TONE IN TAI: A NEW PERSPECTIVE

JAMES R. CHAMBERLAIN

During the Great Tone Split[1] (GTS) the tones in Tai dialects were made more numerous through splitting conditioned by certain phonetic features of C_i, usually considered to be the voiced-voiceless opposition. Unfortunately, these splits did not always behave in phonetically predictable ways, so, merely stating that voicing of C_i causes lower pitch and voicelessness of C_i causes higher pitch is not a satisfactory explanation of the situation in Tai dialects. Nor did splitting affect in identical ways the three original tones which are usually labelled A, B, and C . There is also a D tone conditioned by a final stop. The origin of these tones remains a mystery. It is possible they represented registers, loss of older final consonants, or even older initial consonant groupings of the kind discussed in this paper. So far scholars have arrived at no final solution.

This paper treats the question, vital to a complete understanding of tonal development in Tai languages: Why did the various phonetic features of C_i not split all original tones of Proto-Tai (PT) in identical ways? In addition, we would like to discuss a statement by Matisoff (1973) concerning the use of tonal criteria in determining genetic relationships among languages and dialects.

It has long been recognised by Tai scholars that more than the simple voiced-voiceless contrast suitable for other language groups is necessary for the description of Tai tonal systems. In the Lao and Siamese orthographies it is necessary to maintain a three-way C_i distinction. When

---

[1]This term was first used by J. Marvin Brown at the Symposium on Tai Linguistics in a paper entitled: 'The great tone split: did it work in two opposite ways?'; to appear in the symposium proceedings.

other Tai languages are taken into consideration at least four and some-
times five categories must be recognised. This question has been dis-
cussed by the dedicatee of this Festschrift, Professor Gedney (forth-
coming), who suggests that even more distinctions will be discovered in
the future. An unexplained **A1** split has already been described in the
Saek language (Gedney 1970).

For most purposes it is convenient to maintain a four-way division of
C_is (Gedney 1972) based on the original categories of PT. These cate-
gories have been summed up as:

    1. voiceless friction sounds
    2. voiceless unaspirated stops
    3. glottal stop and preglottalised stops[1]
    4. voiced sounds.

But in certain dialects, namely Nung of Bac Va (Gedney forthcoming),
Nung of Lang Vo (Saul 1965) and T'ien Pao (Li 1966b), it is necessary to
further divide C_i type 1 into (a) aspirated stops and h, (b) voiceless
nasals, liquids and fricatives.

The most common split conditioned by C_is is between 3 and 4. This is
found in virtually every Tai language and in most if not all of the
original tone categories **ABCD**, depending on the dialect. Splits between
1 and 2 are not uncommon but are statistically rarer than the former.
Occasionally one happens on a split between 2 and 3 such as the **C** column
of Yay (Gedney 1965), the **A** column of T'ien Pao (Li 1966b) or the Yuan
dialects of Northern Thailand (Brown 1965). With practically no excep-
tions, wherever two splits occur in one ancient tone category, they are
always between 1-2 and 3-4, never 1-2 and 2-3 or 2-3 and 3-4.[2] A more
general discussion of tonal system variety in the South-Central branch
of Tai may be found in Chamberlain (1975). However, the question still
remains, why shouldn't splits conditioned by C_is obtain identically in
all of the original tone categories of PT. What, for instance, caused
Yay **A.B.** and D tones to split between 3 and 4, while the **C** tone was split
between 2 and 3? Or, what caused the **A** tone in some Lue dialects to
split between 2 and 3 when **BCD** all have 3-4 splits?

Splitting seems to be weighted towards the bottom of the chart. We
find many dialects with only 3-4 splitting in every tone category, but
no languages with only 1-2 splits. The C_i features conditioning tone

---

[1]For a discussion of the possibility that these stops were *prevoiced* see Chamberlain
(1975).

[2]The only exception known to the author is the Nua dialect of Szu Mao in Yunnan where
the **DS** column is apparently split between 2 and 3 as well as between 3 and 4 (J.G.
Harris, personal communication).

splits form a hierarchy, roughly: I - 3-4 between preglottalised and
voiced; II - 1-2 between voiceless friction sounds and voiceless un-
aspirated stops; III - 2-3 voiceless unaspirated stops and preglottalised
stops; IV - la-lb aspirated stops and h and voiceless nasals, liquids,
and fricatives. Gedney (forthcoming) has noted that the **A** column is
subject to more splitting than **B** and **C**, and is therefore more likely to
have more than one split. Li (1947a) claims that the 3-4 split is
really voiced *v.* voiceless, the preglottalised stops behaving like glot-
tal stops which are voiceless. This appears sound in spite of recently
expressed doubts as to what *preglottalised* actually means.

Stated briefly, the argument on preglottalisation is that in other
languages of South-east Asia one hears *prevoiced* stops such as in Wa;
prenasalised stops, such as in Hmong; *clusters* of glottal stop + nasal,
such as in Khmu?; and in rare cases, such as Vietnamese and some Cam-
bodian dialects, *imploded* stops. The only actual occurrence of a stop
which might be labelled "preglottalised" is the Hmong [?t^h], a voice-
less aspirated stop preceded by glottal closure with open velic (J.G.
Harris, personal communication). If the PT initials of row three were
prevoiced, prenasalised or nasals preceded by glottal stop, a plausible
historical and/or areal hypothesis, we would expect these voiced ini-
tials to fall together more frequently with the voiced initials of row 4.

Accounting for these problems greatly complicates the heretofore
straightforward picture of the phonetic processes involved in Tai tone
splitting. Are we (1) to assume that a statistical difference in the
number of lexical items found in each of the four tone categories caused
such divergent splitting within them? For example, Gedney (personal
communication) observes that the lexical items in the **A** column far out-
number those in **B** or **C**, as if **A** tone were somehow normal and **B** and **C** were
variations of that tone. If this is so it must have been a pre-PT
phenomenon, the nature of which is not fully understood. Yet another
mystery is the curious coalescence of **DL** and **B** in so many Tai languages.
If, on the other hand, numbers of lexical items are not the causal
factor, can we (2) say there must have been separate phonetic interplay
between the original nature of C_i and the original tone features of
ABCD? If this can be demonstrated we should be able to make some gener-
alisations about that interplay, and to date no linguist has done so.

One final possibility might be (3) that immediately following GTS
the languages made all possible tonal distinctions. If we use Brown's
chart (1965) of fifteen boxes this would mean fifteen tones, or if
Gedney's chart (1972) is used it would mean twenty tones. Tones could
subsequently have been lost until present-day patterns were established
with no more than seven and no less than four distinctive tones on smooth

syllables. This possibility remains highly suspect as no modern lan-
guage has that many tones, but this alone would not rule out reconstruct-
ing such a non-existent earlier stage in Tai.

The author opts for (2), that we would expect the phonetic features
of C_is to influence the four original tones in dissimilar ways.[1] For
instance, C_i types and 2 and 3 might cause an original falling tone to
become level (or more level than before), whereas C_i type 1 might raise
the pitch before the fall, thereby causing a 1-234 in the original tone.
On the other hand, C_i type 3 and 4 might have a pitch raising effect,
causing a 12-34 split in an original rising tone. Quite obviously the
phonetics of such generalisations have not been worked out yet, but if
someday we could write rules of the sort

$$\text{ORIGINAL TONE A} \longrightarrow \text{POST GTS TONE} \begin{cases} \alpha \ / \ C_i \ X \\ \beta \ / \ C_i \ Y \\ \gamma \ / \ C_i \ Z \end{cases}$$

we might begin to explain why tone systems have developed their present-
day patterns. Although this does not answer the original question, per-
haps a means to an answer has been suggested, an area of phonetic study
which may prove vital in the solving of the problem.

The tone splits of the extant Tai dialects do not reflect the con-
temporary features of C_is, rather, we assume they reflect historical
features. It may be noted that, in a f_o analysis of syllables beginning
with bilabial stops in Siamese, b had the lowest f_o, ?p the second
lowest, and p^h the highest (Erickson 1975). The modern Siamese tone
system does not differentiate tones along these lines. Obviously the
tone system gives us a picture of an earlier stage in the language when
the C_is had different values. Furthermore, tone split patterns in Tai
have been shown to be the most stable part of the phonology (Brown 1965,
Chamberlain 1973), and they provide a wealth of evidence for determining
genetic relationships. Why, then, does Matisoff (1973) conclude that
"...tonal criteria are not even sufficient to establish genetic sub-
groupings for languages which are already known to be genetically
related."? One cannot help but feel this statement was based on evidence
only from Tibeto-Burman.

In Tibeto-Burman, as Matisoff informs us, tone is extremely fickle.
Dialects of the same language may or may not be tonal, and tones are
lost or acquired through language contact. On the other hand, to the
author's knowledge, there are no Tai dialects which did not develop

---

[1] If this is true, at least some of the major subgroups would have to have separated at
the time of GTS, with different tonal contours for ABCD.

tones, and there are no Tai dialects which have lost tones due to contact
with Mon-Khmer languages, in spite of the fact that Tais and Mon-Khmers
have been living side by side for over a millenium.

This would appear to throw grave doubts on the composition of super-
stocks proposed by Benedict, and followed by Matisoff. "Sino-Tibetan"
is said to be the only "tonal" superstock while "Austro-Thai" is labelled
"atonal". Yet from the evidence cited above the opposite should be true.
Perhaps the time is not yet right to take the Benedict hypothesis seri-
ously. Let us first produce good reconstructions of the proposed sub-
groupings. Then, and only then, may we begin to look for broader
generalisations.