erickson 1974; and Sittachit 1972, among others). He became convinced that the existing experimental evidence told us nothing about tone variants under different conditions of stress, rhythm, and intonation, and concluded that this was a job for the noninstrumental phonologist. Noss's conclusion on this matter seems to be sound; the problem cannot be studied using pure phonology alone, but must be examined also from the point of view of semantics, and sometimes of syntax as well.

Other linguists have discussed the role of stress in Thai: Haas (1964), Warotamasikkhadit (1967), Hiranburana (1971), Surintramont (1973), and Gandour (1976). Although they differ in their approaches and opinions, all seem to agree that the syllable in word-final position is the most prominent, or has strong stress. However, many other points have been raised that have not yet been answered satisfactorily. Two such points are described here briefly. Hiranburana (1972) suggests that the first syllable of an institutionalized compound is unaccented or unstressed. Noss (1975:279), however, questions this point:

But how does one account for the perceptibly  
*different* stress one hears on the first syllable of

โรงเรียน /ro:ŋrian/ “school” in expressions like  
เรียกว่าโรงเรียน /rîak wâ: ro:ŋrian/ “It’s called a  
school” and เดินไปโรงเรียน /da:n pay ro:ŋrian/  
“walk to school”? Whether /ro:ŋrian/ is an  
“institutionalized compound” or not, it certainly  
behaves differently in different phonological  
contexts, and its stress pattern cannot possibly be  
covered by a single rule.

Noss is correct when he states that the stress pattern cannot be covered by a single rule. On the other hand, Hiranburana is correct in saying that /ro:ŋrian/ is an institutionalized compound. Other rules can be added which help to clarify the situation. These will be discussed below.

A second point which awaits satisfactory explanation was brought up by Surintramont (1973), who argues that a tone-neutralization rule must apply from left to right, and gives such examples as /sà'hà'rát/ → /sahàrát/ or /saharát/ ‘United States’ and /mǝɔrǎ'ná'kam/ → /mǝɔranákam/ or /mǝɔranakam/ ‘death, the act of dying’. Gandour (1976) argues that this explanation is incorrect and based on too narrow a set of data. He offers counterexamples such as /cintǎ'kà'wii/ → /cintàkawii/ or /cintakawii/ ‘poet’, and /wanná'khá'dii/ → /wannákhadii/ or /wannakhadii/ ‘literature’. This point will be addressed below, in the discussion of polysyllabic word stress.

It has been suggested by Professor William J. Gedney (in personal communication) that perhaps there are more than two levels of stress in Thai. This makes possible a better explanation than those offered by previous studies. A satisfactory explanation of stress in Thai does indeed require determination of more than one rule, and it is hoped that the hypothesis offered here will answer some of the questions dealing with it.

The stress system should be examined on two levels: word stress and sentence stress. This paper will discuss only word stress; due to the complexity of the subject and the length of time needed to explain all the relevant points, sentence stress will have to be addressed in a future work.

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### Word Stress

It is sometimes said that Thai is monosyllabic. While it is true that many Thai words have only one syllable, there are numerous polysyllabic words in the lexicon as well. Some of these polysyllabic words are combinations of Thai monosyllables, some are loanwords, and still others are combinations of two or more loanwords, or of loanwords and native Thai words. Of the commonly used loanwords in Thai, the majority are of Indic origin. Such words are about as numerous in Thai as are words of Latin or Greek origin in English (Gedney 1947). These words have become an important part of the Thai vocabulary, although they have been altered in various ways to conform to Thai speech and writing.

For the purposes of this study of stress in Thai, all loanwords will be counted as Thai root words and the smallest meaningful unit will be considered a word. This also applies to words that were borrowed and altered considerably, rearranged by the phonological rules of Thai, or affected by an intermediate language. Examples are given below.

pāda = (two forms) baathaa, bàat ‘foot’

rājā = (two forms) raachaa, râat ‘king’

nārī = naarii ‘woman’

Most loanwords borrowed into Thai are one, two, or three syllables in length; a few are longer. These polysyllabic units are often compounded in Thai, for example, /pràʔchaa/ ‘people, public’ and /sǝŋkhrǝʔ/ ‘to aid, assist’ are combined to form the term /pràʔchaasǝŋkhrǝʔ/ ‘public welfare’.

Two important points should be noted before proceeding with this discussion of stress. First, the term “underlying form” will refer to the spelling pronunciation, and the term “surface form” will refer to the spoken form in isolation, that is, to the pronunciation a native speaker will give when asked how one says a particular word. The second point concerns vowel shortening. Although it is not reflected in Thai writing or in the normal phonetic transcription used by students of Thai, both long and short vowels undergo stress-related shortening. For this reason an extra symbol must be used. For this discussion the symbol /◡/ under a vowel or a diphthong will indicate

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a vowel of reduced length.

### Stress in Disyllabic Words

There are many types of disyllabic words, and for clarity they are presented separately. The first type to be considered is the compound word, that is, a word made up of two monosyllables, each of which has its own meaning and can occur by itself. The compound form has a different meaning than either of its components. A list of examples follows.

#### EXAMPLE SET 1

hũa (head)	+ khàw (knee)	= hũa <i>khàw</i>	- knee
taa (eye)	+ plãa (fish)	= ta <i>p/aa</i>	- a corn
mễ (mother)	+ yaay (grand M)	= mỄ <i>yaay</i>	- M-in-law
náam (water)	+ taa (eye)	= nám <i>taa</i>	- tear
din (soil)	+ nĩaw (sticky)	= d̃in <i>nĩaw</i>	- clay
tôn (trunk)	+ máay (wood)	= t̃ôn <i>máay</i>	- tree
rooŋ (building)	+ rian (study)	= roŋ <i>rian</i>	- school
máay (wood)	+ khĩt (draw a line)	= máy <i>khìit</i>	- matches
pàak (mouth)	+ kaa (crow)	= p̃àk <i>kaa</i>	- pen
dò̃k (flower)	+ máay (wood)	= d̃òk <i>máay</i>	- flower
tòk (fall)	+ loŋ (down)	= t̃òk <i>loŋ</i>	- agree on

In the examples above, the italicized syllables in the compound forms are exactly the same as the original forms, but the first syllables have shorter vowels than the original forms. Both long and short vowels are reduced in length; originally long vowels ( $V_1$ ,  $V_1$ ) are reduced to approximately the length of short vowels ( $V_1$ ), and originally short vowels ( $V$ ) are reduced to about half of their original

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length ( $\underline{V}$ ). The diphthongs ( $V_1 V_2$ ) also are reduced in duration, yet the two contrastive features of the vowels remain ( $V_1 V_2$ ). This makes it impossible to state a rule of vowel shortening as simple as:

$$*VV \longrightarrow V$$

Such a rule is inadequate because, first, it does not cover the reduction of short vowels and diphthongs, and, second, it can be misinterpreted as meaning that one of the two V in a diphthong is dropped.

In regular compounds like those of Example Set 1, tone neutralization is not involved. All the tones remain the same in the combined form as they were in the original.

The process of vowel shortening also occurs in a set of loanwords that were either originally disyllabic or were made disyllabic in the process of borrowing. Unlike the previous examples, neither syllable can stand alone.

### EXAMPLE SET 2

baŋʔəən	--	<u>ba</u> ŋʔəən	--	accident
camnoŋ	--	<u>ca</u> mnoŋ	--	to intend
kaŋwon	--	<u>ka</u> ŋwon	--	worry
loohìt	--	<u>lo</u> hìt	--	blood
ramphan	--	<u>ra</u> mphan	--	bewail
săabaan	--	<u>să</u> abaan	--	swear
săŋwêet	--	<u>să</u> ŋwêet	--	to pity
sŏŋsăan	--	<u>sŏ</u> ŋsăan	--	to pity, feel sorry for

In each of these examples the first syllable has a shorter vocalic nucleus than the original sound, resulting in a lighter syllable. This can be explained by the notion of “weak” and “normal” stress. In each example the second syllable has normal stress, but the first syllable has weaker stress and is pronounced with a shorter vowel (and is

thus a shorter syllable).

Below is another group of words that illustrates vowel shortening and weak stress. This is a group of reduplications of a monosyllable; as the words become disyllables, they undergo the process of vowel shortening.

### EXAMPLE SET 3

<u>Root</u>	<u>Reduplication</u>	
thùuk (cheap)	thùk thùuk	– cheap, inexpensive
krôp (crisp)	krôp krôp	– crispy
sũuŋ (tall)	sũŋ sũuŋ	– rather tall
ŋâay (easy)	ŋây ŋâay	– rather easy
dèk (child)	dèk dèk	– children
tàaŋ (differ)	tànŋ tàaŋ	– various
lòak (deceive)	lòk lòak	– not real

In this type of compound the second syllable retains the full form of the original, but the first syllable is a shortened form with weak stress.<sup>1</sup> For this set of compounds the vowel-shortening rule should be stated as:

$$S_1 \longrightarrow S_1 / \text{-----} S \text{ (where } S = \text{syllable)}$$

[full length]      [reduced length]

These vowels are reduced in different degrees in fast speech. Because some speakers reduce originally long vowels to the duration of short vowels, and other speakers reduce them even more, the term “reduced length” here is meant as an approximation.

When it comes to a more complicated reduplication, however, one in which the two syllables have different vowels (most often

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they are pairs of corresponding back-front vowels such as *u – i*, *o – e*, and *ɔ – ɛ*) this rule does not apply. See the list of examples below.

### EXAMPLE SET 4

súp síp	– to whisper
rǒoŋ rěeŋ	– to be sparse, few
yôok yêek	– to oscillate
ŋɔɔ ŋɛɛ	– to be fussy, childish
ŋua ŋia	– to feel drowsy, sleepy
kriaw kraaw	– noisily
phum pham	– to mutter

In each of these examples, the first syllable is of full length, and both syllables of each compound share the same initial and final consonants.

There is a group of similar reduplications, although they are few in number. In this type, the initials or the finals differ but the vowels stay the same. Examples are given below.

### EXAMPLE SET 5

kràap kraan	– pay respect to (tones differ due to differing finals)
cháun mâun	– happy
ʔòot ʔooy	– cry, weep and moan
pèet pəeŋ	– (as in <i>ta/èet pèet pəeŋ</i> ‘run away at full speed’)

Another type of compound is used in what is considered to be colorful language. Examples are given below.

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### EXAMPLE SET 6

cə̌ʔcoŋ	-	intend/specify
ɣə̌ɔtyâm	-	excellent
khlaakhlaay	-	go
phə̌(ɔ)nphăn	-	indulge
ŋə̌ŋŋan	-	be puzzled

Compounds of this type always have normal stress in both syllables, unlike previous examples in which the first syllable had weak stress and the second had normal stress. In these forms, both syllables are of equal meaning, or at least the first syllable is meaningful, and the meaning of the compound depends on the first syllable more than the second. However, these compounds sometimes appear with the order of the syllables reversed, especially in poetic works in which required rhyme patterns constrain word order.

Finally, it should be pointed out that there are many disyllabic words that do not undergo vowel shortening. A few examples of such words are given below.

### EXAMPLE SET 7

năŋ (skin)	+	sǎa (tiger)	=	năŋ sǎa	-	tiger skin
kaa (kettle)	+	náam (water)	=	kaa náam	-	kettle
pàak (mouth)	+	kaa (crow)	=	pàak kaa	-	crow's mouth
hǔu (ear)	+	baw (light)	=	hǔu baw	-	credulous
khàaw (news)	+	lǎu (rumor, v.)	=	khàaw lǎu	-	rumor (n.)

In each of these examples the first syllable is the same length as the root form, probably because these words are not genuine compounds, and are separable or interruptable. The above expressions can be rephrased to include another lexical item that separates the two syllables of the original disyllabic form without a

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change in meaning, for example, *nǎŋ khǎw sǎa* ‘skin of a tiger’; *kaa tǔm nǎam* ‘pot for boiling water’; and *khàaw thîi khon lue* ‘the rumor that people are spreading about’.

However, the existence of forms of this type causes some problems in developing appropriate rules, as is illustrated by the minimal pairs given below.

pàk kaa (pen) : pàak kaa (crow’s mouth)

ta plaa (a corn) : taa plaa (fish’s eye)

This problem occurs not only with pairs of nouns, but with phrases and sentences. Further examples are given below.

nám rǔw (hot water) : nǎam rǔw (The water is hot.)

pla khem (salted fish) : plaa khem (The fish is salty.)

cha yen (iced tea) : chaa yen (The tea is cold.)

This problem has more to do with stress on the sentence level, however, and discussion of it should be reserved for a study of sentence stress.

## Disyllables, Glottal Stop Deletion, and Tone Neutralization

According to the rules of the Thai spelling system, many syllables end in glottal stop. Syllables that have a short vowel must end in a glottal stop if there is no other final consonant present, and these are pronounced with one of only two tones, either low or high, depending on the category of the initial consonant letter used to spell the syllable. Such syllables occur frequently in compounds, especially in the loanwords discussed above. But, when these syllables are not word-final, they are often pronounced with no final glottal stop and the tone is often neutralized. Observe the difference between the underlying form and the surface form in the following examples.

In these examples the final glottal stop of the first syllable is deleted in the surface form, and the tones, both high and low, are reduced to mid tone. One can devise a simple rule to describe the consonantal changes. For simplicity in stating the environment, initial *clusters* are treated here as a single *C* (Thai does not, of course, allow final clusters).

CV? → CV / \_\_\_\_\_ S (S = syllable)

It follows that word-final syllables ending in glottal stop are not subject to the rule. Examples are given below.

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### EXAMPLE SET 9

<u>Underlying F</u>	<u>Surface F</u>	
pàʔ tháʔ	pa tháʔ	- clash
kàʔ tháʔ	ka tháʔ	- pan
sàʔ tìʔ	sa tìʔ	- mind
sàʔ làʔ	sa làʔ	- sacrifice
tháʔ lóʔ	tha lóʔ	- quarrel
cháʔ náʔ	cha náʔ	- win
máʔ ráʔ	ma ráʔ	- bitter melon
ráʔ yáʔ	ra yáʔ	- distance

In these words, the glottal stop that ends the first syllable is dropped, but the one that ends the second, and final, syllable remains.

Regarding neutralization of tone in the initial syllable, two rules are needed.

1. C<sup>̀</sup> → CV / \_\_\_\_\_ S
2. C<sup>́</sup> → CV / \_\_\_\_\_ S

These two rules can be collapsed into one.

V → V / \_\_\_\_\_ S  
 [– mid]      [+ mid]

or

S → S / \_\_\_\_\_ S  
 [– mid]      [+ mid]

As for the ordering of the two rules--glottal-stop deletion and tone neutralization--the glottal-stop deletion must come before the tone neutralization and is in a feeding relationship. The tone-neutralization rule does not apply to compounds with finals other than glottal stop.

Since tone neutralization only occurs with the glottal-stop deletion, we might be able to collapse the two rules regarding these

unstressed syllables into a single rule.

$$\begin{array}{ccc} \text{CV}^? & \longrightarrow & \text{CV} / \_\_\_\_\_\text{S} \\ [-\text{mid}] & & [+ \text{mid}] \end{array}$$

There are exceptions, however, for reduplication forms are not subject to this rule. Thus, words that were exceptions to the vowel-shortening rule are excepted here as well. The first and last syllables of words in this group have the same final, the glottal stop, and also have one other member in common, either the initial or the vowel. Examples are given below.

# EXAMPLE SET 10

<u>Underlying F</u>	<u>Surface F</u>	
yáʔ yéʔ	yáʔ yéʔ	- a lot
yàʔ yèʔ	yàʔ yèʔ	- mucky
kèʔ kàʔ	kèʔ kàʔ	- be in the way
ŋáʔ ŋáʔ	ŋáʔ ŋáʔ	- maladroit, inept
léʔ théʔ	léʔ théʔ	- mushy, messed up
láʔ tháʔ	láʔ tháʔ	- messy

Considering all ten sets of examples above, one may propose the following general rules regarding the pronunciation of unstressed syllables. Rule 1 applies to unstressed CV<sup>?</sup> syllables, and rule 2 applies to all unstressed syllables.

- $$\begin{array}{ccc} \text{CV}^? & \longrightarrow & \text{CV} \quad \text{in unstressed syllables} \\ [-\text{mid}] & & [+ \text{mid}] \end{array}$$
- $$\begin{array}{ccc} \text{S} & \longrightarrow & \text{S} \quad \text{in unstressed syllables} \\ [\text{full length}] & & [\text{reduced length}] \end{array}$$

Regarding the placement of stress in disyllabic words, one may make the following points. First, the normal stress pattern is / ˘ ˈ /

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(unstressed–stressed). Second, two types of words do not follow this rule:

1. Certain phonologically complex reduplications (see Example Sets 4 and 10) and doublets (see Example Sets 5 and 6).
2. Combined forms that are separable and therefore not “real” or “institutionalized” compounds (see Example Set 7).

Although these statements cover all the examples discussed above, it is still impossible to answer Noss’s question without looking into the syntactic and semantic functions of words in different sentences. For example, the word *rootṛian* is an institutionalized compound and has the / ~ ‘ / stress pattern. Therefore, *dəən pay rootṛian* is a regular pattern. In the sentence *rîak wâa rootṛian*, however, the word *rootṛian* is not said in fast-speech form, but rather in citation form, in order to make it as clear as possible to the listener who obviously wants to know what the word is. The speaker also may choose to say it in a surface form or an underlying form, which makes the pronunciation of the word different from the one in the regular speech pattern of *dəən pay rootṛian*.

## Stress in Words of Three or More Syllables

Although words of three or more syllables are not as numerous as disyllabic words, several are used frequently in Thai, especially in learned texts or in works dealing with royalty or religion. These words are mainly of Indic origin. Some are borrowed as polysyllables and then altered to fit the orthographical rules of Thai. Others are combined forms of borrowed words that were substantially altered in the process of becoming Thai forms. Due to an Indic rule of affixation that has become popular in Thai, a polysyllabic word normally contains at least one of what Peter Bee calls “linker syllables” (Bee 1975). Examples are “*phan/nanaa*” ‘to depict’ and “*râtṭ/haan*” ‘government’, in which the middle syllable is the linker. According to the rules of Thai spelling, these linkers ought to be pronounced with a final glottal stop and with either high or low tone, according to the initial consonant of the linker syllable, which is also the final consonant of the preceding syllable. In the actual pronunciation, however, the final glottal stop does not exist in these linker syllables. Examples of trisyllabic words are given below.

EXAMPLE SET A

<u>Underlying F</u>	<u>Surface F</u>	
bəəríʔwaan	bəərɪwaan	– followers; servants
láksàʔnàʔ	láksanàʔ	– characteristic
phanráʔyaa	phanrayaa	– wife
sǝntháʔyaa	sǝnthayaa	– twilight
wâatsàʔnǎa	wâatsanǎa	– fate
ʔəppháʔyóp	ʔəpphayóp	– migrate

EXAMPLE SET B

<u>Underlying F</u>	<u>Surface F</u>	
kàʔlaasǎi	kalaasǎi	– sailor
pháʔneecəɔn	phaneecəɔn	– wander in forest
pràʔchaachon	prachaachon	– populace
sàʔthǎaphəɔn	sathǎaphəɔn	– permanent
tháʔleesàap	thaleesàap	– lake
tháʔnaakhaan	thanaakhaan	– bank
ʔàʔnaathǎa	ʔanaathǎa	– without a protector

The words in Example Set A have the stress pattern / ˈ ˌ ˈ / and the words in Example Set B have the pattern / ˌ ˈ ˈ / in the reduced surface forms. The fact that both unstressed syllables have the shape CVʔ in the underlying or spelling pronunciation suggests that the stress pattern depends on where the CVʔ syllable occurs within the word, except when such syllables are word-final (the rule of “stress on the final syllable” seems to apply in all polysyllabic words). However, when these words are used in running or fast speech, the first or second syllable is reduced, even though it is not reduced in the surface form (that is, spoken in isolation rather

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slowly). Examples are given below.

### EXAMPLE SET A'

<u>Surface F</u>	<u>In Fast Speech</u>
bə̌əriwaan	bə̌·riwaan or bəriwaan
lák·sanàʔ	lák·sanàʔ
phanrayaa	phanrayaa
wâatsanăa	wâ·tsanăa
sǒnthayaa	sǒnthayaa
ʔòpphayóp	ʔòpphayóp

### EXAMPLE SET B'

<u>Surface F</u>	<u>In Fast Speech</u>
kalaasǐi	kala·sǐi
phaneecə̌ən	phane·cə̌ən
prachaachon	pracha·chon
sathăaphə̌ən	sathă·phə̌ən
thaleesàap	thale·sàap
thanaakhaan	thana·khaan or thanakhaan
ʔanaathăa	ʔana·thăa

These examples indicate that all non-CV<sup>?</sup> syllables not reduced in the surface form are reduced in fast speech. Rule 2 for unstressed syllables, given above, applies in this case. However, while the vowel is reduced, it is still longer than a short vowel. The diacritic “·” after the vowel in words such as *bə̌·riwaan* is used to show that the length of the vowel is in the range of somewhat more than one-half to perhaps two-thirds of the original length. Note that, because syllables with a short vowel are difficult to measure without the

assistance of instruments, they are treated here as  $\text{CVC}$ , or weak-stress syllables.

This pattern of reduction varies from speaker to speaker. However, there is enough evidence to hypothesize three levels of stress in trisyllabic words: *weak stress*, *reduced stress*, and *full stress*, with the word-final syllable receiving full stress in every case. Weak stress is given to the syllable that has the structure  $\text{CV}^?$  in the underlying form, and reduced stress is placed on the remaining syllable, that is, on the syllable that is not word-final and does not have the structure  $\text{CV}^?$ . Therefore, the stress pattern in fast speech for trisyllabic words is /  $\sim \approx ' /$  (weak-reduced-full) or /  $\approx \sim ' /$  (reduced-weak-full).

There are, however, trisyllabic words that contain two  $\text{CV}^?$  syllables (in the first and second positions in the word).<sup>2</sup> In these words both  $\text{CV}^?$  syllables are pronounced with reduced stress in the surface form, that is, the final glottal stop is deleted but the original tone is not neutralized. Examples are given below.

#### EXAMPLE SET C

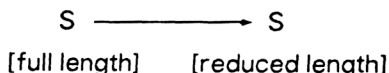
<u>Underlying F</u>	<u>Surface F</u>	<u>Fast Speech</u>
$\text{ʔà}^?\text{nú}^?\text{baan}$	$\text{ʔànúbaan}$	$\text{ʔanúbaan}$ or $\text{ʔanubaan}$ – care for
$\text{hà}^?\text{nú}^?\text{maan}$	$\text{hànúmaan}$	$\text{hanúmaan}$ or $\text{hanumaan}$ – Hanuman
$\text{má}^?\text{hù}^?\text{maa}$	$\text{máhùmaa}$	$\text{máhùmaa}$ or $\text{mahumaa}$ – huge

In words of this type, that is,  $\text{CV}^? \text{CV}^? \text{CV(V)(C)}$ , the fast-speech stress pattern can be either /  $\approx \approx ' /$  or /  $\sim \sim ' /$ , depending on the speaker's style.

The rules of reduced stress, then, seem to be:

1. The glottal stop is deleted without tone neutralization (that is,  $\text{CV}^? \longrightarrow \text{CV}$ ).
2. The vowel is reduced to a length that ranges from somewhat more than one-half to approximately two-thirds the length of the original, that is,

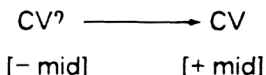
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In words with more than three syllables the same rules seem to apply. Any nonfinal syllable with the structure CV<sup>?</sup> will get weak stress, and any nonfinal syllable without the structure CV<sup>?</sup> will get reduced stress. Below is a set of examples.

- rāatchá<sup>?</sup>ʔaanaacàk 'kingdom; empire'  
becomes rāatcha ʔa-na-càk in fast speech.
- má<sup>?</sup>nútsà<sup>?</sup>yá<sup>?</sup>tham 'humanity'  
becomes ma nútsa ya tham in fast speech (or manútsayátham).
- mǝǝrá<sup>?</sup>ná<sup>?</sup>kam 'death'  
becomes mǝ-ra na kam in fast speech (or mǝ-ranákam).
- phrá<sup>?</sup>phútthá<sup>?</sup>rûp 'Buddha image'  
becomes phra phúttha rûp in fast speech (or phráphúttharûp).

At this point it can be said that these rules describe stress placement in polysyllabic words in most of spoken Thai. But it should be noted that reduced stress varies according to the preference of the individual speaker, since pronunciations with or without neutralization of tone in CV<sup>?</sup> syllables are acceptable. This variation suggests that words like *phráphúttharûp* are treated by some speakers as compounds formed from words first borrowed separately into Thai and then combined. Perhaps one should analyze the word as a combination of *phrá<sup>?</sup>* plus *phútthá<sup>?</sup>rûp*, with the first, monosyllabic word stressed in the original form, therefore receiving reduced stress (CV<sup>?</sup> → CV) instead of weak stress



in the final reduction.

Another example is the word meaning "death":

mǝǝrá<sup>?</sup>ná<sup>?</sup> + kam Underlying Form

mǝ-ra ná<sup>?</sup> + kam Surface Form ( ˩ ˩ ˨ + ˨ )

mɔ̌.ra ná + kam Fast-speech Form ( ˩ ˨ ˩ ' )

In surface form the word *mɔ̌.ráʔnáʔ* has the stress pattern / ˩ ˨ ' /. The syllable *ráʔ* undergoes reduction according to the rule  $CVʔ \rightarrow CV$  but the syllable *náʔ* does not. This can be explained by the rule stated above: *náʔ* is the final syllable and has to have full stress. In the combined form, the word *náʔ* is no longer a final syllable, so it is subject to the reduction rule associated with reduced or weak stress.

The examples and suggested rules presented in this paper are meant to illustrate the need for examining stress in Thai from various points of view. While many fine instrumental studies have been undertaken, morphological and semantic considerations have often been overlooked. It is the intention of this paper to correct that imbalance, at least in part. The examples and discussion also attempt to show that more than two levels of word stress must be posited in order to explain the situation fully.

### Notes

1. This should not be confused with reduplication for purposes of intensification, in which the first syllable is assigned high tone or very high rising tone without shortening its vowel, for example, as in the expression *thúuk thùuk* 'so (very) cheap'.
2. Word-final syllables that happen to have the shape  $CVʔ$  are not considered here, since syllables in that position are always stressed.

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