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Lolo-Burmese Studies I[1]

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1. Lolo and Burmese Languages

It was Robert Shafer who first took up Akha and Phunoi as the objects of a comparative study[2]. These languages drew his interest as he considered them as constituting the link between Lolo and Burmese[3]. In his article 'Phonétique historique des langues lolo', which was published in 1952[4], Shafer further extended the range of his comparison so as to include Written Burmese (WrB), Phunoi, Akha, Gni lolo, Lolopho, Phupha, Weining lolo and Oulou lolo[5], and attempted to postulate the forms 'birmanoises' for some 126 cognate sets. Though it contained some marked defects due to the paucity of data—the languages following Lolopho above are known only by their fragmentary vocabularies—the gist of his argument was excellent.

The Lolo languages are characterized by their having contrast between voiced and voiceless consonants and their syllable pattern CV, no vowel being followed by a final consonant, while the Burmese languages permit of the pattern CVC, where thus a vowel may be followed by a consonant within the same syllable, but do not preserve the voiced: voiceless contrast for consonants, except for a few exceptions. Therefore, these complementary features being summed up together, we may naturally expect to obtain the common earlier types of forms of these groups of languages[6].

Assuming that the proto-forms had the patterns CV(C) and the voiced: voiceless contrast, as well as the aspirated: unaspirated one, for consonants, Shafer has considered that the former contrast has been

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1. The ensuing part of this paper (pp. 1～33) is based on T. Nishida 1969a.
2. Robert Shafer (1938). Shafer used the Akha and Phunoi vocabularies in Henri Roux's "Deux tribus de la région de Phongsaly", *BEFEO* 24 (1924 : 432-440, 489-497).
3. It is mentioned that Shafer came to understand that these two languages are significant as the link between Burmese and Lolo in the course of his study, though he had not known where to classify them at the beginning.
4. Shafer (1952 : 191-229).
5. His Ahi-lolo and Lolopho forms are cited from Liétard's data, and Phupha, Weining and Oulou forms from the report of Mission d'Ollone, *Langues des peuples non chinois de la Chine* (Paris, 1912).
6. See T. Nishida (1964 : 13-28).

maintained in Lolo but lost in Burmese through devoicing while the pattern CVC has been kept in Burmese but shifted to CV# in Lolo, Phunoi and Akha, these being the languages that represent the intermediate stage of development. This may be schematized as follows:

Lolo		Akha		Proto-form		Phunoi		Burmese
C/vl/V#	←	C/vl/V(C)	←	C/vl/VC	→	C/vl/V(C)	→	C/vl/VC
C/vd/V#	←	C/vd/V(C)	←	C/vd/VC	→	C/vd/V(C)	→	

Basically this is quite a sound scheme. However, two problems are involved here. First, may we consider that the voiced initials of Lolo reflect those of the protoforms? Second, may we regard the WrB finals of the -VC type with so many gaps in its system, which, for instance, have *-ak*, *-ang*, *-at*, *-an* but lacks *-ik*, *-ing*, *-uk*, *-ung*[7], as representing those of the proto-language?

Shafer found the justification of his solution for the first problem in that the voiced initials in Lolo correspond to those of Written Tibetan, e. g. 'manger' M. bir. tśa, Phunoi tśa, Akha tśa, Gnilolo dza, Ahilolo dzo, Lolopho dzo, Phu-pha dza, Oulou dzu, V. bod. = Tibetan za.

For the latter problem, however, no answer can be found in his study. Shafer has set up the following twenty finals for the proto-language without much success: 1. -a, 2. -ă, 3. -i, 4. -ui, 5. -ay, -ai, 6. -ei, 7. -o, 8. -au, 9. -ak, 10. -at, 11. -ik, 12. -it, 13. -ip, 14. -ok, 15. -ut, 16. -ań, 17. -am, 18. -oń, 19. -iń, -in, -iN[8], 20. -im. Obviously, the system thus postulated by Shafer shows more gaps than that of WrB, the finals in *-n*, *-an*, *-in*, *-un* among those of WrB being not treated at all, and whether the proto-language had the finals corresponding to WrB *-ap*, *-up*, *-ong*<*-ɯŋ, *-ok*<*-ɯk was left unmentioned. On the other hand, the orthographic distinction between -ay and -ai that reflects merely that the tone is mechanically transferred to the proto-language as such, however, is an unnecessary distinction[9].

Before Shafer there was a scholar who had considered this second problem. It was Stuart Wolfenden who started his comparative study on the basis of Tibetan and Burmese and found the corroborations among their neighbouring TB languages. The chief purport of his study was not the comparison of the phonemic systems of these languages but the restoration of the earlier forms of some finals of the -VC type lost

7. For the phonological gaps in WrB, see T. Nishida (1966c : 858).
8. This -N represents a nasal that may be reflected by either -n or -ŋ. See R. Shafer, (1952 : 211).
9. We should now acknowledge Akha and Phunoi as the important members of Lolo-Burmese, and not as the link between Burmese and Lolo, as conceived by Shafer.

in Old Burmese on the basis of the comparison of the WrB finals with the corresponding forms of Tibetan, Maru and the like. His opinion on this problem is extremely suggestive[10]. The starting point of his argument consists in the following fact. According to him, the *se pok* category, which is one of the three tonal categories in WrB including 1. the *ok myit* (here indicated by $-^3$), 2. the normal (here unmarked) and 3. the *se pok* (here indicated by $-^2$), has been derived from the original final consonants and can be brought to light by the correspondences with the WrT forms.[11] For instance, WrB *kho*^{2}-(= Wolfenden's khui:) 'to steal' originally had the final consonant -n and belonged to the normal category, but the final -n was later lost, with the eventual shift of its tonal category to the *se pok*. This can be proved by the existence of the alternative form *rkun-ma* 'thief' for *rku-ba* in WrT.

We may diagram this relationship as in the following:

Burmese Tonal Cat.	Earlier Stage Normal Cat.		Later Stage *Se pok* Cat.			Tibetan
	—VC		—V#	:	—VC	—V#
'to steal'	*khɯn	⟶	*kho*^{2}-	:	*rkun-ma* 'thief'	*rku-ba* 'to steal'
'to eat'	*tšan	⟶	*tsa*^{2}-	:	*gzan-pa* 'food'	*za-ba* 'to eat'
'to borrow'	*khyin	⟶	*khyi*^{2}-	:	*skyin-pa* 'a loan'	*skyi-ba* 'to borrow'

Besides -n, -ń may be postulated for some other examples[12].

'frog' phań ⟶ phal′ ⟶ Burmese *pha*^{2} : Tibetan *sbal*

'loins' khań ⟶ khal′ ⟶ *kha*^{2} : *mkhal-ma*

Similary, it is also said that the transfer from the *ok myit* categoy, or the so-called 'entering' tone, to the *se pok* can be traced in the following examples:

Burmese Tonal Cat.	Earler Stage Checked Cat.		Later Stage *Se pok* Cat.		Tibetan
'to wash'	*khyut	⟶	*khyo*^{2}- < khyɯ^2-	:	*hkhrud-pa, hkhru-ba*
'string'	*khrut	⟶	*khro*^{2} < hkrɯ^2-	:	*rgyud*[13]
'to be bad'	*tšhɯk	⟶	*cho*^{2} < chɯ^2	:	*btsog-pa* 'unclean'
'bone'	*rut	⟶	*a-r*^{2}*o* < a-rɯ^2	:	*rus-pa.*

The opinion that the lost OB final consonant is hidden in the *se*

10. This first opinion appeared in his article 'On Ok myit and She pok, with a proposed Revision of the Terminology of Burmese Tones' *JBRS* 19 (1929 : 57-66).
11. Here and below, I take the liberty to use my own notations of Burmese forms.
12. Since it corresponds to Tibetan -l, he assumed -l′ as its earlier form, which is in its turn considered to go back to *-ṅ.
13. The coexisted form *rgyu* should be correspond to AncB. khrɯ^2. cf. WrT *sgrogs* 'rope'.

pok tone category is surely worth noting, but the notion that some of the equated Tibetan forms in -VC# have the alternative forms in -VC still remains open to question. Besides, WrB *kho*²- is semantically better equated with WrT *rku-ba*. Then why did he rather compare kho²- with *rkun-ma*? Behind this was his view that the comparative study should be conducted in terms of word families[14]. Together with some other Tibetologists, I am of the opinion that these finals -n and -d were the old suffixes with some particular functions[15].

From this starting point, Wolfenden proceeded to the second stage[16]. Considering that the gaps in the system of WrB finals had resulted from the partial dropping of final consonants before the twelfth century when the Burmese language was committed to writing, he contended that these lost final consonants might be restored in the light of cognate forms in the related languages, and he examined the lost dental and palatal consonant following -i or -u, with the cases divided into Types A, B and C. (The notations are mine.)

Type A	Burmese -ɯ =	Tibetan -ud	e. g. Bur.	*pho*<phɯ	: Tib.	*sbud* 'bellows'
Type B	-wei =	-ul		*ngwei*	:	*dngul* 'silver'
Type C	Old Bur. -iy =	-id		*sei*<siy 'to die'	:	*gshid* 'funeral'[17]

Type A: This is the case where the WrB form has *-o* <-ɯ, as in the examples 'to give', 'bone', etc., given above. To this corresponds Maru -uk and Kachin -ut. Maru -uk has come from *-ut while the lost OB final of the -VC type is assumed to have been *-uts. Bur. *-uts> -ɯ, Maru *-ut> -uk. In addition to 'bone' and 'to steal', he gives 'smoke', 'to wash', 'string', 'to dye', 'to be bad', 'to weep', 'breast', 'bellows', 'to cover', 'to swallow' and 'to thrust in' as the examples for this type.

Type B: WrB *-wei* can be restored as -ŭl, the earlier form of which is further inferred as *-ŭn. The change from -ŭl to *-wei* is said to be parallelled by that in some dialects of Central Chin such as the Lai dialect. The words for 'silver', 'snake', 'hair of the body', 'to spit', 'to fall off as leaves' are considered to belong to this type.

Type C: That OB -iy was derived from the final in something like -t is less doubtful. To this correspond Maru -it, and rarely -et, and hence the lost OB final is assumed as -its. The examples given are: 'water', 'to write', 'grandchild', 'to give', 'to die', 'urine', 'tobacco', and 'to clean'.

14. See S. Wolfenden (1936, 1937, 1938b).
15. For instance, see J. A. Durr, *Morphologie du verb tibétain*. Heidelberg, (1950: 64f, 170f).
16. S. Wolfenden (1938a).
17. Burmese siy- 'to die' should be more properly equated to Tibetan *shi-ba* 'to die'. This is another example of his mistaken equations arising from his overconciousness of the parallelism of forms with word families.

Wolfenden thus assumed Type A -uts and Type C -its as the lost finals of the -VC type in parallel with -ats. In accordance with this assumption the changes of the finals in question, undergone by the Burmese languages may be diagramed as follows:

Old Burmese	Myazedi 12th century	Later Stage
-ats	-atš	-iʔ
*-uts	-ɯ	-ou
*-its	-iy	-ei
*-un>-ul	-uy	-wei

Finally, he also discussed the final consonant -ń, which he said to be reconstructable as -ŋ and to have represented the nasalization of the preceding vowel though he did not mention anything about the nature of the vowel,

e. g.

'name'	Burmese	*a-mań*	Maru	maṅ	Tibetan *ming* <mying
'long'		*hrań*		kraṅ	*ring-ba*

In addition to these, since there are such examples as

'ripe'	*hmań*[3]	maṅ	*smin-pa*, and
'liver'	*a-sań*[2]	saṅ[18]	*mchin-pa*,

he considered the possibility of the replacement of the original -ṅ by -n in Burmese. In other words, there were two kinds of change in Burmese: -ṅ> -ń and -n> -ṅ> -ń. This is based on his persistent view that the Tibetan form preserves the older distinction.

These assumptions of Wolfenden's still need to be examined in many respects. Nevertheless we may say that he is the first scholar to note the fact that the WrB final of the -VC type does not retain the original form it had although the range of his treatment is considerably limited.

In the forementioned article, however, Shafer does not refer to these studies of Wolfenden's at all.

In order to investgate these problems further and to deal with Lolo-Burmese in general, the newly gathered data on these languages were required. As if to meet this requirement, a series of studies on Lolo-Burmese languages were published by Chinese scholars.

In 1958 I attempted to make a comparative study of the Burmese and Lolo languages using the data on Nyi-lolo, Ahi-lolo and Hani[19], and later in 1964, further attempted to establish regular correspondences between Nyi-lolo, Ahi-lolo, Hani, and Lisu and Burmese and postulated some common earlier forms on the basis of these languages, focusing on

18. According to my data, the forms of Maru are following: 'name' maŋ, 'long' ʔa-raŋ, 'ripe' mâŋ, 'liver' sáŋ. T. Nishida (1973).
19. T. Nishida (1958).

their tones[20]. However, I lacked reliable data on Lahu and Akha, the languages that occupy the position intermediate between Burmese and Lolo. Fortunately, I had the opportunity of investigating some Lolo-Burmese languages spoken in Northern Thailand during the period fall, 1964-65, which enabled me to obtain the data on Bisu, Lisu, Akha, Lahu Shi and Lahu Na dialects[21]. On the other hand, my comparative study based on the Maru and Lashi vocabularies, collected by myself in Kachin State, Burma, during the period fall, 1959-60, was reaching its final stage. At such a time, Robbins Burling's *Proto Lolo-Burmese* came to my hand[22]. In this work Burling takes up Burmese, Atsi, Maru, Lisu, Lahu and Akha, of which all are investigated by himself, except Akha, whose data is based on that of Rev. Paul Lewis (American Baptist Mission in Burma). He mentions in the Acknowledgement: 'Among the students at the University were speakers of many of Burma's multitude of languages, and a number of them proved to be not only cooperative, but highly intelligent informants. Except for the Akha examples, the data which I use here were collected from these students, or at least checked with them after items had been suggested to me by a published source'. Thus he offers completely new data on these languages[23].

It is sure that his *Proto Lolo-Burmese* will find its proper value in the history of Lolo-Burmese studies. However, it is not my purport to review this work of Burling's here, but to discuss several problems in the comparative study of Lolo-Burmese that may come out of the criticism of this work[24].

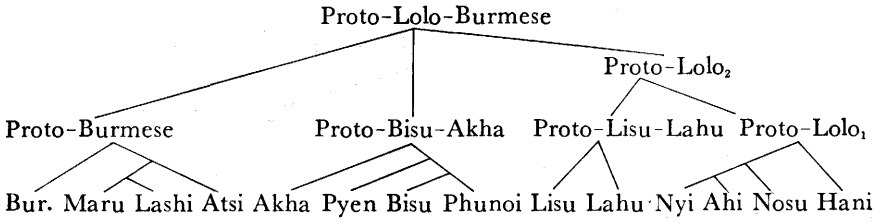
2. Burling's Scheme and the Writer's Own

In the Acknowledgement of his work Burling mentions: 'This monograph has long been in the making. I first conceived the idea of comparing the Lolo and Burmish languages when I rather suddenly found myself in Burma in 1959 as a Lecturer at the University of Rangoon under the Fulbright program'. In 1959 the abovementioned

20. T. Nishida (1964).
21. The results of my investigations and studies of these languages have been published in a series of articles, T. Nishida (1966abc, 1967, 1968 and 1969b).
22. Besides this, Burling has written the following important monograph and articles on TB languages. *A Garo Grammar* 1961, 'Proto-Bodo' 1959, 'The Addition of Final Stops in the History of Maru (Tibeto-Burman)' 1966a ; 'A Problem in the Phonology of Lahu' 1966b.
23. It would be difficult to collect the data of these languages in similar conditions at present. For this reason his work may be considered as a valuable contribution to Lolo-Burmese linguistics.
24. For the reviews of Burling's *Proto Lolo-Burmese*, vid. R. A. Miller, (1970 : 146-159), J. A. Matisoff, (1968 : 879-897) and T. Nishida (1969a : 198-219), on which the present paper. is based.

article of Shafer's appeared in the *T'oung Pao.* Still earlier, Wolfenden had already clarified, however partially, the relationship between Burmese and Maru in his excellent articles. Besides, Burling refers to only three languages Lisu, Lahu and Akha as Lolo, and considers them as the representative ones of the Lolo group therein. However, these three are not the main constituents of the group. In my opinion, the Lolo group consists of Lolo with 3,240,000 speakers, called the I 彝 languages in China, Lisu with 300,000 speakers, Hani with 130,000 speakers and Lahu with 140,000 speakers, and Lolo proper is in reality the language of the I with six dialects, which is distributed in Yunnan, Szuchuan and Kweichow Provinces of China. Therefore, strictly speaking, without taking the I languages into consideration, it would not be properly called the comparative study of the Lolo languages.

In this connection, we will first have to take up the problem of the subgrouping of the Lolo-Burmese languages before making the comparative study of them. At the present stage of our knowledge, I should like to propose the following classification of the Lolo-Burmese group of languages, shown with only a limited number of them considered in the branching diagram below.



It seems to me that the final postulation of Proto Lolo-Burmese is still premature. It is certain that the comparative study of the Burmese, Bisu-Akha and Lisu-Lahu subgroups of languages will achieve a reliable stage in the fairly near future, but there will yet remain many difficulties in that of these and the Lolo languages including a group of dialects of Lolo proper and Hani. Since the reconstructed PLB must have the character comprehensive of all these languages, it will be necessary to set up the following steps to reach the final stage of our goal.

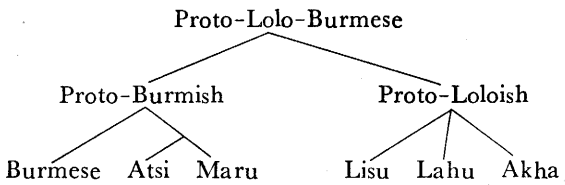
1. A comparative study of Burmese, Maru, Lashi and Atsi Step 1
2. A comparative study of (Burmese,) Akha and Bisu Step 2
3. A comparative study of (Burmese,) Lahu and Lisu Step 3
4. A comparative study of (Burmese,) Lolo and Hani Step 4
5. Proto-Lolo-Burmese Step 5

In each of Steps 1-4 we are concerned with the reconstruction of

the proto-language of the Burmese, Akha, $Lolo_1$ and $Lolo_2$ groups. The fifth step will be attained only through the integration of the results obtained in the preceding steps. At this last stage we will be also concerned with the comparison of these with Mi-nyak (=Hsihsia) and Moso. It may be proper to refer to Burmese, which has been longest committed to writing and has the richest vocabulary among all, as a kind of the 'pilot' language throughout our PLB reconstruction. As mentioned above, Burling takes up Burmese, Atsi and Maru of the Burmese subgroup, Akha of the Akha subgroup, and Lahu and Lisu of the Lolo subgroup among those LB languages but leaves out Nakhi (=Moso) and Lolo proper for the reason that their data are not reliable.

This work consists of the brief descriptions of phonology, and the comparative study, of the six languages, of which he has devoted more of efforts to the latter part. Burling's aim is thus to establish phonemic correspondences between the six languages and to postulate such proto-forms as to be able to sufficiently explain the derived systems of them.

He calls the proto-language based on Lisu-Lahu-Akha Proto-Loloish and that based on Burmese-Atsi-Maru Proto-Burmish. The integrated stage of the two is named Proto-Lolo-Burmese. The relationship between these is shown as in the diagram below.



PLB forms must be so reconstructed as to be able to explain the derived differences in phonemic, lexical and grammatical systems among the related languages in the most easily understandable way. I have treated the differences of phonemic systems and the diverging distribution of lexical forms among some Lolo-Burmese languages, in several articles already published. In the latter case I have focused my attention upon the closeness of meanings and the parallelism of forms. Before entering into the criticisms of Burling's work, I shall briefly show how we can typologically consider differences among the related languages with regard to part of their phonemic system[25].

The languages belonging to the Lolo-Burmese group may be divided into those with only the syllable type CV# and those with both CV# and

25. Though based on a different methodology, E. J. A. Henderson has made an excellent typological study of South East Asian languages 1965. L. F. Taylor's article 1956 is also useful.

CVC. Further they may be divided in the two types according as they permit of initial clusters or not (C- : CC-). No consonant clusters occur syllable-final in any of them, hence -C being always simple, but we may roughly classify them into those with a full set of final consonats, -p, -t, -k, -m, -n, -ŋ (also -c, -ň in AncB) and those with the checked final and the nasal final -N, (which may represent the nasalization of the preceding vowel), contrasting with zero -#, or with a similarly very limited set of contrastive finals -C (simple) : -CC (complex). As in the case of V-, they may be subject to the classification according as they permit of complex nuclei or not (V : VV) and, as for simple nuclei, according as they have the contrast for glottalization (glottalized : non-glottalized).

On the basis of these typological criteria, we may classify some of the Lolo-Burmese languages as in the following.

	AncB	Maru	Akha	Bisu	Lisu	Lahu	Lolo	Hani	Hsihsia
CV#(−) : CVC(+)	+	+	+	+	+	+	−	−	+
C- (−) : CC- (+)	+	+	+	+	+	−	−	−	+
-V (−) :-VV (+)	−	+	−	−	+	+	−	+	−
-C(sim.)(−) :(com.)(+)	+	+	−	+	−	−	×	×	−
glot.(+) :non-glot.(−)	−	+	−	−	+	+	+	+	+

Further, there is need to classify these languages according to the patterns of contrasts between phonemes. For instance, we may choose the following patterns as the criteria for their typological classifications.

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1-a  p—t—ts        1-b  p—t
     \/   |             |  |
      k   c             k—c

2-a  m—n           2-b  m—n
      \/                |  |
      ŋ                 ŋ—ň

3-a  p—ph          3-b  p—ph        3-c  p—ph
                         \/                |  |
                          b                b—mb

4-a  m—n           4-b  m—n
                        |  |
                       hm—hn
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According to these criteria, each of the languages under consideration can be characterized as follows:

	AncB	Maru	Akha	Bisu	Lisu	Lahu	Lolo	Hani	Hsihsia
1	b	a	a	a	b	b	a	a	a

2	b	b	b	b	b	b	a	a	b
3	b	b	b	b	b	b	b	a	b
4	b	a	a	b	a	a	a	a	b

If we do not mind taking the trouble, it will be possible to increase greatly our criteria for their typological classifications. At first glance such classifications may appear to be quite insignificant, but it is the typological representations of languages which show the differences between their systems most transparently, and it is one of the main objects of comparative linguistics to explain why and how such typological differences have been brought about among the related languages.

Burling's comparison is based on the three different parts of the syllable, 1. initial consonant or cluster = C–, 2. final, including both vowel and any final consonant = V(C), 3. tone= T. He explains the differences between the systems of the languages compared in the following way. First, he displays a chart of the large majority of initials in PLB. (p. 6)

	P	PY	T	NY	TS	C	KY	K
S_1	ph	phy	th		tsh	ch	khy	kh
S_2	pʔ	pʔy	tʔ		tsʔ	(cʔ)	(kʔy)	(kʔ)
S_3	p	py	t		ts	c	ky	k
N_1	m	my	n	(ny)				ŋ
N_2	mʔ	mʔy	nʔ	nʔy				ŋʔ

This chart is characterized by the representation of the series of stops and affricates as S_1, S_2 and S_3, the division of nasals into the N_1 and N_2 series, and the choice of the vertical axes of P T K, TS C, and PY KY NY. Thus if we explain how the combinations of columns and rows in this chart merge in the language concerned, we will clarify how that system of the language came into being. For instance, the S_1 , S_2 and S_3 initials correspond to the following phonemes of Atsi and Maru.

	P	PY	T	TS	C	KY	K
S_1	ph	phy	th	tsh	ch	khy	kh
S_2	pʔ	pʔy	tʔ	tsʔ	cʔ	kʔy	kʔ
S_3	b	by	d	dz	j	gy	g

All the contrasts indicated in the preceding chart are also found in Atsi and Maru. It is natural that the chart of initals of Atsi and Maru, which have the most numerous contrastive units and the most complex system of initials among all the six languages considered, should agree with the preceding one. Accordingly, we may say that the combinations of columns and rows in the proto-language have been preserved as

they were by Atsi and Maru. The only problem that will arise here is how to treat ph, pʔ and b. In Maru only ph, pʔ and b contrast with each other, but there is no p that contrasts with pʔ. Hence we may consider the glottalized feature of pʔ as non-distinctive, and classify Maru under the $\begin{matrix} p-ph \\ \diagdown\!\diagup \\ b \end{matrix}$ type (3-b above). Such an interpretation would be more easily understandable, e. g. pít 'to shut', phík 'waist', bí 'to give'.

On the contrary, Burling analyzes them as ph, pʔ and p, regarding the contrast for glottalization as distinctive instead of that for voicing. This, however, has not produced any favorable effect upon the clarification of correspondences of initials between these languages. Burling summarizes the correspondences of the S_1, S_2 and S_3 series between them as follows.

	Burmese	Maru/Atsi	Lisu	Lahu	Akha
S_1	vl. asp.	vl. asp.	vl. asp.	vl. asp.	vl. unasp.
S_2	vl. asp.	vl. glott.	vl. unasp.	vl. unasp.	vl. unasp.
S_3	vl. unasp. voiced	vl. unasp.	voiced	vl. unasp. voiced	voiced

The S_2 and S_3 series of Atsi and Maru should be altered to 'vl. unasp'. and 'voiced', respectively, and the S_1 series of Akha to 'vl. asp.'. Besides, there remains an isolated 'voiced' series in Burmese and Lahu, which does not belong to any of the S_1, S_2 and S_3 series. Burling interprets it as a newly added series of these languages since it shows no regular correspondences with the items in the other languages. But is this really the case? Let us examine first of all the 'voiced' series of Lahu. Side by side with the examples for the 'regular' correspondence set, (1) Lisu voiced: Lahu voiceless: Akha voiced, we actually find also those for the correspondence set, (2) Lisu voiced: Lahu voiced: Akha voiced in the list of his cognate sets.

	Burling				Nishida[26]		
(1)	Lisu	Lahu	Akha		Lisu	Lahu	Akha
'ascend'	dâe	tá?	dā?				
'come out'	dôlā	tɔ́?la	dō? lá	iva)	doh-ˈah	tɔ̌-e-veh	do-ɦɯ
'bee'	byà	pɛ̂	bya	iiia)	biàh	a péh	bjà
'thin'	bà	pâ	bà	iiia)	bàh-ˈah	páh-veh	jo-bà
(2)							
'dig'	dù	(dû)	dù	ivb)	dỳh-ˈah	dúh-veh	dù-ɦɯ

26. See Rule 3 in T. Nishida (1968 : 24-25).

'drink'	dō	(dɔ̄)	dɔ́	ivb)	do-ʻah	dɔ̀h-veh	dó-ɦɯ
'full'	bî	(bî)	byɔ̄m	iiib)	bíh-ʻah	bih-veh	x

Considering the second set as irregular, Burling put all the Lahu cognate forms in parentheses. But it apparently forms another set of 'regular' correspondences. We may provisionally solve this problem by establishing the two 'regular' correspondence sets and marking them as (1) voiced and (2) voiced^2, respectively, though the conditions for this division are not clear.

On the other hand, Burling presumes that the 'voiced' series of Burmese has emerged from the voicing of initial consonants that originally took place in medial position through the secondary development of it in initial position. The condition for it, though not clear, is supposed to have been assimilation. There will be no such problem, however, if we replace Burling's Burmese forms by the corresponding AncB or WrB forms[27].

	Spoken Bur.	Ancient Bur.		Spoken Bur.	Ancient Bur.
'between'	jâ	a-kra^2	'ginger'	jîn	khyaŋ^2
'dove'	jôu	khyɯ^2	'horn'	ûjóu	u^2-khyɯ
'owl'	gín	khaŋ pup	'shrimp'	bǎzún	puzwan<*puzᵊun

To the exclusion of the Burmese and Lahu voiced series, Burling has assumed the S_3 series of PLB as the vl. unasp.; thus the proto-forms for the above cognate sets are reconstructed as *taʔ 'ascend', *pya^2 'bee', *tu^2 'dig', *pa^2 'thin', *pyiŋ^2 'full', respectively. To these correspond the Akha and Lisu forms with a voiced initial. Hence it follows from his reconstructions of their proto-forms as such that the voiced series of Akha and Lisu are considered not to be original but to have resulted from such changes as *t->d-, *p->b-. This does not conform with the facts. His assumption of the S_3 series at the PLB stage as 'vl. unasp.' is based on the cognate forms of Atsi and Maru. Now, a collation with my own data shows that the Maru forms considered by him to exemplify the initials of the S_3 series are actually divided into those with a voiced initial and those with a vl. unasp. one. I shall give some

27. Voiced stops are found in the Myazedi Inscription, e. g. grii (lines 16. 23, etc.) 'big', brii (lines 3, 13, etc.) 'a particle indicating perfective mode'. Since these examples are either a bound form or bound word, we may consider their voiced initial to have resulted from the voicing by sandhi, which is generally recognizable in Modern Burmese. Accordingly, if the sandhi in the spoken language can be recognized as a continuation of that in AncB, we have to suppose that the orthography of the written language had been reinterpreted and reformed according to a given system at a certain period. On the other hand, the existence of the verb brii^2 'to be finished' compels us to recognize the distinction between voiced and voiceless stops in AncB. Thus there remains yet much to be studied as to the nature of voiced consonants in AncB. Cf. T. Nishida (1972a : 247).

typical examples of these:

		Maru	Akha	AncB
(1)	'dig'	táu-	dù-ɦɯ	tu²-seɦ
	'bee'	pyó	bjà	pya²
	'tooth'	tsoe	x	cway<*c^{W}oy
(2)	'disappear'	byauk-	bjo-ɦɯ	pyɔk-seɦ
	'bridge'	dzeŋ	dzḿ	x[28]
	'give'	bi̯k-	bì-ɦɯ	piy²-seɦ
	'straight'	duiŋ	jo-do	taň³-seɦ
	'language'	dóŋ	dò	x[29]

Of these at least those whose initial belongs to the (2) series should be assumed to have had a voiced initial at the PLB stage. The split of the voiced series into the voiced and voiceless in Maru is parallelled by that of the aspirated into the aspirated and unaspirated. In order to clarify them it will be necessary to investigate the dialects of Maru.

Burling's S_1 and S_2 series represent the following sets of reflexes. Here I shall take velars as examples:

	Burmese	Atsi/Maru	Lisu	Lahu	Akha	PLB
S_1	kh	kh	kh	kh	kh	*kh
S_2	kh	kʔ	k	k	k	*kʔ

		PLB	Bur.	Atsi	Maru	Lisu	Lahu	Akha
S_1	'bitter'	*kha²	khâ	khó	khó	khwà	khâ	yōxà
	'foot'	*khyə	chéi	khyí	khyìt	x	khəsɛ̄	àkí
	'horns'	*khyo	(ûjóu)	khyúi	khyùʔ	x	ɔ̌ḵhɔ̄	x
	'smoke'	*kho²	khôu	myīkhàu	mìkhúk	mùkhù	mikhɔ̂	ùxɔ̀
	'steal'	*kho²	khôu	kháu	khúk	khù	khɔ̂	xɔ̀
S_2	'bark'	*kʔok	khauʔ	sikkʔuʔ	x	x	x	x
	'branch'	*kʔaʔ	ăkheʔ	ăkʔoʔ	ăkʔoʔ	x	x	x
	'dry'	*kʔyok	chauʔ	kʔyuʔ	ăkʔyok	x	x	x
	'mosquito	*kʔyaŋ	chín	kʔyáŋ	kʔyà	x	x	x

In the sixteen cognate sets given by Burling as the examples for S_1 *kh- are found only three Lisu, eight Lahu and eight Akha cogante forms. Of the eight Akha forms, three have the initial k-, four x- and the remaining one g- enclosed by parenthesis. In those cognate sets which exemplify the S_2 series, Burmese and Atsi cognates are six each (one Burmese cognate being parenthesized), Maru three, but no corresponding forms of Lisu, Lahu and Akha are supplied. Therefore, we may

28. This corresponding form is interesting. Cf. WrT *zam-pa* <*dzam-pa.
29. Cf. WrT *gdangs* 'speech harmony, melody'.

say that the distinction between the S_1 and S_2 series is made according as Burmese kh- corresponds to Atsi/Maru kh- or kʔ-. I will now add to the above items with the forms from my own data.

		Burmese	Maru	Lisu	Lahu	Akha
1.	'bitter'	kha²-	khó-	khùa-ˈah	kháh-veh	jo-xà
	'foot'	khriy	khyi̯k	tshùh-	khíh	ʔa-khɯ́
	'horns'	u²khyɯ	khyo̯u	úh tshɯ	ɔ̂-khɔ̌	ʔù tshɔ́
	'smoke'	mi²-khɯ²	mí-khóu	mùh-khùh	mɤ̀h-khɔ́h	ʔù xɔ̀
	'steal'	khɯ²-	khôu-	khùh-ˈah	khɔ́h-veh	xɔ̀-ɦɯ
2.	'bark'	a-khɔk	-khauk	ku-dzɯ	ɔ̂-ɣìh kŭ	baxo
	'branch'	a-kɯŋ	-kauŋ	-káh	ɔ̂-kă	
	'dry'	khrɔk-	kyauk	dzùh pýh	x	jo-gɯ
	'mosquito'	khraŋ	kyoŋ	dzuh-ˈah	tshâ kɔ̌	x[30]

As we will see from these examples, if we recognize each set of correspondences to reflect an original distinction, the number of distinctive elements of the proto-language would be very large. I would rather consider the following scheme. Burling's scheme should be altered so that each of the S_2 and S_3 series may be subdivided into at least two distinct series. (Velars are taken for examples.)

	Burmese	Atsi/Maru	Lisu	Lahu	Akha	PLB
S_1	kh	kh	kh	kh	kh,x	*kh
S_2	k	k	k	k	k	*k
S_{2b}	kh	k	k	k	kh	$*kh_2$
S_{3a}	k	k	g	k	g	$*g_2$
S_{3b}	k	g	g	g	g	*g

As a matter of course, we cannot exhaust all possible correspondences even by this modified scheme. There are, for instance, such a residue as below.

	Burmese	Maru	Lisu	Lahu	Akha
'fall'	kya³	kyô	kje-ˈah	tšei-veh	ga-ɦɯ
'star'	kray	kyi	ku-zà	mɤ-ki	ʔa-gɯ́

Though we may treat either the Akha or the Lisu forms as having been derived from the proto-variant stems[31], I am rather inclined to

30. Akha bù thé 'mosquito' is cognate to Nyi-Lolo by tshʐ.

31. Burling admits of proto-variant forms for a considerable number of cognate forms. For instance, he sets up different P-B and P-L forms for 'thorn'.

		Burmese	Atsi	Maru	
P-B	tsu²ᶜ	sû	tsù	tsàu	'thorn-1'
		Lisu	Lahu	Akha	
P-L	tshu²	tshù	áchû	x	'thorn-2'

interprete this set of correspondences to belong to S_{3a} with the feature 'devoicing' added to the Lisu forms. In any case, the crucial point here is that Burling's S_1, S_2 and S_3 series would not offer a satisfactory solution for this problem.

Next, Burling recognizes only -y- and -w- as the elements that occur between the initial consonant and the vowel, and these may co-occur with only a limited number of initial consonants and vowels. The medial -y- is considered to form clusters with initial consonants while -w- to constitute a labialized on-glide of the following vowel. With regard to this, there arise luany questions, to say nothing of his refusal to set up medials -l- and -r- in addition to -y- and -w- in PLB. For the reconstructions of initial clusters at the PLB stage we must largely depend upon AncB forms. I have assumed four medials -l-, -y-, -r- and -w- as the secondary element of PLB clusters, and conceived the following four types of their developments[32].

1. The medial may be preserved. The type of development that is manifested by ky-, py-, by-, for instance.
2. The initial cluster may become an affricate. The type of development that changes, for instance, khr- to tsh-, gr- to dz-.
3. The radical of the initial cluster may be dropped, with the result of the medial becoming the radical. The type of development that changes, for instance, kl-, ml- to l- ; kr-, gr- to r-.
4. The medial may be dropped. The type of development that changes kr- to k-, phl- to ph-, for instance.

The clusters kr-, khr-, phl-, ml- and mr- in the following examples are all reconstructed by Burling with medial -y-.

	Nishida	Burling		Nishida	Burling
'between'	*kra	PLB kya	'foot'	khriy	PLB khyə
'white'	*phlu	PLB phyu	'high'	mraŋ³-	PLB mʔyaŋ
'grandchild'	*mliy	P-B myei			

However, quite a few items in his list of *Cognate Sets and Reconstructions* are provided with PLB forms reconstructed though enclosed by parentheses with the clusters *kl-*tl-*thl- and *sl-. (p. 71)

		Nishida	Burling
kl-	'buffalo'	*klway<*kl^{w}oy	klwe
	'stone'	*klɔk	klok

The initials of the former fall under the S_3 series while those of the latter under the S_1. But on the basis of my own data the proto-forms for 'thorn' are reconstructed as follows.

*tshu	Burmese	tshu	Lahu	a-tshú		
*dzu	Maru	dzáu	Lashi	dzu	Lisu	-dzɯh(?)

32. T. Nishida (1968 : 35).

	'sugar cane'	*kram	klu
tl-	'sparrow'	*tša	tla
	'vulva'	*tšɔk	tlok
sl-	'eight'	*hrac	slit
	'tongue'	*hlya	sla
thl-	'rice'	*tšhan	thlan
	'to tear'	*tšhut-	shlut
	'to wash'	*tšhiy-	thlei

The fact that no clusters with -l- are found either in PLB or in P-B in Burling's *Table for Correspondences of Initials* (pp. 66-67) where *tl- *thl- are shown as *tsh- *ts- *tsʔ- makes it harder to understand these clusters reconstracted with -l-.

3. Problems of PLB Finals (-V(C))

As I have mentioned at the beginning of this section, the problem of the reconstructions of PLB finals has centered around whether the gaps in the system of AncB finals can be restored. In other words, the focus of the problem has been to what extent Burmese finals can be considered to represent PLB finals reconstructed on a comparison of the Burmese and Lolo languages. Against our expectation, however, the PLB finals postulated by Burling form an extremely asymmetric system, far removed from that of AncB, as we will see below.

i			(it)	(ik)			iŋ
(w)e	(w)ei						
(w)ə							
(w)a		ap	at	(w)aʔ	(w)am	(an)	aŋ
o				ok			oŋ
u		up	ut		um	(un)	

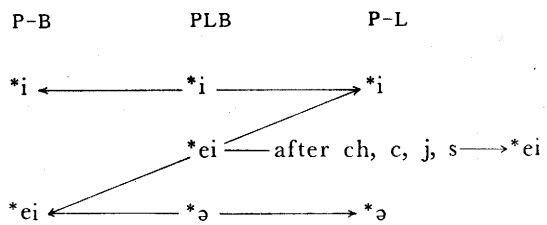
Thus the reconstructed PLB finals are twenty-two in total, among which those in parentheses are postulated only for P-B, not for P-L[33].

It is hard to suppose that the system of PLB finals had more gaps than that of AncB, as Burling suggests here. On the contrary, both *-it and *-ik distinguished in P-B correspond to WrB *-ac*, and this distinction would probably be unnecessary. Burling sets up *-it for the correspondence Atsi -it : Maru -at in the examples 'eight' *slit, 'to love' *cʔit, 'root' *myit, 'seven' *nʔit, and P-B *-ik for the correspondence Atsi -ik : Maru -ak in the examples 'bamboo shoots' *mik, 'chili' *phyik,

33. But -ap and -oŋ are enclosed by parentheses, and -e and -we are separated on p. 68, hence a total of twenty-three finals.

'joints' *tshik, 'new' *sik, 'to shoot' *pik, 'tree' *sik. However, the final consonants in Atsi and Maru are extremely ambiguous, and it is quite doubtful whether we should consider Atsi -it and -ik as contrastive[34].

Now, apart from our inquiry into the cases that have led to such asymmetry, let us examine the adequacy of the proto-forms reconstructed by Burling. We will be then faced by the problem of whether correspondnces between the languages under consideration are correctly established. First of all let us consider Burling's PLB *-ei, *-i, *-ə. According to him, although in many examples *-ei seems reliable at the P-B stage, it is necessary to 'hypothecate' three distinct finals for it at the PLB stage since several different vowels correspond to it in Loloish. PLB *-ei and *-ə merged into *-ei, hence *-ei and *-i being kept separate, in P-B while PLB *-ə remained distinct but *-ei fell together with *-i except after an affricate or a fricative, following which it remained as it was in P-L. The following diagram given by him will facilitate our understanding of his argument.



Unfortunately, it seems to me that these interrelationships cannot be justified. The condition under which Burling's PLB *-ei splits into P-L *-ei and *-i is said to be that *-ei is proceded by *c-, *ch-, *j- or *s-, but otherwise it is said to fall together with *-i in P-L. Actually, only two examples 'anvil' and 'to give' are given by him for the latter case. Still worse, among the Loloish languages only Lahu has the cognate forms for them.

			Lisu	Lahu	Akha
'anvil'	P-L	*bi	x	pǐtɛ̀	x
'give'	P-L	*bi²	x	pî	(biʔ)

On the otherhand, Burling's PLB *-ei represents the following sets of reflexes (p. 51).

34. Atsi has the five-term system of vowels (a, i, u, e, o). Of the five a, u, and o may be followed by -t and i and e by -k, e. g. nîk 'heart', sek 'tree', vut 'to wear', sat 'to kill'. See Ch'eng MO 1956.

	Lisu	Lahu	Akha
after l-	i	no examples	no examples
after c-, ch-, j-, or s-	ʉ	ɨ	i
otherwise	ə	i	i

In view of the condition of split shown above, his P-L forms in *-ei with the first and third set of reflexes should be reconstructed with the P-L final *-i.

The Lisu examples for the final -i preceded by l- are limited to 'boat' P-L *lʔei and 'heavy' *lei, for which no corresponding Lahu and Akha forms are provided. Moreover, no examples are cited for the third set, Lisu -ə : Lahu -i : Akha -i. Therefore, the reflexes of P-L *-ei should actually be divided into the two sets, Lisu -ʉ : Lahu -ɨ, following *c-, *ch-, *j- or *s-, and Lisu -i : Lahu -i : Akha -i, following a stop as in the examples given above 'anvil' and 'to give', a lateral, a nasal, or the like. To give some examples for the latter case from my own data :

	Burling	Nishida	Lisu	Lahu	Akha	Burmese
'boat'	P-L *lʔei	*hliy	-lĭh	x	x	hliy
'heavy'	*lei²	*liy²	lih-ˈah	x	x	liy²-
'day'	x	*niy-	ňih-	ɔ̂-nih	ňi-[35]	niy
'earth'	*mi	*mliy	mih-	mîh-	mí-	mriy
'give'	(*bi²)	*biy²-	gʉ̀h-ˈah	píh-veh	bì-ɦɯ	piy²-
'anvil'	(*bi)	*biy	?	?	bi-	piy.

If thus considered, the split of PLB *-ei into P-L *-ei and *-i would no longer hold good. Moreover, it will become quite doubtful whether we may set up PLB *-ei and *-ə as distinctive finals. Burling considers P-L *-ə to have derived from PLB *-ə and to have the reflexes Lisu -ə : Lahu -ə : Akha -i.

	P-L	Lisu	Lahu	Akha
'copper'	*gə²	?	kɔ̂	gɨ
'foot'	*k̬hə¹	?	k̬həsɛ̄	àkɨ́
'untie'	*phə¹	phə̄	phə̄	pɨ́

To compare this set of reflexes with those for P-L *-ei,

		Lisu	Lahu	Akha
P-L	*-ei	i, ʉ	ɨ, i	i
	*-ə	ə	ə	ɨ

These sets are in fact mutually complementary, the latter being found

35. This Akha form is taken from ňi so 'tomorrow', and not from 'a-non 'day'.

when the initial was the cluster *Cr-. Here again, Burling's denial of the clusters with medial -r- in the proto-languages turns out to be unwarranted. Thus we may safely consider both of Burling's P-L *-ei and *-ə to have come from the same original final. We may assume the final *-iy for 'copper' *kriy², 'foot' *khriy, 'untie' *phriy as well as 'anvil' *biy, 'heavy' *liy², given in the preceding.

Burmese *swei*² 'blood', *khwei*² 'dog', *mrwei* 'snake', etc., for which Burling sets up the P-B final *-wei, correspond to the AncB forms in -uy. Hence we should differentiate them from the Burmese forms in -ei (<AncB -iy). I shall postulate *-iy and *-uy to distinguish the two finals.

From the foregoing argument we have arrived at the conclusion that the three contrastive finals set up by Burling for PLB are not well-grounded and can be dissolved into the two finals *-ei and *-i, the former of which should be then amended as *-iy and *-uy on the basis of their AncB reflex.

Burling's failure in part of his study is now obvious. The principal cause of it consists in that he has not applied our knowledge of the history of the Burmese language to his comparative study[36]. In our comparative studies we should take into account the oldest forms attested in the literature of the languages concerned. It is for this reason that great importance has been attached to Burmese in the comparative studies of this group of languages. Burling, however, has used only spoken Burmese forms in his study, to the exclusion of WrB and AncB forms. The reason for his exclusive adoption of spoken Burmese forms therein is explained as follows: 'In order not to prejudice a judgement in this matter, I have, in preparing this monograph, deliberately avoided any consideration of Burmese written forms but have confined myself to the spoken language. It should now be rewarding to compare my reconstructions with the written forms, since the reconstructions provide, for the first time, criteria against which to judge the orthography' (p.3). Thus his intention was to see that the results of his comparative study based on the modern languages might agree with evidence provided by the written language. Unfortunately, as I have shown so far, it is his avoidance of WrB forms that has made the relationships between some correspondence sets quite ambiguous and eventually led to his faulty reconstructions of PLB forms.

Incidentally, WrB *-ip* and *-im* can be traced back to AncB -ip and -im. But there is no decisive clue for the postulation of their proto-

36. For the history of Burmese, see T. Nishida (1972a).

form. Burling sets up PLB *-up and *-um for the respective finals, as in the following examples:

'to sleep'	PLB	*yup	P-B	(*yup)	P-L	*yuʔ
'house'		*yum		*yum		(*yum)

Though the examples for these finals are not many, I shall cite some from own data.

	Bisu	Akha	Lisu	Lahu	Burmese
'sleep'	jù-ŋɛ	ju-ɦɯ	jìh-tá	zɤ̂-veh	*ʹip*
'house'	júm	ňḿ	ɦih	zɛ̂h	*ʹim*
'low'	hňum-	jo-ňḿ	x	nɛ̂h-veh	*nim*[3]*-saň*
'cloud'	x	mḿ dḿ	x	x	*tim*
'potato'	plùm	bjm̀-ma	bìh	pɛ̂h-sǐ	*prim-ʹu

Their reflexes in each subgroup may be summarized as follows:

Burmese	Maru-Lashi[37]	Akha-Bisu		Lisu-Lahu		Lolo
-ip	-ap	-u	-u	-i	-ɤ	-i
-im	-am	-m	-um	-i	-ɛh	-ɛ

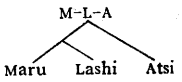
It is difficult to decide whether we should reconstruct them as *-ip and *-im or *-up and *-um. Though Burling's choice of the later has its own ground, it will yield a system of finals at the PLB stage with more gaps than that of AncB. I shall tentatively consider them as *-ip and *-im. We may find some decisive reasons for choice after we have attained several steps higher in the procedure for the comparative study delineated above.

In the foregoing, I have offered a few criticisms on Burling's PLB reconstructions. Our comparative study of languages will be greatly influenced by the nature of the data we use. We have clearly seen that our way of dealing with the basic data, and our attitude to the descriptive study of language at the very start will have an important effect on it. Particularly, in the case of such languages as Lahu and Lisu which abound in the so-called 'allophones', a comparatve study

37. I presume that the finals of Maru, Lashi and Atsi have undergone diphthongization at an intermediate stage from PLB.

E. g.	B-L	M-L-A	Maru	Lashi	Atsi
'sleep'	*yip	*yiəp	yap	yep	jup
'house'	*yim	*yiəm	yam	yem	jûm

I have assumed the branching-off of these languages as follows.



For the details of this, See T. Nishida (1973).

will be characterized by choices in the grouping of phones as allophones. For instance, if the vowel -i occurs only following tš-, tšh-, dž- while -ɯ following ts-, tsh-, dz-, in a given language, and even though we must admit that the simpler description of these facts may be obtained by considering -i and -ɯ as separate phonemes with only one contrastive series of affricates rather than two contrastive series of affricates with -i and -ɯ as non-contrastive allophones, we would be led in a wrong direction in our comparative study of the languages unless we are well aware of these subphonemic facts. In order to avoid such deviations as much as possible, it is necessary that our comparative study should be centered around the language that retains the older forms recorded in literature. The aforementioned problems of PLB reconstructions such as those concerning the distinction of PLB *-ei, *-i, *-ə and the postulation of PLB initial clusters cannot be properly solved to the exclusion of AncB forms. Together with the study of J. A. Matisoff, the more detailed study of PLB finals and clusters that have been shown in my former articles will offer a possibility that may replace Burling's. However, the adequacy of these alternatives should be examined at the final stage of our studies with an expanded range of comparison.

Immediately after the publication of Burling's *Proto Lolo-Burmese*, there appeared a series descriptive and comparative studies on Lahu and the related languages by Matisoff, Lewis's *Akha-English Dictionary* (1968) and my reports on some languages of the hill tribes in Northern Thailand: Akha, Bisu, Lisu, and Lahu-shi and their comparative studies. Compared with my short Akha-English glossary of an Akha dialect spoken in Maechan, Chiengrai Province, Thailand, Lewis's dictionary offers a much richer collection of forms of the Puli dialect spoken in Central and Central-eastern Kengtung State of Burma, and it is indeed a very useful reference for the study of Akha[38].

During my field work in Northern Thailand I happened to encounter a language called Bisu that had not been known to us before. It has turned out to be a language closely related to Phunoi and Akha[39].

The most comprehensive and excellent description of Lahu is Matisoff's *The Grammar of Lahu* published in 1973 as University of California Publications: *Linguistics 75*. The original form of this grammar was his doctoral dissertation presented to University of California, Berkeley in 1967.

38. Lewis 1968b, 1973, D.W. Dellinger 1967, 1969, M. Katsura, 1970 are also important works.
39. T. Nishida, (1966b 1966c).

Matisoff's theory of the tonal split in Lolo-Burmese was first proposed in 1970, and revised in 1971, the latter being published as a monograph in 1972, with Part II Confirmatory Evidence for the Theory appended to. This theory, however, will need be examined in how the correlation between the initial and final, on the one hand, and the tone, on the other, of the proto-form was transmitted to the Lolo-Burmese languages, or, in other words, whether all the tonal categories of the later languages have resulted from the changes of either initials or finals of their proto-language without any confusion.

Judging from the forms of the other Tibeto-Burman languages, it seems that Proto-Lolo-Burmese forms must have been much more complicated than those of Ancient Burmese or Modern Lolo languages. However, the bases for the reconstructing these expected complicated proto-forms remained to be examined. In 1964 I took up Lolo tones as one and showed that even irregular tonal correspondences, not to mention regular ones, may afford important clues to the restitution of phonemic features of Proto-Lolo-Burmese. Besides tones, we may probably be able to discover several other clues for our reconstructions. For this purpose it is necessary to gather more data on these languages. As our future task we will have to give further consideration to their tonal relationships with the close cognate languages such as Rawang, Kachin, etc.

In 1972 I wrote a brief paper on a newly discovered language, Tosu, once spoken in Szu-ch'uan. This now extinct language is recorded in one of the reports of a survey of the minority languages in South-Western China made by the order of Emperor Ch'ien Lung at the time of Ch'ing. I have named this language Tosu. Although it contains many loan words from the Tibetan, it is concluded that Tosu is closely related to the Lolo-Burmese Division as we may easily surmise from its name[40]. The most interesting point of this language is that it shared a fair number of cognate words with Hsihsia[41].

REFERENCES

Burling, Robbins

1959 Proto-Bodo *Lg* 35, pp. 433-453

1961 *A Garo grammar*, Deccan College Monograph Series 25, Poona

1966a The addition of final stops in the history of Maru (Tibeto-Burman), *Lg*. 42, pp. 581-586

40. T. Nishina, (1972b). Concerning my reconstruction of Tosu, see T. Nishida (1973), which contains a Tosu-English glossary.
41. T. Nishida, (1976).

1966b A problem in the phonology of Lahu, *Essays offered to G H. Luce I. Artibus Asiae* pp. 97-101

Ch'eng Mo 程默

1956 A short note on the Tsaiwa language (載瓦語簡介), *CKYW* 中国語文 53, pp. 41-44

Dellinger, D. W.

1967 Notes on Akha segmental phonemes and tones, *PSEAL* I, pp. 35-43

1968 Ambivalence in Akha phonology, *AnL* 10, pp. 16-22

Durr, J. A.

1950 *Morphologie du verbe tibétain*, Heidelberg : Carl Winter Universitäts Verlag

Henderson, E. J. A.

1965 The typography of certain phonetic and morphological characteristics of Southeast Asian languages, *Lingua* 15, pp. 400-434

Katsura, Makio

1970 An outline of the structure of the Akha language (part 1), introduction and phonemics, *TAK* 8, pp. 16-35

Lewis, Paul

1968a *Akha-English dictionary*, Data paper No. 70. Southeast Asia Program. Ithaca : Cornell University

1968b Akha phonology, *AnL* 10, pp. 8-18

1973 Tone in the Akha language, *AnL* 15, pp. 183-188

Matisoff, James, A.

1968 Review of *Proto Lolo-Burmese* by R. Burling, *Lg.* 44, pp. 879-897

1969 Lahu and Proto Lolo-Burmese, *OPWS* 1, pp. 116-221

1970 Glottal dissimilation and the Lahu high-rising tone : a tonogenetic study, *JAOS* 90, pp. 13-44

1971 The tonal split in Loloish checked syllables, *OPWS* 2, pp. 1-44

1972 *The Loloish tonal split revisited*, Center for South and Southeast Asia Studies Research Monograph No. 7 Berkeley

1973 *The grammar of Lahu*, University of California Press

Miller, Roy, A.

1970 Review of *Proto Lolo-Burmese* by R. Burling, *IIJ* 12, pp. 146-159

Nishida, Tatsuo

1958 The numerals of the Hsi-hsia language—their reconstruction and comparative studies, *J. Ishihama's Festschrift*, pp. 83-131, Osaka. (English version) *Mem. of the Res. Dep. of the Tōyō Bunko* 19, pp. 123-167, 1960

1964 Burmese and Lolo languages—their tone systems and comparative studies (ビルマ語とロロ語——その声調体系の比較研究), *TAK* 1 : 4, pp. 13-28

1966a A preliminary report on the Akha language —a language of a hill tribe in Northern Thailand (アカ語の音素体系), *Studia phonologica* 4, pp. 1-37

1966b A preliminary study on the Bisu language—a language of Northern Thailand, recently discovered by us (ビス語の研究), *TAK* 4 : 1, pp. 65-87. (English version) *PSEAL* 3, pp. 55-82, 1973

1966c The lineage of Bisu—a comparative study of the Bisu, Akha and Burmese languages (ビス語の系統), *TAK* 4 : 3, pp. 440-466, 4 : 5, pp. 854-870

1967 A preliminary study on the Lisu language in Tak province (リス語の研究) *TAK* 5:2,

pp. 276-307

1968 A comparative study of the Lisu language (Tak dialect) (リス語比較研究), *TAK* 6 : 1 pp. 2-35, 6 ; 2 pp. 261-289

1969a Some problems in Proto Lolo-Burmese (ロロ・ビルマ語比較研究における問題), *TAK* 6 : 4, pp. 198-219

1969b A preliminary study on the Lahushi language in Chiangrai province (ラフ・シ語の研究), *TAK* 7 : 1, pp. 2-39

1972a *A study of the Burmese-Chinese Vocabulary Mien-Tien-Kuan I-Yu*, an introduction to Burmese linguistics (緬甸館訳語の研究—ビルマ言語学序説) Kyoto : Shōkadō

1972b A study of the Tosu language—its character and lineage (新言語トス語の性格と系統). Tōhōgaku Ronshū (Eastern studies twenty-fifth anniversary volume (東方学会創立二十五周年記念東方学論集), pp. 845-841, Tokyo : Toho Gakkai

1973 *A study of the Tosu-Chinese Vocabulary Tosu I-Yu*, the structure and lineage of Tosu, a new language (多続訳語の研究—新言語トス語の構造と系統) Kyoto : Shōkadō

1976 Hsihsia, Tosu and Lolo-Burmese languages, *Studia phonologica* X, pp. 1～15.

Roux, H.

1924 Deux tribus de la région de phongsaly, *BEFEO* 24, pp. 373-500

Shafer, Robert

1938 The link between Burmese and Lolo, Phunoi and Akha tones (Sino-Tibetica No. 2. 4), Berkeley, Mimeo.

1952 Phonétique historique des languages Lolo, *TP* 41, pp. 191-229

1970 *Introduction to Sino-Tibetan*, vol. 4, Wiesbaden, Otto Harrassowitz

Taylor, L. F.

1956 The general structure of languages spoken in Burma, *JBRS* 39, pp. 101-120

Wolfenden, Start, N.

1936 On certain alternations between dental finals in Tibetan and chinese, *JRAS*, pp. 401-416.

1937 Concerning the variations of final consonants in the word-families of Tibetan, Kachin and Chinese, *JRAS*, pp. 625-656

1929 *Outlines of Tibeto-Burman linguistic morphology*, London (RAS Prize Publication 12)

1938a On the restitution of final consonants in certain word types of Burmese, *AO* 17, pp. 153-168

1938b Concerning the origines of Tibetan brgiad and Chinese 八 pwât eight, *TP* 34, pp. 165-173

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