

THE HYPOTHESIS OF A PRE-GLOTTALIZED SERIES OF CONSONANTS IN PRIMITIVE TAI

By

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1. In modern Siamese, for example, there are three series of stop consonants as initials, namely, unaspirated surds $p-$, $t-$, etc., aspirated surds $p'-$, $t'-$, etc., and the so-called sonants $b-$, $d-$. 1) In Dioi, a Tai language in Southwestern Kwei-chow, there are only two series, namely, unaspirated surds $p-$, $t-$, etc., and the voiced $b-$ and $d-$. 2) It can be shown decisively from a comparative study of the Tai languages and their tonal scheme that Siamese $p-$ and $t-$ go back to Primitive Tai $*p-$ and $*t-$, Siamese $p'-$ and $t'-$ go back to $*p'-$ and $*b-$, $*t'-$ and $*d-$ respectively, and that Dioi $p-$ and $t-$ go back to $*p-$, $*p'-$, $*b-$, and $*t-$, $*t'-$, $*d-$ respectively. 3) The problem we have to solve here is what the origins of these so-called voiced consonants are. That these consonants form a distinct series in the Primitive Tai has been definitely established by Maspero as early as 1911. What we propose to do here is to ascertain more closely the original nature of these consonants.

2. If we want to reconstruct forms for these consonants in Primitive Tai, there are two conditions we have to satisfy.

a) They are pronounced apparently as voiced in all modern dialects and even appear in some dialects as $m-$ and $l-$. Something must account for the voiced nature of these consonants.

b) We know that in the Tai languages as well as in Chinese the original voiced and unvoiced nature of the initial consonant influences the tone of the syllable. In spite of the fact that these consonants are now all voiced, they curiously enough exhibit as a whole an influence on the tone corresponding to that of a voiceless initial. As we shall see later, we have to make some modifications to both statements, but these have been the two opposing phenomena which the student of Tai languages have to reconcile.

3. Maspero (ibid. 166) suggested a plausible solution by assuming that they

1) Cf. D. J. B. Pallegoix, *Dictionnaire Siamois-Français-Anglais*, Bangkok, 1896.

2) Cf. Esquirol et Williatte, *Essai de Dictionnaire Dioi-Français*, Hongkong, 1908.

3) Cf. H. Maspero, *Contribution à l'Etude du Systeme Phonétique des Langues Thai*, BEFEO vol. XI, 1911, pp. 153-169. There is evidence, however, to show that there are other origins for Siamese $p'-$, $t'-$, $b-$, $d-$ as well as for Dioi $b-$, but this has no direct bearing on our problem here and will have to be treated elsewhere in a more comprehensive study.

were originally 'voiceless lenis'—a compromise between the two opposing phenomena, in which 'voiceless' is to satisfy the peculiar tonal behavior, and 'lenis' is to satisfy the fact that they are now voiced. In this theory we apparently have to assume for the Primitive Tai a voicing process which took place before the separation into dialects, because all the dialects show the voiced forms. This is a process directly opposed to the general tendency of unvoicing the initials in all Tai languages, and my personal experience with a number of Tai dialects and a study of the tonal behavior of these consonants reveal certain facts which point to another solution.

4. In working with a number of Tai dialects, I find that the sounds in question are not simply voiced consonants in most cases. There seem to be four main types in which these consonants appear in the different dialects:

a) Strongly pre-glottalized voiced stops, 4) such as in the Tai dialects of wu-ming (武鳴) and Chien-chiang (遷江), both in the central part of Kwang-si Province. 5) The glottal stop is plainly perceptible, particularly when it is preceded by a syllable ending in a vowel or diphthong, for example, wu-ming ?*jau* ?*dau* 'to stay inside', *ra* ?*ban* 'to find the village'. The consonants following the glottal stop are fully voiced, but are so modified by the glottal stricture that they present a distinct click quality.

b) Voiced stops preceded by a weak glottal or laryngeal stricture, such as in the Tai dialects of Lung-chou (龍州), T'ien-pao (天保), Hsi-lin (西林), Ling-yun (凌雲), T'ien-chou (田州), in the western part of the Kwang-si Province; in Liu-chou (柳州) and Chung-tu (中渡) in the central part of the Kwang-si Province, in Tai Lü (Cheng-tung (整董) dialect) of Yun-nan Province; and also in Siamese. I designate these consonants by *l*- and *d*- which seem to be the most prevailing type among the Tai dialects to-day. The glottal stricture varies in intensity according to dialects and is sometimes so weak that they are commonly identified with the ordinary *l*- and *d*-, as is done, for instance, in Siamese.

c) Simple voiced *l*- and *d*-, as in Yun-shun (永淳) in Southern Kwang-si. From the experience of the author this type is rare.

d) *l*- and *m*-, as in Shan (Laihka and Mōng Nai dialect) of Burma, and in some instances *n*- instead of *l*- as in Po-ai (剥隘) of Yun-nan. The Tai

4) Cf. Y. R. Chao, Types of Plosives in Chinese, Proceedings of the Second International Congress of Phonetic Sciences, pp. 106-110.

Noir has the *l-* but preserves the *b-*.

5. From these descriptive data it can be seen that we are dealing with a group of consonants which are truly voiced, not voiceless lenis, and which are further characterized in many dialects by a glottal stop or glottal stricture. This seems to suggest the true origins of these consonants, namely pre-glottalized voiced stops as found in Wu-ming, etc. These consonants, then, due to a common tendency in all Tai languages to simplify initial consonant clusters such as *pl-*, *kl-*, etc., have in some dialects the glottal stop weakened and in some others completely lost by becoming ordinary *l-*, *d-*, or even *m-*, *l-*.

6. The general objection to the theory that they were originally voiced consonants is largely based on the influence which these consonants have on the development of tone. We can now avoid this difficulty. It is known as a general principle in all Tai languages that the influence on tone in case of consonant clusters is determined by the first element of the cluster, thus the tone of Siamese *pla* 'fish' is determined by the *p-* and not by the *-l-*, and Wu-ming *rai* < **k'rai* 'egg' is determined by the lost *k-* and not by the *-r-*. In the case here the tone of those words having a pre-glottalized consonant is determined by the glottal stop and not by the following *l-* or *d-*, and naturally enough glottal stop is considered in most dialects as a voiceless consonant. There are curious exceptions in the treatment of glottal stop in different dialects, and they will be discussed fully in the following paragraphs.

7. If our theory about the pre-glottalized origin of these so-called voiced consonants is correct, we have to present facts about the complete agreement in tone behavior between the glottal stop on the one hand and the pre-glottalized stops on the other. I would hesitate to assume a special series of this type in spite of its actual existence in the modern dialects, but in working over the correspondences in tone among various dialects, words having a glottal stop initial present in certain cases strange irregularities. Such irregularities are

5) These and the dialects mentioned later are recorded by the author in 1935-6, except: Dìoi, cf. Note 2).

Tho, cf. E. Diguët, *Etude de la Langue Tho*, Paris 1919.

Lao, cf. T. Guignard, *Dictionnaire Laotien-Français*, Hongkong, 1912.

Nung, cf. F. M. Savina, *Dictionnaire Etymologique Français-Nung-Chinois*, Hongkong 1924.

Tai Blanc, cf. F. M. Savina, *Dictionnaire Tay-Annamite-Français*, Hanoi-Haiphong 1910.

Tai Noir, cf. E. Diguët, *Etude de la Langue Tai*, Hanoi 1895.

Shan, cf. J. N. Cushing, *A Shan and English Dictionary*, Rangoon 1914.

6) Some dialect, such as that of Po-ai (剥隘), has *b-* and *k-* shifted to *m-* and *l-*, but their tone behavior agrees still with the glottal stop.

in every case reflected in word in having the pre-glottalized initials. This, I believe, is important. It distinctly puts the glottal stop and the pre-glottalized consonants into one category which cannot be explained by the hypothesis of 'voiceless lenis'. The modern peculiar phonetic features of these consonants can be dismissed as late developments, but we cannot easily dispose of the special position which these consonants and the glottal stop occupy in the phonological system of the Tai Languages.⁶⁾

8. The influence of the glottal stop on tone, so far as I know, has not been clearly stated for any of the Tai languages. In so far as the published material is concerned, no glottal stop is written in words beginning with a vowel, although it has been noted by some authors on Siamese. Material gathered by the author shows a glottal stop in most dialects recorded. Words which we can trace through the various dialects, such as Siamese, Lao, Shan, Tai Noir, Tai Blanc, Tho, and Nung, all agree in being treated as having a voiceless initial, thus agreeing with the glottal stop in my material; for a pure vocalic initial will have to be considered as a sonant and would present altogether a different set of tones. While it is not legitimate to assume from the published material that a glottal stop still exists to-day, it is reasonably certain that it must have existed even though it may have disappeared at the present time. For otherwise we shall not be able to reconcile the tonal phenomenon and the actual existence of a glottal stop in many dialects.

6. The apparently uniform treatment of the glottal stop in most dialects has led scholars to overlook the special influence it exerts on tone in Dìoi which has been utilized by Maspero and more recently by Wulff (in *Chinesisch und Tai*, det Kgl. Danske Videnskabernes Selskab, Historisk-filologiske Meddelelser XX,3,1934). Wulff recognizes the existence of a glottal stop in words beginning with a vowel in Siamese, and has noted its relation with the development of tone, but he overlooks it in his more extensive study later on (pp. 106-123, 123-166). The original glottal stop is regularly treated in Dìoi as a surd in all tone classes except one (class C) where it is treated as a sonant.⁷⁾ For example.

7) I divide the words into four tone classes A, B, C, and D. As Siamese is the only well-known language where native orthography consistently gives tone marks, these tone classes can be briefly described according to the Siamese system. Class A consists of words which are not marked in Siamese, Class B is marked by tone mark 1, Class C by tone mark 2, and Class D consists of words ending in final -ŋ, -l, -k, or -ʔ (this class is adopted from the Chinese for the convenience of treatment in comparison). These four classes are each

Class A: original surd initial	Siamese 8) Mid-level or rising 9)	Dioi Rising
'year'	<i>pì</i>	<i>pì</i>
'white'	<i>k¹a:u</i>	<i>hao</i>
Glottal stop follows this type,		
'to cough'	<i>ʔai</i>	<i>ai</i>
'to take'	<i>ʔau</i>	<i>au</i>
'father's younger brother'	<i>ʔa</i>	<i>ao</i>
Class B: original surd initial	Low-level	High-level
'old, ancient'	<i>kau</i>	<i>kau</i>
'low'	<i>tām</i>	<i>tām</i>
'egg'	<i>klai</i>	<i>klai</i>
Glottal stop follows this type,		
'satisfied in eating'	<i>ʔim</i>	<i>im</i>
'other'	<i>ʔun</i>	<i>en</i>
'swallow (bird)'	<i>ʔā:n</i>	<i>en</i>
Class C: original surd initial	Falling	High-falling
'to kill'	<i>k¹a</i>	

further determined by the voiced and the voiceless nature of the initial consonant. Further modification may come in from aspiration, glottal stop, or vocalic lengths depending upon dialects. But Siamese is not always impeccable in marking tones. Because of the falling together of certain tones and consonants, a word which should be marked by tone mark 2 is marked by 1 and vice versa. Such cases are, however, not too numerous, and can be easily checked by a comparative study. For example, *k¹a* (falling tone) 'to kill' is now written with tone mark 1 and a low (originally voiced) consonant, but comparison shows that it belongs to class C, and therefore it should be written with tone mark 2 and a high (originally voiceless) consonant. In this case we are fortunate to find the correct form actually preserved in the earliest Siamese inscription, that of Rama-khamheng, where it is written with tone mark, an equivalent of the modern 2, and a voiceless initial.

8) The phonetic symbols used here and in Dioi follow in the main the IPA system. As the phonetic systems of different languages require different adjustments, it is impossible to go into the phonetic details of these symbols used. The tones are described as level, rising, or falling when there is only one type of level, rising, or falling in one language, but when there are two or three types of level, rising, or falling in one language, they are designated as high level, *mid-level*, *low-level*, *high-rising*, *mid-rising*, *low-rising*, etc.

9) Mid-level when the initial is said to be 'middle' (unaspirated surd), and rising when the initial is said to be 'high' (aspirated surds originally). There are also fricatives and nasals which are considered 'high', cf. W. Trittel, *Die Töne des Siamesischen und ihre Wiedergabe in der siamesischen Schrift*, Mitt. d. Seminarf. Orien. Sp. zu Berlin, Jahrgang XXX, Berlin 1927, p. 14.

	Siamese	Dioi
'nine'	<i>kau</i>	<i>kū</i>
'young rice plants'	<i>kla</i>	<i>kia</i>
Glottal stop does not follow this type in Dioi,		
	Falling	Low-falling
'to open the mouth'	<i>ʔa</i>	<i>a</i>
'sugar-cane'	<i>ʔo:i</i>	<i>oi</i>
'to hold in one's arms'	<i>ʔum</i>	<i>um</i>

Class D: original surd initial

1. short vowel 10)	Low-level	High-level
'to fall'	<i>tok</i>	<i>tok</i>
'vegetable'	<i>pʰak</i>	<i>pʰiak</i>

Glottal stop follow this type,

'breast'	<i>ʔok</i>	<i>ak</i>
'one (in eleven etc.)'	<i>ʔet</i>	<i>et</i>

2. long vowel	Low-level	High-level
'mouth'	<i>pa:k</i>	<i>pa</i>
'eight'	<i>pʰā:t</i>	<i>pʰet</i>

Glottal stop follows this type,

'to bathe'	<i>ʔa:p</i>	<i>ap</i>
'to go out'	<i>ʔo:k</i>	<i>o, ok</i>
'yoke of the plough'	<i>ʔā:k</i>	<i>eh</i>

10. The development of tone into a low-falling instead of a high-falling in Class C words with a glottal stop is interesting and significant in Dioi, because the so-called voiced *b-* and *d-* follow exactly the pattern of the glottal stop.

	Siamese	Dioi
Class A:	Mid-level	Rising
'good'	<i>lāi</i>	<i>dī</i>
'red'	<i>lāi:ng</i>	<i>dīng</i>
'month' 11)	<i>lāuan</i>	<i>dmen</i>

10) The Dioi material does not give vocalic lengths, but the dropping of the final *-k* after what corresponds to a long vowel in other languages seems to indicate a trace of this factor. Comparative study reveals many discrepancies in vocalic lengths among different languages, particularly between Siamese, Lao, Shan, Lü, Nung, etc. on one side and Dioi, Wu-ming, etc. on the other. Secondary shortenings and lengthenings must have taken place in different languages to obscure the original picture.

11) It appears in some languages with a *b-*, such as Lung-chou, Nung, etc.

'to fly'	<i>ʔbɪn</i>	<i>bɪn</i>
'leaf'	<i>ʔbaɪ</i>	<i>baɪu</i>
Class B:	Low-level	High-level
'spring, well'	<i>ʔbɔ</i>	<i>bo</i>
'young man'	<i>ʔba:u</i>	<i>ba:o</i>
'to scold'	<i>ʔda</i>	<i>da</i>
Class C:	Falling	Low-falling
'village'	<i>ʔba:n</i>	<i>ban</i>
'some'	<i>ʔba:ng</i>	<i>bang</i>
'to get'	<i>ʔdai</i>	<i>dat</i>
'hemp'	<i>ʔda:i (thread)</i>	<i>da:i</i>
Class D: 1. short vowel	Low-level	High-level
'raw'	<i>ʔdɪp</i>	<i>dɪp</i>
'water goes down'	<i>ʔbok</i>	<i>bok</i>
2. long vowel	Low-level	High-level
'hot'	<i>ʔduat</i>	<i>dat</i>
'tube, sheath'	<i>ʔbɔ:k</i>	<i>bo</i>

11. This peculiar development of tone in words of class C is not confined to this dialect of Dioi alone, but is found in a number of closely related dialects. In Hsi-lin (西林) for instance, words of class C with an ordinary initial are low-rising in tone, i. e. *ka* 'to kill', *ku* 'nine, etc', but with glottal, *ʔb-*, or *ʔd-* initial they become low-level, i. e. *ʔa* 'to open the mouth', *ʔuei* 'sugar-cane', *ʔum* 'to hold in the arms', *ʔba:n* 'village', *ʔdai* 'to get', *ʔda:i* 'hemp', etc.

12. A phenomenon similar to this but operating in an entirely different fashion is found in the Tai language of T'ien-pao. There the initial glottal stop, *ʔb-*, and *ʔd-* are treated, so far as the tones are concerned, as original sonants in all tone classes except C and D 1, almost an exact reverse of Dioi,.

Class A: original surd initial, high-rising-falling tone i. e. *pei* 'year', *kla:u* 'white'.

Glottal, *ʔb-*, and *ʔd-* initial, low-falling, i. e. *ʔau* 'to take', *ʔai* 'to cough', *ʔdai* 'good', *ʔde:ng* 'red', *ʔdu:n* 'month', *ʔbɔi* 'leaf', *ʔbən* 'to fly'.

Class B: original unaspirated surd initial, mid-falling tone, i. e. *kau* 'old, ancient', *tam* 'low'.

Glottal, *ʔb-*, and *ʔd-* initial, level, i. e. *ʔəm* 'satisfied in eating', *ʔbo* 'spring, well', *ʔba:u* 'young man', *ʔda* 'to scold'.

Aspirated and *h-* initial, level, i. e. *ha:n* 'goose', *tla:n* 'charcoal'.

'jai 'egg', hau 'to bark'.

Class C: all original surd initials including the glottal, 'b-, and 'l-, mid-rising, i. e. k¹la 'to kill', kau 'nine', kja 'young rice plant'; ?a 'to open the mouth', ?um 'to hold in the arms', ?o:i 'sugar-cane', 'ba:n 'village', 'be:ng 'side', 'dat 'to get'.

Class D: 1. short vowel, all original surd initials including the glottal, 'b-, and 'a-, high-rising, i. e. to? or tok 'to fall', p¹ja? 'vegetable'; ?ak 'breast', 'aəp 'raw', 'o? 'water goes down, shallow'.

2. long vowel, original unaspirated surd initial, mid-falling, i. e. pa:? 'mouth, pe:t 'eight'.

Glottal, 'b-, and 'l- initial, level, i. e. ?o:? 'to go out', 'du:t 'hot', 'bo:t 'blind'.

Aspirated and h- initial, level, i. e. p¹ly:? 'yam', t¹a:p 'to carry something hanging on each end of a pole'.

13. The development of tone with original sonant initials in T'ien-pao are given below in comparison with Siamese and Dioi:

	Siamese	Dioi	T'ien-pao
Class A;	Mid-level	Low-level	Low-falling
'day'	wan	ngon	van
'rice field'	na	na	na
Class B:	Falling	Mid-level	Level
'river'	t ¹ a (landing place)	ta	ta
'father'	p ¹ o	po	po
Class C:	High-rising-falling	Low-falling	Low-rising
'water'	nam	tham	nam
'stomach'	'o:ng	tong	to:ng
Class D:			
1. short vowel	High-level	Mid-level	Level
'bird'	nok	thok	no
'to hatch'	fək	fak	fak
2. long vowel	Falling	Mid-level	Level
	Siamese	Dioi	T'ien-pao
'blood'	luat	luə?	lu:t
'to strike, whip'	fa:t	---	fa:t

14. It can be seen from the above that in T'ien-pao words with the initial

glottal stop, 'b-, and 'd- develop tones identical with words having original sonant initials in class A, B, and D 2. It is in this sense that we may speak of them as being treated like sonants, and this seems to be the simplest statement in describing the behavior of the glottal stop and the pre-glottalized series in various languages.

	Siamese and others	Dioi	T'ien-pao
Class A:	as surds	as surds	as sonants
Class B:	as surds	as surds	as sonants
Class C:	as surds	as sonants	as surds
Class D: 1.	as surds	as surds	as surds
2.	as surds	as surds	as sonants

It is difficult to explain the curious irregularities in Dioi and in T'ien-pao, and more so to explain the almost exact opposite situation between Dioi and T'ien-pao, but it is important to observe that nowhere are these pre-glottalized consonants treated as sonants in all cases, while a number of languages do agree in treating them throughout as surds, as we should expect. In spite of these irregularities one important fact comes out clearly that the so-called b- and d- agree in every detail with the behavior of the glottal stop and therefore form one group with it. This seems to me to be a strong support for the pre-glottalized origin of these sounds.

15. There is another consonant which seems also to belong to this group namely ?j-, which is actually found in Wu-ming and T'ien-pao, most probably also in Dioi. The authors of the Dioi dictionary write this consonant as *di-* but the description of the sound is very perplexing. They write "*d*, devient *li*, mais dans quelques mots seulement et qu'il est difficile de déterminer d'une manière générale, tels que *dien* 'tabac', *diao* 'cou', --- doit être à peine perçu." From this description we have to distinguish a *d*- which is plainly audible as in *dì* 'good' and a *d*- which is hardly audible as in *dien* 'tobacco'. Fortunately some examples quoted are Chinese loans which we know to have a glottal stop in Ancient Chinese, *dien* 'tobacco' ?ien (煙), *diao* 'cou' ?iau (腰). As it is difficult to imagine a hardly audible *d*, it seems to me that the authors are really confronted with a glottal explosion before the *j*, without being able to locate exactly where the explosion takes place. That they have to reckon with two forms of *j*- is evident from pairs of forms as *ie* 'to cover' and *die* 'medicine'. We shall preserve this *d*- in quoting words from Dioi, with the understanding that it is probably to be interpreted as ?j-. 12)

This ?j- falls together in most dialect with the original j-, through the loss of the initial laryngeal, but the influence on tone remains in complete agreement with the glottal stop in all dialects.

	Siamese	Dioi	T'ien-pao
Class A:	Mid-level	Rising	Low-falling
'medicine'	<i>ja</i>	<i>die</i>	? <i>ja</i>
Class B:	Low-level	High-level	Level
'to stay'	<i>ju</i>	<i>diu</i>	? <i>jou</i>
'to step'	---	<i>diam</i>	? <i>ja:m</i>
Class C:	Falling	Low-falling	Mid-rising
'to smoke raw meat, to roast'	<i>ja:ng</i>	<i>diang</i>	---
'house'	<i>jau</i>	<i>diau</i> (granary)	---
Class D: 1.	Low-level	High-level	High-rising
'to make an incision'	? <i>jak</i>	<i>diak</i> (stroke of a written character)	---
2.	Low-level	High-level	Level
'hungry'	<i>ja:</i> (to want)	<i>die</i>	? <i>ja:?</i>
'to stretch'	<i>jia</i>	<i>diet</i>	? <i>ji:?</i>

The special development in class C in Dioi and in A, B, and D 2 in T'ien-pao agrees completely with words beginning with a glottal stop or pre-glottalized consonants, and at once puts it in the same class with them.

16. An original j-, not pre-glottalized, is considered as a voiced initial, and presents a different series of correspondences both in regard to the consonant¹³⁾ and tone.

	Siamese	Dioi	T'ien-pao
Class A:	Mid-level	Low-level	Low-falling
'to cover'	<i>ja</i>		---
Class B:	Falling	Mid-level	Level
'grand-mother, woman'	<i>ja</i>	<i>ia</i>	<i>ja</i>
'to stretch out'	<i>ju:n</i>	<i>ien</i>	---

12) During a recent field trip in Kwei-chow the author had the opportunity of hearing a dialect of the Dioi group in Ting-fan (定番), where *di-* is pronounced with a glottal stop plus a pre-palatal voiced plosive. This is probably what is meant by Esquirol, but ?j- seems to be the current form elsewhere.

17. A curious remnant of this *j*- is represented by the Siamese orthography which indicates this initial by a vowel sign preceding the *j*-. As the vowel sign is used to represent an initial glottal stop, this seems to be an exact rendering of the sound. But only few words keep this orthography, notably *ju* 'to stay', *ja:k* 'to want', etc., all others, through the falling together of the initial consonant and the tone, have been leveled out. Such words have been correctly transcribed by Wulff with *'j*-, when the Siamese orthography indicates it, but many other words such as *ja* 'medicine', *ja:ng* 'to roast' can be shown to have originally the pre-glottalized consonant although the orthography fails to indicate it. Such remnants are interesting in showing that the existence of a pre-glottalized *?j*- can be traced to the time when the Siamese language was put into writing.

18. I have tried to establish in the primitive Tai three consonants *?b*-, *?d*-, and *?j*-, whose curious agreement in tone behavior with the glottal stop seems best explained by assuming that they were originally pre-glottalized. This series, however, is strangely defective. We have no *?g*-, and *?w*- which is found in Wu-ming in a few words has no cognates in the related languages. The significance of this pre-glottalized series, whether to consider it as a special group of consonants or to interpret it as the coalescence of an original prefix plus *b*-, *d*-, and *j*-, will have to be determined by further study among the Sinitic languages.

13) For this initial Lao has the pre-palatal *gn*- which has been unfortunately considered to be original. Comparison shows that **?j*-, **gn*-, **hgn*- have fallen together in Lao and are all represented by *gn*-. The development of these consonants can best be illustrated by the following diagram:

Primitive Tai	Siamese, Shan, etc.	Lao	Tai Blanc, Tho, Nung, etc.	Dioi	Wu-ming, T' ien-pao
<i>*?j</i> -	<i>j</i> -	<i>j</i> -	<i>j</i> -	<i>di</i> -	<i>?j</i> -
<i>*j</i> -	<i>j</i> -	<i>gn</i> -	<i>j</i> -	<i>i</i> -	<i>j</i> -
<i>*gn</i> -	<i>j</i> -	<i>gn</i> -	<i>gn</i> -	<i>gn</i> -	<i>gn</i> -
<i>*hgn</i> -	<i>j</i> -	<i>gn</i> -	<i>gn</i> -	<i>gn</i> -	<i>gn</i> -

Notice

On account of the difficulties in printing during the war time, the following symbols will have to be used for the IPA symbols in this paper.

- ng* for the guttural nasal
- gn* for the pre-palatal nasal
- tʰ* for the interdental voiced fricative as in English *them*
- ɶ* for the open variety of *e*.

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ERRATA

	For	Read
P. 1, line 11:	and -go	and t-go
P. 1, line 11:	't-	t'-
P. 1, line 12:	and-go	and t-go
P. 1, line 28:	pbenomena	Phenomena
P. 1, line 29:	student	students
P. 2, line 15:	wu-ming	Wu-ming
P. 2, line 18:	„	„
P. 2, line 31:	-and-	b-and d-
P. 3, line 9:	m-, -	m- l-
P. 3, line 12:	oan	can
P. 3, Foot note line 9:	shizted	shifted
P. 4, line 1:	word in having	words, having
P. 4, line 8:	nfluence	influence
P. 4, line 11:	on	in
P. 5, line 8:	ʔ	ʔa
P. 5, line 16:	ʔa:n	ʔä:n
P. 5, Foot note line 10:	with tone mark, an equivalent	with tone mark +, an equivalent
P. 5, Foot note line 17:	mid-level, low- level, high-rising,	(do not italicize!)
P. 5, Foot note line 21:	Seminarf.	Seminar f.
P. 6, line 30:	dmen	duen

P. 7. line 21:	'-	'b-
P. 7. line 23:	'village'	'ba:n'village'
P. 7, line 34:	'-,	'b-
P. 8, line 22:	t,a	t'a
P. 8, line 26:	Ciass	Class
P. 8, line 27:	'o:ng	t'o:ng
P. 9, line 1:	'-	'b-
P. 9, line 5:	vrious	various
P. 9, line 24:	devent	devant
P. 9, last line:	that is	that it is
P. 10, line 14:	L.	1.
P. 10, line 15:	an'	an
P. 11, line 1:	j-	?j-
P. 11, line 13:	primitive	Primitive
P. 11, Foot note line 2:	*?j-	*j-