

VOWEL LENGTH IN THAI

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1. Introduction

It has long been noted that, except for the vowel /a/, vowel length distinction carries very little functional load in Thai.¹ Minimal pairs are not as hard to find as most writers seem to indicate, but the tendency towards complementary distribution is unmistakable. The full picture of this complementation involves several different dimensions of environment and is difficult to show in a single chart, but if we proceed step by step it will soon become clear. The first step is to separate the vowels into classes that show different types of complementary distribution, and this can almost be done with the dimension of ancient tonal categories alone. These statistics are given in table 1.² Words ending with a vowel are not considered since, by definition, they cannot have a length distinction (see section 2); and words ending with a glottal stop are not considered since they never do have a length distinction.³

The four patterns that emerge can be seen by comparing the vowels at the four corners of Table 1 (/i a e ua/). All others are either like one of these or in-between. Actually, the evidence is much neater than this, and a consideration of final consonants and modern tones would sharpen up the complementary distribution tendencies considerably. The figure given in the /ɔ/ -0 cell, for example, is more than halved when the combination of rising tone and final semivowel is found to be a consistently vowel shortening environment in this pattern; and all but three of the words that remain can easily be explained by a vowel shortening reduplication pattern and English borrowings. Using this kind of additional information, we can sharpen up the patterns and represent them schematically as shown in Table 2. A plus sign is used to mean significantly more than in the other length, and a minus sign means significantly less. The equals, of course, mean no significant difference, and zero means practically non-existent or any occurrence has got to have a special explanation. The arrangement corresponds to that of the four corners of the statistical arrangement in Table 1.

	d	0	2	1	total
ii	42	11	0	0	53
i	49	57	33	39	178

uu	41	19	0	0	60
u	73	67	33	49	222

ee	30	31	4	0	65
e	40	34	9	20	103

oo	43	61	9	19	132
o	81	75	15	24	195

aa	22	14	8	14	58
a	36	31	7	12	86

aa	109	162	75	84	430
a	117	154	74	93	438

	d	0	2	1	total
εε	43	65	17	2	127
ε	3	11	7	37	58

oo	65	104	33	7	209
o	0	14	24	60	98

ææ	28	46	5	6	85
æ	3	1	1	4	9

ia	37	74	22	34	167
	0	0	0	0	0

ua	32	26	18	33	109
	0	0	0	0	0

ua	41	69	25	28	163
	0	0	0	0	0

Table 1

Number of words having long and short vowels
in each ancient tone

i, u, e, (o, ʉ)

	d	0	2	1
l	-	-	0	0
s	+	+	A11	A11

ɛ, ɔ, (ə)

	d	0	2	1
l	A11	A11	+	-
s	0	0	-	+

a, (ʉ, o)

l	=	=	=	=
s	=	=	=	=

ia, ʉa, ua, (ə)

l	A11	A11	A11	A11
s	0	0	0	0

Table 2

Patterns of vowel length distribution in ancient tones

2. The /ia, ʉa, ua/ pattern

Vowel length in Thai is more a function of where the final consonant begins than where the vowel ends. And the point where a final consonant begins is more clearly defined in relation to tone shape than to time. The most important aspect of tone shape for present purposes is what we might call a tone's breaking point. This is the point where the tone's major change starts. Here are the five tones of modern Thai, as an example, arranged in order of the amount of time to their breaking points (times are given in milliseconds):⁴ low (0), falling (75), rising (115), mid (235), high (245). There would appear to be a significant psychological time unit involved here since the interval to the breaking point of the rising tone is 'felt' while that of the falling tone isn't. Somewhere between the breaking points of these two tones, that is, is the threshold of some sort of a beat which separates the tones into two types. Rising, mid, and high tones are felt to have two parts (head and tail), while the falling and low tones are felt to consist of a single part.⁵ Now if a final consonant begins in a tone's head, the vowel is short; and if it begins in the tail, the vowel is long. With /sǔŋ/, for example, the /ŋ/ begins during the head of the tone (before the rise starts, that is, and the pitch of the /ŋ/ starts low). But with /sǔŋ/, the /ŋ/ begins during the tail of the tone (after the rise starts, that is, and the pitch of the /ŋ/ starts considerably higher). With one part tones, now, the dif-

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ference between long and short vowels is not so clearly marked, and here in lies the principal factor behind the history of vowel length change in Thai.

The vowels /ia, ɯa, ua/, now, are not simply vowels without a length distinction (and thus neither long nor short). They are long.⁶ The combination of two part vowels and two part tones, in fact, has probably been the principal factor in maintaining the length distinction in Thai up to the present time.

3. The /aa/ pattern

Notice that in our phonemic notation /aa/ can pattern either with longs (/ii, ɯɯ, uu, aa/) or clusters (/ia, ɯa, ua, aa/). And notice that this is more than a phenomenon of notation. You can actually make it feel like one or the other by reading through one or the other of the two progressions. So whereas /ia ɯa ua/ could set the basic framework for a length distinction, /aa/ could serve as the pivot that extends this framework onto all other vowels. Notice below how, with a change of /ea oa/ to /ɛɛ ɔɔ/, a full-fledged vowel length opposition can be created where only simple and clustered vowels existed before. To be sure, much of the space is uninhabited (encircled vowels are unused by the lexicon at first).

