A PHONETIC ODDITY IN THAI

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Technological advances in phonetic research in recent years have greatly increased our understanding of the production and perception of the tones of Standard Thai. From Abramson (1962) onwards there has been a stream of publications on this topic. It is noteworthy, however, that apart from the examination of the voice and aspiration distinction in initial plosives (see Lisker and Abramson's important 1964 paper on Voice Onset Time) research into the segmental elements of Thai has not availed itself of the resources of the modern phonetics laboratory to anything like the same extent.¹

The reason for this comparative neglect is not far to seek. To linguists in general, the phonological treatment of the consonant sounds of Thai has seemed to present few problems. There has been some disagreement over the most appropriate treatment of syllable final consonants, but broad general agreement over the initials, which have in consequence not attracted much attention from laboratory phoneticians. Details of pronunciation regarded as phonologically 'redundant' or 'irrelevant' have not been thought worthy of serious attention. One such detail, which strikes the ear of any phonetician, is the velarisation by Standard Thai speakers of certain consonant sounds before a following close front vowel. This is often perceived as a very short m-like on-glide to the vowel.

The phonetician Jimmy G. Harris has described this feature for initial t, s, and f. He describes unaspirated velarised t as 'the most common pronunciation syllable initially before close front vowels' (Harris 1972:13),² velarised f is described as occurring 'usually before close front vowels' (ibid.,17), but is also noted before other vowels as an occasional variant for initial khw 'in the speech of some speakers' (ibid.,11),³ velarised s is described as the common pronunciation 'before close front vowels in emphatic speech' (ibid.,17).

I have discussed elsewhere (Henderson 1985:11-12) the f ~ khw variation in Songkhla, a Southern Thai dialect, and shall not be referring further to the velarised fricatives in this paper.

In 1976 an opportunity arose at the School of Oriental and African Studies in London to make spectrograms of utterances by five Thai students (2 male, 3 female) of words containing denti-alveolar and labial plosives before the vowel i, viz:
Set A:  -pi:  -phi:  -bi:
        'year'  'fat'  (name of English
          letter B)

Set B:  -ti:  -thi:  -di:
        'to beat'  'time'  'good'

Some of these spectrograms are shown in Figs.1-5.

Such a brief and limited investigation cannot, of
course, claim to offer a definitive account of the acoustic
correlates of the perceived velarisation, but it is hoped that
it may suggest the lines along which future research might be
conducted.

Thai presents special problems when one seeks guidance
for comparative purposes from earlier spectrographic work on
initial plosives. The relevant publications in this field deal
in the main with European languages, e.g. English, Swedish,
French. Such languages have only a twofold plosive contrast,
not a threefold one as in Thai, i.e. between voiceless aspirated
versus voiced unaspirated in English and Swedish, and between
voiceless and voiced unaspirated in French. Nevertheless, we
may reasonably expect to find similar spectrographic markers of
the place of articulation.

There is general agreement by phoneticians who have
worked on the acoustic analysis of initial CV sequences in
European languages that the most important acoustic cues for the
perception of the place of articulation are to be found in the
transitions to the second and third formants of the following
vowel (hereafter F₂ and F₃) (See, e.g., Liberman, 1954). Labials
may 'with a good deal of generality' (cf. Fry, 1979:139) be
expected to show rising F₂ and F₃ transitions. With denti-
alveolars the F₂ and F₃ transitions may be expected to show a
less rapid rise or none at all ('zero' transition), depending
upon the quality of the vowel. This correlation of vowel quality
with the direction of the F₂ and F₃ transitions poses problems
of comparison with labials before close front vowels since the
denti-alveolar transitions are regularly rising in this context.
In general, initial labial transitions tend to rise more rapidly
than the denti-alveolars, with what Fant in writing of Swedish
has called 'an emphasis on lower frequency' in the formant
pattern for the whole stop plus vowel sequence (Fant 1969; repr.

Looking at the Thai spectrograms from the point of view
of the place of articulation only, we might therefore expect
rising F₂ transitions in all cases, with a relatively stronger
rise in the case of the labials; and a rising F₃ transition for
the labials, with a rising or zero F₃ transition at a somewhat
higher frequency for the denti-alveolars. These expectations