Sino-Tibetan: A Conspectus
To the memory of
A. L. Kroeber
The manuscript of this book was originally drafted over a quarter of a century ago. It was a distillation of a far more extensive compilation, 'Sino-Tibetan Linguistics', on which Paul Benedict and Robert Shafer had been working for many years and which still exists as an unpublished manuscript, some twelve volumes of it, in the files of the University of California and of the authors.

The fact that the book is published now, as well as the form it takes, is in large measure due to Professor James A. Matisoff of Columbia University. Naturally enough, books which lie unpublished for years gather some dust. They age, even if the facts they contain are relatively unchanged. Other books and articles appear, the documentation comes to seem dated; and the task of bringing the whole up to date becomes an almost superhuman one. Yet Professor Matisoff, discovering that this manuscript existed, perceived that its voluminous data and its almost Copernican vision, viewing the 'Sino-centric' linguistic area from a standpoint peripheral to it, had neither been duplicated nor superseded in the years since Dr Benedict completed his work and laid it aside to turn to other things.

The problem was how to produce a book which would preserve the sweep and incorporate the information of the original, but would yet allow acknowledgement of germane work accomplished since it was drafted. To pick the original apart and reweave it, as the men of ancient Syria rewove Chinese silk for the Roman market, would have been a daunting task, one that would almost certainly have prohibited the entire enterprise; and it is questionable that such an effort would have added significantly to the value of the book, considering that its audience is composed of linguistic specialists.

In consequence, Dr Benedict undertook to update the manuscript in certain regards, where he could add information or new perspectives specifically relevant to the linguistic problems under discussion. Thus such minor bits of quaintness as the rough figure for Chinese population in Note 1 have been left untouched. We have larger figures these days, but not necessarily dependable ones; and the question of just how many hundreds of millions speak some form of Chinese hardly affects the basic issue that a great many do — so many that we can hardly close our eyes to the study of that language and of its linguistic setting.

In addition to Dr Benedict's redrafting of text and notes, Professor Matisoff supplied a number of supplementary notes derived from his own studies centered upon Lahu and related languages of that stem. There are thus two series
Foreword

of notes, though they have been amalgamated into a single sequence for the readers' convenience. The old notes are indicated by roman numbers, the new ones by italic. Thus Note 12 is an old note, Note 13 new. Notes from Professor Matisoff are signed with his initials in parenthesis (JAM).

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Preface

The manuscript of this work, completed ca. 1942–3, was put aside until such time as further analysis could be attempted. It lay buried in the clutter of the author’s library until unearthed in 1968 by Professor James Matisoff of Columbia University, who had it mimeographed to serve as a text for his pioneering course in Tibeto-Burman offered at that university. Its appearance in published form at this time is entirely the product of the enthusiasm of Professor Matisoff, who generously consented to edit this work, bringing the bibliographic data up to date and supplying modern material from his researches in the Burmese-Lolo branch of the stock.

The author prepared a new version of the original manuscript, rearranging some of the material and adding the minor emendations noted on the manuscript, then extensively annotated the whole, with emphasis on the Karen and Chinese sections. These annotations represent in part previously published findings (especially in Benedict, 1948bis), in part an intensive re-analysis of all the Sino-Tibetan materials, aided by the more recent publications in the field, notably those of Haudricourt (Karen reconstructions), Forrest (Lepcha analysis), Jones (Karen), Burling (Karen, Burmese-Lolo, Bodo-Garo and Kuki-Naga), Matisoff (Burmese-Lolo), Henderson (Tiddim Chin), Stern (Siyin), Kun Chang (Gyarung and Ch’iang) and Lo Ch’ang-p’ei (Trung).

In venturing once again into the mazes of Archaic and Ancient Chinese, the author came full circle in his scholarly peregrinations since he entered the Oriental field at Harvard University in 1935 under the critical preceptorship of Professor James R. Ware. On this return trip, however, he came much better prepared, especially with some knowledge of the early Chinese in relation to the Austro-Thai peoples, who so profoundly influenced their culture and their language. The last paragraph of the book, which has been left without emendation or annotation, adumbrates these later findings in some sense; it also illustrates the improved status of our present knowledge of Chinese (and of Sino-Tibetan generally), since the gloomy picture presented at that time is no longer applicable. We do now have a viable system of reconstruction for Sino-Tibetan, we have been able to reconstruct much of the earlier (lost) Chinese morphology (especially through tonal analysis) and we do now appear to have a reconstruction of the Sino-Tibetan tonal system (n. 494). We also now have a substantial body of Sino-Tibetan roots shared by Tibeto-Burman and/or Karen and Chinese, and this corpus promises to be extended rapidly as investigations in this field continue.
Preface

The author is deeply indebted to Professor Matisoff for having brought this work to fruition, and to Professor Frank Kierman of Princeton University for having made possible this publication. He also wishes to express his gratitude to the staff of the Sino-Tibetan Philology Project at the University of California, Berkeley, in the late 1930s and early 1940s, who labored so heroically in preparing the basic materials from which the bulk of the illustrations for this work have been drawn; to Mr Donald Walters of that staff, who did such yeoman service when pressed into duty as a linguist; to Marcia Benedict, who prepared many of the basic research tools involved in the project; to Dr LaRaw Maran, who contributed the modern Kachin forms cited here; to Professor Nicholas Bodman of Cornell University, who contributed material on northern Tibeto-Burman languages; to Professor Marvin Herzog, Department of Linguistics, Columbia University, and to the staff of the Columbia University Library, who made available Sino-Tibetan source material. Finally, the author's indebtedness to the late Professor A. L. Kroeber, polymath extraordinary, who had the wisdom and courage to initiate Sino-Tibetan studies at Berkeley, is recorded in the dedication of this work.

P. K. B.

Briarcliff Manor, New York
13 December 1969
Abbreviations

AD Analytic Dictionary (Karlgren)
Anc. Ancient
Ar. Archaic
AT Austro-Thai
B Burmese
B-G Bodo-Garo
B-L Burmese-Lolo
Bod. Bodish
Ch. Chinese
G Garo
GS Grammata Serica (Karlgren)
GSR Grammata Serica Recens
(Karlgren)

IN Indonesian
K Kachin
K-N Kuki-Naga
L Lushei
PN Polynesian
ST Sino-Tibetan
STL ‘Sino-Tibetan Linguistics’
(Shafer and Benedict)
T Tibetan
TB Tibeto-Burman

Phonetic symbols/tone marks

BURMESE
level tone (unmarked)
falling tone (‘)
‘creaky voice’ (‘)

LAHU
all forms by JAM unless otherwise indicated; tones and other phonetic symbols as in JAM’s publications on Lahu.

KAREN
as explained on p. 150.

CHINESE
as in Karlgren’s publications; Ar. and Anc. forms separated by /, e.g.
sm/sm = Ar. sm, Anc. sâm.

Tones as described in note 494:

p'ing shêng   A
shang shêng   B
ch'iü shêng  C

Tibeto-Burman roots are numbered consecutively as they appear in the text.
§1. Introduction

The Sino-Tibetan linguistic stock, as delineated in the present work, comprises Chinese, Karen, and the various Tibeto-Burman languages, spoken over a wide area in China, Indochina, Siam, Burma, South and Southeast Asia.¹² A number of problems relating to this stock have been studied in some detail, yet no comprehensive review of the whole field has hitherto been attempted. The best known sketches, by Grube, Lacouperie, Trombetti, Przyluski, Schmidt and Li,³ are superficial and, in some respects, altogether misleading. It is hoped that the present survey will help fill this gap in Far Eastern studies.⁴

¹ The number of speakers, including over four hundred million Chinese, must be placed at approximately half a billion. In this respect, therefore, Sino-Tibetan ranks second to Indo-European among the language-stocks of the world.

² The astronomical growth of the Chinese population since 1940 (1969 est. eight hundred million) still does not displace Indo-European from its number one position (JAM).


⁴ Although much has been written on one or another aspect of Sino-Tibetan comparative linguistics since 1940, nothing in my opinion has surpassed this Conpectus as the best general overview of the entire subject. For an exhaustive catalogue of materials on ST languages through 1957, see R. Shafer, Bibliography of Sino-Tibetan Languages, Wiesbaden, 1957. A more recent summary of ongoing research is T. Nisida’s Short History of Comparative Research into the Sino-Tibetan Languages (Sina-Tibetto syogo hihaku kenkyuu ryaku-si), Azia Ahurika Bunken Tyosaa I-inkai, 1964. Where germane to a particular point, references to post-1940 works are found in the notes below, applied to the topics as they arise in the text (tones, vowels, Bodo-Garo, Karen, etc.); others are listed in the supplementary bibliography at the end of the work. General reference works on Sino-Tibetan since 1940 include, first of all, Shafer and Benedict’s monumental 13-volume unpublished typescript (in the Library of the University of California, Berkeley), ‘Sino-Tibetan Linguistics (STL)’, ca. 1939–41, a distillation of material from all older sources and the prime source of information for the Conpectus itself (see n. 38); and Shafer’s Introduction to Sino-Tibetan, Wiesbaden, 1966 (part I), 1967 (part II) (JAM).

Shafer’s general classificatory scheme has now received some lexicostatistical support; see W. Glover, ‘Cognate Counts via the Swadesh List in some Tibeto-Burman Languages of Nepal’, Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics, Vol. III (Ed. F. K. Lehman), Dept. of Linguistics, Univ.
§2. Taxonomy (general)

Two great taxonomic problems must be considered in connection with Sino-Tibetan, viz. the nature of the affiliations of the three primary groups, and the classification of the multitudinous divisions within Tibeto-Burman itself. The former of these problems has been resolved in the following manner. Tibeto-Burman and Karen are regarded as constituting a superfamily (Tibeto-Karen) standing in opposition to Chinese. The relationship between Tibeto-Karen and Chinese is a distant one, comparable with that between Semitic and Hamitic, or between Altaic and Uralic. Karen, on the other hand, stands in relation to Tibeto-Burman much as Hittite stands in relation to Indo-European, i.e. Tibeto-Karen is on the same taxonomic level as Indo-Hittite. On the negative side, Sino-Tibetan must be kept distinct from all other linguistic stocks.

The writer has recently attempted to show that Thai is related to Indonesian rather than to Chinese, and that the traditional view of a Chinese-Thai relationship must be abandoned. A number of students, including Ramstedt, Donner, Lewy, Bouda, and Findeisen, have sought to connect Yenisei-Ostyak (Ket) with Sino-of Illinois, Urbana, 1970. This recent publication contains extensive word-lists on these languages, the material on Chepang confirming the author's original impression of this language as a key link between northern and southern groups within TB, e.g. the rare TB root *hus ‘moisture; wet’ is represented in Chepang (hus ‘dew’) as are both TB roots for ‘leech’ (pyaat ‘land leech’, lit ‘water leech’); even the seemingly isolated B krawak ‘rat’ has an apparent Chepang cognate in rok-yu ‘rat’, indicating an analysis *k-ruak (with *k- ‘animal prefix’) for the former (Chepang -yu apparently from TB *b-yoe).


2
Tibetan, and this view has gained some favor (Schmidt, Trombetti), yet a critical examination of the evidence strongly indicates that the two stocks have nothing in common. Sporadic attempts to connect Sino-Tibetan with Caucasian (Hodgson, Bouda),\textsuperscript{10} Mon-Khmer (Conrady),\textsuperscript{11,12} or other linguistic families have been equally unsuccessful.\textsuperscript{13,14}

\section*{§3. Taxonomy (Sino-Tibetan)}

The Sino-Tibetan stock outlined above has been set up on the basis of a series of monosyllabic roots shared by Tibeto-Karen and Chinese. As shown below, certain


\textsuperscript{13} Schafer himself has made extremely far-fetched (and far-fetched) connections of ST with other language families: ‘Eurasian’, \textit{Orbis} \textbf{12} (1963); ‘Athapaskan and Sino-Tibetan’, \textit{IjAL} \textbf{18} (1952); ‘Note on Athapaskan and Sino-Tibetan’ \textit{, IjAL} \textbf{35} (1969) (JAM).

\textsuperscript{14} The Miao-Yao (MY) languages have also at times been linked with Sino-Tibetan. J. Greenberg (‘Historical Linguistics and Unwritten Languages’, in \textit{Anthropology Today}, ed. A. L. Kroeber, Chicago: Univ. of Chicago Press, 1953) has categorically affirmed the reality of this relationship; also R. Schafer, an extravagantly ST-centric advocate, has presented some correspondences (‘Miao-Yao’, \textit{Monumenta Serica} \textbf{22} (1964), 398–411) but these appear to involve loans from ST or TB, e.g. the numerals above ‘5’ (see Benedict, 1967 bis) and ‘look-alikes’, notably the MY roots for ‘4’ (this also led Benedict astray – see Benedict, 1967 bis), ‘tongue’ and ‘moon’. The evidence from comparative AT studies now makes it clear that MY is simply another major branch of the huge AT stock; see Benedict, ‘Austro-Thai and Sino-Tibetan’ (mimeographed), read at \textit{First Conference on Sino-Tibetan}, Yale University, October 1968. As noted in the same paper, Minchia\textsuperscript{a} (Yunnan, China) is probably (originally) also an AT language, but it has been

\textsuperscript{a} 民家
phonetic generalizations regarding these roots can be laid down, and we have no reason to distrust the genetic implications of this material. Both branches of Sino-Tibetan are characterized by the use of monosyllabic roots and the development of tonal systems, yet neither of these features is of ‘critical’ value, since each is shared by other stocks (Thai, Miao-Yao). As for syntax, Chinese and Karen place the object after the verb, while all Tibeto-Burman languages, without exception, place the object before the verb. In view of the generally archaic nature of Tibeto-Burman morphology, it is suggested that the Tibeto-Burman arrangement is the original one, whereas the Chinese and Karen word-order has been influenced by that of contiguous stocks (Thai, Miao-Yao, Mon-Khmer), all of verb + object type. The agreement in syntax between Karen and Chinese thus appears to be of secondary origin, and in any event is quite overshadowed by the preponderant lexical agreement between Karen and Tibeto-Burman. In general, lexical considerations are here of primary importance, morphological and syntactical considerations of secondary importance.15

§4. Tibeto-Burman classification

The Tibeto-Burman languages, over one hundred of which have been recorded, make up the linguistic ‘center of gravity’ of the Sino-Tibetan stock. This family, with a diversification roughly comparable with that of Indo-European, presents numerous problems of classification. Several large divisions or ‘nuclei’ can be distinguished, but a number of smaller units resist all efforts at taxonomic reduction. Some of these residual languages have been poorly or fragmentarily recorded, and it is not unlikely that fuller data in the future will enable us to fit many of them into a broader scheme of classification. For the present, however, the writer prefers simply to list them as distinct units, with a note as to their most probable affiliations.

The seven primary divisions or nuclei of Tibeto-Burman are listed below. ‘overwhelmed’ or ‘invaded’ by Chinese at an early (Ancient Chinese) period (Greenberg, op. cit., simply relates it to Chinese).

15 It was precisely undue emphasis on general features such as monosyllabicism and tonalism that led to the all-inclusive ‘Indo-Chinese’ classifications of the past, in which Thai, Miao-Yao, and sometimes even Mon-Khmer, were lumped together with Tibeto-Burman, Karen and Chinese. It should be noted, however, that the lexical evidence itself must be critically gauged, e.g. the traditional Chinese-Thai hypothesis rested for the most part on comparisons drawn from a superficial level (see the writer’s paper cited above).
Immediate genetic relationship must be inferred for the several languages within each nucleus, and somewhat less immediate relationship for other languages mentioned in connection therewith.

1. Tibetan-Kanauri (Bodish-Himalayish); perhaps also Dzorgai, Lepcha, and Magari.
2. Bahing-Vayu (Kiranti); perhaps also Newari.
3. Abor-Miri-Dafla (Miriish); perhaps also Aka, Digaro, Miju, and Dhimal.
4. Kachin; perhaps also Kadu-Andro-Sengmai (Luish) and Taman.
5. Burmese-Lolo (Burnish); perhaps also Nung.
6. Bodo-Garo (Barish); perhaps also Konyak and Chairel.
7. Kuki-Naga (Kukish); perhaps also Mikir, Meithei, and Mru.

The seven divisions above range in diversity from the complex Tibetan-Kanauri, Burmese-Lolo, and Kuki-Naga supergroups, each with a multitude of languages and dialects, through the fairly compact Bahing-Vayu, Abor-Miri-Dafla, and Bodo-Garo groups, down to Kachin, which consists only of the modern dialects of the language and one aberrant extinct dialect, Jili, recorded over a century ago by N. Brown (1837). Kachin, however, stands at the linguistic 'crossroads' of Tibeto-Burman, thus occupying a linguistic position comparable with its geographical setting (Northern Burma). Both lexically and morphologically, Kachin ties in with Tibetan, Bahing, and other northern languages as well as with Burmese, Bodo, Lushei, and other southern languages. From Kachin at this linguistic center of diversification, transitions are afforded by Nung to Burmese-Lolo on the east, and by the Konyak or 'Naked Naga' languages to Bodo-Garo on the west. The Kadu-Andro-Sengmai or Luish group, first recognized by Grierson,\(^{16}\) shows special affinity for Kachin, as docs Taman (R. G. Brown, 1911), but none of these languages is sufficiently well known to justify further classification.

Bahing-Vayu, Abor-Miri-Dafla, and Bodo-Garo are relatively compact units. Bahing is the best known of a number of little differentiated languages and dialects of Nepal – the Kiranti languages of Hodgson (1857–8). Two subtypes can be recognized, viz. Bahing (including Sunwari, Dumi, Khaling, Rai) and Khambu (including Sangpang, Nachereng, Rodong, Waling, Rungchengbung, Lambichong, Chingtang, Limbu, Yakha). Vayu and Chepang (Hodgson, 1848) stand fairly close to this Kiranti nucleus, whereas Newari, the old state language of Nepal, shows many points of divergence and cannot be directly grouped with

\(^{16}\) G. A. Grierson, ‘Kadu and its Relatives’, *BSOS* 2 (1921), 39–42.

\(^{17}\) The scanty material on the Luish group has now been supplemented by Bernot (1967), which includes a vocabulary of some 500 words of Cak as well as comparisons with other languages of the group.
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Bahing and Vayu. Abor-Miri and Dafla make up the nucleus of the (so-called) ‘North Assam’ group of Konow\(^{18}\) and the *Linguistic Survey of India (LSI)*. Aka (or Hrusso) has the most points of contact with this nucleus, and Dhimal (in Sikkim) the fewest.\(^{19}\) The Mishmi tribes of North Assam show a fundamental linguistic cleavage, not recognized in the *LSI*, into Digaro and Miju (Needham, s.a., Robinson, 1855), both with rather vaguely defined resemblances to Abor-Miri-Dafla and Aka. Bodo (including Dimasa) and Garo are subtypes of a well-differentiated nucleus which includes also the moribund and phonetically aberrant Deori Chutiya language of North Assam (W. B. Brown, 1895).\(^{20,21}\) The ‘Naked Naga’ (Konyak) languages of the northern Assam–Burma frontier region (Banpara, Namsang, Tablang, Tamlu, Moshang, Chang) are most profitably compared with Bodo-Garo, though some of the easternmost members of the

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\(^{18}\) S. Konow, ‘Note on the Languages spoken between the Assam Valley and Tibet’, *JRAS* (1902), 127–37.

\(^{19}\) Note that Toto, listed as ‘Non-Pronominalized Himalayan’ in the *LSI* (Grierson, 1909), is hardly more than an aberrant dialect of Dhimal (Hodgson, 1847\(^a\)).

\(^{20}\) Garo shows an interesting division into two subtypes, which we have named
group (Moshang and Shangee, in Needham, 1897) show points of contact with Kachin. Chairel, an extinct speech of Manipuri preserved only in a word-list by McCulloch (1859), is best grouped with Bodo-Garo and Konyak. Especially striking is the Kachin-Konyak-Bodo-Garo-Chairel distribution of distinctive roots for ‘sun’ and ‘fire’ (contrast general TB *niy and *mey):

<table>
<thead>
<tr>
<th>Kachin</th>
<th>Namsang</th>
<th>Moshang</th>
<th>Garo</th>
<th>Chairel</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
<td>džan</td>
<td>san</td>
<td>šar</td>
<td>sal</td>
</tr>
<tr>
<td>fire</td>
<td>?wan</td>
<td>van</td>
<td>var</td>
<td>wa?l</td>
</tr>
</tbody>
</table>

Tibeto-Kanauri includes two subnuclear groups, viz. Bodish and Himalayish. Tibetan has been combined with a number of ‘Tibetanoid’ languages on the eastern and southern borders of Tibet (Gyarung, Takpa, Tsangla, Murmi, Gurung) to form the Bodish group, which in itself is considerably diversified. The Bodish group thus constituted shows intimate ties with the Himalayish languages of the western Tibet–India frontier area, yet the two groups are distinct and no transitional types occur. A major subtype of Himalayish, typified by Kanauri, includes also Chitkuli, Thebor, Kanashi, Rangloi (or Tinan), Bunan, Manchati, and Chamba Lahuli, while a minor subtype is made up of four little-known languages of the state of Almora (Rangkas, Darmiya, Chaudangsi, Byangsi). Zhang-zhung, an extinct language known only from a Tun-huang manuscript, appears to have been an early representative of the Kanauri subtype. Konow has suggested, largely on the basis of the complex pronominal system of Kanauri and other Himalayish languages, that a Munda substratum must be postulated for this area, but the argument is not convincing. Dzorgai (western Szuchuan), Lepcha (Sikkim), and Magari (Nepal) all appear to be closer to Tibetan-Kanauri than to any other nucleus. Lepcha (or Rong), which exhibits many of the transitional

‘Garo A’ (Rabha, Ruga, Atong) and ‘Garo B’ (Abeng, Achik, Awe), the latter spoken by the dominant political divisions of the tribe. This distinction is partially recognized in A. Playfair, *The Garos*, London, 1909.

23 See S. Konow, ‘On some facts connected with the Tibeto-Burman dialect spoken in Kanawar’, *ZDMG* 59 (1905), 117–25. The vigesimal system of numeration, attributed by Konow to Munda influence, appears in several other Tibeto-Burman areas, e.g. among the Nung (see C. H. Desgodins, *La Mission du Thibet*, Paris, 1872, p. 260) and in the Assam–Burma area (Mikir in-kol > in-koi, Garo kol, Meitei kul, Kachin khun < khul ‘score’).
24 R. A. D. Forrest (‘Lepcha and Mon-Khmer’, *JASO* 82, 1962) has marshalled impressive evidence for the view that there is a Mon-Khmer substratum in this language, as shown especially by lexical correspondences for key items such as ‘dog’, ‘water’ and ‘excrement’. The same paper includes an attempt to demonstrate a relationship between Lepcha infixed -y- and a hypothetical equivalent in
qualities of Kachin, might equally well be regarded as a separate nucleus linking Tibetan-Kanauri with Bahing-Vayu and groups on the south. Magari (Beames), which, like Newari, has been extensively influenced by Indic, shows interesting lexical agreements with Bahing-Vayu (especially Vayu and Chepang), and might be regarded as a Bodish-Bahing link. Dzorgai, the ‘Outside Man-tze’ of Lacouperie (Languages of China), is not sufficiently well known for more detailed classification.

Burmeso-Lolo takes the form of a vast net of languages and dialects spread over a wide area in China (Szuchuan and Yünnan), Burma, Thailand, Laos and Vietnam. Three main subtypes can be distinguished, viz. Burmeso-Maru (including Phōn, Lashi, Atsi, Achang), Southern Lolo (including Phunoi, Akha, Lahu, Black Lolo, White Lolo, Mün), and Northern Lolo (including Lisu, Ahi, Nyi, Lolopho, Chōko, Phupha, Ulu, Independent Lolo). Distinct residual subtypes are represented by Kanburi Lawa of northern Siam (Kerr), Moso (or Nakhi) of western Yünnan (Bacot), and the so-called Hsi-fan languages of western Szuchuan, including Manyak and Horpa (Hodgson, 1853 bis), Menia (Davies), and Muli (Johnston). Nung (or Nu-tzū), spoken in the upper reaches of the Nmai Kha valley (northern Irrawaddy drainage), stands fairly close to the Burmeso-Lolo nucleus, yet has numerous points of contact with Kachin.

Three extinct languages of Burmeso-Lolo type are known. Hsi-hsia, spoken in northwestern China during the eleventh and twelfth centuries, is related not simply to Moso and Lolo, as recognized by Laufer, but to Burmeso-Lolo as a nucleus. Chinese, but Forrest has now (personal communication, 1969) abandoned that theory in favor of the simpler explanation offered by Benedict (1943) which had escaped his attention (see §22).

25 T. Nisida has recently discovered a ‘new’ Loloish language (spoken in Chiangrai Province, Thailand), called Bisu, with a conservative final consonantism which seems to place it in the Phunoi-Pyen branch of the family; see his ‘Bisu-go no kenkyuu’, TAK 4, 1; ‘Bisu-go no keitoo (zoku)’, TAK 4, 5, 1966–7 (JAM).


28 B. Laufer, ‘The Si-Hia Language: A Study in Indo-Chinese Philology’, TP 17 (1916), 1–126. This study is based on the material assembled by A. I. Ivanov,
The Hsi-hsia material, despite the not inconsiderable body of recent research, has not yet received definitive treatment and the Burmese-Lolo affinities of the language have not been properly evaluated. It is not unlikely that Hsi-hsia is ancestral to at least some of the Hsi-fan languages, as suggested by the geographical factors involved. Pai-lang, which appears in the form of short texts in the Hou Han Shu (third century A.D.), must take precedence over Tibetan and Burmese as the earliest recorded Tibeto-Burman language. Pai-lang presents formidable problems of interpretation, which have been only partially solved. The Burmese-Lolo characteristics of the language, noted by Wang, are sufficiently clear, but the numerous and striking phonetic peculiarities demand further attention. The resemblances between Hsi-hsia and Pai-lang are of a generalized rather than specific nature. The third of this group of extinct languages is Pyu, the speech of a pre-Burmese people of Burma, probably to be identified with the P'iao of the Chinese annals. The extremely fragmentary nature of the Pyu inscriptions, which have been studied by C. O. Blagden, discourages any attempt at precise

‘Zur Kenntnis der Hsi-hsia Sprache’, Bull. de l’Acad. Imp. des Sciences de St Pétersbourg 3 (1909), 1221–33. As pointed out independently by P. Pelliot in TP 24 (1926), 399–403, and E. von Zach in OLZ 30 (1927), 4–5, Laufer’s failure to note that Ivanov had reversed the order of the Chinese characters used in transcription led to a number of serious errors.


30 See also T. Nisida, Sei-ka-go no kenkyuu, 2 vols., Zauhoo Press, 1964 (JAM).


33 A comparative sketch of Pyu (by Benedict) is included in STL, Appendix VI to Vol. 12. R. Shafer (‘Further Analysis of the Pyu Inscriptions’, Hfias 7, 1943, 313–66) attempted a direct comparison of the limited Pyu lexical material with Karen, but the evidence as a whole would appear specifically to exclude any special Pyu-Karen relationship, although one interesting correspondence of ‘loan-word’ type does exist: Pyu tha ‘iron’ (we should expect *tha?), Karen tha?, id. (probably ultimately of AT origin); note also Ch. t’iet, id.

a 白狼 b 驃 c 尼卒 d 王静如 e 西夏文及藏譯音釋略 f 西夏研究 輝 g 鐮
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classification. The material brought to light thus far suggests a rapprochement with Nung rather than with Burmese-Lolo proper.

Kuki-Naga, the last of our seven primary nuclei to be considered, is of the same taxonomic order as Burmese-Lolo, i.e. it is made up of a long series of closely related languages and dialects with numerous cross-ties in all directions. A core of Kuki languages proper, in the southern Assam-Burma frontier region, must be recognized, as well as four subtypes within this core, viz. Central Kuki (incl. Lushei, Lai or Haka, Lakher), Northern Kuki (incl. Thado and Siyin), Old Kuki (incl. Bete, Rangkhol, Anal, Lamgang, Purum, Aimol, Kyaw), and Southern Kuki (incl. Sho, Yawdwin, Chinbok, Khami). The Old Kuki languages are spoken by ‘marginal’ tribes which have been driven out of the Chin and Lushei Hills by the more vigorous Kuki peoples, notably the Lushei. They represent a somewhat archaic variety of a fundamental Kuki type which has given rise to the Central and Northern Kuki languages. The Southern Kuki group, especially Khami, stands somewhat apart from this basic type.

The above classification of the Kuki languages agrees essentially with that of Konow34 and the LSI. The LSI further sets up a distinct Naga family and a transitional Naga-Kuki group. Actually, however, no sharp (linguistic) distinction between Kuki and Naga can be maintained, and the two must be placed together under a single rubric (Kuki-Naga). The languages of the Naga tribes proper fall into two main subtypes, viz. Northern Naga (incl. Ao and Lhota) and Southern Naga (incl. Angami, Sema, and Rengma). Sopvoma (or Mao), in the latter group, exhibits some Kuki features, but the real transition here is afforded by the Western Kuki languages of Cachar and western Manipur (Empeo, Kabui, Kwoireng, Maram, Khoirao). The Tangkhul (or Luhupa) language of northern Manipur, several dialects of which have been recorded, stands somewhat closer to the basic Kuki type. Maring and Khoibu, in northeastern Manipur, are of transitional Tangkhul-Kuki type. Poeron, in the western Kuki area, approaches Tangkhul in some respects, but its correct classification remains in doubt.

Mikir (Assam), Meitei (Manipur), and Mru (Chittagong Hills Tract) all show numerous Kuki-Naga correspondences, yet are sufficiently distinct to be listed as separate linguistic entities. Mikir was originally listed as ‘Naga-Bodo’ by the compilers of the LSI, and it was left for an amateur linguist, Sir Charles Lyall,35 to point out the basic Kuki affinities of the language. Meitei, the state language of Manipur, shows significant points of contact with Kachin as well as with Kuki-Naga, though its affinities are predominantly with the latter. Mru has obvious

Kuki-Naga resemblances, but has been too scantily recorded (Lewin) to permit of detailed examination.\textsuperscript{36}

Supergroups within Tibeto-Burman cannot safely be set up at the present level of investigation. The writer has suggested (Benedict, 1940, pp. 108–9) that a supergroup named ‘Burnnic’, including Burmese-Lolo, Nung, and Kachin, be recognized, but further research into Kachin has brought to light unexpectedly intimate lexical contacts with Konyak and the Garo-Bodo group. It may be that all these, perhaps together with Abor-Miri-Dafla, will ultimately be brought under a single supergroup, as contrasted with the Kuki-Naga nucleus, but at the moment any unifying concept of this kind would be mere speculation. For the present, then, we must operate with nuclear or subnuclear divisions and with independent units, notably Bodish (Tibetan et al.), Himalayish (Kanauri et al.), Lepcha, Magari, Kiranti (Bahing et al.), Vayu, Newari, Mirish (Abor-Miri-Dafla), Kachin, Luish (Kadu-Andro-Sengmai), Burmish (Burmese-Lolo), Nung, Barish (Bodo-Garo), Konyak, Kukish (Kuki-Naga), Mikir, and Meithei.

\section*{§ 5. Tibeto-Burman reconstruction (history)}

The reconstruction of the TB phonemic system is a task of paramount importance in the consideration of Sino-Tibetan. Some progress in this direction has already been made, yet no real synthesis of the material has hitherto been attempted. Houghton\textsuperscript{37} pioneered in setting up equations for Tibetan and Burmese, while the first ‘modern’ studies in the general field of TB phonology were those of Wolfenden (see notes below). More recently R. Shafer and the writer, working in part from the same voluminous body of material,\textsuperscript{38} have established a number of phonological generalizations in this field, with a special view to the system found in Ancient Chinese.\textsuperscript{39} The present work may be regarded as an attempt to systematize and extend these results along phonemic and morphophonemic lines.


\textsuperscript{38} Material assembled on the Sino-Tibetan Linguistics Project of the Works Progress Administration, sponsored by Prof. A. L. Kroeber of the Univ. of California, 1935–40.

\textsuperscript{39} R. Shafer, ‘The Vocalism of Sino-Tibetan’, \textit{JAOS} 60 (1940), 302–37;
§6. Tibeto-Burman primary sources

Our principal sources for Tibeto-Burman are listed in Appendix III. Tibetan and Burmese, the two important literary members of the family, are relatively well known (Csoma de Körös, Schmidt, Jäschke, Das, Missionaires Catholiques, and Judson), but the minor literary languages (Newari, Lepcha, Meithei) have unfortunately been so poorly described that only limited use can be made of them. A number of the non-literary TB languages, which make up the bulk of the family, have been rather fully, if not very accurately, recorded, and most of this material can be used to good advantage if sufficient judgment is exercised. Included in this group are Ahi Lolo (Liétard), Ao Naga (Clark), Bahing (Hodgson, 1857–8), Bodo (Endle, Hodgson, 1847, Skreifsrud), Chang Naga (Hutton, 1929), Dafila (Bor, Hamilton), Garo (Bonnerjea, Chuckerbotty, Garo Mission, Keith), Gyarung (Edgar, Rosenthorn, Wolfenden), Haka (Macnabb, Newland), Kachin (Hanson, Hertz, Needham), Kanauri (Bailey, Joshi), Lahu (Telford), Lakher (Savidge), Lisu (Fraser, Rose and Brown), Lushei (Lorrain and Savidge), Maru (Abbey, Clerk), Mikir (Neighbor, Walker), Miri (Lorain, Needham), Nyi Lolo (Vial), Nung (Barnard), Sema Naga (Bor and Pawsey, Hutton), Sho (Fryer, Houghton), Siyin (Naylor, Rundall), Tangkhul (Pettigrew), Thado 61 (1941), 18–31. P. K. Benedict, 'Semantic Differentiation in Indo-Chinese', HJAS 4 (1939), 213–29; 'Studies in Indo-Chinese Phonology: 1. Diphthongization in Old Chinese, 2. Tibeto-Burman Final -r and -l', HJAS 5 (1940), 101–27.

40 A much better recent source is Yüan Chia-hua, The Folklore and Language of the Ahi People, Peking, 1953 (in Chinese) (JAM).


43 W. Bright has done fieldwork with the Lushei in Burma; see his 'Singing in Lushai', Indian Linguistics 17 (1957); 'Alternations in Lushai', ibid. 18 (1957) (JAM).

44 See R. Burling, 'The addition of final stops in the history of Maru', Language 42, 3 (1966) [already noted in Benedict, 1948, who pointed out the analogy with Archai Chinese]; also his comparative study, 'Proto-Lolo-Burmese', IJAL 43, 2 II, 1967 (JAM).


46 A modern study is provided by T. Stern, 'A Provisional Sketch of Sizang (Siyin) Chin', Asia Major 10 (1963), 222–78. E. J. A. Henderson, Tiddim Chin,
(Hodson, Shaw). In the present sketch we shall devote most of our attention to Tibetan-Kanauri, esp. Tibetan (T); Kachin (K); Burmese-Lolo, esp. Burmese (B); Bodo-Garo, esp. Garo (G); and Kuki-Naga, esp. Lushei (L). In every point under discussion, however, an attempt will be made to present all the relevant evidence, whether from these key languages or from elsewhere.47

§7. Tibeto-Burman consonants (general; final)

Some 16 consonant phonemes can be postulated for Tibeto-Burman, as follows:48

Velar: $g$ $k$ $q$ $h$
Dental: $d$ $t$ $n$ $s$ $z$ $r$ $l$
Labial: $b$ $p$ $m$
Semi-vowels: $w$ $y$

Let us first examine the development of these consonants in root-final position. All except the sonants $g$, $d$, $b$, and $z$, also the aspirate $h$, appear in this position. Consonant clusters, however, are lacking here, although they occur in modern derived forms, e.g. T- $g$s, -bs (with suffixed -s). All the major TB groups exhibit a system of final stops and nasals, the former in most languages being represented by surds.49 Many TB roots are of this type, e.g. *krap ‘weep’, *g-sat ‘kill’, *s-rik


47 Three types of notation are employed in our analysis and must be kept distinct, viz. phonemic symbols, within diagonal lines (as generally employed by American phonemicists); phonetic symbols, within brackets; transcriptions, within parentheses. Forms cited alone are ordinarily transcribed for Tibetan and Burmese, phonemic or phonetic for other languages. The phonemic treatment of modern Burmese is based on the writer’s study of this language from a native informant at Yale University, 1942, under the auspices of the American Council of Learned Societies. This treatment differs somewhat from the almost exclusively phonetic approach found in L. E. Armstrong and Pe Maung Tin, A Burmese Phonetic Reader, London, 1925.

48 A palatal series has now been reconstructed for TB (n. 122).

49 In Classical Tibetan these final stops are written as sonants (-$g$, -$d$, -$b$), and it has generally been supposed that they were originally sonant stops that have become unvoiced in modern Tibetan dialects. In view of the evidence from other TB languages, however, one must conclude that these stops were weakly articulated, imploded lenis surds which the Tibetan alphabet-makers likened to their initial lenis sonant rather than fortis surd stops. A similar situation exists in Siamese, in which final surd stops were written with letters for lenis rather than fortis stops.
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'loose', *lam 'road, way', *s-min 'ripe', *ruŋ 'horn' (cf. the many examples cited below). The final velars (-k, -ŋ) tend to disappear much more readily than do the dentals or labials, e.g. in Thebor as contrasted with Kanauri, in Dimasa as contrasted with Garo, in Kachin and Nung, and in practically all modern Burmese-Lolo languages as contrasted with Old Burmese.50,51

Final stops and nasals make up distinct series in Tibeto-Burman, and most instances of interchange can readily be interpreted in terms of conditioning factors, e.g. B yauk-má ~ yauŋ-má 'pudding-stick', with -k > -ŋ before -má (cf. T yog-po 'poker'). Factors of this type play a prominent role in the verb paradigms of Baining, Kanauri, Tsangla, Miri, and many other TB languages, e.g. Baining bap-to 'scratch' (imperat.), bam-so (refl.), bam-pato (caus.).52 Assimilative shifts after front vowels can be traced in several languages, notably in Burmese, where final velars are palatalized after i (see §11), and in Lushei; cf. L mit 'eye' < TB *mik, L va-hrit 'black pheasant' < TB *s-rik, ti-t 'scorpion' < TB *(s-)-di-k. The medial palatal element -y- sometimes exerts a similar influence, as in L phiat 'sweep' ~ phia? 'broom' < TB *pyak; cf. L ta? 'weave' < TB *tak for the replacement of final -k by glottal stop.

The TB series of final consonants includes also -r, -l, -s, -w, and -y. Final -w and -y are most conveniently considered in relation to the vowel system (see §10). Final -r and -l have already been studied by the writer in some detail (Benedict, 1940). These two consonant finals are retained in Tibetan, Kanauri, Lepcha,

Dr Mary Haas, in her phonemic treatment of modern Siamese, writes these stops as sonants (-g, -d, -b); see her article, ‘Types of Reduplication in Thai’, Studies in Linguistics 1, No. 4 (1942).

50 Final -k is generally replaced by glottal stop, as in the Lolo languages (see §12) and probably in Kachin, e.g. Needham (1889) observes that K mi < *mik 'eye' and wa < *pak 'pig' are 'uttered sharply'; Jili preserves final -k in the latter root (texak). Dimasa, however, replaces -k by -u after the vowel a (G gitsak, Dimasa gadžau 'red'; G džak, Dimasa yau 'hand'); cf. Dimasa -t > -i after a (G khat, Dimasa khai 'run'; G sat, Dimasa sai 'sow, sprinkle').

51 There is a continuum of final-consonant attrition in Lolo-Burmese. A few languages (Bisu, Phunoi) preserve some final stops and nasals; others reduce all final stops to -p (Mod. Burmese, Lahu, some Akha dialects) or to a creaky, laryngeal constriction of the vowel (Hani Lolo, Nasu, other Akha dialects) or to zero (other dialects of Akha). In many cases (e.g. Lisu) the degree of preservation of a final stop in a particular Loloish language depends on which of the two 'stopped tones' the syllable belonged to (see n. 259). Similarly, final nasals either reduce to vowel nasalization (Mod. Burmese, some Akha dialects) or disappear altogether after altering the vowel quality (Lahu, Lisu, etc.) (JAM).

52 Shafer (JAOS 60, 1940, pp. 311–12 and Note 23) seems to misinterpret the Baining phenomenon. Baining verbal stems are well preserved in the transitive imperative forms; contrast bap-to 'scratch' (with stem *bap) and mim-to 'understand' (with stem *mim).
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Nung, Lushei, Dimasa, Moshang, et al.; are replaced by -n in Kachin\textsuperscript{53} and alternated with -n in Meithei; are merged in Garo (-r>-l); and are treated divergently in Mikir (-l>-i or dropped, -r retained).\textsuperscript{54} The following pair of roots is representative:

1. T 'bar-ba 'begin to bloom, blossom', L pa-r 'flower, to blossom', Mikir par 'petal', anphar (**a-iyphar <**a-mphar) 'catkin, inflorescence, flower', G bibal 'flower', Dimasa bar-guru 'to blossom', Dhimal bar 'to flower', K pan, B pàn 'flower', from TB hbar.

2. Lepcha (a-)myal-(a-)myel <s-mal~s-mel, L hmul, Mikir aymii <aymil, Nung mil, G kimil, Moshang muil~kumul, B (a-)mwe 'body hair, fur, feathers',\textsuperscript{55}

\textsuperscript{53} Kachin on occasion has final -n ~ -o doublet for TB final -l; cf. K myen ~ mye 'fall into sleep', TB myel; K ban 'to be at rest', ba 'tired' <TB bal. Tibetan has final -l ~ -n alternation in several roots of this type; cf. sril<srin(-bu) 'worm (silkworm) <**zril (n. 121); 'gran-pa 'fight but ral-gri 'sword' (=war-knife) <TB *ra'l (n. 220); cf. also T kun 'all' <TB *m-kul; skyin 'wild mountain goat' <TB *kye-l ~ *kyl[-]; snin-ma 'eyebrow' <TB *(s)-mul ~ *(s)-mil (n. 56).

\textsuperscript{54} Gyarung (K. Chang, 1968) has a distinctive treatment of TB *-ul, via *-il; cf. Gyarung pa'ei 'silver' <TB *(d)-yul; Gyarung khorei 'snake', TB *b-ru'l. Burmese shows a complex picture in its reflexes for TB final -l and -r, with vowel quality and possibly also length playing a role. In TB final *-il there is simple loss of *-l, but in TB *-ul there is variation between replacement by -n and by -i (followed by *-ui > *-ee); see n. 55; add B tše 'wash' <TB *(m)-syil; B re 'water' <TB *(m)- térl (n. 95); also B akun 'all' <TB *(m)-kul (n. 64); good examples for TB *-ir or *-ur are not at hand. TB roots with final *-ar or *-al (short or long vowel) show three distinct types of reflexes in Burmese (TB roots cited in form to indicate precise vowel-length information):

(a) simple loss of final consonant: B kâ 'dance' <TB *gar; B khâ 'loins' <TB *s-gar (n. 66); B hâ (phâ) 'frog' <TB *s-b [a, a'] l; also the following root: T gsal-ba 'to be clear, distinct, bright', K san 'clear, pure', Nung san 'clean' (apparently a loan from Kachin), B sa 'clear, pleasant'.

(b) replacement by final -n: B pân 'flower' <TB *bar; B swan ~ swan 'pour, upon') <TB *sw [a, a'] r; B san 'louse' <TB *s [a, a'] r ~ *s [a, a'] r; B ran 'quarrel' <TB *ra'l; B pân 'tired' <TB *b [a, a'] l; B wân 'circular' <TB *wal.

(c) replacement by final -i: B wai 'buy' <TB *yvar (n. 170); B kâl 'lead', T 'khar-ba ~ mkhar-ba 'brass, bronze, metal', from TB *k [a, a'] r; B kâl 'congeal', Kuki *khal: L khal, Tiddim xal, but the Burmese form might belong rather with L khar 'congeal, crust over, be frozen'; cf. also T gar-ba 'strong', gar-bu 'solid' = 'not hollow', gar-mo 'thick, e.g. soup'; cf. also B bhâi 'duck', apparently an early loan from an AT infixed root of the type *b/al/i(t)s/bi(t) (reduplicated) via *barbi- with the fore-stressing and replacement of l/l by r which is typical of these TB loans (Benedict, 1967bis).

\textsuperscript{55} Mwe <*mul <*mual (replacement by -i), also mun <*mul (replacement by -n) in the phrase pâ-min 'whiskers' ('cheek-hair') for pâ-mwe. Replacement of -l by -l is the regular treatment after the vowel u; cf. B mye, T dyul 'silver'; B mrwe, T sbrul 'snake'. Samong and Megyaw (Phôn dialects), which are closely related to Burmese, replace -l by -y; cf. Samong moy ng 'snake' and 'silver', Megyaw myain 'body hair' and 'silver' (cf. Coll. T mul 'silver'). Simple loss of -l after a and i is
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K mun~nmun, id., niymun~nmun < *r-mul ‘beard’, from TB *(s-)mul ~ *(r-)mul.56

There is some evidence for alternation of final *r or *l with final vowel; cf. Kuki-Naga hna-r < *s-na-r ‘nose’57 in relation to TB *s-na, id.; also the following root:

(3) L ha-hni, Mikir so-ni, Dimasa ha-rni, G wa-riy < *wa-rni ‘gums (of teeth)’ but general TB *r-nil ~ *s-nil, as represented by T rnyil~snyil~so-rnyil, Lepcha fo-nyal~fo-nyel < *s-nål~*s-nel, Kanauri stil~til < *snil, Thebor nil, K wa-nin (Assamese dial.).58

TB final *-s is maintained only in some of the northern speeches, notably Tibetan, Gyarung and Kanauri. We have reconstructed this final, on the basis of the correspondences in Kachin (-t) and Lushei (-ʔ), for the roots *g-nis ‘2’, *s-nis ‘7’ (originally ‘5+2’) and *rus ‘bone’.

<table>
<thead>
<tr>
<th>Tibetan</th>
<th>Kanauri</th>
<th>Gyarung</th>
<th>Garo</th>
<th>Kachin</th>
<th>Lushei</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) two</td>
<td>gnyis</td>
<td>nis</td>
<td>kēnēs</td>
<td>gni</td>
<td>ni&lt;sup&gt;60,61&lt;/sup&gt;</td>
</tr>
<tr>
<td>(5) seven</td>
<td>—</td>
<td>{stis</td>
<td>kēsnēs</td>
<td>sni</td>
<td>—</td>
</tr>
<tr>
<td>(6) bone</td>
<td>rus-pa</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>nrut</td>
</tr>
</tbody>
</table>

Contrast the following root:


56 T smın-na ‘eyebrow’ belongs with this set; see n. 53 for the final -n; we must recognize a doublet: *(s-)mul ~ *(s-)mil, with the typical TB (and ST) medial u ~ i alternation reflected also in Chinese (n. 477).

57 Add Mikir īmnar ‘elephant’, from *m-nar= ‘the snouted (nar) one (m-)’ (Benedict, 1940).

58 Lepcha also has the triplet form -pel, which Grünwedel relates to ā-thyok ā-pel ‘crown of head (ā-thyok)’. Possibly connected with TB *r-ni ‘red’ (n. 265).

59 We can now add TB *r-tas ‘thick’ (n. 63), although Nungish (Rāwang) has that (cf. Rāwang snət ‘7’); also TB *s-nes: Gyarung āsās ‘lip, beak’; Kuki-Naga *hneʔ: L heʔ, Tiddim neʔ ‘lower lip’; cf. also K medi ‘to be wet; wet’, medıt ‘to wet; wet’, Kanauri thi-ss ‘wet’, under TB *ti(y) ‘water’.

60 K ni ‘2’ has probably been derived from a form *nik with suffixed -k; cf. Bahing nik-si ‘2’ and B hnats < s-nik ‘2’, paralleling tatts < tik ‘1’. Nung shows the same development as Kadu, with ni ‘2’ but snit ‘7’. B khū-hnats ‘7’ (khū ‘unit’) is of the same type as TB *s-nis; cf. also Lepcha nyat < *s-nis ‘2’.

61 Maran cites K ni (mid tone), indicating that the earlier form was neither *nis (which would have yielded K *nit) nor *nik (which would have yielded K niʔ) but simply *ni (agreeing both with Karen and Chinese), the *-s being an old suffix: TB *g-ni-s. The history of B hnats ‘2’, however, remains obscure (probably not < *hnis, since Burmese has ārut ‘bone’ for TB *rus).
Tibeto-Burman consonants (general; final)

Purik *pug-ma ‘collar-bone’; Burmese-Lolo *put as reconstructed from Maru *pat-lau ‘knee’, Phunoi *phat tho khau ‘kneel’; here we must reconstruct *put rather than *pus because of the Nung and Burmese-Lolo evidence. Replacement of final *-s by glottal stop in Lushei is further attested by L hu? ‘wet’, T hus ‘moisture, humidity’ (contrast L hu, West T hu ‘breath’), and perhaps L ra? ‘fruit, to bear fruit’, T ’bras ‘rice’.62

§8. Tibeto-Burman consonants (initial)

All 16 TB consonant phonemes are found in initial position, both singly and in clusters. The general equations that obtain here are indicated in the table below. These equations have been set up, insofar as possible, on the basis of roots showing a minimum of prefixation. The conditioning role of prefixes is all-important, hence it is imperative that correspondences be established for non-prefixed roots.

<table>
<thead>
<tr>
<th>TB</th>
<th>Tibetan</th>
<th>Kachin</th>
<th>Burmese</th>
<th>Garo</th>
<th>Lushei</th>
</tr>
</thead>
<tbody>
<tr>
<td>*k</td>
<td>k(h)</td>
<td>k(h)~g</td>
<td>k(h)</td>
<td>k(h)~g</td>
<td>k(h)</td>
</tr>
<tr>
<td>*g</td>
<td>g</td>
<td>g~k(h)</td>
<td>k</td>
<td>g~k(h)</td>
<td>k</td>
</tr>
<tr>
<td>*t</td>
<td>t(h)</td>
<td>t(h)~d</td>
<td>t(h)</td>
<td>t(h)~d</td>
<td>t(h)63</td>
</tr>
</tbody>
</table>

62 Cf. the treatment of this problem in S. N. Wolfenden, ‘Concerning the Variation of Final Consonants in the Word Families of Tibetan, Kachin, and Chinese’, JFRAS (1937), 625–55, esp. pp. 647 ff. Wolfenden prefers to derive -s from -ds or -ns (lacking in Tibetan) in all instances. This view appears to have been suggested by the appearance of -t in Lepcha parallelōng -t in Kachin, as in Lepcha əhrāt ‘bone’, nyāt ‘2’; cf. also Lepcha vot<vat, Vayu siy<wo <-wao ‘bee’, Kanauri wäs ‘honey’. T pus~pis ~ *puds ‘knee’ (with suffixed -s) is supported by the West T forms puks-mo (Purik) ~ buχ-mo (Balti) and pig-mo (in Jäschke); cf. also T mhkris-pa, West T tḥigs-pa ‘bile, gall’, TB *m-kri-t.

63 Lushei has initial t- for TB *t- only where the initial is unaspirated (because of an earlier prefix); the aspirated initial has produced tšh- in Lushei, s- in Thado, Siyin and Tiddim; cf. L tšhā2, Tiddim sa2 ‘thick’, from TB *r-tas; L tšhuak ‘free, release, come or go out’, Siyin suak ‘emerge’, B thwak ‘come out, emerge’, from TB *twak; L tšh-y ‘the inside (of anything)’, Tiddim suγ ‘inside’; Bodo siŋ, Dimasa bisiŋ ‘inside, within’, Nungish: Rawang adyuŋ ‘in, middle’, maduyŋ ‘to be perpendicular, to straighten’, Trung autug ‘middle’, from TB *tw-y (No. 390), the last supported by an excellent Ch. correspondence *tuŋ/jiuniŋ ‘middle’); apparently to be excluded from this set are both T gṣuŋ (perhaps from *gdṣuŋ) ‘the middle, midst’ and B tway ‘in’, äthwaiŋ (-twaiŋ) ‘within’. The initial cluster *ty-apparently gave rise to Lushei and Thado s-, Tiddim s-; cf. L šen, Thado ā-šen, a ſ
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**TB Initial Consonants (cont.)**

<table>
<thead>
<tr>
<th>TB</th>
<th>Tibetan</th>
<th>Kachin</th>
<th>Burmese</th>
<th>Garo</th>
<th>Lushei</th>
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<td>s</td>
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<tr>
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<tr>
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<tr>
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<td>y</td>
<td>y</td>
<td>tś~dz</td>
<td>z</td>
<td></td>
</tr>
</tbody>
</table>

Illustrations of TB initial stop consonants:

(8) T kha-ba, K kha, B khâ, G kha, L kha ‘bitter’ (TB *ka).
(9) T bka, B ts-a-ka ‘word, speech’, K gà~ògò ‘word, speech’, ści ‘speak’, Nung kha ‘speech, language’ (TB *ka).
(10) T kun ‘all’, B kun ‘to come to an end, be used up’, ãkun ‘all’ (TB *kun); Lepcha gún ‘all, each, whole’ is probable T loan.\(^{64}\)
(11) T gar ‘a dance’, K gan~kangan~khan ‘leap, bound, canter’, L ka-r ‘to step, pace, stride’ (TB *gar).\(^{65}\)
(12) T mkhal-ma, L kal ‘kidneys’, B khâ ‘loins’; cf. T sgal-pa ‘small of the back’, Meitei nam-gal~nam-gan, Maring nam-gal, G dzan-gal ‘back’ (TB *m-kal).\(^{66}\)

Tiddim san ‘red’, B ta ‘very red, flaming red’, tya ‘very red’ (for Ch. correspondences see n. 488). L tsh- can also stand for an original TB *tsy- (= tś-), as in No. 353 (tśuk ‘steep’).

\(^{64}\) These forms appear to belong with TB *m-kul ‘20’ in view of Mikir inko (early form inkol) ‘20’, from koi ‘all’ (see p. 119); for the final, see nn. 53, 54.

\(^{65}\) Also Lahu qâ ‘dance’, implying PLB *kha (JAM). B kâ ‘dance’, with loss of final *-r (n. 54) and Lisu gwa- (irreg. tone), id., suggest an early doublet form with initial *g- in Burmese-Lolo.

\(^{66}\) B khâ ‘loins’ belongs with a distinct TB root: *s-ga-l, along with remaining forms cited in text, as shown by Tiddim Chin xa:l< *kha:l ‘groin’ (tone 3), distinct from kal ‘kidney’ (tone 1); cf. also K kan (perhaps from *kal) ‘to put, or be, on the back’.

18
Tibeto-Burman consonants (initial)

(13) T dgu, Kanauri zgūi~gūi, Nung tsgū, K džkh, B ku, G sku, L kua~
pkua '9' (TB *d-kw).

(14) Kanauri ku, K gau, Nung go, B khau, Dimasa ďuru-khau, L kou, Empeo
gu 'call' (TB *gaw).67

(15) Nung gar, G gal, Dimasa gar 'leave, quit, abandon' (TB *gar).

(16) Limbu gip (in comp.), Miju kăp~kyp, Mikir kep~gip, Maring tšip~
kyp, Yawdwin gyip (in comp.), B khyip '10' (TB *gip).

(17) T 'thag-pa, Magari dak, K da?, G dak, L ta?, Mikir thak 'weave' (TB *
tak).68

(18) T thab, K dāp, G tṣudāp, Bodo gādap, L tap 'fireplace' (TB *tap).69

(19) T sta-gon 'preparation, arrangement', stad-pa 'put on, lay on', Tsangla
tha 'put, place', Kanauri ta 'place, set, appoint', Vayu ta 'put, place; keep',
Lepcha tho-m <*tha 'place', K da 'put, place', ta 'to be left, placed', B thā 'put,
place' (TB *ta).

(20) K dinduy, L duŋ 'length', Mikir dīy 'long' (TB *duŋ); cf. also Lepcha
(a-)thūy 'height, length'.

(21) T de 'that, that one', K dāi 'this, that', Nung de 'this' (TB *day).

(22) K dan, G den, Bodo dan, Dimasa dāiŋ <*dan, L tan, Mikir than 'cut',
Nung dan 'reap (cut with a sickle)' (TB *dan).

(23) T phu-bo, K phu 'elder brother', B āphui (ābhui), G bu, L pu, Mikir phu,
Meithei ipu 'grandfather' (TB *pu).

(24) T phā~phā~phā, B bhā, ābhā, G phā~pha, L pa 'father', but K
wa~wa, Kadu wa, Moshang wa, Bunau wa 'father' (TB *pā).

(25) T ba-spū 'a little hair (spū)', K pha, Nung ba, B pā, G ba 'thin' (TB *ba).

(26) T 'ba-ba 'bring, carry', K ba 'carry (child on back)', Nung ba 'carry (on
the shoulder)', G ba 'carry', Digaro ba 'carry (a child)' (TB *ba).71

(27) T 'bu 'worm, insect' (West T 'bu-riŋ 'snake'), Lepcha bū 'reptile, worm',
B pū 'insect', Bahing bu-sa, Digaro tsō~tśū, Aka bēi~bū, Miri tōbūi, Nung
bō, K pū~lpu, Kadu kṣphu, G tśipu 'snake' (TB *buw).

67 Lahu has kū 'call', implying PLB *kru (JAM).

68 Benedict (1967bis) has suggested a connection of this root with B rak,
Rāwang (Nungish): Mutwang dial. ḷrā? 'weave' (Morse), from an original TB
*trak (AT loan-word).

69 Benedict (1968 paper) has suggested a connection with TB *rap 'fireplace
shelf' (No. 84), from an original *trap/ drap (AT loan-word).

70 For this semantic transference, see the discussion in Benedict, 1942bis, esp.

71 This root has a direct correspondence with AT; cf. IN *(m)ba/ba, Thai *ba
'carry (especially on the back)' (possible early loan). Kachin has ba? (low tone)
(Maran) and the Mutwang dialect of Rāwang (Nungish) has ba? (Morse), both
pointing to an earlier *bak rather than *ba.
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(28) Lepcha bū ‘carry; burden, cargo’, abūn ‘vehicle’, Mirī buū, B puū, Mikir bu, Meithei pu, Ao Naga spu, L pu ‘carry (on the back or shoulders)’ (TB *buw).
(29) Bahing bal, B pān ‘tired, weary’, K ban ‘to be at rest’, ba ‘tired’ (TB *bal).
(30) K bop ~ lobop ‘calf of the leg’, L bop ‘leg, hind leg of an animal’ (TB *bop); cf. Lepcha (ā-)bop ‘large (as belly)’.72

The significant contrast in the stop series is that between voiced and unvoiced consonants. Aspiration is clearly of a subphonemic order; unvoiced stops are aspirated in initial position, unaspirated after most or all prefixes. Tibetan faithfully reflects this pattern in most respects. Tibetan surd stops are unaspirated after the prefixes g-, d-, b-, r-, l- and s-, but are aspirated after the prefixes m-, and s-; cf. the following verb forms: skor-ba ‘surround, encircle’, ’khor-ba ‘turn round’; gtib(s)-pa ~ thibs-pa ‘gather (of clouds)’, thib-pa ‘very dark’; dpuyan-ba ~ spyan-ba ‘suspend, make hang down’, ‘phyan-ba ‘hang down’. Tibetan does have a number of words with initial unaspirated surd stop, and thus aspiration after stops is phonemic here; yet these exceptional forms are unquestionably of secondary origin. Included in this group are (a) words with initial kl-, e.g. klu ‘serpent-demon’, kloj ‘wave’ (Tibetan lacks the cluster khl-), (b) reduplicated forms, e.g. kyr-kyir ‘round, circular’, kyom-kyom ‘flexible’, kru-kru ‘windpipe’ (West T), tig-tig ‘certainly’, pi-pi ‘fife, flute’ (West T ‘nipple; icicle’), (c) forms which interchange with prefixed or reduplicated forms, e.g. kog-pa ~ skog-pa ‘shell, rind, bark’, pags-pa ~ lpags (in comp.) ‘skin, hide, bark’, kug ~ kug-kug ‘crooked’, kum-pa ~ kum-kum ‘shriveled’, and (d) loan-words and forms based on modern dialects, e.g. Ladakhi ti ‘water’ (a loan-word from the Kanauri group). The more important words not included here are ka-ba ‘pillar’, kun ‘all’ < TB *kun, krad-pa ‘shoe’, pay ‘bosom, lap’, pag ‘brick’, pad-ma ‘leech’ < TB *r-pat, par ‘form, mould’, pir ‘brush, pencil’,73 pus-mo ~ pis-mo ‘knee’ < TB *put. Many other TB languages, e.g. Kachin, Nung, Garo and Lushei, show much the same type of pattern, but with a tendency for sonant stops to be replaced by unaspirated surds. In Burmese this tendency reaches its full development, yielding a system based largely on the contrast between unaspirated surd stops (< surd or sonant stops) and aspirated surd stops (< surd stops, rarely sonant stops).

We must reconstruct, then, simply surd and sonant stops, and attribute differences in aspiration to conditioning by prefixed elements. In languages such as Burmese and Lushei, in which prefixes have been dropped for the most part, the presence or absence of aspiration becomes a clue in reconstructing lost pre-

72 Lahu has khi-pē-qu ‘calf’, from PLB *pum/pup (JAM). Cf. also Kachin (Needham: Assam dial.) bop ‘foam, froth’ (= swelling of water), Nungish: Rāwang thi bop ‘bubble’ (thi ‘water’), thil-bop ‘foam, bubble’ (thil ‘saliva’).
73 T pir ‘brush, pencil’ has been identified as a loan from AT (n. 474).
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fixes; thus, L kal ‘kidney’ in the face of T mkhal-ma suggests a lost prefix m- (cf. the discussion in §27). Burmese, unlike Tibetan, has aspirated surd stops after original prefixes s- and r-:

(31) T skyi-ba, B khyé ‘borrow (something to be returned in kind)’.

(32) T styo-k, B thau-y ‘thousand’.

(33) T rku-ba, Newari khul (see n. 294), Bahing ku, K lgu, Nung khuí, B khuí ‘steal’.

(34) T rkyan-pa, B khyân ‘single’.

The tendency toward surdization of initial sonant stops can be traced throughout the TB area, but it is especially marked among the southern groups. These initials are generally preserved in Tibetan, Kanauri, Bahing, Miri and many other northern languages. Within the Kiranti group, sonants are preserved in the Bahing subtype, transformed into surds in the Khambu subtype (but note Limbu gip ‘to’ in No. 16). It is evident that sonant stops are in some measure preserved in Kachin, Nung and the Garo-Bodo languages, yet the recording here has been so poor that the details are not clear. Shifts from surd to sonant initial seem to have occurred in some instances, especially in Garo; cf. K gá~ gá ‘word, speech’ < TB *ka; G dak ‘weave’ < TB *tak; G tsuđap ‘fireplace’ < TB *tap; G bu ‘grandfather’ < TB *pu; also the following:

(35) Mikir phêk < *phik, G bibik ‘bowels’.


Lushei lacks initial g-, but has maintained d- and b- in some roots. Mikir has k-< *g- (e.g. kep ‘to’ < *gip), h-< *k- (e.g. ho ‘bitter’ < *ka). Burmese has a scattering of words with sonant stop initials, but these cannot be regarded as inherited TB elements, despite the attractive comparisons:

B bhà, T sbl-al ‘frog’ (cf. n. 55).

B bhà ‘ordure’, T sbays ‘dung of larger animals’.


74 Cf. also Nungish: Trung shin ~ shin ‘borrow/lend’, with secondary final -n (cf. Nos. 415 and 427).

75 Burmese sonant stops, transcribed g, d, bh, are uniformly pronounced in the modern language as slightly aspirated lenis sonant stops, only partially voiced in initial position. It is not unlikely that TB sonant stops were somewhat aspirated in initial position and unaspirated after prefixes, thus paralleling the treatment of surd stops. This type of argument has been forwarded for Tibetan by A. Dragunov, ‘Voiced Plosives and Affricates in Ancient Tibetan’, CYY 7, pt 2 (1936), 165–74. The secondary development of sonant stops in Burmese is to be explained in part by the fact that in Burmese morphophonemics surds become sonants in intervocalic position; cf. āphui ~ āhrui ‘price’ (No. 41); dya < hrui ‘horn’ and ū-krui
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In the Lolo languages, however, initial voiced stops are maintained with some regularity, so the Lolo evidence is of considerable importance: 76

<table>
<thead>
<tr>
<th>TB</th>
<th>Burm.</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>horn</td>
<td>*krw</td>
<td>khrui</td>
<td>tshu</td>
</tr>
<tr>
<td>38</td>
<td>foot</td>
<td>*kriy</td>
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<td>bû</td>
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<td>28</td>
<td>carry</td>
<td>*bu</td>
<td>pu</td>
<td>—</td>
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</table>

169 | pit, | *dwan | twan | du | — | du |

(37) Nung (Melam dialect) _take_ 'horn', B _khruï~khyui_ 'horn'.
(38) T _khri_ 'seat, chair; frame', Nung _hi_ (cf. No. 412), B _khre_ 'foot'.
(39) T _gri_ 'knife', K _magri_ 'brass, copper, tin', B _krè_ 'copper'.

(ù 'head'), _gà_ < _khai_ 'head' and ù- _khaï_. Cf. also _thu_ > _da_ 'knife' (T _sta-re_ 'ax') but Lisu _atha_, Ahi _mi-tho_, Nyi _mi-tha_; _bhù_ > _bà_ 'gourd' but Lisu _aphù_, A _phù~phö_, Nyi _o-phu-ma_.

76 Actually there is now excellent evidence that a secondary voiced series of obstruents must be set up for the PLB stage, in addition to the *voiceless unaspirated (from PTB sonant) and the *voiceless aspirated (from PTB surd); also, a glottalized series and perhaps a voiced aspirated or glottalized series as well. The Lahu voiced initials /bdjg/ cannot be explained on morphophonemic grounds (as in Mod. Burmese) but are rather survivals of the PLB *voiced series, corresponding to Nasu voiced aspirates (Kao Hua-nien, 1958) and the voiced prenasalized aspirates described by Ma Hsûeh-liang in his study of the sacred Lolo epic 'On Offerings of Medicine and Sacrificing of Beasts' (it is convenient to refer to the dialect described by Ma in this work as 'Lolomaa'), e.g. *drink*: Lahu _dɔ_, Nasu _dɔɔ_, Lolomaa _ntv_. For discussion, see Matisoff, _Lahu and Proto-Lolo-Burmese_ and works cited above, note 41. This does not necessarily imply that there were more than two PTB stop series (surd and sonant). The others are presumably due to the influence of various prefixes, e.g. the PLB *glottalized series derives partly from the _̃_ prefix (written _h-_ in Tibetan) and partly from the _-`_ prefix; see also Matisoff, 'GD'.

<table>
<thead>
<tr>
<th>PTB</th>
<th>surd</th>
<th>Q+stop</th>
<th>sonant</th>
<th>s/h+surd</th>
<th>s/h+sonant</th>
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<tr>
<td>PLB</td>
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<td>plain</td>
<td>glottalized</td>
<td>v.d. glottalized</td>
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<td>(Burmese</td>
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<td>plain</td>
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<td>aspirated</td>
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<td>voiced</td>
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<tr>
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<td>aspirated</td>
<td>voiced</td>
<td>plain</td>
<td>plain</td>
<td></td>
</tr>
</tbody>
</table>

Q is an arbitrary symbol for a prefix which led to voicing, usually a nasal (JAM).
(40) Kiranti *phak (Waling suŋ-phak, Lambichong lāphak, Yakha sum-phak, Balali siŋ-bak) ‘leaf’, B phak ‘leaf’ (considered as an article of use), probably also K pʰa ‘tea plant’ (B lak-phak ~ lāphak ‘tea’).


(27) (above) B pui ‘insect; silkworm’, Lisu bû ‘silk’.

Tibetan maintains the surd vs. sonant distinction with great regularity, and strong evidence must be marshalled before reconstructing any stop initial conflicting with the evidence from that language. TB *d-keu ‘9’ has been thus set up on the basis of the Lolo forms (Lisu ku, Ahi, Nyi, Lolopho kò) and K džkhu, G sku, in the face of T dgu, Nung tagö; here we must postulate T dgu < dku through assimilation.Bahin, which ordinarily maintains the surd vs. sonant distinction, shows a parallel shift in the following:

(42) T skyur-ba, Gyarung kotiyur, Tsangla tṣur-pa, but Bahin dzyur < *sgyur ‘sour’; cf. also Kanauri sur-k, Rodong sur-e, L thu-r, Mikir thor, id., from *su-r (TB *s-kyur and *su-r); Lepcha has both tšor ‘sour, acid’ and sā-tsor-lā ‘sourish’.

The initial p- > w- shift shown by Kachin in No. 24 is paralleled in several TB roots. The initial stop of these roots tends to be maintained in the northern languages and in Mikir, while replacement by w- is common elsewhere. Here we must suppose that prefixed elements, present or discarded, have exerted an influence on the initial. Certainly nothing in our data justifies the reconstruction of a special set of stop consonants for these roots. Cf. the following:

<table>
<thead>
<tr>
<th></th>
<th>Tibetan</th>
<th>Mikir</th>
<th>Kachin</th>
<th>Burm.</th>
<th>Garo</th>
<th>Lushei</th>
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<tbody>
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<td>phag</td>
<td>wad</td>
<td>wak</td>
<td>wak</td>
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<td>bamboo</td>
<td>spa</td>
<td>kepho</td>
<td>krwa</td>
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<td>rua</td>
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<td>pad-ma</td>
<td>iṣphat</td>
<td>wot</td>
<td>krwat</td>
<td>ruat</td>
</tr>
</tbody>
</table>

77 This root has now been reconstructed *(r-)pak, on the basis of the Burmese doublet phak ~ rwak (also phak-rwak), possibly also Lambichong lāphak (see n. 78).

78 The Chinese evidence (nn. 463, 487) unmistakably points to initial labial stop + w initial clusters in several ST (and TB) roots, including those for ‘father’ and ‘bamboo’ (text); also *brwār ~ *pəwār (= *bar ~ *par) ‘burn; fire’ (No. 220); JAM notes that Kachin has a preglottalized form here: pwan ‘fire’, comparable with Garo wâl (Burling), also K ʔwa ‘father’ (these are probably from TB prefixed *a = ʔa- forms). Chinese cognates also indicate an initial cluster of this type for the ST root represented in TB by the following: T ʔa-baŋ ~ baŋ-po ‘father’ or mother’s sister’s husband’, Chepang pay, Limbu am-pay-a, Vayu pøŋ-pøŋ < *pay, Nung a-way ‘father’s brother’, Lashi (B-L) vaŋ-mo ‘father’s older sister’s husband, husband’s father’, Lisu a-wə < *a-way ‘father’s brother’, Garo a-way ‘father’s younger brother’ (see Benedict, 1941). The TB root for ‘pig’ (text) can be reconstructed *pəwak, with a parallel in the original *pwa indicated for Chinese (n. 487); the alternation of final is to be explained by regarding these forms as very early
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(43) Cf. Jili (Kachin) tsvak, Phön (Burmese-Lolo) t'we, Empeo (Kuki-Naga) goba ‘pig’, all with prefixes.

(44) T spa~sba ‘cane’, K kewa~wa, L rua < *r-wa ‘bamboo’.

(45) T srin-bu pad-ma (srin-bu = 'bu ‘insect’), B krawat < *k-r-wat, L vay-vat; cf. Magari lowat, Rangkhul ervot, Angami Naga rewa, but Lepcha fot < *phat ‘leech’.

Both Nung and Meithei have w- in Nos. 43 and 44, but ph- in No. 45: Nung wa, Meithi ok < *wak ‘pig’; Nung thawa, Meithei wa ‘bamboo’; Nung dsphat~phphat, Meithei tin-phha ‘leech’. Burmese has doublet forms in the following two roots:

(46) T phog ‘something hidden; concealment’, B phak~hwak ‘hide, conceal’ (note the aspiration).^79

(47) Thebor ba-e ‘left’, K pai ‘left’, lopat ‘left-handed, awkward’, spai ‘to be awkward, speak with a brogue’, B bhat ‘left’, lak-wai ‘left hand’, wai ‘speak with

loans (fore-stressed, as usual) from an AT root of the type *mba(γ)mbuγu (Benedict, 1967bis, but with reconstruction as cited above). The root for ‘leech’ (text) does not appear to have a Chinese cognate, but Karen has prefixed *r- (n. 356); we reconstruct TB and (TK) *r-pat, with *p->w- generally after the prefix, but with Nung and Meithei maintaining the stop (text); Burmese has a parallel development in TB *(r-)pak ‘leaf’ (n. 77) (K pha ‘tea’ would be an early loan from Burmese in this analysis, since Kachin has root ‘leech’). A contrast is afforded by the root for ‘ax’, for which Chinese (n. 463) indicates an original *pwa (cf. Vn. bua, also IN *rimbat’); we can now reconstruct TB *r-pwa rather than *r-wa for this root (No. 441) on the basis of Gyarung sarpye < *[r]-pa ‘kind of ax’. We can also reconstruct TB *(p)wa ‘man, person, husband’ (No. 100) on the basis of the original *pwa indicated by Chinese (n. 463). Gyarung (forms from K. Chang) is of special value in reconstructing TB initial *pwa-(Gyarung ph-) or *bwa-(Gyarung p-) as opposed to *w-(Gyarung w-) in certain roots; cf. Gyarung ṣphak, B ḍwak ‘half’, from TB *pwa; Gyarung tapat ‘flower’, Nungish *ṣin-wat ‘bud (Rāwang); flower (Trung) (ṣin ‘tree’), B-L *wat ‘flower’, from TB *bwa; but Gyarung ᵇyan ‘I wear’, teeweyt ‘clothes’ < *wat (cf. Gyarung ᵇyan ‘I kill’, TB *g-sát, Rāwang (Nung) nṳ-wat ‘to cover breasts (nųč) with breast-cloth’, B-L *wat ‘wear’ (B wat ‘wear’, ḍwat ‘clothes’). In addition to the doublet forms in the text (Nos. 46 and 47), Burmese retains the initial cluster in TB *(s)-bwaam ‘plump, swollen’ (No. 172) and B-L *bwa ‘grandmother’ (n. 463) (possibly both with ā in ST); for TB *bwa ‘palm, sole’ (No. 418), on basis of original indicated by Chinese (n. 463), Burmese has bhāvā (phāwā), possibly from an original ST (and TB) prefixed form: *b-wa. The unusually large number of these labial stop+w initial clusters in ST suggests a relatively late origin from a simple labial stop, as indicated by the probable loans from AT (see ‘pig’ and ‘ax’, above), but note the *mb clusters in these AT forms.

79 Lahu has a similar doublet: phāl/fā < *ʔpāh/ʔsav ‘hide something’, which (like Burmese phak/hwak) come from a causative *s- prefix at the PLB stage, becoming *ʔ- at a later stage. The simplex (‘to hide oneself’) is Lahu vāʔ, Burmese wak. See Matisoff, ‘GD’, for the Lahu tone (JAM).
a brogue’, Tangkhul wui-sɔŋ ‘left’, phui kɔiŋŋa ‘left-handed’ (cf. the Burmese initials), Lepcha vi-m, L vei, Mikir arvi ‘left’ (TB *bay, thus explaining the Mikir form).80

Kachin also maintains the labial stop in the following:


The apparent loss of initial velar stops can also be traced in certain roots; cf. the following:

(49) T skar-ma, Kanauri kar, Lepcha sàhor, Miri tsak, K ʂog, Western Kuki *s-gar (Kwoireng tʂɔgan, Khoirao sɔgan), Khami ka(r)-si ~ a-si, but L (and general Kuki) ar-si ‘star’ (TB *s-kar).

(50) Lepcha fo-gom, K u-kam (also wa u-kam) ‘molar tooth’, G wa-gam ‘tooth’, B âm (also âm-swa) ‘molar tooth’ (TB *gam, usually combined with *s-wa ‘tooth’, basic meaning ‘jaw’).


(52) T khab, Kanauri keb, B ñap ‘needle’, from Burmese-Lolo *(t-)γap: Phön τɔyɛt < *t̥ɔγap, Lahu γɔʔ, Lisu woʔ, Ahi woʔ, revealing a development *k > *g > γ ~ w after the prefix (TB *kap).82

80 Lahu has a labial nasal here: mẽ (JAM). This may be from a nasal cluster: *m̥w-: *lak-bai > *lɔŋwai > *mái > *mẽ; cf. Lahu phẽ ‘dog’, from B-L *khwεy.

81 Lahu ǳ-ci-ku ‘crab’ is cognate. Final -i is the regular Lahu reflex for *-ai; cf. B ts’ai ‘to’, Lahu chi. The initial c- implies an older *ky-, however, one should perhaps reconstruct TB *d-kyʌγy, thus explaining the loss of initial stop (text) (JAM). K (t̥ɔγ)khan ‘crab’ also belongs with this root (n. 284). The Chinese (perhaps also Karen) cognate indicates an original initial *g- (without palatalization) for this root (n. 445), but it is possible that palatalization arose later (possibly at the proto-TB level) through influence from the final.

82 Additional data are now available on these two roots, also on ‘jaw (molar teeth)’ (No. 50), from Gyaurung and six Ch’iang dialects (K. Chang), Trung (Nungish) and Lepcha (‘needle’):

<table>
<thead>
<tr>
<th></th>
<th>Gyaurung</th>
<th>Ch’iang</th>
<th>Trung</th>
<th>Lepcha</th>
</tr>
</thead>
<tbody>
<tr>
<td>needle</td>
<td>tekyep</td>
<td>xe ~ he</td>
<td>uop</td>
<td>ryûm</td>
</tr>
<tr>
<td>house</td>
<td>tʃam</td>
<td>tʃi ~ tʃe</td>
<td>tʃom</td>
<td>khyûm</td>
</tr>
<tr>
<td>jaw (molar teeth)</td>
<td>—</td>
<td>—</td>
<td>skam</td>
<td>fo-gom</td>
</tr>
</tbody>
</table>

Note: Trung skam ‘molar tooth’, from sa ‘tooth’ + /kam (< ‘jaw’).

These roots are now reconstructed *kɔp ‘needle’, *kyim ~ *kyum ‘house’ and *gɔm ‘jaw (molar tooth)’, all with excellent agreement with the Chinese cognates (n. 479, 482), the loss of the initial stop in all three roots having been conditioned by palatalization, either primary (*kyim ~ *kyum) or secondary (*kɔp and *gɔm,
Both loss of the initial and palatalization before i are illustrated in the following:

(53) T khyim, Bahing khyim ~ khim, Vayu kim ~ kem, Lepcha khyūm, Miri skum, Mru kim, Andro kem, Mikir hem < *khem, Chairel him, Limbu him, Namsang hum, Chepang kyim ~ tim, Nung kyim ~ tśim ~ tśum, Kadu tyem, Moshang yim ~ yūm, Magari im ~ yum, Meithei yum, B im, Lahu yè, Chinbok im, L (and general Kuki) in (showing assimilation of the final) ‘house’ (TB *kim).\(^\text{82}\)

Lushei (and general Kuki) has also lost initial *k- before w in ui ‘dog’ < TB *kwi (below, No. 159). Note that loss of this initial, as in the above examples, cannot be explained on any ordinary phonological grounds;\(^\text{83}\) contrast the following, showing retention of *k- even before i:


TB initial *t- is generally well preserved, even before the front vowel i, and no instance of loss of this initial has yet been uncovered. Palatalization of *t- before i does occur in Garo-Bodo, however; cf. the following:

(55) Kanauri ti, Manchati ti ‘water’, Kanauri thi-ss, Bunath thi ‘wet’, Vayu ti, Magari di, Achang (Burmese-Lolo) ti, Kanburi Lawa (Burmese-Lolo) thi, Nung thi ‘water’, K modi ‘moist, damp, wet’, modit ‘to wet, dampen; wet, damp, moist’; G tši ‘water’, from TB *ti(y). By way of contrast, Garo has t ~ d- for *d- before i:

(56) T sdig-pa ‘scorpion’, sdig-srin ‘crab, crawfish’ (srin ‘insect’), L ti-t ‘scorpion’, G na-tik ‘shrimp’ (na ‘fish’), from TB *-(s)-di:k; Lepcha has dik lāy-fik ‘scorpion’, etymologized (Grünwedel, in Mainwaring) as ‘the evil one [T sdig-pa “sin”] that has its abode under the stones [lāy].’

before the vowel o); cf. also K-N *e:k ‘excrement’, perhaps from TB *kyak (n. 399). Benedict (1967bis) has suggested an ultimate AT source (cf. IN *d’a’yum ‘needle’, *yumaʔ ‘house’) for two of these roots, yielding an initial *y- in TB, but it is now clear that the roots are not strictly parallel in TB generally (see the above table). The view that borrowing has occurred in the root for ‘needle’ is greatly strengthened by Lepcha ryūm (overlooked in Benedict, 1967bis), from an earlier prefix + rum form; cf. ‘indigo’: IN *tayum, Lepcha ryom < prefix + ram, T rams (Benedict, 1967bis); note that Chinese also has final -m for ‘needle’ (n. 482).

\(^{83}\) This is a peculiar root. Lahu has a labial initial /phɛj/ and Karen has *ṭhɔː-; evidently this was a complex, phonologically unstable initial (JAM). Tiddim Chin, probably also Siyin (Stern, Asia Major 10), has an unique cluster here: ṭwî ‘dog’, indicating simple replacement of the initial *k with ʔ (as found also in Chinese, but in this root Chinese indicates an original *kw-). This development was perhaps conditioned by metanalysis: *kwi < *k/wi, with *k- as ‘animal prefix’ (n. 301); cf. the Karen development of t- for *k- in this same root (p. 133), apparently also through metanalysis; also B-L *la (generally) from *kla (B kyâ) ‘tiger’, which can be identified as a loan from Mon-Khmer (khla ~ kla forms) (rather than vice versa) because of the presence of this root in the Munda languages of India (kula ~ kul forms).
Illustrations of TB initial sibilants and affricates:


(58) T gsod-pa, Pf. bsad, Nung sat, K sat, B sat, Dimasa thi <*that (see n. 50), L that, Mikir that ‘kill’ (TB *g-sat).\(^4\)\(^5\)

(59) Tsangla za~za, Magari sa, Digaro sa, K sa, B sà, G bisa, Dimasa sa~basa, L fa ‘son, offspring’, Nung za-mi ‘daughter’ (B sami) (TB *za).\(^6\)

(60) West T zi ‘something of a very small size or of quantity’, K zi ‘small’, zi-zl ‘small, minute’, B se ‘small, fine, slender’, Lahu i<*yi<i?zi (TB *ziy).\(^7\)

(61) T gzig, Nung khan-zi ‘leopard’ (khan ‘tiger’), B sats <*sik ‘small animal of the tiger genus’ (TB *zik).


(63) T ’tshab-pa, B tshap ‘repay’ (TB *tsap).

(64) T tsigs, Kanauri tsig, Lepcha (a-)tsak <*tsik, B âtsaths <*âtshik, Nung —

\(^4\) G sot ‘kill’, with discrepant initial and medial elements, must be referred to a distinct root; cf. rasot ‘clip, crop, sever’, sko rasot ‘behead’.

\(^5\) It now appears that G sot (= so?ot) ‘kill’ belongs with this set, with both the initial and the vocal conditioned by an original vowel â (n. 344).

\(^6\) Lepcha has (a-)zon ‘grandchild’, from *za-n (see n. 284 for this suffix), also the unusual, skewed reciprocal term: (a-)zo ‘great-grandfather’, from *za. B-L generally *za ‘child’, with Lisu paralleling Lepcha in having a skewed reciprocal term: za ‘child’, a-za ‘grandmother’, but Maru and Atsi tso ‘child’, from B-L and TB *tsa; cf. T btsa-ba ‘to bear (children)’, tsha(-bo, -mo) ‘grandchild, nephew or niece’, Bahing tša-tša ‘grandson’, Dhimal tšan ‘son’ (with suffixed -n, as above); Tsangla has both roots in the same basic meaning of ‘child’: za~za, also o-sa~ok-tsa~wok-tsa (various sources), with both roots appearing in the single form za-sa ‘child (baby)’. Chinese reflects the doublet exactly: tsiōg/tsi\(^a\) and dzias/zì ‘child’, from *tsa~*za (character normally read tsic and is also the 1st cyclical character, but one archaic form of graph also used for dzìs/zì,\(^b\) the 6th cyclical character, the graph of which is ‘foetus’); Chinese also has the verbal doublet with voiced affricate initial: dzai/ec ‘to beget’. For the initial alternation in TB, cf. TB tsi and *ziy ‘urinate; urine’ (n. 96).

\(^7\) This root is preglottalized in B-L (JAM), probably from an original form with *a- prefix.

(65) T rtsi ‘all liquids of a somewhat great consistency, such as the juice of some fruits, paints, varnish’, K tsi ~ aṭsi, B tshè ‘drugs, medicine, tobacco, paint’, Nung motsi ‘medicine’ (TB *tṣiy).


(67) T mdza-ba ‘to love’, K ndža ‘show love; affectionate’, B tsa ‘have tender regard for another’ (TB *m-dza).  

(68) K džan, L far-nu, Tangkhul azər-vā ‘sister (man speaking)’, Meithei itšal ~ išan, Kadu san ‘younger sister’ (TB *dzar).

(69) Dimasa dzop, L fo-p, Thado tsop, Siyin tšop ‘suck; kiss’ (TB *dzo-p); cf. Siyin ta ‘child’ < TB *za.

The affricates, like the stops, show a primary division between voiced and unvoiced forms, with aspiration of secondary significance. Tibetan has the same pattern of aspiration for affricates as for stops (see above), with almost no initial unaspirated forms (tsi-tsi ‘mouse’ is the most noteworthy of the lot). Palatalization before the front vowel i is common throughout the TB area (see the discussion under §9). The shifts *ts- > s- and *s- > t(h)- mark off Garo-Bodo and Kuki-Naga from most other TB languages (Ao Naga retains s-), yet are curiously paralleled in Modern Burmese, which has *ts- > s-, *tsh- > sh-, and *s- > θ- (a weakly articulated interdental stop). Meithei has *ts- > s- as in Lushei (sam ‘hair’ < *tsam, sum-bal ‘mortar’ < *tsum, asa-ba ‘hot’ < *tsa), but *s- > h- (mahei ‘fruit’ < *sey, mohau ‘fat’ < *sa-w, ahum ‘3’ < *g-sum). The latter development is found also in Chang Naga and other Konyak languages.

Tibetan has only prefixed g- and b- before s- and z-, hence sibilants are shifted to affricates after other prefixes, notably *ts-, m- and r-; cf. T rtsa(-ba) ‘vein; root’ < TB *r-sa; also the following:


88 Initial z- forms are also found in Lepcha: zo < *za ‘eat’, doctrine ‘food’, zot ‘graze’, ẓot ‘pasturage’. The Tibetan form can be derived from *b-dza (Tibetan lacks the cluster *bdz- and has simplified to bson), and similarly for the Kanauri and Lepcha forms, but note that Chinese also has a doublet with initial *z- (n. 452), probably of similar origin.

89 Maran cites ndža? (high tone) for Kachin, probably from *-dzak, hence this form may be distinct.

90 For tsh- < t- after prefixed *t-, cf. T ti-ba ~ tši-ba ‘die’ < *siy; T tšhar-ba ~ šar-ba ‘rise, appear, become visible (of the sun, etc.)’, šar ‘east’, Kanauri sar ‘lift, bear, carry’, sar-st ‘rise’ (refl. form), Nung nam sarr ‘sunrise’, nam sarr kha ‘east’ (nam ‘sun’).
Tibetan has dropped the occlusive part of the affricate initial in za-ba 'eat' < TB *dza, and in the following pair of roots:

(71) T žim-pa ‘well-tasted, sweet-scented’, Bahng dši-džim < *džim-džim ‘sweet’, Aka džim-tši ‘fresh (water)’, B tšim ‘pleasant to the taste, delicious, savory’, from TB *dz(y)im.\(^{91}\)

(72) T žon-pa, Nung zun, K dzon ‘mount, ride (an animal)’ (TB *dzyon).\(^ {91}\)

Kachin and Nung show a similar development in the following:


The TB initial is uncertain in the following:

(74) T sen-mo ‘finger- or toe-nail’, Digaro méi, Miju mson ‘claw’, Dhimal khur-siŋ ‘finger-nail’, B àsàŋ ‘nail’, lakt-saŋ ‘finger-nail’, khrès-aŋ ‘toe-nail’, L tin ‘nail, claw, hoof’ (note the unaspirated initial), Khami msiŋ ~ msey, Siyin tsiŋ, Empeo mitsin ‘nail’, perhaps also Magari arkin and K bmyin ( < *lak-myin), Nung nyin ( < *myin) ‘finger-nail’,\(^ {93}\) on the strength of the Miri doublet laŋ-sin ~ laŋ-yin, id.; this root we have provisionally reconstructed *m-(t)sin.\(^ {94}\)

Kachin appears to have th- for *ts- in two roots:\(^ {95}\)

(75) B tšum, Nung sum-phay, K thum, L sum, G sam ‘mortar’ (TB *tsum).

\(^{91}\) The Tibetan forms with initial ž- in Nos. 71 and 72 have probably been derived from prefixed forms such as *bdž- (cf. n. 88).

\(^{92}\) This root now reconstructed *tsám ~ sám (for vocalism, see n. 344); K sam is probably an early loan from Burmese, but the Nung, Ladakhi and Lahuli forms all point to a doublet with initial *s-, probably derived from the standard root in *ts- through preglottalization as a result of prefixed *a- = Ḳa- (Nung ʂsam ‘hide’ shows this prefix in typical nasalized form); note that the apparent Chinese cognate (sam/sama ‘hair, feather’) also has the initial s-.

\(^{93}\) For Nung n(y)- < *my-, cf. Nung mīt ~ nīt ‘mind, temper’, K myit; Nung ne ~ ne ‘eye’ < *myak (No. 402). Ahi and Nyi (Burmese-Lolo) regularly have n- < my-, d- ~ dl- < by-, t(h)- ~ tl- < py-; cf. B myà, Ahi no, Nyi na ‘much, many’; B pyà < byà, Ahi do, Nyi dla-ma ‘bee’; B pyam, Ahi thà ~ the, Nyi tlò ‘to fly’. The shift *my- > n- before the high front vowel i appears also in Bahng (and general Kiranti) niŋ ‘name’ < *r-niŋ (Limbu has miŋ); Aka enyiŋ ‘to name’, ninyi ‘name’ < *r-miŋ, enyi ‘eye’ < *miŋ.

\(^{94}\) This root can now be reconstructed *m-tsyen (n. 122).

\(^{95}\) It now appears that these roots are to be reconstructed with the initial cluster *tś- (tś- = č-, a unit phoneme): *tśrum ‘mortar’ (apparently an old loan from AT);
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(76) T rtsi-ba, K thi, and perhaps B re 'count' (TB *r-tsiy).

This type of development, which is relatively rare in TB, appears also in Western Kuki and Digaro (tha 'eat' < TB *dza, *thay 'hair' < TB *tsam), as well as in Nung (thil 'spittle' < TB *m-ts(y)iil).95

The Lolo languages preserve the distinction between surds and sonants for sibilants and affricates as well as for stops:

<table>
<thead>
<tr>
<th>TB</th>
<th>Burm.</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Nyi</th>
<th>Lahu</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>fruit</td>
<td>*sey</td>
<td>āśi</td>
<td>si</td>
<td>sa</td>
</tr>
<tr>
<td>59</td>
<td>child</td>
<td>*za</td>
<td>să</td>
<td>ra</td>
<td>zo</td>
</tr>
<tr>
<td>61</td>
<td>leopard</td>
<td>*zik</td>
<td>sats</td>
<td>ー</td>
<td>zō</td>
</tr>
<tr>
<td>71</td>
<td>hair</td>
<td>*tsam</td>
<td>tšam</td>
<td>tšyæ</td>
<td>tšo</td>
</tr>
<tr>
<td>66</td>
<td>cat</td>
<td>*dza</td>
<td>tsə</td>
<td>dza</td>
<td>dzo</td>
</tr>
</tbody>
</table>

Sonant initials for Burmese-Lolo often can be reconstructed with certainty, even when cognates from other TB groups are lacking,96 e.g. B sak, Lahu yāʔ, Lisu re, Ahi ze, Nyi zo 'descend', from Burmese-Lolo *zak. In the following root, Burmese-Lolo shows a doublet formation:

(77) T gtsi-ba~gtshi-ba 'urinate', gtšin 'urine', K dzit tši-yi~dzit dži 'urinate', dzit 'urine', Nung tsi 'urine', tsi tsi 'urinate', B tshi 'urine (the polite term)', Lahu-fé, Dimasa si-di 'urine; urinate' (di 'water'), from TB*tši(y)i; Burmese-Lolo also has the doublet *ziy 'urine', represented by B sè, Lisu rzi, Ahi zō, Nyi zo.

cf. N. Thai *grum, Mak tšum tòi 'mortal'); *(r-)*tšray 'count'; *m-†sril 'spittle'; the latter pair have significant Chinese cognates (n. 457). B re 'count' reflects this *tšr- cluster rather than the *r- prefix. This correspondence is strengthened by B re 'water' (also ri in inscriptions), from *tšrıl (see n. 54 for final); Burmese furnishes a perfect semantic parallel: B tam-thwè 'spittle', from *ta-mthwè='its (m-) water (thwè)', from TB *tway; cf. also Dhimal thop-tshi 'spittle', G khu-tshi 'saliva='mouth (khu)-water', from TB *tši(y). T mtšhil-ma 'spittle' has the normal *tši(h)-reflex here; T rtsi-ba 'count' stands for *rtsi- (Tibetan lacks the *rts- cluster). Burmese, Nung and Lushei all show distinct reflexes in *tšum 'mortal', and perhaps a doublet *tsum should be recognized, but the irregularity might also be attributed to the apparent loan-word status of this root (above).

96 Cf. also 'use': B süm, Lahu yè; '3rd pers. prn.': B sāŋ, Lahu yā. Burmese s-/Lahu y- is usually from PLB *z- (Jam). Lisu has initial r- in 'descend' (text) but rz- in 'urine' (text) and a doublet rze~rō 'use' < B-L *sum (above). It is possible that a distinction between initial *z- and *z- must be set up for B-L, paralleling the distinction between *s- and *s-; we reconstruct B-L *zōy 'urine' rather than *ẑoy, in view of the doublet *tši, maintaining the palatal initial for this root and offering an exact parallel to TB *tsa~*za 'child' (n. 86); perhaps also *tsum 'use', with a possible cognate in Chinese: djun/jiun 'use, employ', perhaps from an earlier *djum (n. 479).
Illustrations of TB initial nasals, liquids, h-, w-, y-:97
(78) T lyà, K mña, B ñà, G bòqa, L ñà ~ pña ‘s’ (TB *l-ña ~ b-ña).
(79) T ñu-ba, B ñu, Nung ñü ‘weep, cry’ (TB *yuv).
(80) T na-ba ‘to be ill’, nad ‘illness’, Kanauri na ‘to be hurt’, B na ‘to be ill’,
ána ‘pain, disable’, K and Nung {name ‘illness’, L na ~ nat ‘to be ill; illness’ (TB
*nà).
(81) T nyi-ma, L ni ‘sun, day’, B ne ‘sun’, né ‘day’, K ni ‘day’, Dimasa di-ni
‘today’ (cf. K dai-ni, lit. ‘this day’) (TB *niy).
(82) T rmñ-lam ‘dream’ (lám ‘road, way’), Miri im-mañ, K man ~ ymp-mañ,
Nung ip-mañ, L mañ, Mikir mañ, G dżu-mañ ‘dream’, B ip-mak ‘dream’, hmañ-
tsa-sa ‘walk in sleep’, hmañ-tak-mi ‘to be possessed (applied to somnambulism)’,
Lahu mó ‘dream’ (TB *mañ); note the use of TB *ip ‘sleep’ in composition.98
(83) T miñ, Magari armin, Limbu miñ, Dhimal miñ, K myñ, L himñ, Rangkhul
ermiñ ‘name’, G miñ ‘to name’, bimñ ‘name’, B mañ ‘to be named’, ámañ
‘name’, hmañ ‘to name’, but Nung biñ ‘name’ (Nung normally retains m-)
(TB *r-miñ).99
(84) K rap ‘central fireplace’, ksráp ‘lower screen over fireplace’, Nung mvarp
‘fireplace’, B mi-rap-pañy ‘wooden fireplace’ (mi ‘fire’), Maru yre < *hrap ‘fire-
place’, L rap, Mikir rap ‘shelf over fire’ (TB *rap).100
(85) Vayu rum, Bahing ruñ, Lepcha árñ, Tsangla wa-ruñ (wa ‘cow’), Miri

97 Lolo-Burmanese provides solid evidence for the existence of aspired and
glottalized sonorants as well as plain ones; see Matisoff, ‘GD’. STL mentions
Burman l-/Loloish h- (JAM). These appear to be almost all of secondary origin;
 cf. the schema for reconstruction of initial stops as set up by Matisoff (n. 76).
98 Maran cites rmñ ‘dream’ for Kachin, suggesting a possible clue to the B-L
development *rmñ > *r-мақ (see n. 242). Prefixed *r- for this root is supported by
Gyarung (K. Chang) karmye ‘to sleep’, from *-rm[a][l]; for the semantics, cf. T
rmí-ba ‘to dream’ < TB *-r-ma ‘to sleep’. Trung (Nungish) has mlñ ‘dream’,
mlañ mlñ ‘to dream’, from *lmñ = *r-mañ by metathesis; cf. Trung a-mra ‘field’,
Mutwang (Rw̃ang dial.) ĺrom, id. Note that in composition Burmese maintains the
final nasal (hman-); the B-L forms in general point to an original kmának (as recons-
tructed by Burling and JAM).
99 Cf. the development of sonorant stops from nasals in Bisu: /bi/ ‘fire’; this
phenomenon is rare in TB generally (JAM). Nung (Rw̃ang) biñ ‘name’ is a
pseudo-cognate here, hence does not represent this rare shift; it has been derived
(regular shift) from *briŋ; cf. Trung aŋ-prəŋ ‘name’ (with typical nasalized *a-
prefix); also Lepcha brəŋ, id., from sbræŋ; a connection with TB *brəŋ ‘to give
birth’ (No. 135) has been suggested (by JAM). Gyarung (K. Chang) has termi (high
falling tone) < *-rmĩ, confirming the prefix in this root. For Kachin, Maran cites
myñ (mid tone) ‘name’, əmyñ (low tone) ‘to name’, paralleling the Burmese
forms.
100 See n. 69.
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ærön, Moshang (Konyak) æruy, K ruŋ~nrūŋ, Nung ñeriy~rīŋ, G ɡroŋ<ɡ-rōŋ ‘horn’ (TB *ruŋ).101

(86) T lag(-pa), Miri slak, Chairel (Luish) lak, K lb-, B lak ‘arm, hand’ (TB *lak).102


(88) Bahng luy, Lepcha lāy (also luy-in comp.), Mīri ū-lī (Abor ū-lī), K luy~nluy, B kyauk<*k-lauk, G roy, Dimasa loŋ, L luy, Mikir arloŋ ‘stone’ (TB *r-luy).

(89) T hab ‘mouthful’, B hap ‘bite at, as a fish or dog’, L hap ‘bite, snap’.

(90) K wai ‘whirl, as a whirlpool; stir, as with a ladle; strike out with a sweeping movement’, phuŋ-wai ‘whirlpool’, Nung thī buŋ wai ‘whirlpool’, B wài ‘whirlpool’, also ‘soar around, as a bird; brandish a sword, weapon or stick’, L vai ‘row, paddle’, also ‘wave (the hand, arm)’, Mikir iŋvei ‘fly around (as an insect)’, but cf. Meithei pai ‘to fly’ (TB *way-).

(91) K warn, B wān, L val ‘circular’ (TB *wal).


(94) Thebor yu, Tsangla yu, Digaro yu, Dhimal yu, G tšu, Dimasa džu, L zu, Meithei yu ‘liquor, wine, beer’, from TB *yu(w).

As indicated above, TB nasal initials are well preserved throughout the TB area. TB initial *r- and *l- are almost as well maintained in most TB languages, though occasional shifts are encountered, e.g. G *l->r-, Modern Burmese and

101 This root now reconstructed *rway, a doublet of *rwa (n. 231).

102 The usual Kachin word for ‘hand’ is peculiar: lətaʔ (high tone), lb- appears as the preformative in several words relating to hands and feet. The t is like the t in T rta ‘horse’, suggesting epenthetic t after liquids; cf. also K mətaʔ (high tone) ‘lick’, T ldag; and šəta ‘moon/month’ from an l- cluster (JAM). For a different interpretation of the Kachin forms, see nn. 109 and 137; the writer considers T rta ‘horse’ as entirely distinct from other TB forms.

103 B yun ‘rabbit’ belongs with this root (cf. the Tibetan and Lushei meanings); the suffixed -n is the ‘collective’ (n. 284), appearing also in Kachin (text); the Ch. cognate compares closely with the Burmese form in all respects: tɕiun/tɕiən~tɕi̱ən ‘hare’, from *tson<*yun (n. 428); T byiu< byi̱-ba ‘rat’ (No. 173). a 魚
Lolo *r- > y-, and r-~ l- fluctuation in Meithei. Note Garo initial *l- > r- but final *r- > l-. Vacillation between initial l- and r- appears in the following roots:

(95) T lṭsi-ba ~ ldzī-ba < *s-li ‘heavy’, ldzid-pa ‘heaviness, weight’, Kanauri li-k, Manchati hli-i, Vayu li-s, Lepcha li(-m), K li, Nung slī, B lē, G dzrim, Dimasa risi, Bodo illīt ~ gillīt, L (and general Kuki) rit ‘heavy’ (TB *s-liy). 104

(96) Lepcha tūk-liṅ ~ tūṅ-liṅ, Nung liy, 105 Miri slūṅ, B lāṅ < *liṅ, L rīṅ ‘neck’ (TB *liṅ). 106

Note that Lushei has r- for *l- in both roots, perhaps because of the following i.

TB initial *h- is rare, and can be reconstructed for only a few roots of restricted range, with only *hap ‘bite, snap’ (No. 89) represented in more than two main divisions (T, B, L). Kachin has this initial only in the loan-word ho (usually pronounced kko) ‘announce’, from B hauñ > hò; cf. L hau ‘abuse, reproach’, hauñ ‘bespeak’. 107 Loss of initial *h- is indicated in the following:

T hāñ-ba, K gāñ ‘pant, gasp’.

Garo has initial h- in a few words for which no certain cognates have been uncovered, but cf. the following:

(97) Kiranti *kha (Bahing kha-pi, Lohorong ba-kha), Kadu ka, K gā ~ ngā ~ ngā [n-gā], Nung ga ~ ṣaga, Moshang ga, G ha ‘earth’, from TB *r-ka.

Of the pair of semi-vowel initials, TB *y- presents relatively little difficulty. The shift from *y- to z- (Lushei) or to dz- ~ tš- (Garo, Mikir) is characteristic of both the Garo-Bodo and Kuki-Naga groups in general, although many Kuki languages

104 The Tibetan forms are not the product of metathesis, as this would suggest, but simply reflect palatalization of l- before y, i or e, as follows: *lh > *lyi > ldzī ‘heavy’, also *s-li > *lyi > lṭsi; T ldzī-ba ~ džī-ba ‘flea’, from *(d-)li, TB *s-liy (the *s- prefix is not represented in this root in Tibetan, having been replaced by *a- or simply dropped); T lṭse ‘tongue’, from *hlye < *s-le < TB *s-lay (here the *s- prefix is represented by *h-). With prefixed *a-, the shift is simply to dž- *(džī-ba ‘flea’); with prefixed *b-, there is further simplification to dz- , Tibetan lacking the cluster *bdz- (cf. n. 88: T *bdza > bza ‘eat’), hence T bōn ‘4’ represents a perfectly regular development from TB *b-lay (see n. 436 for similar shift in Chinese). In addition to the ‘internal’ support for this suggested line of development in Tibetan, there is also ‘external’ support in the loan-word ltsags < *hlyag/s ‘iron’, ultimately from an AT root ending in *-xiag (Thai *hlek, Kam-Sui *qhlet, Lakkia khyāk), the typically TB a vocalism in this instance certainly being archaic (cf. Benedict, 1967 bis).

105 Nung liy ‘neck’ cited in Peal, 1883, who has reversed the words nyin ‘nail’ and liy ‘neck’.

106 T ḏṣiŋ-pa ~ mḏiṅ-pa ‘neck’ belongs with this set, since it can be derived from *a-lyi < *m-lyi (n. 104).

107 Other possible initial *h- words in Lolo-Burmese include ‘yawn’: B ḥā, Lahu ḥā-ĝ ṭ, Akha a-ḥa (prob. onomatopoetic); also ‘be the case’: B hut, Lahu ḥé? (JAM).
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(e.g. Thado, Sho, Kami) preserve *y-. In addition to the correspondences illustrated above (G ṭ-, Dimasa ḍź-), Garo-Bodo has another series with G ḍź-, Dimasa y-:

G ḍźoy, Dimasa yuṇ ‘insect’.
G ḍźak, Dimasa yau<*yak ‘arm, hand’.
G ḍẓa, Dimasa ya ‘leg, foot’.

These roots are perhaps to be reconstructed with initial *y-, but the evidence here is not entirely satisfying. Initial *r-~*y-interchange is indicated for the following root:

(98) T lag g-yas, Lepcha gyo-m<∗gya, B lak-ya, but K lokhrá, G ḍźak-ra, Dimasa yau-gada ‘right (hand)’ (TB *g-ya~*g-ra).

For this interchange of initials, cf. also TB *s-rak and *g-yak ‘ashamed, shy’.

TB initial *w- presents a special problem because of the widespread *p-~
*b-~*w-shift outlined above. Tibetan has initial w- only in the words wa ‘gutter’, wa ‘fox'111 and wa-le~wal-le ‘clear’;112 medial wa is regularly represented in Tibetan by o (see Nos. 160, 218, 221, 461). Roots reconstructed in initial *w- on the basis of evidence from the southern TB languages alone, as Nos. 90 and 91 above, must be regarded as uncertain entities, especially when (as in No. 90)

108 G ḍźak~dża, Dimasa yau~ya ‘arm’~‘foot’ belong in a curious series found in Konyak, Chairel, and Abor-Miri-Daňla; cf. Tableng yak~ya, Tamlu lak~la, Banpara tsak~tśia, Namsang dak~da, Moshang yok~ya (all in Konyak group), Chairel lak~la, Mīrī alak~ole, Dafla sla~al (a-l) ‘arm’~‘foot’. The root for ‘arm’ in final -k is perhaps simply a prefixed form of TB *lak (No. 86), yet cf. Gyarung tšyāk ‘hand’, L zak<∗yak, B gyak-kalī~tshak-kalī ‘arm-pit’, also lak-kalī, id. (lak ‘arm’).

109 These B-G sets can be reconstructed *dyuṇ ‘insect’ (cf. Chinese d‘jóŋ/ d‘jūŋ, id.); *dyak ‘arm, hand’, from TB *g-lak; *dyā ‘leg, foot’, from TB *g-la; cf. Chepang la ‘foot’ (but Kiranti generally lay). It is now possible to bring K lsta ‘hand’ into this set, from *glak with the prefixed *g- being treated as the first member of a cluster; K šta ‘moon’, from *s-gla, furnishes an exact parallel (n. 137); in unprefixed forms, Kachin has kr- (kriŋ- ‘hill’<TB *gliŋ). A separate TB root *(g-)yak appears to be required to account for the Lushai and Burmese forms (n. 108); cf. also B-L *g½yak ‘cubit’ (cited by JAM). Gyarung (K. Chang) has tekhlıye<*/khla[k] ‘upper arm’, apparently from TB *g-lak.

110 We now reconstruct TB *ṭrak ‘ashamed, shy’ for *s-rak (n. 304), minimizing the possibility of some relationship with TB *g-yak (text).

111 Lepcha f<∗sw-, as in fo<∗s-wa ‘tooth’. T wa ‘fox’ has been derived from TB *gwa, as represented by Chamba Lahuli gǔá, Bunun goa-nu~gwa-nu. The initial stop appears to be preserved in the form gaa ‘fox’ cited for the Amdo dialect (Kansu) in N. M. Przhevalski, Mongolie et pays des Tangoutes (trans. by G. de Laurens), Paris, 1880.

112 Cf. K wan ‘clear, pure, clean, undefiled’.

a
Tibeto-Burman consonants (initial)

possible cognates with initial labial stop have been uncovered; cf. also the following:

(99) L sa-va (Kuki *va), Mikir ve, Chepang wa, Nyi Lolo wa ‘bird’.

The above suggests a reconstruction in *w- (TB *wa), yet Bahing ba ‘fowl’ (perhaps a borrowing from T bya ‘bird, fowl’) puts us in doubt on the matter, while Lepcha fo ‘bird’ is not conclusive.113 Where Lepcha has v- <*w- we can be more certain of our reconstruction:


Prefixed *s- aspirates (unvoices) initial nasals and liquids in Burmese, Lushei and (irregularly) in several other TB languages, including Magari, Digaro and Dhimal.114,115 In Lepcha prefixed *s- palatalizes initial nasals and liquids as well as stops. The following roots are illustrative:


(102) T snabs, B hnap, L hna ‘snot’ (TB *s-nap).


There is some evidence that other prefixes, notably *r-, can produce a similar effect in Burmese and Lushei; cf. B hrats ‘8’<TB *b-r-gyat, B hyâ ‘borrow’<TB *r-gya, also the following:

113 Lepcha has f- for ph- in a number of roots, as well as f-~p- alternation; cf. Lepcha far ~ afar ‘price’, par ‘buy’, T phar ‘interest (on money); exchange, agio’, Kanauri be-par ‘trade’, Gyarung nphar ‘to be for sale’, G phal ‘sell’.

114 Magari is especially rich in aspirated or unvoiced initial nasals and liquids; cf. hwah ~ wak ‘pig’, hmut ‘blow’, hman-nay day ‘dream’ (‘see in a dream’), hrây ‘horn’, hlun ~ hlun ‘stone’, hla ‘leaf’, and hme ‘fire’. Magari also occasionally replaces kh- with h-, as in Mikir; cf. Magari hrap ‘weep’<TB *hrap.

115 It now seems that the *s- prefixed served rather to glottalize the following initial at the PLB stage, e.g. Atsi n?ap, Maru n?e? ‘snot’<TB *s-nap (No. 102); cf. Burling, PLB, on Atsi and Maru; also Matisoff, ‘GD’ (JAM). The writer prefers to regard glottalization and aspiration here as alternative developments from TB prefixed *s-, since a series such as B hnap <*n?ap <*s-nap seems unlikely.

116 Cf. Lepcha ânyo, a semantic doublet (*expletive*) of âmik ‘eye’, and B nyanh-hna ‘face’ (*eye-nose’).

117 Kanauri regularly has st-~sn-; cf. stil ~ il ‘gums’ <*s-nil, stiy ‘heart’ <*s-niy, stis ~ tiš ‘7’ <*s-nis, and stam ‘give forth smell’ <*s-nam.
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In addition to the regular consonant initials described above, we must postulate a ‘zero’ or vowel initial for Tibeto-Burman. Tibetan distinguishes between glottalized and non-glottalized vowel approach, written ʔ and ʰ respectively. Burmese has simply the glottalized variety, which we have not indicated in our transcription. We lack adequate information on other TB languages, but the material in general suggests that the glottalized approach is the normal one in the TB area. The Tibetan distinction cannot be shown to be an inherited feature, and consequently we have reconstructed TB roots with pure vowel initial, with the rule that vowels in initial position were preglottalized. Note further that Tibetan has initial yi- as opposed to i- or iʔ- (rare) and initial u- and uʔ- but not uu-. The same general type of relationship obtains elsewhere, hence we can conclude that Tibeto-Burman had *(y)i- and *(w)u- but not contrasting types (we have reconstructed these roots without the semivowel).

Illustrations of TB initial vowel:

(105) K and Nung moa, B ë, L ë ‘to be dumb’ (TB *(m-)a).

(106) T ʔag-tshom ‘beard of the chin’ (= ‘mouth-hair’; cf. the resp. term žal-tshom, with žal ‘mouth’), Lepcha ök ‘to open (as door, mouth)’, Bunan ag ‘mouth’, B ak ‘crack open’, âk ‘opening, gap’ (TB *ak).

(107) K up ~ ewp, Mikir up, B up ‘to cover’, L up ‘to shelter’ (TB *up).

(108) T ?um ‘a kiss’, Lepcha ûm ‘receive into mouth without swallowing’, Mi ri um-bom ‘hold (as inside the mouth)’, Mikir om < *um ‘chew; mouthful’, K msum ‘hold, as water or smoke in the mouth’, Nung im ‘mouthful’ (TB *um).


(110) T ʔog, B auk ‘below’ (TB *ok).

(111) Magari ol ‘to finish’, G ol ‘lax, loose; relax’, L o-l ‘to have little to do’ (TB *o-l).

(112) Mikir ik, B aṣ-kwi ‘older brother’ (TB *ik).

(113) Nung i<ik ‘strangle’, B aṣ ‘squeeze, clench (the throat), throttle’ (TB *ik).

(114) T yib-pa ‘hide one’s self’, K ip ~ yip ‘cover, conceal (information)’.


119 See n. 339; also n. 120.
TB consonant clusters, found only in root-initial position, are of two types: (a) stop or nasal + liquid (r ~ l), (b) consonant (or cluster of foregoing type) + semi-vowel (w ~ y). The following combinations can be established for Tibeto-Burman:

<table>
<thead>
<tr>
<th>Medial r121</th>
<th>Medial l</th>
<th>Medial w</th>
<th>Medial y</th>
</tr>
</thead>
<tbody>
<tr>
<td>kr</td>
<td>kl</td>
<td>kw</td>
<td>ky</td>
</tr>
<tr>
<td>gr</td>
<td>gl</td>
<td>gw</td>
<td>gy</td>
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<td>—</td>
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<td>tw</td>
<td>(ty)</td>
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<td>—</td>
<td>dw</td>
<td>(dy)</td>
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<td>pl</td>
<td>pw</td>
<td>py</td>
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<td>br</td>
<td>bl</td>
<td>bw</td>
<td>by</td>
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<td>—</td>
<td>—</td>
<td>sw</td>
<td>sy122</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>(zw)</td>
<td>(zy)122</td>
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<tr>
<td>—</td>
<td>—</td>
<td>tsu</td>
<td>tsy123</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>(dzw)</td>
<td>(dzy)122</td>
</tr>
</tbody>
</table>

(cont. on p. 38)

120 The Mutwang dialect of Rāwang (Nungish) has yip ‘sleep’, sayip ‘put to sleep’ (Morse); Burmese also has the causative form sip ‘put to sleep by lulling’, from *s-ip; the B-L data indicate a reconstruction with initial *y-; and TB *yip appears to be preferable to *ip (text), especially in view of the recognition of a separate palatal series (n. 122).

121 We must add to this table TB *tr- and *dr- (n. 135), *sr- and *sr- (n. 304), *s- (n. 156), *zl- (n. 136), perhaps also *sr- for the following root: T srl ~ srl (–bu) ‘worm (silk-worm)’; Thado til ‘earthworm’ (cf. also L til ‘testicles’); B ti ‘earthworm’, from B-L *di (Lisu bi-di); Chinese has a ‘triplet’ for ‘earthworm’ (all on same tone) pointing to an original initial such as *sr- (n. 457).

122 In view of the recognition of the initial clusters *sr- and *sr-, it is advantageous to recognize a separate palatal series here: *s- for *sy-, *s- for *zy-, *ts- (unit phoneme = c-) for *tsy-, and *d- (unit phoneme = j-) for *dzy-. This also makes possible a contrast with palatalized dentals throughout, e.g. the reconstruction *m-(t)sin ‘nail, claw’ becomes *m-tsyen, with the medial *ye- yielding -i- in most forms, and the initial *tsy- generally yielding s- or even (with voicing) y-; *(t)syun ‘clear, pure, clean’ becomes simply *(t)syan; s(y)ir ‘iron’ becomes *syr = *(sy)a (n. 244).
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<table>
<thead>
<tr>
<th>Medial r&lt;sup&gt;121&lt;/sup&gt;</th>
<th>Medial l</th>
<th>Medial w</th>
<th>Medial y (cont.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>yr</td>
<td>—</td>
<td>(yw)</td>
<td>yy</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>nw</td>
<td>ny</td>
</tr>
<tr>
<td>mr</td>
<td>ml</td>
<td>mw</td>
<td>my</td>
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<td>rw</td>
<td>ry</td>
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<td>(hy)</td>
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<td>—</td>
<td>—</td>
<td>(yw)</td>
<td>—</td>
</tr>
</tbody>
</table>

Illustrations of TB initial clusters with *r* or *l*:

(115) T skra, Kanauri kra, K kora ‘hair (of head)’ (TB *s-kra*).

(116) T khrab-khrab ‘a weeper’, Kanauri krap, Thulung (Kiranti) khrap, Magari hrap~rap, Digaro khro~kro, K khrap, G grap, L tap, Siyin kap ‘weep’ (TB *krap*).

(117) T ‘khrud-pa~’khru-ba, K khrut, B khyui, Dimasa gru ‘bathe, wash’ (TB *kruu*).

(118) K khru, B khrui~khyui, Lahu gû, G kru, Khami makhru, Angami Naga mekru ‘dove’, L thu-mi ‘pigeon’, thu-rou ‘dove’ (TB *kruu*).<sup>123</sup>

(119) Bahing khrit, K krit, Nung agyit, B krit, Mikir tsiykrit ‘grind; gnash (the teeth)’ (TB *krit*); cf. T so khrig-khrig byed-pa ‘grind the teeth’.

123 The voiced Lahu initial of gû ‘dove’ seems to be the result of the nasal prefix (Khami, Angami). The nasal prefix may be the usual source of the PLB voiced series, with the following correspondences: Lahu voiced/Nasu voiced aspirate/ Lolomaa prenasalized, the latter with redundant aspiration (as in Tibetan after prefixed *h* - and *m* -); for the mysterious connection between nasality, aspiration and glottalization, see Matiassof, ‘Lahu and PLB’ and ‘GD’. In the following words there is a correspondence between this series and K prefixed *m*- (rarely *n*) (JAM):

<table>
<thead>
<tr>
<th>Kachin</th>
<th>Lahu</th>
<th>Nasu</th>
<th>Lolomaa</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>door</td>
<td>nkha</td>
<td>—</td>
<td>a-g’u</td>
<td>ηk’u</td>
</tr>
<tr>
<td>yeast</td>
<td>mtsi</td>
<td>dî</td>
<td>—</td>
<td>—</td>
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<tr>
<td>thrust</td>
<td>mdżut</td>
<td>jûp</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>pillow</td>
<td>makhum</td>
<td>(û-)gê</td>
<td>—</td>
<td>ηk’ê</td>
</tr>
<tr>
<td>pound, v.</td>
<td>mdzêp</td>
<td>—</td>
<td>—</td>
<td>nt’ê</td>
</tr>
<tr>
<td>wide</td>
<td>moden</td>
<td>—</td>
<td>d’uw</td>
<td>nt’uw</td>
</tr>
<tr>
<td>side</td>
<td>moga</td>
<td>jâ</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>very</td>
<td>mdzan</td>
<td>jâ</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>bridge</td>
<td>makhrai</td>
<td>go</td>
<td>dżê</td>
<td>nts’e</td>
</tr>
<tr>
<td>liquor</td>
<td>magyêp</td>
<td>jî</td>
<td>dżê</td>
<td>nts’ê</td>
</tr>
</tbody>
</table>

We now reconstruct *m-krov*, since there is evidence for this nasal prefix in B-L as well as K-N, as indicated clearly by the above table of correspondences assembled by JAM, which includes two general TB roots: ‘door’ (No. 468) and ‘pillow’ (No. 482).
(120) T **gran**-**ba** ‘cold, cool; coldness; to get or grow cold’, L **tan** ‘dry’, **tan-tho-m** ‘cold (weather)’, Mikir **niy-krey** ‘cold weather, winter’ (**niy** ‘season’) (TB *gray*).\(^{124}\)

(121) T **sgro-ba** ‘bark of willow’, **gro-ga** ‘thin bark of birch-tree’, K **sgrau** ‘outer skin, as of fruit’ (TB *s-graw*).

(122) T **grog-po** ‘deep dell, ravine’, B **khyauk** (prn. **dyau?**) ‘chasm, gulf’, K and Nung **kharo** ‘ravine’ (TB *grok*).

(123) Lepcha **klo** < **kla**, Mikir **klo** < **kla**, K **khrat** ‘fall’, B **kyâ** ‘fall’, **khyâ** ‘let fall’, L **tla-k** ‘fall’, thla-k ‘let fall’ (TB *kla*).

(124) B **kyak** ‘to be cooked’, **khyak** ‘cook’, Lahu **câ** ‘to boil’, K **khyâ** ‘prepare glutinous rice’, Mikir **arklak~arklok** ‘boil over’, L **tlak** ‘boil or cook without salt’ (TB *klak*).\(^{125}\)

(125) Kanauri **khô** < **kli**, Bahing **khî**, Digaro **kli** < **kli**, K **khyê**, B **khyê** (prn. **thyi**) ~ **akhê**, G **khî** ‘excrement’, Lepcha **tokli** ‘entails, guts; mucus of entrails’, also T **tlê**-**ba** ‘dung’ (TB *kliy*).\(^{127}\)


(127) T **klu y** ‘river’, K **kruy** ‘valley, dale’, B **khyuiy** ‘concave; concave piece of ground, valley’ (TB *kluy*).\(^{129}\)

There must be a B-L variant in final *-k*: Lahu **kâ**?, Atsi **kyo**?, Maru **kyd**?, Akha **gâ**?, from PLB *krak* (JAM). Lisu has **dzyâ** ‘cold’, pointing to an original voiced initial, yielding B-L *grak*, a doublet of *gray*. Tibetan has **khyag**(s)-**pa** ‘frozen; ice; the frost, cold’, perhaps from *khlag* (*khl-* lacking in Tibetan), another possible cognate here; Lepcha has **hây** ‘cold’, of uncertain derivation. A variant root *glay* must be recognized, however, on the basis of Trung (Nungish) **glay** ‘cold’, Mikir **pany-kley** ‘to freeze, congeal’ (note the parallel vocalism in the two roots). Finally JAM (1970 b) cites B-L *ngray* ‘cold’, from *m-gray*.

This is a simplex/causative pair; the Lahu **câ** form descends from the causative member (B **khyak**); these are from *l*- clusters (JAM).

Kanauri **sil** ~ **yi**; cf. **bôy** ~ **pôy** ‘fill’ < TB *blîy~blîy*, pô ‘4’ < TB *b-lyi*.\(^{126}\)

Our analysis of the treatment of TB *l*- before the vowel i in Tibetan (n. 104) furnishes a simple explanation for the Tibetan form here: *s-kli* (prefix *s*- with roots for parts of body) > **sklyi** > **hlyi** (Tibetan lacks initial *skl-*) > **lti**; contrast *sag* (also lacking in Tibetan), which yielded TB **xl-** in ‘moon’ (n. 137).

This is a very peculiar root, probably because of the initial *rkl*- group. Lahu has a palatal affricate where a front velar is expected. Lahu /ch/ indicates proto-variation between a plain and a glottalized initial (< *skray*) (JAM). We now reconstruct this root *r-klay* (Mikir **arkley**), yielding kr- in B-L through assimilation to the prefix; for the final, cf. B **hray** ‘alive’ < TB *srîy* (probable effect of the complex initial group); cf. also Lepcha (a-)**dây~(a-)yôy** ‘brain, marrow’.

T **klu y** ‘river’ has frequently been compared with similar forms in S.E. Asia, notably Siamese **klu y**, Cham **kru y** and Ch. **kunh/knya** ‘river’ (in China specialized in reference to the Yangtse), but the TB root (*klu y*) may well be independent of *it*.
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(129) Thami (Kiranti) spra, Digaro pra, L tha, Thado spha ‘good’ (TB *pra).

(130) T spra-ba ‘delight in; wish’, K pro-pyo, B pyau ‘to be pleased, enjoy one’s self’ (TB *pro).

(131) K pruṅ ~ śpruṅ, B pruṅ ‘to boil’ (TB *pruṅ).


(133) Kanauri bren ‘get well’, K bran ‘become convalescent, recover; increase’, Nung ban ‘convalesce’, ḏiḥan ‘heal’, B pran ‘return; repeat; recover from fainting’ (TB *bran).

(134) T brag, K luj-bra, G roṅ-brak ‘rock’ (TB *brak).

(135) T ‘bray-ba ‘to bear, give birth’, L piay ‘to be born’ (TB *bray).

(136) T ‘brony ‘wild yak’, B prauṅ ‘buffalo, bison’ (TB *broṅ).

(137) B pra, Mikir phelo < phla, G tapra, Dimasa thapla ‘ashes’ (TB *pla).131


(139) K prony ‘to be burned, as a house’, kṣprony ‘parboil’, Mikir phlony ‘burn the dead; cremation’ (TB *ploy).


(141) Kanauri ble ‘to slip’, Digaro ble ‘slippery’ (TB *ble).


all these; a more likely comparison is supplied by Lepcha kyōṅ ‘river’ (usu. in comp. with ụp ‘water’); cf. also T ldzoṅs < *lyōṅ- (n. 104) ‘large valley’.

130 For Kachin, Hanson (1906) also cites bra ‘apart, forked’, but Maran cites bra? ~ kābrā ‘forked’, indicating an original *brak.

131 R. B. Jones (Karen Linguistic Studies, Berkeley, 1961) reconstructs a Proto-Karenic *khāl(h) ‘ashes’. Lahu has qhō?-lā; cf. T gog-thal (JAM). See n. 364 for this root, which presents many difficulties.

132 Cf. B hrauṅ ‘flee’ (JAM).
In general, TB medial l clusters are better preserved than medial r clusters, while surd stop clusters are much better represented than sonant stop clusters. The several languages differ widely in their treatment of these clusters. Tibetan maintains most stop clusters, yet lacks initial pl-, which presumably has become p(h)y- (we have no certain examples for this shift). No comparisons have been found, however, for the few Tibetan words with initial bl- (incl. bla 'superior', bla-ma 'lama', blu-ba 'ransom', blo 'mind', blon-po 'officer'), and scarcely any for those with initial gl- (No. 128, and cf. T gliy 'flute, fife', B kyan 'tube closed at one end'). A number of northern TB languages, including Bahing, Lepcha, and Dhimal, preserve consonant clusters as well as or better than Tibetan. Kanauri retains medial r but not medial l clusters. In Kachin both types of clusters have fallen together into a single r type (sometimes medial y in the standard Kachin dialect). Burmese commonly has r for medial r, y for medial l, but there are numerous exceptions to this generalization (Nos. 117, 122, 126, 128, 130, 137, 142). Garo and Dimasa preserve medial r, as well as initial pl- in some roots (Nos. 137, 138), but Dimasa khi 'excrement' < *kli (No. 125) and buthlay ~ bithlim 'brain' < *kliy (126) present contrasting types of development. Lushei has the cerebral stop t- for the clusters *kr-, *pr-, and probably *gr- (No. 120), but t(h)l- for *kl- and apparently pl- [py-] for *br- (No. 135). TB *gr- and *br- are each represented by the single comparisons cited, and neither *gl- nor *bl- can be traced with certainty; cf., however, L te-k, Sho glek 'meteorsite, thunderbolt' < Kuki-Naga *gle:k (contrast Sho kat ~ kak < *krap 'weep'). A few Kuki-Naga roots with initial clusters can be reconstructed on the basis of data from Northern Kuki (Thado, Siyin), which has p(h)- < *pr-, k(h)- < *kr-, or occasionally other languages:

* krap 'weep': L lap, Siyin and Thado kap, Angami Naga kra.
* k(h)rok 'sour': L lok 'sour', Angami Naga khrro 'acid'.
* khrwi 'sew': L thu, Siyin khut; from TB *krwi(y); cf. K t'iywi ~ t'iywi.
* u-p(h)rok 'toad': L u-tok, Thado u-pho?
* phra 'good': L lha, Thado spha.

133 See Matisoff, 'GD', No. 98, for gliy/kyan.
134 The development r > y in Burmese has badly confused the phonetic picture here, and has led to frequent interchange between the two letters for these sounds in written Burmese (cf. No. 118). Medial l appears in many forms from the early inscriptions, but r ~ l ~ ly interchange is common even at that period (ca. A.D. 1100–1500). Medial l in the inscriptions corresponds to TB *r as well as *l, hence the Burmese evidence is not of critical value in making this distinction; cf. the following early forms: kla(h) for kyauk 'stone' (TB *r-lun), klw at for kywat 'to be freed' (TB *g-lwat), klya for kyâ 'tiger' (Burmese-Lolo *k-la), khlyâd for khyâd 'let fall' (TB *kla), lyak for kyak 'to be cooked' (TB *klab), but khla(h) for khravuk '6' (TB *d-ruk), phlu for phru 'white' (cf. Horpa phru-phru), khley for khre 'foot' (TB *kriy).
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*phral 'cold (dry) season': L ṭhal, Siyin phal(-bi).

The Mikir evidence is of special value in establishing the difference between *r and *l after surd stops, e.g. in relation to Kachin, which has r for both (cf. Nos. 139, 140).

Clusters such as *dr-, *dl-, *tr-, *tl-, *sr-, *sl- need not be postulated for the parent TB speech. Tibetan has dr-, tr- (tram-pa ‘hard’, tron ‘diligence’), sr-, sl- and even sl-. The combinations dr-, sr- and sl- are to be construed as made up of prefix + initial *r- or *l-.135 Tibetan sl- must be derived from *s-l- (through assimilation), as in zlog-pa ‘cause to return’, ldog-pa (Pf. log) ‘return’, with z- for the normal causative prefix s- (cf. slog-pa ‘turn’). Two general TB roots bear on this point:

(143) T zlum-pa, K lum, B lüm ‘round, globular’, L hllum ‘ball’ (TB *s-lum).138
(144) T sla-ba, Bahing la, Vayu tṣolo < *tšala, Digaro hla- hlo, Nung sala, B ld (Samong sala, Lolo *hla), K šta, Kadu sa[t]a (the dental in these two languages cannot be explained) ‘moon’ (TB *s-la), but L thla < *khla, Meithei tha < *khla, Mikir tšiklo (cf. tšikli ‘flea’), from TB *g-la, whence perhaps Magari gya(-hot).137

Some evidence exists for the nasal clusters *yr-, *mr- and *ml-. Tibetan has initial mr- in smra-ba ‘speak, talk’, smraŋ ~ smraŋ ‘word, speech’, smre-ba ‘wail, lament’ (cf. B mrwaŋ ~ prwaŋ ‘utter, speak’, L biak ‘speak’), and nr- in snrubs and sron ‘names of two of the lunar mansions’, snrel(-g)zi ‘sloping, oblique; pell-mell’. Lepcha, which is especially rich in consonant clusters (many secondary), has mr- ~ mry-, ml- ~ mly-, and even yr-, but no certain comparisons have been found for words with these clusters. Burmese has a long series of words with initial mr-, and several words with yr-, while a number of initial ml- and mly- forms appear in the inscriptions, e.g. mlaung for mrauk ‘north’, mlauŋ for mrauŋ ‘ditch’, mliŋ for mre ‘grandchild’, mlyui for myui ‘to swallow’, myau for myai ‘float’. Of the modern Burmese dialects, Ta voyan has retained ml- in a few words, notably mle for mre ‘earth’ and mlë for mre ‘grandchild’, while Taungyo vacillates between

135 This generalization does not hold, since there is good evidence for *drup rather than *d-rup ‘sew’ (n. 320) and for *sram rather than *s-ram ‘otter’ (n. 302); also *tr- has now been reconstructed in the root for ‘weave’: *trak (n. 68); *sl- probably occurred in the ancestral TB speech, especially in view of *zl- (n. 136), but has not yet been demonstrated; *il- and *dl- appear unlikely candidates for TB.

136 We now prefer to reconstruct TB *zlum, the initial cluster *zl- yielding both L hl- and B l- (TB *sl- should yield B *hl-); note that the cluster sl- in Tibetan is original in this root, but secondary in zla-ba ‘moon’ < *s-gla (n. 137).

137 This root has now been reconstructed *s-gla, on the basis especially of the Mikir and Magari forms. This also serves to explain K šta, from *s-kla < *s-gla; cf. K lsta? ‘hand’ < *glak (n. 109).
mr- and ml-. B mrè ‘grandchild’, hmrà ‘arrow’ and mrwe ‘snake’ all seem to be made up of prefixed m or b + initial r- or l- (see §27); cf. also the following:

(145) Kanauri ray’, Manchati ḥray, Bunan śrays (Himalayish *s-ray-s), Chepang sēray ‘horse’, but K kumra~kumray, B mrāy, Haka ray (TB *s-ray~*m-ray).\(^{139}\)

The above root has a close parallel:
Kanauri ray, B mrāy ‘high’.\(^{140}\)

Direct comparisons of the initial cluster are also available:

(146) Murmi (Bodish) mray, B mray ‘see’, perhaps also Nung yañ, id. (TB *mray).\(^{140}\)

(147) B mrak ‘cut keenly’, mrā ‘very sharp, keen’, K mya ‘torn, ragged’, omra~omya tear, maul, lacerate’, Dimasa džbrau<*džbrak ‘maul, claw, scratch’ (TB *mrak).\(^{141}\)

(148) T bra-ba ‘to have or be in great plenty, abound’, Kanauri mra, Manyak (Hsi-fan group) tbra, B mya ‘much, many’ (TB *mra).

(149) Kanauri myag, B mrak ‘grass’ (TB *mrak).\(^{143}\)

(150) T 'bru ‘grain, seed’, K myu~omyu ‘kind, sort, tribe’, B myuə ‘seed’, āmyul ‘race, lineage; kind, class, sort’ (TB *mrwyə).

138 Prefixed m+r/y becomes a voiced initial, as above: *mr, *my> Lahu m (‘monkey’, etc.), but see ‘grandchild’: Lahu hɔ, from *ml (<*hl) for another development (JAM). The TB root for the latter is *b-lyə, suggesting a development of the type: *b-lyə>*phlay>*hlay.

139 T rta is a possible cognate of this root (n. 102) (JAM). K kumray appears to represent the product of a double prefixation: *k-m-ray, including the TB *k-‘animal prefix’ (n. 301). In Himalayish the earlier *m- prefix was dropped (normal development here), then the TB *s- ‘animal prefix’ (p. 107) was added, yielding *s-ray-s (see n. 290 for the final *-s). Inasmuch as the horse, a relatively recent arrival here (S.E. Asia), is often described in derived forms (IN has *ad’ar/an ‘the learned one’), one is tempted to relate this TB root for ‘horse’ to the root for ‘high’ (see text) = ‘the high (-ray) one (m-)’ (the equivalent of ‘its highness’); the auk-shyi of B mrɔy ‘high’ relates to either tone in that language, hence there is no basic tonal discrepancy here (see §12).

140 Trung (Nungish) has mray ‘high, long’, establishing the presence of prefixed *m- for this root (Kanauri drops most prefixes). Rāwang, another Nungish language, has ray ‘high’ (apparently unrelated) but yan ‘long’, the latter providing a parallel for Rāwang yan ‘see’ (No. 146), yet the loss of the prefix in this Nungish language is unexpected.

141 Trung (Nungish) has pra<*pra or *prak (Trung simply drops TB final *h-) ‘to cut with sharp instrument’, suggesting the possibility of an original *pr- or *br- in this root or in a doublet root (note Dimasa džbrau<*džbrak).

142 T ’dṣag-ma ‘grass’, from *a-lyag (n. 104) belongs in this set, yielding the TB reconstruction *m-lyak (with Tibetan substituting TB *a- for *m-). It can now be seen that Kanauri has mr- for *mr- (No. 148) but simply r- for prefixed *m-r- (No. 145 and ‘high’), also my- for both *ml- (No. 153) and *m-l- (No. 149).
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Note that Tibetan has developed *br- in roots of this type. Burmese appears to have m- for *br- (cf. B m- < prefixed *b- before liquids) in at least one root:

(151) T 'brub-pa 'cause to overflow, gush, spout forth', 'brubs 'water that has flowed over', K phrub 'squirt, as water with the mouth', G brip 'flood', prip-at 'overwhelm', B mrup 'to be submerged, overwhelmed, buried', hmrup 'submerge' (TB *brup~*prup).

Initial *ml- is indicated for the following pair of roots:

(152) Mikir mili~meli 'sand-bank, bare ground', Nung dial. moli 'country; mountain', Manyak (Hsi-fan group) mali~mli, B mre, Tavoyan dial. mle, Phôn (Samong dial.) tsmli~tomyi 'earth' (TB *mliy).

(153) Kanauri myu 'to swallow' (nasalization not explained), K moyu2 'throat; to swallow', B myui (inscriptions mlyui) 'to swallow' (TB *mlyuw).

Initial *yr- can provisionally be reconstructed for the following roots:

(154) B yrà, K nya 'meet, encounter' (TB *yra).

(155) B yray 'contradict, deny', Nung ñyey 'deny', øyey 'slant~slant 'oblique' (TB *yray); cf. L ñay <*gray 'deny'.

(156) B yru~ñui 'dark in color; darken', hñui 'dull, faded, wither', K nyui 'faded, wilted, withered', Nung ñyö 'withered', øñui 'fade' (TB *yruw).

Illustrations of TB initial clusters with *w or *y:

(157) B kwai 'dammer-bee', L khuai~khoi, Thado khoi~khui-va (va 'bird'), Tangkhul khui, Lakher skha 'bee', Nung kha 'bee (domesticated)' (TB *kwa-y).

(158) T rkon-pa~skon-pa 'basket; Fowler's net', Lepcha kun 'sort of fishnet', K sumgon, Nung gun, B kwon 'casting net' (TB *kwan).

(159) T khyi, Kanauri kui, Thebor khu, Vayu uri, Chepang kwi, Bahing khistä, Limbu kh-ä, Digaro nkwi, K gwi, Jili takwi, Nung tsoi, B khwè, 'Garro A' dialects *kui (Koch and Ruga kui, Rabha ki), Dimasa si, L (and general Kuki) ui, Mikir hi <*khi (obsolete word recorded by Robinson, 1849) 'dog' (TB *kwiy).

(160) T bgo-ba 'put on (clothes)', gon-pa 'put on (clothes); clothing', gos 'garment, dress', skon-pa 'to dress, to clothe another person', K khon 'wear (as bracelets)', Nung gwa~ga 'to dress' (intr.), dogwa~doga (tr.), gwa-lam 'clothes', Lisu gwa 'to dress', Menia (Hsi-fan) ga-ma 'clothes', G gan 'wear, dress', Mikir kan 'clothes, finery' (TB *gwa~*kwa).

143 Angami Naga (Burling, 1962), like Kachin, handles this root as a prefixed form: me-zu 'to swallow', from *m-yu; cf. also Karen (n. 403).

144 This root is also represented by Gurung kwe, Thakali koy 'bee'; it has been identified as a possible early loan-word from AT (Benedict, 1967 bis).

145 A doublet *gwan must be recognized here; cf. K sumgon, Nung gun, B-L *gwan (Maru gun; Atsi simgon is a loan from Kachin); the Chinese evidence indicates that the final -n is an old suffix (n. 428).

146 See n. 83 for the loss of initial *k- in Kuki.
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(161) T skyon-ba, pf. bskyas ‘guard; keep, tend (cattle)’, B kya'w ‘feed, tend cattle’ (TB *kyoy).

(162) T skyen-ba ‘to be ashamed’, K khyan ~ tsey ‘red, crimson’ (TB *kyey).

(163) T bregya, Kanauri ræ, Bahing ya, Thulung yet, Dumi ri, K matsat, Nung istrate, B hrats, G tse, Dimasa dṣai < dṣat, L riat (Kuki *d-ryat) ‘8’ (TB *b-r-gyay).

(164) T bryga, K lirsa, Nung ya, B ara, G rittsa, Dimasa radza, L za < ya ‘100’ (TB *r-gya).


(166) K dwi ~ dwi, G tsi, Dimasa di ~ gidi ‘sweet’, L tui ‘nice (to taste or smell)’ (‘sweet’ in Thado and other Kuki languages) (TB *twi(y)).

(167) K tui ‘suppurate (as a boil)’, B twe ‘flow moderately and incessantly’ (TB *twi).

(168) L (and general Kuki) tui ‘water; egg ("fowl-water")’, Dhimal tui ‘egg’; also K mthwi ‘to spit’, B thwè ‘to spit’, lam-thwè (perhaps from *ta-mthwè) ‘saliva, spittle’ (TB *twi).


B kyan, an intensive used with ni ‘red’, belongs with this root: ni-kyan-kyan ‘pale red’ (= color of blushing); this form supports the reconstruction of the initial cluster *k- in this root.

This pair of numeral roots presents unusual difficulties both in TB and in Chinese (n. 435). Tibetan is distinctive in having the same initial group (bregy-) for both roots; the b- is an added prefix which is matched in one root by Kachin (matsat ‘8’). The root for ‘8’ was metathesized in Tibetan: bregyad < *bgrya (Tibetan lacks the initial group *bgry-). The element *-gryad represents the basic TB root *g-ryat, whence B hrats via *hret; Kachin has matsat < *b-kyt < *b-kryat by regular shifts (treating *g-ry- as an initial cluster); Kuki-Naga has replaced the prefix: *d-ryat for *g-ryat, apparently under the influence of TB *d-ruk ‘6’ and *d-kow ‘9’. Chinese shows a contrasting type of development (n. 435), with metathesis of the root for ‘100’ rather than for ‘8’ and with replacement of the prefix *g- with *b- (paralleling a common development in TB in the roots for ‘3’ and ‘5’) rather than with *d-.


150 Tiddim Chin way-y ‘hole; make a hole’ appears to be cognate here, indicating a reconstruction *dwa-y.
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(171) L (and general Kuki) pui ‘feminine affix’, K wi~yi ‘feminine affix’, šwi ~ šŷi ‘female’ (TB *pwi(y)).


(173) T byi-ba ‘rat, mouse’, B pwè, L bui ‘bamboo rat’ (TB *hwiy).


(175) T dpian-ba ~ spyin-ba ~ phyen-ba, K spyan ‘hang’ (TB *pyan).

(176) T ’phyo-ba ‘swim, soar, float’, K pyau ~ byau ‘fly, float; play, shoot, as a fish’ (TB *pyau).

(177) T bya ‘bird, fowl’, B pyà (Ahi do, Loloopho byo, Nyi dì-ma, Lisu byè) ‘bee’ (TB *bya); for the semantics cf. No. 157.151

(178) T ’byor-ba ~ ’byar-ba ‘stick to, adhere to’, shyor-ba, pf. shyar ‘affix, attach; compile, compose; join, connect’, Bahing phyer ‘sew’, L phiar ‘knit, plait, be entangled; plot, conspire, plan’ (TB *byar ~ *pyar).

(179) T ’byon-pa ‘go’, K byon ‘come or go out of’ (TB *byon).

(180) K laswèi ‘shave or whittle off’, gesswèi ‘rub up against (as a dog)’, B swè ‘whet, rub, polish’, G si-rok ‘shave’, Dimasa si, L sui ‘scrape’ (TB *s(y)wiy).


(183) K mètrei ~ metswi ‘pus’, B tshewè ‘decayed, crumbling; rotten’ (TB *tswiy).


151 Nyi *dy- does not occur, hence we must assume *by- > Nyi dl-; this is the reverse of the Tibetan development shown in ‘four’: TB *b-l- > *by- > *bâ- (JAM). Gyarung has prye < *pra (also prâ- in comp.) ‘fowl’, pra-khu ‘owl’; Angami Naga (Burling, 1962) has pera < *bra or *b-ra ‘fowl’; a doublet *bra must be recognized on this basis; there is also a possibility that this is an old loan from AT (Benedict, 1967 bis).

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(185) T gtśod-pa, pf. btśad, L tšat 'break, cut' (TB *tsyat).
(186) K tšíyap 'to be on friendly terms; to adhere, as soot to a roof', B tsap 'join, unite, connect', G tšap-tšap 'adjacent' (TB *tsyap).
(187) Bahing tšyar 'shine', K dšan, Moshang roy-sarr, G sal 'sun' (TB *tsyar).
(188) Bahing tšyur 'wring', Bunah tšhur 'squeeze out', Kanauri tsür 'to milk', Haka šur 'wring' (TB *tsyur).
(189) T nya, Chepang ya~nya, Lepcha yo, Tsangla ya, K ya, Nung ya, B và, G na-tōk, Bodo ya~na, L hya 'fish' (TB *yya).
(190) T brnya-ba~brnyan-pa 'borrow', Nung ya 'hire, rent, lend', B hyà 'borrow or lend, hire or let (the same article to be returned)' (TB *r-nya).
(191) K muni, Bodo and Dimasa mini, L nui (Kuki *m-nui) 'laugh' (TB *m-new(y)).
(192) T rnyab-rnyab-pa 'seize or snatch together', K nyap 'squeeze; extort', B niap 'to be squeezed', hñap 'pinch, squeeze; blacksmith's tongs' (TB *nyap).
(193) T nyen-pa 'to be pained, pinched, pressed hard; to toil and moil', K nyen 'coax, defraud', šnyen 'take by force, coerce', B hāi 'sigh, moan, groan; grumble or murmur at', hiāi 'hurt, oppress, bully' (TB *nyen).
(194) T snyuj 'disease, illness', snyun-ba 'to be ill', K nyuj 'sad, dejected', B hāu 'to ache, be tired, cramped' (TB *nyuj).
(195) B hmwè 'twirl about', L hmui-thal~hmui-thlur, Siyin mui 'spindle' (TB *(s-)mwyi).
(196) T rmi-ba 'to dream', Magari mì, Miju mui 'to sleep', K sìmswi 'to be heavy with sleep', B mwe 'sleep, enjoy sleep' (TB *mwyi).
(197) Bahing myel 'to be sleepy', K myen~mye 'fall into sleep or swoon', B myān 'to be sleepy, to sleep' (TB *myel).
(198) T rod-pa 'stiff, unable to help one's self', B rwoat 'old, tough' (TB *rwoat).
(199) T grom-ma, Gyarung kōrok, Lohorong and Lambichong (Kiranti) khorok, Miri ṭoruk, Dafla ṭorub, Nung sœr, B pārwak 'ant' (TB *rwoak).153
(200) K rwoi 'gently sloping, slanting', B hrwe 'slant, be oblique' (TB *rwoiy).
(201) L (and general Kuki) hrwi, Digaro ṭɔɾui~ṭɔro, Abor ṭɔɾū 'cane' (TB *rwi(y)).
(202) T gža-ba 'to sport, joke, play', gžas 'play, joke', bšad-pa~gšad-pa 'laugh, smile', Thebor rot, Bunah sred, Magari ret, Bahing rit~ris, Khaling ret, Nachereng ĥres, Nung it, Digaro məra, Aka ra, B rai 'laugh' (TB *rya-t).

153 Labu pu-γọ 'ant'; the first element (B pā-) is from the 'insect' root (No. 27); see 'GD', No. 97 (JAM). Other TB languages usually exhibit either the TB *k- 'animal prefix' (Tibetan, Gyarung and Kiranti) or the *s- 'animal prefix' (Nung), while Miri-Dafla has the late *d- prefix, the root apparently never occurring without prefix.
(203) T žag (Lahuli gyag), Manchati hrag~rag, Lepcha 'ayak, K ya, B rak 'day (24 hours)', L riak 'pass the night' (TB *ryak).  
(204) T žag 'fat, grease (in a liquid state)', L sa-hriak 'oil, grease' (sa 'flesh'), B pàn-rak~swat-rak 'juice of flowers' (TB *ryak).

(205) T žañ(-po)~ʔa-ʔaŋ 'uncle (mother's brother)', B ǎhrəŋ 'master, lord' (written ěhsyan in addressing a monarch), Kuki *r(y)añ (Chawte raŋ~raŋ, Laiyo raŋ, Thado gau, Siyin yaŋ) 'father's sister's husband' (TB *ryan).  
(206) K yut 'become or grow worse, as illness', šyut 'to be apathetic, indifferent', B yut 'inferior, mean', hruŋ 'to put down' (TB *ryut).

(207) K yau 'to be mixed', kəyaŋ 'mix, intermix', B rau 'mix, mingle' (TB *ryaw).

(208) K ęalo, B kywai < klwəi, L loi, Siyin loai 'buffalo' (TB *kwa-y).

(209) T hlod-pa 'loose, relaxed', ḡlod-pa 'loosen, relax, slacken', K lot 'escape; be free, unrestrained', šlot 'set free', B lwat 'to be free', klwət 'free, release', kywət < klwət 'loosed, freed', khəwət 'release, free' (TB *g-lwat).

(210) K lwəi~lwəi 'flow, as water', L (and general Kuki) luì 'stream, river' (TB *lwı(y)).

(211) Lepcha lyak 'to taste, try' (Grünwedel), B lyak, Nung la~le, Miri yak, G sraŋ, L liaŋ, Mikir śiŋk, Tangkhul khməleŋ 'lick'; Magari leŋ, K śiŋklet ~ śiyplek (Maran dial. śiyriat), T ldzags (resp.) 'tongue', from TB *(m-)lyak~*(s-)lyak;  
157 cf. the related roots: L hliuə 'lick (as flames)', K śiylaŋ 'tongue' (couplet form), from TB *(s-)lya-w; Bahing liam, Khambu and Yakha lem 'tongue', B dhlyam 'coruscation of flame', from TB *(s-)lyam.  
158 (212) T helb-mo 'flat', ġleb-pa 'make flat', B lyap 'very thin' (TB *lyap).

154 Lahu ḡa 'night; pass the night'; PLB *hr-; see Manchati hrag, from TB *s-ryak or šíryak (T *s>r~s, *s>r~s). We can now reconstruct TB *s-ryak on the basis of the above evidence (T žag is from *ryag, without the prefix), and the prefix can also be reconstructed for ST itself, since it appears in the Chinese cognate (n. 457).

155 Cf. the honorific use of T żañ in early texts, e.g. žañ-žañ or rgya-žañ 'chief uncle', žañ-łon 'councillor', žañ-blon 'minister'.  
156 This root has been reconstructed *tırəŋ (Benedict, 1948), with the initial cluster əhr- contrasting with *sr- (*sril 'worm', n. 121); the Kuki root is *trañ 'father's sister's husband', as shown by Haka (k-)trañ (cited in Benedict, 1941) (Lushei lacks this root); cf. also Miri (d-)bu riŋ 'father's (d-bu) younger brother'.

157 Another simplex/causative pair: Lahu lɛ?/lɛ 'lick' / 'feed an animal' < PLB *lyak / lyak (JAM).

158 Kanauri and Thebor lem 'lick' probably also belong in this set, but Lepcha lim 'to flame up, as fire' (d-lim 'flame') points rather to a basic medial *ya~*i-alternation in this root (see n. 251). B hlya 'tongue' is a possible cognate via an old suffixed form such as *hlyam-ma, whence *hlya-ma.

TB medial *w, found only before a and i, is well preserved in Burmese and Lushei, and appears less regularly in Kanauri, Digaro, Nung and many other TB languages. Kachin maintains *w before i (often with epenthetic ə), with the noteworthy exception of məm ‘laugh’ < TB *m-məwi(y), apparently through dissimilation. Kachin and Tibetan share in the development: *wa > o (Nos. 158, 160, 165, 169, 170, 198, 199, 209). Lepcha has *a > o, but *wa > u: kun ‘net’ < TB *kwan; sātum ‘wolf’ < TB *d-wam. Miri also has u for *wa: tərək ‘ant’ < TB *rwak; sɨtum ‘bear’ < TB *d-wam. There is further evidence for this shift in Kachin:

B twàn ‘wrinkled; shrink’, K thun ‘shrink’.

B lwən ‘gimlet; bore with a gimlet’, K gələn ‘thrust, pierce, as with a spear’.

A few Tibetan words are written with a symbol called wa-zur (‘angular w’), which appears only before -a. Wa-zur may have been phonetic in some instances, as argued by Laufer, but we lack good comparative material in support of such a view. In at least two words, on the other hand, wa-zur seems to have functioned simply as a device for distinguishing between homonyms; cf. T šwa-ba for ša-ba ‘hart’, from ša ‘flesh’ < TB *syə (No. 181), and the following:

(214) T tsʰwa, Kanauri tsa, B tshâ ‘salt’ (TB *tsa).

This contrasts in the written language with T tsha ‘hot’ < TB *tsa (No. 62). In view of the considerable body of material in support of the shift: TB *wa > T o, we must conclude that wa-zur does not represent TB medial *w.

The clusters *zw-, *dzw- (but note *dzəw- in No. 242), *yw-, *hw- and *yw- are difficult to establish for TB roots, yet it is highly likely that all five existed in the parent TB speech. Initial yw- (yw-) is found both in Burmese and Lushei,

159 The wa > o shift, though especially characteristic of Tibetan and Kachin, is also found elsewhere; note L oəi < wəi in Nos. 157 and 208. In Modern Burmese the development has been as follows: wən > wə ~ wɨ, wək > wəʔ, wəm ~ wəm > wɨ, wət ~ wəp > wuʔ (but final -wa is maintained). Both medial and final wa interchange with au (> o) in the Pagan inscriptions, e.g. rwauh for rwa ‘village’, kyaun ~ kwaun ‘slave’, saun for swan ‘pour’.


161 Tibetan wa-zur appears to have been phonetic (for earlier wa or a) in some instances; cf. T tsʰwa ‘salt’ (text), Ch. dzʻə, id. (n. 487); T rwa ‘horn’ (p. 113); also T rtsəwa ‘grass’, with the medial -w- element preserved in Balti and Purik rtsəwa ~ tswəa; cf. Ch. dzʻəwən/dzʻənəm ~ dzʻən/dzʻənə ‘grass, herb’ (n. 455), but təg/tənə appears to be only a pseudo-cognate.

162 TB initial *dzə- may be inferred from one B–L root which must be reconstructed with this initial cluster: B tswən ‘kite; (in comp.) hawk’, Atsi tśin, Lahu d-cè ‘kite’, Lisu dzye ‘hawk, eagle; (in comp.) kite’, with a Chinese cognate (n. 453).
but no cross-correspondences have been uncovered.\textsuperscript{163} Burmese appears to have shifted *\textit{nyaw-} to \textit{nw-} in one root:

\begin{itemize}
  \item (215) \textit{Ky}, Moshash \textit{ya}, Nung \textit{nyaw} ~ \textit{ya} ~ \textit{nyaw}, B \textit{nyaw} ‘cattle’ (TB *\textit{nyaw}).\textsuperscript{164,165}
\end{itemize}

The evidence of TB *\textit{hw-} is extensive but difficult to interpret. Burmese has this cluster in a few words, but it seems to be secondary here; cf. B \textit{phwak} ~ \textit{hwa:k} ‘hide’ (No. 46) and \textit{khwé} ~ \textit{hwé} ‘push with the head, butt’.\textsuperscript{166} Lushei has initial \textit{hu-} in the following pair of roots:

\begin{itemize}
  \item (216) L \textit{huam}, K \textit{swam}, B \textit{swam} ‘dare’ (TB *\textit{hwam}).
\end{itemize}

Another root with initial *\textit{hw-} can be set up on the basis of the Bunun correspondence:

\begin{itemize}
  \item (218) Bunun \textit{hways} ~ \textit{hoaps} ‘come out, go out’, T ‘\textit{oy-ba} < *\textit{waw} ‘come’, Dhimal \textit{way}, B \textit{way} ‘enter’ (TB *\textit{hway}).
\end{itemize}

Nung has initial \textit{hw-} in the following pair:

\begin{itemize}
  \item (220) Nung \textit{hwar} ‘burn, kindle’, K \textit{\textit{ph}-\textit{wan}},Moshang \textit{war}, G \textit{wa?l} ‘fire’, but Chaierl \textit{phal} < *\textit{phar}, id., and T ‘\textit{bar-ba} ‘burn, catch fire, be ignited’, \textit{sbar-ba} (pf. \textit{sbar}) ‘light, kindle’, Kanauri \textit{tar} ‘burn’ (intr.), \textit{par} (tr.), M \textit{par} ‘light (as a fire), ignite’ (TB *\textit{bar} ~ *\textit{par}).\textsuperscript{167}
\end{itemize}

Both these roots probably illustrate loss of initial stop, as described above (§8), although the latter might be prefixed, e.g. *\textit{g-a-p} or *\textit{g-(h)waw-p}.

The cluster *\textit{hw-} has been reconstructed for the additional pair of roots:

\begin{itemize}
  \item (221) Bahing \textit{hwa} ‘light’, Lepcha \textit{a-m} ‘shine’, \textit{om-bo} ‘illuminating’, \textit{a-om}
\end{itemize}

\textsuperscript{163} TB also has initial *\textit{nyw-} in the following root of limited occurrence: Bahing \textit{nyap} ‘cousin’, Lepcha \textit{a-\textit{hop}} ‘levirate or sororate spouse (marriageable affinal kin)’, from TB *\textit{nyaw}.

\textsuperscript{164} Note the restricted eastern distribution of this root, which is to be regarded as an early loan from Thai *\textit{nya}. Chinese \textit{nyə} ~ \textit{nyuə} is distinct from this series.

\textsuperscript{165} This has been identified as an early loan from AT (Benedict, 1967bis); cf. also Gyarung (K. Chang) \textit{nywey} < *\textit{nywe}, and Trung (Nungish) \textit{nya} \textit{nya}; Tibetan has \textit{no} ‘cattle’ (used mainly in derived meanings of ‘property, wealth’ and even ‘money’), apparently from *\textit{nwar} (cf. the Burmese form), but the final \textit{-r} is enigmatic.

\textsuperscript{166} For ‘hide’ see n. 88; Lahu has \textit{gù2} ‘butt with head’ (JAM).

\textsuperscript{167} See n. 78 for the present analysis of this root.
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'light, brightness', T 'od < *?wad 'light, shine, brightness', nyi-'od 'sunlight', B ne-at 'sunlight' (archaic), Thado wat 'shine' (TB *hwa-t).

(222) Kanauri sü, Bunau sü, Chepang vi~wei, Vayu vi, Tsangla yi, Magari hyu [hû] < *hvi (cf. tŠhyu 'dog' < *khvi), Lepcha vi, Bahing hu-si, Dumi, Sang-pang, Waling, Dungmali hi, Lohorong hari, Lambichong and Chingtang hî < *hvi (cf. Vayu uri, Bahing khli 'dog' < *khvi), Digaro horoi ~ hrwei, Mimi iyi, K sai, Nung sô, B swè, G antši, Dimasa thi, L thi, Mikir vi, Meithei i 'blood' (TB *s-hwi). \(^{169}\)

In the latter root, note K sai rather than the anticipated *swi ~ *søwi, and L thi rather than *thui (contrast No. 168), perhaps as a result of the aspirated cluster. Initial *yw- has not been established for any general TB root but appears in at least two Kuki-Naga roots:

*yew- 'sell': L zuar, Mikir džor.\(^{170}\)
*ywi 'follow': L zui, Siyin yui.

Clusters of the type: velar stop + y, labial stop + y can be established with some precision, with Tibetan furnishing the most valuable data here. Kachin preserves initial *ky- only by exception and as a doublet form (No. 162), normally shifting to a palatal affricate.\(^{171}\)

(223) T mkhyen-pa, K tšyen ~ tšye 'know', from TB *(m-)kyen.
(224) K khyan ~ gyen ~ tšen 'snow, ice', B khyâm 'cold' (TB *kyam).

\(^{168}\) The appearance of this root in Tsangla suggests that T yid 'soul, mind', and yi~yid- in compounds such as yi-ga 'appetite', yi-dam ~ yid-dam 'oath', are directly cognate (both K sai and B swè are used in the derived meaning 'disposition, spirit'). T khorag 'blood' is isolated in Tibeto-Burman.

\(^{169}\) TB *s-hwowy is now preferred as the reconstruction for this root; the initial cluster *hw- is paralleled by TB *kywowy 'yam' (No. 238), and this reconstruction serves to explain forms such as Tsangla yi and L thi, the latter via *si < *s-yi < *s-hwi.

\(^{170}\) This root is also represented by Meithei yol ~ yon 'sell'; it is definitely a loan from AT; cf. IN *dual, id., with TB showing the characteristic r = l equation (Benedict, 1967 bis). B wai 'buy' also belongs here, the same semantic shift occurring in AT (the Ong-Be language of Hainan); see n. 54 for the final. Râwang (Nungish) has wovan 'buy' rather than the anticipated *yvar.

\(^{171}\) Doublet forms are common in Kachin, e.g. khyun ~ sun 'kidneys', khye ~ dže 'to tear'. Initial affricate forms are more often cited by Hertz than by Hanson or Needham, and are especially characteristic of the Khauri dialect recorded by Cushing ('Grammatical Sketch of the Kakhyen Language', JrAS 12 (1880), 395-416), e.g. ltsauŋ for lkhon '2', tśauŋ for khom 'to go', džatši for džákhu '9'. For the assimilative -yam > -en shift of No. 224, cf. B pyam, K pyen 'to fly'; B krám 'rough, coarse', K gren 'raw-boned, razor-backed', magren ~ dingren 'sharp', tingren 'rough'; B dśam 'sound' (used in meaning 'voice'), K niñsen ~ nsen 'sound, voice'; also Bahing sam 'breath, life', T sem(s) 'soul, spirit', sem(s)-pa, pf. sens ~ bsams 'think', bsam-pa 'thought', Lepcha a-sóm < */sam 'spirit, breath'.
The parallel K *ts-<*gy- development is illustrated by Nos. 163 and 164; note also G *ts-, Dimasa *dš- in the same pair of roots. It is reasonable to suppose that the parent TB speech had initial *ty- and *dy-, paralleling the other stop clusters, as well as *ny-, yet our evidence here is of the scantiest sort. Most TB languages, including Tibetan, lack these dental stop clusters. Burmese has ty-only in rare doublet forms; cf. ta~tya ‘very red’ (n. 429); also the following:


Lepcha has ty- or dy- in a few words; these are probably secondary for the most part (see §22), but cf. the following:

(225) Lepcha tyaj ‘dark’, Tsangla tsaj, K tšyaj~m̥tšyaj ‘black’ (TB *tyaj).

Bahing has a number of words with initial ty- or dy-, and several roots of this type can be set up for Kiranti:

Kiranti *dyal ‘village’: Bahing dyal, Dumi del, Nachereng tyal, Kulung tel; cf. Lepcha tyol<*tyal, id.

Extra-Kiranti comparatives are also available for the following pair of roots:

(226) Bahing dyam ‘to be full (as a vessel)’, Vayu dam ‘to be full’, tam ‘fill’, T lham-pa ‘state of being full, e.g. a vessel full of water’, lham(s)-pa ‘to be full’, gtam(s)-pa ‘full’, tham-pa~them-pa ‘complete, full’ (TB *dyam~*tyam).174

(227) Bahing dyam ‘to be straight’, T ldem-pa ‘straight, upright’, B ālam ‘a straight, long piece’; probably also Nung odam ‘plain (level ground), flat’, hi-dam ‘foot’ (=‘flat of leg’), Gyarung ti̱m̥i dam-dam ‘lower leg’ (TB *dyam).175

Tibetan shows the shift: *ya=e in the above roots and elsewhere, while West T dialects tend to retain ya or a:


Bodish *styan ‘upper part’: T stey, Ladakhi stay; possibly related to Limbus thay ‘above’, general Kiranti *taj ‘horn’.

Lushei has thi- in the following root, which appears to have had a cluster with y as initial:

T tsaj-ba~saj-ba ‘make clear, cleanse’, sen-po~bsey-po ‘clean, white, thin, airy’ (note the a~e alternation), West T sih-po ‘thick, clear’ (West T lacks *iya-),

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172 Cf. also K tsap ‘stand’<TB *g-ryap (No. 246); cf. also n. 148.
173 Tiddim Chin has tak ‘to be right, correct’, also ‘right (side)’.
174 This root also appears in K-N: Tiddim dim ‘to be full’.
175 Tiddim (K-N) has tam ‘to be level’.
176 Cf. n. 338: TB *(l-)tak ‘ascend; above’.
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B *tsay* ‘clear, pure’, Lushei *thiay* ‘clear, clean’, Thado *sté*, id., Meithei *srey-ba* ‘clean’, from TB *(t)syan*.177

TB medial *y* after sibilants and affricates is best preserved in Tibetan, which makes a sharp distinction between *s* and *š*, *z* and *ʒ*, *ts* and *tsʰ*, and *dz* and *dʒ*. The palatalized forms can phonemically be written: */sy, zy, tsy, dzy/*. Burmese retains no trace of this distinction, but many Lolo languages have a distinctive set of correspondences for TB *sy*-:178

<table>
<thead>
<tr>
<th>TB</th>
<th>Burm.</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>fruit</td>
<td><em>sey</em></td>
<td><em>asi</em></td>
<td><em>si</em></td>
</tr>
<tr>
<td>181</td>
<td>flesh</td>
<td><em>syá</em></td>
<td><em>sà</em></td>
<td><em>hwa</em></td>
</tr>
<tr>
<td>228</td>
<td>iron</td>
<td><em>syam</em></td>
<td><em>sam</em></td>
<td><em>ho</em></td>
</tr>
</tbody>
</table>

(228) Gyarung *som* (possible effect on vowel), Nung *sam* (dialect. *štam*), B *sam* ‘iron’ (TB *syam*).179

Lushei has *s~š~*<TB *sy*- as contrasted with *th~*<TB *s~*, and *ts(h)<*TB *tsy*- as contrasted with *s~<*TB *ts~*; cf. the following root with a parallel in Mikir:

Kuki-Naga *tsyuk*: L *tsuk* ‘knock against’, Mikir *tsok* ‘hit, strike’.

This correspondence may represent a secondary palatalization before front vowel in some roots, or perhaps an influence from final *-y*; cf. K *tsyai*, L *tsai* ‘to

177 This root can now be reconstructed *syán* (n. 122). West T *sigs*- (rather than *s examining*) indicates an old medial -ya-~i- alternation (n. 251).

178 Burling has *xwó* ‘iron’ for Lisu. In several Loloish languages the s/s distinction is breaking down; Lahu has only *š*, with s as an allophone before *[ʃ]*; Akha preserves the distinction, with some confusions, in most dialects: *šh* ‘iron’, *šd* ‘meat’, *si* ‘fruit’ (JAM).

As Matisoff (Lahu and PLB, 1969) has shown, a distinction between B-L (and TB) *ts- and *tsy- (= *ts-, c-*) must also be recognized; cf. *tsʰ- in B tsu* ‘fat’, Atsi *tsʰú*, Maru *tsʰúi*, Lahu *chu*, Lisu *tsʰá*, as opposed to *tsʰ- (= *ch-*) in B tsu* ‘widow’, Atsi *chá*, Maru *chák*, Lahu *chá*, Lisu *chá* (note that Lahu does not maintain the distinction). Roots with palatal initials of this type are relatively uncommon, and only one comparison outside B-L has been uncovered; cf. B-L *džuk* ‘vulva’: B *tsauk*, Atsi *džu*, Maru *džok*, Chang Naga *sw-k*, id.; the vowel length appears to be secondary, but Lushei has *tsu* ‘to notch; vulva’, possibly from *tshu-k*, since this language tends to drop final *-k after long vowels or diphthongs, e.g. Burling cites *hr* ‘rub’ for *hruc* ‘rub, wipe’ (possible dialectical variation).

179 The Tsuta dialect of Gyarung (K. Chang) has the doublet *sam* ~ *som*; Trung (Nungish) has *śam*; the root is also represented by Ch’iang (K. Chang) *ší* ~ *šyí* ~ *šye* (see n. 251 for a discussion of this distribution). The Nung (Rāwang) meaning of *sam* is ‘sword’ as well as ‘iron’, and a relationship with the K-N root *hrayam* is possible: TB *sry-* ~ *š* (we have no other examples); cf. L *hriam* ‘sharp; weapon, tool’, Thado *dıhem* ‘sharp’. Gyarung has initial *s* for TB *š*- in this root, but has *sar* ‘louse’ corresponding to B-L *šan* (n. 251), hence a doublet *sar* ~ *śar* must be recognized for the latter.
play’, from *tsya:y (No. 289), but T has rtse-ba < *rtsay ‘to play, frolic, joke’, which has possibly retained the original non-palatalized initial.\(^{180}\)

Lakher, in the Kuki group, seems to reflect TB medial *y in its vocalism; cf. Lakher ṭọọ ‘5’ < TB *b-ya and sa ‘child’ < TB *za, but ya ‘fish’ < TB *yya and sa ‘flesh’ < TB *ya.\(^{181}\) Kachin and Baining also retain at least in part the distinction between palatalized and non-palatalized forms (see Nos. 186, 187 and 188). Garo parallels Lushai at least in part; note especially G masi ‘know’ < TB *syey.

TB initial *dzy- and *zy-, like *dzw- and *zw-, are scarce at best; cf. *dzyon ‘ride’ (No. 72) and the following:


T ’dzu-ba-a ~ żu-ba ‘melt; digest’, G so ‘rot, decay’, Dimasa sau ‘rot, decay’, gasau ‘rotten’, masau ‘digest, disintegrate, rot in water’, perhaps from TB *syaw, but note L thu, Mikir thu ‘rot, decay’ < Kuki-Naga *su (possible vowel gradation, see below).

Medial *y after n- and m- is in general well preserved, but the cluster *yy- can be established only inerentially on the basis of the correspondence: T ny= = B n- (Nos. 189, 190). Most TB languages follow Burmese in simply dropping y, but note G na-tök ‘fish’ < TB *yya.

TB *ry- is maintained in Lushai (ri-) and appears also in the early Burmese inscriptions,\(^{182}\) but has become simply r- in Modern Burmese, y- in Kachin and ż- in Tibetan (Nos. 202–7). An additional Kuki-Naga root with initial *ry- can be reconstructed:

Kuki-Naga *ryal ‘hail’: L rial, Thado giel, Lakher pərei, Rangkhol ril, Ao Naga rer ~ ror, Meithei lel, Mikir herei.

Both Burmese and Lushai retain TB *ly-, while Tibetan normally has *ya > e, as in No. 212; cf. also T legs-pa ~ legs-mo, Ladakhi lags-pa, Balti and Purik lyax-mo ‘good’, showing retention of the a vocalization in these West T dialects.\(^{183}\) A parallel *ya > e shift also occurs in Kachin and Mikir (Nos. 174 and 211), also in

180 The reconstruction of this root remains *(r-)*tsya:y, with *tsy- standing for a dental affricate + y cluster rather than for the palatal *tš- (n. 122); Tibetan lacks the cluster *rts-, however, so that an original TB *(r-)*tsa:y is also possible here, with Tibetan substituting rts- (as in rtsi-ba ‘count’; see n. 95).

181 Atsi (B-L), as recorded by Hanson (1906, Appendix), makes an identical distinction: Atsi ya ‘fish’ but ṭọọ ‘5’.

182 The inscriptions have ryak for rak ‘day’, rya for ra ‘100’, and hsyats, syats, hyats, hyat, het for hra’t ‘8’; cf. ʔhsyaŋ for ʔhraŋ ‘lord’ (No. 205).

183 Tibetan also has the doublet: yag-po ~ ’dzag-po ‘good’, from *(a-)*lyag- (n. 104).
Magari and Tangkhul (No. 211) and in Chepang (No. 174). TB *mly- yields B mly- (archaic) ~ my-, Kanauri my-, K may- (No. 153).

The TB cluster *hy- is retained in Lushei (hi-), and appears occasionally in other languages, e.g. Bahing hyal 'heavy'. It has been reconstructed for the following root:

(230) L hiat 'to scratch' (*iat < *-yak, as in No. 174), Byak 'strike with a stroke toward one's self; scratch' (TB *hyak).

TB medial *y before the front vowel i is as uncertain an entity as initial *y- before i (see above). Tibetan regularly palatalizes velars and dentals before this vowel, e.g. khyi 'dog' rather than *khi, nyi-ma 'sun' rather than *ni-ma; comparable forms with initial labials appear in the older texts, e.g. myig 'eye' for mig. Tibetan does, however, distinguish between palatalized and non-palatalized sibilants and affricates even before i, hence we have some basis for at least indicating medial y in some of these roots: T gtši-ba 'urinate' from TB *ts(y)i, contrasting with T rtsi-ba 'juice; paint' from TB *tsiy. In the following root Nung has th-, contrasting with ts- in tsi 'joint' < TB *tsik (T tshigs):

(231) T mtšhil-ma, L tšil 'spittle', Nung thil 'spittle', thil thil 'to spit', from TB *m-ts(y)i.184

The following roots in initial *s- before i have been reconstructed without the medial element:

(232) T ši-ba ~ tšhi-ba, Kanauri ši, Magari ši, Limbu si, Miri ši, Nung ši, K si, B se, G si, Dimasa thi, L thi, Mikir thi ‘die’ (TB *siy).

(233) T šiy, Kanauri šiy, Magari šiy, Vayu siy, Bahing siy, Miri o-siy, Nung šiy ~ thiy, B sats, L thiy, Mikir then ‘tree, wood’ (TB *siy).

(234) T mtšin < mšin, Kanauri šin, Miri asin, Nung phšin, K sin ~ masin, B dšañ, L thin, Mikir ithin ‘liver’ (TB *m-sin).

Note that Tibetan, Kanauri, Magari, Miri, and Nung regularly have š- in the above series, while Kachin has s- and Lushei and Mikir have th- < *s-. G si, Dimasa thi ‘die’ parallel G masi, Dimasa mathi ‘know’ < *syey (No. 182). Meithei has hak-sa ‘flesh’, ša ‘animal’ < *sya, as well as si ‘die’ < *siy and siy ‘tree, wood’ < *siy, as contrasted with h- < *s- (see above). Burmese has perhaps preserved medial y before i in the following roots, though it must be observed that Burmese sometimes shows interchange here, as in hmán ~ hmyán ‘ripe’ < TB *s-min.


184 This root has now been reconstructed *m-tšril (n. 95).
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(236) 'gnyid ‘sleep’, rnyid-pa ‘wither, fade’ (cf. g-yur ‘sleep’, g-yur-ba ‘drop, hang (of fading flowers); recline, repose’), B niit ‘nod the head; lean a little, as a post’ (TB *n(y)iit).

(237) T smyig-ma~smyug-ma ‘cane, bamboo’, B hnyats ‘bamboo sprout’, G bimik ‘sprout, germ, blade’ (TB *s-m(y)iik); cf. T mig, G mikh ‘eye’ (West T mig-tshan ‘having seeds or grains’ = Classical T ‘having eyes’); also Lepcha yādy-miñ ‘knot on joint of bamboo’.

Clusters with medial *yw must also be recognized, as shown by the following roots:

(238) T skyi-ba ‘medicinal plant; potato’, Kiranti *k(w)i ‘yam’ (Dumi ki, Sangpang khī, Limbu khe, Balali khu), Digaro gi ‘yam’, Nung gi ‘yam, root’, B kyaw ‘wild yam’ (TB *kywiy).\(^\text{185}\)

(239) L tswap, G kasop ‘lungs’ (TB *tsywarp).

(240) Bahing tswar ‘cut with a knife by one stroke’, Mikir tśor ‘cut, chop’ (TB *tswyar).

(241) T tshor-ba, pf. sō ‘escape; flow out, run over’, Lepcha tshor ‘the pouring of water’, G sol-ay ‘flow’, sol-gipa ‘current’, Dimasa di-sor ‘flow’, K sorn ‘flow, as tears, sweat, or water poured on the ground’, B swom ‘pour out, spill, shed’, swan ‘pour upon, cast by pouring liquid into a mold’ (TB *sywar); cf. also T gšo-ba~bšo-ba ‘pour out’, K dšo~tšo ‘pour out, cast, enamel, dye’ (see §7 for alternation of final vowel with *-r).

(242) T dzol-ba ‘hang down (of cow’s udder, of the long hair on a yak’s belly, of tails, etc.); trail, train, retinue’, ’dzol-’dzol ‘hanging-belly, paunch’, L fual ‘sag, hang low; to be loose or long (as a coat, etc.)’ (TB *dzywal).

Clusters consisting of stop + liquid + w or y are rare but do occur in some roots; cf. *krwi(y) ‘sew’, also the following:


(244) B khrwē-mā ‘daughter-in-law’, K khrī ‘paternal aunt’s daughters, sister’s children; son-in-law’ (TB *krwiy).

In the following pair of roots, the initial velar element has been reconstructed as a prefix:

\(^{185}\) Trung (Nungish) has gui ‘taro’, contrasting with dagei ‘dog’, apparently reflecting the distinction in initials in these two TB roots (*kwywi vs. *kwai). Nungish in general simplifies TB final *-way or *-wi(y) in one way or another; in Rāwang they fall together with TB final *-i: gi ‘yam, root’, dogi ‘dog’, also teri ‘cane’ [TB *(s)-rwi(y)] while in Lungmi (forms from N. Bodman) they are represented by -u: agu ‘dog’, tewu ‘cane’ (contrast treatment on p. 137). Chepang also distinguishes between the two roots: gow < *[k)i ‘root; sweet potato’, kuy < *[khuwi] ‘dog’. This root (No. 238) has been considered (Benedict, 1967bis) an early loan from AT but this now appears unlikely (Benedict, 1972).
(245) Kiranti *rum (rum ~ yum) ‘salt’, K dżum ‘salt’, sum ‘to be salt; saltish’, Kadu sum, Moshang sum, G khari-tšam (but sum as early form), Dimasa sem, Meithai thum (cf. tha ‘moon’ < *g-la) ‘salt’ (TB *g-ryum). 186

(246) Lepcha hryām < *hryāp ‘stand on tip of toe, rise’, Kiranti: rap (Bahing), rep ~ reb (Khaling et al.), yeb (Balali et al.) and rip (Sangpang), Vasu yep ~ ip, Nung rip, B rap, Meithai lep (Old Meithai tšrep) Dhimal džap, K tsap, Moshang tšap, Mikir ardšap, Empeo sap ‘stand’ (TB *g-ryap). 186

In the latter root, Kachin has ts- < *g(ry)-, as in Nos. 163 and 164. Mikir ardšap < *r-yaḍ has a parallel in the following root:

Mikir ardžu ‘ask, enquire’, T žu-ba < *ryu ‘request, put a question’, from TB *r-yu( 웃 ).

The influence exerted by prefixes is further shown in Nos. 163 and 164, which parallel No. 246 in some languages: K mtsat ‘8’, tsap ‘stand’; Empeo tsat ‘8’, sap ‘stand’; Meithai toret ‘7’, tšrep ‘stand’ (Old Meithai form).

§10. Tibeto-Burman vowels (finals; diphthongs)

The TB vowel system187 is made up of the five phonemes188 /a, o, u, i, e/, which appear both in medial and final position. With the exception of a, however, pure finals in final position are rare, while combinations of vowel + w or y are charac-

186 PLB *hrap ‘stand’ (JAM). This reconstructed form should be compared with B hrats 8’ < *g-ryat. Nos. 245 and 246 (text) are now reconstructed *gryum ‘salt’ but *g-ryap ‘stand’, thus explaining the contrast in development; note especially K dżum ~ sum ‘salt; salty’ (the latter perhaps from a doublet form *kryum) but tsap < *kyp < *krap ‘stand’ (cf. K mtsat < *kyaṭ < *kryat ‘8’). Tibetan has rgyam-tshwa ‘a kind of salt, like crystal’ (tshwa ‘salt’), apparently a metathesized form from *grum (cf. T brgyad ‘8’ for *b-gryad); this is a rare medical term (cited by Csoma de Kôrös) and may be an early loan from Chinese, in which the indicated vowel shift *u > a is regular (n. 479).

187 See Shafer’s studies of the ST vowel system: ‘The Vocalism of Sino-Tibetan’, part I, JAS 60 (1940); part II, JASOS 61 (1941) (JAM).

188 It now appears preferable to recognize the vowel ø for TB, but only in non-final position. This is especially indicated for the finals *-w and *-y (preferable to *-uv and *-iy), and there are also indications that medial *ø still existed in certain positions at the reconstructed TB level, e.g. it explains vocalic alternation in Tibetan verbs (n. 344). Inasmuch as we probably should recognize the vowel ø in any event, it is advantageous to analyze prefixes along these lines, e.g. prefixed *b- is /bɔ/ rather than /bâ/ (with phonemic zero stress); *g-ryap ‘stand’ is *gryap, contrasting with *gryum ‘salt’.

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teristic of the system as a whole. The following finals occur (rare finals are enclosed in parentheses):

\[
\begin{array}{cccc}
-\text{u} & -\text{o} & -\text{a} & -\text{e} & -\text{i} \\
\text{u} & \text{a} & \text{aw} & \text{ew} & \text{w} \\
\text{u} & \text{o} & \text{ay} & \text{ey} & \text{iy} \\
\end{array}
\]

TB *-a, the most common final in the system, is retained in most groups: cf. T, K, G, L kha, B kha ‘bitter’ < TB *ka (No. 8). Lepcha, Abor-Miri, and Mikir have *-a > -o, and similar shifts appear in other groups, e.g. Maru -o, Ahi and Nyi -o, Ulu -u in the Burmese-Lolo group. Chang (Konyak) has developed the diphthong -aw ~ -ou from TB *-a, as in nou ‘ear’ < *g-na, niau ‘fish’ < *nya; sau ~ sau ‘eat’ < *dza; cf. also Chang hai ~ hei ‘die’ for TB *siy. Note also the bizarre set of correspondences in the Western Kuki group, with Khoirao alone maintaining the -a vocalization:

<table>
<thead>
<tr>
<th>TB</th>
<th>Khoirao</th>
<th>Empeo</th>
<th>Kabui</th>
<th>Maram</th>
<th>Kwoireng</th>
</tr>
</thead>
<tbody>
<tr>
<td>father</td>
<td>*pa</td>
<td>øpa</td>
<td>øpeu</td>
<td>øpu</td>
<td>øphu</td>
</tr>
<tr>
<td>five</td>
<td>*b-ya</td>
<td>meya</td>
<td>mijeu</td>
<td>øyu</td>
<td>miju</td>
</tr>
<tr>
<td>eat</td>
<td>*dza</td>
<td>ta</td>
<td>teu</td>
<td>tu</td>
<td>tu</td>
</tr>
</tbody>
</table>

Final -o and -e are found in numerous TB languages, but in most instances (as in Tibetan) can be shown to be secondary. Lushe final -o [-a] interchanges with -ou as well as with -wa, -wat, and -wak, while Lushe -e interchanges with -ia, -iak, -iat, and -ial. Both vowels are found in a few roots with some extension in Kuki-Naga, e.g. L pho, Lakher veu-pho, Bete ipho ‘shield’, but present extremely few general TB correspondences. Kachin likewise has both -o [-a] and -e, for which a few Tibetan or Burmese comparisons have been uncovered; cf. *pro ‘delight’ (No. 130) and the following:189,190

189 The loss of final -k in Kachin makes for uncertainty in some comparisons of this type, e.g. K metho ‘to spit’ is best compared with Mikir inthok < *m-thok ‘to spit, dart, peck, bite (as a snake); spittle’, despite T tho-le’ debs-pa, West T thu gyab-tse ‘to spit’ (lit. ‘throw spittle’), which belong rather with G stu, Dimasa khu-di thu ‘to spit’ (khu-di ‘spittle’).

190 The problem indicated in n. 189 has now been greatly clarified with the aid of modern data on Kachin supplied (personal communication) by L. Maran, who records the final glottal stop (from TB *-k). K metho ‘to spit’ is to be grouped with T tho-, West T thu, and G stu, Dimasa thu (n. 189), also Kanauri thu ‘spit’ (in comp.), tu-khoj ‘spittle’; Râwâng (Nungish) du ‘vomit’; Kachin also has maton ~ mdon ‘throw up’, probably from *m-to-n; TB *(m-)twa ~ *(s-)twa. For Mikir inthok < TB *m-tuk, see n. 231. Two of the comparisons cited in the text (Nos. 248
Tibeto-Burman vowels (finals; diphthongs)

(247) T mtho-ba~mthon-po ‘to be high’, K mtho ‘high; pinnacle’ (TB *m-to).

(248) T’phro-ba ‘proceed, issue, emanate from’, špro-ba ‘make go out, disperse’, K pro ‘bring out; come out’, špro ‘bring out, exhume, contribute’ (TB *pro).190

(249) K do, B tau ‘to be related by birth or marriage’ (TB *do).

(250) K pyo ‘to be boiled and thus soft, tender’, špyo ‘to boil’, B prau~pyau ‘quite ripe, very soft’, praú ‘soft, tender’, phraú ‘to parboil’ (TB *pryo).

(251) T ske ‘neck, throat’, K ke ‘to be or make neck-shaped’ (TB *ke).190


Burmanse appears to have diphthongized final *-o to -au (Modern -o), as in Nos. 249 and 250; also final *-e to -ai (Modern -e), though the evidence for the latter shift is less substantial (the retention of *-e in Lushei):

(253) L be, Dimasa sabai, B pai ‘peas, beans, lentils’ (TB *be).


Most reconstructions in final *-o or *-e, e.g. *ble ‘slip’ (based on Kanauri and Digaro forms), must be regarded as provisional.

Most TB languages have a pair of high vowels which might readily be reconstructed simply as *-u and *-i. Burmese, however, has both -u and -ui < *-uw, -i and -e < *-iy, all of which correspond to high vowels elsewhere. The earlier Burmese vowel system, as represented in the inscriptions,191 forms a symmetrical phonemic system of three vowels and the semi-vowels w and y:

- u
- uw (-ui)
- a
- aw (-au)
- i
- ay (-ai)
- iy

and 251) must now be considered problematical; Maran cites pro? (high tone) ‘bring out; come out’, špro? ‘bring out, exhume, contribute’, from *prok and *s-prok; also ke? (high tone) ‘to be or make neck-shaped’, from *hek; we reconstruct these roots TB *pro(k) and *(s)-ke(k), respectively; it is possible that the glottal stop represents a glottal accent in some roots (n. 198); cf. also K džit tši? (dži?) (high tone) ‘urinate’ (No. 77), apparently through assimilation to the final -t of džit.

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Both -u and -i are written with symbols for long vowels, while -u- in -uw is written ‘ui’ to indicate the special phonetic value (probably mid-unrounded) of this phoneme before the labial (-w) as well as before velars (-k, -y). Final -aw is generally written with a special symbol ‘e-a’, but occasionally as a+w, as in uwaw ‘cuckoo’ (uí-aí), taw ‘forest’ (taí). Modern Burmese retains the pure vowels -u, -a, and -i, but has -o for -uw (transcribed -ui), -e for -iy (transcribed -e), -a for -aw (transcribed -au), and -e for -ay (transcribed -ai), i.e. all diphthongal combinations have been leveled off to pure vowels (u and i are lowered, a is raised).

The Burmese-Lolo languages in general reflect the distinction between -u and -ui, -i and -e, while Nung distinguishes between the -u and -ui types. Maru has developed the secondary consonants -k (sometimes recorded as -p) and -t (sometimes recorded as -k) from the finals *-uw and *-iy, respectively, while the Lolo languages, as well as Nung, have various types of mid- or front-rounded vowels for *-uw.192,193 Contrast the following sets (Maru *-u > -au except after y):

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Maru</th>
<th>Ahi</th>
<th>Nyi</th>
<th>Lahu</th>
</tr>
</thead>
<tbody>
<tr>
<td>sweet</td>
<td>khyu</td>
<td>tshu</td>
<td>tsho</td>
<td>tsho</td>
</tr>
<tr>
<td>weep</td>
<td>yui</td>
<td>yuk</td>
<td>yo</td>
<td>yo</td>
</tr>
<tr>
<td>steal</td>
<td>khui</td>
<td>khuk</td>
<td>kö</td>
<td>khö</td>
</tr>
<tr>
<td>thick</td>
<td>thu</td>
<td>thau</td>
<td>tho</td>
<td>thu</td>
</tr>
<tr>
<td>take</td>
<td>yu</td>
<td>yu</td>
<td>yo</td>
<td>yu</td>
</tr>
<tr>
<td>white</td>
<td>phru</td>
<td>phyu</td>
<td>tho</td>
<td>slu</td>
</tr>
</tbody>
</table>

192 The writer (1939, p. 215, note 5) originally regarded Maru final -k and -t as reflexes of an archaic TB set of finals (-g and -d), but this view now appears quite untenable. S. N. Wolfenden, ‘On the Restitution of Final Consonants in certain Word Types of Burmese’, AO 17 (1938), 153-68, grievously misinterprets these Burmese and Maru finals, reconstructing *-uts and *-its on the misleading analogy of Burmese -ats (< *ik, see below).

193 Benedict, 1948; later rediscoveries of this include Burling, Language 42, 3 (cited above) and A. Lyovin, ‘Notes on the addition of final stops in Maru’, POLA 7, Berkeley, June 1968; also R. A. Miller, ‘Once again, the Maru final stops’ (paper read at First Conference on Sino-Tibetan, Yale University, October 1968) (JAM). Cf. also Miller’s review of Burling (‘Proto-Lolo-Burmese’, 1967) in Indo-Iranian Journal, 12, No. 2 (1970), esp. pp. 151 ff. The majority of the Chinese forms adduced by Miller to refute ‘Burling’s theory of spontaneous generation of final stops in Maru’ appear to be non-cognate, while the possibility of parallel development in Chinese and Maru (Benedict) is overlooked. It is ironic that one of Burling’s constructive contributions (independent of Benedict, 1948) should have become a special target in an extended review which generally (and with good reason) castigates Burling’s work; for a somewhat different approach to Burling’s study see the detailed review by JAM (Language, 1968), who points out other contributions made by Burling.

194 B phlu ‘white’ in inscriptions (n. 134); cf. also Hani -phulu (cited by K.
For the Maru development of secondary stops after *-i (TB *-iy) cf. B krê, Maru kyik ‘copper’; B lê, Maru pyit ‘4’ (TB *b-liy); B re, Maru rit ‘water’ (Lolo has -i or -ə in this series). Maru has -a after l or ə, however, as in B lê, Maru la ‘heavy’; B hle, Maru la ‘boat’; B wê, Maru wa ‘far’; B khwê, Maru kha ‘dog’; B swê, Maru sa ‘blood’.\(^{195}\)

TB *-iy has been reconstructed for roots in which Burmese has -e<*-iy corresponding to -i in Tibetan, Kachin, Garo, Lushei and most other TB languages, e.g. T si־-ba, K si, B se, G si, L thi ‘die’ < TB *siy (No. 232). The form *-i(y) has been used for roots for which no Burmese-Lolo cognate has been found, e.g. Nos. 166, 171, 191, 201, 210. Similarly, TB *-uw has been reconstructed for roots in which Burmese has -ui<*-uw corresponding to -u elsewhere, e.g. T dgu, K džokhu, B kui, G sku, L kua (with suffixed -a) ‘9’ < TB *d-kuw (No. 13). Nung has -ō (Nos. 13, 27) or -ū (Nos. 33, 41, 79, 156) in this series; cf. also the following pair of roots:

(255) T ḍakhu ~ khu-bo, Vayu ku-ku, Bahing ku-ku, Digaro (na-)ku, Mikir ni-hu<*-khu ‘uncle’; Nung økhō, Miri økū, Ao Naga okhu ‘uncle, father-in-law’ (wife’s father under system of cross-cousin marriage); K ku, Meithei ıkku ‘father-in-law’, B kui ‘honorable affix’, as in ats-kui ‘older brother’ (ats-*< TB *ik, No. 112); TB *kuw.

(256) Tsangla mu-gu, Thebor and Bunan khu, Vayu ku-lu, Bahing ku-ni, Limbu me-ku, Digaro nsmiğun-khu ~ khau, Miri mkki (Abor mūkū), Nung mō (unexplained loss of initial), B mĩ-khu ~ akhu, G wal-ku, L mei-khu ‘smoke’, K wan-khut ‘smoke’, wan-khut khu ‘to smoke’; TB *kuw (note general use in composition with words for ‘fire’).

The reconstruction of TB *-uw can sometimes be made on the basis of the Nung evidence alone, as in TB *b-yuw ‘rat’ (Nung yū) and the following root:

(257) Miri pəmuĩ, Nung thmō, Mikir vo-mu, L mu, Lakher pəhmə, Khami ømənə, Sho ømĩũ, Angami Naga re-mu ~ mu-ũ ‘eagle, hawk, kite’ (TB *muw).

Where both Burmese and Nung forms are lacking, as in TB *yu(ʔ) ‘liquor’ (No. 94), the form with parentheses must be employed.

The reconstructions *-u and *-i have been reserved for roots showing this

Chang, 1967); Horpa has phrũ-phrũ, but we must reconstruct TB *plũ on basis of Anong (Nungish speech recorded almost 100 years ago) pulu may ‘white’ (see STL, Vol. viii); the root commonly has the meaning ‘silver’ in the B-L languages (Benedict, 1939).

\(^{195}\)  Lahu and Akha have an interesting darkening of *-iy (= *-ay) after *l to ọ, which is then fronted in Akha: ‘four’ ʃ/ò; ‘heavy’ Lahu hɔ; ‘bow’ hɔ/ò; ‘wind’ Lahu mü-hɔ; ‘boat’ Lahu hɔ-lɔʔ-qō (Akha ɔ does not front the vowel as expected); ‘grandchild’ hɔ/ò (see n. 263) (JAM).
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correspondence in Burmese (or -u in Nung), provided that TB *-ow (> B -u) or *-ey (> B -i) can be ruled out. The following are representative:

(258) Gyarung tu, Vayu du, Digaro thu, Nung du, K thu, B tu ‘dig’ (TB *tu). 196
(259) Nung phedu, L tu, B tu ‘nephew’ (TB *tu). 196

(261) K wu ‘murmur, mumble, mutter’, B u ‘howl (as a dog)’, L u ‘whine (as a dog)’, Mikir iyu ‘bark (as a dog), grumble, growl’ (TB *u).

(263) Vayu ri ‘decay’, Miri təri ‘wound, ulcer, sore’, K ri ‘to gleet’, əri ‘gleet’, nyi (n-əyi) ‘matter, purulent discharge’, B ri~yi ‘to be rotten (of cloth), to gleet (as pus)’, əri ‘any slimy discharge’ (TB *ri). 198
(264) T srid-pa ‘existence’ (with suffixed -d), B hri ‘to be’ (TB *s-ri).

The low vowel a (short or long) combines freely with -w or -y, while the mid-high back vowel o combines with -w (rarely with -y) and the mid-high front vowel e combines with -y (very rarely with -w). The general correspondences are as follows:

<table>
<thead>
<tr>
<th>TB</th>
<th>Tibetan</th>
<th>Kachin</th>
<th>Burmese</th>
<th>Garo</th>
<th>Dimasa</th>
<th>Lusheh</th>
</tr>
</thead>
<tbody>
<tr>
<td>*-aw</td>
<td>-o</td>
<td>-au</td>
<td>-au</td>
<td>-o</td>
<td>-au</td>
<td>-ou</td>
</tr>
<tr>
<td>*-aw</td>
<td>-u~o</td>
<td>-au</td>
<td>-au</td>
<td>-o</td>
<td>-au</td>
<td>-au</td>
</tr>
<tr>
<td>*-aw</td>
<td>-o</td>
<td>-u~-au</td>
<td>-u</td>
<td>-o</td>
<td>-au</td>
<td>-ou</td>
</tr>
<tr>
<td>*-ay</td>
<td>-e</td>
<td>-ai</td>
<td>-ai</td>
<td>-e</td>
<td>-ai</td>
<td>-ei</td>
</tr>
<tr>
<td>*-ay</td>
<td>-e</td>
<td>-ai</td>
<td>-ai</td>
<td>-e</td>
<td>-ai</td>
<td>-ai</td>
</tr>
<tr>
<td>*-ey</td>
<td>-e</td>
<td>-i</td>
<td>-i</td>
<td>-e</td>
<td>-ai</td>
<td>-ei</td>
</tr>
</tbody>
</table>

196 B-L *du (Lisu -du), hence we must reconstruct TB *tu~*du. Gyarung (K. Chang) has temdau ‘nephew’, perhaps from *te/mdou, with vowel gradation.
197 T mdze ‘penis’, from *m-lye < *m-ley (n. 104) belongs with this set, but shows vowel gradation.
198 Maran cites K ri? and əri? (low tone) ‘gleet’ but nyi (high tone) ‘matter’; the glottal stop of the first two forms possibly reflects a glottal accent; cf. B ri~yi (all these forms possibly glottalized by the non-phonemic ə of an original *a-prefix).
199 Lahu ʊ̀-li-yd ‘tickle’, ʊ̀-li-kə ‘armpit’ (JAM). This ‘funny’ root possibly is to be considered a legitimate TB disyllabic root: *k(a)li, with the first vowel either lost (Nungish), assimilated (Lakher) or unstressed (Burmese), the last
Illustrations:

(14) (above) K gau, B khau, Dimasa dżuru-khau, L kou, Mikir ku, Empeo gu ‘call’ (TB *gaw).

(266) B khău ‘small basket for presenting offerings’, L khou ‘kind of basket’ (TB *kaw).

(267) T sdo-ba ‘to risk, hazard, venture; to bear up against, bid defiance’, B tāu ‘resent an insinuation, interfere in a quarrel’, L dou ‘to be at enmity with’, also ‘to prop up’ (TB *daw); K tau ‘to have premonitions, anticipate, foresee’ and B tau ‘guess, presume’ may also belong here.

(268) T ro ‘corpse, carcass; residue, sediment’, Lepcha hryu <*/sru ‘to be dry, dead (as leaf)’, B rau ‘very old, near withering (as leaves)’, L rou ‘dry, dead’ (TB *raw).

(269) K krau ‘dig out, as worm’s or a bee’s nest from a hollow tree’, L thlou ‘to weed’ (TB *klaw).


(272) K sau ‘oil, fat, grease; oily, savory’, L thau ‘fat, grease; to be fat’, G tho, Dimasa thau ‘oil’, Bodo thau ‘oil’, gathau ‘sweet to taste; savor’ (TB *sa-w).

(273) B au ‘cry out, bawl, howl’, L au ‘scream, cry out’, perhaps also Dimasa hau ‘shout in chorus’ (TB *a-w).


(276) Kanauri tso ‘thorn’, Lepcha dżu ‘thorn’, K dżu ‘thorn; prick with a thorn’, adžu ‘thorn, sharp spike of any kind’, B tshū ‘thorn, sting of an insect’, naturally having ‘creaky tone’ (cf. discussion on p. 88). This is very similar to the AT root, which also has semantic associations for ‘armpit’; cf. IN *gəli ‘ticklish’, *kili ‘shoulder’ (Fiji ‘armpit’) and *kili ‘shoulder; carry under the arm’ (Hova ‘armpit’); this root is very widespread in AT, often reduplicated, sometimes with an added -t- of uncertain significance, e.g. Shan sok kili ‘tickle’; borrowing of the TB forms from Western Thai, specifically Khamti, is a possibility here; Khamti has kāle (prn. kāli) and kap kāle ‘armpit’, also tšun kāri ‘tickle’ (cf. the Nung form).

200 T mthọn ‘any pointed or cutting instrument; forefinger’ has perhaps been developed from this root.
tsi 'prick, pierce; piercer, awl', G and Dimasa su 'pierce', busu 'thorn' (with vowel gradation), Meithei and Thado sou, Lakher seu 'panji (spike planted in ground in warfare)' (Kuki *sow < *tsov), Mikir su 'thorn, sting, panji', ijsu 'thorn', Tangkhul kosi 'thorn' (TB *tsov).

(277) T tsho-ba, B tshu 'fat', adj. (TB *tsov).

(278) Central T and West T sro-ma, K tsi?-ru (tsi? 'louse') 'nit' (TB *row).

(279) K qolu 'long', B lu 'disproportionately tall', G ro, Dimasa galau ~ lau-ba 'long' (TB *low).

(280) K nu~emu 'work, labor; affair, matter', smu 'move, stir', Nung smu 'labor, business, matter', B mu 'do, perform', âmu 'deed, action', ãhmû 'business, work, affair', G mo 'move', Dimasa mau 'move', samaa 'move, shake' (TB *mov).

(281) T ltse < *s-le 'tongue', me-ltse 'flame', Kanauri le, Lepcha âli, Vayu li, Limbu le-sot 'tongue' (cf. Lepcha lin-set), Nung phoëc 'tongue', thomi-sól 'flame', K lâi 'tongue' (couplet form), G sre 'tongue', swal-sre 'flame', Dimasa salai 'tongue', wai-slaï 'flame', L lei (Kuki *m-lei), Mikir de 'tongue' (TB *m-lay ~ *s-lay).

(282) Gyarung tême, Thebor me-kon, Magari me-me, Bahing me-ri, Digaro lomí ~ lomán, K mai ~ nmai, Aka órîm, B ãmîr (cf. the Bahing form), G kime, Dimasa khermai ~ bermai, L mei, Aimol römôi, Mikir arme 'tail' (TB *r-may).

(283) K lâi 'to be changed', gôlaï 'change, exchange; barter', môlaï 'change, repent; substitute', Nung thlaë 'alter, change, exchange', B lai 'change, exchange', G sre 'change, exchange, Dimasa salai 'alter, change, exchange', salai lai 'interchange, exchange', L lei 'buy, barter' (TB *lay).

201 A rare root, represented also by Gyarung (K. Chang) dôrû 'louse egg'; the ds- element of this form, along with the s- of T sro-, perhaps stand for TB *šrik 'louse', as in Kachin.

202 Kachin also has the couplet forms šipli and šiplau, the regular word being šišlet, which we have assigned to TB *lyak 'lick' (No. 211). B hlyâ 'tongue' appears to have been influenced by the latter root.

203 Lahù has ha-tê 'tongue', à-mî-ha 'flame' (JAM). This is cognate of B hlya 'tongue', probably from a distinct root (n. 158).

204 One is tempted to interpret the Bahing and Burmese forms in terms of metathesis, but there is no analogy whatsoever for this shift in either language. The Burmese form must therefore be regarded as a contraction of *a-mai-ri, with the regular -ai correspondence.

205 Two distinct roots must be recognized here, viz. TB *lay 'change, exchange' and *(r-)-ley 'barter, buy', the latter apparently related to TB *b-rey 'buy' (No. 293), which has been identified as a loan-word from AT (n. 207). For Kachin, Maran distinguishes between lai ~ gôlaï (mid tone) 'change' and gôlaï (high tone) 'exchange'; Tiddim Chin has lai? 'change', lei 'buy'. Tibetan, which has -e for TB *-ay and *-ey, combines both sets of meanings: T rdâse-ba < *r-lye < *r-le (n. 104) 'barter', also 'change (name, clothes)' (this range of meanings also present in the AT counterparts).
Tibeto-Burman vowels (finals; diphthongs)

(284) K dai, L tei ‘self’ (TB *tay); cf. TB *s-tay ‘navel’ (No. 299).
(285) T ned (with suffixed -d) ‘I, we’ (elegant), K yai ‘I, L yei ‘self’ (TB *yay).
(47) (above) K pai ~ lapai, B bhai, lak-wai, L vei, Mikir arvi (with vowel gradation) ‘left (hand)’ (TB *bay).
(286) K mnai ‘twist’, B nai, Tangkhul khnai ‘knead’ (TB *na-y).
(287) B alai, L lai ‘middle, center; navel’ (TB *la-y).
(288) K lai ‘dig up’, L lai ‘dig, hoe’ (TB *la-y).
(289) K tiyai, L tsai ‘to play’ (TB *tsya-y); cf. also T rtse-ba ‘to play, frolic, joke’ (see above).
(290) T me, Kanauri me, Gyarung timi, Bahing mi, Nung thom, B mi, L mey, Mikir me ‘fire’, K myi-phrap ‘lightning’ (‘fire-lightning’), myi-than tu ‘fire-fly’ (TB *mey).
(291) T nye-ba, K ni, B ni, L hna (with vowel gradation) ‘near’ (TB *ney).
(57) (above) T se (in comp.), Vayu se, Bahing si, Nung si, K si ~ so, B si ~ asi, G the ~ bithe, Dimasa thai ~ bathai, L thei, Mikir the ~ ath ‘fruit’ (TB *sey).

Tibetan and Garo have leveled off diphthongal finals (*-au and *-ou > -o, *-ay and *-ey > -e), while Dimasa has merged *-aw and *-ow in -au, *-ay and *-ey in -ai. Kachin and Burmese have -u for *-ow, -i for *-ey, and -au and -ai (without length distinction) for the low vowel combinations. Lushei, on the contrary, has retained the long a vowel (*-aw > -au, *-a-y > -ai), but has raised the short a vowel (*-aw > -ou, *-ay > -ei), thus causing *-aw to merge with *-ow, *-ay to merge with *-ey. The distinction between short and long a, which appears also before final stops and nasals (see below), thus can be reconstructed on the basis of the Kachin, Burmese, and Lushei material. Nung, which has -i < *-ey but -e < *-ay, is also of help here. Reconstructions can sometimes be made on the basis of the Nung or Kachin forms alone:

(292) Gyarung rni, Nung sii ~ tii, Garo khoni, Dimasa khnai ‘hair (of head)’ (TB *ney).
(293) K mori, Miri re, Garo bre, Dimasa barai ‘buy’ (TB *b-rey).

Mikir and many other TB languages follow Tibetan, Garo, and Dimasa in

206 Note G -i rather than -e, which is paralleled in G ni, Dimasa nai ‘look, see’; G mi (also me- in comp.), Dimasa mai ‘rice, paddy’; G attsi, Dimasa hadzai ‘give birth’. G and Dimasa -i in No. 182 (*syey ‘know’), however, is to be explained on the basis of the medial y element of this root (e dropped between y’s).

207 This root has been identified (Benedict, 1967bis) as a loan-word from AT; cf. IN *bali ~ *bili, from AT *(m)bal; the TB form shows the typical r = l/l equation, with handling of the *b- as an ordinary TB verbal prefix; a separate (but related) loan perhaps yielded TB *(r-)ley ‘barter, buy’ (n. 205). Chinese has a possible loan
merging *-aw and *-ow, *-ay and *-ey (> -u and -e, respectively, in Mikir), but occasional distinctions are made in a few languages, e.g. Bahing mi ‘fire’ but me-r i ‘tail’; Gyarung timi ‘fire’, têmê ‘tail’ (contrast Vayu me ‘fire’, li ‘tongue’); Abor ômô ‘fire’, temê-ême ‘tail’. The Bahing distinction allows us to reconstruct:

(294) Bahing (and general Kiranti) ne ‘take’, T rnyed-pa (with suffixed -d) ‘get, obtain’, L nei ‘get, have, obtain’, from TB *(r-)ney.

The Lushei distinction between -ou and -au is reflected in most Kuki languages:

<table>
<thead>
<tr>
<th></th>
<th>Lushei</th>
<th>Lakher</th>
<th>Thado</th>
<th>Bete</th>
<th>Empeo</th>
<th>Tangkhul</th>
</tr>
</thead>
<tbody>
<tr>
<td>call</td>
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<td>—</td>
<td>kou</td>
<td>koi</td>
<td>gu</td>
<td>—</td>
</tr>
<tr>
<td>fly, n.</td>
<td>thou</td>
<td>mòtheupa</td>
<td>thou</td>
<td>ithoi</td>
<td>—</td>
<td>—</td>
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<tr>
<td>field</td>
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<td>(lo)</td>
<td>lou</td>
<td>loi</td>
<td>lu</td>
<td>lui</td>
</tr>
<tr>
<td>fat, n.</td>
<td>thau</td>
<td>thô</td>
<td>(thou)</td>
<td>thai</td>
<td>pòthau</td>
<td>thau</td>
</tr>
<tr>
<td>younger sibling</td>
<td>nau</td>
<td>nô</td>
<td>nau</td>
<td>nai</td>
<td>—</td>
<td>nau</td>
</tr>
<tr>
<td>grasshopper</td>
<td>khau</td>
<td>khô-śu</td>
<td>khau</td>
<td>—</td>
<td>—</td>
<td>khau</td>
</tr>
</tbody>
</table>

Kuki-Naga roots in *-ou yield provisional TB reconstructions in *-ow in the absence of Kachin or Burmese cognates:

(295) Dimasa masau, L thou, Lakher pòtheu, Ao Naga meso ‘arise, awake’ (TB *m-sow).


(297) T mo ‘woman, female’, L mou ‘bride, son’s or brother’s wife’, Meithei imau ‘daughter-in-law’, Thado mau ‘woman’ (TB *mow).

Similarly, TB roots lacking Lushei or other significant Kuki cognates are reconstructed simply with short a vowel, e.g. *pyaw ‘fly, swim’, *ryaw ‘mix’, *day ‘that, this’; also:

(298) T mtê-ho ‘thumb’, Nung thê, Mikir the ‘big, large, great’ (TB *tay).

(299) Tlte-ba, K dái-śdai ‘navel’, G ste ‘abdomen’ (TB *s-tay).

(300) K mai, Nung me, Mikir me ‘good, well’ (TB *may).

(301) K lâi-ślai ‘pass; exceed’, Nung le-sole ‘pass’, G re, Dimasa lai ‘pass’, Mikir le ‘over, excess, profit’ (TB *lay); cf. L lei ‘fine, debt, tax’.

A few roots in *-oy have been reconstructed on the basis of Kachin and Lushei material. This final appears in both these languages, but in some instances can be from the same general AT source: maia (tone B) ‘buy’, maiib (tone C) ‘sell’, possibly from *mlay (GSR does not cite Ar. Ch. form); mai (tone C) is from mai + transitive suffix (n. 494).

208 The reconstruction for this root is supported by B tai ‘very’; cf. the Ch. cognate t’ai, with identical semantic development.
Tibeto-Burman vowels (finals; diphthongs)

referred back to TB *-wa[y]; cf. L khoi ~ khwai ‘bee’ < TB *kwai-y (No. 157); L loi, K yo-loi ‘buffalo’ < TB *kwai-y; also the following:

(302) Bunan lo-i, K loi ~ lwe, B kwai ‘easy’ (TB *lway).


Where evidence for TB *-way is lacking, however, roots of this type have been reconstructed in *-oy:

(304) K moi ‘perfectly, beautifully’ (couplet form), L moi ‘pretty, beautiful’ (TB *moy).

(305) K nmoi ‘blossoms, as of grain; spikes, spikelets’, L moi ‘beginning to form in the bud (as rice)’ (TB *(r-)-moy).

(306) K soi ‘graze, almost hit’, L thoi ‘slightly graze, go or pass close by’ (TB *soy).

Burmanese appears to have merged *-oy with *-wey in the final -we:


(308) B (Khauri dial.) boi ‘to have a flexure or cowlick’, B bhwe ‘circular flexure in the hair of animals’ (TB *boy).


(310) K goi ‘crow, as a cock; squeak, as some kinds of snakes; laugh loudly’, msegroi ‘howl, scream’, B krew ~ krey ‘call out, halloo, shout; screech and scream in large numbers, as birds’ (TB *groy).

(311) K khoi, B krew ‘shellfish, shell’ (TB *kroy).

209 TB *kway rather than *lw[a, a-]y by convention (we write short vowel in roots for which length cannot be determined).

210 For Siyin, Stern, Asia Major 10 (1963), cites kui (low tone) ‘bend’ (intr.) and kuei (high tone) ‘bend’ (tr.); Tiddim Chin has kuai ‘bend’; these forms probably represent an original *koi (as in Lushei) rather than *kway.

211 Add Trung (Nungish) ik-ra a-dai (tone A) ‘younger brother (ik-ra)’, a-la a-dai ‘younger uncle (a-la)’; cf. doi (tone A) ‘short’, a-dai (tone B) ‘small (persons)’, also Lepcha di-(m) ‘small’.

212 TB *kroy rather than *krway, since Kachin has khri ‘son-in-law’ for TB *krway (No. 244). This reconstruction is strikingly confirmed by the finals in Thai (*-oy) and Kam-Sui (*-ui) in the apparently related AT root; cf. the following pair
K khoi ‘borrow or lend (presupposes a return in kind)’, B krwê ‘debt’, ãkrwê ‘on credit’ (TB *kroy).

K khoi ‘surround, enclose’, B khrwe-ram ‘surround, attend’ (TB *kroy).

Note that Siyin has kawri ~ koi < *koy (No. 307) as opposed to loai ‘buffalo’ < TB kwa-y (No. 208). Dimasa has -ui < *-oy in No. 307, paralleling the Burmese development, but simply -i in No. 309 (possibly because of the initial dental). Kachin, which shows loss of medial r in this group of roots (Nos. 310, 311, 312), alternates between -oi and -we for TB *-oy, as in Nos. 302 and 309, as well as the following:

K woi~we, Jili tewe, Kadu kwe < *k-w, Nung øwe, Moshang vi-sil, Shangge yok-vi ‘monkey’ (TB *wøy).  

The following root shows much fluctuation in final:


Final *-ew, the front vowel +w combination analogous to *-oy (back vowel +y), cannot be reconstructed for any TB roots, yet does appear in Kuki-Naga (L -eu, Lakher -ei or -ua, Mikir -e):

*d-k(h)ew: L kheu2 ~ khei, Lakher tiskhei ‘pick (as a sore), dig out (as a thorn)’, Mikir arke ‘scratch the soil for grain (in birds)’.

*hrew ‘burrow’: L kreu2, Lakher rei.

*ew ‘lean back’: L eu, Lakher suua.

*m-hew: L heu ‘spoiled, wasted’, Lakher pohua ‘waste away’.

Vowel gradation must be taken into account for a few TB roots, e.g. Mikir arei < TB *r-bi(y) ‘left’ for TB *bay; L hnaï ‘near’ < TB */na-y for TB *ney;

of correspondences (from Benedict, 1967bis, with corrections); aspiration is indicated for the TB roots, and *-uw is written *-øw (n. 188):  

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Thai</th>
<th>Kam-Sui</th>
<th>Oceanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>shellfish</td>
<td>k(h)roy</td>
<td>høy</td>
<td>qhui</td>
<td>kway</td>
</tr>
<tr>
<td>dove</td>
<td>m-khrøw</td>
<td>khrøw</td>
<td>qwaw</td>
<td>kwøw-</td>
</tr>
</tbody>
</table>

It is possible that the velar +r clusters in these roots represent an archaism; cf. I Miao, which has initial q- = /kr/- (phonemic interpretation by K. Chang); it is also possible that the medial -r- of Thai *khrøw ‘dove’ is an old infixed /l/, as found in other roots, in which event TB *k(h)roy is to be interpreted as a loan from an AT infixed form preserved only in this loan.

213 Trung (Nungish) has a-koi ‘monkey’, with prefixed k-, as in Kadu. Mikir ki-pi, Miri si-be ‘monkey’ perhaps belong with this set; we now reconstruct TB *(b)wøy, although Chinese has a possible cognate which points to ST initial *w-: giwán/yiwon’a ‘monkey’ (with suffixed -n).
Dimasa *busu* 'thorn' < TB *tsu(w)* for TB *tsow*; Dimasa *khau* 'steal' < TB *kow* for TB *-kuw*. This feature also appears in the following pair of roots:

(316) T *mān-em-mo*, Tsangla *mye* < TB *ney*, but Gyarung *mi*, Miri *mi*, Nung *mi*, K *ni*, G *ma-ni*, L *ni*, Mikir *ni* 'aunt (father’s sister); mother-in-law', from TB *ni(y)*.

(317) LT *bāu* ~ *bōu* 'hammer' < TB *tu(w)*, but T *mtho-ba* ~ *tho-ba* 'large hammer', Thebor *tho-a* 'large hammer', *tho-ru* ~ *tho-tha* 'small hammer', Nung *du-ma*, K *sumdu*, B *tu*, Dimasa *dau-bu* 'hammer', K *thu*, B *tū* 'to pound, hammer' (TB *tow*).²¹⁴

Kachin has *-au* (rather than *-u*) for TB *-* *ow* in several roots:

(318) K *gau*, B *kû* 'cross over' (TB *gow*).

(319) K *dau*, B *thu* 'thick' (TB *tow*).

(320) K *marau*, Nung *səru thiŋ, B *thəŋ-rū* 'pine, fir' (TB *row*).²¹⁵

Generally speaking, TB vowel gradation is sporadic and irregular, and can hardly be compared with that found in Indo-European, as Shafer has attempted to do.²¹⁶,²¹⁷

²¹⁴ Kanauri has *tho-ro* 'small hammer', *gont-to* 'large hammer'. A doublet with initial *d*- must be recognized in this root: cf. Kanauri *sdo*, Thebor *do* 'mallet'; Nungish (Rāwang) *du-ma*, K *sumdu*, Dimasa *dau-bu*, B-L *du* (Maru *dau*) 'hammer'. The Kanauri and Thebor *tho-* forms are likely loans from Tibetan, and the irregular L *tu-* is perhaps to be explained as a loan from Burmese (Karen has a loan here from Burmese; see p. 147).

²¹⁵ For the first element of B *thāŋ-rū*, cf. T *thäŋ-tähu* 'resin, gum' (*tāhu* 'water'), *thäŋ-siŋ* 'fir, pine' (*siŋ* 'tree'), Vayu *thōŋ* < *thāŋ* 'pine'; also B *thāŋ* 'firewood'.

²¹⁶ 'The vocalism of Sino-Tibetan', JAOS 60 (1940), 61 (1941); esp. the discussion on pp. 312–14. Shafer’s over-simplified scheme of TB vowels fails to take into account the distinction between short and long a, and in general is unsatisfactory from a phonemic point of view. Shafer’s *ui* for *-* *uw* rests on a misconception of the phonemic value of the form *-uiw* found in the early Burmese inscriptions (*ui* is allophone of *u* before *w*).

²¹⁷ R. A. Miller, 'The Tibeto-Burman Abhat System', Papers of the First Congress of Foreign Orientalists in Japan; E. J. Pulleyblank, 'Close/open abhat in Sino-Tibetan', Lingua 14 (1965), 230–40 (JAM). Miller operates with a six-vowel system (with *-i* for our *-* *uw* = *-* *uw*, but only *-* *i* for both our *-* *i* and *-* *iy* = *-* *iy*) and recognizes two sets of abhat relationships: *a* ~ *e* ~ *o*; *i* ~ *u* ~ *u*. This scheme includes the medial *-u* ~ *-i* alternation in Tibetan and elsewhere (see pp. 83 and 84) but neglects the basic medial *-ya* ~ *-i* alternation (see pp. 84 and 85); it also encompasses the medial *a* ~ *o* and *a* ~ *e* alternations in Tibetan verbs but hardly serves as an explanation (n. 344); the material cited for vocalic abhat in root-final position is scarcely convincing, e.g. B *ni* 'red', *na* 'ill' and *nu* 'leprous' (it seems highly unlikely that these forms are related in any manner whatever). Pulleyblank adduces material to show a distinction between intransitives and transitives based on medial vowel quality, e.g. Ch. *d̄ām* 'to talk' (intr.), *d̄om*/*d̄om* (same tone) to
§11. Tibeto-Burman vowels (medials)

All five vowel phonemes occur in medial position. Lushei distinguishes between short and long vowels in this position, and this distinction is reflected in Haka and other Kuki-Naga languages. Other TB languages, insofar as they have been recorded accurately, do not show this feature in any consistent way, although vowel length is sometimes marked. The Lushei distinction between a and a', and between u and u', is reflected in certain correspondences in Bodo-Garo and Burmese-Lolo (see below), hence we must suppose that the distinction obtained also for o and o', e and e', i and i', although it is possible that the TB vowel system was asymmetrical. Lushei has relatively few forms with long vowels connected with general TB roots, and it would appear that TB medial vowels were 'normally' short (all final vowels were phonemically long). Numerous examples of roots with short medial vowel are scattered throughout the preceding pages; in the discussion below emphasis is placed on roots with long medial vowel.

Medial a is preserved before all types of finals in Tibetan, Kachin, Burmese, Garo, Lushei and most TB languages. Lepcha, which has -o for TB final *a, normally shifts to o, e.g. ätsom 'hair' < TB *tsam, lom 'road' < TB *lam, but tyay 'dark' < TB *tyay. Mikir, however, with -o for TB final *a as in Lepcha, retains medial *a with the exception of a curious shift to e- i before final -m, as in nem-po 'sesame' < TB *s-nam, serim 'otter' < TB *s-ram, inpim 'to smell', nem-so 'slight smell, stink' < TB *m-nam.218 This shift is partially paralleled in Himalayish: Kanauri keb 'needle' < TB *kap, stem 'daughter-in-law' < TB *s-nam; also bren 'get well' < TB *bren. Occasional shifts to o or e are encountered elsewhere; cf. T ʔag-tshom 'beard of the chin' < TB *tsam, and the following:

(321) West T lob-ma (cf. T lo-ma), Kanauri lab, Takpa blap, K lap 'leaf', Nungšlap 'leaves for packing food' (TB *lap).

GSR glosses both as 'speak'), T gtam 'talk, discourse, speech', gtom-pa 'to talk, speak' (see n. 488 for the ST reconstruction), but much more evidence would be required to establish this point (Pulleyblank describes a study in progress).

218 Mikir also has e for *a before final -γ; cf. -krey 'cold' < TB *gray; -kvey 'congeal' < TB *glay; key 'leg, foot', T rkey(-pa) 'foot, leg; stem, stalk'; note also Thado key 'leg, foot' but L ke and Tiddim xe < *khe, id., possibly from a doublet root: TB *khey; cf. Ch. ʔiʔei/ʔiʔeb 'leg, shank', ʔiʔei/ʔiʔeb 'stalk', with semantic development as in Tibetan (the Chinese vocalism suggests an original *ği[ך]γ rather than *geγ or *gəγ).
(322) K dži-groj (dži 'winged insect'), B khraj, Mikir tim-kraj (tim 'gnat, midge') 'mosquito' (TB *kraj).\textsuperscript{219}

Long medial *a- appears in TB *bar-r 'flower', *gar-r 'dance, leap, stride', *ya-p 'fan; winnow; paddle', ñyä-l 'far' (see above) and the following roots:\textsuperscript{220}

(323) B hak 'hawk, raise phlegm', also 'stretch (the mouth)', gág, L ha-k 'choke' (TB *ha-k); cf. also Mikir tšiñ khak 'expectorate, clear throat, cough up; phlegm, sputum', L kha-k 'phlegm'.


(325) G do-bak (do 'bird'), L ba-k 'bat' (TB *ba-k).

(326) K than 'hang, as a sword at the side', msthän 'impale', L tar 'stick on a pole, make or set up a landmark, hang up', Mikir tar 'impale' (TB *ta-r).

(327) B khak-raj 'fork', ñkhak 'branch', Lahu ñ-gä, L ka-k 'fork (of tree); to be forked' (TB *ka-k).

(328) T yan-po, K tsay <*g-yan (cf. Nos. 163, 164), G rittséy, Dimasa redôy <*r-yay (cf. No. 164), L za-y <*ya-y, Mikir ardôy <*r-yan 'light (not heavy)' (TB *r-ya-y).

Lushei vacillates between short and long a in the following root:

(329) K ngam (n-gam) 'precipitous; precipice', kha ningam 'bank of a river (kha)', B kâm (archaic khâm) 'bank of a river or sea', knut-khâm 'lips' (='mouth-bank'), G rikam 'bank, margin, rim', L ham 'bank, shore, mouth', kha-m 'precipice' (TB *r-ka-\textsuperscript{[\textdagger]}m).

The following pair appear to reflect an archaic TB doublet:

(330) K kai 'to be hot; emit heat, as the sun or a flame', kškai 'roast, toast, bake', L kai 'broil, roast, toast', L ka-y 'burn' (TB *ka-y).\textsuperscript{222}

\textsuperscript{219} Further support for an original *a vocalism in this root is furnished by Nungish: Râwang mogay <*m-grøy 'mosquito', Trung kraj 'fire-fly'.

\textsuperscript{220} Add the following pair of roots: K lam 'to measure by fathoms', lalam 'fathom'; B lam 'to encompass with the arms', ñlam 'fathom'; L lam 'arm span' but Tiddim la-m 'fathom'; TB *lal-\textsuperscript{[\textdagger]}m; T 'gran-pa 'vie with, contend for, strive; (in general sense) fight', from *g-ral (see n. 318 for initial, n. 54 for final), ral-grí 'sword' (=war-knife); B ran 'quarrel'; L ra-l 'war against, warrior', Tiddim ga-l <*ra-l 'battle, war, enemy', Angami Naga (Burling) te-hro 'war'; TB *(g-)ral.

\textsuperscript{221} *s-mak (cf. Burmese) >*mak in Proto-Loloish; Lahu reflects this with a high-rising tone; the first element is *za 'child, son'; Modern Lahu has a re-prefixed form: ñ-mä (JAM).

\textsuperscript{222} Also a glottalized root in PLB: *ʔkak <*ʔskak. The a- in Burmese is thus a re-prefixation after the original prefix had fused with the root (JAM). K kha- 'to be parted, separated, open', džkhaʔ 'to part, separate' (Maran), probably also belongs with this set.

\textsuperscript{223} Tiddim Chin has kai (rising tone) 'to dry up', contrasting with kai (level tone) 'to fry', also ka-y (level tone) 'to burn'. Both these roots (Nos. 330 and 331)
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(331) K kaŋ ‘to be dry, as paddy, garments or the like’, L kaŋ ‘evaporate, dry up’, also ‘fry’ (TB *kaŋ).

TB medial *a is in general preserved in Bodo-Garo as elsewhere, although shifts to i or e (also o in Dimasa) frequently occur, especially after r- or l-; cf. No. 328 (above) and the following trio of roots:


Before final labial stop, however, the Bodo-Garo development of medial a has been as follows:

TB *-a-p > -ap (-p sometimes dropped in Dimasa)
TB *-a-ŋ > *-a-w > -au (Dimasa) ~ -o (Garo)

show unaspirated initials everywhere, indicating an earlier prefix (see p. 20); in cases of this kind, we write by convention TB *kaŋ and not *[ ]kaŋ or */kaŋ; Nungish (Rāwang) has dsgaŋ ‘toast’ (text) but the prefixed *d- here appears to be of late origin and accordingly has not been included in the reconstruction, even in the provisional form *(d-).

224 Lahu šs-pš ‘tomorrow’ (šš ‘morning’) (JAM). This is possibly a prefixed root: *b-ray; Trung (Nungish) has sray ‘morning’, probably from an original *s-ray.

225 This root appears to be a loan-word in TB, probably from an Austro-Asiatic source (Benedict, 1968 paper); Mon-Khmer shows forms of klay type (Bahnar klay) but Khasi has klin; closely similar forms appear in Miao (Hua Miao klay, I Miao qloŋ) but not elsewhere in AT. Forrest (FAOS 82, 1962) cites Lepcha kalyŋ ‘sp. of eagle’ but this would indicate an original long medial u (n. 231); the Lepcha cognate is perhaps the standard term kum-thyŋ ~ pun-thyŋ ‘eagle, kite’ (with palatalization of the original velar + l initial cluster). Forrest analyzes the first element as the *k- ‘animal prefix’ (n. 301) and it clearly is so handled in TB, but this might be the product of metanalysis (n. 83). The Ch. cognate shows a similar initial cluster: jhpŋ (= Pjŋ) ‘eagle, falcon’, from Pjŋ (n. 419), with P standing for *k or even *q (indicated by Miao forms). Tibetan has glag ‘eagle, vulture’, which has been compared (p. 178) with Ch. glák/lákb ‘kind of bird’ but which might represent an old doublet of our general ST root here: *g-løy ~ *g-lök; cf. Ch. dįk/jįk ‘hawk, kite’, from *liŋk (n. 458); this reading for the Ch. graph is based on the use of dįk/jįk ‘stringed arrow’ as phonetic, the graph then having been applied to another root (n. 453).

a 鷹      b 雀      c 落      d 鹿
<table>
<thead>
<tr>
<th></th>
<th>116 weep</th>
<th>118 fireplace</th>
<th>219 shoot</th>
<th>92 fan, winnow, paddle</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB</td>
<td>*krap</td>
<td>*tap</td>
<td>*ga·p</td>
<td>*ya·p</td>
</tr>
<tr>
<td>Lushei</td>
<td>ḫap</td>
<td>ḫap</td>
<td>ka·p</td>
<td>za·p</td>
</tr>
<tr>
<td>Garo</td>
<td>grap</td>
<td>tšudap</td>
<td>go</td>
<td>tšo</td>
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<tr>
<td>Bodo</td>
<td>gap</td>
<td>gadap</td>
<td>gau</td>
<td>džau</td>
</tr>
<tr>
<td>Dimasa</td>
<td>gara</td>
<td>gap</td>
<td>gau</td>
<td>džau</td>
</tr>
</tbody>
</table>

The Bodo-Garo evidence permits the reconstruction of long medial a· in the following roots:

(335) K melap, Dimasa balau ‘forget’ (TB *b-la·p).
(336) B khap ‘dig up, take out of, draw, as water’, G ko ‘draw water’, Dimasa khau ‘fill, gather, pluck’, di khau ‘draw water’ (TB *ka·p).226
(337) K thap ‘capable, quick, useful’ (Needham), ‘beautiful’ (Hertz), G ni-to ‘beautiful, fit’ (ni ‘look’), Dimasa thau ‘to be fit for, suitable for’ (TB *ta·p).227

The correspondence for short medial a is further supported by the following:

(338) L kap ‘fork of the legs’, also ‘to gag, wedge open’, Dimasa ya-khap ‘groin, fork’ (ya ‘leg’) (TB *kap).

The mid-high medial vowels *o and *e of TB are well preserved in Tibetan, Kachin and Lushei, but are not nearly so well represented as are *a, *u and *i. Long medial *o· appears in *dzō·p ‘suck, kiss’ and *ō·l ‘finish; relax’ (above), while long medial *e· occurs in the following pair of roots:

(339) Jili tékhyen, L ke·l ‘goat’ (TB *ke·l).228
(340) Dimasa gepher ‘flat’, L pe·r ‘flat and thin’ (TB *pe·r).

Burmese, which lacks both these medial vowels (o, e), has merged medial *o with short medial *u in medial au before velars (-aik, -aun) but with a before other finals (-at, -an; -ap, -am):

(341) T mdoy ‘eye in peacock’s feather’, K u-don, B ú-dain ‘peacock’ (TB *doj).

226 Lahu has qho < *kham, indicating a doublet with final nasal (the reverse of the usual B-L situation) (JAM).

227 For Kachin, Hanson has thap tsiŋ ‘beautiful’ but defines thap as follows: ‘to be of a deep, black or red colour; to be ruddy, and thus beautiful; to be pleasing, agreeable, delightful’ (suggesting that this is basically a color name). In Tibetan the root is perhaps represented by thabs ‘opportunity, chance, possibility’ = ‘the fit (thab-) place or time (-s)’; cf. also T stabs ‘mode, manner, way, measure’. The Bodo-Garo forms can be compared directly with B tau, Lahu dx ‘to fit, be suitable’ (JAM, 1969), but the latter pair might also be from a root such as *m-da·p, yielding *m-daw, with development as in B-G.

228 This root now reconstructed *kyev·l, since Jili (in Kachin group) preserves medial -y- before e; a doublet *kyi[-]l is represented by T skyin ‘wild mountain goat’ (n. 53).
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(342) T skog-pa ~ kog-pa 'shell, rind', phyi-kog 'bark' (phyi 'outside'), Bahing kok-te 'skin', B ākhañ, Lahu ɔ-qi 'bark' (TB *koh).

(343) K on-on ~ go-on ~ won 'feel squeamish, nauseated', B an 'retch, vomit' (TB *on).

(344) T gtsod ~ btsod 'Tibetan antelope', B tshat 'sambhur' (TB *tsot).

(345) L pop 'hole, aperture', B pap 'to be a crevice, crack open' (TB *pop).

TB medial *e before final velars and dentals has fallen together with *i in Burmese -ats and -aŋ, and before labials in Burmese -ip and -im; cf. B hrats '8' < */ret < */ryat (TB *br-gyat); B hmāñ 'mole' < TB *r-men; B pyāñ 'plank' < TB pley; also the following:

(346) K ren 'to be equal', diyren 'place in a long, even row'; B rañ-tu 'to be equal', hrāñ 'put together side by side'; Dimasa ren 'line' (comp.), Mikir ren 'line, range, row' (TB *ren).

(347) Kiranti *khrep 'ant', K krep ~ iškrep 'bug', B khrip 'lac' < 'lac insect' (TB *krep).

(348) K nem, Nung snum, B nim 'low' (TB *nem).

TB medial *o and *e are represented in a few Bodo-Garo forms:

(349) T kor 'round, circular', West T kor 'hollow in the ground, pit', L kor 'small valley, ravine', G a-khol, Dimasa ha-khor 'cave', Bodo ha-khor 'hole; valley' (a ~ ha 'earth') (TB *kor).

This root is to be kept distinct from the following:

(350) L khuar ~ khur 'hole, cavity', Nung dun-j-khr [-khr] 'hole' (for dun-, see No. 169) (TB *kwar).

229 Another glottalized PLB root (note Tibetan prefixed s-): *ʔkuk 'outer covering' (JAM). Bahing also has sin-kok-te 'bark' (sin 'tree'). Two little known Himalayan languages indicate an original *kw- initial cluster: Chouraya kwok-te ~ kok-te, Thulungya kwok咸阳 ~ kok-si 'skin', and this appears significant in the light of Gyarung (K. Chang) yekwak 'its skin', from *rkhwak. We can now reconstruct TB *(r-)kwak, yielding B -khauk via *-khok, theoretically contrasting with TB *kwak yielding B k(h)wak (we have no comparisons for this). This reconstruction is supported by the Chinese cognate, viz. k'wâk 'leather'. Chinese also has an apparent doublet showing loss of the medial -w-, viz. kâ 'hide, skin; (flay, peel) take away' (but the vowel is anomalous). Karlgren suggests that the verbal meaning is derived, but in TB the opposite development might have occurred: 'to peel or skin off' > 'something peeled or skinned off'; cf. L khok 'peel off, pull off (skin, bark)', Chang Naga (Konyak group) kwok- 'to strip (as fibres)' (note the initial kw- cluster, again suggesting an original *kwâk).

230 Lahu a-kh 'lac' indicates PLB *ʔkrip, as does B khrip (JAM). For the semantics of this root, see Benedict, 1939. Rawang (Nungish) has both rap 'lac insect' and rip 'flying ant', the latter from *khrrip; cf. Rawang rap 'winnow' < *khrap (n. 382); for the relationship in meaning, cf. Miri toruk 'ant', also 'lac insect' < TB *rwañ 'ant'.
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(351) K *lep, G *rep, Dimasa *lepy, L *hlep 'slice, pare, cut off' (TB *lep), but Lepcha has *lip 'to slice, cut in slices'.

(352) K *prey, G *diy-brey 'straight', Dimasa beley 'to be erect, straight', gibley 'erect, straight', si-phley 'straighten out' (TB *bley ~ *pley).

The high medial vowels *u and *i of TB are well maintained in Tibetan, Kachin and Lushei, but partial or complete replacement by lower vowels (o ~ e ~ a) is characteristic of Burmese, Garo and many other TB languages. General replacement by a is found in Magari, Lepcha, Digaro, Chang Naga and Maru. Lepcha typically has short á as opposed to long a (from TB *a): hrát 'bone' < TB *rus, láŋ 'stone' < TB *r-lųŋ, nyát '2' < TB *g-nis, nyál ~ nyel 'gums' < TB *r-nil; Lepcha also has forms with medial u, which in at least three roots appear to reflect TB long *u: táfuk 'stomach' < TB *pu-k, kųŋ 'tree' < TB *kuŋ and muk 'weeds' TB *mu-k (see below).231

Burmese maintains high vowels, long or short, before labials, also when long before velars (no examples of long *i- here) and dentals, but short *u before velars,

231 Lepcha often has medial á ~ u interchange, e.g. māt 'to blow', sūŋ-mut 'wind'; cf. Bahing hmūt ~ mut, Gyarung -mut, Kachin (Assam dial.) mut, Miř mut, B hmt 'to blow (mouth, wind)', from TB *(s)-mut. Further analysis of the Lepcha material shows that this language regularly has medial a or á for TB medial *u, and medial u or ù for TB medial *u, in addition to the three roots cited in the text, e.g. the following: tük-pát 'knee' < TB *put; tărāk '6' < TB *d-ruk; tük-tsam 'mortal' < TB *tśrum (or *tsūm); sam '3' < TB *g-sum; lyam 'to warm up food', from *s-lam < TB *lum; (a-)myal ~ (a-)myel 'body hair' < TB *(s)-mul; khlyam 'sweet', from *s-klam < TB *klum (L thum, Siyin thum, Meithei thum), as contrasted with muk 'foggy, misty', muk-muk 'dullness, darkness' < TB *r-mu-k; mnu 'overclouded, overcast' < TB *muŋ; kük 'to rake, scrape', etc. < TB *ku-k; kum 'arched, concave, vaulted' < TB *ku[m]; cf. also ryüm 'needle', an apparent loan from AT (n. 82, citing IN *d'ayum). The Lepcha correspondence permits the reconstruction of long medial *u in TB *mu-p ~ *ni[~]p 'sink'; Lepcha núp 'to be covered with water', also *(m)-w*m 'hold in the mouth': Lepcha ùm 'receive into mouth without swallowing'. Complex doublets must be recognized in some instances: TB *(m)-tuk ~ *(s)-tu-k ~ *(s)-du-k: Mikır iptok 'to spit; spittle' (n. 189); Maru tauk 'vomit, spew'; Lepcha tyuk 'to spit', dyuk 'spittle'; TB *dųŋ ~ *tuŋ 'long, length' (Lepcha á-thųŋ 'height, length'); also TB *pu-ŋ ~ *buk 'cave; belly' (Lepcha táfuk ~ tábok ~ tábak), with Chinese showing forms derived from *puŋ ~ *bak (n. 479). Lepcha, finally, has medial o or ó in three roots: -tok 'neck' < TB *tuk; (á)-rǒŋ 'horn' < TB *ruŋ; tór 'sour, acid' < TB *skyur, the last root apparently related to TB *swųr 'sour', Ch. swān/swān; * this suggests the reconstructions *twak 'neck', *ruŋ 'horn' (a doublet of *ruŋ) and *s-kywa-r and *s-wa-r 'sour'. One would anticipate that Lepcha might make a similar distinction between medial á < TB *i, and medial i (or e) < TB *i, but this cannot be established on the basis of the material now at hand, although Lepcha kil 'screw' < TB *ki-l, and Lepcha hlet-bù 'leech' < TB *(m)-li-t are suggestive here.

* 酸
and short *i before velars and dental nasal (but not stop) show the development of diphthongs:

TB *-uk, *-uy > B -aук, -aү but *-u’k, *-u’y > B -uik /-uk/, -uiy /-uy/.
TB *-ik, *-iy > B -ats, /-ait/, -añ /-ain/.
TB *in > B -a贵州省 (but *-it > B -iit).

As noted above, B ai here is simply a positional variant (allophone) of the phoneme i before -k, -y and -w. TB long medial *u- has developed in the same manner as final *-u(w), while short medial *u has fallen together with medial *o in the diphthong au (see above). In addition to B khrauk, L ruk ‘6’ < TB *d-ruk, the following cross-checks with Lusheci are available:

(353) B tsauk ‘steep’, L tshuk ‘descend, steep (downwards), down’ (TB *tsyuk).


(355) B lak-khyaïy < *lak-(k)yaiy ‘finger’ (lak ‘hand’), khre-khyaïy ‘toe’

232 Lahu and probably other Loloish languages have two correspondences to Burmese final -aук; we reconstruct *-ok and *-uk:

<table>
<thead>
<tr>
<th>Final *-ok</th>
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<th>Final *-uk</th>
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</thead>
<tbody>
<tr>
<td>Lahu</td>
<td>Burmese</td>
<td>Tibetan</td>
<td>Lahu</td>
<td>Burmese</td>
<td>Tibetan</td>
</tr>
<tr>
<td>fear</td>
<td>kόʔ</td>
<td>[krauk</td>
<td>poison</td>
<td>tόʔ</td>
<td>tauk</td>
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<td></td>
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<td>(khrauk)</td>
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</tr>
<tr>
<td>flint</td>
<td>miʔ-jόʔ</td>
<td>mi-khaus</td>
<td>—</td>
<td>-нόʔ</td>
<td>nauk</td>
</tr>
<tr>
<td>below</td>
<td>hόʔ</td>
<td>rauk</td>
<td>og</td>
<td>ηόʔ</td>
<td>ηauk</td>
</tr>
<tr>
<td>morning</td>
<td>šόʔ</td>
<td>sauk</td>
<td>—</td>
<td>khόʔ</td>
<td>khrauk</td>
</tr>
<tr>
<td>hit</td>
<td>dόʔ</td>
<td>tauk</td>
<td>—</td>
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</tbody>
</table>

In addition to the above, we reconstruct final *-u’k for ‘erect; prick’: T ’dзуг, Burmese tsuik, Lahu jόʔ (JAM).

One would anticipate that the Lahu distinction detailed above might point to TB *-ok and *-uk, which in Burmese have fallen together in final auk (text), but this does not appear to be the case; much additional material from other Loloish languages will be needed to clarify this matter.

233 Also B nauk ‘behind’, Lahu qhόʔ-nόʔ. The aspirated Burmese variant confirms the glottalized initial (see ‘GD’) (JAM).
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(\textit{khre ‘foot’}, \textit{K yun ~ lsyug < *lak-yun, L zuj < *yu}, Khami \textit{meyu ~ msyu} ‘finger, toe’, from TB \(^{\text{234}}\) \textit{*m-}yun,  

\(356\) T ‘\textit{thug-pa} ~ mthug-pa ‘thick’, \textit{stug(s)-pa} ‘thickness’, B \textit{thuik-thuik} ‘thickly’, L \textit{thu-k} ‘deep’ (TB \(^{\text{235}}\) *\textit{wu-}k).  

\(357\) T \textit{rmugs-pa} ‘dense fog; inertiess’, \textit{smug-po ‘dark red, purple-brown’}; Lepcha \textit{muk ‘foggy, misty, muk muk ‘dullness, darkness’}; B \textit{muk ‘dark; ignorant’}, L \textit{mu-k} ‘dull (color)’ (TB \(^{\text{236}}\) *\textit{mu-}k).  


\(359\) Lepcha \textit{ku} ‘tree, \textit{akui ‘bush’}; K \textit{ku ‘to branch; a branch’, lokui ‘limb, branch’; B akhuui ‘stalk, branch’, also \textit{akui ‘large branch, bough (apparently from ku ‘hang over in a curve, bend downwards’); L ku ‘plant, tree, trunk of tree, stem of plant’ (TB *\textit{ku} ‘).  

Burmes also offers evidence for short medial *\textit{u}, but with change of final, in B \textit{kyauk < *k-laou, L lun ‘stone’ < TB *r-lun (above); cf. also B \textit{kauk < TB *guk ~ *kuk ‘bend, crooked’}. 

Burmeso and Lushe show different vowel length in the following root: 

\(360\) T ‘\textit{dzug-pa} ~ zug-pa ‘prick or stick into; plant; erect’; B \textit{tsuik ‘erect, set

\(^{\text{234}}\) Cf. also ‘finger’: B \textit{laik-hwui, Atsi n}\textit{yui, Maru n}\textit{yu, Lahu la2-nj, Akha l2-mo, Bisu l2-hnu, all related. Perhaps the prototype is something like *lak-\textit{son-yun, since there is an additional second element in the compoud; the *s- could be related to the second element in Lahu la2/hi-s ‘hand/foot’; see TB *\textit{s-} prefix for body parts (JAM).  

Add Lisu \textit{li2-ni ‘finger’ to the above. Bisu hnu suggests a derivation from *\textit{s-}m-\textit{yu} (cf. the Khami prefix).  

\(^{\text{235}}\) There is an open-syllable variant here: B thu, Lahu thu ‘thick’; see No. 319 (TB *\textit{tow ‘thick’); from a long vowel (?) (JAM).  

\(^{\text{236}}\) The Kachin and Nung forms cited under No. 488 (*\textit{muw} apparently belong here, since Maran cites K \textit{mu2 (high tone) ‘thunder, cloudy’; also \textit{lemu2 (low tone) ‘sky’ (Khauri = Gauri dialect), allowing the reconstruction TB *\textit{mu-k} an archaic doublet of *\textit{(r-)muw = *\textit{(r-)muw). Nungish (Rawang) has \textit{mu < *\textit{mu-k ‘sky’ (mu ru ‘to be struck with lightning’), contrasting with \textit{thm} ‘eagle, hawk, kite’ < TB *\textit{muw = *muw; cf. also Nutwng dialect of Rawang \textit{mu? l} ‘heaven’ (Morse). Angami Naga (Burling) has \textit{huuu-tsa ‘fog’, probably from *\textit{s-muk; cf. also n. 308.  

\(^{\text{237}}\) A doublet form in initial \textit{b- is indicated by Lepcha, as well as by T \textit{bug-pa ‘hole’, sbug(s) ‘hollow, cavity, excavation, interior space’, and ‘bug(s)-pa ~ ‘big(s)-pa, phug-pa ‘phig-pa ‘sting, pierce, bore, make a hole’.
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upright, plant', Lahu jū? 'pierce, stab, implant'; L fuk 'to erect, be erect' (TB *dzu[-k]).

Long medial *u can at times be reconstructed on the basis of the Burmese forms alone, as in *kluy 'valley, river' (B khyuik) (above); cf. also the following:

(361) K duy, Namsang (Konyak group) toy, B thuig 'sit' (TB *twý~*duy).
(362) Lepcha so muy (=so muk) 'cloudy weather'; K muy 'cloudy; sullen, sulky', B hmuig 'dull, downcast', hmuig 'very dark', from TB *mu-ý, a doublet of *mu-k (No. 357).
(363) Lepcha muk 'weeds, rubbish', Miri pômuk 'dust', B ãhmuiik 'refuse, dust' (TB *mu-k).238

TB long medial *u also appears in TB *sur 'sour', *b-ru'l 'snake' (above) and the following roots:

(364) B mum 'begin to form, as a bud', âmum 'incipient bud', L mu-um 'close (as a flower)', ku-um 'bud; to bud' (TB *mu-um).239
(365) K mum 'to be worn, threadbare', kônum 'rub', mônun 'rub with the fingers', G nol 'rub, knead', L nu-l 'brush past, rub against' (TB *nu-l).
(366) T mur 'gills', mur-gonj 'temples', mur-gram 'jaw' (cf. mur-ba 'gnaw, masticate'), Nung mr [mar] 'face', L hrôm-r 'point, tip, prow', Thado mu <*mur 'beak', Khoibu mur, Tangkhul khémon 'mouth' (TB *mu-r).240

Burmese fails to distinguish between short and long medial *u before final dental and labials, having simply u for both series: B tshum 'mortar' <TB *tsum; B mum 'form bud' <TB *mu-m; cf. also:

Lepcha kâm 'arched, concave, vaulted', B khêm 'convex, arched', L kum~ku-m 'concave' (TB *ku[-m]).

B *-ats (<TB *-ik) and -ani (<TB *-iy) can phonemically be written /-ait/ and
/-ain/;241 thus paralleling B-auk <TB *-uk and *-auy <TB *-wy. For this develop-
238 B-L *muk 'weeds, grass' (JAM) ties in semantically with Lepcha (see n. 232 for the vocalism).
239 Kachin has both mu-um 'to bud; a bud' and mun, id., derived by Hanson from um 'to be puckered up'; it would appear that these forms represent specialized reflexes for the TB long medial *u, with metanalysis of the initial *m- as the common TB *m- prefix.
240 Nung (Râwâng) mr also glossed as 'mouthful', which is nearer the apparent basic meaning of 'mouth' for this root, with the likely Ch. cognate mun/muon 'gate, door' (n. 479).
241 In Modern Burmese final -ani represents -i, -e, -ɛ, and -έ. These differences can scarcely be correlated with any distinctions in TB vocalism and must be regarded as of relatively recent origin, especially in view of instances of interchange such as mai > mi 'to be named', hmaï > hme 'to name' <*miy; cf. also kraï > tyï 'ground' <*glin, myái > myîl 'sleepy' <*myel, asái > aðî 'nail' <*m-(t)sin, hrai > hye 'long' <*s-rïy, pyái > pyê, phyái > phyê 'full' ~ 'fill' <*blïy <*blîy (Judson a)
ment, cf. B ats-kui ‘older brother’ < TB *ik, hmyats ‘bamboo sprout’ < TB *s-m(y)ik, ñats ‘dirty’ < TB *n(y)ik, sats ‘small animal of tiger genus’ < TB *sik, átshats ‘joint’ < TB *tsik, prán ‘full’, phráñ ‘fill’ < TB *bliy ~ *pliŋ, lañ ‘neck’ < TB *liŋ, manñ ‘to be named’, ámán ‘name’ < TB *miŋ (above). The nasal > stop shift in final characteristic of Burmese232 (cf. ip-mak ‘dream’ < TB *mëj, kyauk < *k-lauk ‘stone’ < TB *-lau) is especially in evidence here; cf. B sats ‘tree’ < TB *siŋ (above) and the following pair of roots:


(368) T na-niŋ ‘last year’, gži-niŋ ~ șe-niŋ ‘two years ago’, also lo-ruŋiŋ ~ na-ruŋiŋ = na-niŋ (cf. rniŋ-pa ‘old, ancient’), Tsangla niŋ, Miri nỳiŋ (in comp.), Nung and K niŋ, B ãhnats < *ãhnik, Mikir niŋ ‘year’ (TB *niŋ).233

Burmese retains final *-it (Nos. 119, 236), final *-ip (Nos. 16, 114) and final *-in (Nos. 53, 71). Final *-in, however, is represented by *-aŋ, as in B āsanñ, L thin ‘liver’ < TB *m-sin; B hmán ~ hmyanñ, L hmin ‘ripe’ < TB *s-min.

TB long medial ʰi is rare, especially before final velars, but can be established for a few roots, including *(s)di-k ‘scorpion’ (above). Burmese, which has *-aŋ for TB *-in (see above), has -in for TB *-i-n:

(369) K sin ~ șen ~ tšen < *kiŋ, B khyin, L khi-n ‘weigh’ (TB *ki-n).

indicates final -i; for these two words); hmán > hmé ‘mole’ < *r-men, hmán > hmé ‘ripe’ < *s-min, asán > șõl ‘liver’ < *m-sin, lañ > le ‘neck’ < *liŋ; hián > hnyeţ ‘hurt, oppress’ < *nyen, pyaɭ > pyeɭ ‘plank’ < *plen, hrán > hyeɭ ‘put together side by side’ < *ren. The nasalized final -e appears to be correlated in some measure with TB medial *e; cf. also T sre-mon ~ sre-mo ‘weasel’, Mikir igren < m-ren ‘mongoose’, B hrán > hyeɭ ‘squirrel’.

242 Indeed, of B-L in general (JAM). Cf. Trung (Nungish) sɨŋ ‘tree’, sɨŋ-lap ‘leaf’, sɨŋ-vat ‘flower’ but sɨŋ ~ sɨk ‘firewood’, sɨk-sɨ ‘fruit’. The Mutwang dialect (Morse of Râwang (Nungish) has a highly idiosyncratic final cluster -nt in two items, including nónt ‘heart’, from TB *s-niŋ; the standard Râwang dialect (Barnard) has smiŋ ‘brains’, and it would appear that the Mutwang form is a derivative of TB *a-niŋ = ?a-niŋ via *ʔniŋ > niŋ? (essentially a suprasegmental glottal accent) > *nînt. This development is closely paralleled in Gyarung (K. Chang) tešiit ‘heart’, identical in form with tešiit ‘ʔ7 < *te/snis (TB *s-nis). The Burmese-Lolo shift, which probably has a similar origin, cannot be assigned to the proto-B-L period, since an original final nasal in the root for ‘tree’ (TB *siŋ) is retained in some Loloish languages (JAM) and the root for ‘heart’ (TB *s-niŋ) shows forms very close to the original in two Chinese transmissions for early B-L languages: Hsi-hsia (eleventh and twelfth centuries) niŋ2; b Pai-lang (third century) níŋ/níŋ.2

243 This root now reconstructed *s-niŋ; Kachin has both niŋ and sōniŋ, and Pyu has smi < *smiŋ, both agreeing with B-L initial *hn- (and note Karen *hney).
Sino-Tibetan: a conspectus

The following roots also have this long medial vowel:

(372) Dhimal sir, G sil, Dimasa šer, L thi:r ‘iron’, from TB *s(y)i:r.244

TB medial *u and *i are only partially maintained in Bodo-Garo. Garo regularly preserves medial *i, but in Bodo and Dimasa this medial tends to be merged with *u (often with loss of final consonant). Doublet forms in Dimasa, with the Hills dialect having medial i and the Plains dialect medial u, are characteristic, and some i ~ u alternation appears also in Garo; cf. G mik, Dimasa mu ‘eye’ < TB *mik; G na-tik ‘shrimp’, Dimasa na-thu ‘prawn’ < TB *(s)-di:k; G bibik, Dimasa bū’u ‘bowels’ < TB *pi:k; G miy ‘to name’, bumuy ‘name’, Dimasa bumu (in comp. muek) ‘name’ < TB *r-miy; Dimasa phaluy ‘fill in’ < TB *pliy; Dimasa bithlim ~ buthlay ‘brain’ < TB *klī; G min, Dimasa min ~ mun ‘ripen’ < TB *s-min; also the following roots:

(377) K phriŋ ‘bark’, Dimasa biriŋ ~ burug ‘bark, call (as an animal)’ (TB *priŋ).245
(378) Nung and K maliŋ, G burug (Garo Mission) ~ briŋ (Chuckerbutty) ‘forest’, Dimasa ha-bliŋ ‘jhum field in second year of cultivation’ (ha ‘earth’) (TB *b-liŋ).246

244 The Kiranti group has *sya:l ‘iron’: Bahing sya:l, Sangpang syel ~ sel, Dumi sel, pointing to an archaic doublet in this root: TB *syi:r ~ *syə:l (see p. 84 for the medial alternation); the alternation of finals suggests that this is an old loan-word from AT.
245 Chang Naga (Konyak group) has lāŋ ‘to bark’, from *riŋ, suggesting that this might be a prefixed root: *b-riŋ, although this should yield K *marīŋ (cf. No. 378) rather than phriŋ; cf. also Ch. *srenj/sien ‘to bark’ (not in texts), probably from *s-r-ŋ (see n. 457 for the initial cluster here).
246 T ŋin ‘field, ground, soil, arable land’ may belong with this set, since it...
Tibeto-Burman vowels (medials)

(379) K *khrim 'threaten', *makrim 'smart, as the eyes; be on edge, as the teeth', B *krim 'to be terrified' (obsolete), *khrim 'threaten, terrify', Dimasa *migrim 'fear, be anxious about something, set the teeth on edge, have gooseflesh' (TB *krim).

(380) G *sim, Dimasa *sim-ba ~ *sum-ba, *gisim ~ *gusum 'black, blue, dark', L *thim 'dark; darkness', from TB *s(y)im.

Medial *i is rarely replaced by a (there are a few instances in Bodo), whereas the *u > a shift is often encountered in Bodo-Garo, e.g. G *githam, Dimasa *gatham (but *thim-dźi ~ *thum-dźi '30') '3' < TB *g-sum; G *sam, Dimasa *sam-tho 'mortar' < TB *tsum; also the following pair of roots:

(381) Lepcha *lum 'warm', *slum 'simmer, heat', *šlum 'heat, warm, as food', Nung *lim 'warm', B *lum 'warm', *hlum 'warm oneself by a fire', *hläm 'heat again, warm over', Bodo *lum-don (Hodgson) ~ *lam (Endle) 'fever', Dimasa *lim ~ *lum 'to be hot, have fever', *lim-ba 'illness, fever', also G *gram *tși 'sweat', Bodo *galam to 'sweat', *galam doi 'sweat', Dimasa *gilim dī ~ *gulum dī 'sweat' (= 'heat-water'; cf. Siyin *kı-mul 'sweat' ~ 'warm') (TB *lum).

(382) T *khruy-ba 'to be born; shoot, sprout, grow (of seeds and plants)', K *khrúy 'live, be alive', *makhrúy 'fresh sprouts, new twigs', Bodo *gakhraň 'fixed, firm, healthy', Dimasa *gakhraň 'green' (TB *kruj).247

Before labials and dentals, medial *u usually falls together with medial *i in Bodo-Garo; cf. G *brip 'flood' < TB *brup, and the following roots:

(383) Lepcha *kut 'to rule a line', *ā-hut 'strake', *hut < *kut 'to scratch, as body or earth', *ā-hut 'scratching; a rake', K *khut 'scrape, rub', Nung *tšokut 'itch', B *kut 'scratch', *khut 'gash, chop, cut, beat (metal)', G *kit 'carve', *ka-kit 'itch', Dimasa *kuhn 'engrave on wood or stone' (TB *kut).

(384) B *hrup 'sniff up, sip, sup', Dimasa *surup 'sip, lap, smoke', *khu *sirip 'gargle' (khu 'mouth'), perhaps also Manchati *srub 'spittle' (TB *s-rup); cf. also Lepcha *hūp 'a sip, gulp', *hāp 'to suck'.

(385) K *phun 'put on and wear, as a coat; cover, as with a blanket', G *pin-dap 'cover', Dimasa *phin ~ *phun 'put on, wrap, cover' (TB *pun).

Bodo-Garo closely parallels Burmese in having two distinct sets of correspondences for TB medial *u and *u ~ before velars:

TB medial *u = L u = B au ~ Garo and Dimasa o.

TB medial *u = L u = B u = Garo i ~ u.

appears to be from *lyin (n. 104), as indicated by Lepcha lyān 'land, field' (cited by Forrest, JAOS 82, 1962). The basic meaning is distinct, however, despite the semantic extension found in Dimasa, and the forms cannot be related with any confidence.

247 Cf. the closely similar semantic development shown by TB *s-rin ~ *s-ran, and Nung *szim 'raw', B *tsim 'green; unripe' (TB *dzim).
Several cross-checks with Lushei and/or Burmese are available; cf. L ruk, Bkhrauk, G dok, Dimasa do '6' < TB *d-ruk; L luj, B kyauk < *k-lauk, G roy, Dimasa loj 'stone' < TB *r-luj; L thu-k 'deep', B thuik-thuik 'thickly', G dik, Dimasa dib-bi ~ dub-ba ~ gidip-ba 'thick' < TB *tu-k; also the following roots:

(386) G mattšok ~ mattšak, Dimasa moso, L sa-zuk < *-yuk, Mikir thidzok < *yok 'deer (sambhur)' (TB *d-yuk).

(387) B t'aok 'fillip; cut by a single, light blow', Lahu döp 'hit, beat', G dok ~ dak 'knock, pound', Dimasa do 'knock, hit down, hammer down, stamp', L tuk 'cut, chop' (TB *tuk); cf. also Lepcha työk < *s-tök 'come into collision with, hit against, knock against (as egg in breaking)'.

(388) B khuik 'bite with the teeth or an instrument; shear', G kik 'strip', Dimasa khu 'pare off (rind of fruit), strip' (TB *ku-k); cf. also Lepcha kuk 'to rake, scrape or draw towards self as with a stick; to hoe superficially; to pull upwards with hook; to ladle, spoon out; to toss, as bull with horns'.

(389) B khraini ~ khyaîny, G griî 'cage' (TB *kru-y).

(390) L tšhu-ŋ 'the inside (of anything)', Bodo sîŋ, Dimasa bisiŋ 'inside, within' (TB *tsyu-ŋ).

Bodo-Garo and Burmese differ with regard to vowel length in the following root (reconstructed on basis of Burmese):

(391) T 'phrug-pa 'scratch oneself', B phrauk ~ phyauk 'scratch in order to allay itching', G brik, Dimasa buru 'scratch' (TB *pruk).

Where Burmese and Lushei cognates are lacking, Bodo-Garo evidence is of value in reconstructing vowel length for this medial; cf. Dimasa and G groŋ 'horn' < TB *ruŋ (above) and the following:

(392) K du < *duk, G gitok, Dimasa godo, Mikir tsethok, also Lepcha tük-tok (tok in comp.) 'neck' (TB *tuk).

(393) T khug-ma 'pouch, little bag', G khok 'basket', Dimasa baiŋ-kho 'basket carried on a load', bokho 'receptacle', Mikir hok < *khok 'small hanging basket' (TB *kuk); cf. also Lepcha kóm ba-gük 'purse' (kom 'silver, money').

(394) Kiranti *muk (Lambichong, Chingtang, Yakha muk) 'arm, hand', G mik 'cubit', Bodo mu 'arm-length', perhaps also B muŋ 'measure with breadth of fist' (TB *mu-k).

(395) K nguŋ (n-guŋ) 'back of a blade', G rikiŋ 'edge', dža-rikaŋ 'shin' (= 'leg-edge'), Bodo giŋ 'side', Dimasa ruguŋ 'near, by the side of', burguŋ 'margin, edge, rim; blunt edge of a knife' (but di-rgoŋ 'bank of a river'), Mikir kuj 'side, edge, border, brim, bank, rim', arkoŋ 'shin' (TB *r-gu-ŋ).

The distinction between short and long medial *u cannot be established for any languages other than Lushei, Burmese and Garo-Bodo, possibly also Lepcha, yet 248 This root has now been reconstructed *tu-ŋ (n. 63).
indications of this feature elsewhere are not lacking. Thus, Sho (Southern Kuki) distinguishes between sok ‘6’ < TB *d-ruk and pük ‘belly’ < TB *pu-k, thük ‘deep’ < TB *tu-k, mûg ‘dull’ < TB *mu-k. Mikir retains medial *u rarely (No. 107) and medial *i somewhat more commonly (Nos. 112, 119, 234, 367, 368, 376), the characteristic developments being *u > o (Nos. 42, 88, 108, 358, 386, 392, 393, also 395 with u ~ o alternation), *i > e (Nos. 16, 35, 53, 64, 126, 142, 233, 374, 402, 404). Mikir vacillates between e (No. 371) and i as reflexes for TB long medial *i; cf. the following root:

(396) Lepcha hlet-bû (bû < TB *buw ‘insect, snake’), L hli-t, Mikir iyîlit ‘water leech’, Ao Naga melet ‘horse-leech (usually found near water or in very damp localities)’, K lip ‘sp. of horse-leech’ (cf. K siyîlet ~ siylep ‘tongue’), from TB *(m-)li-t.

Mikir reveals an interesting agreement with Bodo-Garo in the following root:

(397) K khun, G khol ~ khal, Dimasa khon, Mikir iykol ~ iykoi, Siyin kul, Haka kul ~ kwe ‘20’, from TB *(m-)kul.

The above root contrasts with G kimil, Dimasa bikhimi, Mikir ayîmi < *aynil ‘body hair’ < TB *mul. Both roots, however, appear to have short medial vowel (cf. L hmul ‘body hair’), and the *u > i shift is perhaps the result of dissimilation; cf. Mikir vi ‘tend, graze (flocks)’, L vul ‘keep or rear (domestic animals)’. Mikir has u for TB long medial u in phurul ~ phurui ‘snake’ < TB *b-ru-l, while Meithei offers a contrast between lil ‘snake’ < TB *b-ru-l, and kul ‘20’ < TB *kul.

Alternation between the high vowels u and i, though especially characteristic of Bodo-Garo, is not uncommon elsewhere; cf. Nos. 53 and 114 (above), also T pus-mo ~ pis-mo ‘knee’, smyg-ma ~ smyg-ma ‘cane’, phug-pa ~ phig-pa ‘bore’ (n. 237), T sbud-pa, Central T sbid-pa ‘bellows’ (note that all these have labial initials). Medial *u ~ *i alternation must be set up for the following TB roots:

(398) T phur-ba, Central T phir-ba ‘to fly’, Nung sphîr [spîr] ‘shake (as a cloth)’, khon-phîr ‘moth’, G bil, Dimasa bir ‘to fly’ (TB *pur ~ *pir); cf. Bahing byer, Abor-Miri ber ‘to fly’.


(400) T nub-pa ‘fall gradually, sink; set (sun, moon); decay, decline’, nub ‘west; evening’, snub-pa ‘cause to perish, suppress’, K nîp ‘shade, cast a shadow; be overcast, dim’, siyîp ‘shadow’, Nung nêm nîp lam ‘west’ (nêm ‘sun’, lam ‘side’),

A distinct root *byer must be recognized for TB on the basis of the Bahing and Abor-Miri forms, along with Trung (Nungish) biel ‘to fly’ (in comp. ‘airplane’), from *byer; Chinese appears to have cognates for both roots (nn. 443 and 460).
Bahng nip ‘compress, express’, B nip ‘to be kept down’, hnip ‘crush, put down, oppress’ (TB *nup~*nip).


Nung regularly shows preference for medial i, as in mil ‘body hair’ < TB *mul, rin ‘horn’ < TB *ruj, im ‘mouthful’ < TB *um, lim ‘warm’ < TB *lum.

Alternation between medial *ya and *i is indicated for the following pair of roots:

(402) T mig, Kanauri mik, Lepcha âmik, Vayu mek, Magari mik, Bahng mi-tsi, Thulung, Dumi, Rai mik-si, Limbu mik, Dhimal mi, Muri omik, K myi, G mik, L mit, Mikir mek, but Burmese (and general Burmese-Lolo) myak, Nung me ~ mc < *myak (see n. 93), perhaps also Gyarung têmñák ‘eye’ (TB *mik~*myak).

(403) K u-ri < *-rik ‘pheasant’ (u ‘bird’), B rats ‘pheasant’, G grik ‘pheasant’.

250 The Bahng and Burmese forms are preferably analyzed as part of a distinct set: TB *nip ‘crush, compress’; cf. Ch. niap/njap ‘trample’, from ST *nep. TB *nu-p ~ *ni-[p] ‘sink’, with long medial u~ on basis of Lepcha náp (n. 231); add B-G *(h)nap ~ *(h)nup ‘set (sun), sink, drown’, also ‘enter, penetrate’, thus tending in directly with the principal Ch. cognate: niap/njapb ‘enter’ (n. 479). The initial cluster in B-G is probably from *sn-; cf. the following (the first entry from TB *s-nam):

<table>
<thead>
<tr>
<th></th>
<th>Garo</th>
<th>Bodo</th>
<th>Dimasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>daughter-in-law</td>
<td>nam</td>
<td>ham</td>
<td>ham</td>
</tr>
<tr>
<td>enter, etc.</td>
<td>nap</td>
<td>hap</td>
<td>hap</td>
</tr>
<tr>
<td>good</td>
<td>nam</td>
<td>ham</td>
<td>ham</td>
</tr>
</tbody>
</table>

251 The *myak form for this root must now be regarded as the earlier in view of the evidence not only from Karen (*me < *myak) but also from Ch. (n. 488). Nungish stands closest of all other TB groups to the B-L family, while Gyarung also shares in a number of roots found only here, e.g. *sam ‘iron’ (n. 179) and the following root: Gyarung (K. Chang) sar ‘louse’, B san, id., from B-L *san (Maru sin, Lahu še, Lisu hü); TB *sar ~ šar. The evidence from this one root (‘eye’) speaks strongly in favor of a BL-Nungish-Gyarung supergroup, which alone in TB has retained the archaic form: *myak. There is considerable evidence for medial ya ~ i alternation in ST itself; cf. ST *tyik ~ *tyak ‘1’ (n. 271); *(m-)lyat ~ *(m-)-li ‘leech’ (n. 398); also *(m-)syil ~ *(m-)syal ‘wash’ (n. 462). The medial ya form is the more archaic, as shown by Miaow-Yao *nyaŋ ‘year’ (approximate reconstruction), a very early loan from a doublet: *(s-)nyaŋ of ST *(s-)niŋ, as reconstructed on the basis of TB, Karen and Chinese; Ch. retains an indication of the early vocalism in nayc ‘in past time, formerly’, a related form; cf. T rnyin-pa ‘old, ancient’, lo-rnyin ‘last year’. Chinese perhaps also reflects an archaic doublet: *syŋ of ST *sŋ ‘tree’ in siŋa ‘look at, see’, the graph showing an ‘eye’ and a ‘tree’, the latter probably as a phonetic (better than Karlgren’s suggestion in AD, viz. ‘an eye, spying, looking out from behind a tree’).

\[\text{a 赤} \quad \text{b 入} \quad \text{c 黄} \quad \text{d 高}\]
do-grik 'black pheasant' (do 'bird'), L va-hrit 'black pheasant' (va 'bird'), but T sreg-pa, West T šrag-pa 'pheasant', Lepcha kḥryak fo 'kaliy-pheasant' (fo 'bird') (TB *s-rik~*s-ryak).

TB shows a similar medial *ya~*e alternation in L hniam <*hnyam 'low, short', TB *nem (above). The following root has medial *a (rather than *ya) alternating with *i:

(404) Kanauri šōŋ <*sriŋ (see n. 126), Manchati sriŋ, Chamba Lahuli sriŋ~śiŋ 'live, be alive', L hriŋ 'fresh, green', hriŋʔ 'bear, beget', Meitheri hiŋ 'be alive', Mikir reŋ 'live, come to life', reŋ-seŋ 'green, verdant' (an apparent couplet from *s-ray), K tsɨŋ <*sriŋ 'grass; grassy, green', kotsɨŋ 'fresh, green, raw, unripe', Nung məsɨŋ <*m-sɨŋ 'green (color)', šiŋ 'grass' (possible loan from Kachin), also oṭñoŋ 'unripe, uncooked' (cf. No. 231), but B hrəŋ 'live, be alive', G thəŋ <*srəŋ 'live', gathəŋ 'green', Dimasa gathəŋ 'alive, living; green, unripe' (TB *s-riŋ~*s-ray).

252 Burmese has medial a for TB *i in khraŋ-tshi 'marrow' < TB *kliŋ (above), and for TB *u in the following root:

(405) T bsuŋ 'smell, esp. sweet smell', K suŋ 'scent, odor, smell', but B səŋ 'emit a pleasant odor' (TB *suŋ).

§12. Tibeto-Burman tones

Tones probably occur in most TB languages, yet our information on this point is meagre.253 The archaic West T dialects (Balti, Purik) appear to lack tones.

252 Now reconstructed *sriŋ (n. 305); the aberrant vocalism of B hrəŋ has probably been conditioned by the initial cluster (n. 128).

253 It is perhaps in the area of tone-reconstructions that the most dramatic progress has been made in TB studies over the past few years, as more and more accurate data become available. The most important general articles on S.E. Asian tones to appear since Benedict, 1948 (‘Tonal systems in Southeast Asia’, JAOS 68, 184–91) are Haudricourt, ‘De l’origine des tons en vietnamien’, JA 242 (1954); ‘Bipartition et tripartition des systèmes de tons dans quelques langues d’Extrême-Orient’, BSLP 56 (1961). The best tonal data to date are on Loloish; Chinese linguists like Ma Hsüeh-liang, Yüan Chia-hua, Wen Yu, Hu T’an and Kao Hua-nien have painstakingly recorded many Loloish dialects of Yunnan, not only indicating tones in isolation but also in many cases describing sandhi phenomena in syllable-sequences (see List of Sources). The Japanese scholar, T. Nisida, has used this material (and his own) in his important article, ‘Burmese and the Lolo languages: a comparative study of their tone-systems’ (Biruma-go to Roro syogo: sono seityoo taikei no hikaku kenkyuu), TAK 4, 1, June 1964. See also his ‘Tonemic
altogether (Read, Bailey, 1908), while the two-tone system of Central T dialects
can be interpreted in terms of the initials of Classical Tibetan (high tones from
original surds, low tones from sonants). Simple tonal systems of Tibetan type
have been incompletely recorded for several TB languages, including Kadu
(R. G. Brown, 1920), Sho (Fryer), Tangkhol (Pettigrew, 1918), Thado (Shaw),
Chang (Hutton, 1929), Khami (Houghton, 1895), and Sema Naga. Note also
the interesting pair of words cited for Taman by R. G. Brown (1911), viz. thi
‘water’ (high tone), thi ‘egg’ (low tone), both from TB *ti(y) (see n. 149).
Comparative work on the scantily recorded tones of these languages cannot be
pursued with any degree of success. Kachin and Nung both appear to have more
complicated tonal systems, but unfortunately these tones have not been recorded.

The Burmese-Lolo tonal system alone offers an opportunity for comparative
study. In addition to Burmese itself, tones have been recorded for Phunoi and
Akha (Roux), Black Lolo, White Lolo, and Mung (Bonifacy), Lahu (Telford),
Lisu (Fraser), Ahi and Loloopho (Liétard), Nyi (Vial), and Moso (Rock). A partial
R. Burling has worked out the basic tone-correspondences for Burmese, Atsi,
Maru, Lahu, Lisu and Akha in a generally satisfactory manner in his PLB. Further
investigations have been carried out by Matisoff, opera citata. P. Lewis, Akha–
English Dictionary, 1968 (reviewed by Matisoff, JAS 28, 3, 1969) has recorded the
tones of that language accurately. It remains to be seen whether the tones of B-L
can be related systematically to those of Kachin or whether the two systems arose
independently. The most serious problem yet unsolved in B-L tone-studies is the
elucidation of the conditioning factors for the development of the two distinct
stopped tones in Loloish. Another important desideratum is a clarification of the
origin of the Burmese ‘creaky tone’ and its Loloish cognates; this is by far the
rarest of the three open tones, and is clearly secondary in some sense, though its
development antedates the split-up of Common B-L (see n. 260) (JAM).

We now have much material on various B-L tonal systems, as described above
by JAM, but very little on tones elsewhere in TB, with the conspicuous exception
of the Kachin system (Maran). Our more recent sources here are noted in n. 494,
which considers TB tones in relation to those of Karen and Chinese. Detailed
studies of the tonal systems of several Nepal languages: Gurung, Tamang, Thakali,
Chepang, Newari, Sunwar and Sherpa (a Tibetan dialect) have recently been
published; see Austin Hale and Kenneth L. Pike, Tone Systems of Tibeto-Burman
Languages of Nepal, Occasional Papers of the Wolfenden Society on Tibeto-
Burman Linguistics, Univ. of Illinois, Dept. of Linguistics, Urbana, 1970.

254 The only adequate description of Tibetan tones, from a phonemic point of
view, is that found in Yù Tao-ch’üan and Chao Yüan-jén, ‘Ts’ang-yang-chia-ts’o
examination of Phunoi and Akha by Shafer suggests that some tonal agreement with Burmese exists. Further investigation has shown that the tones of the best recorded languages (Maru, Lisu, Ahi, Lolopho, Nyi) together form a tonal pattern more complex than that of Burmese, yet agreeing with the latter in fundamental respects. Burmese distinguishes between a low-level tone (unmarked) and a high-falling tone (\( \chi \)), and has in addition an 'intermittent voice' or 'creaky voice' tone (written \( \chi \)). Only words ending in a voiced element (vowel or nasal) are affected by these tones. Words ending in an unvoiced element (surd stop) are not subject to tonal differentiation, Burmese in this respect thus paralleling both Chinese and Thai (as reconstructed). Modern Burmese, as well as Lahu, Phunoi and Akha (see n. 256), and most Lolo languages, replace final stop by glottal stop:258

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
</table>

(continuation on p. 88)

256 'Phunoi and Akha Tones', *Sino-Tibetica 4* (Berkeley, 1938). Shafer writes \( x_1 \) (= low-level) for the Akha tone represented by the tone-mark *nang* (subscribed dot) of the Annamite transcription adopted by Roux. This Akha tone is best interpreted as low tone with glottal stop (as in Annamite), especially in view of its correspondence with final stop consonants in Burmese, e.g. B *wak*, Akha *ga* 'pig'; B *nak*, Akha *ng* 'black'. Akha further appears to have low-falling tone for the falling tone (\( \chi \)) of Burmese, as demonstrated by Shafer, and low-rising or high-rising tone for the level tone (\( \chi \)) of Burmese.

257 The 'creaky voice' tone (*auk-myit*) involves semi-closure of the glottis and a weak final glottal catch. Vowels affected by *auk-myit* are half-long, whereas vowels affected by low-level or high-falling (*she-pauk*) tone are long, and vowels before final stop consonants (glottal stop in Modern Burmese) are short. In the early inscriptions *auk-myit* was recorded with the 'vowel-support' sign (taken from Mon script), whence the modern symbol (subscribed dot). *She-pauk*, however, was usually left unmarked, although occasionally a final -h was added; the modern symbol (two dots) appears as early as A.D. 1219, in the Damayangyi pagoda inscription (see Tin, *JBR* 19, 1929).

258 Tones are marked as follows: \( \chi \) (high), \( \xi \) (low), \( \varsigma \) (rising), \( \chi \) (falling), and \( \varepsilon \) (mid-high). Mid-level tones are left unmarked. Glottal stops are clearly described for Lahu (\( x^2 \) and \( x^5 \) in Telford) and Lisu (\( x^3 \) and \( x^6 \) in Fraser). Liétard explains his tone symbols for Ahi and Lolopho only in terms of the conventional four tones of Mandarin Chinese, but the values to be assigned them must be those of the native dialect of Yunnan. In this dialect, as recorded by the writer (at Kunming, 1938), the *hsia ping sheng* is merged with *ju sheng* (glottal stop), and *shang sheng* and *ch'ü sheng* are reversed. Hence we write \( \chi \), \( \varepsilon \), and \( \xi \) for Liétard's \( x^2 \), \( x^3 \), and \( x^4 \), respectively. The falling-tone value (\( \chi \)) has also been assigned to Lahu \( x \), Lisu \( x^3 \), and Nyi \( \chi \).
### Sino-Tibetan: a conspectus

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>six</td>
<td>khrauk &gt; thyauʔ</td>
<td>khḍʔ</td>
<td>tshθʔ</td>
<td>tʃhuʔ</td>
<td>tʃhoʔ</td>
</tr>
<tr>
<td>enough</td>
<td>lauk &gt; lauʔ</td>
<td>lʔ</td>
<td>lʔ</td>
<td>luʔ</td>
<td>—</td>
</tr>
<tr>
<td>eight</td>
<td>hrats &gt; hyiʔ</td>
<td>hi</td>
<td>hiʔ</td>
<td>hʔ</td>
<td>hiʔ</td>
</tr>
<tr>
<td>tree</td>
<td>sats &gt; thiʔ</td>
<td>sʔ</td>
<td>sʔ</td>
<td>(sò)</td>
<td>(sò ~ sò)</td>
</tr>
<tr>
<td>goat</td>
<td>tshit &gt; sheiʔ</td>
<td>âchêʔ</td>
<td>atʃhiʔ</td>
<td>k̪iʔ</td>
<td>atʃoʔ</td>
</tr>
<tr>
<td>lie down, sleep</td>
<td>ip &gt; eiʔ</td>
<td>yiʔ</td>
<td>yiʔ</td>
<td>yiʔ</td>
<td>yiʔ</td>
</tr>
<tr>
<td>needle</td>
<td>ap &gt; aʔ</td>
<td>γdʔ</td>
<td>wʔ</td>
<td>wʔ ~ roʔ</td>
<td>wʔ</td>
</tr>
</tbody>
</table>

Lahu and Lisu distinguish between low and high tones before glottal stop (the basis for this distinction has not been determined). Ahi and Lolopho have only glottal stop, as in Burmese, and Nyi (if our interpretation is correct) lacks glottal stop and usually substitutes either falling tone ( الفكر) or rising tone ( الفكر). Lahu often retains glottal stop in roots showing irregular treatment in Lolo; cf. B phak 'leaf', Lahu ẓ- phàʔ, but Lisu phyeʔ, Ahi phyè, Lolopho pè, Nyi phè; B nakt 'black', Lahu nāʔ, but Lisu na, Ahi nyè, Lolopho nē, Nyi nè (TB *nak: T nag-po, Nung naʔ); B k rak <k- rak 'fowl', Lahu yāʔ, but Lisu aγuā, Ahi yè, Lolopho yì, Nyi yè; B myak(-tsi) 'eye', Lahu mēʔ-št, but Lisu myè-sì, Ahi nye-sā, Lolopho mē-dui, Nyi ne-sè; B ú-hnauk 'brain', Lahu ú-neʔ, but Lisu wū-nγū, Ahi ó-nò (TB *s-nuk). In rare instances glottal stop appears in Lolo in roots without final stop consonant, e.g. Ahi and Lolopho lìʔ '4', B lè.

The 'creaky voice' tone ( الفكر) of Burmese (where non-morphological) appears to be a relatively late variant of the level tone, and the tonal series in Lahu and Lolo is the same as that for level tone, e.g. B lá 'moon, month', Lahu ha-pa, Lisu hā-bā, Ahi hlò-bọ, Lolopho hyò, Nyi ślā-bā (cf. T zla-ba). In Burmese morphology this tone often imparts a diminutive or otherwise specialized force, e.g. lyà 'thin', lyá 'flimsy'; khà 'bitter', khā-khà 'bitterish' (many forms of this type); B lu 'man', lù (pejorative), ne 'sun', né 'day', and also serves to subordinate pronouns and proper nouns, as in pà 'I', yà 'mine'. In addition, many doublet forms that do not readily yield to classification are found, e.g. tu 'hammer', thù 'pound, hammer'; manī 'to be named', hmaṇī 'to name'; nì 'to be even', hńi 'make even'; laṇ 'revolve, turn around (intr.)', hlán 'turn around, make revolve (tr.)' (note the appearance

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259 It now appears, at least as regards Lisu (Fraser), that this tonal distinction reflects an original (proto-TB level) distinction between voiced and unvoiced initials, of the same general type as that encountered in Karen, Chinese and elsewhere in S.E. Asia (Benedict, 1948); certain exceptional forms perhaps reflect lost prefixes, e.g. B-L *sat 'kill' (low series = voiced initial) < TB *g-sat; cf. JAM, 1970b.
of ‘creaky voice’ in these three transitive forms); kwe ‘bend, curve’, khwe ‘curve, curl, coil’, kwe ‘bend round, be curved’. In some instances ‘creaky voice’ perhaps stands for an earlier stop consonant; cf. mrá ‘very sharp, keen’, mrak ‘cut keenly’; hldá ‘very, excessive’ (verbal prefix), T hlag ‘more, beyond’; note also the correspondence to K suffixed -t and L -k in B kya~khya, K khra, L tla~hta ‘fall; let fall’ (TB *khla). In general, however, the problem is primarily one of morphology rather than phonology.260 Shafer (Sino-Tibetica 4, 316) thus is not justified in writing á for â and reconstructing TB final -ã on the basis of this supposed ‘short vowel’ in Burmese.

Lahu and the Lolo languages have two well-defined sets of tonal correspondences for the low-level and high-falling tones of Burmese (Lahu has two correspondences for low-level):

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**Burmese Low-level Tone**261

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>house</td>
<td>im</td>
<td>yê</td>
<td>hî</td>
<td>hê</td>
<td>hê</td>
</tr>
<tr>
<td>rain</td>
<td>rwa</td>
<td>mû-yê</td>
<td>hê</td>
<td>hô</td>
<td>hê</td>
</tr>
<tr>
<td>ill</td>
<td>na</td>
<td>nà</td>
<td>nà</td>
<td>nô</td>
<td>nô</td>
</tr>
<tr>
<td>buy</td>
<td>wai</td>
<td>vê</td>
<td>vû</td>
<td>vê</td>
<td></td>
</tr>
<tr>
<td>I, me</td>
<td>òa</td>
<td>nà</td>
<td>(gô)</td>
<td>yô</td>
<td>yà</td>
</tr>
<tr>
<td>100</td>
<td>ãra</td>
<td>ha</td>
<td>hû</td>
<td>hô</td>
<td>hyô</td>
</tr>
<tr>
<td>name</td>
<td>mân</td>
<td>ì-mê</td>
<td>(mye)</td>
<td>mê</td>
<td>mî</td>
</tr>
<tr>
<td>sun</td>
<td>ne</td>
<td>mû-nî</td>
<td>nî</td>
<td>nî</td>
<td></td>
</tr>
<tr>
<td>white; silver</td>
<td>phru</td>
<td>phu</td>
<td>phû</td>
<td>thô</td>
<td>phè</td>
</tr>
<tr>
<td>thick</td>
<td>thu</td>
<td>thu</td>
<td>thû</td>
<td>thô</td>
<td>thû</td>
</tr>
</tbody>
</table>

260 Note also the use of ‘creaky voice’ with nominalizing â- prefix: nam ‘to smell (intr.)’, nâm ‘to smell (tr.)’, ânâm ‘smell’; thu ‘thick’, âthû (also dû) ‘thickness’; these forms apparently were glottalized by the (non-phonemic) glottal onset of the prefix: ða-thu > à-thû; also (with intervocalic voicing) > ðâ-ðu > ðdu (the ‘Tibetan stage’ – see n. 339) > dû. Modern Burmese has ‘creaky voice’ as a suprasegmental morpheme of subordination, derived from the obsolete (literary) subordinating particle -t, which also has ‘creaky voice’ (see Benedict, review of W. Cornyn, Outline of Burmese Grammar, in JAOS (1945), 65–7, note 7). It would appear that the general subordinating suffix *-ki of TB (see § 17) was replaced in close juncture by -t, the glottal stop then becoming the suprasegmental glottal accent (see n. 242 for a parallel development in Nungish).

261 See Burling and Matisoff, opera citata. The Lahu /l/ tone, as in ‘house’, is from old plain initials; Lahu /l/ tone (mid, unmarked) is from old aspirated and glottalized initials (JAM).
### Burmese High-falling Tone

<table>
<thead>
<tr>
<th></th>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>child, son</td>
<td>sóc</td>
<td>yá</td>
<td>rá</td>
<td>zó</td>
<td>zó</td>
<td>zá</td>
</tr>
<tr>
<td>bee</td>
<td>pỳá</td>
<td>pê</td>
<td>byê</td>
<td>dô</td>
<td>byô</td>
<td>dlá-mà</td>
</tr>
<tr>
<td>eat</td>
<td>tsà</td>
<td>cã</td>
<td>dzã</td>
<td>dzô</td>
<td>dzô</td>
<td>dzá</td>
</tr>
<tr>
<td>thin</td>
<td>pà</td>
<td>pã</td>
<td>bã</td>
<td>bô</td>
<td>—</td>
<td>bá</td>
</tr>
<tr>
<td>flesh, meat</td>
<td>àśà</td>
<td>3-śã</td>
<td>hwà</td>
<td>hó-hù</td>
<td>hó</td>
<td>rá</td>
</tr>
<tr>
<td>insect; silk</td>
<td>ṭù</td>
<td>ṭù-ṭù</td>
<td>bù</td>
<td>bô-hù</td>
<td>bô</td>
<td>(bù)</td>
</tr>
<tr>
<td>price</td>
<td>àphùi</td>
<td>phù</td>
<td>phù</td>
<td>phò-phù</td>
<td>phò</td>
<td>(phù)</td>
</tr>
<tr>
<td>sky</td>
<td>mú(gh)</td>
<td>mú</td>
<td>mú-mù</td>
<td>mú</td>
<td>amù</td>
<td>mú</td>
</tr>
<tr>
<td>steal</td>
<td>khùa</td>
<td>qhò</td>
<td>khù</td>
<td>khò</td>
<td>—</td>
<td>khò</td>
</tr>
<tr>
<td>urine</td>
<td>sè</td>
<td>jì</td>
<td>rzì</td>
<td>zò</td>
<td>—</td>
<td>zò</td>
</tr>
</tbody>
</table>

The above tables yield the equations: B × = Lahu ɔ~ɔ = Lisu, Ahi, Lolopho, Nyi ɔ; and B × = Lahu ɔ = Lisu ɔ = Ahi, Lolopho, Nyi ɔ. Note that the Lolo languages tend to have falling tones for Burmese low-level tone, and rising tones for Burmese high-falling tone; also that Lahu has high-level, Lisu low-level, for Burmese high-falling. The original Burmese-Lolo values for these tones cannot be reconstructed. The fact that the distinction itself is of some antiquity is the important point here. The general picture is further complicated by the presence of an additional tonal series in Lolo, in which level tones (high or low in Ahi and Lolopho) play a predominant role. Burmese more often has low-level than high-falling in roots of this type, but the distinction is not clear-cut. Cf. the following (divided into two groups, Ahi having ɔ in the first group, ɔ in the second group):

<table>
<thead>
<tr>
<th></th>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>earth</td>
<td>mre</td>
<td>mi-gã</td>
<td>mi-nœ</td>
<td>mi</td>
<td>mi</td>
<td>mi</td>
</tr>
<tr>
<td>short, low</td>
<td>nìm</td>
<td>nè</td>
<td>nyê</td>
<td>nê-nò</td>
<td>(nyï)</td>
<td>nyì</td>
</tr>
<tr>
<td>hair (body), feather</td>
<td>àmøwè</td>
<td>ñ-mu</td>
<td>mü</td>
<td>nò</td>
<td>—</td>
<td>nù</td>
</tr>
<tr>
<td>hear, listen</td>
<td>na</td>
<td>na</td>
<td>na-nà?</td>
<td>nò</td>
<td>—</td>
<td>na</td>
</tr>
<tr>
<td>nose</td>
<td>hìna</td>
<td>nà-ghò</td>
<td>na-bè</td>
<td>nò-bo?</td>
<td>—</td>
<td>na-bì</td>
</tr>
<tr>
<td>know</td>
<td>st</td>
<td>šì</td>
<td>syùê</td>
<td>sà</td>
<td>sè</td>
<td>sà-sà</td>
</tr>
<tr>
<td>sweat</td>
<td>khrøwè</td>
<td>kì</td>
<td>tšì</td>
<td>tšhà</td>
<td>—</td>
<td>kìè</td>
</tr>
<tr>
<td>left (hand)</td>
<td>{lak-waì</td>
<td>më</td>
<td>lè?-yù</td>
<td>vã</td>
<td>vè</td>
<td>avé</td>
</tr>
</tbody>
</table>

262 Lahu tone /ⁿ/ is the regular correspondence for the old B-L Tone 2 (high-falling in Burmese), but glottalized and sibilant-initial syllables on this tone have Lahu tone /ⁿ/ (very low), as in 'flesh' (JAM).
<table>
<thead>
<tr>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>much, many</td>
<td>myà</td>
<td>mā</td>
<td>myê</td>
<td>nō</td>
<td>myô</td>
</tr>
<tr>
<td>iron</td>
<td>sam</td>
<td>šo</td>
<td>(hò)</td>
<td>hō</td>
<td>hō</td>
</tr>
<tr>
<td>boat</td>
<td>hle</td>
<td>hò-łòʔ-ʔò̯</td>
<td>lî</td>
<td>lî</td>
<td>lî</td>
</tr>
<tr>
<td>tiger</td>
<td>kyà</td>
<td>lá</td>
<td>lâ-ма</td>
<td>lô</td>
<td>lô</td>
</tr>
<tr>
<td>red²⁶⁵</td>
<td>ni</td>
<td>ni~ni</td>
<td>ni</td>
<td>nyí~ni</td>
<td>nyí</td>
</tr>
<tr>
<td>ear</td>
<td>nà</td>
<td>nā-po</td>
<td>nā-po</td>
<td>nō~pā</td>
<td>nō~pā</td>
</tr>
</tbody>
</table>

Two general types of explanation theoretically are available as regards the Burmese-Lolo tonal system: (a) the Burmese-Lolo system is an inherited TB feature; (b) it has been developed secondarily as the result of variation between surd and sonant initials (as in Tibetan), or through the loss of prefixed or suffixed elements, or through a combination of these factors. The fact that the Tibetan tonal system is unquestionably secondary constitutes a powerful argument against the first type of explanation. The Burmese-Lolo tonal system, however, seems to be quite independent of factors such as voicing of initial or affixed elements; at any rate, the writer has been unable to discover any relationship here. Tonal alternation between transitive and intransitive verb forms in Burmese is found in nam ‘to stink’, ànām ‘unpleasant odor’, nām ‘to smell (tr.)’; contrast tshvoai ‘attach to, connect with (tr.)’, tsval ‘stick fast in, adhere (intr.)’, and phra ‘divide into several parts (tr.)’, prā ‘to be divided (intr.)’. Wolfenden²⁶⁶ attempted to explain the high-falling tone of Burmese in terms of lost final consonants, but his analysis is altogether faulty. No general theory of TB tones can be attempted until the materials for a comprehensive comparative study of tones throughout the TB area are made available.²⁶⁷

²⁶³ Telford has hòn ‘boat’, an odd shift paralleled by B lè, Lahu hòn ‘heavy’; B lè, Lahu ḕ ‘4’; B lè, Lahu hò-mà ‘bow’; B le, Lahu hò ‘wind’ (all forms from Telford).

²⁶⁴ Telford’s dialect of Lahu has more nasalization than Matisoff’s, particularly after /ʒ/: ḕ ‘four’, ē̂ ‘bend’, hòn ‘elephant’, hòn ‘under’, etc. The nasalization is purely allophonic, of a type to be found throughout Southeast Asia (including Siamese and Lao), even in British English, in syllables beginning with h- or ð- (see Matisoff, *Lahu and PLB*; ‘GD’).

²⁶⁵ A root of restricted distribution can now be set up on the basis of Gyarung (Wolfenden) swurm < *-rmi, Ch’iang (K. Chang) nhì ‘red’; this root perhaps is the basis for a more widely distributed root, viz. *r-nil ~ *r-nil(y) ‘gums’ (= its redness); TB *(r)-mi ‘red’.

²⁶⁶ ‘On the Ok Myit and She Pok, with a Proposed Revision of the Terminology of Burmese “Tones”’, *JBR* 19 (1929), 57–66.

²⁶⁷ See n. 494 for an over-view of tones throughout ST.
§13. Tibeto-Burman morphology (history)

Tibeto-Burman, as reconstructed, can be described in general terms as a relatively isolating language with roots of simple monosyllabic type, normally prefixing but occasionally suffixing. TB morphology has attracted the attention of a number of scholars, including Schiefner, Conrady, Von Koerber, Bonnerjea, Simon, and Wolfenden, yet much analytical work remains to be done. Generally speaking, these students have attempted either to explain Tibetan in terms of itself, or to interpret all other TB languages in terms of Tibetan. This Tibetocentric bias is especially marked in the work of Conrady, and is clearly revealed even in the much more substantial analysis of Wolfenden. The lack of a sound phonological foundation further tends to vitiate many of the conclusions set forth in these pioneering efforts. In the present work we shall content ourselves with a review of the more salient features of TB morphology, in terms of the phonological framework already established.

§14. Tibeto-Burman morphology (categories)

At least four general categories of words (roots) can be set up for Tibeto-Burman, viz. verbs, nouns, pronouns, numerals. The derivation of nouns from verbs, through prefixation or suffixation, is a characteristic process of TB morphology, whereas the reverse type of derivation is exceedingly rare. The ‘verb-adjective’ and ‘noun’ categories are formally differentiated only to a minimal degree, as is shown below. Pronouns and numerals are formally of noun-type rather than verb-type as regards affixation patterns as well as syntactical relationships.

§15. Tibeto-Burman pronouns

The 1st person and 2nd person independent personal pronouns are *ya ‘I’ and *nay ‘thou’:

(406) T ya, Kiranti an (Rai, Rungchengbun) ~ an-ha (Waling) ~ ka-ya (Rodong) ~ sna (Limbu), Nung ya, B ya, G an ‘I’, with which must be grouped *nay ‘I; self’, and perhaps Dhimal ka, L (and general Kuki) ka ‘I’.


Subordination is effected simply through anteposition or prefixation to the noun, often in abbreviated form, e.g. K nay ~ na ‘thou’, nwa (n-wa) ‘thy father’. Pronominal inflection, clearly of secondary origin, is encountered in the Himalayish group and occasionally elsewhere; cf. B ya ‘I’, yâ ‘mine’; nay ‘thou’, nay ‘thine’ (see above); Dhimal ka ‘I’, na ‘thou’; kaj ‘my’, nay ‘thy’, kyel ‘we’, nyel ‘you’; kij ‘our’, nij ‘your’. Various types of refinements, none of which can be regarded as inherited TB features, appear in random distribution. These include the distinction between exclusive and inclusive forms of the 1st person pronoun (notably in Himalayish, also in Tibetan and Mikir), the dual (Kanauri, Tibetan, Kachin), and distinctions in sex of speaker (notably in Burmese). The concept of plurality is generally expressed through suffixation (as for nouns). No general TB 3rd person independent pronoun can be established.

§16. Tibeto-Burman numerals

The TB numeral system is of decimal type, yet it seems to have included a vigesimal unit (see n. 23) along with the distinctive root *(m-)kul ‘20’ (No. 397). As noted above, TB *s-nis points to the use of a quinary basis (5 + 2 = 7), and it

269 The evidence for Tibetan is presented in A. H. Francke, ‘Das tibetische Pronominalsystem’, ZDMG 61 (1907), 439–40. Francke argues that T ned originally stood for ‘we two’.

270 Kiranti and K-N have TB *a in suffixed form as a 3rd person pronoun, while in Trung (Nungish) this same element occurs independently, but in nasalized form: an.
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is noteworthy that this root has been replaced in several TB groups (T bdun, L sori). No general TB root for '1' can be singled out, although several comparisons are available:

Lepcha kat, Kuki-Naga *khat '1'; TB *kat.
Kanauri id, B ats '1' (also 'unit' in Burmese); TB *it.
Himalayish: Chingtang thit(-ta), Rai tik(-pu), Nung thi, B tats '1'; cf. also T gtšig; TB *t(y)ik.271

The root *gip '30' (No. 16) is poorly represented, and extreme variation obtains here (T btšu, L šom), yet a Kachin–Konyak–Bodo–Naga root can be established:

(408) K tši ~ ši, Namsang i-tši, Moshang rok-ši, G tši, Dimasa dži '10', also Miju ši (in comp.), from TB *ts(y)i(y); B ātšai '10' appears to be related to this root through vowel gradation.272

The root *s-toŋ '1,000' (No. 32) appears only in Tibetan and Burmese-Lolo,273 but *r-gya '100' (No. 164) is well represented, as are *g-nis '2' (No. 4), *g-sum '3' (No. 409), *l-lyi '4' (No. 410), *l-ŋa ~ *b-ŋa '5' (No. 78), *d-ruk '6' (No. 411), *b-ryat '8' (No. 163) and *d-kuw '9' (No. 13). Note that all these widely distributed numerals are provided with prefixes. Prefixed *g- in *g-nis and *g-sum is reflected in T gnyis and gsun, G gni and githam, as well as Digaro kawiq and kosaq, but replacement or loss of this element is common everywhere; cf. K ni '2', masum < *b-sum '3' (influenced by mali < *b-li '4'); Nung ani '2', atsum '3'; B hnats '2', sūm '3'; L hni? '2', thum '3'. Prefixed *b- in *b-lyi '4' is well established; cf. T bži < *bli (this cluster lacking before i in Tibetan), Thulung bli, Kanauri pō < *pli (see n. 126), Magari buli, Digaro koprēi, Miri pi, Nung sbyi (dial. ǫbli), K mali < b-li, B lē (Maru byit < *b-liy), Mikir phli. T lña, Old Kuki *r-ŋa (e.g. Rangkhol riŋa) attest to TB *l-ŋa '5', but prefixed *b-, apparently through the influence exerted by *b-lyi '4', is much more generally represented (Thami bọŋa, Digaro mọŋa, K mọŋa < b-ŋa, Nung pọŋa, B yā, G bọŋa, L ọŋa). Prefixed *d- is well attested in *d-ruk '6' (T drug, Kanauri ṭuŋ, Lepcha tārāk, Digaro thara, G dok, Mikir therok) and *d-kuw '9' (T dgu, Nung tọŋ, K džokhu,

271 We can now reconstruct TB *tyik (to explain T gtšig), and can further set up a doublet in ST showing the medial ya ~ i alternation (n. 251), viz. *tyak ~ *tyik, the former represented by Ch. *tiʔak/tṣiʔak 'single, one' (Ar. Ch. form not cited in GSR).

272 In view of the recognition of a separate palatal series for TB (n. 122), it is now possible to reconstruct this root as *tsay, yielding both B ātšai and the various palatalized forms with final -i.

273 Trung (Nungish) has ti tun ḡai '1,000', ti tun gra '10,000' (ti '1'), appearing to contain the */toŋ element, but analysis is uncertain (Trung has ti šya '100', šyat '8').

a 隻
G sku, Kuki-Naga *d-kua), but note replacement of *d- by k- before root-initial *r- in Magari kruk, Nung tør (dialect. kru), K kru, B khrauk '6'. The initials of *b-r-gyat ‘8’ and *r-gya ‘100’ tend to be absorbed in the prefixed elements; cf. K matsu<r-gyat ‘8’ (with loss of r) and latsa<*r-gya ‘100’; B hrats<(prefix+) ryt ‘8’ and āra (rya in inscriptions) ‘100’; L riya ‘8’ and za<*ya ‘100’. The general Kuki-Naga root *d-ryat ‘8’ (Khami tya, Lakher tšri, Empeo dosat, Sema Naga tšše, Ao Naga teset, also Meithei tšet ‘7’) shows replacement of *b- under the influence of *d-kua (TB *d-kuw) ‘9’. Tibetan, on the other hand, has developed brgya ‘100’ from *r-gya through hybridization with brgyad ‘8’, the general TB evidence (notably that of Kachin) unmistakably pointing to a distinction in the prefixes of these two roots.<sup>274</sup>

§17. Tibeto-Burman morphology and syntax (general)

The relationships that obtain among the several units of the TB sentence are indicated (a) through the relative positions of the units, and (b) through the employment of special relating morphemes, normally prefixes or suffixes. The syntactical factor tends to be the dominant one, however, hence one can describe Tibeto-Burman as ‘relatively isolating’. Throughout the TB area the invariable syntactical rule is that the verb must be placed at the end of the sentence, followed only by suffixed elements or sentence-final particles. The object normally immediately precedes the verb and follows the subject, though no invariable rule can be stated here (in Burmese the object is somewhat emphasized when placed before the subject). The concepts of ‘subject’, ‘object’, ‘indirect object’, ‘instrumentality’, and the like are reinforced or expressed in modern TB languages by morphemes suffixed to nouns. The subject is often found standing alone, or construed as an instrumental, as in T ya-s kho-la rdun ‘by-me to-him beat’ = ‘I beat him’, ya-s de sēs (or ya-la in modern dialects) ‘by-me that know’ = ‘I know that’. Subordinated elements regularly precede rather than follow, although modifying elements are often suffixed; cf. Modern B tyidê khwê ‘big dog...’ or ‘dog (that is) big...’ (-dê with ‘creaky tone’, a morpheme of subordination), khwê tyidê ‘dog is-big’, khwêdyi ‘big-dog’ (t > d in intervocalic position). It is a striking fact, however, that relating morphemes of the type in question seem to be of relatively recent origin in the several TB groups, strongly indicating that in the

274 See n. 148 for the present analysis of these two numerals.
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parent language these elements were largely lacking. Only one correspondence of any significance has been uncovered here:

T -kyi ~ gyi ~ yi ~ i, B -i, Meithei and Anal -ki, Dhimal -ko (Toto -k), Sho -kheo, a genitival (subordinating) suffix.275

§18. Tibeto-Burman affixes (special)

The study of TB morphology is in large measure simply the study of those prefixed and suffixed elements which can be shown to be of some antiquity. Certain of these prefixes (*g-, *b-, *l-, *d-)276 have already been pointed out in connection with the numerals. In many instances, as here, no function can be assigned these elements, i.e. loss of morphological utility had already occurred in proto-TB times. A few suffixed elements can be readily analyzed. They include the 'gender' suffixes *-ma (fem.) < *ma 'mother', and *-pa (masc.) < *pa 'father', as well as *-la (masc.), used with words for animals (in Tsangla, Digaro, Nung, Kachin, Burmese-Lolo, Konyak, Garo-Bodo, Mikir, and Meithei);277 also the verbal noun (infinitive) suffix -pa ~ ba 'that which is' (in Tibetan, Bahing, Meithei, Garo-Bodo, Burmese-Lolo); cf. T khyi smyon-pa 'mad dog', lit. 'a dog, one which (-pa) is mad' (see Wolfenden, Outlines, p. 75); Lahu qai-pa mā-cā 'there is no one to go', lit. 'one-to-go there-is-not'. This suffix is probably connected with the masculine noun suffix -pa mentioned above; note that Meithemi sometimes distinguishes between -ba (masc.) and -bi (< Kuki-Naga *pwi) (fem.) in adjectival forms, paralleling the distinction occasionally made in Tibetan, e.g. dma-mo 'low' but mthon-po 'high', rgad-po 'old man', rgad-mo 'old woman' (rgad-pa ~ rgan-pa 'old').

275 Simon (BSOS 10, pt 4, 1942), on the basis of the Tibetan and Burmese evidence alone, reconstructs this suffix as 'yi (a cluster distinctly alien to the TB system as a whole). The Meithemi-Anal form, however, indicates that the velar element is archaic (TB *-ki or *-gi); cf. also n. 322.

276 The combination of prefixes b-r- in *b-r-gyat '8' is unique, and prefixed *l- can be reconstructed only for l-pa '5', although Tibetan has this prefix in a number of roots; cf. T lba-ba 'wen, goitre', Digaro tsba, Moso ba ~ mba 'goitre'; T lte-ba 'navel', K șadai, G ste (TB *s-tay).

277 Tibetan applies suffixes of this type (-pa ~ ba ~ bo, and -ma ~ mo) to inanimates as well as animates, e.g. khu-ba 'liquid', dri-ma 'fifth'. This usage is even commoner in the early texts, e.g. gěu-mo for gěu 'bow', mda-mo for mda 'arrow'. These suffixed forms are not otherwise differentiated, however, hence one cannot properly speak of grammatical gender here.

96
The negative elements *ma and *ta precede the verb in Tibeto-Burman (*ma is often prefixed, as in Burmese). The simple negative is *ma, with an almost universal TB distribution; Kachin has prefixed n-, an unstressed variant of ma-(cf. n. 327), while Kuki-Naga has suffixed -mak. The imperative negative is *ta, which is almost equally well represented; it appears in Murmi, Himalayish (generally), Vayu, Kiranti (Rodong, Chintang), Burmese-Lolo (Lahu, Lisu, Ahi, Nyi, Manyak), and Bodo-Garo (generally).

§19. Tibeto-Burman affixes (general)

The prefixes and suffixes (apart from those used with numerals) of the reconstructed TB speech are listed below. In modern TB languages the prefixes normally have reduced stress and the neutral a type of vocalization. Thus, the form written *g- is to be interpreted as *ga (with a as a separate phoneme) or as ḡa (with ą an allophone of the phoneme /a/ in syllables with reduced stress). The vowel of the prefix is affected by vocalic harmony in several groups, notably Bodo-Garo and Mikir; cf. Dimasa gabay ‘much’, goson ‘steep’, gusum ‘blue’, geper ‘flat’, gimin ‘ripe’.

Suffixed *-s: original function uncertain; often reflexive in verb roots.

Suffixed *-t and *-n: original function uncertain; sometimes used in deriving nouns from verb roots; also causative or directive.

Prefixed *s-: causative, directive, or intensive with verb roots; often stands for TB *syu ‘flesh; animal’ in noun roots.

Prefix *r-: both in verb and noun roots; function unknown.

Prefix *b-: perhaps pronominal in some roots, but function generally unknown.

Prefix *g-: rare; function unknown.

Prefix *d-: rare; function unknown.

Prefix *m-: pronominal in noun roots; intransitive in verb roots.

§20. Tibeto-Burman dental suffixes

The dental suffixes *-s, *-t, and *-n are particularly troublesome. All three suffixes appear only in roots with vocalic or semivocalic ending, in accordance with the general TB phonemic rule that consonant clusters occur only in root-initial position. In Tibetan, however, suffixed -s appears also after final -g, -b and -y, -m, but not after dentals, hence -s is in many cases to be referred to *-ds or *-ns. Wolfenden, who has paid special attention to these suffixes, makes this type of reconstruction for many Tibetan roots, even where there is ample TB evidence for a vocalic ending, e.g. T *zam rather than *za ‘eat’ (in the face of TB *da). As already shown above (n. 62), the West T data confirm the derivation of -s from *-ds in pus-mo < *puds ‘knee’ < TB *pd; cf. also the following root:


The above root is a derivative of the following:


Suffixed -si~so used to form a type of ‘middle voice’ is found in several languages; cf. Kanauri krapsi~skrapsi ‘cry together’, tonsi ‘strike oneself or one another’, sarri ‘rise’ (sar ‘raise’), zaari ‘be eaten’, diisi ‘enter, lie down’, boisi ‘forget’; Nung itsi ‘laugh’, yimsi ‘stoop’, narri ‘stop (to rest)’, khupsi ‘awake’, magushi ‘embrace, hug’; Bahnung riso ‘laugh’, khlóso ‘hide’, tsioso ‘bathe’, phiso ‘dress oneself’, gyerso ‘be glad’, biso ‘believe’, yóysa ‘be melted’; Vayu lita~lista ‘heavy’, liś(-ti) ‘be heavy’, sítso ‘kill’, siś(-ti) ‘kill oneself or for oneself’ (< TB *siy ‘die’). Tibetan -s is regularly employed with verbs in the ‘perfect root’, but

279 In early Tibetan texts -d is found after -n, -r, and -l. This element, the da *drag of Tibetan scholars, has been convincingly explained on phonological grounds by J. Przybulska and M. Lalou in their article, ‘Le da *drag tibétain’, BSOS 7 (1933), 87-9. Both Wolfenden (Outlines, pp. 56 ff.) and Laufer, ‘Bird Divination among the Tibetans’, TP 15 (1914), 1-110, have unsuccessfully attempted to connect da *drag with regular suffixed -d.


281 Suffixed -s~z is also found in other Himalayish languages, e.g. Bunam briz~briz ‘write’ (T 'bri-ba), haoay ‘come out’<TB *hway; Manchati branx ‘sit’, Tinan bragz ‘put together’, sans ‘think’ (T sem-pa, pf. sems~bsams), voas
Tibeto-Burman dental suffixes

appears also in many ‘present’ roots, occasionally with extra-Tibetan correspondences, e.g. T šes-pa, Vayu ses(-tše) ‘know, understand’ < TB *syey (above); cf. also the following:


(415) T thos-pa, Vayu thas(-tše), Tsangla tha, Lepcha thyo < *s-ta, Nung tha, Miri tat ‘hear’ (TB *ta-s).\(^{283}\)

Kachin suffixed -t in verb roots is in most cases to be referred to TB *-t, but perhaps stands for suffixed *-s in intransitive forms such as khrat ‘fall’ < TB *kla (above); cf. Kachin -t < *s in Nos. 5 and 6, also the following root:


Similarly, Lepcha suffixed -t, as in zot ‘to graze’ < zo ‘eat’ (T za-ba), can be assigned either to TB *-t or *-s.

TB suffixed *-t and *-n are best represented in Tibetan, Lepcha and Kachin, and most meagerly represented in Burmese-Lolo.\(^{284}\) The original function of these suffixes (or variants of a single suffix) cannot be delimited from the available material. Both are ordinarily employed with verbal roots, but a few exceptional forms in *-n from nominal roots have been noted;\(^{284}\) cf. K yu~yun ‘rat’ < TB ‘come out’, as well as in Magari, e.g. khus ‘steal’ (T rku-ba), yos ‘look, search’, khus ‘take up’, connected with Bahing ku-wo ‘ascend’, ku-to ‘bring up’ (the transitive form), Yakha khu ‘lift up, raise’, B khu ‘take out or up and put into a dish, pluck, gather’. Kanauri also has -s~ss as an adjectival suffix, e.g. tis ‘rotten’, tshös ‘fat’ < TB *tsow, kyös ‘drunk’, liss ‘cold’, thiss ‘wet’ < TB *ti(y).

\(^{282}\) Trung (Nungish) has thay ‘hear’, with secondary final -g (cf. n. 74); Newari has ta-l, with suffixed -l (see n. 294). This root has now been reconstructed *tā-s on the basis of T thos-pa (see n. 488).

\(^{283}\) Cf. B thi ‘fear, stand in awe of’, thit ‘startle, be frightened’. Final *-n~t alternation is found in Burmese and elsewhere; cf. B pwān ‘to be rubbed off’, pwat ‘rub, grind; lathe’; hmin ‘to have the eyes shut’, hmit ‘shut (the eye), wink’; pān ‘go round’, pat ‘wind around, encircle’ (note the intransitive vs. transitive distinction here); Nung ph(y)it~ph(y)in ‘to loose, untie’; T ‘phyen ‘flesh, K phyet ‘flatulence’; K not ‘cut, slice, shave’ (cf. T rmo-ba~rom-pa ‘plough’).

\(^{284}\) TB final *-n here can be identified as a special kind of ‘collective’ pluralizing suffix (possibly with dual force in K-phan ‘palm, sole’), directly comparable with a similar suffix in Ch. (n. 428). K šan ‘flesh, meat, deer’ (text) has a direct cognate (the vocalism is regular) in Ch. šěn ‘body’ (AT has the identical semantic interchange; cf. IN *dagiś ‘body, flesh’). Kachin also has (tšë-)khan ‘crab’ < TB *d-kay. Burmese has this suffix in yun ‘rabbits’ (like rats, these come in large numbers) < TB *b-yuv ‘rat’ (K yu~yun ‘rat’, T byiu ‘alpine hare’, L sa-zu-pui ‘hare’ = ‘big rat’); cf. also B pān ‘goose’ < *pa (as shown by Ch. evidence; n. 428), whence T yø (pa, ma) ‘goose (wild)’, from *ño/ña; also B kyi-kān ‘crow’ < TB

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*b-yuw, K šan ‘flesh, meat, deer’ < TB *sya, also the following pair of roots:
(417) Chepang ya, Nung ya, Miri yo < *ya, Mikir dzø < *ya, but L za-n < *ya-n, Thado yan ‘night’ (TB *ya).  


Suffixed *-t is clearly causative or directive in some instances, e.g. T ’hyed-pa ‘open, separate’ (tr.) < ’bye-ba (intr.), T ’gyed-pa ‘divide, disperse’ (tr.) < ’gye-ba (intr.), nud-pa (also snun-pa) ‘suckle’ < nu-ba ‘suck’, apparently related to the following root:


*ka: T kha-tha ‘crow, raven’, K kha, Nungish: Rāwang thay-kha, Trung tak-ka ‘crow’. An additional important class of *-n (and *-t) suffixed for nominal roots is furnished by kinship terms, especially in Tibetan, which has a curious and complicated group of derivatives (typically with prefixed s-) from basic kinship roots (Benedict, 1941, 1942 bis), e.g. pha ‘father’, pha-spad ‘father and children’; phu ‘older brother’ (< TB ‘grandfather’), spun ‘siblings, cousins’; (combining both roots) span-spun ‘brothers, relatives’; ḍa-khu ~ khu-bo ‘uncle (father’s brother)’ (< TB ‘mother’s brother’), skud-po ‘brother-in-law, father-in-law’ (Chinese has an -n derivative here; n. 428); tsha ‘nephew/niece; grandchild’ (< TB ‘child’), pha-tshan ‘cousins on the father’s side’, khu-tshan ‘uncle and nephew’, but this element also appears in the form -tshan ‘termination of some collective nouns’, e.g. bāi-tshan ‘collection of four (bāi) things’, also gnyen-tshan ‘kindred, relations (gnyen)’ (this directly cognate with similar form in Chinese; n. 428). This system is reflected elsewhere only sporadically, cf. B khan-pwān ‘spouse’ (B-L *khan ‘grandfather’, *bua ‘grandmother’); Kanauri mann ‘mother’ < TB *ma (cf. T ma-smad ‘mother and children’); Lepcha ḍ- ḍyāt < *sput ‘father-in-law, wife’s older brother’ < TB *pwā ‘grandfather’ (cf. T skud-po, cited above), (d-)zon < *-san ‘grandchild’ but (d-)zo ‘great-grandfather’ (reciprocal terms), from TB *za ‘child’; Dhimal tšan ‘son’, from TB *tsha ‘child’. There is excellent evidence for similar suffixed -t as well as -n derivatives in Chinese (n. 428), hence this group of nominal suffixes must be assigned to ST itself.

285 T ’iddim za-n ‘night’, as in Lushei, but Siyin (Stern, Asia Major 10, 1963) has za-n ‘to be evening’, hence this apparently exceptional form in K-N belongs with the trio of roots cited below (pp. 102–3). Nungish has dzia (Rāwang) and ya? (Mutwang) ‘night’; for the latter, cf. B niá ‘night’, from *n(e)-ya (ne ‘sun’, né ‘day’), which also belongs in this set. The appearance of ‘creaky voice’ here and in ‘day’ (né) and ‘moon, month’ (lā) hardly seems to be a matter of chance; see n. 487 for the glottalization of this root and for parallel features in the Chinese cognates.

286 L kut-pha? ‘palm’, ke-pha? ‘sole’ perhaps also belong here, but the glottal stop suggests a connection with Mikir ri-pak ~ ri-pek ‘palm’, key-pak ‘sole’.

287 This root now reconstructed *pwa (n. 78), but *b-wa is an alternative (and perhaps better) possibility.
Kachin also has causative suffixed -t, e.g. K *modit ‘moisten, wet, dip’ < *modi ‘moist, wet’; K *monit ‘laugh at’ < moni ‘laugh’. The Bahing-Vayu -t(o) suffix is exclusively of this type; cf. Bahing ri-so ‘laugh’, ri-to ‘laugh at’; Vayu khu ‘steal’, khut ‘cause to steal’; Vayu mus(-tse) ‘sit’, mus-to ‘seat’ (also mut ‘cause to seat’). In many instances, however, no function of precisely this sort can be traced; cf. T *'khru-ba~'khru-pa, K khrut ‘wash, bathe’ < TB *kruw; T gtsi-ba~gtsid-pa, K dšiš dši~dšit tši ‘urinate’ < TB *ts(y)i; T stad-pa ‘put on’ < TB *ta ‘place’; T rnyed-pa ‘get, obtain’ < TB *ney; K *mosit ‘to comb’ < TB *m-si(y); cf. also the following:

(420) T rko-ba~rkod-pa ‘dig out, engrave’, K got ‘to be scooped out’, logot ~ lokhot (also logot) ‘scoop up’ (TB *rk-o-t).


(423) T sud-pa, Magari su ‘to cough’, from TB *su(w).288


The Bodo-Garo evidence is complicated by the presence of a suffixed element *-wat (‘give, send’) > G-at, as in the following:

(425) G mat ‘to be spent’, gima-at ~ gimat ‘destroy, waste, obliterate’, gima-ani ‘loss, damage’, Dimasa gama ~ kama ‘lose, disappear, perish’ khama ‘injure, spoil, destroy’, K ma ‘to be exhausted, finished, spent’, mat ‘to be lost, to have disappeared’, Gurung hma, Murmi ma ‘to be lost’, Magari hma ~ hmat ‘to be lost; lose’ (TB *ma-t).

Alternation between final vowel and -t appears in a few badly recorded verb forms in Lushei (na ~ nat ‘ill’, ba ~ bat ‘owe’, pu ~ put ‘carry’), but the true Kuki-Naga equivalent of TB *-t in verb roots seems to be -k (alternating with glottal stop).288 Haka (Central Kuki) is unique among TB languages in deriving verbs from 288 Garo and Dimasa gusu ‘to cough’ also appear to belong to this root of very limited distribution.

nouns through suffixation of *-t (>Haka -θ), as in sfa ‘child’ (<TB *za), fa-θ ‘to breed’; sby ‘nest’ (L bu, Sho s bü, Khami t bū, Aimol r bū), bu-θ ‘build a nest’; r ol ‘food’, rθ ‘grow food’, swar ‘husband’, va-θ ‘marry a husband’.

T suffixed -d < *-t often appears in substantives derived from verbs, e.g. yud-mo ‘a sob’ < yu-mo ‘weep’, l ud-pa ‘phlegm’ < lu-ba ‘cough, throw up phlegm’, drod ‘heat’ < dro-ba ‘to be warm’, sometimes paralleling forms in -s, as in blud-pa ~ blus-ma ‘ransom’ < blu-ba ‘to ransom’, llad-mo ‘sight, spectacle’ ~ llas ‘miraculous sign, omen’ < lta-ba ‘to look’. As suggested above, many or all -s forms of this type may be derivatives of *-ds forms:


TB *-t also appears in this role in other languages, e.g. Kanauri brad ‘branch’ < bra ‘forked’ (cf. No. 327); K lit ‘load’ < li ‘heavy’; K wan-khut ‘smoke’ (wan-khut kh u ‘to smoke’), Tangkhul khut ‘smoke’, TB *kuw; TB *(m-)-kri-t ‘bile’ < *kri(y) ‘sour’.

Tibetan suffixed -n is often adjectival, as in dron-mo ‘warm’ < dro-ba ‘to be warm’, but is commonly found also in secondary noun forms, e.g. rdson ‘falsehood’ < rdzu-ba ‘deceive’, zan ‘food’ (also zas) < za-ba ‘to eat’, gtśin ‘urine’ < gtśi-ba ‘urinate’. Lepcha shows a similar pattern with suffixed -n and -m, the latter perhaps connected with the verbal-noun suffix -m ~ -am ~ -im of Kanauri; cf. Lepcha ăsom ‘food’ < so ‘eat’, ăhrum ‘hot’ ~ ăhrun ‘heat’ < hru ‘to be hot’, ăyan ‘knowledge’ < ya ‘know’, șim ‘being’ < și ‘to be’, ăbun ‘vehicle’ < bu ‘carry’ (note the use of prefixed ă-). Tibetan has suffixed -n by exception in the regular verb form in the following root:

(427) T sbyin-pa ‘give’, also ‘gift’, Kiranti *bi (Dumi bi ~ bi-ya, Khaling and Rai bi-ya, Khambu pi-), Miri bi, Dhimal pī, B pē, Nyi Lolo ve-bi, Mikir pī ‘give’ (TB *biy). 292

Kanauri has -n as a transitive verb suffix in a few forms, e.g. go-śi ‘commit adultery with’, gon (tr.); hu-śi ‘learn’, hun ‘teach’; cf. also khun ‘steal’, T rku-ba ‘steal’, rkun-ma ‘thief; thief’ (noun in -n), K logu ‘steal’, lagut ‘thief’ (noun in -t), from TB *r-kw (above). Lushei has suffixed -n in the following trio of roots (note also T -s, K -t): 293

290 T suffixed -s perhaps stands for sa ‘place’ in some forms, as suggested by Simon, HYAS 5, 1941; cf. nags ‘forest’ and nag-pa ‘black’, dbus ‘middle’ and dbu ‘head’.

291 L tsha’i ‘thick’ belongs with this set, which has now been reconstructed *r-tas (n. 63), hence the analysis here in terms of suffixation must be considered faulty.

292 Trung (Nungish) has biy ‘give’, with secondary final -γ (n. 74).

293 Add K-N *yan ‘night; to be evening’ (n. 285); also L pan ‘thin’, Tiddim pa~pa ‘to be thin’, pan (same tone) ‘to be very thin’, from TB *ba (No. 25).
(428) K bu ‘wear (as a shirt or trousers)’, Thado bu ‘wear’, Lakher obu ‘wear (as a cloth)’, L bun ‘put on or wear (as ring, boots), encircle’, from TB *bu(w).

(429) T 'bri-ba ‘draw, write’, bris ‘picture (drawn or painted)’, ris ‘figure, form, design’, ri-mo ‘figure, painting, drawing; markings’, K marit ‘to mark, line, rule’, dumrit ‘mark with an edge-tool, as around a log’, rit ‘fix, as a boundary’, ərit ‘dividing line between two paddy fields’, ðərit ‘boundary, border’, Nung rage derit ‘boundary’ (rage ‘country’), B rè ‘write, paint, delineate’, G a-ri, Dimasa ha-ri ‘boundary’ (a-~ha- ‘earth’), L ri ‘boundary’, ri-n ‘draw a line, scratch; line, scratch’ (TB *riy).


§21. Tibet-Burman prefixes (general)

Two general points must be borne in mind as the prefixed elements (s-, r-, b-, g-, d-, m-) are reviewed: (a) these elements are peculiarly subject to replacement or loss, (b) they frequently, as unstressed units, exhibit phonetic shifts differing from those that obtain for phonemes within roots. Thus, Kachin has r- for TB *r- in root-initial position, -n for TB *-r in root-final position, and either b- or n-~niy-~num- for TB prefixed *r-: The general TB root *r-pat ‘leech’, however, is represented by K wot rather than *loeo or *mewot; cf. also T pad-ma (with significant lack of aspiration, suggesting a lost prefix), Nung dɔpat<*d-pat~pɔhat<*m-pat, Miri tɔpat<*d-pat, Digaro kape <*g-pat (cf. B krewat), Mikir iɔphat<*m-pat, Lakher tɔova<*d-wat (the *d- prefix here is of relatively late origin). Prefix variation of this kind has already been pointed out in connection with the numerals, and is characteristic of TB roots as a whole. This fact suggests that TB prefixes remained separable and largely functional well into the proto-TB period, and that the rigid schematicizations found in modern TB languages have been developed secondarily.

294 Newari has a verb conjugation in -n, as well as one in -t and three in -l; see H. Jørgensen, ‘Linguistic remarks on the verb in Newari’, AO 14 (1936), 280–5. These finals appear to be secondary for the most part; cf. sit ‘die’<TB *siy (but syat ‘kill’<TB *g-sat), bil ‘give’<TB *biy, khul ‘steal’<TB *r-kuw, dzal ‘graze’<TB *dɔa ‘eat’, tal ‘hear’<TB *ta.
The development of prefixes in the several TB nuclear groups has been as follows:

Tibetan-Kanauri: Prefixes well preserved in Tibetan, although sometimes treated as root-initials, as in dom < *d-wam ‘bear’. Gyarung likewise has a full set of prefixes, with significant differences from the Tibetan set (Wolfenden, JRAS, 1936). Prefixed *s- is maintained in Himalayish, but other prefixes are ordinarily dropped. Lepcha has numerous prefixed forms, but these are largely of late origin. TB prefixed *s- is reflected in Lepcha palatalized initials; TB *d- is also maintained as *t(d)- (Nos. 51, 411, 461).

Bahiing-Vayu: All TB prefixes regularly lost. Bhramu, an aberrant member of this nucleus, preserves prefixes in a number of roots.

Abor-Miri-Dafla: Prefixes occasionally preserved here, but replacement by ts- < *d- is common. Aspiration or unvoicing of initial by prefixed *s- is found both in Digaro and Dhimal. Digaro tends to preserve prefixes dropped elsewhere in this group.

Kachin: TB prefixes, with the exception of *b-, are well preserved, although sometimes with peculiar phonetic shifts. Replacement by or alternation with pre-formatives (full syllabic forms) is especially characteristic of Kachin. Jili differs significantly from Kachin, notably in the employment of ts- < *d-. Kadu preserves prefixed *s-.

Burmese-Lolo: Prefixed *s- and *r- reflected in aspiration or unvoicing of initials. Other prefixes normally dropped without trace,295 but occasionally preserved before liquids or w-.296 Nung, however, has a full set of prefixes comparable with that found in Kachin, which appears to have exerted some influence morphologically as well as lexically (the Nung are under the cultural and political domination of the Kachin).

Bodo-Garo: TB prefixes in general not so well maintained as in Tibetan or Kachin, partly because of replacement by the more recent pronominal elements *g- and *b-. Prefixes largely dropped in the Konyak group, which approximates to Burmese-Lolo in this respect.

Kuki-Naga: TB prefixes generally well preserved here, with the exception of the Central Kuki languages (excluding Lakher), although many unusual phonetic shifts are observed. Lushei, like Burmese, shows aspirated or unvoiced initials

295 JAM has now shown (n. 123) that TB prefixed *m- was maintained in proto-BL, although only exceptionally in Burmese itself (except before liquids); we must also reconstruct B-L prefixed *b- in ‘four’ (TB *b-lay) because of the Maru form (byit ~ bit).

296 Such is the case with the velar animal prefix, mentioned in STL and discussed in Matisoff, Lahu and PLB (JAM). Cf. also n. 301.
corresponding to TB prefixed *s-. Mikir conforms to the general Kuki-Naga pattern of preserving prefixes, and is of especial value in reconstructing prefixed *b-, *m-, and *r-, while Meithei tends to drop prefixes.

§22. Tibeto-Burman prefixed *s-

TB prefixed *s- in verb roots is directive, causative, or intensive. It plays a prominent role in Tibetan (s-), Gyarung, Kachin (šə- ~ džə-), and Nung (šə-), as well as in Lepcha (in the form of palatalization) and Burmese (in the form of aspiration or surdization of the initial);⁰²⁷ cf. T 'khor-ba ‘turn round’, skor-ba ‘surround’; K dam ‘stray’, šdám ‘lead astray’; thum ‘to be ended’, dšəthum ‘to end’ (džə- for šə- before surd stops); Nung šnem ‘to be low’, šnem ‘make low, lower’; Lepcha thor ‘escape, get free’, thyor ‘let go, set free’ (T thar-ba ‘become free’); rop ‘stick, adhere’, ryop ‘affix, attach’; nak ‘to be straight’, nyak ‘make straight’; B pyauk ‘disappear, be lost’, phyauck ‘cause to be lost, destroy’; hwat ‘to be free’, hlwat ‘free, release’ (cf. the discussion in §8). Maru li ‘come’, ślולי ‘bring’ (‘cause to come’), cited only by Abbey, lends support to our interpretation of the Burmese data, although it must be pointed out that Maru has come under direct Kachin influence.⁰²⁸ Prefixed *s- with verbs appears only sporadically elsewhere, e.g. Kanauri stam < snam ‘give forth smell’, an intransitive rather than transitive form (T snam-pa is tr.); G stu ‘spit’ (sec n. 189).

As pointed out by Wolfenden (Outlines, pp. 46–7), T prefixed s- is also used to indicate ‘general direction into the condition or state named by the verb root itself’, as in skray-ba ‘become swollen, swell’, stor-ba ‘to be or become lost, go astray’, syo-ba ‘become green’ (syə ‘green’), sgay-ba ‘become full’ (‘geps-pa, Pf. bhay ‘fill’). This ‘intensive’ function of prefixed *s- is reflected in TB *s-riŋ ~ *s-ray ‘live, alive, green, raw’, *s-kyur ‘sour’, *s-lum ‘round’, *s-liy ‘heavy’ and the following pair of roots:⁰²⁹

⁰²⁷ There is every reason to believe that the marker of causativization was glottalization at the PLB stage; see GD (JAM).

⁰²⁸ Burmese perhaps retains prefixed *s- before roots with initial w- or hw-; cf. swañ ‘put into’ and way ‘enter, go or come in’ < TB *hwañ; also swà ‘go’, Magari and Chepang hwa ‘walk, move’, Newari wa ‘come’, K wa ‘to be in motion’ (used as verbal affix), and the Kuki verbal affix eva used with verbs of movement (see Wolfenden, Outlines, p. 190).

⁰²⁹ This analysis in terms of an ‘intensive’ function can no longer be considered for three of these roots, which have now been reconstructed with initial clusters,
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(431) Bunap śrag ‘shame’, Magari kha-rak ‘to be ashamed’, Nung sōra ‘shame’, śra-ṣi ‘to be ashamed’, B hrač ‘to be ashamed, shy’, Mikir therak ‘shame, disgrace; to be ashamed, blush’ (TB *s-rak).\(^{300}\)

(432) T smin-pa ‘ripen; ripeness; ripe’, Vayu min ‘to be ripe; to be cooked’, Magari min ‘ripe, ripen’, Lepcha âmān < *āmin ‘ripe, cooked’, myān < *s-min ‘to be ripe’, Miri min, K myin ‘ripe’, Nung min ‘to be cooked; to rot (as wood)’, B hmyān~hmān ‘to be ripe’, G min ‘fester, mature”, min-gipa ‘ripe’, Dimasa min~mun ‘ripen, cook’ (intr.), gimin~gumun ‘cooked, ripe, subdued’ (gumun di ‘pus’), L hmin ‘ripen, ripe’, Mikir men ‘ripe’ (TB *s-min).

The following root shows a transfer of function from ‘transitive’ to ‘intransitive’:


TB prefixed *s- is commonly found with noun roots, as in *s-la ‘moon’, *s-kar ‘star’, *s-nam ‘daughter-in-law’, *s-m(y)ik ‘cane, sprout’ and the following:

(434) L ba-hra, Meithei ha, Dimasa and G tha ‘potato, yam’ (TB *s-ra).


(436) K śiγnat < sōn, B hnat, Lakher hna < *hna ‘heddles (of loom)’, Ao Naga sōnet < *sōnat ‘weaver’s stick’ (TB *s-nat).

With words for parts of the body and animals TB prefixed *s- can be referred to TB *sya ‘flesh; animal’. It is seen as a separable element in Kiranti, as in Rungchengbung yu-ba~sa-yu-ba ‘bone’ but pi-yu-ba ‘cow’s bone’ (pi ‘cow’), họ̄~sa-họ̄ ‘blood’, hok-wa~sa-hok-wa ‘skin’ but sīhok-wa ‘bark’ (sīh ‘tree’), and occasionally appears as an added element in other languages, e.g. Nung sōrō, Maru sōrak ‘bone’ < *s-ruw, corresponding to B ārul, TB *rus. TB roots of this type include *s-kra ‘hair’, *s-lay (also *m-lay) ‘tongue’, *s-na ‘nose’, *s-nap ‘snot’, *s-nīr̥ ‘heart, brains’, *s-nuy ‘back’, *s-tay ‘navel, abdomen’, *s-hwiy ‘blood’ and the following (probably connected with TB *wa ‘bite, chew’):

(437) T so < *swa, Murmi swa, Bhramu swa, Manchati tshoə (initial unexplained), Thebor soa, Lepcha fo < *swa, Newari wa, K wa, Kadu swa, Nung sa, B swā, Moshang va, G wa(-gam), Dimasa ha, L (and general Kuki) ha (initial unexplained), Mikir so < *s(ə)wa ‘tooth’ (TB *s-wa).

viz. TB *śriγ ‘live’ (n. 304), *zuml ‘round’ (n. 136) and *śrač ‘shame’ (n. 304).

T sags < *srag-s ‘joke, jest, fun’ = ‘a matter (-s) of shame (sag)’ also belongs with this set; Gyarung (K. Chang) has narsya < *syak ‘to be ashamed’.

300 Cf. TB *g-yak ‘ashamed, shy’ (No. 452).
Lushei regularly prefixes sa ‘animal’ to words for animals, and other TB languages have closely parallel formations.\(^{301}\)


Nung səwi ‘bear’, sərə ‘ant’, səri ‘barking-deer’.

Most TB roots for animals can be reconstructed without this prefix, but the following are exceptional:

\(^{(438)}\) T sram, Lepcha sāryom <\(\text{*sāsram}\) (cf. Lushei!), Miri si-ram, Nung səram, K šəram, Burmese-Lolo *sram (based on Maru \(χren\), Phunoi sam), G matram, Dimasa matham, L sa-hram, Mikir serim ‘otter’ (TB *s-ram).\(^{302}\)

\(^{(439)}\) T šig, Bunah šig, Kanauri rik, Lepcha šak <\(\text{*šiκ}\), K tsiʔ, Nung ti, Miri tsiik (Abor tik), G tik, Dimasa thi-khu ~ thi-pu, L hriki, Mikir rek ‘louse’ (TB *s-rik).\(^{303}\)

\(^{(440)}\) T ldзи-ba ~ dзи-ba <\(\text{*sli}\), Miri i-po, K khəɬəwi ~ khəlai <\(\text{*khəwəli}\) (through

301 Bodo-Garo has prefixed mi- in this capacity; cf. G matram, Dimasa matham ‘otter’; G matta, Dimasa mii ‘tiger’; G mattiok, Dimasa moso ‘deer’; G mọ, Dimasa miyuy ‘elephant’ (-uy is augmentative); G mapil ~ mapbil, Bodo muphur ~ mopur, Dimasa misubur ‘bear’ (note the vocalic harmony). This element is perhaps related to TB *r-\(m\)(y) ‘man (homo)’, as represented by T \(m\i\), Gyarung tɛrmi, Kanauri mī, Magari bɛrmi, Kiranti *mi-na ~ *yap-mi, Digaro nme, Lushei (and general K-N) mī. Burmese has prefixed k- in several roots, especially in relation to animal names; this prefix is exclusively a feature of Burmese and its dialects (incl. Phon) and does not appear in Maru or the Lolo languages; cf. the following:

B krak ‘fowl’; cf. Maru \(r\) <\(\text{*rak}\), Lahu ɣâʔ, also L va-\(ra\)k ‘duck’, from TB *\(ra\)k.

B kraŋ ‘cat’; cf. Maru raŋ ‘wild-cat’, Lahu ɣɔ, also K rœŋ ~ šroŋ ~ šro ‘tiger, leopard’, from TB *\(roŋ\).

B kruak ‘rat’; cf. Maru ruk, Lahu fâʔ (known only from B-L).

B kyo <\(\text{*klə} \) ‘tiger’; cf. Samong kəla, Maru b <\(\text{*la} \) (known only from B-L, but related to Ch. xo/xuo <\(\text{*khlə} \) ‘tiger’).

B kruat ‘leech’, from TB *\(r\)-pat.

B krim ‘cane, rattan’; cf. Maru swram ~ ram <\(\text{*rim} \) also K rim, id., Lepcha rim ‘sp. of cane (Calamus flagellum)’, from TB *ri-m.

B kyauk <\(\text{*kləu}k \) ‘stone’; cf. Samong kəlauk, Maru lautk-, from TB *\(l\)-uy.

302 This root has been reconstructed *sram, as clearly indicated by both the Lepcha and Lushei forms indicating *sa-sram (*sa- ‘animal prefix’). Burmese has phram ‘otter’, which can be analyzed as a derivative of *phram <\(\text{*p-sram} \), with the \(p\)- element of undetermined origin.

303 This root now reconstructed *šrik (n. 304).

\(\text{\footnotesize{\text{(A)}}}\)
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metathesis), Nung *soli, B khwè-hlè (Maru kola), L uñ-hlì, Mikir tšìkli ‘flea’ (TB *s-liy); note the appearance of this root in composition with TB *kwìy ‘dog’ in Kachin, Burmese, and Lushai.

Cf. also *s-ray ‘horse’, and *s-rik~*s-ryak ‘pheasant’, with prefixed *s- much less in evidence. It is possible to reconstruct clusters (*sr-, *sl-) for roots of this type, but the reconstruction adopted above involves fewer phonetic difficulties. The combination *s-r- has been treated as a cluster, however, in some languages; cf. T šig ‘louse’<*s-rik; K tsi, Nung ši ‘louse’<*s-rik, paralleling K tsiŋ ~ kotsiŋ, Nung mąsiŋ ‘green’<*s-riŋ; G tik, Dimasa thi-khu ‘louse’<*s-rik, paralleling G matram, Dimasa matham ‘otter’<*s-ram; G and Dimasa gathay ‘green’<*s-ray; G and Dimasa tha ‘potato’<*s-ra; Meithei hik ‘louse’<*s-rik, paralleling hiŋ ‘to be alive’<*s-riŋ, ha ‘yam’<*s-ra.304

304 Benedict (1948) has reconstructed *śr- in TB *śriŋ ‘live’ and *śrık ‘louse’, and to these we must now add *śrak ‘ashamed’, all three with excellent cognates in Chinese, which has *śr-/śr- for TB (and ST) *śr- (n. 457). The contrast with TB *śr- is best shown in Tibetan, Kachin, Mikir and Garo; cf. the following:

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Bunan</th>
<th>Tibetan</th>
<th>Kachin</th>
<th>Burmese</th>
<th>Mikir</th>
<th>Garo</th>
</tr>
</thead>
<tbody>
<tr>
<td>otter</td>
<td>*sram</td>
<td>—</td>
<td>*sram</td>
<td>*phram</td>
<td>serim</td>
<td>matram</td>
<td></td>
</tr>
<tr>
<td>live</td>
<td>*śriŋ</td>
<td>—</td>
<td>—</td>
<td>tham</td>
<td>ren</td>
<td>matram</td>
<td></td>
</tr>
<tr>
<td>louse</td>
<td>*śrık</td>
<td>šríg</td>
<td>šíŋ</td>
<td>—</td>
<td>rek</td>
<td>tik</td>
<td></td>
</tr>
<tr>
<td>ashamed</td>
<td>*śrak</td>
<td>šrág</td>
<td>sags</td>
<td>—</td>
<td>hrák</td>
<td>therak</td>
<td></td>
</tr>
</tbody>
</table>

The Garo distinction (not reflected in Dimasa, which uniformly has initial th-: matham ‘otter’, thi- ‘louse’, gathay ‘alive’) enables us to reconstruct TB *śra ‘potato, yam’ (No. 434) on the basis of Dimasa and G tha; cf. Ch. *d’io/žiwo ‘bulb, tuber; potato’ (not in GSR), perhaps from a ST doublet form *źra (see n. 457 for the initial, n. 487 for the final, correspondence). Lushai, like Burmese, has *h- for both clusters: sa-hram ‘otter’, hrik ‘louse’. Kanauri has *sön ‘live’ but rik ‘louse’, the latter possibly through metanalysis: *ś-rik with TB *śs- ‘animal prefix’ (as in the text), the ‘prefix’ then dropping in customary manner for Kanauri. Kanauri regularly has *r- for TB *śr-, as in the following interesting pair of kinship terms: T sriŋ-mo ‘sister (man sp.)’, Kanauri and Kanashi riŋ, Bunun śriŋ (TB *śr- and *śr- fall together here), Thebor śiŋ, Manchati hriŋ, Chamba Lahuli hri ‘sister’, Byangsi (state of Almora) riŋ-ca ‘younger sister’, Dhimal ri-ma ‘sister’, and Kanauri and Chamba Lahuli ru ‘father-in-law’ (irregular in the latter language, perhaps a loan from Kanauri), Pyu sru ‘relatives’ (for the semantics, see Benedict, 1942 bis); both roots have highly significant cognates in Chinese (n. 457). Finally, B-L apparently retained a three-way distinction here (later lost in Burmese itself); Lahu has há ‘night’; ‘pass the night’< ST *s-ryak (n. 48); šö ‘otter’ (in yâ-šö-lo ‘gray otter’ = ‘water-otter-big’, as analyzed by JAM)< ST *sram; yúʔ (in yaʔ-to) ‘ashamed’ (cited in JAM, 1970a)< ST *śrak.
§23. Tibeto-Burman prefixed *r-

Prefixed *r-, of uncertain function, appears in a number of noun roots, and must also be reconstructed for a few verb roots. It is preserved in Tibetan, Kachin, Bodo-Garo, Mikir (ar-), and occasionally elsewhere; note especially Magari ar-, as in arghan ‘wasp’, arkin ‘fingernail’, armin ‘name’, but lswat ‘leech’ < *r-pat. Kachin usually has lo- for *r- in verb roots (and in lotsa < *r-gya ‘100’), but n-~ niŋ-~num- in noun roots. Noun roots with prefixed *r- include the following:

TB *r-ka ‘earth’: Nung rrga, K nga (n-ga).
TB *r-say ‘lizard’: T rtsays-pa, K nsay.
TB *r-ka-m ‘edge, precipice’: K ngam (n-gam) ~ niŋgam, G rikam.
TB *r-gu-ŋ ‘edge; shin’: K nguŋ (n-guŋ), G rikj, Dimasa ruguy, Mikir arkoŋ.
TB *r-luy ‘stone’: K nluy, Mikir arloŋ.
TB *r-miy ‘name’: Magari armin, Gyarung -rmi, Rangkhol ermiŋ.
TB *r-may ‘tail’: Digaro lmoŋ ~ lmoŋ, Aka arim < *ormi, K nmai, Dimasa khermaŋ ~ bernai, Aimol remai, Mikir arme.

TB *r-nil ~ *r-nil(y) ‘gums’: T rnil, Dimasa ha-rni, G wa-riği < *wa-rni (in comp. with ‘tooth’).

TB *r-pat ‘leech’: Magari lswat, B kswat < *k-rswat, G ruat, Rangkhol ervot, Angari Naga rwa.

(441) K nwa ~ niŋwa, G rua, Dimasa roa ‘ax’ (TB *r-wo).305

(443) B rwa ‘to rain’, L rua? ‘rain’, Bahing rya-wa ‘rain’ (cf. Khambu kwa, Waling tsəwa, Rodong wa ‘water’) (TB *r-wa); perhaps also Lepcha so, from *jwa.

(444) B rwa < *r-wa (Maru vo, Lashi wo, Atsi wa), Horpa (Hsi-fan group) hraŋa, but Phön (Samong dial.) kwa, agreeing with L (and general Kuki) khua ‘village’ (TB *r-wa ~ *g-wa).306

305 This root has now been reconstructed *r-wo (n. 78). Chang Naga (Konyak group) has wo < *wa ‘ax’, another item in the group of roots linking this group with Kachin and Bodo-Garo (pp. 6–7).

306 Nungish also has the *r- prefix here: Mutwang (Morse) rwa ‘village, town’.
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TB prefixed *r- with verbs, analyzed as a ‘directive’ element by Wolfenden, plays a prominent role both in Tibetan and Mikir but is rare elsewhere. Only one significant Tibetan-Mikir correspondence has been uncovered here, viz. T rnod-pa ~ rno-len-pa, Mikir arnu < *arnu ‘roast, fry’ < TB *r-yaw (above). Nung has prefixed r- in the following:

Nung rødul ‘roll, wrap, enwrap’, but hi-dul ‘legging’ (= ‘leg-wrapping’), hi-dul dul ‘wear gaiters’; cf. West T (Ladakhi) thul-ba ‘roll or wind up’, T thul-pa ‘dress made of the skins of animals’ (= ‘something rolled or wound up’), from TB *(r-)tul.

Kachin has prefixed lb- for TB *r- in logu ‘steal’, T rku-ba < TB *r-kuew; lskhot ‘scoop up’, T rkod-pa ‘dig out’ < TB *r-ko-t; lsohat ‘coarse’ < TB *r-ta-t (above); lomu ‘sky’, T rmu-ba ‘fog’ < TB *r-muw; also the following:²⁰⁸

(445) T rga-ba, K lsga ‘old’ (TB *r-ga).

The Kachin prefix, however, unlike T r- or Mikir ar-, is extensively employed in deriving nouns from verbs, e.g. bu ‘to wear’, lsbu ‘trousers, skirt’; tšyen ‘to do’, latsyen ‘work’; sōt ‘to scrape’, lsoat ‘chisel, gouge’. Bodo-Garo preserves TB prefixed *r- in G rittsey, Dimasa redzey, Mikir ardżay ‘light’ < TB *r-ya-ŋ (above), also the following root:

(446) T rma ‘wound’, rma-ba ‘to wound’, K nma ~ numma ‘wound, scar’, G mat ‘to wound’, Dimasa bumats < *bumat ‘wound’, also K mat ~ tsmat, Nung romat, G gilmat, Dimasa germa ‘nettle’ (= ‘the wounder’), with suffixed *-t (TB *r-ma and *r-ma-t).²⁰⁹

§24. Tibeto-Burman prefixed *b-

T prefixed b- is characteristicly found with the ‘perfect’ root of verbs, as in gsod-pa, Pf. bsad ‘kill’, yet occurs also with the ‘present’ root, as in ’bri-ba ‘draw,

²⁰⁷ Angami Naga (Burling) has rdsuw < *rødul ‘roll’, showing correspondence to Nungish; also rōnds < *rōnda ‘listen’ < TB *r-na, with correspondence to T rna-ba ‘ear’; cf. also rōlau ‘bathe’ < TB *r-(l)u(w) ~ *(m-)lu(w).

²⁰⁸ K lomu ‘sky’ stands for lomu? (n. 236) and belongs with T rmugs-pa ‘dense fog’, from TB *r-muk; Gyarung (K. Chang) termu < *r-mu or *r-muk is indeterminate, as are Gurung and Thakali mu ‘sky’, but Chang Naga müy < *mew ‘sky’ belongs with TB *r-muw = *r-mew. Kachin has prefixed lb- corresponding to T l-, perhaps through coincidence, in TB *(l)-tak (n. 338); JAM notes that there is a secondary Kachin prefixed lb- < *lak ‘hand’, used in words pertaining to action with the hands and feet; see Hanson (1906), pp. 358–85, also Matisoff, Lahu and PLB.

²⁰⁹ This root is also represented in K-N: Tiddim ma ‘sharp edge of a knife; wound’.
write’ < *riy. Wolfenden (Outlines, pp. 33 ff.) suggests that this prefix represents an ‘acting subject’. Bodo-Garo has a 3rd person pronominal element b- occurring independently (Bodo bi, Dimasa bo) and as a prefix, e.g. Dimasa bugur ‘skin’, as contrasted with sao-gur ‘human skin’, mi-gur ‘animal skin, hide’ (cf. n. 301). Confusion between prefixed *b- and *m- (a pronominal element) is widespread in Tibeto-Burman, e.g. Kachin and Meithei have mə-, Nung has phə- (rarely ba-), and many Kuki-Naga languages have either p- (Lakher, Northern Khami) or m- (Rangkhol, Southern Khami) for both prefixes. Mikir and Ao and Sema Naga, however, regularly maintain the distinction between *b- (Mikir ph- ) and *m- (Mikir iy-) , thus permitting the exact reconstruction of Kuki-Naga roots such as the following:


Burmese has shifted *b- to *m- before *r- or *l- in three of the roots cited below (cf. mrup ‘submerged’ < TB *brup), yet has simply lè ‘4’ for TB *b-liy (but Maru byit < *bliy).

TB prefixed *b- has been reconstructed for several roots:

TB *b-liy ‘forest’: K məliy, G buruy ~ bry, Dimasa ha-bliy.

TB *b-yuw ‘rat’: West T byu-a, T byiu, Kanauri pū (cf. pū ‘4’ < TB *b-liy), Mikir phidšu, Rangkhol midžu, Lakher pəsu, Sho pəy, S. Khami mayu.310


(449) Baling bla, Vayu blo < *bla, Newari bala, Magari mya, Nung thama, K pola, Jili məla, B hmra, Phön (Samong dial.) bya, Kha Li (Southern Lolo) ha-məla (cf. kha ‘bow’) (Lefèvre-Pontalsis), G bra, Dimasa bala, Tangkhul məla ‘arrow’ (TB *b-la); note that Kachin has prefixed pə- rather than the anticipated mə-, the latter obtaining in Jili.313

310 Add Gyarung pəziu < *b-yu; also B yun ‘rabbit’, with suffixed -n (n. 284); the *b- prefix in this root perhaps stands for TB *bəw (No. 27).

311 For the semantics, see Benedict, 1942 bis; cf. T tsha-bo, L tu ‘grandchild, nephew’.

312 K məli ‘young man’, originally ‘nephew’, as shown by the other meaning for this term, viz. ‘father-in-law’ (also nəpli in this sense)= ‘uncle (mother’s brother)’ under a pattern of cross-cousin marriage (Benedict, 1941), i.e. the term is self-reciprocal: ‘nephew’ ~ ‘uncle’. Gyarung (K. Chang) has təphər ‘grandchild’, from */phray.

313 This root has now been reconstructed *bla, agreeing with Karen (*bla), but *məla is also a possibility; T məla might be regarded as a derivative of the latter but
No function can be assigned prefixed \(^*b\)- in these roots, nor in the numerals \(^*b\)-liy ‘4’ and \(^*b\)-ya ‘5’. Similarly, the few verbal roots for which this prefix has been reconstructed shed little light on its nature:

- TB \(^*b\)-rey ‘buy’: K məri, G bre, Dimasa barai.
- TB \(^*b\)-la-p ‘forget’: K molap, Dimasa balau.

\(450\) T bred-pa (with suffixed -d), Digaro re, Aka rie, Nung phere ‘to fear, be afraid’, Mikir phere ‘fear, doubt, dread’ (TB \(^*b\)-ray).

A causative \(^p\)- prefix appears in Bodo-Garo and Mikir, e.g. Dimasa nu ‘see’, phunu ‘show, point out’; Mikir me ‘good, well’, pemə ‘heal’ (contrast K mai ‘good’, ismai ‘heal’). As already suggested by Wolfenden (Outlines, p. 166), this prefix can be referred to Mikir pi ‘give’ (TB \(^*b\)iy) (but origin in Bodo-Garo is uncertain).

§25. Tibeto-Burman prefixed \(^*g\)-

T prefixed \(^g\)- has been interpreted by Wolfenden (Outlines, pp. 40–3) as ‘directive’ (gtug-pa ‘reach, touch’, gtum-pa ‘wrap up’, gšo-ba ‘pour out’). Kachin has prefixed \(^g\)-~ khə- as \(^*k\)ə-pa- with verb roots, in intransitives (e.g. kəsat ‘run, flee’, khəra ‘to be indifferent’) as well as transitives. Elsewhere, however, this prefix is virtually unknown in this role, although Tangkhul (Kuki-Naga) has an otiuse prefix of the same form (kəkap ‘shout’ < \(^*ga\)-p, kəyap ‘fan’ < \(^*ya\)-p, kətšap ‘weep’ < \(^*kəp\)). Prefixed \(^g\)- has been reconstructed in \(^g\)-ryap ‘stand’ (K tsap < g-yap), \(^g\)-sat ‘kill, fight, strike’ (T gəsd-pa, P. bsad ‘kill’; K sat ‘kill’, gəsət < kəsat ‘to

Kachin (Khauri dial.) has an apparent cognate here (niyda), hence it seems simpler to set up a distinct root \(^m\)-da (n. 327).

314 It will be noted that prefixed \(^*b\)-, like prefixed \(^*s\)-, is commonly found before liquids and semi-vowels, suggesting initial clusters rather than prefixes as alternative types of reconstruction for some of these roots. The distinction cannot be drawn with any assurance in some instances, e.g. B hərə, Bhramu pəra, Chepang la ‘arrow’, and B myauk (Intha dial. mrok < milok), Bhramu peyuk, Chepang yuk ‘monkey’ are parallel formations, yet the latter root has been reconstructed \(^m\)rəku rather than \(^m\)-rək or \(^b\)-rək on the strength of Bahing mooro, Digaro toməyə, Gurung timyu, while the former has been reconstructed \(^b\)-la rather than \(^b\)la.

315 Add TB \(^*b\)-riŋ ‘bark’ (n. 245).

316 This has been identified (n. 242) as an old loan from AT, with initial \(^b\)-handled as a prefixed element.

317 T əd-pa < \(^*rəd\)-pa ‘fear, be afraid’ (cited on p. 175) apparently also belongs here (secondary palatalization before the e); Angami Naga (Burling) has prəi ‘fear’, as if from \(^*b\)ray.
fight; a fight’; general TB sense is ‘kill by striking’); *g-\textit{kwat} ‘free, release’ (T'glod-pa, B \textit{kwat} ~ \textit{kywat} < *\textit{kwat}), also the following pair of roots:

(451) T g-\textit{ya}-ba, K k\textit{ya}, B y\textit{a} ‘to itch’ (TB *g-\textit{ya}).

(452) K k\textit{ya}, L z\textit{ak} < *\textit{yak} ‘to be ashamed, shy’, Tangkhul k\textit{hayak} k\textit{hovai} ‘venerable, shameful’, k\textit{khovak} ‘pay respect, venerate; shame, veneration’ (TB *g-\textit{yak}).

Prefixed \textit{g-} ~ \textit{k-} as an adjectival (or verbal-noun) prefix is found in Gyarung, Kachin, Bodo-Garo, and Mikir, e.g. Gyarung k\textit{esik} ‘new’, K go\textit{lu}, Dimasa gal\textit{au} ‘long’, Mikir ket\textit{he} ‘great, large’. Wolfenden rightly identifies this as an old pronominal element (cf. K k\textit{han} < k\textit{ha}-ni ‘they two’), which appears as a prefix with kinship terms in Kachin (si-a k\textit{wua} ‘his father’, as opposed to na n\textit{wa} ‘thy father’). This element also is found as an inseparable prefix with words for parts of the body in Konyak (cf. Moshang k\textit{amul} ‘body hair’) and in Kuki-Naga, e.g. all such words in the ‘Chin’ (Southern Kuki) vocabulary recorded by Hughes (1881) are provided with this prefix. In Bodo-Garo prefixed *\textit{g-} has in some roots coalesced with the initial and thus been preserved, while the more recent pronominal *b- prefix has been added at a later date, e.g. G g\textit{roy}, Bodo g\textit{oy} ‘horn’, Dimasa g\textit{roy} ‘horn’, gor\textit{oy} ‘side, angle’, bog\textit{roy} ‘corner, horn’, all from TB *\textit{ruy}. The same type of development can be seen in T gr\textit{we} ~ gru ‘angle, corner’, r\textit{wa} ~ ru ‘horn’; cf. Gyarung tor\textit{u} ~ tere, Kanauri rud, Digaro ru ~ ro ‘horn’, also TB *\textit{kruw} ‘horn’.\footnote{Pronominal prefixed *\textit{g-} perhaps plays a role in the following root:}

(453) T r\textit{na}-ba, Nung on\textit{a} ‘ear’, K na ‘ear’, na (diff. tone)’hear’; B n\textit{a} ‘ear’, na ‘listen’; Rengma Naga \textit{skhana} ‘ear’, na ‘hear’; Bhramu \textit{kona}, Kadu \textit{kona}, Tangkhul \textit{khona}, Lamgang \textit{akona}, Anal \textit{kona} ‘ear’; G \textit{khna}, Dimasa \textit{khana} ‘hear’, G na-t\textit{sil} ‘ear’ (TB *g-na).\footnote{For the semantics, cf. Ch. \textit{chiao} ‘horn, angle’. Prefixed *\textit{g-} before \textit{r-} is regularly treated as an initial in Tibetan; cf. T ‘g\textit{rib}-pa ‘decrease; grown dim’, s\textit{grib}-pa ‘darken; darkened’, g\textit{rib} ‘shade, shadow’, s\textit{rib}-pa ‘grow dark’, s\textit{rib}(s) ‘darkness; shady side’, \textit{rab-rib} ~ hr\textit{ab-rib} ‘mist, dimness’, B r\textit{ip} ‘throw a shadow’, \textit{dr\textit{ip} ‘shadow, shade’; T ‘gran-pa ‘fight, contend with’, B ran ‘quarrel’. A distinction is drawn in Tibetan script, however, between the cluster g-y- and the combination g-y-, e.g. g\textit{yad} ‘champion’ but g-yas-pa ‘right (hand)’ < TB *g-\textit{ya} ~ *g-\textit{ra}. This would indicate that Tibetan formerly distinguished between [gyad] and [g\textit{yas}], and presumably between other pairs of this type, thus making a phonemic element.}

Prefixed *\textit{g-}, apparently of non-pronominal origin, has been recognized for *g-\textit{ya} ~ *g-\textit{ra} ‘right (hand)’ (probably from the final velar of TB *lak ‘arm, hand’); also *\textit{g-la} ‘moon’ (L \textit{th\textl{a}}, *\textit{g-ryum} ‘salt’ (K d\textit{zum} < *g-\textit{yum}), *\textit{g-wa} ‘village’.

\footnote{Angami Naga (Burling) has r\textit{no} < *r-\textit{na} ‘listen’, corresponding to T r\textit{na}-ba ‘ear’, hence a doublet must be recognized for TB: *r-\textit{na} ~ *g-\textit{na}.}
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(Samong k̂ôwa, L khua), *g-pa ‘bamboo’ (K k̂ôwa, Mikir kepхо); also the following pair of roots:

(454) K buȳ-li ‘breeze’ (buȳ ‘blow’), Gyarung khọle < *khọli, B le, Samong kọli, L thli < *khli ‘wind’ (TB *g-liy).

(455) K ṭhọ, B nmu, G me-gumu, Dimasa mu-khmu, Mikir kɪmu ‘mushroom, fungus’ (TB *g-muవ).

The derivation of L *thl- < *kh̄l- from *g- is questionable, however, and it is possible that here, as in Burmese (see n. 301), a distinct element k̄- is involved. Samong (Phôn), which is archaic with respect to Burmese (cf. Samong kọlauk ‘stone’ = B kyauk; Samong kọla ‘tiger’ = B kyà), sometimes agrees with Lushei (as in k̄ọwa ‘village’, kọli ‘wind’), yet has sọla ‘moon’ < TB *s-la whereas Lushei has thla < TB *g-la.

§26. Tibeto-Burman prefixed *d-

Prefixed d- in Tibetan parallels prefixed g- as a ‘directive’ prefix with verbs (Wolfenden, Outlines, pp. 40–3). Kachin dọ- (tọ-, thọ-) is nominalizing as well as directive, e.g. bu ‘to be stubby’, dọbu ‘hump on cattle’; dọu ‘converge at a central point’, dọdzu ‘center’, while Nung dọ- vies with śọ- as a causative prefix, as in sọy ‘to be dry’, dọsyu ‘to dry or cause to dry’. Ao Naga te- forms verbal noun derivatives (substantival or adjectival), e.g. tṣak-ма ‘to crack’, tetsak-ma ‘crack’; metisi ‘to bud’, temetisi ‘bud’; amay ‘to believe’, tọmay < *tọmay ‘faith’ (the Ao prefix, unlike its Kachin equivalent, appears before prefixed me- and ọ- as well as the simple verb root). This prefix has been reconstructed with verbal roots only in the following pair:

(456) T ґdrub-pa, Lepcha hrap, Gyarung tup, Magari rup, B khyûp ‘sew’ (TB *d-rup).320


320 It has been suggested (Benedict, 1967 bis) that this represents an old loan from an AT root for ‘needle’ (see n. 82; this derivation is strongly supported by Thakali h̄rup ‘needle’, contrasting with tu ‘6’); it has now been reconstructed *drub as opposed to *d-ruk ‘6’, accounting for the following contrasts:

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Lepcha</th>
<th>Trung</th>
<th>Lahu</th>
</tr>
</thead>
<tbody>
<tr>
<td>sew</td>
<td>*drub</td>
<td>ḡrap</td>
<td>ḡrap</td>
<td>tọ</td>
</tr>
<tr>
<td>six</td>
<td>*d-ruk</td>
<td>tārāk</td>
<td>khlu</td>
<td>khọ?</td>
</tr>
</tbody>
</table>
These roots closely parallel T drug, Gyarung kutôk, B khrâuêk ‘6’ < TB *d-rûk (above). Tibetan prefixed d-, like prefixed b- and g-, coalesces with TB initial *r-; cf. the following:


The above root is to be distinguished from the following:

(460) Kanauri and Thebor kri ‘dirt, dirty’, K khògrwi ‘dirt, filth’ (possibly from *khòggi by metathesis; cf. No. 440), B krê ‘to be dirty, filthy’, àkrê ‘dirt, filth’ (TB *kriy).

Prefixed d-~t- with noun roots is characteristic of several scattered TB languages, viz. Gyarung, Abor-Miri, Nung, Jili, Phôn (Samong dial.) and Ao Naga. In Abor-Miri, Nung, Jili and Samong this element appears as an inseparable prefix with TB roots normally showing either no prefix or another prefix:

Nung thami, Samong tomi (also Gyarung timi) ‘fire’ < TB *mey.
Nung tâgi, Jili tâkwi, Samong tâkwi ‘dog’ < TB *kwiy.
Nung dophat, Miri topat ‘leech’ < TB *r-pat.

The Nung series is particularly rich: dâgoŋ ‘tusk’, dori ‘horn’, thâmô ‘eagle’, thâwa ‘bamboo’, tharë ‘arrow’, thawän ‘snow, ice’. Gyarung prefixed tê-~ to-, as described by Wolfenden (JRAAS, 1936), is a separable element employed when the substantive is used independently, as in têrnà ‘ear’ (T rna-ba) but yo-ŋi rna ‘my ear’, no-ni rna ‘thy ear’, ni-ni rna ‘his ear’; tøyâk < *tê-ryâk ‘hand’ but yo-ŋoyâk ‘my hand’, no-ŋoyâk ‘thy hand’, ni-ŋoyâk ‘his hand’. Ao Naga te-~to- is of similar type and, like the Gyarung prefix, is sometimes employed before other (older) prefixes, e.g. tena-ronj ‘ear’, tepok ‘belly’, toko ‘chest’, temeli ‘tongue’ < TB *m-lay.

The nominal prefix outlined above undoubtedly belongs to a relatively late morphological stratum, as suggested by Wolfenden (Outlines, p. 133), who attempts to connect it with T de ‘that’ < TB *day. To the earliest level, however,

321 See the discussion of Tibetan dental (d): Loloish k in Lahu and PLB, for ‘sew’, ‘six’, etc. Lahu tî, Akha tòp fit with T ’drub-pa ‘sew’ (JAM). Burmese has khr-<*d-r-, khy-<*dr-, but these medials are unstable in Burmese and the distinction is not reliable. On the basis of the Lahu and Akha evidence, however, we must set up a distinction here for proto-BL, unless it can be shown that the root for ‘sew’, a possible loan-word, is phonologically irregular.

322 The Gyarung genitival suffix here is composed of -i preceded by the consonant of the pronoun. It appears to have been derived from TB *-ki or *-gi (see n. 275) through assimilation, e.g. yo-ŋi < yo-gi < TB *ŋa-ki or *ŋa-gi.
must be assigned prefixed *d- in TB *d-ruk ‘6’, *d-kwu ‘9’ (above) and the following:

(461) T dom <*d-wam, Gyarung twöm, Kanauri and Thebor hom (apparently from *s-wam, with TB animal prefix *s- for *d-; cf. Lushei), Digaro tsham ~ tshum (as above), Bahing wam, Miri si-tum <*t-wam (with si- for the animal prefix) ‘bear’, Lepcha stsum ‘wolf’ (with analysis as for Miri), B wak-wam ‘bear’ (wak ‘pig’), wam-pulwe ‘wolf’ (possibly related to pulwe ‘flute’), Lahu yi-mi-tz, L sa-vom (Kuki-Naga *d-wam), Mikir (thok-) wam ‘bear’, perhaps also K lerap (couplet form) ‘bear’ (TB *d-wam).

Kuki-Naga prefixed *d- appears in *d-key ‘tiger’, *d-yuk ‘deer’ and *d-ka-y ‘crab’ as well as in *d-wam ‘bear’; cf. the following table:

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Khami</th>
<th>Mikir</th>
<th>Lakher</th>
<th>Khoirao</th>
<th>Poeron</th>
<th>Bete</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>*d-ruk</td>
<td>tɔru</td>
<td>therok</td>
<td>tʃɔru</td>
<td>sɔru</td>
<td>kɔru</td>
<td>iru</td>
</tr>
<tr>
<td>6</td>
<td>*d-kwu</td>
<td>tɔko</td>
<td>—</td>
<td>tʃɔki</td>
<td>tʃɔku</td>
<td>kɔkwa</td>
<td>iko</td>
</tr>
<tr>
<td>6</td>
<td>*d-wam</td>
<td>tʃɔwum</td>
<td>—</td>
<td>tʃɔveu</td>
<td>tʃɔwom</td>
<td>kɔbom</td>
<td>iuvi</td>
</tr>
<tr>
<td>6</td>
<td>*d-key</td>
<td>tɔkei</td>
<td>teke</td>
<td>tʃɔkɛi</td>
<td>—</td>
<td>—</td>
<td>iki</td>
</tr>
<tr>
<td>6</td>
<td>*d-yuk</td>
<td>tɔzuk</td>
<td>thidɔk</td>
<td>tʃɔsu</td>
<td>—</td>
<td>—</td>
<td>iki</td>
</tr>
<tr>
<td>6</td>
<td>*d-ka-y</td>
<td>tɔai</td>
<td>tʃehe</td>
<td>tʃɔi</td>
<td>tʃɔi</td>
<td>ai</td>
<td>iai</td>
</tr>
</tbody>
</table>

(462) Kiranti *ke-ba ‘tiger’ (Sangpang ki-pa, Lohorong ki-ba, Limbu keh-va, Balali kə-ba), Miri si-ke ‘species of civet cat’.

The *d- > tʃ- ~ t- shift, found in Lakher and Western Kuki (e.g. Khoirao), is paralleled by K dəɔkhu, G sku ‘9’ < *d-kwu; K dɔr, Nung dorit ‘boundary’; cf. also Poeron *d- > k- and K kru, B khrauk < *d-ruk ‘6’. Bete i- must be regarded as a replacement rather than a phonetic equivalent of *d-. Central Kuki (excluding Lakher) and Northern Kuki simply drop the prefix or replace it with sa- ‘animal’, e.g. L ruk ‘6’, kua ‘9’, sa-vom ‘bear’, sa-kei ‘tiger’, sa-zuk ‘deer’, ai ‘crab’. Extra-Kuki support for prefixed *d- is supplied in K khɔi ~ tʃɔxkhɔi, Kuki-Naga *d-khi ‘barking-deer’. Replacement by an ‘animal prefix’ is found in Mi τi si-ke ‘civet cat’ < *d-key, and G mattʃɔk, Dimasa moso ‘deer’ < *d-yuk (see n. 301). Bodo-Garo supplies evidence for prefixed *d-, however, in the following:

323 The prefix in the ‘crab’ root shows a distinctive treatment both in Mikir (tʃe- rather than te-) and in Poeron (dropped rather than replaced by kɔ-); cf. also the distinctive treatment in Karen *shɔi; prefixed *dɔ- for TB (and TK) is a possibility but seems unlikely.

324 B khya-sats ‘leopard cat’ (local) (-sats < TB *zig) points to a variant TB *kei. Mikir teke ‘tiger’ contrasts with tʃehe ‘crab’ (n. 323), pointing to a variant or doublet root with initial *g- (this might also account for the distinction in form of the prefix).
§27. Tibeto-Burman prefixed *m-

TB prefixed *m- is more readily interpreted than the stop prefixes analyzed above. With verb roots this prefix has a ‘middle voice’ force, often durative, intransitive, or reflexive. Tibetan m-, as brilliantly interpreted by Wolfenden, represents a ‘neuter’ subject, as opposed to b- and - representing an ‘acting’ subject; cf. mgu-ba ‘rejoice’, m̥ya-ba ‘to be, exist’, mnal-ba ‘to sleep’, mtshi-ba ‘appear, show oneself’, mnab-pa ‘dress oneself’. Prefixed *m- in this role is retained also in Kachin, Bodo-Garo and Kuki-Naga, while Nung replaces this prefix with pho-<*b̥o-:: pʰəsin ‘liver’<TB *m-sin, phalə ‘tongue’<TB *m-ləy. The contrast with TB prefixed *s- is especially clear in the following root; note that the unprefixed root may be either transitive or intransitive, whereas the prefixed *m- form is always intransitive:

(464) T mnam-pa ‘to smell, stink’ (intr.), snam-pa~snom-pa~snun-pa ‘to smell’ (tr.), Lepcha nom<*nam ‘to smell’ (intr.), nyom<*s-nam (tr.); Vayu nam ‘to smell’ (tr.), nam-say ‘odor’; Bahing nam ‘to smell’ (tr.), nam-ba ‘having odor’; Miri nam ‘to smell’ (tr.); K nam ‘to taste or smell, as of spices’, mnam ‘to smell; smell, scent’ (mnam nam ‘to smell offensively’); Nung phnam ‘to smell’ (use uncertain).\footnote{326} B nam ‘smell offensively, stink’ (intr.), nəm ‘smell, receive scent’ (tr.), ñam ‘odor’; Bodo manam ‘to smell’ (intr.); Dimasa maram ‘to stink’ (n<*r through dissimilation); L nam, Ao Naga menem ‘to smell’ (intr.); Tangkhul yənam ‘odor’, khənənam ‘to smell’ (intr.); Mikir iynim ‘to smell, be odorous’ (intr.), aynim ‘odor’, nem-so ‘slight smell, stink’ (-so is diminutive), from TB *m-nam.

\footnote{325} Prefixed *d- might also be reconstructed for T dbu, B ù, Anong (Nungish) u ‘head’; T dbay, B aŋ ‘strength, power’, the indicated Burmese phonetic shift being precisely that found in modern Central Tibetan dialects.

\footnote{326} Trung (Nungish) has pənam<*mnam, defined both as ‘smell’ (tr.) and ‘stink’, indicating that this language is exceptional in having the basic *m- prefixed form in a transitive role. In addition to the medial a~o~u alternation in this root (Tibetan) we must also recognize medial i; cf. L hni-m ‘smell’, from *s-nim (but Mikir nim-~nem- can be derived from *nam; see discussion on p. 70); note that Karen has *num rather than *nam (the root apparently is not represented in Chinese).
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TB prefixed *m- also appears in the following roots:

TB *m-nswi(y) ‘laugh’ (above): K moni, Bodo and Dimasa mini, Khami mznui, Lakher pohni, Poerun manoi, Ao Naga mnya, Tangkhul khamo, Mikir yneh (for the final -k, see n. 289).


TB *m-sow ‘arise, awake’ (above): Dimasa masau, Khami nthau, Lakher pthau, Ao Naga meso.

(465) K msa ‘to be sharp, biting to the taste, causing an itching sensation’, L thak<* sak, Lakher ptha, Ao Naga mesak, Mikir iythak ‘to itch’ (TB *m-sak); cf. also Lepcha jak ‘to itch, tickle’.

(466) K pisi ‘comb, rake’, mswit ‘to comb, rake; rake’ (the pr- form is highly exceptional for Kachin), Nung isi ‘comb; to comb’ (TB *m- replaced by *a-), Ao Naga msa ‘to comb’, Mikir iythi ‘comb’, from TB *m-si(y).

Tibetan-Kachin correspondences are found in TB *m-to ‘high’ and *m-dza ‘love’ (above), the latter showing K n- for *m-.327,328 TB prefixed *m- alternates with *s- in the following:

TB *(m-)lyak (Kuki-Naga) and *(s-)lyak (Bodo-Garo) ‘lick’ (above): Sho mili, Lakher pili<* poliak (cf. Lakher hni, L hniak ‘footprint’; Lakher bi, L biak ‘speak’), Ao Naga mzaak, Lhota myak (m-yaak), Sema minya~minye, Tangkhul khamlekk, Mikir iylek, but G srak, Dimasa salau<* salak.

Wolfenden draws a sharp distinction between prefixed *m- with verbs and prefixed *m- with nouns (Outlines, p. 139), yet it is highly probable that a single element is involved. The clue to the origin of this prefix is offered by Meithal, which has ma- as a 3rd person pronominal prefix as well as an inseparable prefix with kinship terms, words for parts of the body, and the like; cf. mapa ‘father’ or ‘his father’, maya-ma-gi san matsin-na ‘by (-na) the mouth (tšin) of the cattle (san) of (-gi) his older brother (ya-ma)’, na-ton mokhul ‘nostril’ ‘(nose its-hole)’, mhei ‘fruit’, mma ‘leaf’, msa ‘branch’, mora ‘root’, matu ‘feather’, momei ‘teil’, mko ‘head’, msa‘fat’, and ya ‘tooth’ but maya ‘tusk’, tšin ‘mouth’ but matsin

327 K prefixed n-~ num~ ~niy appears to be a phonetic variant of *m- as well as of *r- (see above), although the conditioning factors involved are not clear. Interchange between m- and n- is fairly common; cf. mbun ~ nbun ‘wind’ < bu ‘to blow’; mdzo ~ ndzo ‘topknot’ < dzo ‘to be made into a topknot’, yet the two types are often differentiated, as in ba ‘to be big’, mba ‘chief, ruler’, but nba ‘great, big, ferocious’; dup ‘pound’, mdup ‘sledge’, but ndup ‘blacksmith’. K n-~niy- stands for *m- in nkha~ niyka, Nung mokha ‘chin, jaw’; niyda (Khauri dialect), T mda ‘arrow’; ndun~niyda ‘sword’, T ndun ‘lance, spear, pike’. Lhota Naga has n- for *m- before dentals, velars, and palatals (excluding y); cf. nli~nmi ‘tongue’, Ao temeli, Sema smili; nte ‘liver’, Ao temes; niisa ‘spittle’, Ao metsa, Sema smthi; nkhi ‘knee’, Ao temok; but myak ‘lick’, Ao mzaak.

328 K ndza ‘show love’ may be unrelated (n. 89).
'beak', na-ton ~ na-tol 'nose' but məna-tol 'trunk'. In the light of this Meithhei evidence, TB prefixed *m- is to be regarded as an old pronominal element, with TB *m-nam 'smell' < 'its smelling' (as in Kachin) paralleling *m-kri-t 'bile' < 'its sourness (*kri)'; cf. TB *m-sin 'liver', from an old root *sin still preserved in Meithhei (*sin 'sour'), and Bodo-Garo kha 'bitter', bikha ~ bakha 'liver' (with the distinct pronominal prefix b-), Haka hni-t-ka 'bile' (hni-t 'gall bladder', ka 'bitter'). Prefixed *m- in this role is much in evidence in Tibetan (e.g. mго 'head', mtši-ma 'tear', mtshu 'lip'), and occasionally is susceptible of analysis, as in mtše-ba 'canine tooth' (tšhe-ba 'large'), mthe-bo 'thumb' < TB *ta'y 'large'.

In the Kuki-Naga nucleus, however, this prefix reaches the peak of development, being well attested in Sho, Khami (mə- in S. Khami, pə- in N. Khami), Lakher (pə-), Old Kuki (generally mə-, but bə- ~ pə- in Anal and Lamgang), Western Kuki (Khoirao mə- ~ n-, Empoe bə-), Tangkhul and Maring (mə-), the several Naga languages (mə-), and Mikir (iy-) ; cf. the following table:

<table>
<thead>
<tr>
<th>TB</th>
<th>S. Khami</th>
<th>Lakher</th>
<th>Tangkhul</th>
<th>Ao Naga</th>
<th>Mikir</th>
</tr>
</thead>
<tbody>
<tr>
<td>191</td>
<td>laugh</td>
<td>*m-nwi(y)</td>
<td>məwui</td>
<td>pəhnei</td>
<td>khəmənə</td>
</tr>
<tr>
<td>281</td>
<td>tongue</td>
<td>*m-lay</td>
<td>eməlai</td>
<td>olei</td>
<td>mole</td>
</tr>
<tr>
<td>234</td>
<td>liver</td>
<td>*m-sin</td>
<td>—</td>
<td>əpətθi</td>
<td>əpəthin</td>
</tr>
<tr>
<td>231</td>
<td>spittle</td>
<td>*m-ts(y)l</td>
<td>mətšə</td>
<td>əpətsi</td>
<td>—</td>
</tr>
<tr>
<td>397</td>
<td>twenty</td>
<td>*(m-)kul</td>
<td>kui</td>
<td>—</td>
<td>məgə</td>
</tr>
</tbody>
</table>

Notes: Standard Lakher olei 'tongue' (replacement of *m- by *a-), but pəlei in the Tlongsai dialect. Mikir de 'tongue' is best explained as a contraction of *nle < *iple, yet Mikir has ɨpɨ 'leech' corresponding to Ao Naga melet. Mikir iynθe 'spittle' is distinct from the Kuki-Naga root but shows the same prefix; cf. also K məyən 'spittle', perhaps from yet another root (but cf. No. 74). Mikir iynko (early form iyko) '20' can be derived from koi 'all', i.e. 'all the fingers and toes'. S. Khami kui is frankly irregular. The connection of the Ao Naga form mətsə '20' is indicated by Sema Naga muku, with the initial stop preserved. For Tangkhul məgə < *m-kul, cf. pʰərə < *b-ru'l 'snake'.

329 Cf. S. N. Wolfenden, 'The Prefix m- with Certain Substantives in Tibetan', *Language* 4 (1928), 277–80; R. Shafer, 'Prefixed m- in Tibetan', *Sino-Tibetica* 3 (Berkeley, 1938). Wolfenden interprets T prefixed m- in this role as a nominalizing element, e.g. mgal 'jaw' < 'gal-ba 'to be in opposition', paralleling K məpyen 'wings' < pyen 'to fly'. Shafer favors the view that *m- with words for parts of the body goes back to TB *mi(y) 'man (homo)', on the basis of compositions of this type in Magari and Empoe. The latter view must definitely be rejected, despite the parallelism presented by prefixed *s- (< *syə 'flesh').

330 Tangkhul occasionally has pə- rather than mə- in verb forms; cf. khəⁿəṃ, Mikir ɨpɨn < *m-nam 'smell'; khənərəm, Mikir ɨpəryn < ɨpəryn 'add' (Mikir iyron 'come together'); see Wolfenden, *Outlines*, p. 157. Nung has a curious nominalizing prefix əﻰ-, which may even precede another prefix; cf. əﻰsū 'stopper' < sū 'close up, cork'; əﻰwəm 'cover' < wəm 'to cover'; əﻰməθɨp 'fold' < məθɨp 'to
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TB prefixed *m- is tentatively reconstructed for roots in which it appears only in Tibetan or Kuki-Naga:331

TB *(m-)*kri-t ‘bile’: T mkhris-pa.
TB *(m-)*kul ‘2o’ (see above).
TB *(m-)*yug ‘finger, toe’: Khami møyö ~ møjüö, Lakher pøzau < *pøzûng, Ao Naga temeyøy.

TB *(m-)*lii-t ‘leech’: Ao Naga melet, Mikir iyliit.


Where outside correspondences are available, the reconstruction is simply *m-:

TB *m-lay ‘tongue’: Kuki-Naga *m-lay (see above); also Nung phaluc < *bəlay (for *m-lay).

TB *m-(t)sin ‘nail, claw’: Khami msøŋ ~ msøy, Lakher pøtay < *pøtiŋ, Siyin tøiŋ, Khoirao møtin, Ao Naga temëzőŋ; also Dīgaro msi, Miju msen ‘claw’.

Prefixed *m- with words for parts of the body appears also in *m-kal ‘kidney’ (Tangkhul smahe) and in several Kuki-Naga roots:

*m-kw-k ‘knee’: Lakher pokhu, Aog Naga temokok, Lhota nko, Tangkhul khuk-sau, Haka kük, Thado kug-bu, but Siyin kip, L khw-p through assimilation; probably connected with T khug(s) ‘corner, concave angle’.


*m-liŋ ‘shoulder’: N. Khami pølain, Sho øhmley, Thado ley, Haka liø, Meithel ley-bal ~ ley-ban.

Of special interest is the following series of roots (apparently all related):

(468) T khä ‘mouth, opening’, K mokha ‘to open, as the mouth; to be open, as a door; an opening, the mouth, as of a cave’, tsiyikha ‘door’, Nung phøŋ-kha ‘door, gate’, B tam-khà, id. (perhaps from *ta-mkha), Haka and L ka, Banjogi moka, S. Khami smkha, Lakher pøka, Mikir iyho < *iykha ‘mouth’, from TB *m-ka.

(469) K sumkha ‘to be wide open; spread, extend’, B kà ‘divaricate, be stretched apart, expanded, widened’, L ka ‘to open (as the legs)’, from TB *ka.

fold’. This prefix, like Mikir iy- and Tangkhul ay-, is of secondary origin, and hardly furnishes support for reconstructing TB prefixed *y- or *n-. Shafer, ‘Prefixed *n-, ng- in Tibetan’, Sino-Tibetica i (Berkeley, 1938), argues that T prefixed *n- stands for earlier y- and n-, largely on the assumption that these elements ‘must’ have been present at an earlier period. T *n- however, can with some assurance be derived from TB *a-, as shown below, while the TB evidence in general makes it abundantly clear that neither *y- nor n- is to be included in the group of inherited prefixed elements.

331 Add TB *m-lyak ‘grass’ (n. 142).
§28. Tibeto-Burman prefixed *a-

Prefixed *m- as a pronominal element can profitably be compared with TB *a-, of almost universal distribution in the family. This element occurs as an independent 3rd person pronoun in Kiranti and Kuki-Naga (a-ma, a-mi), and as a pronominal prefix (a-) in these same groups; cf. Aimol romai ‘tail’, rul srma ‘snake’s tail’; Bahing biy sta-mi ‘calf’ (‘cow its-child’), byar spwak ‘sugar-cane’ (‘cane its-juice’). Throughout the TB area in general, however, a lapsing of function can be observed, and the prefix is retained only in forms (normally kinship terms or words for parts of the body) used independently, i.e. without the customary pronominal prefixes, e.g. K wə or wəa ‘father’ (nəwa ‘thy father’, kəwa ‘his father’), mun ~ smun ‘body hair’, myi ~ smyi ‘eye’; Nung okhō ‘uncle’, ona ‘ear’; B abhd (āphā) ‘father’, āmi ‘mother’ (but mi-bā ‘parents’), āsā ‘flesh’ (but nəwā-sā ‘beef’ = ‘cattle-flesh’); G apa ‘father’, ama ‘mother’; Mikir ari ~ ri

332 Note that Kuki-Naga prefixed *m- is occasionally found with roots other than those for parts of the body; cf. *m-law ‘boat’ (this might also be reconstructed *b-law), *m-taw ‘fly’ (S. Khami mthaut, N. Khami pthau, Lakher matheu-pa, L and Thado thou, Sema Naga smthu), *m-tsy ‘salt’ (L and Thado tši, Banjogi mitši, Rangkhol midži, Tangkhul mtsi, Ao Naga mets, Sema smti, Mikir iptš); also Mikir ipphat ‘leech’ < TB *r-pat, Lakher phlmo ‘eagle’ < *mwo, and Haka wi, Sho smui, Yadwim mswi, Tangkhul msvi < *m-(h)wi, K mgwi (gwi in comp.) ‘elephant’, to be compared with Kuki *wi, K gwi < TB *kwi ‘dog’.

333 These forms appear to be directly related to No. 469 rather than No. 468, the basic concept being that of the jaws as divaricating or forking; Tiddim Chin has ka (rising tone) ‘fork’; to be fork-shaped’; cf. TB *ka-k ‘fork’ (No. 327).


335 Lahu has three vowel-initial noun prefixes: (1) a-, vocative prefix for kinship terms: a-pa ‘father’, a-vi-a-ni ‘brothers (older and younger)’, a-pi ‘grandmother’ (vocative or not); (2) ñ-, the most common, used like Burmese ñ- from *ay- (Bisu ay-); (3) ñ-, not productive but frequent, probably from the stopped variant of No. 2 (*ak-), as in ñ-li ‘salt’, ñ-che ‘goat’, ñ-phè ‘pepper’ (JAM).

336 The Bodo-Garo evidence is complicated by the presence of a 1st person pronominal prefix a-, as in Bodo ay-ni ad-a ‘my father’, nay-ni nayfa ‘thy father’, bi-ni bifa ‘his father’ (a-< aî-). TB prefixed *a- is almost entirely unrepresented in this nucleus, where replacement by pronominal *g- or *b- is the general rule.

Prefixed *a- with transitive or intransitive verbs appears in a number of languages, including Kachin, Nung, and Ao and Lhota Naga; cf. K stok ‘cut’, adep ‘rap’; Nung øpha ‘adhere’ (intr.), contrasting with pha ‘sew’ (B pha ‘patch’) and dopha ‘adhere, patch, affix, transplant’ (TB *pa); atsuy ‘sag’, as opposed to tsiy ‘hang, suspend’ (intr.) and dotuñ (tr.); Ao ësam, Lhota essan ‘run’; Ao enak, Lhota enak ‘scratch’. The same prefix appears in a nominalizing role in Burmese and occasionally elsewhere; cf. B wak ‘halve’, ëwak ‘half’; thim ‘tie in a knot’, âthim ‘knot’; Lepcha yan ‘sit’, âyan ‘dwelling’; kut ‘rule a line’, âkut ‘strake’; Mikir ëñim ‘smell’, aynnim ‘odor’. The intermediate role of prefix in adjectival or verbal noun forms is characteristic of the Kuki-Naga languages but can also be observed elsewhere; cf. Lepcha ëhruñ ‘hot’, as opposed to ëhrum ‘heat’ (hru ‘to be hot’); K ëthat ‘thick’, ëkha ‘bitter’; Mikir âthik ‘just’, âkëve ‘green, unripe’ (â- preceding prefixed kë-); Thado asa ‘thick’ (contrast Sho so ‘thickness’ < so ‘to be thick’, as in Burmese); Lhota Naga ehme ‘ripe’ (hmen ‘ripen’), Ao Naga tømen < te-xmen ‘ripe’.

Wolfenden (Outlines, pp. 177 ff.) attempts to draw a line between ‘pronominal’ and ‘non-pronominal’ prefixed *a-, largely on the basis of the Tibetan evidence. Tibetan ?a- with kinship terms (Øpha ‘father’, ëkhu ‘uncle’, ëphyi ‘grandmother’) is described as ‘non-pronominal’, and prefixed a- in a similar role elsewhere is united with the Tibetan element, while the typical pronominal prefix of Kuki-Naga is said to be wholly distinct. Tibetan prefixed ?-, on the other hand, is written a- and explained as a phonetic variant of prefixed b- < *ba-, and the Kachin and Ao Naga a- prefix with verbs is referred to this hypothetical element. T?- appears as an initial before vowels (see §8), and as a prefix before sonant or aspirated surd stops or affricates, the latter replacing sibilants in this position (see n. 90). This prefix is commonly found with the ‘present’ roots of Tibetan.

337 TB prefixed *a- in this role is curiously paralleled in two remote languages; cf. Navaho ‘neutral prefix’ a- in ana ‘eye’ (bina ‘its eye’), agud ‘knee’ (bogud ‘its knee’), ak’vos ‘neck’ (bok’vos ‘its neck’), amá ‘mother’, bamá ‘her mother’ (bi is 3rd person pronoun) (see Fr Bernard Haile, A Manual of Navaho Grammar, St Michael’s, Arizona, 1926); Abchas (Caucasian family) abla ‘eye’ (sabla ‘my eye’, ubla ‘thy eye’), with a- apparently the same as the 3rd person neuter element (see A. Dirr, Einführung in die kaukasischen Sprachen, Leipzig, 1928).

338 TB prefixed *a- is not represented in Tibetan before nasals, but may have
verbs, and often interchanges with prefixed m- or b-; cf. 'thol-ba ~ mthol-ba
'confess', 'khyud-pa ~ mkhyud-pa 'embrace', 'gray-ba ~ bgray-ba 'count', 'dzo-ba
(< *zö-ba) ~ bzo-ba 'to milk' (zö 'milk'). Prefixed - with non- verbal roots is
much less in evidence but does occur, as in 'gul 'neck' (= mgul-pa), 'doms 'pu-
denda' (sometimes mdoms), 'dre 'demon', 'dab-ma 'wing', 'bu 'insect', 'brong
'wild yak', 'bras 'rice', 'brug 'thunder', 'bru 'grain, seed'. There can be little
doubt that this prefix is the pure 'zero vocalization' representative of TB prefixed
*a-, regularly actualized in Tibetan as a kind of 'pause' phoneme before stops and
affricates in verbal forms. T prefixed ?a- with kinship terms, on the other hand,
appears to be a stressed variant of the same element, phonetically [ʔa] as opposed
to [a].339 Gyarung, as recorded by Wolfenden (JRAS, 1936), makes a similar
distinction between a-, as in atata 'father', ama 'mother' and ʔa ~ ä ~ ʊ -, as in
skēsu 'goat', sphak 'half' (cf. B āwak), ələpo 'donkey', aštā 'flesh', āsmā 'lip,
beak', əbōrō 'horse'. In general, then, all the prefixes described above, including
T ?a- as well as '-', are to be referred to a single TB pronominal element *a- found
both with nominal and verbal roots, just as the several types of occurrence of
prefixed *m- can be brought under a single heading. It can be further stated that
*a was the TB 3rd person pronoun corresponding to *ja (1st person) and *nay
(2nd person), whereas in proto-TB times prefixed *m- had already become an old 3rd
person pronominal element on the road to disappearance as an independent entity.

occurred before liquids, the suggested developments being *ar- > 'dr- and *al- >
*dl- > ld-; cf. 'dre-ba 'to be mixed with', sre-ba 'to mix' (tr.), from a root *re, and
ldog-pa, Pf. log 'return', zlog-pa 'cause to return', from a root *log; ldug(s)-pa,
Pf. blugs 'pour, cast', lugs 'casting, founding', lugs-ma 'cast', from a root *lug.
T d- ~ t- after prefixed l- is sometimes original, however, as in ltarg-ma 'upper part
of place', Mikir thak 'surface, on, up, fore', K kṣṭha? 'upper, above', kṣṭha? 'above,
overhead', Nung tha-ha = tha-lam 'up, above', B tak 'ascend', ətak 'upper part,
space above', from TB *l(-)tak; cf. Garo dák 'go, advance'.

339 This analysis now requires restatement. Tibetan (written or classical
language) has a phoneme ʔ/ actualized in three quite different ways: (1) before y,
as ʔ: /g'yas/ 'right (hand)' = gzyas, contrasting with gyad 'champion' (see n. 318);
(2) before stops/affricates, as glottalization or as ʔa (optional), through rule that
syllable-initial vowels are pre-glottalized: ʔ/ bu/ 'insect' = ʔbu or ʔbū; (3) before
vowels, as (zero): ʔ/og/ 'below' = og, contrasting with /og/-ma 'throat' = ʔog (the
latter, because of pre-glottalization rule).

The (zero) actualization of ʔ/ results from the following:
ʔaʔog = og, with parallels elsewhere in Lahu, where this rule: ʔ + ʔ = φ leads to
high-rising tone (Matisoff, Lahu and PLB), and in Highland Yao (H. C. Purnell,

This analysis is in harmony both with the history of the element (TB prefixed
*a- ) and with the script (the old inherent vowel sign). It yields a paradoxical
assignment of phonetic values, of a type that could not have been reached on a
purely phonological basis. As a result of this analysis, moreover, Tibetan ʔ before
initial vowel is seen as non-phonemic (conditioned), as elsewhere in TB.
§29. Tibeto-Burman alternation (consonantal, vocalic)

Apart from prefixation and suffixation, only one general morphological process can be assigned to the parent TB speech, viz. alternation of root initial.\(^{340}\) This feature is present in a number of TB roots reconstructed above, viz. \(*\text{bar} \sim *\text{par} ‘\text{burn}’, *\text{be} \sim *\text{pe} ‘\text{broken, break}’, *\text{bleg} \sim *\text{pley} ‘\text{straight, straighten}’, *\text{biy} \sim *\text{piy} ‘\text{full, fill}’, *\text{brup} \sim *\text{prup} ‘\text{overflow, gush}’, *\text{byar} \sim *\text{pyar} ‘\text{affix, plait, sew}’, *\text{dup} \sim *\text{dip}, *\text{tup} \sim *\text{tip} ‘\text{beat}’, *\text{dyam} \sim *\text{tyam} ‘\text{full}’, *\text{gwa-n} \sim *\text{kwa-n} ‘\text{put on clothes}’, *\text{du-t} \sim *\text{tu-t} ‘\text{join, tie, knot}’, *\text{bip} \sim *\text{pip} ‘\text{conceal, bury}’. In Tibetan, Kiranti, Bahing, Vayu, and Bodo-Garo the fundamental contrast is that between intransitives with sonant initials and transitives with surd initials, and this contrast surely is to be regarded as an inherited TB feature. No invariable relation existed between root initial and verbal function, as shown by transitive roots such as *\text{dza} ‘\text{eat}’ with sonant initial; we can state simply that certain roots show the alternation, while others do not.

The alternation of initial sonant and surd in Tibetan itself is obscured by extensive prefixation and the specialization of verb forms as ‘present’, ‘perfect’, ‘future’, or ‘imperative’, e.g. ’\text{bud-pa}, Pf. and Imp. \text{phud}, Fut. \text{dbud} ‘\text{put off, pull off}’, also ’\text{phud-pa}. As noted by Francke and Simon (in Jäschke, Tibetan Grammar), the main line of cleavage in Tibetan roots is that between presents and futures (sonant initial, intransitive or durative) and perfects and imperatives (surd initial, transitive or active). This fact suggests that Tibetan has secondarily made use of initial alternation as a time-index; thus (from the forms cited above) ’\text{bud} and \text{dbud} are derivatives of an intransitive stem *\text{bud}, while \text{phud} and ’\text{phud} are from a transitive stem *\text{pud}.\(^{341}\) In the following roots Tibetan has a verb of transitive form in the role of an intransitive:

340 For a view to the contrary, see R. A. Miller, ‘The Tibeto-Burman Infix System’, \textit{JAOS} \textbf{78}, 3 (1958) (JAM). The ‘infixes’ described by Miller appear to be the product either of chance similarities, e.g. TB *\text{kra} ‘\text{bathe, wash}’ and T \text{khu} ‘\text{fluid, liquid}’ (Miller finds an infixed \text{-}\text{r-} here) or of a misunderstanding of TB phonology, e.g. the -\text{y-} of T \text{kyi} ‘\text{dog}’ is not an infix (Miller) but represents the normal palatalization in Tibetan before the front vowel i; T \text{nya} ‘\text{fish}’ does not include an infixed -\text{y-} (Miller) but represents a normal shift (\text{n}-\text{-e}<*\text{ny-}) for Tibetan (long ago noted in Benedict, 1939), the medial appearing even in Ch. \text{ny}=\text{niwo}, from ST *\text{nya}.

341 Conrady (\textit{Eine indochinesische Causativ-Denominativ Bildung und ihr Zusammenhang mit den Tonaccenten}) failed to grasp the central fact of initial alternation, and hence was led to interpret all the variations of the Tibetan verb in

\(^{a}\) 魚

T’don-pa, Pf. bton, Fut. gdon, Imp. thon ‘cause to go out, go out’, but Kanauri don ‘go or come out’, tön ‘put out’, perhaps also Magari don ‘pull’ (= ‘cause to come out’), from a root *don~*ton (restricted occurrence).

In many roots, however, Tibetan presents a clear contrast:

’gril-ba ‘to be twisted or wrapped round’, ’khril-ba ‘wind or coil round, embrace’.

’du-ba ‘come together, assemble, unite’, ’thu-ba ‘gather, collect’ (No. 421).

’bri-ba ‘lessen, diminish’ (intr.), ’phri-ba (tr.).

’dzag-pa ‘drop, drip, trickle’, ’tshag-pa ‘cause to trickle, strain, filter’.

Kanauri shows initial alternation much more regularly than does Tibetan itself; cf. byan ‘to fear’, (s)byan ‘frighten’, bar ‘burst, split, tear’ (intr.), phar (tr.); bar ‘burn (wood)’ (intr.), par (tr.); bon ‘burn’ (intr.), pon (tr.); böön ‘to be filled’, pöön ‘to fill’ (TB *blüh~*plüh); bi ‘go, flow, climb’, phi ‘take away, remove’; blus ‘fall (house)’, phlus ‘knock down (house)’. In Bahing and Vayu the contrast is equally clear; cf. Bahing guk ‘to be bent’, kuk ‘make bent’; cf. T’gug(s)-pa, Pf. bgug, Fut. dgug, Imper. k lug ‘bend, make crooked’, kug(-kug) ‘crooked; a crook’, B kauk ‘crooked’, akauk ‘a curve, bend’ (TB *guk~*kuk); gik ‘to be born’, kik ‘give birth to’; Vayu bok ‘to be born’, pok ‘give birth to’. Note especially Vayu im ‘sleep’, hem ‘make sleep’ (TB *ip); ram ‘fear’, čam ‘frighten’. Initial alternation is relatively rare in Bodo-Garo and is perhaps altogether lacking in Garo itself; cf. Bodo géj ‘come loose’, khej ‘loosen’; bej < *bley ‘to be straight’, phej < *phley ‘make straight’; Dimasa belen ‘to be erect, straight’, gibley ‘erect, straight’, si-phley ‘straighten out (crease, knot, kink)’, ga-phlüh ‘straighten out, go straight’ (*phley~*plüh is verbal auxiliary) < TB *bley~*pley. The Burmese-Lolo alternation between unaspirated initial (intr.) and aspirated initial (tr.) has been explained in terms of TB causative prefixed *s- (see §22), yet the alternative explanation in terms of sonant vs. surd alternation cannot be excluded.342 Thus, B pran ‘full’ < *blüh, as shown by Lahu, Lisu, Lolopho bi, Ahi dc, Nyi dc, but B phran ‘fill’ < *s-blüh (corresponding to K dzəphriy) or *plüh. B hy-, hñ-, hñ-, hmn-, hl- , and hr- (hy-) in transitive forms must be derived from prefixed *s- forms, but terms of prefixes (real and unreal). A thoroughly modern linguistic approach to this problem is found in Li Fang-kuei, ‘Certain Phonetic Influences of the Tibetan Prefixes upon the Root Initials’, CYYY 4 (1933), 135–57, in which the weakness of Conrady’s position is exposed.

342 B-L does not appear to have the sonant vs. surd alternation (JAM).
pairs such as tsut ‘to be torn’, tshut ‘to tear’ indicate initial alternation (tsut < *dsut, tshut < *tsut). Siyin (Northern Kuki) has an initial alternation identical with that found in Burmese; cf. kiem ‘grow less’, kkiem ‘make less’; kom ‘come together’, khom ‘bring together, collect’, but nothing comparable has been noted elsewhere in Kuki-Naga. Lepcha, which ordinarily forms its transitivity through palatalization of the initial (see §22), has the interesting pair dyuk ‘spittle’, tyuk ‘to spit’ (cf. Mikir intok ‘to spit; spittle’); this should be compared with the following root:

(472) T dug ‘poison’, B tauk ‘to be poisoned’ < *tuk rather than *duk, on the basis of Lahu it? ‘poisonous’ (in comp.), Lisu to ‘poisonous’, Nyi tu ‘to be poisoned’, Lolopho tho ‘to poison (fish)’, but Moso ndu ‘poisoned (arrow)’ (Rock) (TB *duk ~ *tuk).

Vocalic alternation, although encountered in several TB languages, appears to have played no role in proto-TB morphology. Conditioning phonological factors, often of an obscure nature, are involved in most or all cases; cf. G tsha ‘eating’, antshi ‘eat’, antshe-oapa ‘have eaten’ (Chuckerbutty); Bodo xa ‘eat’, fisí ‘feed’ (LSI) < TB *dsu. Tibetan, however, shows a puzzling type of vocalic alternation in its verbs, in which stems in a regularly take o in the imperative and often either o or e in the present.344

T 'bab-pa, Pf. bab(s), Imp. 'bob~bobs 'descend'.
T 'geys-pa, Pf. bkar, Fut. dgyar, Imp. khoy ‘fill’.
T 'debs-pa, Pf. btsab, Fut. gtsab, Imp. thob ‘throw’.
T gsod-pa, Pf. bsad, Fut. bsad~gsad, Imp. sod ‘kill’.
T 'dzog-pa, Pf. bzag, Fut. gzag, Imp. zog ‘put, place’.

The e of the present stem is possibly to be interpreted as an effect of the prefixed element *a- [ə]. Similarly, the o of the imperative stem has perhaps been

343 Tiddim (Henderson, Tiddim Chin, 1965), another Northern Kuki speech, has several pairs of this type, including kia ‘fall’, xia < *khia ‘drop’ < TB *gla ~ *kla or *kla ~ *s-kla (the situation is ambiguous, as in B-L).

344 The writers on TB ablaut, especially Miller and Pulleyblank (n. 217), have made much of this feature in Tibetan, but the origin of this alternation appears to lie in phonology rather than morphology. The Chinese vowels cannot be explained without setting up a 7-vowel system for ST (see §46) and Tibetan verb forms reflect this early system, as follows:

ST/ST *a=T a ~ a (no alternation, except in the imperative)
ST/ST *a=T a ~ o
ST/ST *a=T a ~ e

We can now, by way of illustration, reconstruct TB *g-sát (T gsod-pa, Pf. bsad), the back vowel serving to explain the seemingly irregular Garo form: sot (n. 85); also TB *sem ‘breath, voice, spirit’: T sem(s)-pa, Pf. sens ~ bsams ‘think’, sem(s) ‘soul, spirit’, bsam-pa ‘thought’. Reconstruction along these lines also serves nicely to explain the cognate Ch. forms in these and other roots (nn. 482, 488).
conditioned by an archaic imperative suffix -o, found in Kanauri (e.g. bih ~ biaoh ~ biauh ‘go!’ < bi-mig ‘to go’), Manchati and Tinan (-u), Gurung, Bhramu, Magari and Bahing (cf. Trombetti, *Elementi di Glottologia*, pp. 601–2). In at least two roots, however, the original TB vowel appears to have been o rather than a: T skyony-ba, Pf. bskyangs, Fut. bskyan, Imp. bskyony(s) ‘to guard’, B kyaun < TB *kyony (above).


§30. Karen (general)

The Karen languages are spoken by relatively primitive tribes in Lower Burma, the Shan States and northern and western regions of Thailand. The literary languages, recorded by European missionaries in Burmese script, are Pwo (Pgro), spoken primarily in coastal districts, and Sgaw, spoken throughout the Irrawaddy delta area. The remaining Karen languages, spoken in the Karenni Subdivision and other mountainous inland areas, are sometimes grouped together under the general term ‘Bwe’, but several distinct dialectal groups are included. Taungthu, the most highly individualized of all Karen languages, stands by itself. The best available classification of the remaining languages, none of which has been fully recorded, is that given by Taylor,345 who recognizes five groups: Mopwa (or Mogpha); Karenbyu (White Karen), Bwe (or Bghai), and Brek; Karenni (Red Karen); Padaung, Yinbaw, and Gheko; Zayein.

Our analysis of Karen must be based in large part on the data from Pwo and Sgaw, the only two languages which have been fully recorded.346,347 The sources on these literary languages, however, are far from satisfactory as linguistic tools,

345 L. F. Taylor, ‘Indigenous Languages and Races’, in *Census of India*, 1921, Vol. 10 (Burma), Appendix B.
347 R. B. Jones’ *Karen Linguistic Studies* (Univ. of California Publications in Linguistics, Vol. 25, Univ. of Calif. Press, Berkeley, 1961) now provides us with excellent descriptions of Sgaw, Pwo, Taungthu (Pa-o) and Palaychi (not previously described; most closely related to Sgaw) as well as an etymological glossary of 859
especially on the phonetic side, where the recording has been done in modified Burmese script rather than a phonetic alphabet. The non-literary languages have been too scantily recorded to be of much value, although Taylor has given us a phonetic record of most of them.\textsuperscript{348} On the comparative side, only the pioneer study by Mason and the more recent analysis by Gilmore can be cited.\textsuperscript{349}

As has already been noted (§1), Karen stands on the same taxonomic level as Tibeto-Burman, both having been derived from a common ancestral stock (Tibeto-Karen).\textsuperscript{350} Lexically, Karen has a considerable proportion of important TB roots, but shows more affinity for the eastern TB languages (Kachin, Burmese-Lolo) than the western, suggesting that some borrowing has taken place. Recent Burmese loan-words, which constitute much of the ‘learned’ vocabulary, are in

items. Robbins Burling has recently published a valuable re-working of the Jones material: \textit{Proto-Karen: A Reanalysis}, Occasional Papers of the Wolfenden Society on Tibeto-Burman Linguistics, Univ. of Michigan, 1969, greatly simplifying the complex reconstructions offered by Jones. Both these scholars unfortunately neglected the fundamental work by A. Haudricourt, ‘Restitution du karen commun’, \textit{BSLP} 42 (1942–5), 103–11; ‘À propos de la restitution du karen commun’, \textit{BSLP} 49 (1953), 129–32. This linguist, with the acknowledged aid of G. H. Luce, brilliantly solved the key problems in the reconstruction of Karen despite having only the limited, older Pwo and Sgaw sources at hand (see especially n. 367). The more recent Jones material is of special value as regards Taungthu, since this aberrant Karen speech preserves most nasal finals and shows various other archaic features (n. 384). We are now in a position to make generally satisfactory reconstructions of most Karen roots, although numerous problems of detail remain to be solved.

\textsuperscript{348} See the \textit{Comparative Vocabulary} of the \textit{LSI} (Grierson, 1928); also the comparative word-lists in Scott (1900), and B. Houghton, ‘Short Vocabulary of Red Karen’, \textit{JAS} (1894), 28–49; E. J. Walton, ‘The Yang Kalo’ (Karieng) or White Karens’, \textit{Journal of the Siam Society} 16 (1922), 39–46; ‘The Red Karens’, \textit{ibid.} 17 (1923), 74–99.

\textsuperscript{349} F. Mason, ‘Notes of the Karen Language’, \textit{JAS} 27 (1858), 129–68; D. C. Gilmore, ‘Phonetic Changes in the Karen Language’, \textit{JBR} 8 (1918), 113–19. In addition, Taungthu texts of the four gospels have been published by the British and Foreign Bible Society (Rangoon, 1917–29), but no analysis of this material has been attempted.

\textsuperscript{350} The tonal data (n. 494) furnish additional support for this concept of a Tibeto-Karen supergrouping, with indications of influences exerted by Thai (cf. also n. 367 for further Thai influence). The Karen lexical material has not yet been studied intensively, yet several important roots with Chinese (not TB) cognates have come to light, notably *tsu ‘arm/hand’, *hyam ‘salty’ and *nia ‘flesh, meat’, while another pair of roots shows a strange alignment with Chinese and Bodo-Garo, viz. *tho ‘bird’ and *may ‘rice’ (Benedict, 1967 bis, note 7). Karen also has *me? < *myak ‘eye’ rather than *mik, in agreement with B-L and Nungish (possibly also Gyarung), and this appears to reflect the archaic ST form (n. 251). An alternative possibility is that Karen split off at an early date from the BL/Nungish division of TB and was subsequently altered as a result of Thai influence.
general readily distinguished, as are the occasional Thai and Mon-Khmer borrowings. Morphologically, Karen diverges from Tibeto-Burman almost as widely as does Chinese, especially as regards syntax. Phonetically, Karen has undergone reduction of finals comparable with that found in Lolo, and has preserved initials only in part.

§31. Karen morphology (categories) and syntax

Karen represents a relatively pure type of monosyllabic, isolating language. Categories of noun, pronoun, numeral, and verb-adjective can be distinguished, as in Tibeto-Burman. The object follows rather than precedes the verb, although in disjunction the object is placed at the head of the sentence. Modifying words follow verbs as well as nouns. Relating elements, some of which precede rather than follow, make for flexibility in word-order, e.g. the most important such element in Pwo is lò, as in ya le lò wi takhò ‘I go to Rangoon (city)’; ya phe sabwa lò li? la bì (or ya phe li? la bì lò sabwa) ‘I give Sabwa a book’. Numerals are employed with numeral adjuncts or ‘classifiers’ (quantifiers), and the whole phrase is placed after the noun, much as in Burmese; cf. Pwo li? la bì ‘book one flat-thing (bì)’ = ‘one book’; γį ni phlo ‘house two round-things (phlo)’ = ‘two houses’; γį a phlo ‘many houses’. Karen syntax in general, however, with the object placed at or near the end of the sentence and with relating elements preceding as well as following, stands close to Chinese and even closer to unrelated Thai, which has perhaps exerted some influence here.

§32. Karen pronouns

The Karen personal pronouns are ya (1st), na (2nd), and awe (3rd). Pwo has a special 1st person plural pronoun (pa), but ordinarily a plural suffix is employed with pronouns (Pwo -tì). Pwo also has special forms used in disjunction and after the verb mwai ‘to be’: yō ‘as for me’, nō ‘as for thee’.351 Karen ya is directly

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cognate with TB *ya ‘I’ (see below), while *na can be compared, although not directly, with TB *nay ‘thou’. The 3rd person pronoun, *awe (Sgaw awe), has been compounded from two distinct pronominal elements a and we. The latter is employed in Pwo after verbs in the 3rd person in a curious relative clause construction in which the principal noun is governed by lū, e.g. γi lū sabwa ȳi we nau ‘the (nau lit. ‘that’) house which Sabwa built’. The former is a pronominal prefix in constructions such as sabwa arγi ‘Sabwa’s house’, γi adó ‘big house’, lit. ‘house its-bigness’.*632 Purser and Aung (Comparative Dictionary of the Pwo-Karen Dialect) cite numerous forms with this prefix, e.g. akho ‘breadth’, athau ‘length, height’, alai ‘breadth, width’, alay ‘length’; aphi? ‘skin, bark’, amq ‘spleen’,*633 ale ‘kidney’, and even adi ‘bile’ (a Thai loan-word). There can be no doubt that Karen a is directly connected with the TB 3rd person pronoun *a. It is interesting to note that this element has undergone parallel development in both stocks.*634 The older TB pronominal element *m- appears to be lacking in Karen.

§33. Karen numerals

The numeral system is decimal, as in Tibeto-Burman, but composite numerals (3+3 = 6, 3+3+1 = 7, etc.) are in use in some dialects, viz. White Karen, Bwe, Brek, Red Karen, Yintale, and Manö. The numerals are as follows:*655

352 It is probable that prefixed a- is phonetically [a-], and that a must be set up either as an independent phoneme in weakly stressed syllables (as in Modern Burmese), or as an allophone of the phoneme a in syllables with phonemic weak stress. The pronouns ya and na are perhaps [ya] and [na], with weak stress, as opposed to the disjunctive forms yō and nō, with strong stress. Our defective sources, however, enable us to draw only limited conclusions as regards Karen morphophonemics.

353 This also is a Thai loan: *maam ‘spleen’.
354 Palaychi has prefixed *a- in ʔa-m ‘name’ and ʔa-xi ‘bone’, while Taungthu has this prefix in one root which is definitely verbal, showing that Karen has retained at least a trace of this nominalizing function of the prefix (see §28); cf. Pwo, Sgaw and Palaychi sha ‘food’ but Taungthu ʔotša, from Karen *(a-)tsha (tone B); the tonal agreement with the TB verbal root *dza ‘eat’ indicates that this is not a loan from B ātsha ‘food’, which shows a shift to tone A.

355 The Karen numerals present many difficult problems, as noted in the text. Karen *hni ~ *khi ‘2’ can be derived from *k-ni (nn. 356, 369). The root for ‘7’ is *hnat or *hnat-t, to be compared with TB *s-nis, but it is unclear whether the final -t is a Karen innovation (as in ‘9’) or represents an original *-s (cf. n. 401
Karen numerals

<table>
<thead>
<tr>
<th>Number</th>
<th>TB</th>
<th>Taungthu</th>
<th>Pwo</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td>—</td>
<td>ta</td>
<td>ka</td>
<td>ta</td>
</tr>
<tr>
<td>two</td>
<td>*g-nis</td>
<td>ni</td>
<td>ni</td>
<td>khi</td>
</tr>
<tr>
<td>three</td>
<td>*g-sum</td>
<td>θoum</td>
<td>ðð</td>
<td>ðð</td>
</tr>
<tr>
<td>four</td>
<td>*b-liy</td>
<td>lit</td>
<td>li</td>
<td>kwi</td>
</tr>
<tr>
<td>five</td>
<td>*l-ya</td>
<td>ñat</td>
<td>yai</td>
<td>ye</td>
</tr>
<tr>
<td>six</td>
<td>*d-ruk</td>
<td>ðu</td>
<td>ðu</td>
<td>ðu</td>
</tr>
<tr>
<td>seven</td>
<td>*s-nis</td>
<td>nöt</td>
<td>nwe</td>
<td>nwi</td>
</tr>
<tr>
<td>eight</td>
<td>*b-r-gyat</td>
<td>ðot</td>
<td>ðot</td>
<td>ðot</td>
</tr>
<tr>
<td>nine</td>
<td>*d-kw</td>
<td>kut</td>
<td>khwi</td>
<td>khwi</td>
</tr>
<tr>
<td>ten</td>
<td>*tsi(y)</td>
<td>tsi</td>
<td>shi</td>
<td>shi</td>
</tr>
<tr>
<td>hundred</td>
<td>*r-gya</td>
<td>rea</td>
<td>ya</td>
<td>ya</td>
</tr>
</tbody>
</table>

The intimate connection with the TB numeral system is sufficiently clear, especially in view of the fact that prefixes are regularly lost in Karen. The shift \( *s- \rightarrow \theta - \) in '3' is standard, as are Pwo and Sgaw \( *y- \rightarrow y- \) in '5' and \( *ts- \rightarrow s(h)- \) in '10'. Pwo and Sgaw ñ-, Taungthu ð- in '6' and '8' appear to be reflexes of stop + r clusters (see below); cf. TB \( *d-ruk \) '6' and \( *b-r-gyat \) (\( \geq *b-ryat \)) '8'. Our reconstruction \( *r-gya '100' \) (rather than \( *b-r-gya \)) for Tibeto-Burman is supported by the distinct treatment accorded this root in Karen: \( *r-gya > *rya > rea \) (Taungthu) \( \sim yá \) (Pwo and Sgaw). Taungthu final -t in '4', '5', '7', '8', and '9' is clearly secondary, since final stops are not preserved as such in Karen. Pwo yai, Sgaw ye '5', and Pwo and Sgaw khwi '9', can be explained on the basis of vocalization of the final stop element: \( *ya-t > *yai > yai \sim ye; *k(h)u-t > *khui > khwi; \) also Sgaw kwi '4' \( \leq *lu-t < *lì-t \) (possible influence of original prefixed \( *b- \)).

§34. Karen prefixes

Karen prefixation is in large part of late origin, as shown by the general lack of correspondences between Karen and TB prefixes.\(^{356}\) Pwo ðwea < *swea 'tooth', TB for possible parallel with root for 'bone'). It is also unclear whether the suffixed -t must be reconstructed in the Proto-Karen root for 'four', since Pwo has simply li; it appears preferable to derive Sgaw (and Palaychi) kwi directly from \( *b-li \) (TB \( *b-lzy \)); cf. the parallel development in Taungtha (a transitional Central-Southern Kuki language) kwi 'nephew/niece' < TB \( *b-lzy \) (Benedict, 1941).

356 Prefixes are occasionally preserved in other Karen roots:

Taungthu and Pwo ni (high tone) < *hni, Sgaw khi, Palaychi tshi '2'; cf. TB *g-ni.
*s-wa; Pwo and Sgaw θwi < *swi ‘blood’, TB *s-hwiy; are isolated instances of agreement. Sgaw has a fairly extensive set of prefixes, sometimes alternating with initial consonant clusters, as in le ‘exchange’, kôle ~ kłe ‘change, mix, combine’, Pwo lai ‘exchange, mix’ (in comp.), TB *lay;\(^{357}\) Sgaw wa ‘surround, encircle’, kwo ‘circle; surround; to be circular’, kwo (k-wa) ‘encircle, bend into a circle or curve; circle, curve’, Pwo wq ‘encompass; to be circular’, khwaq (kh-wa) ‘to be circular’, TB *hwaq.\(^{358}\) Prefixed k- is especially common before l-, as shown by the following series:

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Pwo</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>463</td>
<td>bow</td>
<td>*d-liy</td>
<td>khli</td>
</tr>
<tr>
<td>454</td>
<td>wind, n.</td>
<td>*g-liy</td>
<td>li</td>
</tr>
<tr>
<td>440</td>
<td>flea</td>
<td>*s-liy</td>
<td>khli</td>
</tr>
<tr>
<td>448</td>
<td>grandchild</td>
<td>*b-liy</td>
<td>li</td>
</tr>
<tr>
<td>474</td>
<td>boat</td>
<td>*(m-)-liy</td>
<td>khli</td>
</tr>
</tbody>
</table>

(474) K lì, B hle, Kuki-Naga *m-liy (or *b-liy) ‘boat’ < TB *(m-)-liy.\(^{359}\)

It is probable that the correspondence in prefixes in TB *g-liy, Sgaw koli ‘wind’ is coincidental,\(^{360}\) but a possible parallel (with Kuki-Naga) is presented by the following root, which shows a puzzling variety of prefixed elements in TB: Sgaw kola ‘spirit, soul; reflected image’ (cf. la ‘beauty’) and the following:

(475) T hla ‘the gods’, Burmese-Nadao *s-la ‘soul’ (Lahu b-ha-ku, Ahi i-hlo-so, Lolo Nga hyo-mo, Nyi i-sla) (cf. B hla ‘beautiful’), K minla~numla ‘ghost, spirit’, sumla ‘picture, image, idol’, Nung phala < *b-la (probably for *m-la) ‘demon; soul’, L thla < *khla ‘spirit, one’s double’, Tangkhul may-la ‘life, ghost, soul, spirit’, from TB *(m-)-hla.\(^{361}\)


Taunghla pathom < *b-thoʔ ‘spittle’, from *m-thok; cf. TB *(m-)-tuk.

The curious Karen root *khlo ‘snail’ (Pwo, Sgaw and Palaychi all khlo) should be cited here; it fits with B kharú, id., and Ch *kwa/kwa ~ glê/kwa, id. (n. 487).

357 The k- prefix in this root is matched in TB; cf. K golai ‘change, exchange’ (JAM).

358 Cf. also Karen *gway ‘circle, ring’: Taunghla kway, Pwo khwaq, Sgaw and Palaychi kwa (all low tones), with secondary voicing of the prefixed element. Karen also has this prefix in *wa ‘husband’, *khwa ‘male (human).’

359 Taungthu has phri ‘boat’, from *p(h)li, indicating a possible correspondence with the prefix of the TB root.

360 Karen *khli ‘bow’ has a possible correspondence in TB; cf. K kuy-li (Assam dial. koli ndan), id.

361 TB *hi- merges with *sl- everywhere except in Tibetan; it may be a morpheme boundary that makes the difference: *sla ‘soul’, *s-la ‘moon’ (JAM).

This reconstruction is most uncertain; Lushe has khla here, identical in form with khla ‘moon’ < TB *s-gla; perhaps *s-hla or *s-kla is to be preferred.
Karen also has discordant (with TB) prefixed k- in certain other roots:
Pwo and Sgaw kwa (k-wa) ‘ax’; TB *r-wa.
Sgaw kaha ‘phlegm’; TB *ha-k ‘hawk, gag, choke’.
Pwo kasha, Sgaw kash ‘elephant’; B tshay.\textsuperscript{362}
Karen has prefixed p- for TB *b- and *m- in the following pair of roots:\textsuperscript{363}
Pwo phla, Sgaw pola~pla ‘arrow’; TB *b-la.
Pwo phle, Taungthu pre, Padaung ble, Sgaw pole~ple ‘tongue’; TB *m-lay~*s-lay.
The former root might be submitted as evidence for the reconstruction of
TB *bla rather than *b-la ‘arrow’ (cf. n. 314). Similarly, Karen kha ‘ashes’
suggests that the TB root might be *b-la (cf. Mikir phelo < *b-la) rather than *pla
(cf. B pra < *pla).\textsuperscript{364} Karen thwi ‘dog’ in the face of TB *kwyi is puzzling, but can
be explained as follows: *kwyi > *k-wyi [kwyi], with the initial interpreted as a
prefix, whence *t-wyi > thwi through the typically Karen process of alternating
prefixes, e.g. Sgaw kaði ~ taði ‘medicine, tobacco’.\textsuperscript{365}

\section*{§35. Karen initial consonants and clusters}

The phonemic system of Karen is a somewhat complicated version of that re-
constructed for Tibeto-Burman. Extensive phonetic reduction, often paralleling
shifts found within Tibeto-Burman, has taken place, but the historical connection
of the two systems can be established. Pwo has the following phonemes: k, \(\chi\), \(\gamma\), t,
d, s, ŋ, z, p, b, n, m, \(\theta\), \(\phi\), r, l, y, w, h and ?; i, e, ü, ö, a, u and o. The consonant
clusters, in initial position only, include kh, th, ph, sh (these might be regarded as
unit phonemes); k or p ~ b + y, w, r, or l (the w and l clusters are typical); my, ml

\textsuperscript{362} This root appears to be an early loan from Burmese, since it has the same
aberrant tone A as compared with Thai and Chinese, both with tone B (probably
from an original AT source; see Benedict, 1967bis); the prefix, which perhaps
is related to the *k- ‘animal prefix’ of TB (n. 301), is not found in Palaychi (sh2)
nor Taungthu (tshay).

\textsuperscript{363} We now reconstruct Karen *bla ~ *pla (Taungthu) ‘arrow’ and *ble
‘tongue’ (n. 367).

\textsuperscript{364} Taungthu has pha (same tone) ‘ashes’, perhaps from *phla; the irregulari-
ties in this root are in keeping with the suggestion (Benedict, 1967bis) that this is an
old loan from AT.

\textsuperscript{365} Karen *tho? ‘pig’ has perhaps been derived from *thwak < *phwak (TB
*pwak) through a process closely analogous to that proposed for the root for ‘dog’,
with the initial *p- interpreted as a prefix: *p-wak.
and mw; tw, dw, nw, sw, xw, tw, yw, kw. The only vowel clusters are ai and au. The phonemic systems of Sgaw and (insofar as can be inferred from our meagre data) of other Karen languages are of the same general type as that of Pwo, with differences in detail rather than in outline.\textsuperscript{366}

Initial stops: Surd stops are maintained in Karen, usually in aspirated form (kh, th, ph):

Sgaw ka ‘open, diverge, dilate’; TB *ka.
Pwo kha-laʔ, Sgaw kha ‘chin’; TB *(m-)ka ~ *(s-)ka.
Pwo and Sgaw kha ‘bitter’; TB *ka.
Pwo khu, Sgaw khū ‘smoke, vapor’; TB *kuw.
Pwo and Sgaw khe ‘tiger’; TB *d-key.
Pwo and Sgaw khwi < *kuh-t ‘9’; TB *d-kuw.

Pwo thaʔ tha, Sgaw tha tha ‘weave’; TB *tak.
Pwo and Sgaw thi ‘water’; TB *ti(y).

Pwo pha, Sgaw pa ‘father’; TB *pa.
Pwo and Sgaw pha ‘male’ (gender suffix); TB *-pa.
Pwo and Sgaw phi ‘grandmother’; TB *piy.
Pwo phu, Sgaw phū ‘grandfather’; TB *pûw.

In its treatment of initial sonant stops Karen resembles Lushei, in the Kuki (TB) group, i.e. initial *g- has become h(h)-, while *d- and *b- are maintained only in part.\textsuperscript{367} Initial *d- is preserved in Pwo dq, Sgaw dɔ ‘cut (with dah)’, TB *dan;

\textsuperscript{366} Excellent descriptions of the phonologies of the various Karen languages are now available in Jones’ monograph (n. 347). Jones describes a symmetrical 9-vowel scheme for Pwo, but the vowels e, ɔ and ɔ are all described as rare. Taungthu has a skewed arrangement, with a tenth vowel (high back unrounded).

\textsuperscript{367} Haudricourt (n. 347) has shown that a series of voiced stops must be reconstructed for Karen on the basis of tonal correspondences (two low series) as well as the equation of initials: Pwo aspirated stop = Sgaw plain stop (Taungthu agrees with Pwo, Palaychi with Sgaw), e.g. Pwo pha, Sgaw and Palaychi pa ‘father’, from Karen *ba (but Taungthu has an irregular *pha here). Initial *b- as thus reconstructed appears in this root (cf. Ch. b’jwo/b’juʔ < *bwa) and in *bū ‘younger sibling’, possibly cognate with T bu ‘child, son’ (cf. Benedict, 1941: the Old Kuki languages commonly replace *xa ‘child’ with forms derived from TB *na-ɔ ‘younger sibling’), also in the cluster *bl- (n. 363), but no Karen roots with initial *g- or *d- appear to have TB correspondences. Haudricourt has also shown that present Karen forms with initial b- and d- fit with a mid (high) tonal series and are to be reconstructed with initial *ʔb- and *ʔd-, precisely as in Thai. Historically, they stand for *p- and *t-, which are conspicuously rare or lacking in the system (n. 368 has one of the exceptional forms in *ʔp-) and they appear also in loan-words; cf. Karen *ʔdwaʔ ‘reckon’, B twak; also *ʔdɔ ‘knife’, Ch. tog/tâu\textsuperscript{b}.

\textsuperscript{a} 父 \textsuperscript{b} 刀

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Karen initial consonants and clusters

cf. also Pwo and Sgaw di 'egg', K di, Moshang wu-di, which we have referred to TB *ti(y) 'water' on the strength of the TB evidence as a whole (see n. 149). Inasmuch as Karen thi 'water' is unquestionably a derivative of this root, we may infer (a) that Karen di 'egg' has been borrowed from Kachin, (b) that TB had a root *dī(y) 'egg' distinct from *ti(y) 'water', or (c) that Karen di 'egg' was originally the second part of a compound ('bird-water'), as in Tibeto-Burman, and that *t became d in intervocalic position (Karen *tho-thi > *tho-di > di). Initial b- appears in Pwo and Sgaw bū 'rice (paddy)', Kuki *bu (L bu?, Thado bu). Karen has a number of important roots with these initials, e.g. di? 'wing', de 'frog', diē? 'fight', do 'large', dō 'knife'; bā~bō 'yellow', bī? 'squeeze', be~khōe 'goat' (a Mon-Khmer loan-word), bē~bu 'thin', bu? 'near', bōa~wa 'white' (cf. B wa 'yellow'), but TB cognates are exceedingly rare. The shift from surd stop is observed in Pwo and Sgaw kha? 'shoot', TB *ga-p; Pwo (Tenne-serim dialect) and Sgaw phīi 'carry (child on back)', TB *bwu.368

Initial affricates and sibilants: Karen closely resembles Modern Burmese in the developments *ts > s(h), *s > θ-. Initial *dz- and *z- were unvoiced and fell together with their corresponding surd elements; cf. Pwo and Sgaw sha 'food', TB *dza 'eat' (B ätsa 'food'); Pwo and Sgaw pho-θa 'child', θa 'fruit', TB *za 'child'. Pwo has initial z- in loan-words, e.g. ze 'market', B zè < dshè. Taungthu has ts- (tś- before i) corresponding to Pwo and Sgaw sh-; cf. tśí 10', Pwo and Sgaw shi, TB *tsi(y). The Kalenni dialects (including Yintale and Manō) retain initial s-; cf. Yintale sun, Manō su '3'; Yintale sai, Manō sì 'die'; also Yintale tsi, Manō Karen *ʔdi 'egg' (for di, text), for an earlier *ti, agrees with *thi 'water' (with tone change) but with unaspirated initial because of close juncture: *tho-ti 'bird-water'. The corresponding unaspirated velar stop (*k-) appears in Karen, as would be anticipated; cf. Karen *hau? 'to call out, be called out' (Taungthu kau?, Pwo ko?, Sgaw ko?), T 'gug(s)-pa, Pj. bgug, Imp. hhug 'call, summon'. Bwe preserves the archaic stop series in detail (E. J. A. Henderson, Vestiges of Morphology in some Tibeto-Burman Languages, paper read at 4th Sino-Tibetan Conference, Indiana Univ., 1971).

368 It is now evident from the material cited by Jones that this is a complex root in Karen with several forms; Pwo has phū (tone B) 'carry (baby) on back' but Palaychi and Sgaw have *pū (tone A), id., with rare initial *p- (n. 367); in the general meaning 'carry on back', a suffixed -n form must be reconstructed for Karen: *phūn (tone B) < *phū-n: Pwo phūn~phn, Palaychi and Sgaw phūi; Taungthu has bū (same tone) < būi. The suffixed -n here is strikingly similar to that found in TB (§20); cf. also Taungthu tskhun 'steal' (low tone A) < *gu-n; T *r-kew, id. (T rku-βa 'steal', rkm- 'thief; thief'; Kanauri khun 'steal'); also Karen *kwən < *kwa-n 'put on (arolang), clothe (lower part of body)'; Taungthu kon, Pwo kɔ̌, Palaychi fwu, Sgaw ku; TB *gwa-n < *kwa-n 'wear'; dress'; also Karen *kho< *kho-n 'dig': Taungthu khu (with loss of -n after the mid vowel o, as described by Jones), Pwo khan, Palaychi fo < kho, Sgaw khu; TB *r-go-t < *r-kho-t 'dig up, scoop out' (T rko-ba~rko-d-pa, K lagot~ləkhot; no suffixed -n forms known from TB).
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tiṣi ‘horse’, corresponding to Pwo θe~kəθe, Sgaw kəθe, Taungthu θe (an old Mon-Khmer loan; cf. Khmer seh). The regular Karen correspondences are illustrated below:

Pwo sha ‘pain’, Sgaw sha ‘disease, pain, painful; hot’; TB *tsa.
Pwo and Sgaw shi ‘to’; TB *tsi(y).
Pwo and Sgaw shi ‘urine’; TB *ts(y)i.
Pwo shə, Sgaw shə ‘mortar’; TB *tsum.

Pwo and Sgaw θi ‘die’; TB *siy.
Pwo θə, Sgaw θə ‘3’; TB *g-sum.
Pwo θi ‘to comb’ (comp.), Sgaw θi ‘a comb’; TB *m-si(y).
Pwo and Sgaw θaʔ ‘itch’; TB *m-sak.
Pwo θi, Sgaw θə ‘tree, wood’; TB *siy.
Pwo and Sgaw θo ‘oil, fat’; TB *sa-w.

Initial nasals: Initial *n- and *m- are preserved in Karen:369

Pwo na(-phu), Sgaw na(-de) ‘nose’; TB *s-na.
Pwo and Sgaw na ‘ear’ (also ‘hear’ in Sgaw); TB *g-na.
Pwo and Sgaw ni ‘petticoat, skirt’; cf. the following root:

Pwo ni, Sgaw ni ‘year’; TB *niy.
Pwo and Sgaw ni ‘day (24 hours)’; TB *niy ‘sun, day’.
Pwo nu, Sgaw nü ‘breasts’; TB *nuev.
Pwo and Sgaw ne ‘get, obtain’; TB *ney.

Pwo and Sgaw maʔ ‘son-in-law’; TB *ma-k.
Pwo mi, Sgaw mi ‘ripe, cooked’; TB *s-min.

369 Following Haudricourt (n. 347) we reconstruct aspirated nasals (Luce notes that these are preserved in some Karen speeches) where the tonal series is high: Karen *hna ‘nose’, *hni ‘petticoat, skirt’, *hney ‘year’, *hmin ‘ripe/cooked’, *hme ‘fire’ (see text for these); also *hni ‘2’, *hmai ‘mole (on skin)’, *hna ‘witch, spirit’, *hna[m] ‘sesame’, *hma ‘wife’, *hni ‘sleep’, *hnum ‘smell’, *hna ‘fish’ and ‘flesh, meat’ (see n. 494 for the tonal correspondences for these forms). These Karen clusters appear to have been derived from prefixed initials, especially *s-prefix; cf. TB *s-na ‘nose’, *s-niʔ ‘year’, *s-min ‘ripe/cooked’, *s-nam ‘sesame’; also L sa-hna ‘fish’ (sa ‘animal’), agreeing with Karen *hna < *hnya. Karen *hni ‘petticoat, skirt’ is perhaps from *s-ni; cf. B hni ‘spread out, for purpose of supporting’, aṁhni ‘anything spread out, diaper’; cf. also *hna ‘witch, spirit’, B nat ‘spirit’, probably from TB *na ‘ill; pain’ (see discussion in Benedict, 1939), pointing to a TK causative form *s-na ‘to bewitch’ (= ‘cause illness or pain’).
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Pwo mi, Sgaw mi ‘name’; TB *r-miy.
Pwo and Sgaw me ‘fire’; TB *mey.
Pwo me, Sgaw me ‘tail’; TB *r-may.

Initial *y- is preserved in Taungthu and Zayein, but regularly becomes z- in Mopwa, y- in Pwo and Sgaw:

<table>
<thead>
<tr>
<th></th>
<th>TB</th>
<th>Taungthu</th>
<th>Zayein</th>
<th>Mopwa</th>
<th>Pwo</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>five</td>
<td>*l-ya</td>
<td>yat</td>
<td>yā~nyā</td>
<td>zā</td>
<td>yai</td>
</tr>
<tr>
<td>406</td>
<td>I, me</td>
<td>*ya</td>
<td>—</td>
<td>ya~nya</td>
<td>za</td>
<td>ya</td>
</tr>
<tr>
<td>477</td>
<td>plantain</td>
<td>*yak</td>
<td>ya</td>
<td>—</td>
<td>—</td>
<td>ya?</td>
</tr>
</tbody>
</table>

(477) TB *yak ‘plantain’, as represented by Kiranti *yak, K va~loya~loyu (cf. Khaling le-yak-si, Nachereng li-yak-si), B hyak.

Sgaw has initial y- in ya ‘borrow, hire, lend’, a borrowing from B hyà. Taungthu has retained initial *y- also in t̥ya ‘tooth’, Ch. yà > ya a ‘tooth’, Thai *ya ‘tusk, ivory’.

Pwo and Sgaw Karen has l- for TB *l- (initial), but the Karenni dialects show an unusual *l- > t- shift; cf. Manō ta ‘moon’ <*la, ta ‘leaf’ <*la, ti ‘4’ <*li, pti ‘tongue’ <*ple. The regular Karen correspondence is observed in the following:370

Pwo and Sgaw la ‘moon, month’; TB *s-la~*g-la.
Pwo lō, Sgaw lō ‘stone’; TB *r-luy.
Pwo lō, Sgaw lō ‘warm’; TB *lum.

Initial *r- in TB roots is represented by Pwo and Sgaw γ-:
Pwo and Sgaw tho-γi ‘pheasant’ (tho ‘bird’); TB *s-rik~*s-ryak.
Pwo γe, Sgaw γi~γe ‘rattan, cane’; cf. the following:

Pwo γu, Sgaw γui ‘snake’; TB *b-ru-l.
Pwo γai, Sgaw, γe ‘row’; TB *ren.

Taungthu is distinctive in its retention of initial *r-, as in rea~100 (TB*r-gya), rön ‘silver’ (a Mon-Khmer loan-word), and note pre ‘tongue’ for *ple. Pwo has initial r- in Mon, Burmese and English borrowings, e.g. rë ‘courthouse’ <B röm (Modern youï), riphau? < English report.

Karen occasionally has initial l- in a high tonal series, from *hl-, paralleling the aspirated nasals (n. 369); the best examples are Karen *hla ‘moon’, TB *s-gla; Karen *hla ‘leaf’, TB *(s)-la.

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Sgaw has initial h- corresponding to Pwo γ- in a number of roots, including the following:

Sgaw haʔ, Pwo γaʔ ‘walk’.
Sgaw ḥa, Pwo γq ‘cry’.
Sgaw ḥe, Pwo γai ‘pungent’, also ‘come’.
Sgaw ḥo, Pwo γaµ ‘gaping’.

The extra-Karen comparisons uncovered for this series do not suffice to clear up the problem:

Sgaw ha, Pwo γa ‘evening’; TB *ya.
Sgaw hi, Pwo γi~yi ‘house’; TB *kim.
Sgaw hū (shū), Pwo qyu ‘steal’; TB *kuw.
Sgaw ho, Pwo γq ‘salty’; Ch. g’am > γam.a

The last three comparisons suggest that Tibeto-Karen *k~*g- have yielded Sgaw h-, Pwo γ- under undetermined conditions (note that the TB root for ‘house’ shows irregular loss of the initial within TB itself).371

Initial semi-vowels: initial *w- and *y- appear to be maintained in Karen, but very few comparisons are available:

Pwo and Sgaw wa ‘husband’; TB *wa.
Taunghu wa ‘bird’; TB *wa.
Pwo yu, Sgaw yū ‘rat’; TB *b-yuw.
Sgaw ya ‘roll up a cud of betel’; cf. B ya, id.372
Pwo and Sgaw yu ‘to swallow’ (usually in comp. with q~ə ‘eat’); cf. TB *mlyuṭ, id. (K. msey).

Initial *w- is preserved also in Pwo ṭwa ‘tooth’, TB *s-wa, and Pwo and Sgaw ṭwi ‘blood’, TB *s-hwi. Initial w- would appear to be secondary in Pwo and Sgaw wa ‘bamboo’, TB *g-pa, and Pwo waʔ~ ṭwaʔ, Sgaw waʔ ‘small black land-

371 This cluster is best reconstructed *hy- (Karen y- in high tonal series appears in loans from Burmese and is probably late; n. 372). The original was probably a palatalized aspirated velar stop, from whatever source:

*γ-ya ‘evening’ > *khya (unvoiced) > *hya
*khym ‘house’ > *hkyim (aspirated) > *hymi [m]
*r-kw ࣖ ‘steal’ > *khymw (aspirated; palatalized by *r- prefix) > *hyū
*γ-am ‘salty’ > *khym (unvoiced; palatalized by prefix) > *hyam

Taunghu has thom ‘salty’, apparently from *khym.

372 Jones (Karen Linguistic Studies) cites Pwo, Palaychi and Sgaw ya ‘betal cud’ (high tone), an apparent loan from B ya. An excellent comparison for ST *y- is furnished by Karen *ya ‘sail’ (usu. in comp.) but Sgaw also ‘expand to a great extent (as branches); to hoist (= spread) sail’; cf. TB *ya-r ~ *yăr, as represented by K yan ‘to be unrolled and spread out, be extended, drawn out in a line’, syan ‘extended, continuous’, L za-r ‘hang up (cloth), spread (sail)’, Tiddim za-k ‘spread a blanket’, but T g-yoర-mo ‘sail’.

a 詳
leech’, TB *r-pat. The *p- > *w- shift has been operative in both these roots within Tibeto-Burman, hence one must infer that the factors determining the development of this initial were present in Tibeto-Karen itself.\(^{373,374}\)

Initial h- is found in many Sgaw words, but only one TB comparison has come to light, viz. kohæ ‘phlegm’, TB *ha-k. Pwo has h- in the loan-word hau (Sgaw hɔ) ‘preach’, B hau ( > hɔ), and has voiced h- (perhaps simply an allophone of h) in particles.

Initial clusters: Karen is fairly rich in initial consonant clusters, as described above. Many of these are to be interpreted as combinations of prefix + initial, as in *khli ‘boat’, *p(h)le ‘tongue’ (see above). Clusters with r and y appear to be of late origin, and often appear in loan-words, e.g. Pwo mya-nya ‘many in company’, B myñ ‘many’. Medial l is sometimes substituted for r, as in Pwo and Sgaw mlø? ‘cannon’, B âmrão. The most typical of all Karen initial clusters are with -l-: k(h)l- and p(h)l-. The only extra-Karen comparisons for the latter cluster are with TB roots reconstructed with labial prefix + -l- initial; cf. Karen *p(h)la ‘arrow’, TB *b-la; Karen *p(h)le ‘tongue’, TB *m-lay (see above).\(^{375}\) Three TB comparisons are available for Karen forms with velar + -l- initial clusters, but the material here is very limited:

Pwo and Sgaw khli? ‘fold up’; cf. L thlep < *khlep, id.

Pwo khlaï ‘speak’; cf. T gleñ-ha, id.

Pwo khli? ‘put on (hat), shut down (lid)’, khli? bi? ‘screen with a cover, hide from sight’;\(^{376}\) cf. the following:

\((479)\) T klub-pa ‘cover (e.g. the body with ornaments)’, K grup ‘cover (as with

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\(^{373}\) The Karen data here might be used as an argument for recognizing doublet roots for Tibeto-Burman, e.g. *r-wat and *pat ‘leech’. Borrowing might also play a part here, although the evidence as a whole does not favor this view.

\(^{374}\) See n. 78 for these roots: TB *pwa ‘bamboo’ but *r-pat ‘leech’. The initial *p- of the former appears to be reflected in Karen *hwa ‘bamboo’ (high tonal series), with the cluster *hw- paralleling *hl- and the aspirated nasals (nn. 369, 370), indicating a development *phw- > *hw- very similar to that posited for Chinese (n. 463). This cluster (*hw- ) is rare in Karen, however, since TS *s-tw- and *s-hya- are represented by Karen *sw- (preserved in Taungthu), as shown by Karen *swa ‘tooth’ and *swi ‘blood’ (Taungthu swi).

\(^{375}\) These roots have been reconstructed Karen *bla ‘arrow’ and *ble ‘tongue’ (n. 367). A true initial cluster is represented by Karen *p(h)le (Taungthu ple, Pwo phle) ~ *ble (Sgaw ble, Palaychi bli) ‘slippery, smooth, clean’; TB *ble ‘slip, slippery’.

\(^{376}\) Jones cites Pwo khlaü? /khli? ?, Sgaw kla? (all on low tones) ‘to cover’, from *glü? ; also the apparent doublet root: Pwo lau? ~ lü? ?, Sgaw li? (note vowel distinction) (all on high tones) ‘cover (e.g. with blanket)’, from *[k]lü? ; perhaps an original *glup (intr.) yielded Karen *glü? while *klup (tr.) yielded Karen *lü??, but both forms are now transitive in Karen.
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a blanket), wrap (as a child in a blanket), Bodo dzokhlop ‘cover, shut’, Dimasa phukhlu ‘tuck in’, sukhlub ‘drown, immerse’, phun-khlub ‘wrap around’ (phun ‘wrap’), from TB *klup.

Karen also has initial clusters with -γ-, best preserved in Sgaw (but with some alternation with -w-), but dropped or replaced by -w- in Pwo:

Sgaw rawtypesa, Pwo Ḟa (pa or ha in some districts) ‘man’.
Sgaw ɐɣi, Pwo ʨwe ‘how many’.
Sgaw ɐɣe, Pwo ʨwe ‘full’, from *ɐɣay (see below), a possible loan from B praŋ, phonemically /prain/, id. (TB *blįŋ).\textsuperscript{377}

Sgaw also has the initial cluster ʂɣ-, notably in the following pair of roots:

Sgaw ʂɣa ‘otter’, from *ʂɣq (see below); cf. TB *ʂ-ram.\textsuperscript{378}
Sgaw ʂɣe ~ ʂwe, Pwo shwai ~ ʂwe ‘crab’; cf. TB *d-κɣ-y.

The former suggests Tibeto-Karen initial *sr- (rather than *s-r-) in this root, whence Sgaw ʂɣ-. The latter is to be interpreted in the light of the above discussion of the Sgaw ʰk- = Pwo ɣ- series, apparently corresponding to TB *k- and Ch. g’- > ɣ-; note that Ch. also has g’- > ɣ- here (γ’ai).\textsuperscript{a}

Clusters with w are common in Karen but many are secondary (see above). The comparative data indicate that Tibeto-Karen medial *-w- is retained after velars, dropped after dentals and labials:

Pwo ʨwe, Sgaw ʨwâ ‘bee’; cf. TB *kwâ-y.
Pwo and Sgaw Ḟwai ‘comb (hair), brush (thread)’; cf. the following:

(480) Digaro se-ʨwî ‘comb’ (se ‘to comb’), L khwî ‘comb’, from TB *ʨwî(y).
Pwo and Sgaw thâ ‘span (1st to 3rd fingers); measure with a span’; cf. TB *twâ.
Pwo phû-thèque ~ phu-thqa, Sgaw tho ‘bear’; cf. TB *d-wam (here *d- has been treated as an initial, as in T dom < *d-wam).
Pwo and Sgaw ni ‘laugh’; cf. TB *m-nû(y).
Pwo and Sgaw phe ‘chaff, husks’; cf. TB *pwa-y.
Pwo and Sgaw mi ‘sleep’; cf. TB *mwîy.

\textsuperscript{377} This root must be reconstructed *bγai because of the low tonal series, hence it probably is cognate with TB *blįŋ ‘full’ via *bren although the loss of final nasal, is anomalous. Karen has the similar root *bγe ‘buy’: Taungthu phre, Pwo ʨwe, Sgaw ʂγe (low tonal series), corresponding to TB *b-rey, id., but this is an old loan from AT in which the initial has perhaps been treated like an initial cluster *bli- (n. 207).

\textsuperscript{378} This root has now been reconstructed TB *sram on the basis of the TB data alone (n. 302) so that the Karen evidence merely serves to support this.

\textsuperscript{a}
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Medial *y has simply been dropped in Pwo and Sgaw ðe ‘to be skilled, able’ (‘know’ in comp.), TB *syey, but has exerted some effect in the following:379
Pwo ya, Sgaw nya ‘fish’; TB *nya.
Pwo me?, Sgaw mi6 ‘eye’; TB *myak.380,381

Note Sgaw ny- < *ny-, as contrasted with y- < *η-. The Sgaw-Pwo correspondence reappears in Sgaw nyo, Pwo yau ‘easy’; Sgaw nya, Pwo ya (in comp.), Taunghu seya ‘before, in front of’; cf. T nya ‘before (in time)’, yar (West T nyar) ‘fore- or front-side, forepart’. The vowels of me? ~ mā? ‘eye’ < *myak can be explained on the basis of palatalization (final *-ak regularly yields Karen -a?): but only one possible parallel can be cited here, viz. Pwo we?, Sgaw wā? ‘throw with a scooping motion, bale (water)’ (Pwo ‘sweep’ in comp.), TB *pyak ‘sweep; broom’.

As suggested above, Pwo and Sgaw χ- appears to be the representative of stop + r clusters, as in χu ~ χü ‘6’, TB *d-ruk; χo? ‘8’, TB *b-rgyat. This is the surd velar fricative corresponding to the sonant γ, hence χ- < *hr-, parallelising γ- < *r-. Cf. Pwo χi, Sgaw shyi ‘clean’; Pwo χe?, Sgaw shye? ‘avoid, shun’; Pwo χa, Sgaw tra ‘cage for fowls’; and Pwo χai alongside thvrai ‘deer’, from B darai (dæv). The TB comparisons, however, are few in number and of uncertain significance:382

379 This series also includes Karen *hle[m] ‘lick’: Pwo lq, Sgaw le, Palayachi -li (high tonal series); cf. TB *(s-)yam ‘tongue; flame’. Taunghu, however, has the remarkable form lyak ‘lick’ (high tone), from *hlyak, corresponding exactly to the TB root *(s-)lyak; Burmese has only lyak, hence cannot be the source (via loan) of the Taunghu form; the latter is altogether irregular, since there is no other example of retention of final *-k in Taunghu or Karen, and Taunghu has mür? < *myak ‘eye (face)’; we appear to have no alternative to regarding this form (*hlyak) as a loan from some TB language other than Burmese.

380 The agreement with TB *myak rather than *mik is surprising, inasmuch as the latter is much better represented in Tibeto-Burman as a whole. The possibility of influence from Burmese-Lolo, in which *myak is preserved, cannot be excluded here. Note Karen -γi? < *-rik ‘pheasant’ for TB *s-rik ~ *s-ryak.

381 See n. 251 for present view of significance of *myak ‘eye’.

382 Taunghu has su ‘6’, sə ‘8’ but Palayachi has hu ‘6’ contrasting with xo ‘8’, suggesting an original distinction in prefixes. Both these languages retain velar stop + r clusters in some instances:

<table>
<thead>
<tr>
<th>TB</th>
<th>Taunghu</th>
<th>Pwo</th>
<th>Palayachi</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>winnow</td>
<td>krap</td>
<td>—</td>
<td>χa?</td>
<td>kra</td>
</tr>
<tr>
<td>body dirt</td>
<td>kray</td>
<td>-khri</td>
<td>χi</td>
<td>kri</td>
</tr>
<tr>
<td>grind</td>
<td>krit</td>
<td>khrüt</td>
<td>γai?</td>
<td>(lowi)</td>
</tr>
</tbody>
</table>

T ’khrāb-pa ‘strike, beat; winnow, fan’; Chepang krap ‘winnow’, hvrap < *khrap ‘thresh’; Nungish: Râvang rap < *k(h)rap ‘winnow, thresh; paddle, row’ (cf. Râvang rip ‘flying ant’ < TB *krep).

Two of the above roots are in low tonal series, hence must be reconstructed with
§36. Karen final consonants and medial vowels

Final consonants are greatly reduced in Karen. Pwo parallels Modern Burmese in replacing final nasals by nasalization, and final stops by glottal stop. Sgaw lacks even nasalized stops, but has glottal stop as in Pwo. Taungthu appears to retain distinctions in final nasals at least in part, but final glottal stops have not been recorded for this language. 

Several of the Taungthu words with final nasal are isolated in Karen; cf. prɔŋ ‘mouth’,  hau pɔŋ ‘good’, lɔn ‘come’, lam ‘house’, kamin ‘gold’ (a Thai loan-word). The regular correspondences for TB final nasals are illustrated below:

- Pwo ḫaŋ, Sgaw ḫɔ, Taungthu kən-ya ‘foot, leg’; cf. T rkan-pa.

Initial *gr-: *grap ‘winnow’ (note complete loss of final stop in Palaychi and Sgaw); *gr[e]t ‘grind’ (the Palaychi form is anomalous); cf. Pwo ɣi (low tone) ‘set on teeth’ (text), from *gri[m]; TB *krım; the voicing of the velar stop in these clusters is probably secondary in Karen.

383 The Taungthu dialect recorded by Jones (n. 347) regularly has final glottal stop corresponding to the same feature in Pwo and Sgaw.

384 Taungthu (Jones, Karen Linguistic Studies) uniformly preserves final *-ŋ and *-m but drops final *-n before a and the mid-high vowels, o, e, e (see example in n. 368); cf. also Karen *men ‘name’: Taungthu and Sgaw mi, Pwo me (n. 442). Other Taungthu forms with final -ay or -am are now available (Jones): tʃəŋ ‘elephant’, biŋ-maŋ ‘dream’, tham ‘bear’; cf. also Karen *lam ‘place, track’: Taungthu lam, Pwo laŋ, Sgaw la; TB *lam ‘road; direction’. Taungthu (and Karen in general) does not distinguish between medial *a+nasal and medial *ŋ+nasal; cf. Karen *am ‘eat’ (Jones cites Taungthu ḳam); TB *ɔm ‘eat, drink’ (for *am); to the forms cited in text, add Lepcha am ‘food’; Rāwng (Nungish): Mutwang dial. om ‘eat’, also Lushei (and general Kuki) in ‘drink’ via *ɔm (cf. L in ‘house’ < TB *kdim); also Karen *tha(n) ‘up, go up’: Pwo thəŋ, Sgaw thɔ; TB: Bodish *s-təŋ ‘upper part’. Taungthu also has ren ‘row’ and min ‘ripe’; nɛŋ ‘year’ and sɛŋ ‘tree’, confirming the reconstructed nasal finals in these roots. This Taungthu dialect (Jones) typically has medial o for *u before nasal finals: tʃəm ‘mortar’, som 3, lom ‘warm’, lɔŋ ‘stone’, nɔŋ ‘horn’, but num ‘smell’ (possibly reflecting an original distinction in vowel length): add Taungthu ʔom ‘betel cud’; TB *(m-)*um ‘hold in the mouth; mouthful’.
Karen final consonants and medial vowels

Pwo mi mq, Sgaw mi mc ‘dream’ (in comp. with ‘sleep’); cf. TB *manj.
Pwo wo, Sgaw wo ‘surround; circular’; TB *hway.

Pwo a, Sgaw a, Taungthu am ‘eat’; cf. the following root:
(481) Nung am ‘eat’, Dhimal am ‘drink’ (TB *am).
Pwo phu-tha ~ phu-tha, Sgaw tha ‘bear’; TB *d-wam.

Pwo γe, Sgaw γe ‘row’; TB *ren.

Pwo khlc ‘speak’; cf. T gle-y-ba ‘say, talk, converse’.385
Pwo khc, Sgaw ki ‘tie around, gird, bind’; cf. B khyan ‘bind, fasten’.386

Pwo nq, Sgaw nq, Taungthu nuy ‘horn’; cf. TB *ruŋ (K nruŋ).
Pwo lq, Sgaw lq, Taungthu luy ‘stone’; TB *r-luy.

Pwo shq, Sgaw shq ‘mortar’; TB *tsum.
Pwo ðq, Sgaw ðq, Taungthu ðum ‘3’; TB *g-sum.
Pwo lq, Sgaw lq ‘warm’, TB *lum.
Pwo nq, Sgaw nq ‘smell’ (intr.); cf. T snun-pa ~ snom-pa ~ snam-pa ‘smell’
(tr.) and TB *m-nam.

Pwo khq ‘block on which meat etc. is chopped’; cf. the following root:
(482) Lepcha kam ‘block’, thyak-kam ‘pillow’ (thyak ‘head’), also takam
‘seat’, kuy-kam ‘block of wood used as a seat’, K buŋ-khum ‘pillow’ (buŋ ‘head’),
lkhum ~ puŋ-khum ‘chair, stool, bench, cushion’, Nung zg mokhim ‘pillow’ (zg
‘head’), B khum ‘block, bench, table’, L khum ‘bedstead’ (TB *kum).387

Pwo ni, Sgaw ni ‘year’; TB *niŋ.
Pwo ði, Sgaw ðe ‘tree, wood’; TB *siŋ.
Pwo mĩ, Sgaw mi ‘ripe’; TB *s-min.
Pwo γi ~ qi, Sgaw hi ‘house’; cf. TB *kim.

Pwo regularly nasalizes vowels before (original) nasal consonants, but two or
three possible exceptions have been found:
Pwo and Sgaw na ‘thou’; TB *naŋ.
Pwo mai, Sgaw mə ‘mole’; TB *r-men ‘wen, mole’: B hmáŋ > hmé.
Pwo and Sgaw phi ‘pus’; TB *pren: Lepcha fren ~ frän < *phren ‘boil, ulcer’, B
praŋ > pyi ‘pus’ (poss. direct influ. upon Karen).

385 Pwo khlc (low tone) < *gle[ŋ], agreeing closely with T gle-y-.
386 Pwo khq, Sgaw ki (both low tone) < *ge[ŋ], probably a secondary voicing of
the initial (B khyan).
387 Lahu ge ‘pillow’, Loloama gaŋ, from *mokhum (n. 123) (JAM).
Vocalic shifts before (original) final nasals are characteristic of Karen. Pwo retains q, but Sgaw shifts to s, whereas both retain *a as a final or before stop consonants (see below). The high-front vowel *i is maintained in most roots (Sgaw ṭe ‘tree’ < *siŋ is altogether exceptional), but in one instance this vowel has been replaced by ɪ̯ before final -n:

Pwo ɪ̯u, Sgaw ṭu ‘liver’; TB *m-sin.

Pwo, which lacks nasalized u and e, has shifted *u to o before *-ŋ, and to ɤ or ɪ̯ before *-n and *-m. In Burmese loan-words, however, the original vowel is simply approximated, e.g. pọ ‘story’, B pum (> pọu), pọ ‘own, possess’, B puiŋ (> pāŋ). The vowels *o and *e have been diphthongized to ay and ai, respectively.

Pwo and Sgaw final glottal stop represents original final stop consonants. In loan-words from Burmese, both glottal stop and auk-myit (with final glottal catch) are represented by glottal stop; cf. ḃwaʔ ‘reckon’, B twak (> twëʔ); lwaʔ ‘saw’, B hlwa. Replacement of final stop consonants by glottal stop is observed in the following:

Sgaw khaʔ ‘phlegm’; TB *ha:k ‘hawk, gag, choke’.
Pwo thaʔ tha, Sgaw tha tha ‘weave’; TB *tak.
Pwo and Sgaw maʔ ‘son-in-law’; TB *ma:k.
Pwo and Sgaw yaʔ ‘plantain’; TB *ya:k.
Pwo and Sgaw ṭaʔ ‘itch’; TB *m-sak.
Pwo waʔ ~ ṭwaʔ, Sgaw waʔ ‘leech’; TB *r-pat.
Pwo and Sgaw khaʔ ‘shoot’; TB *ga:p.
Pwo and Sgaw xoʔ ‘8’; TB *b-r-gyat.
Pwo and Sgaw noʔ ‘mouth’; cf. B hmut.
Pwo and Sgaw nuʔ ‘brain’ (generally in comp. with kho ‘head’); cf. TB *nuk (483), as represented by K nu~nu, B ū-hnauk (ū ‘head’).
Pwo q νuʔ, Sgaw e yuʔ ‘rob’; cf. L ru:k, Haka ruk, Lakher ḍeru (Kuki *m-ru:k) ‘steal’.
Pwo khlùʔ ‘put on (hat), shut down (lid)’; TB *klup.
Pwo khlùʔ ‘fold up’; cf. L thlep < *khlep.
Pwo and Sgaw khliʔ ‘turtle’; cf. B lîp.
Pwo and Sgaw tho-γiʔ ‘pigeon’; cf. TB *s-rik~*s-ryak.

The Sgaw distinction between ni ‘year’ and ṭe ‘tree’ corresponds to a similar distinction both in TB (Mikir) and Chinese, apparently reflecting an archaic ST distinction in vowel length (n. 476).

Karenni, as recorded by Mason (JASB 27, 1858), distinguishes between ṭû ‘3’ and nau ‘horn’, lau ‘stone’; cf. also Pwo thû, Sgaw and Karenni tō, Taungthu thûŋ ‘ant’ < *tum (the Taungthu form is from Mason, who cites ṭûŋ ‘3’ for ṭōum).

This root has a doublet: *khûʔ < *[k]lûp (n. 376).
Karen final consonants and medial vowels

Sgaw ki? (low tone) 'tie ligatures at intervals, gird the loins', ki? (high tone) 'constrict, compress by twisting, screwing';\(^{391}\) cf. the following:

(484) T 'khyig-par bind', B kyats 'twist hard and tight', Kuki *d-khik: Rangkhhol kit, Kom, Aimol, Hallam khit 'bind', Lakher tökhî 'tie, knot', from TB *kik; K kyit 'to gird, girdle', sîjkit 'girdle', güt 'to tie, bind', Nung sîjkit 'band (waist), girdle, belt' (prob. loan from Kachin), are apparently distinct (cf. Ch. kiet).\(^{a}\)

Pwo and Sgaw phi? 'skin, bark'; cf. Kg phi? < *phik, id.\(^{392,393}\)

Pwo me?, Sgaw me? 'eye'; TB *myak.

Vocalic shifts are less prominent before final stop consonants than before final nasals; cf. the following:

Sgaw -aʔ < *-ak but -o < *-ay.

Pwo -uʔ < *-uk but -o < *-uy.

Pwo and Sgaw noʔ 'mouth', B hnut 'mouth; womb' (above) also suggests the shift *oʔ < *-ut, but cf. T snod 'vessel', bu-snod 'uterus', as if from TB *s-not. Pwo has final -aʔ and -aʔ (above) but significantly lacks final *-auʔ and *-aiʔ (Pwo kyaiʔ 'God' is exceptional), showing that diphthongization has not occurred before final stops.\(^{394}\)

There is some evidence for complete loss of final stop in Karen, although the conditions governing this phenomenon remain obscure. Pwo and Sgaw vary in the following roots:

Pwo tha 'weaving' (defined as a noun) but tha? thaʔ 'to weave', Sgaw thaʔ 'warp', tha tha (tonally differentiated) 'to weave'; cf. TB *tak.\(^{395}\)

\(^{391}\) The Sgaw forms (Jones, Karen Linguistic Studies) point to an earlier doublet: *giʔ ~ *kiʔ, the initial voicing probably being secondary.

\(^{392}\) The reconstruction *phîk is based on Jili maphîk, with final velar stop preserved. Needham (1889) observes that the Kachin word is 'uttered sharply' (cf. n. 50).

\(^{393}\) Pwo and Sgaw phiʔ but Taungthu pi, with complete loss of final stop (perhaps because root was prefixed, as shown by the unaspirated stop).

\(^{394}\) Moulmein Pwo has final -auʔ corresponding to Bassein Pwo -iʔ (Sgaw alternates with -aʔ) in two roots having TB cognates with final *-uʔ or *-uʔ:

<table>
<thead>
<tr>
<th>TB</th>
<th>Taungthu</th>
<th>M. Pwo</th>
<th>B. Pwo</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to cover (glup)</td>
<td>khlauʔ</td>
<td>khlîʔ</td>
<td>kloʔ</td>
</tr>
<tr>
<td>klup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to enter nuʔ</td>
<td>nîʔ</td>
<td>nauʔ</td>
<td>nîʔ</td>
<td>nûʔ</td>
</tr>
</tbody>
</table>

For 'cover', see n. 376. For 'enter' Taungthu has nîʔ (high tone) < *hnuʔ, as if from *s-nuʔ (cf. the B-G initial *hn- cluster in this root; n. 250).

\(^{395}\) Karen *tha (tone B) 'weaving; warp', a nominalized form, as distinct from *thaʔ 'to weave'. Sgaw and Palaychi have lost the glottal stop in the latter as

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\(^{a}\) 藥
Pwo tho phli?, Sgaw thu? ple? thu? pγe ‘to spit’; cf. TB *(m-)*tuk.396

Pwo and Sgaw θa ‘breathe’ but θa? ‘heart’, the earlier meaning being reflected in certain compounds: Pwo θa?-ka? ‘to have a sense of tightness in the chest so as to breathe with difficulty’ (ka? ‘tight’);397 cf. the following:


The following roots show complete loss of final stop both in Pwo and Sgaw:

Pwo χu, Sgaw χū ‘six’; cf. TB *d-ruk.

Pwo and Sgaw θoli ‘leech’ (cf. Pwo θawā?, id.);398 cf. TB *(m-)*li-t.


There is no certain example of loss of final *-p400 but note the following, in which TB shows an unusual doublet:

Pwo and Sgaw la ‘leaf’; cf. TB *lap (above) and the following:

(486) Magari hla, Vayu and Chepang lo < *la, Kiranti *la (Kulung la, Rodong la-bo, Lambichong lā-phak, Limbu pella), Dhimal hla-ba, Mikir lo < *la (TB *la); cf. also B lak-phak ~ lābhak ‘tea’ and the Lambichong form (see No. 40).

Final *-r, *-l and *-s all appear to have been dropped in Karen, which lacks these consonants in final position. The following comparisons with TB are available:401

have both Pwo dialects cited in the Jones glossary, but earlier (1920–2) Pwo dictionaries (Purser and Aung, 1920 and 1922) cite tha? tha ‘weave’ (as in the text); Taungthu also preserves the glottal stop: tha? ‘weave’.

396 The Jones glossary cites Sgaw tho- ‘spittle’ (in comp.), indicating recent loss of the glottal stop (cf. n. 395 for similar recent loss in Pwo), since the older Sgaw dictionaries (Wade, 1896; Blackwell, 1937) give thu? (as in the text). Taungthu has patho? (low tone, high tone) ‘spittle’, from *b-tho? < *m-thok, a rare example of preservation of a prefix in Karen (n. 356).

397 Taungthu follows the general Karen pattern here: sa ‘breath; to breathe’, sa? ‘heart’.

398 Taungthu has lyo? ‘leech’, with final glottal stop preserved, but the vocalism appears to be irregular, possibly reflecting an archaic ST doublet: *(m-)*lyat ~ *(m-)*li-t (n. 251).

399 Taungthu also shows apparent loss of the final stop here: ?e ‘dung’. The K-N root (*e-k) is a possible derivative (with loss of initial velar) of a TB root represented by T rkyag(-pa) ~ skyag(-pa) ‘dirt, excrement’, perhaps also B kyan ‘dung’.

400 The most likely example of complete loss of final *-p in Karen is furnished by Pwo χi (low tone A), Sgaw χi (high tone B) ‘ant’, perhaps from *gri(p) ~ *kri(p); TB *kreip (see n. 382 for the correspondence of initials).

401 Final *-r is perhaps dropped only after a long vowel: cf. also Karen *ya ‘expand; sail’; TB *ya-r ~ *yâr (n. 372). There are two good examples of replace-
Karen final consonants and medial vowels

Pwo phau, Sgaw pho ‘flower’; cf. TB *bar (the Karen forms point to an intermediate *bor~*por).

Pwo and Sgaw thu ‘roll up (mat, cigar)’; cf. TB *(r-)tul ‘roll up, wrap’.

Pwo γu, Sgaw γü ‘snake’; cf. TB *br-y₁.

Pwo and Taungthu ni (Sgaw has khi) ‘2’; cf. TB *g-nis.

§37. Karen final vowels and semi-vowels

Final vowels and semi-vowels undergo relatively little change in Karen, apart from levelling off of the latter. As in almost all TB languages, no distinction is made between *-i and *-iy, or between *-u and *-uw. Sgaw regularly has -ü for *-u, but -u appears in loan-words, e.g. Pwo and Sgaw tu ‘hammer’ < B tu. In Pwo, on the other hand, -ü is relatively rare (cf. phü ‘carry’, also ‘younger brother’, bū ‘rice’) and tends to alternate with -u, as in khū~khu ‘trap’. The following pair of roots are exceptional:402

Pwo and Sgaw lu ‘pour’; cf. the following:

G ru, Dimasa lu ‘pour’, Mikir  appré ‘bathe’; cf. TB *(m-)lu(w).

Pwo yü lq ‘swallow down’ but q yu ‘swallow’ (q ‘eat’), Sgaw yu ‘swallow’;

ment of final *-r by -n after short vowels, viz. Karen *san ‘new’; TB *sar: T

gsar-ba ‘new, fresh’, Nungish: Rawang ansar ‘new’, Trung aksal ‘fresh’; Kuki:
L thar ‘new, anew’, Thado åtha, Tiddim thak ‘new’; Karen *son ‘louse’; TB

*sar~*sar (n. 179); the Karen vocalism suggests influence from an initial š-,
indicating correspondence with TB *sar rather than *sar.

Final *-s is probably replaced by -t rather than dropped; cf. the Karen forms for
‘bone’: Taungthu tshut, Pwo xwii, Palaychi ì-a-çi, Sgaw xî, suggesting an original
*k(h)rut (see n. 382 for the initials), from *g-rus (TB *rus), the prefixed *g- also
being represented in Chinese (n. 419). The Karen example cited in the text, viz. ni
‘2’, is not applicable in this connection, since the TB root has now been recon-
structed without the final *-s, which is a separable element (n. 61); Karen may have
-t for *-s also in *hnnt or *hnwi-t ‘γ’ (n. 355).

402 Palaychi resembles Pwo rather than Sgaw in this series, but with -ü only
in mū ‘sun’ and -mī ‘female (human)’ (Pwo mū), perhaps conditioned by the
initial *m-; it has an irregular -lo for ‘pour’. Taungthu agrees with Pwo in general,
with -u in most forms but bū- ‘rice plant’, mū ‘sun’, bū ‘carry on back’, tsū ‘rotten’,
and ɲu ‘cry (weep)’, TB *nw; Taungthu has phu ‘younger sibling’ (Pwo phū) and
mu ‘female (human)’ (Pwo mū), also the irregular myo ‘to swallow’ (n. 403).
Final -u is found in all four Karen languages only in *ʔu ‘to blow’: Taungthu,
Pwo and Sgaw ì-u, Palaychi vu.
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cf. TB *mlyuw (the Karen forms point to an intermediate *myu < *m-yu, with the initial interpreted as a prefix; cf. K *mayu).403

The regular Karen correspondences for TB *-a, *-u(w) and *-i(y) are illustrated below:

Pwo and Sgaw kha ‘bitter’; cf. TB *ka.
Pwo and Sgaw na ‘ear’; cf. TB *g-na.
Pwo and Sgaw ma ‘wife’; cf. the following:

(487) T ?ama, Kanauri ama, Bahing emo (but emo ‘my mother’), Vayu umu < *ama, Chepang ma, Newari ma, Lepcha amo < *ama, Digaro (na-)ma, Dhimal ama, Burmese-Lolo *ma (B ma is used only as fem. suffix), Bodo (bi-)ma, G ama ‘mother’ (TB *ma).404

Pwo khu, Sgaw khü ‘smoke, vapor’; cf. TB *kuvw.
Pwo phu, Sgaw phü ‘grandfather’; cf. TB *puvw.
Pwo and Sgaw mü ‘sun’; cf. the following:

(488) T rmu-ba ‘fog’, K mu ‘to be cloudy; sky; thunder and lightning’, lomu (Khauri dial. momu) ‘sky’, Nung mu ‘sky’ (mu ru ‘to be struck by lightning’), B mü(gh) ‘sky; clouds, rain’ (the -gh is a product of etymologizing); cf. also B mui ‘to cover, spread overhead (as an umbrella)’, ãmüi ‘roof’ (TB *r-muw).405,406

Pwo ë ~ o, Sgaw ë ‘putrid, rotten’; cf. the following:

(489) K wuë ‘unclean, polluted’, B u ‘to be stale, tainted, begin to putrefy’, Thado vu ‘stink’ (TB *u).
Pwo and Sgaw thi ‘water’; cf. TB *ti(y).
Pwo and Sgaw ãi ‘die’; cf. TB *siy.
Pwo li, Sgaw koli ‘wind’; cf. TB *g-liy.
Pwo and Sgaw shi ‘urine’; cf. TB *ts(y)i.

Only two Karen comparisons are available for TB final *-o and *-e, which are rare elements:407

Pwo thu, Sgaw tho, Taungthu sto ‘high’; cf. TB *m-to.

403 Taungthu myo ‘to swallow’, with irregular final, supports the suggested development, but it is possible that this form has been derived from *?am-yu or *?am-yew (*?am ‘eat’), corresponding to Pwo q yu (text).

404 The semantic shift here is to be explained through teknonymy, i.e. the wife is addressed as ‘mother’ (as often in English).


406 The Kachin and Nung forms here belong with TB *r-muw-ken (n. 236).

407 An excellent comparison is available for final *-e, viz. Karen *ph(ile) ~ *ble ‘slippery’, TB *ble ‘slip, slippery’ (n. 375).
Karen final vowels and semi-vowels

Pwo *phe*, Sgaw *he* (the initial is anomalous), Taunghu *pye*, Yeinbaw *phi* ‘give’; cf. Kuki-Naga *pe(r)* (see n. 289), apparently distinct from TB *biy*.

The combinations *-aw* and *-ow*, *-ay* and *-ey* have generally been levelled off in Karen. In the single TB comparison that has come to light for Pwo *-au* (Sgaw *-o*), the TB final is *-o* rather than *-aw* (see above). In four comparisons, furthermore, Pwo and Sgaw *-o* corresponds to TB *-aw*~*a*-w and *-ow*:

Pwo and Sgaw *θo* ‘oil, fat’; TB *sa-w*.

Pwo and Sgaw *kho* ‘head’; cf. the following:

(490) T *mgɔ*, Digaro *ku-ru~mku-ra*, *mkau*, Nung *gɔ~eɡɔ*, G *skɔ*, Dimasa *sɔgɔ* (in comp.), Meithei *məko* ‘head’, from TB *m-gɔw~(s-)gow*.

Pwo and Sgaw *thɔ* ‘bird’; cf. Bodo-Garo *daw* (G do, Dimasa *daw*).

Pwo and Sgaw *mo* ‘mother; female’; TB *mɔw*.

TB *-ey* regularly yields Pwo and Sgaw *-e* (*i* in some Karen dialects; cf. Taunghu *mi* ‘fire’):408

Pwo and Sgaw *me* ‘fire’: TB *mey*.

Pwo and Sgaw *ne* ‘get, obtain’; TB *ney*.

Pwo and Sgaw *khe* ‘tiger’; TB *d-key*.

Pwo and Sgaw *be* ‘to be skilled, able’; TB *syey* ‘know’.

Pwo *γe*, Sgaw *γi~γe* ‘rattan, cane’; TB *rey*.

Pwo and Sgaw *me* ‘boiled rice’; cf. Bodo-Garo *mey* or *mɔ* ‘rice, paddy’ (see n. 206).

TB *-ay*~*-a*-γ are perhaps retained in Karen (Pwo *-ai*, Sgaw *-e*) under certain circumstances, but in general tend to fall together with *-ey*.409 Both *-ai* and *-e* are found in Pwo loan-words from Burmese; cf. Pwo *pha(r)* ‘playing card’ and ‘satin’ (B *pha(r)*~*phi*), but Pwo *pwe*, Sgaw *pwe* ‘festival’ (B *pwa(r)*~*pwe*). Pwo also shows *-ai*~*-e* interchange, as in *shwai~shwe* (Sgaw *shγi~shve* ‘crab’; cf. TB *d-haγi*.

Sgaw sometimes preserves the distinction between *-ay* (> -e) and *-ey* (> -e) in

408 The Taunghu dialect cited by Jones (Karen Linguistic Studies) has me ‘fire’ and re ‘rattan’, as in Karen generally. Palaychi has final -i here: mi ‘fire’, γi ‘rattan’, ni ‘nichet, obtain’. For ‘rice (cooked)’, however, Palaychi has mo (cf. n. 409), indicating an original *may* for Karen (and by inference also for TB); this root appears to be an early loan from AT (cf. IN *imay* ‘rice’) and is represented also in Bodo-Garo (where the final could be either *-ey* or *-ay*) and in Chinese (n. 491); see discussion of terms for ‘rice’ in Benedict, 1967 bis.

409 Taunghu uniformly has final -e in this series: *shwe* ‘crab’, me ‘tail’, *nwe* ‘yam (white)’, *pɛ* ‘to love’, *phre* ‘tongue’, *pɔde* ‘navel’, phe ‘chaff, husks’. Palaychi has no fewer than four different reflexes here: *shwe* ‘crab’ and *nwe* ‘yam’; *mɔ* ‘tail’ and ɔ ‘love’; *plɛ* ‘tongue’; *di*- ‘navel’. The evidence in general suggests that Karen retains some distinction between original *-ay* and *-a*-γ (contrast ‘tail’ and ‘crab’) but the evidence is not consistent (cf. ‘husks, chaff’, unfortunately not represented in Palaychi).
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roots which are not differentiated in Pwo; cf. Sgaw me ‘tail’, TB *r-may, but me ‘fire’, TB *mey (both me in Pwo). Sgaw kwe, Pwo kwe ‘bee’, TB *kwa-y, fits into the same pattern, but this root has perhaps been borrowed from Burmese (kwaï > kwë). Pwo has -ai in lai, Sgaw le ‘exchange’, TB *lay; nai ‘yam’, Sgaw nwe; cf. K nai; also ai ‘love’, Sgaw e; cf. Ch. ʔəd > *ʔi, *ʔid. In three reliable comparisons, however, both Pwo and Sgaw have -e in the face of TB *-ay or *-a-y, indicating that these finals had fallen together with *-ey in proto-Karen times:

Pwo phle, Sgaw pâle~ple ‘tongue’; TB *m-lay~*s-lay.

Pwo and Sgaw de ‘umbilicus’; TB *s-tay.

Pwo and Sgaw phe ‘chaff, husks’; TB *pwo-y.

§38. Karen tones

Pwo and Sgaw, and presumably other Karen languages as well, have complex tonal systems akin to those found in Tibeto-Burman. Before final glottal stop, a distinction is made between high ( ¯ ) and mid (•) tones, with Pwo having high tone for Sgaw mid and vice versa: Pwo nô, Sgaw nu ‘brain’; Pwo no, Sgaw nô ‘mouth’. Four tonemes are found with non-glottalized finals, as follows:

I Pwo ˘ (low level), Sgaw • (mid level).
II Pwo ˘ (rising), Sgaw ˘ (slightly high and level).
III Pwo ˘ (mid level in Delta, abruptly falling in Tennasserim), Sgaw ˘ (falling).
IV Pwo • (mid or low level), Sgaw ˘ (low and falling).

The Karen tones show correlation with the Burmese-Lolo tonal system, with tonemes I and II correlating with Burmese level tone (including auk-myit), and III and IV with Burmese falling tone. As in Burmese-Lolo, it does not appear possible to interpret the distinction between I–II and III–IV in terms of lost

410 Tones are indicated in Karen script, but are poorly described in the standard Karen sources. The only adequate description of Karen tones is that found in Grierson, 1928, ‘Introduction’, pp. 14–18, based on the work of L. F. Taylor. This account is of especial value in giving separate descriptions of the tones in the Delta and Tennasserim dialects of Pwo Karen. For the tonal notation employed here, see n. 258.

411 See n. 494 for a full discussion of Karen tones in relation to those of TB and Chinese.
prefixes or the like, but the first member of each Karen pair (Tonemes I and III) usually corresponds to unvoiced initials in Burmese, while the second member (Tonemes II and IV) corresponds to voiced initials. One of the apparent exceptions: B hmrà ‘arrow’, Pwo phla, Sgaw pla, is readily explained by reference to the TB root *b-la, indicating a similar reconstruction for Karen. This would require reconstructions for other Karen roots, e.g. *hna- ‘nose’ (Toneme I) and even *hya ‘fish’ (Toneme 3); cf. L sa-hya, with a redundant sa- ‘animal prefix’ (hya < *ṣya), but initials of this type do not appear in any known Karen languages of the present day. The following are representative of the main tonal correlations between Burmese and Karen:

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Pwo</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>boat</td>
<td>hle</td>
<td>khli</td>
</tr>
<tr>
<td>pain</td>
<td>tsha</td>
<td>shā</td>
</tr>
<tr>
<td>bear, n.</td>
<td>-wam</td>
<td>thā</td>
</tr>
<tr>
<td>span</td>
<td>thwa</td>
<td>thā</td>
</tr>
<tr>
<td>nose</td>
<td>hna</td>
<td>nā-</td>
</tr>
<tr>
<td>smell (intr.)</td>
<td>nam</td>
<td>nō</td>
</tr>
<tr>
<td>sleep</td>
<td>mwē</td>
<td>mī</td>
</tr>
<tr>
<td>ripe</td>
<td>hmāñ</td>
<td>mī</td>
</tr>
<tr>
<td>die</td>
<td>se</td>
<td>thō</td>
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<td>elephant</td>
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<td>wind, n.</td>
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[cont. on p. 152]
Sino-Tibetan: a conspectus

<table>
<thead>
<tr>
<th>Burmese</th>
<th>Pwo</th>
<th>Sgaw</th>
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<tbody>
<tr>
<td>arrow</td>
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<td>sun</td>
<td>muì(gh)</td>
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<td>five</td>
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<td>ear</td>
<td>nã</td>
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</tbody>
</table>

The tonally irregular Sgaw form la ‘moon’ is matched by Sgaw kwê ‘bee’ corresponding to Pwo kwê, but Burmese has kwai (with falling rather than level tone). The tonal correlation between Karen and Burmese is not perfect, i.e. a number of exceptions have been found, but it can safely be regarded as ‘statistically valid’. The most significant exceptions are as follows: B kui, Pwo khwê, Sgaw khwi ‘9’; B süm, Pwo ðê, Sgaw ðê ‘3’; 412, 413 B khwê-hlé, Pwo khli, Sgaw klì ‘flea’; B aphui, Pwo phù, Sgaw pห ‘grandfather’; B phwoal, Pwo phê, Sgaw phe ‘husks’; B mër, Pwo lì, Sgaw lì, ‘grandchild’ (all with falling rather than level tone in Burmese); B tshum, Pwo shû, Sgaw shô ‘mortar’; B im, Pwo γï ~ yï, Sgaw hi ‘house’; B nuì, Pwo nu, Sgaw nû ‘breasts’ (all with level rather than falling tone in Burmese); also B ya, Pwo and Sgaw ya ‘I’ (with Pwo mid rather than low tone).

§39. Chinese (general, history)

Chinese is the third and last major division of Sino-Tibetan to be considered in this review. Three stages of the language are conveniently recognized: (a) Archaic Chinese (Ar. Ch.), ca. 1200–800 B.C., (b) Ancient Chinese (Anc. Ch.), ca. A.D. 600, and (c) the modern dialects. Ancient Chinese has been reconstructed from the modern dialects together with the material found in the Ch’ieh Yün and other

412 Tonal irregularity in these two numerals is found also in Burmese-Lolo, Lahu sêh, Ahi sô, Lolopho sô, and Lisu sa, Nyi sô ‘3’ all point to B *sum rather than süm. Lahu kô ‘9’ agrees with B kui, but Ahi and Lolopho kô, Lisu kû and Nyi kô point rather to *kui. Note that the Karen tones of these numerals agree with Burmese-Lolo as a whole.

413 ‘Three’ is also irregular in Lahu: šê would be expected (it does occur before certain specific classifiers) but the usual form is šêʔ, with final -ʔ. This arose from metanalysis with an automatic [ʔ-] before the vowel-initial in ‘four’ /β/ ([ʔβ]): i.e. in counting a [-ʔ-] demarcated ‘three’ from ‘four’ to prevent the two vowels from fusing (JAM). Lahu gô ‘nine’ is regular with respect to B kui (< *kew Tone 2), but cf. Lisu ku, from *ʔh-, also with an intrusive glottal element (JAM).

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lexicographical works of the first millennium A.D. Archaic Chinese represents a still farther projection into the past, achieved through the analysis of the Shih Ching rhymes and the phonetic elements of Chinese characters. A number of scholars, including Maspéro, Simon and Li Fang-kuei, have contributed to the brilliant results attained in this field, but we are indebted above all to the monumental studies by Karlsgren. Our purpose here is not to review the developments within Chinese itself, but rather to study the earliest known stage of the language (Ar. Ch.) in the light of our reconstruction of Tibeto-Burman and Tibeto-Karen. The forms cited below accordingly are those of Ar. Ch., often along with the later Anc. Ch. forms, all as given in the *Grammatas Sericae* of Karlsgren.


415 See Wang's article in Current Trends in Linguistics 11 for recent Chinese bibliography (IAM). Karlsgren's reconstruction schema is conveniently presented in his Compendium of Phonetics in Ancient and Archaic Chinese (BMFEA, No. 26, Stockholm, 1954); Karlsgren's Grammata Sericae Recensia (cited as GSR) (BMFEA, No. 29, 1947) has superseded the earlier Grammata Serica (cited as GS) and is especially helpful in noting tones (omitted in the earlier work); some forms are glossed differently in these two works (see n. 488 for one instance). There have been numerous attempts to improve or even radically reshape Karlsgren's reconstruction schema, notably E. G. Pulleyblank, 'The Consonantal System of Old Chinese', Asia Major 9 (1962), 58–144; 206–65, and 'An Interpretation of the Vowel System of Old Chinese and of Written Burmese', Asia Major 10 (1963), 200–21. The writer in general has not been impressed by the proposals offered, and steps such as interpreting B sim '3' as swim (Pulleyblank) certainly lead us nowhere. The weight of the comparative ST evidence in fact strongly favors the bulk of the Ar. Ch. reconstructions proposed by Karlsgren, including his brilliant reconstruction of final *-r (n. 460); the same evidence practically precludes most of the elaborate reconstructions suggested by writers like Pulleyblank. The most serious defects in the Ar. Ch. reconstructions by Karlsgren lie in the initial consonant clusters (see n. 469 for one instance), which that scholar has recognized as the most uncertain area of his great work.


a 李方桂  b 切韻 å 的來源
§40. Chinese morphology (prefixes, suffixes, alternation)

The relationship between Tibeto-Burman and Chinese, as noted above (§2), is a remote one. Indeed, on the basis of morphology alone, we should be quite unjustified in positing any direct genetic link between the two stocks. Chinese does, to be sure, resemble Tibeto-Burman in its use of monosyllabic roots, its system of tones, and its isolating characteristics, yet Thai, Kadai, Annamite, and Miao-Yao, all unrelated to Sino-Tibetan, also share in these features. Chinese actually approaches these languages rather than Tibeto-Burman in being a relatively ‘pure’ isolating language, lacking any but the most rudimentary system of affixes. As regards syntax, Chinese agrees with these languages and Karen in placing the object after rather than before the verb (there are occasional transpositions, as in Karen), in violation of the cardinal principle of Tibeto-Burman word-order.

Prefixes: Chinese has numerous initial consonantal groups, some of which can be interpreted in terms of prefixation, but only sporadic examples can be

417 This is hardly an accurate statement; the term ‘remote’ should be applied to our state of knowledge at that time (early 1940s) rather than to the relationship between TB and Chinese. It is now quite clear that the great bulk of the core ST vocabulary is shared by these two language groups, e.g. whereas in his earlier study (Benedict, 1941) the writer was hard put to find more than one basic kinship term (ST *kaw ~ *gaw ‘maternal uncle’) shared by the two groups, he now recognizes a relationship for over half these basic terms; note also that certain Chinese roots lacking TB cognates do have Karen cognates (n. 350).

418 The view that these clusters consist of prefix + initial has been developed by Maspéro in his article, ‘Préfixes et dérivation en chinois archaïque’, Mém. Soc. Ling. de Paris 23 (1930), 313–27. The opposite view (that these are true clusters) is expressed in Wên Yu, ‘The Influence of Liquids upon the Dissolution of Initial Consonant Groups in the Indo-Sinic Family’, JNChBRAS 69 (1938), 83–91. Maspero reconstructs clusters freely, e.g. a ‘order, to order’ is reconstructed lông and regarded as phonetic inb ‘confer a charge’, reconstructed m-lông.

419 We have both indirect and direct evidence for prefixation in Chinese. Unaspirated surd stops/aффricates point to an earlier prefixed form: kʰuŋ/kjɔw ‘9’ < ST *d-kaw; kʰɔŋ ‘liver’ < ST *b-ka-n; tʃiŋ/tɕi ‘child’ < ST *b-tsa (the prefixes cited are illustrative; the actual forms can only be inferred on the basis of TB models). This indirect evidence can be more subtle; note especially *b/ljɔk/ljuk ‘6’, since graph is phonetic in mljɔk/mljuk ‘concord’ (n. 474); also sjɔd/sjɔ ‘4’, from *p-say (n. 436), the prefix representing an inference required to explain the unvoicing of the initial; also xiwɛt ‘blood’, TB *s-hweywe (n. 441), but the graph is used as a phonetic or loan in forms with initial sjw- and sw- (GSR-410), indicating a doublet *xiwɛt which incorporates the *s- prefix in the root (cf. B swɛ). More direct evidence of prefixation is supplied by very early loans from Chinese, notably

а令 ｂ命 ｃ九 ｄ肝 ｅ子 ｆ六 ｇ睦 ｈ四 ｉ血
cited, e.g. niārā ‘near’, sniārb ‘seal’ (‘something affixed’); niōkē ‘ashamed’, snīño ‘ashamed; to shame’ (cf. TB *s-rañ); mōke ‘ink’, ymokī ‘black’ (cf. T nag-po ‘black’, snag ‘ink’, and B man-yi-man ‘ink’). Certainly no system of prefixes existed even in Ar. Ch., i.e. no general morphological role can be assigned to elements such as s- and χ-. The comparison gīlip > liap ‘stand’, TB *g-ryap indicates that prefixed *g- is an inherited ST element, preserved in Chinese in this root through its treatment as an initial (cf. K tsap < g-yap < g-ryap). The following pair, phonetically irregular, suggest that prefixed *s- might be preserved in Chinese in the same manner: sīth ‘flea, louse’, TB *s-rik; sēng ‘live; bear, be born; fresh (as greens)’, TB *s-riy ~ *s-ray. The addition of a prefix in Ar. Ch. can be demonstrated for glām > lāmj ‘indigo’, T rams.420,431

in the numerals (n. 435). Prefixed *s- is not represented by the forms in the text, which are from initial *ı̞r- clusters: TB *ı̞rak ‘shamed’, *ı̞rik ‘louse’, *ı̞rīn ‘live’ (nn. 304, 457), but it is represented in *ı̞rōk/ı̞rōk ‘pass the night’, TB *s-ryak (n. 457) and in a strange series developed from ST *s-n- (n. 471); before initial *m-, this prefix aspirated the initial (χ̂m-) as indicated in the text; cf. also mweñ/mwam ‘sad, dull, stupid’, mwam/mwam ~ χ̂mweñ/χ̂mam ‘blinded, confused’, χ̂mweñ/χ̂mam ‘dusk, evening, darkness; blinded’, from ST *mwn ~ *s-mun; T mun-pa ‘dark’, dmun-pa ‘darkened’; also *s-ny- yielded χ̂ ny-; cf. < pan’o ‘goose’, also *s-pan (phonetic *χ̂mvo < *χ̂ṃın ‘cliff’), and Thai loan is *kaan < *khaan, with *s- ‘animal prefix’ (p. 107) (*s-ña-n; n. 428). Prefixed *b- is maintained before *r/-l- (n. 474). Prefixed *g- is preserved in verbal roots before *g- in glīpa ‘stand’ (text) = *g-lyap (n. 472) and t’jan < *kran’ ‘battle’ (n. 461); it is also maintained as an old pronominal element with words for body parts (see §25) before *r/-l- in three roots: lięñ/lięñ ‘neck, collar’, klięñ/klięñ ~ g’lięñ/g’lięñ ‘neck’, from g-lięñ; TB *lęñ ‘neck’; g’iak ‘tongue’, from *g-liak, a doublet of d’iak/d’s’iak (n. 472), id.; TB *(m)-lyak ~ *(s)-lyak ‘lick; tongue’; k’wats/kwats ‘bone’, from *g-rus (TB *rus) via *r-rust (n. 479) with unvoicing of prefix (cf. n. 436); cf. Karen *k(h)rut < *g-rus; for other examples of retention of velar prefix, cf. ‘right (hand)’ (n. 443) and ‘eagle’ (n. 225). There is direct evidence of a special kind for prefixed *b- in the numeral ‘100’ (n. 435), also for prefixed *d- in ‘head’ (n. 443). Finally, Chinese appears to have retained prefixed *y- at times in metathesized form; cf. mien/miŋ ‘name’ < *myn; also miŋ/miŋt ~ miŋi ‘order, command; name’, from *miŋi ∼ *miŋi as shown by the phonetic (and cognate) lięñ/lięñ ‘command’, all from an original *miŋy ∼ *miŋy (see n. 442 for alternation of finals); TB *r-miŋ ‘name’ (also B min ‘order, command’); Karen *men ‘name’; cf. also the complicated development in ‘tail’ (n. 491).

420 Ch. glām < grām, as shown by Thai (Siamese and Lao) *graam. The Thai borrowing can thus be dated as posterior to the prefixation of g-, but anterior to the grām > glām shift in Chinese. Borrowing must also be postulated for the Tibetan and Chinese forms, but the direction of transfer cannot be ascertained here.

421 This Ch. form has been interpreted (Benedict, 1967b) as an early loan from AT (IN *tailiun, Thai *throum), with gr- for γ-, a non-Chinese sound at that
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The modern dialects of Chinese employ a true prefix (a-) with kinship terms and certain forms of address; cf. the following examples from Cantonese:422 a-ma ‘mother!’; a-yi ‘aunt!’; a-wong ‘Wong!’; a-yi ‘No. 2 (servant)’ (reference to servant’s order of birth). Maspéro423 has shown that this usage extends back to the early T’ang and Six Dynasties period (ca. A.D. 600), but we do not meet with it in the early texts. Laufer424 attempted to connect this Chinese element with the a- prefix found in Tibeto-Burman, which we have sought to show is of pronominal origin (§28). It is much more likely, however, that Chinese a- is an independent development, especially in view of the fact that it appears only at a relatively late stage of the language (Anc. Ch.).

Suffixes: Ar. Ch. lacks suffixes as well as prefixes, yet does show what appear to be remnants of a system of suffixes.425 Alternation between final stop and nasal is of fairly frequent occurrence, as first pointed out by Courant.426

sát‘ and sánt‘ ‘scatter’.
ngiat~ngián ‘deliver a judicial decision’.
giàn and gièn ‘say, speak’.
iwát~iwèn ‘luxuriants’.
k'wāk~k’wèng ‘wide’.
gliak~gliàng ‘plunder, rob’.
fap~fam ‘grasp’.

We are justified in assuming that alternations of this type were the result of assimilation to verbal suffixes which had later been dropped (note the parallelism
time, yielding Thai *graam, N. Thai *graam as back-loans; Tibetan has rams, with
added -s as in other AT loans (ltšags ‘iron’, zangs ‘copper’, phyugs ‘cattle’) while
Lepcha has ryom < *rām.

422 The Cantonese data are based on the writer’s study of the language from a
native (Canton city) informant at Yale University, 1942. These vocative terms are
further set off by distinctive tonal treatment, which sometimes produces interesting
contrasts, e.g. a-ma (high tone) ‘mother!’ but a-ma (low tone) ‘grandmother!’
(father’s mother); a-yi (high tone) ‘aunt!’ (mother’s younger sister), but a-yi (low
tone) ‘wife’s sister’ (descriptive term).

423 H. Maspéro, ‘Sur quelques textes anciens du chinois parlé’, BEFEO 14
(1914), 1-36.

424 B. Laufer, ‘The Prefix a- in the Indo-Chinese Languages’, JRAS (1915),
757-80.

425 Our present analysis of the tonal system (n. 494) provides excellent evidence
for verbal and nominal suffixes, also sex modifiers of *-pa and *-ma type, yielding
a general morphological picture very much like that of Tibetan.

426 M. Courant, ‘Note sur l’existence, pour certains caractères chinois, de deux
lectures distinguées par les finales k-n, t-n, p-m’, Mém. Soc. Ling. de Paris 12
(1903), 67-72.

a 阿壩  b 阿姑  c 阿姑  d 阿二  e 散  f 撒  g 跆  h 曰
i 云  j 喪  k 佫  l 佫  m 掳  n 烏

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with verb paradigms in Bahing and many other TB languages). Boodberg attempts to distinguish between an intransitive aspect in -n and a transitive aspect in -t, but his data are insufficient to establish this point. Alternation between surd and sonant stop finals is also encountered in Ar. Ch., e.g. njok^a and snjog^b ‘ashamed’ (see above); āk ‘bad, evil’ and āg ‘hate’, both written; c g'okd ‘learn’ and g'ōge ‘teach’. The last example is most suggestive, allowing us to postulate the existence of a causative suffix (-x): *g'ok-x > *g'ōg-x > g'ōg (k > g in intervocalic position).

A nominalizing suffix of similar type can be postulated for the following:

(t'wät ~ d'wät) ‘peel off, take off (as clothes)’.
(t'wād) ‘exuviae of insects or reptiles’.
(kiet) ‘to tie, knot’.
(kied) ‘hair-knot, chignon’.
(d'ioh > d'əi) ‘eat’.
(dsiog) ‘food; feed’.
(nap) ‘bring in’.
(nwob) ‘interior’; cf. g'ap and g'wabo ‘join’; tap and twob ‘answer’.

Alternations in final consonants indicate that Chinese originally possessed suffixes, yet do not supply evidence for suffixes in Ar. Ch. itself. It is undoubtedly significant that in a few roots Chinese does have the ‘added elements’ -n or -t, apparently related to the widespread dental suffixes of Tibeto-Burman:

k'iwmn ‘dog’; TB *kwiy.
xiwets ‘blood’; TB *s-hwiy.
niétt ‘sun, day’; TB *niy.
ts'itétt ‘varnish’; TB *tsiy ‘juice, paint’.


428 A ‘collective’ suffixed *-n must be recognized for Chinese (Benedict, 1968), directly related to that found in TB (n. 284). This suffix must be set up morphophonemically as /n/, with *-a/n yielding -iên ~ -ien (root final *-a treated as a short medial a before dental final; n. 488), as distinguished from the nominalizing suffix /n/, with *-a/n yielding -án (root final *-a preserved as long medial a', yielding the anticipated vowel á before dental final; n. 488). In the single most interesting example of this suffix, however, there is unmistakable evidence that Chinese vacillated (perhaps dialectically) between these two morphophonemic processes; cf. t'i'en (A) and xi'en (A) (not in GSR) ‘heaven’ (an oft-cited doublet), from *khien (n. 464), from *kha'n ‘the heavens’; cf. T mkha ‘heaven, the heavens’ (cf. T nam-mkha ‘heaven, sky’, Magari nam-khan ‘sun’); also the complex doublet g'ian/g'ian ‘heaven, heavenly’, from *gen (n. 481) > *ga/n, showing voicing of the initial (after prefix) and intermediate palatalization of the vowel; also read kän,
The most significant occurrence of suffixed -n, however, is in kān* ‘liver’ < (prefix) + *ka-n, TB *ka ‘bitter’, the root form being represented by k’o-b ‘bitter’ (with regular *-a > -o shift after velar initial). The unaspirated initial of kān indicates that the word was originally prefixed (see below). The construction as a whole thus closely parallels TB *m-sin ‘liver’ from an old root *sin ‘sour’, as well as Bodo-Garo *b-ka ‘liver’ from TB *ka ‘bitter’ (see §27). Suffixed -n from *ka/-n (this character then applied to the homophone kān ‘dry’; n. 444). The ‘collective’ suffixed *-n has been noted in several Chinese forms (two with direct TB comparisons), and it is suspected that many others remain undiscovered; cf. sījen ‘body’, TB *sa ‘flesh’ (K sān); mjen ~ mjên/mjən ‘people’, TB *r-mi(y) ‘man (homo)’; tsiwol/tsiwa = ts’iwen/ts’iwen ‘hare’, TB *yow ‘rat, rabbit’ (B yun ‘rabbit’); dz’iwen/dz’iwen ‘grass, herb’, T rtswa ‘grass’ (n. 455). Alternation between suffixed and unsuffixed forms is reflected in the following pair: b’iun ~ b’iun ~ b’iun ‘female of animals’, TB *buwi(y) ‘female’ (see n. 463 for loss of medial *u); sìwol/swiüh ‘water’, t’iwen/t’siwen (irreg. for t’siwen) ‘stream, river’, TB *tsway (see n. 452 for initials); cf. also k’iwen/k’iwen < *k’i(u)-n and kuku/kûk both tone B) ‘dog’, TB *kwaw (both forms show the *kwaw > *ku shift; the latter with unaspirated initial was prefixed); yāl (tone A) ‘domestic goose’, yam (tone C) < *gá-n (n. 488) ‘wild goose’ (= ‘geese in flocks’), B pān ‘goose’ with a similar suffixed -n (n. 284). Chinese also has two forms suggesting the function of a ‘dual’ (cf. K -phans ‘palm, sole’), viz. sīq’og/siq’aw ‘hand’, ts’iwen/ts’iwen ‘thumb’ (but used for ‘hand’ in graphs), Karen tsū ‘hand/arm; d’iwen/d’iwen ‘lips’, T mtsu, id. The appearance of suffixed *-n in kinship terms in TB is paralleled in Chinese; cf. swuow/swuán ‘grandchild’; TB *swu(u), id.: K su, Mirkir, Meithei, Anu (S. Kuki) su, Bodo sou, Dimasa su; kwon/kwas ~ k’nun ‘maternal uncle’ (based on Mandarin k’un ‘older brother, descendant’; ST *ksw ~ *gsw ‘maternal uncle’ (B -hu ‘older brother’); ts’ien ‘relatives’, from *tsa-n, ultimately from ST *tsa ‘child’; cf. the exactly parallel form in Tibetan (n. 284). In two instances the lack of final -n in Chinese indicates that the TB root is an old suffixed form; cf. kwow/kwu ‘net’, from *kwas; TB *kwan ~ *gwan ‘casting net’; ST *kwa ~ *gua; tsawu ‘left (hand)’, T g-yon-pa, id., with suffixed -n, as shown also by T g-yo = yo ‘craft, cunning, deceit’ (cf. simuter); ST *yā (see n. 448 for the initial). As indicated by the text examples, Chinese appears to have -t as well as -n in this nominal suffix role, possibly conditioned by the high front vowel (add ‘mud’ from n. 474); it is also possible that this final -t represents a glottalization after the high front vowel, comparable to final -g after the vowel *a (n. 487); cf. niêt/nisjet ‘sun/day’; TB *nay, but B ne ‘sun’, ne ‘day’, the latter with ‘creaky voice’ (glottalization), probably from *a-nay = *a-nay; Chinese has an apparent doublet here with suffixed -n, viz. nien ‘sunlight’. Two kinship terms, however, appear to have suffixed -t paralleling the Tibetan usage (n. 284); cf. d’jet ~ d’jet/d’jets ‘nephew/niece’; TB *b-loy ‘grandchild; nephew/niece’ (see n. 458 for the initial); t’iwet/t’siuet ‘nephew’ (character borrowed in this meaning, which is not in GSR, but cited in Erh ya; see discussion in Benedict, 1942, where these terms are erroneously interpreted as forming a doublet); TB *tu ~ *du ‘nephew’.

a 盂 b 睦 c 身 d 民 e 經 f 姑 g 匹 h 水
i 川 j 犬 k 豬 l 鶴 m 鶴 n 手 o 寸 p 唇 q 孫
s 親 t 猿 u 左 v 日 w 晚 x 姫 y 出
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further appears in nán‘a ‘difficulty, suffering’, to be connected with TB *na ‘ill’; cf. also ts’ān‘b ‘eat; food, meal’, TB *sza.429

The TB morphological alternation between initial surd and sonant stops (see §29) cannot be established for Chinese.430 The surd vs. sonant alternation does occur in Ar. Ch., often with change in meaning, but no consistent pattern can be recognized. Cf. the following:

t’wāt~d’wāt‘c ‘peel off, take off’.

tang‘d ‘rise, ascend’, d’æng‘c ‘mount, rise’.

429 The verbal suffix -n probably plays a much larger role in Chinese than hitherto suspected, although only rare correspondences with this element in TB have been uncovered; cf. kwān‘f (A) ‘cap’; (C) ‘put on cap’; TB *gwa-n ~ *kwa-n ‘wear; dress’; Karen *kwān ‘put on (clothes)’; cf. also tāng‘ ‘red, vermilion; (KD) cinnamon’ (= ‘the red substance’) and ts‘jēn‘b also ts‘jan/ts‘jen‘ ‘red’, from *ta-n ~ tya-n; TB *tya-n: B tya ~ ta ‘very red, flaming red’ (intensive), Tiddim Chin tisan < *th(y)yan ‘red’; tsw’n/td’un‘ ‘solid, thick; lie thick on’, tsw’on/t’sjuen ~ d’wo/n/ d’uun‘k ‘thick (sc. darkness)’; TB *tow ~ *dow ‘thick’ (but Chepeng dun); szw’on/ sz‘uun‘ ‘to smoke’ (intr.); TB *ksw ‘smoke’ (but Sunwar kun, Newari kih). In other roots, Chinese suffixed -n has no parallel elsewhere or corresponds to suffixed -t; cf. nan/ian‘m ‘blush’; Karen (Taungthu) nā ‘red’; d’wo/n/d’uun‘n accumulate; bring together (soldiers as a garrison), also d’wo/n/d’uun‘ ‘tie together, envelop’; TB *du-t: T ‘du-ba ‘assemble, meet, join’, sdu-pa ‘put together, join, unite’, K tut ‘to be joined, bound or tied together’. Suffixed -t appears to be much less common with verbal roots but there is one excellent correspondence with the same element in TB, with Karen showing suffixed -n, viz. g‘watt/g‘jat ‘dig out (earth)’, also k‘watt/k‘uott ‘dig in the ground; underground’; TB *r-go-t ~ *r-ho-t (K lsogot ~ lokhout, also lsogt, ‘scoop up’); Karen *kho-n ‘dig’ (n. 368); cf. also ‘laugh’ (n. 458) and perhaps also dz‘jot/dz‘jett ‘sickness, pain’; TB *tsa ‘hot; pain’. ST suffixed -s is probably represented by -t in Chinese (paralleling ST final *-s -> -t); cf. sjet‘s ‘all, completely; (AD) thoroughly know, perfectly understand’ (probably the more basic meaning; graph has ‘heart’ as signif); TB *syey ‘know’ (T ses-pa).

430 The following root also shows an inconsistent pattern contrasting with that found in TB: g‘iuk/g‘iwok‘ ‘compressed, bent, curved (body); curl, twist (hair)’, g‘iuk/g‘iwok‘ ‘bend the body’, k‘iuk/k‘iwoy‘ ‘bend, bent; crooked, unjust’; TB *m-ku-k ‘angle; knee’; cf. also kijk/kjuk‘ ‘bow, bend’ and kjök/kjuk‘ ‘convex side of river bend’ (both characters loans in these senses); TB *guk ~ *kuk ‘bend; crooked’ (see n. 479 for the vocalic length distinction). There is, however, one possible example of direct correspondence, both phonologically and morphologically, within the same ST etymon; cf. glák/laky‘ ‘to fear’ (not in GSR in this meaning), k’lák/k’a’k‘ ‘respect, reverent’ = ‘to inspire fear’ (cf. kʝēn/kʝən‘a ‘reverent, respectful; careful’, kʝeŋ/kʝɔŋ‘ to be afraid; attentive; scare’), perhaps also xiji/k’iik‘ ‘fear’, from *khraś (n. 472); TB *grák ~ *krák ‘fear; frightened’; cf. also Karen *kha < *khraʃ[k] ‘scare, frighten with outcries, use violent language in order to terrify’.

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§41. Chinese pronouns

Chinese parallels Karen in having an exact cognate for TB *ŋa ‘I’, viz. ngo (with the regular *-a > -o shift after velar initial), but ɲio (cf. Karen na) corresponding to TB *naŋ ‘thou’.

As pointed out by Karlsgren, a type of pronominal inflection appears in certain early texts (Lun Yü, Mencius, Tso Chuan):

<table>
<thead>
<tr>
<th>Subject position</th>
<th>1st person</th>
<th>2nd person</th>
</tr>
</thead>
<tbody>
<tr>
<td>ngo</td>
<td>njo</td>
<td></td>
</tr>
<tr>
<td>ngá</td>
<td>nia</td>
<td></td>
</tr>
</tbody>
</table>

Both ngá and nia commonly appear also in subject (incl. genitive) position, whereas ngo and njo are almost entirely restricted to this position, i.e. ngá and nia tend to usurp the nominative roles of ngo and njo (cf. French moi, English me). In the older Shu Ching text, however, this distinction is not observed, and djo or dow is the dominant 1st person pronoun, with ngo entirely lacking and ngá gradually

431 Karlsgren’s ‘Word Families in Chinese’ (BMFEA 5, 1934) comprises a systematic review of initial, final, and vocalic alternations. The discussion, however, is of limited value, inasmuch as no account is taken of the TB phenomena.

432 The *na form for ‘thou’, found also in Nung, appears to be an unstressed form of ST *naŋ ~ *naŋ ~ *naŋ. TB has *naŋ but a doublet, *naŋ can be reconstructed on the basis of Ch. ɲioŋ/ɲιŋ (n. 488); cf. also nag/nái ~ *ɲιŋ/ɲιŋ ‘thou’, the latter set up on the basis of the general use of the graph as phonetic in -ŋ forms, including ɲιŋ/ɲιŋx ‘repeat, as before; again and again’; (AD) follow, imitate’, TB *(s-)naŋ ‘follow’, from ST *(s-)naŋ.

433 ‘Le proto-chinois, langue flexionelle’, JA (1920), 205–32.
increasing in usage. In the still earlier Shih Ching text, moreover, ngà is the dominant form (exclusively used in songs from some districts), with diyó as secondary form. Karlsgren concludes that these differences reflect dialectical divergences, which are closely related to styles, and that the dialect of Lu,\(^a\) reflected especially in the Lun Yü, retained a true inflection of the pronoun as an archaic feature. The fact that ngo rather than ngà is the phonetically regular representative of TB *nya strengthens the view that the Lu forms are archaic, yet the Tibeto-Burman and Karen evidence precludes the possibility of regarding pronominal inflection as an inherited ST' trait. We must hold, rather, that Chinese, like some TB languages, has secondarily developed distinctions in pronominal forms.

§42. Chinese numerals

The Chinese numeral system, like that of Tibeto-Burman and Karen, is decimal. The numerals from ‘2’ to ‘6’, and ‘9’ correspond to general Tibeto-Karen roots, and a Chinese-Kanaury correspondence has been found for ‘1’. It will be noted that here, as in other lexical fields, Chinese departs more widely from Tibeto-Burman than does Karen.\(^{434,435}\)

434 The Tibeto-Burman and Chinese numerals have attracted the attention of a number of writers, including T. C. Hodson, ‘Note on the Numerical Systems of the Tibeto-Burman Dialects’, *JRAS* (1913), 315–36; J. Przyluski and G. H. Luce, ‘The Number “A Hundred” in Sino-Tibetan’, *BSOS* 6 (1931), 667–8; S. N. Wolfenden, ‘Concerning the Origins of Tibetan brgyad and Chinese pwaṭ\(^b\) “eight”’, *TP* 34 (1939), 165–73; Wang Ching-ju,\(^c\) ‘Chung t'ai tsang mien shu-ch'ieh-ts'ū chi jên-ch'êng tai-ming-ts'ū yû yûan shih ts'ai\(^d\)’ (‘Comparative Study of the Numerals and Personal Pronouns in Chinese, Thai, Tibetan, and Burmese’), *CYYY* 3 (1931), 49–92. Wolfenden rightly keeps T brgyad and Ch. pwaṭ\(^b\) ‘8’ apart, but fails to see that the seemingly discrepant TB forms for ‘8’ can be derived from a single root (*b-r-gyat*). Wang, making no use of scientific methodology, arrives at roots such as *gret ‘1’, *gruk ‘6’, *bgrat ‘8’, and *(g)kiap ‘10’, while Przyluski and Luce surpass even these with *pargyak ‘100’, a kind of ‘synthesis’ of T brgya and Ch. pāk.\(^e\) The seeming parallelism presented by T brgyad and Ch. pwaṭ ‘8’, T brgya (< *r-gya*) and Ch. pāk ‘100’ has proved irresistible to most writers on the subject of ST numerals.

435 It now appears that all the Ch. numerals, including ‘100’, are cognate with the TB set. Three of the numerals had substituted *b* prefix (with unvoicing), on the basis of evidence from ancient loans in Thai and the related Ong-Be (Hainan island) language as well as from Chinese itself, paralleling a trend found also in

\(^{a}\) 魯 \(^{b}\) 入 \(^{c}\) 王靜如 \(^{d}\) 中央藏緬數目字及人稱代名詞語源探 \(^{e}\) 百
Sino-Tibetan: a conspectus

*iēta ‘t’; cf. Kanauri id.
*ŋir > *nži b ‘z’; TB *g-nis.
somc ‘3’; TB *g-sum.
sjod > *si d ‘4’; TB *b-liy.
ngo e ‘5’; TB *l-ŋa ~ *b-ŋa.
ljok > ljuk e ‘6’; TB *d-ruk.
kjūk > kjūm ‘9’; TB *d-kuw.

The phonetic shifts illustrated in the above comparisons are regular for the most part (see below). Ar. Ch. sjod ‘4’ for TB *b-liy, however, requires explanation, since initial *l- should yield Ar. Ch. l-, while *bl- should yield Ar. Ch. bl- (T bzi < *b-liy is a late development quite unrelated to the Chinese phenomenon in question). In view of the known tendency for one numeral to be ‘contaminated’ by another in Tibeto-Burman, e.g. K msom ‘3’ < *g-sum through the influence exerted by moli ‘4’ < *b-liy and mŋa ‘5’ < *b-ŋa (see §16), we must suppose that Ar. Ch. sjod ‘4’ has been influenced by som ‘3’, with s- replacing initial *l-

TB; cf. ŋo/ŋuoh ‘5’, from *ŋa (text), but Thai has *ha < *hŋa (Ong-Be ŋa), borrowed from a pre-Ar. Ch. form *hŋa < *ph(-)ŋa < *b-ŋa; TB *l-ŋa ~ *b-ŋa; *b-ljok/ljuk e ‘6’ (cf. n. 474), reconstructed on basis of use of graph as phonetic in mljok (or *m-ljok)/mljuk e ‘accord’, confirmed by the doublet *phrok reflected in Thai *hrook (but Tho has irreg. sok), Ong-Be sok < *phrok (a regular shift, e.g. Ong-be sok < *sak ‘vegetable’, Thai *phrak); TB *d-ruk; ㍝uk e ‘8’, from *b-ryāt (n. 148) < *b-ryāt (n. 488); TB *(b-)g-ryat, with simplification to *bwaat rather than *byāt, the latter also existing as a doublet which served as the basis for the early Min-chia (AT stock) loan: ㍝at, probably also Thai and Kam-Sui *peet (=pet), Ong-be bet = pet. For further details on these early loans from the Ch. numeral system, see Benedict, 1967 bis; all these languages have *saam ‘3’, agreeing with the irregular Anc. Ch. form sâm rather than with the regular Ar. Ch. form som, TB *g-sum. The seemingly unrelated tsjėt ‘7’ can be derived from ST *s-nis (n. 471). Finally, pāk/Cppkm ‘100’ can be analyzed as the product of a metathesized form: *b-grya, from *b-r-gya; TB *r-gya (T brgya), with typical unvoicing of the prefix, then vocalization of this element: *pāh(-rya) < *bərgya; cf. T brgyad ‘8’, metathesized from TB *(b-)g-ryat (n. 148); also, for ‘10’ see n. 464.

436 This numeral can be derived from ST (and TB) *b-lay via *b-za or *b-zay (cf. T bzi) and *p-say (regular unvoicing of the prefix, whence unvoicing of the initial through assimilation); there was a variant in final –t (the Tsi-yün mentions a dialectical reading sjet in Shensi), perhaps representing an old suffix (cf. Karen *lwi-t ‘4’).

a  b  c  d  e  f  g  h  i  j  k  l  m  n
1  2  3  4  5  6  7  8  9  0
§43. Chinese phonology (history)

The richly varied phonological system of Archaic Chinese offers many difficulties of comparison with the relatively simple scheme found in Tibeto-Burman. The small number of roots which the two stocks have in common further contributes to this initial difficulty. Many of the problems have already been set forth in the few studies that have appeared in this field, notably Simon’s comparison of Chinese with Tibetan and Shafer’s study of Sino-Tibetan vocalism (JASO 60, 1940; 61, 1941). Simon’s reconstruction of Tibetan, made almost wholly without reference to other TB languages, is faulty at many points, and his Archaic Chinese reconstitutions are less reliable than those of Karlgren. Shafer, on the other hand, has made valid TB reconstructions for the most part, but has compared these with Ancient Chinese rather than Archaic Chinese forms. Both writers make extensive use of questionable comparative material, including loan-words. The present study is the first to attempt a comparison of properly reconstructed TB roots with Archaic Chinese forms.

437 Karlgren’s phonetic notation has been adopted for this discussion of Archaic Chinese with a view to facilitating reference to the Grammata Serica. The following points should be noted: ng is the velar nasal ŋ; j is the palatal semivowel y; · is the glottal stop ʔ; i and ā are palatal stops; s, ts, and ʔx are supradental (cerebral); a is close (as opposed to open) a, and o is close o; short vowels are indicated either by a micron or a subscripted dot, e.g. ā is short a, ō is short o; ā is the low-back vowel ą; e is the low-front vowel æ.


439 Many instances of this type can be cited from Shafer’s paper, e.g. d’sa ‘tea’ and T dša; sib ‘lion’ and B khraŋ-se; d’unge ‘copper’ and T donṣe (also donṣhe) ‘coin’ (of Indic origin); migd and T mig-gi miu ‘pupil (of eye)’, the latter to be analyzed (as in Jäschke) ‘little man of the eye’, with miu as diminutive of mi ‘man’, paralleling rdeu ‘little stone’<rdo (cf. Ch. d’unge ‘pupil’ and d’ungf ‘boy’).
§ 44. Chinese consonants (initials, finals)

The consonants of Archaic Chinese are as follows:440

Laryngeal:  · (glottal stop)

Velar:  \( k \quad k' \quad \bar{g} \quad g' \quad ng \quad \chi \)

Palatal:  \( t \quad t' \quad \bar{d} \quad d' \quad n \quad [y] \quad \bar{s} \)

Dental:  \( t \quad t' \quad d \quad d' \quad n \quad l \quad s \quad z \quad ts \quad ts' \quad dz \quad dz' \)

Cerebral:  \( [r] \quad \bar{s} \quad t\bar{s} \quad t\bar{s}' \quad d\bar{z} \quad d\bar{z}' \)

Labial:  \( p \quad p' \quad [b] \quad b' \quad m \quad [w] \)

Glottal stop occurs before (otherwise) initial vowels, as in Burmese and probably other TB languages. The phoneme \( \chi \) can be derived from ST *h-, inasmuch as Ar. Ch. lacks the free aspiration element. Only one cross-check with TB *h- has been found, however, viz. \( \chi \)i\( \nu \)et\( a \) ‘blood’, TB *s-\( h \)vi\( y \) (the TB prefix does not appear in Chinese).441 The seeming lack of the palatal semivowel \( j \) can

440 The writer (Benedict, 1948) has made a systematic comparison of the TB and Ar. Ch. consonantal systems, pointing out that the main discrepancies in the two systems lie in the presence in Ar. Ch. of a second series of voiced stops and affricate (\( b \) is perhaps lacking except in initial clusters) and of an incomplete cerebral (retroflex) series; the suggested solutions to these two problems still appear to be sound (nn. 446 and 457). The recognition of a separate palatal series for TB (n. 122) brings this language stock into general agreement with Ar. Ch.

441 This still remains our only substantial comparison for TB *h- = Ar. Ch. \( \chi \)- (ST *h-); the TB root is now (n. 169) reconstructed *s-h\( w \)\( w \)y ‘blood’, with *\( h \)\( w \)- showing unit-for-unit correspondence with Ch. \( \chi \)\( w \)- (for the suffixed -t see n. 428; for the ‘lost’ prefixed s- see n. 419). Another source for Ar. Ch. initial \( \chi \)- is *\( k \)\( h \)-, either from palatalized (by high vowel) *\( k \)h- or from a *\( k \)\( h \)- or *\( k \)\( h \)- cluster (n. 472); cf. \( \chi \)\( u \)\( n \)/\( \chi \)\( u \)\( n \)b ‘to smoke’ (intr.), TB *\( k \)\( o \)\( w \) ‘smoke’ (see n. 429 for suffixed -n); g\( \ddot{\iota} \)\( \ddot{\iota} \)\( g \)/\( \ddot{\iota} \)\( \ddot{\iota} \)\( g \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( c \) ‘owl’ (only KD in this meaning; signisic is horned owl), also \( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( d \) (A) ‘owl’ and \( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \) (A) ‘kind of bird (owl?)’, TB *\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( \ddot{\iota} \) ‘owl’ (add Gyarung pra-\( k \)\( h \)u ‘owl’ to forms cited in text); the Ch. forms are, respectively, from *\( g \)\( w \), *\( k \)\( h \)\( w \) (unprefixed) and *\( k \)\( o \)w (prefixed), all with vowel gradation; cf. also Anc. Ch. \( x \)\( x \)\( u \)\( t \) ‘nutmeg, cardamon’ (not in GSR) but all dialects point to Anc. Ch. *\( h \)\( z \)\( \ddot{\iota} \) (Karlsgren); note that the phonetic remained palatalized: \( \ddot{\iota} \)\( u \)/\( \ddot{\iota} \)\( u \)\( g \) ‘rob’, TB *\( r \)\( u \)\( w \) ‘steal’; cf. also *\( h \)‘heaven’ (n. 464). Chinese has some interchange of velar stop with . (=?) in several phonetic series, and there is one ST comparison; cf. *\( r \)\( e \)\( n \)\( h \) ‘smoke’, from *\( r \)\( i \)\( n \) < *\( r \)\( w \)\( n \) (n. 429), a complex doublet of the verbal form cited above; Nungish (Rawang) m\( d \)\( o \) shows similar irregular loss of the velar stop, apparently via *\( m \)\( \ddot{\iota} \)\( \ddot{\iota} \)\( w \) < *\( m \)\( k \)\( h \)\( w \), and it is possible that the Chinese doublet *\( r \)\( e \)\( n \) similarly reflects an earlier prefix or preposed element (ST *\( m \)\( c \)\( y \) ‘fire’).
be attributed to Karlgren’s non-phonemic notation; actually, as shown below, Ar. Ch. had the semivowels j and w as distinct from the vowels i and u. The absence of ž (palatal) as well as ẓ (cerebral) is noteworthy. Anc. Ch. had š, but Karlgren has shown this to be the end-product of a development ď > dž > ž. In the absence of ẓ, the affricate dž must be considered a unit phoneme rather than d + ź, and similarly (for the sake of pattern congruity) the other affricates. The aspirated stop consonants also are better regarded as unit phonemes than as stop + š clusters. The number of consonant phonemes thus attained (35) is exceptionally high – over twice the number (16) reconstructed for Tibeto-Burman.

The surd, aspirated surd, and aspirated sonant stops occur freely in initial position, while only the unaspirated surd and sonant stops (excluding palatals) are found in final position. The final sonant stops, differing from anything found in Tibeto-Burman (as reconstructed), are best handled in connection with the vocalism of Archaic Chinese (see below). The final surd stops and nasals regularly correspond to those in Tibeto-Burman, but in a few roots an assimilative shift to dental after the high-front vowel *i can be observed (cf. the Burmese and Lushe treatment of finals discussed in §7): 442
tsietā ‘knot, joint’; TB *tsik.
nienb ‘harvest, year’; TB *niŋ.
siènc ‘firewood’; TB *siŋ ‘tree, wood’.

The contrast between aspirated and unaspirated surd stops is to be explained on the basis already employed (§7) for Tibetan and other TB languages, viz., aspiration appears after unprefixd stops, but is lacking after stops originally affected by prefixes. It may have been that, as in Tibetan, not all prefixes exercised this effect on stops, but for this we have no good evidence. The contrast between the two types of initials is best shown in the example cited above, viz. k’ød ‘bitter’, TB *ka (kha in most TB languages), but kāne ‘liver’, from a prefixed root such as *m-ka-n or *b-ka-n; cf. also kiūg ‘9’, TB *d-huw. The fact that very few prefixed roots have cognates in Ar. Ch. makes it difficult to establish this generalization, yet no other theory offers so many advantages. Doublets such as piök̚

Add *šrjet/sieth ‘louse’, TB *šrik (n. 457); also ‘fear’ (n. 466). The conditioning factors governing this shift have not been uncovered. A doublet form *r-niŋ ~ *r-min ‘name; command’ can be set up for ST itself: TB *r-min ‘name’, *miŋ ‘command’ (Burmes); Karen *men < *min ‘name’; Ch. *mlŋeŋ ~ *mlēn ‘name; command’ (from *r-min ~ *r-min (n. 419). A similar shift after medial *y apparently has occurred in one root, viz. d’iət/džiət < *g’liat ‘tongue’, a doublet of g’iək < *g’liak, id. (n. 419), TB *(m)-lyak ~ *(s)-lyak ‘lick; tongue’; Magari has let ‘tongue’ while Kachin has šiŋlet ~ šiŋlep, Maran dial. šiyriat, id., from this root, showing parallel shift.

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a 節 b 年 c 薪 d 苦 e 肝 f 九 g 腹 h 魚 i 舌 j 腫
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'belly', p̥iṅk (also b̥iṅk) as 'cave' (TB *pu-k), can readily be interpreted in terms of lost prefixes, pronominal or otherwise, e.g. *m-pu-k > p̥iṅk, *pu-k > p̥iṅk. Similarly, a lost prefix must be postulated for forms such as tįnkb 'weave', TB *tak. Actually, the problem of initial aspiration in Chinese is no greater than in many TB languages, in which prefixes play a similar dominant role.

The initial sonant stops of Tibeto-Burman are normally represented by aspirated sonants in Ar. Ch., to judge from the few good comparisons that can be made here:

g̊woc 'fox'; TB *gwa.
g̊ogd 'call, cry out'; TB *gaw.
g̊ams 'hold in the mouth', also (tone C) 'put in the mouth'; TB *gam (491), as represented by T 'gam-pa' 'put or throw into the mouth', Miri gam 'seize (with teeth, as a tiger).

b̥iṅg 'carry on back'; TB *buw.
d̥iṅks 'poison, poisonous'; TB *d̥uk~*tak.

Ar. Ch. has surd for TB sonant stop in p̥iṅd 'give', TB *biy443 (but note also Kuki *pe-k), while the inverse relationship obtains in g̊iṅg 'uncle (mother's brother), father-in-law', TB *kaw444. Morphology may sometimes play a role here, e.g. g̊oi 'door, opening' has perhaps been derived from an intransitive root with voiced initial (*ga) corresponding to TB *ka and *m-kə.445

443 ST initial *b- apparently was well maintained in Chinese in the cluster *bw- (n. 463) but was often (perhaps usually) unvoiced elsewhere; cf. also p̥iṅk 'bat' (in GSR), T *bək (see n. 488 for the vocalism); p̥wɔm/p̥uəm 'root, trunk', TB *bul~*pul: K phum 'tree, bush, stalk, wood', Moshang pu- 'tree' (length probably secondary), G bol 'tree', L bul 'cause, beginning, the root, stump or foot (of tree), the lower end (as of stick, post, etc.)', Tiddim bul 'bottom, base, foot (of building)' (but this root used in compounds meaning 'tree' in Anal and other Kuki languages); p̥i̊n/p̥i̊nm 'fly about, flutter', TB *byer 'fly'; also 'uncle/older brother' (n. 463). This parallels the surdization of prefixed *b- in the numerals (n. 435 and 436) and elsewhere (n. 474). Finally, ST *b yielded (w)u after prefixed *d̥- in d̥u'd̥a 'head', TB *(d̥)-bu.

444 For this root Chinese also has a cognate with surd initial and suffixed -n, viz. kwan/kwam ~ *k̥wam/k̥wam 'older brother' (n. 428). Chinese also has g̊eɡ/yai̊v 'crab', TB *d̥h-ay, but note Karen *tsəj (a 'problem' root; see n. 323); cf. also kana 'dry', g̊aŋ/yâm 'drought, dry' (text); TB *kan: K kan 'to be dried up (as a stream)', B khan, Ats (Burling) kən (BL *kan) 'dry up'; also g̊i̊kab 'ridge of house; the highest point; extreme limit, utmost', B-L *khak 'reaching its peak; (in price) expensive' (this reconstruction by JAM), from ST *gək~*kək; also 'needle' (n. 464).

445 TB perhaps has a variant *ga here; cf. Trung (Nungish) say ga 'window' (= 'window-opening'), Rawang səre mən say, id. (saŋ possibly a loan from Ch. ch'uang).4

k 窖 l 橋 c 狐 m 蜻 t 頭 o 房 p 蠶 q 乾 r 旱 s 極 t 窗

166
The unaspirated sonant stops \( g \) and \( d \) are found in initial position only before semivocalic \( i \) (\( =j \)), while initial \( b \)- is altogether lacking. Initial \( gi \)- yields \( ji \), and \( di \)-yields \( i \)-, in Anc. Ch. Karlgren's reconstructions here are based on strong evidence from the analysis of phonetic elements in characters, and cannot successfully be attacked. Inasmuch as Ar. Ch. lacks both initial \( *w- \) and \( *y- \), we might infer that these semivowels in Sino-Tibetan yielded weakly articulated voiced stops.\(^{446}\) The only substantial comparisons available support this view; cf. giwo\(^a\) ‘rain’,\(^{447}\) TB \( *r-wa \); djeŋ\(^b\) ‘fly’, and TB \( *yaj \) (No. 492), as represented by West T bu-yaj ‘bumble-bee’, Kanaruk yaj ‘fly, bee’, B yaj ‘fly, insect’.\(^{448}\) In addition, \( g- \) shows interchange with the other velar initials, and \( d- \) with the other dental initials, hence we may infer that these initials in many instances have been derived from prefix + sonant stop clusters. Direct comparisons with TB initial \( *g- \) or \( *d- \), however, cannot be cited.\(^{449}\)

446 This analysis is developed in detail in Benedict, 1948, where it is pointed out that the shifts \( *y>d \) and \( *w>g \) occurred both in initial and final position as one aspect of a single dynamic generalization, i.e. the voiced fricatives (incl. semivowels) of ST received a stop element in the course of their evolution in Chinese; this 'law' serves to explain the parallel \( *z->dz- \) and \( z->d' \) shifts (found only in initial position). Phonemically, these unaspirated stops \( (d \) and \( g \) remained allophones of the phonemes \( /y/ \) and \( /w/ \), maintaining the contrast with the initial aspirated stops \( (d' \) and \( g' \) -) but with some tendency to become transformed into the latter (n. 449).

447 Add (from Benedict, 1948) giwo/yiu\(^c\) ‘proceed, go to’, TB \( *s-wa \): Magari and Chepang h\( a\)\( wa \) ‘walk, move’, Newari \( wa \) ‘come’, K \( wa \) ‘to be in motion’, B \( swa \) ‘go’, Kuki group \( *w-a \) (affix used with verbs of motion); cf. additional examples in n. 449.

448 This TB root has been reconstructed \( *(s)-braŋ \) (n. 469). For ST \( *y- \), cf. d\( a\)\( n\)\( j\)\( ân \) (A) ‘extend; continue; delay; stretch’, d\( a\)\( n\)\( j\)\( ân \) (A) ‘mat’ (= 'something spread out'), d\( a\)\( n\)\( j\)\( ân \) (C) ‘flow out, extend’, perhaps also d\( i\)\( n\)\( j\)\( ân \) (C) ‘draw the bow; pull, draw; extend; prolong’; TB \( *ya-r \) \( *yâr \) ‘spread, extend; sail’; Karen \( *ya \) ‘expand, hoist (sail); sail’ (= 'something extended'), but note also Tiddim (Kuki) zan \( *yan \) ‘stretch’. It is possible that ST initial \( *y- \) yielded Ar. Ch. \( d\)- only in unprefix roots, and that after (most or all) prefixes, this same initial yielded Ar. Ch. zi- (Benedict, 1948), with further evolution to \( dz- \) and even to ts/ts\( ^c \)-, the last with three excellent examples; cf. z\( a\)\( k\)\( j\)\( â \) ‘armpit’, TB \( *(g)-yak \) (text; cf. n. 108); z\( â\)\( g\)\( j\)\( â \) (C) ‘night’, dz\( a\)\( k\)\( j\)\( â \) ‘evening, night’, TB \( *ya \) ‘night’, Karen \( *hya \) ‘evening’ (see n. 487 for final); t\( i\)\( s\)\( òt\)\( s\)\( i\)\( â \) ‘spirits, wine’ (note phonetic is z\( i\)\( g\)\( j\)\( â \), defined in KD as 'wine must'; see text), TB \( *yu(\( w \) \) ‘liquor’; t\( s\)\( i\)\( w\)\( n\)\( t\)\( s\)\( i\)\( òn\) \( t\)\( s\)\( ën\)\( m \) ‘hare’ (with ‘collective’ -\( n \) suffix; see n. 428), TB \( *b-yaw \) ‘rat, rabbit’ (B yun ‘rabbit’); ts\( ãn \) ‘left (hand)’, T g-yon-pa, id. (with suffixed -\( n \); see n. 428).

449 A direct comparison of this type is furnished by the following (Benedict, 1967 bis): gwial/juie\(^p\) an obsolete root for ‘elephant’, the graph showing a hand at the head of an elephant (recognized by P. Boodberg, H\( Y\)\( A\)\( S \) 2, 1937, 239-72,
note 68), TB *m-gwi(y) ‘elephant’; K gwi ~ magwi, Rawang (Nungish) magö < *magwi, S. Kuki *m-toi. It also seems certain, from the initial interchange shown in many phonetic series, that even an original surd stop could become first voiced in close juncture, then unaspirated; cf. the following: diörli (A) ~ t’iör|t’ieic (C) ‘mucus from the nose’ (note the tones), TB *(sna)-ti(y) (A) ‘nose-water’ (Dhimal hna-thi ‘snot’), ST *tuy ‘water’; the aspirated (hence unprefixed) form has tone C, indicating an original suffix (n. 494). The phonetic in this series (GSR-551) is diörli as ‘barbarian’, the graph showing ‘man’ and ‘arrow’, the latter as the basic phonetic (not recognized by Karlgren), to be interpreted as a close-junctural form (e.g. ‘bow-‘arrow’ of *t’iör (TB *tal), whence sör/si ‘arrow’ (n. 461); this series includes another close-junctural form of this type, viz. diörli (A) ‘the fat over the stomach’, from t’iör|tsie (A) ‘fat’, TB *tsil (n. 461). Prefixed *g- is apparently represented by g- in giug/jigu ‘right (hand)’, TB *g-ya (see n. 487 for final). An aspirated voiced stop was developed in at least two roots, both from initial *w-; cf. gjum/jiun ~ g’ium/g’iun (AD citation, based on irreg. Mand. hiung) ‘bear’, from *wum < *wam (n. 488), TB *d-wam; givan/gijwam (A) ‘circle, circumference; round; return’, giwan/gijwank (A) ‘round’, givan/gijwan (C) ‘wall round a courtyard’; also (aspirated and palatalized) g’ivan/giwen (B) ‘tie around, encircle’, g’iwan/g’iwan (B) ‘enclosure for pigs’ (also read g’ivan/g’iwan); also (without palatalization) g’ivan/giwan (A) ‘turn round, return’, g’ivan/giwan (A) ‘ring; encircle’; also (with *wa > *u > wo shift) g’iwan/guwa (C) ‘pig-sty’, TB *wal ‘round, circular’. It appears that in parallel fashion ST (and TB) *hw- yielded k(w)- in Chinese; cf. kâm ‘dare’, perhaps by dissimilation from *kwäm (lacking in Chinese), TB *kwam, id.; Karlgren (AD) notes that there is a ‘bear’ in the graph for ‘dare’, and it now appears that this element was really a phonetic, pointing to an early alternate development (*weam > *gweam) in the root for ‘bear’ (above); the resemblance to Japanese kuma, Korean kom ‘bear’ appears to be due to convergence.

450 A palatal series has also now been recognized for TB (n. 122).

451 It must be borne in mind that only a relatively small segment of the Chinese lexical material is of ST origin, and that Chinese may have been reoriented phonemically several times before attaining what we know as the ‘Archaic’ stage. Our task is not so much to identify all the phonetic elements of Ar. Ch. in terms of Sino-Tibetan, as to establish the course of development of ST elements in Ar. Ch.

452 The palatal series is not prominent in TB, but there are two significant correspondences with Ch. palatals, sufficient to establish this series as a feature of ST, viz. t’iák/iš/iaks ‘red’, TB *šak, id.; śög/siš ‘animal’, TB *ša ‘flesh, meat, animal’ (see n. 487 for final), also the forms with ‘collective’ -n suffix (n. 428):
The dental sibilants and affricates correspond to TB *s̚, *z̚, *ts̚, and *dz̚, although no reliable comparisons have been found for the voiced members of this group. Initial *s̚- is particularly well represented, as in som̚ ‘3’, TB *ǧ-sum̚. Final *s̚-, a rare element even in Tibeto-Burman, has perhaps undergone rhotacism in Ar. Ch., as suggested by Karlgren (BMFEA 5, 1934); cf. n̚jɔr̚b̚ ‘2’, TB *ǧ-nis̚. TB initial *ts̚- is represented by ts̚- or ts̚- in ts̚iet̚e ‘knot, joint’, TB *tsik̚; ts̚iël̚d̚ ‘varnish’, TB *tsiy̚; ts̚uŋc̚e ‘onion’, T btsɔŋ, but simply by s̚- in sam̚ ‘hair’, TB *tsam̚; cf. also dz̚'āx̚ ‘salt, salty’, TB *tsa. Initial *z̚-, like initial šēn̚b̚ ‘body’, K šan̚ ‘flesh, meat, deer’. The voiced stop in this series is represented only by d̚'iən̚/dz̚'iəni̚ ‘lips’ (with -n suffix), T mti̕ku, id.; ST (and TB) initial *s̚- before the high back vowel u yielded Ch. s̚- in swən/sum̚l̚ ‘grandchild’ (with -n suffix; n. 428), TB *su(w), id.; perhaps also ST *t̚s̚- > Ch. ts̚- before u (n. 455). The rare initial clusters of dental stop or affricate+y in ST yielded palatal stop in Chinese; cf. *t̚j̚ak̚/t̚i̕ək̚ ‘single, one’, ST *tyak̚ (n. 271); t̚j̚u/t̚i̕u̕l̚ ‘red’, ST *tya (n. 487); t̚j̚o̕/t̚i̕u̕m̚ ‘boil, cook’, TB *tsuoy̚. In the single comparison for the voiced stop in this series, however, Ar. Ch. has the dental+y (i) cluster, viz. d̚'iŋd̚/d̚'iŋn̚ ‘insect’, Bodo-Garo *dyuŋ (n. 109). Finally, there is substantial evidence in Chinese for the evolution of dental affricates and stops to palatal stops and spirants, especially before the high vowels i and u and/or after an aspirated (= non-preixed) initial; cf. the following: t̚i̕or/t̚i̕o̕ ‘fat’, TB *tsil̚; d̚'iək̚/dz̚'iək̚b̚ ‘eat’, TB *dzə; but dental preserved in dzəg/zə ‘food, give food to’ (probably from a prefixed form); t̚'əwət̚/t̚'i̕e̕t̚ ‘nephew’ (with prefixed -t̚; n. 428), TB *tu̕ ~ *du̕; ši̕orr̚/zor̚ ‘water’, also (with prefixed -n) t̚'i̕or/t̚'i̕ən̚ (irreg. for t̚'i̕u̕n̚) ‘stream, river’, TB *t̚u̕r̚ ‘water’; ši̕or̚/ši̕u̕ ‘arrow’, TB *t̚al̚: Mikir thal̚ (Old) > thai (Modern) ‘arrow’, L thal̚ ‘arrow, dart’, but Tiddim thal̚ ‘bow’, perhaps also Deori Chutiya (B-G group) thal̚ ‘bough’ (Benedict, 1940, No. 72); also (with initial alternation) tən̚ ‘rise’, t̚i̕or/t̚i̕ən̚ ‘lift’, TB *(i)tn̚ (n. 482). In one root, however, Chinese appears to have dental affricate corresponding to palatal in TB; cf. tsiap/tsiəp̚ ‘connect, come in contact; close to’, TB *tsiap̚ ‘join, connect; adhere’ (G tsiap-tsiap̚ ‘adjoin’, possibly from ST *tsiap̚.

453 ST (and TB) initial *z̚- is represented in Chinese by the anticipated dz̚-/z̚-initial in dzəg/zəv ‘child’, a doublet of tsəg/tsi (n. 86), TB *za ~ *tsa, id.; cf. also Ch. dzət̚ag/dzət̚ ‘beget’, all pointing to a basic ST root *tsa ~ *dzə, with *za as a doublet of the latter (the initial *dz̚- form is lacking in TB, which has only T btsa-ba ‘to bear offspring’). The rare ST (and TB) *zx- cluster is represented simply by z̚- in the one Ar. Ch. comparison available, viz. zi̕or̚/zi̕u̕ ‘rot, decay’, TB *zxaw ~ *zyu(w) ‘rot, decay; digest’. ST (and TB) initial *dz̚- is represented by d̚’/dz̚- with doublet dz̚- /z̚-, in the basic root for ‘eat’ (n. 452). Finally, one excellent comparison is available for B-L (and by inference TB) initial *dz̚w-, viz. diən̚/diən̚b̚ ‘hawk, kite’, B-L *dzəwən̚ (n. 162).

454 Ch. n̚jɔr̚/n̚jəc̚ ‘2’ points to a basic ST root without final *s̚-, agreeing with the evidence from TB (n. 61) and Karen (n. 401). This ST final is represented by Ch. -t in ‘bone’ (n. 419) and -n̚ ‘7’ (n. 471), also (as suffix) by -t in ‘know’ (n. 429).

455 TB has initial alternation in the root for ‘hair’ (see n. 92 for interpretation); cf. the alternation (with differing vowel length) in Ch. tsiet̚d̚ ‘joint’, TB *tsik (text,
Sino-Tibetan: a conspectus

d-, appears only before semivocalic ë. In the following comparisons, which are of
dubious significance, it corresponds to TB *y-. cf. ziîka‘armpit’, L zak < yak, id.
(cf. n. 108); ziîg‘wine-must’ (graph is drawing of wine vessel), TB *yu(w)
‘liquor’.456

The cerebral series s, ts, tś, and dz cannot be connected with anything to be
found in Tibeto-Burman or Karen. It may be that Sino-Tibetan had cerebral,
palatal, and dental series, simplified in various ways in Tibeto-Burman; cf. tśɔo‘
‘thorny trees, thorns’, TB *tśow; and liq‘boil, cook’, TB *tśyow. The compara-
tive data gathered to date, however, are far too meagre to support this view, yet
do not militate against it.457

above); sije‘knee’ (= ‘leg-joint’) (cf. G dz̄a-tsik ‘leg-joint’=‘knee’); also
ts̄om/tśom‘thumb’ (but used for ‘hand’ in graphs), from *tsu-n (n. 428) but
šōg/šūk ‘hand’ (note the palatalization), Karen *tsi ‘hand/arm’; here we might
reconstruct ST *tsw̄, with palatal shifting to dental affricate before the high vowel
u, as in sw̄n/sw̄n ‘grandchild’, TB *šu(w) (n. 452). Contrariwise, Chinese clearly
has developed a secondary affricate in one root, viz. ts̄om/tśom ‘ʒ’, a triad’, a
doulet of sm/sam ‘ʒ’, TB *g-sum (possible effect of the prefix; cf. Nungish:
Rāwang atsum ‘ʒ’), and at times has an affricate initial in the face of a spirant in
TB; cf. tśim ‘sweep’, from *tsim; TB *śim: Nungish: Rāwang śim, Trung
śyom ‘sweep’, B śim ‘strike with a motion towards one’s self’, Maru śam < *śim
‘sweep’ (Benedict, 1940, No. 45); tsim ‘to lie down to sleep’, from *tsim;
T gzim-pa (perhaps from *g-dzim) ‘to fall asleep, sleep’ (ibid. No. 46); tśip śip
‘whisper’, from *stśiptśiptśip; T sib-pa śub-pa, id. (perhaps from *syiptśip
śyiptśip) (ibid. No. 39); dzś̄em ‘exhaust, entirely; (KD) use to the utmost; use up,
finish’, from *dzśin; T zin-pa (perhaps from prefix + *dzin) ‘to draw near to an
end, to be at an end, to be finished, exhausted, consumed’. TB and Chinese differ
in voicing of the initial affricate in several instances; cf. dzśom/dzśom ‘grass,
herb’ (with ‘collective’-n suffix; n. 428), T rtswa ‘grass’ (n. 161); dzśat/dzśep
‘sickness, pain’ (with suffixed -t), TB tsa ‘hot, pain’, but tśan ‘eat, food, meal’,
from *tsa-n, TB *tśa ‘cat’ (text and n. 487); possibly also tsśi/ťśi ‘older sister’.
TB *dzar ‘sister (man sp.)’. It appears that initial affricates in general were highly
unstable elements in ST, particularly so in Chinese.

456 See n. 448 for further analysis.

457 The Chinese retroflex (cerebral) series represents a secondary development
from palatal + r clusters (Benedict, 1948). There are three excellent comparissons
for Ch. *ś̄r/- = TB *śr- (n. 304): *ś̄rtɕi/sietś ‘louse’, TB *śrik (see n. 442 for final);
ś̄r/tɕip ‘live; bear, be born; produce; fresh (as greens)’, TB *śrip ‘live, alive,
green; raw’ (see n. 476 for vocalism); *śr̄k/śak ‘color (of face); looks, (womanly)
beauty (also ‘lust’ in AD); to show off’, TB *śak ‘ashamed, shy’ (= ‘to show
color of face’). The cluster *śr- can be reconstructed for Ar. Ch. itself on the basis
of graph connections not only with l- but also with γ-; cf. *śr̄g/śiv ‘recorder;
record’ phonetic in liqg/ıȳw ‘officer’; *śr̄m/śim and gl̄m/līm ‘forest’; śr̄m/
śim and gl̄m/līm ‘drip’ (these are both cognate pairs); *śrju/śi (B) ‘count’;
Ar. Ch. has initial \textit{l}- for both *r- and *l-, as in \textit{ljōk} ‘6’, TB \textit{d-ruk}. Early Chinese loan-words in Thai retain original *r-; cf. Thai *\textit{hrok} ‘6’, and *\textit{graam} ‘indigo’, Ar. Ch. \textit{glām},\textsuperscript{a} T \textit{rams}.\textsuperscript{458} The fate of final *-r and *-l in Chinese is not so readily

\begin{itemize}
\item (C) ‘number’ (cognate with TB *\textit{tśray}, below) has \textit{glijū/luju} ‘drag’ as phonetic; also \textit{gō/yā} ‘summer’ phonetic in *\textit{srō/saō} ‘side-room’ and *\textit{srō/saō} ‘hoarse’ (only in AD); *\textit{ṣrō/siō} ‘place’ where, with \textit{go/yōō} ‘door’ as phonetic (JAM suggests a comparison with \textit{K ra-śara} ‘place’). Another strong argument for reconstructing *\textit{sr}- (or *\textit{sl}-) is provided by an early loan from AT, viz. *\textit{ṣrēŋ/spē} ‘reed organ’ (note\textsuperscript{1}, above, as phonetic), from AT *\textit{kluĩ} ‘flute’ (IN *\textit{tũlĩ}, Thai *\textit{khuĩlui} < *\textit{kluĩy} via *\textit{ṣu[r, l]}y < *\textit{khuĩ[r, l]}y (see n. 472 for *-\textit{khu}-). The initial cluster *\textit{tśr}- (= *\textit{cr}-) has been reconstructed for three TB roots (n. 95), one of which has a Ch. cognate with the anticipated cluster (voiced); cf. *\textit{dśr}’\textit{šar[dz]i} ‘spittle’ (of dragon) (Ar. Ch. form not cited in GSR), TB *\textit{m-tśril} ‘spittle’; cf. also *\textit{ṣriu/siũ} (B) ‘count’; (C) ‘number’ (above), TB *\textit{(r-tśray} ‘count’, via *\textit{tśray}, with vowel shift after the retroflex initial similar to that found in ‘foot’ and ‘son-in-law’ (n. 472). Ar. Ch. apparently also had the initial cluster *\textit{sr}- (> Anc. Ch. \textit{s}-) corresponding to TB *\textit{sr}-, since there are two comparisons in the above phonetic series\textsuperscript{1} (GSR-812); cf. *\textit{srięg/sięŋ}m ‘clan, family, family name’ (the original matrilineal lineage, as indicated also by the use of \textit{njo/njōn} ‘woman’ as signiﬁcative in the graph), TB *\textit{srięg} ‘sister’; TB *\textit{srięg(mo)} ‘sister (man sp.)’ (= ‘the one carrying the matriline clan name’, paralleling T \textit{min-po} ‘brother (woman sp.)’ = ‘the one carrying the patri-clan name’, from TB *\textit{min} ‘name’); cf. also *\textit{srięg/sięŋ}o and *\textit{pę} ‘weasel’, TB *\textit{se[r]y} ‘weasel, squirrel’. The initial cluster *\textit{sr}- can also be inferred (and reconstructed) for the following: *\textit{ṣriu/siũ} ‘older sister’, TB *\textit{sr(u)w} ‘aunt’ (T \textit{sru}); cf. also *‘bark’ (n. 245). The prefixed combination ST *\textit{s-r}- also yielded Anc. Ch. *\textit{s}-, probably from Ar. Ch. \textit{sr}-; cf. *\textit{sriōk/siũt} ‘pass the night’, TB *\textit{sr]-ryak} ‘day (24 hours)’ but Lahu \textit{hā} ‘night; pass the night’, L \textit{riak} ‘pass the night’ (n. 154); also *\textit{srıam/siām} ‘sharp’ (graph has *\textit{d’sjām} < \textit{ljan} ‘tongue’ as phonetic; n. 458), TB *(s-)ryam, id. The dental stop + r cluster is represented only by \textit{tʃi/kʃi} ‘weave’, TB *\textit{rakh}. The corresponding voiced palatal or dental + r clusters are rare; cf. \textit{d’i’en/ʃiəŋ} ‘upwards; high, admirable; superior’ (used as a title), TB *\textit{ṣraŋ} ‘uncle’ (see n. 155 for parallel Tibetan use of the term); ST \textit{zr>-d’i/ʃi}- in Chinese, which lacks initial *\textit{z}-; cf. also \textit{d’i’en/ʃiəm}m (B) ‘earthworm’, also \textit{di’en/ʃiən} (B) and \textit{di’en/ʃiən} (B), id. (note that all three triple forms have the same tone), TB *\textit{srəl} ‘worm’ (B \textit{ti}, Thado \textit{ti} ‘earthworm’), showing ST \textit{zr>-\zr>-d’i/ʃi}-, varying with \textit{\zr>-\zr>-y>-d’i/ʃi}-.

\textsuperscript{458} See n. 421 for present analysis of ‘indigo’. Under conditions of palatalization (not fully worked out) ST *\textit{l} tends to be replaced in Chinese by \textit{i} or \textit{d/i}; cf. ‘neck’ and ‘tongue’ (n. 419), ‘eagle’ (n. 225), also *\textit{di̯ak/ji̯ak} ‘wing’ (GSR cites Ar. Ch. *\textit{gi̯ak}, but *\textit{di̯ak} is indicated since the phonetic series includes *\textit{tʃi̯ak/tʃak}),\textsuperscript{a} TB *\textit{g-lak} ‘arm’ (this semantic interchange also appears in AT; cf. Formosa: Paiwan dials. \textit{valaŋa} ‘wing’, \textit{valaŋa/lana/n} ‘arm’); \textit{di̯ap/jəp} ‘leaf’, TB *\textit{lap}, id. There is evidence for further evolution of ST *\textit{l} to other dental stops (voiced or unvoiced), paralleling the Karenni *\textit{t} shift (p. 137), especially in the GSR-413 series (phonetic is \textit{t’i̯a̯/t’i̯i̯}).
determined. Karlgren (BMFEA, 5, 1934) has ingeniously reconstructed final *r for Ar. Ch. on the basis of the Shih Ching rhymes, together with morphological contacts and doublets such as d'än ~ d'âra 'alligator', b'ëm ~ b'jär 'female'. Karlgren's theory, although rejected by Simon and others, seems to explain the Ar. Ch. facts better than any alternative theory. On the comparative side, however, we can cite only pişaَrь to 'fly', TB *pur~ *pir, in support of a direct Ar. Ch.–TB correspondence for this final. 459,460 As shown below, the final *r thus reconstructed

-t; n. 428), TB *b-løy 'grandchild; nephew/niece'; t'jets/tjetsd 'leech' (not in GSR), TB *(m)lî:t 'water leech' (contra Benedict, 1967 bis, where an AT origin is suggested); possibly also qiëd/tiék (C) 'heavily weighted down', from *lîed < *lîet (note tone), TB *s-løy 'heavy' (Bodo illit ~ gillit, L rit); cf. also the following: *t'ämim/tïm 'lick, taste' (not in GSR), from *lîam/sïäm, as shown by the Cantonese reading li:mun (Karlgren calls this a 'synonymous word'), TB *(s)lïam 'tongue; flame'; this root is also represented in Chinese by the 'hidden' word for 'tongue' *(d)ïam ~ *(d)ïam < *lïam ~ *lïam); explaining the use of h as phonetic in *(d)ïam/d'iém 'calm' and *sriam/sïâm 'sharp' (n. 457), also in *(d)ïam/d'iémk 'sweet' (not in GSR), cognate with TB: Kiranti *lem, id.: Waling, Nachereng, Changtang, Runghangbun lem, Rodong lam-, Limbu ke-lim-ba, Yaka lim (contrast Yaka lem 'tongue' < TB *lyam). Chinese initial zj-/ji- definitely represents an earlier *r- in the cyclical term zjög/jioul 'cock' (n. 487) and corresponds to TB (and ST) *ry- in zieak/jaik'm 'fluid, moisture', TB *ryak 'grease, oil, juice'. ST (and TB) *ry- apparently shifted to *li- (perhaps because of the prefix) in d'ïok/d'iëkö 'peasant', possibly also d'îr/d'ër 'id.', from *l[i]yak; TB *s-rîk ~ *s-ryak, id. Both types of correspondences are indicated in the following: zjög/jiulp 'laugh' (graph is a loan in this sense), TB *rya-t, id. (see n. 488 for final), also *jêt, id. (from the phonetic series singled out above), from *lïyat < *ryat (with typical palatalization of the vowel; n. 488).

459 Ar. Ch. ḡwâr 'fire' might be compared with Nung hwar 'burn, kindle', K vân, Moshang varr, G wa2l 'fire', but these forms appear to belong with TB *bar ~ *par 'burn' (see § 8).

460 It now appears that ST final *r was generally replaced by -n in Chinese, with some -r ~ -n doublet formation; cf. tsîr/tsib 'older sister', TB *dsar 'sister (man sp.)'; piwarr/piuwa (A) 'fly', piwun/piuwnu (A) 'fly, soar', piwun/piuwnv (C) 'spread wings, fly up', TB *pur ~ *pir 'fly'; ḡwâr/χwâr (A) 'fire', from *phwâr (n. 463), b'jawân/b'jawn (B) 'burn, roast' (series includes final -r forms), TB *b'wâr ~ *p'wâr 'burn; fire'; sjën (A) 'new, renew', sjan/sâns (A) 'fresh (fish, meat); (KD) new, fine, clean', TB *sar 'new, fresh'; *sjêns 'louse' (phonetic is sjën); graph later applied to synonymous *sirët/siêt; see n. 457), TB *sar ~ *sar, id.; sjan/siën 'sleeve', T ser-ba 'hail'; swân/sân 'sour' (series includes final -r forms), TB *swar, id.; *b'wâr/b'wâd < *p'wâr/pûâs 'white', L var, id., from *pwa:h; Karen *b(boa, id., from *pawar < *pwar; pwâr/pûâs (C) 'spread out, sow; distribute; banish, reject; winnow; shake' (Benedict, 1967 bis, considers an AT loan), also (with apparent loss of final *r) pûwâ/pûâs (B ~ C) 'to winnow'; TB

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Chinese consonants (initials, finals)

for Ar. Ch. in most cases stands for vocalic or semivocalic final in Tibeto-Burman. Final *-l appears to have become -n in Ar. Ch.; cf. ngien³ ‘silver’, TB *yul; mian³ ‘close the eyes, sleep’, TB *myel ‘sleepy’. The following comparison suggests that roots in final *-l sometimes gave rise to the final -n - ~ -r doublets noted above: sian ~ sîr³ ‘wash’, TB *(m-)s(y)i1 (493), as represented by T bsil-ba ‘wash’ (a respectful usage, apparently derived from a meaning ‘to cool’), K sin ~ kösín ‘wash, bathe’, L sil, Rangkhil gersil, Thado sîl ~ kisil, Khami mase (cf. matse ‘spittle’ < *m-t-s(y)i1), Lakher pâsi, Mikir inthi (Kuki-Naga *m-s(y)i1) ‘wash, bathe’.

*bwar: T *bor-ba, pf. bor ‘throw, cast, fling; leave, forsake’, Bahng war ‘throw away, squander, abandon’, Chepang war ‘sow’, Mikir war ‘throw, cast, fling’, L vor ‘scatter, throw up, toss’; dian/jân⁴ (A) ‘extend; continue; stretch’, dian/jân (C) ‘flow out, extend’ (series includes final -r forms), TB *yâr ~ *yâr ‘spread, extend; sail’ (but note Tiddim zan < *yân ‘stretch’; n. 448); *b’iän/b’iän (B) ‘braid, plait’ (not in GSR), pijän/piën ~ pijän/piën (A) ‘plait, weave’, also read b’iän/b’iën (B) ‘arrange in a series’, TB *byâr ~ *pyâr ‘affix; plait, sew’ (but note Tiddim phan ‘weave, plait’). It is probably significant that three of the above forms in -n are from phonetic series which include forms in final -r, suggesting that the *-r > -n shift was of late date, at least in some instances.

461 ST final *-l appears to have fallen together with final *-r in Chinese, with general replacement by -n but with occasional retention of -r; again, some of the phonetic series yielding these cognates contain forms with final -r, suggesting a late shift; in addition to the text examples note the following: t’or/tstʰ ‘fat’, TB *tsil, id. (n. 452); mjar/mjwi and mjwar/mjwar (this doublet form reflected in the loan use of the graph ‘eyebrow’, from *mir ~ *mur (*mil ~ *mul), TB *(s-)mil ~ *(s-)mil ‘body hair’ (T smin-ma ‘eyebrow’; n. 56); dian/jiën (series includes final -r forms), also d’en/jiën and d’ian/jiën (all on tone B) ‘earthworm’, TB *zril ‘worm’ (n. 457); sjên/sjên ‘base of tooth’ (= ‘gums’) (phonetic of this series is sjîr/sin ‘arrow’, below), TB *s-nil ‘gums’ (nn. 452, 471); mian/miàn ‘face’, L hnel, id.; b’iën/b’iën ‘poor’, from *b’il; T dbul, id.; d’iën/d’iën ‘dust’, from *d’il; T rdul, id. (see n. 477 for the vocalism of these last two roots); puon/ puan ‘root, trunk’, TB *bul ~ *pul ‘root, stump, tree’ (n. 443); sjîr/si ‘arrow’, TB *tal ‘arrow; bow’ (n. 452); d’iën/diën ‘kidney’, TB *m-kal (n. 403); t’anu ‘coal, charcoal; lime’ (= ashes); T thal-ba ‘dust, ashes and similar substances’; t’iän/tšiän ~ ‘battle; to fight’ (series includes final -r forms), from *hran < *g-ran; TB *(g-)ra-l ‘fight, quarrel; war’ (see n. 472 for initial); giwan/jiwan ‘round’, etc., TB *wal ‘round, circular’ (n. 449).

462 The Tibetan form is perhaps unrelated; the TB root has now been re-constructed *(m-)syil ~ *(m-)syl, the doublet being represented by T bsi-la ‘wash, wash out of, off; clean by washing, rise’, Râwang (Nungish) thi zal ‘bathe, wash’ (thi ‘water’).
§45. Chinese consonant clusters

Original ST clusters with w and y are probably maintained in Ar. Ch. in the form w or iu and i (phonemically j in Karlgen’s notation). The available comparisons, however, are not numerous; cf. the following:463

h'iwam ‘dog’; TB *h-wyi.
χiweτ ‘blood’; TB *s-hwiy.
g'woτ ‘fox’; TB *gwa.
ngioτ ‘fish’; TB *yya.
kiangτ ‘ginger’; cf. B khyān, id.464
g'iuτ ‘hero’; cf. T gyad(-pa) ‘champion, athlete’.464

463 The ST labial stop + w cluster is especially well represented in Chinese; cf. pijwaid/pjivh ‘man; (KD) husband’, TB *(p)wa ‘man, person, husband’, Karen *w4a ‘husband’; pijwoid/pjiv (A) and pijwoid/pjiv (B) ‘ax’, TB *r-pwa, id. (n. 78); pijwaid/pjivkh ‘breath of four fingers’, TB *pwa ‘palm (of hand)’ (B phāwa); b'jwaid/b'jiv ‘father’, TB *pwa, Karen *ha~*pha (ST *hwa~*pwa); b'wā/b'uām ‘old woman’ (not in GSR), also ‘grandmother (vocative)’ (Benedict, 1942), B āhwā~āhwā ‘grandmother’; b'wār/b'uār~pwr/puān ‘white’, L va-r<*pwar, Karen *r(b)wa<*pwar (n. 460); pwr/puān ‘sow; winnow’, pwr/puān ‘winnow’, TB *bwar ‘throw, scatter, sow’ (n. 460); note the regular palatalization of the initial stop before the front low vowel a but not before the back low vowel ã. The aspirated (= non-prefixed) surd stop + w yielded Ch. xw- (see n. 374 for the parallel shift in Karen); cf. bijwaid/b'jwain<*bwan<*bwar ‘burn, roast’, Ŵωar/Χωα<*phwar ‘fire’ (n. 460), with ã>a shift in the former before the secondary -n (n. 488); ʌiwaʌ/Χωαι<*phwaʌ ‘elder brother’, TB *bwan ‘uncle (usu. father’s brother)’; cf. also pāk/pakh ‘eldest brother, eldest’ (later developed present meaning: ‘father’s elder brother’), perhaps from *phwʌ (see n. 443 for unvoicing of initial). The ST labial stop or nasal + w cluster, however, was apparently unstable in Chinese before high front vowels, tending to be lost; cf. b'jwn/b'jew~b'jpr/b'yui ‘female of animals’, TB *pwi(y) ‘female’ (n. 428); mšdw/miyiʌ ‘sleep, lie down to sleep’, TB *(r-)mšowy~ *(s-)mšowy ‘sleep’; the latter word perhaps lost the medial *w at a relatively late stage, since the graph has the cyclical character mšowd/mšowy as phonetic, and the phonetic series (GSR-531) has otherwise only initial mšw- and mšw- forms; cf. also mšwʌr/mšowyʌ ‘minute, small’, B mšwe, id., from *mšwoʌ, with retention of the medial *w.

464 Initial velar stop + y clusters are rare in our comparative ST material generally, and the text examples are of limited significance (Benedict, 1967 bis, has identified ‘ginger’ as an old loan from AT). The best comparison for this cluster in TB shows a shift to dental initials before the mid-high front vowel *e, viz. y and
In some cases it is difficult to determine whether medial $i$ represents original medial $*y$ or is simply an index of palatalization; cf. $gli\bar{a}p$ ‘stand’, TB *$g$-ryap (where $i$ might be regarded as a representative of $*y$), but $k\bar{a}p$ ‘weep’, TB *$k$rap (where $i$ stands for palatalization); cf. also $*ni$lp (based on Anc. Ch. niep) ‘to pinch, nip with the fingers’, TB *$n$yap ‘pinch, squeeze’; $ni\bar{a}$md and $ni\bar{a}$me ‘think’, T snym-pa ‘think, imagine; thought, mind’, nyam(s) ‘soul, mind; thought’; $ti\bar{a}k$ ‘mount, advance, promote’, T theg-pa <$*th$yak (as shown by West T dialects) ‘lift, raise’; also $l\dot{e}$rb ‘fear’, T $z\dot{e}$d-pa <$*ryed ‘fear, be afraid’.

$t\dot{\bar{e}}n$ (A) ‘red’, $s\dot{\bar{e}}n$ (A) ‘red ox’; from *$k$h\bar{b}$n, TB *$k$y\bar{e}n. This shift explains the doublet: $t\dot{\bar{e}}n$ (A) and $\chi\bar{e}n$ (A) ‘heaven’, from *$k$h\bar{h}$n (n. 428) (see n. 441 for the *$k$h-$>$ $\chi$- shift). The initial cluster appears to be preserved in kian/kien ‘see’, g‘ian/yienm ‘appear’ (text), TB *(m-)$k$yen ‘know’ (for the semantics, cf. PN *$k$ite ‘see, appear, know’), but the medial $*y$ is perhaps secondary in the TB root, with the likely ST reconstruction being *(m-)$k$enm <$*k$enm (contrast the equation in n. 481 for the short ST vowel: TB *$\varepsilon$ = Ar. Ch. $\j$). Other ST roots show similar shifts in Chinese to palatal or dental initial from velar stops before the front vowels $a$ (primary or secondary) and *$i$ as well as *$i$; cf. $d$ hip/ $\dot{\j}ip$ ‘10’, from *$g$(y)ap, TB *$g$ip, id.; *$ti$mp/$ti$m ‘needle’ (phonetic is g’em/yam), p also written (with above root as phonetic), from *$k$(y)am <$*$k$(y)ap, TB kap, id. (n. 82); $d$‘$i$en/$\dot{i}$en ‘kidney’, from *$g$(y)al, TB *$m$-kal, id.; *$ti$m/t$\dot{i}$m ‘chopping-block’ (phonetic series includes k’om/k’$\dot{a}$m ‘vanquisch, kill’), also t$\dot{i}$m/t$\dot{i}$m (B ~ C) ‘pillow; to use as pillow’, both from *$k$(y)im (see n. 477 for vocalism), TB *$k$um ‘block; pillow’, Karen *$k$h[u] ‘chopping-block’; note also k’om/k’$\dot{a}$m ‘vanquisch, kill’ (same word as above), in a series (GSR-658) with k’om <$*$\dot{a}$m ‘now’ as phonetic but including also t$\dot{i}$m/t’$\dot{i}$m ‘walk hesitatingly’ and even t$\dot{s}$m/t’$\dot{s}$m ‘cove’t (the last listed separately by Karlgren under GSR-645); cf. T ’$g$um-pa, pf. $g$um, ’$g$um ‘die’, pf. bhum ‘kill, slaughter’; cf. also k’u/k’$\dot{u}$m (C) ‘rob’, t’u/t’$\dot{u}$ (A) ‘steal’, TB *$r$-k$\ddot{a}$ (B) ‘steal’ but Karen *$\dot{h}$y$\ddot{u}$, id., reveals an initial palatalizing element (n. 371), apparently leading to the dental shift in Chinese. The frequent interchange of velar and dental/palatal initials in the Chinese graphs points unmistakably to a relatively late date for the above shift, probably with much dialectical variation (note that Thai *$s$ip ‘10’, considered a very early loan-word from Chinese, has initial *$s$-, probably from *$z$-, which is lacking in Thai).

465 This difficulty is accentuated by the present recognition of the vowel $a$ as a basic ST unit (n. 482), requiring reconstructions such as ST *$g$-ryap ‘stand’, *$k$rap ‘weep’, *$n$ap ‘pinch’ (with doublet *$n$ap; n. 471); *$n$am ‘think’, tak ‘mount; raise’; note that Chinese tends to shift the palatal to a dental nasal in some cases (see n. 452 for the parallel *$s$- $>$ s- shift) but the palatal form is maintained in *$n$am/$n$$\ddot{a}$mb ‘soft’, B n$\dot{a}$m, id. (L nem, id., appears to be indirectly cognate), ST *$n$am. Inasmuch as palatalization occurs in Chinese before most vowels (notably excluding $i$), medial $*y$ can be reconstructed for ST only in those roots for which it is attested in TB (*$g$-ryap ‘stand’).

466 A better comparison is provided by T *’d$\ddot{a}$gs-pa ‘to be afraid; fear, dread; fearful’, from *$\dot{a}$-$\dot{l}$ig (n. 104), ST *lik, with shift of final *-$k$ to -t before *$i$ (n. 442).
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Initial clusters can be reconstructed for Ar. Ch. on the basis of the use of phonetic elements in characters.\(^{467,468}\) Combinations of stop, nasal or sibilant + l are most in evidence, while sn-, šn-, χm- and perhaps t'n- and sn'- also appear; cf. the following:

\[\text{gliōg} > \text{li"u}^\text{a} 'whistling of the wind', \text{klōg} > \text{kī"u}^\text{b} 'down-curving', \text{g'liōg} > \text{g'li"u}^\text{c} 'kind of precious stone', \text{t'liōg} > \text{t'li"u} - \text{liōg} > \text{li"u}^\text{d} 'to get cured', \text{mliōg} > \text{mi"u}^\text{e} 'bind around'.\]

\[\text{ts'iam}^\text{f} 'all', \text{klīam} > \text{ki"am}^\text{g} 'measure, control', \text{g'liam} > \text{g'la"m}^\text{h} 'restrict, frugal', \text{χīam} > \text{χi"am}^\text{i} 'precipitous', \text{nglīam} > \text{nχi"am}^\text{j} 'verify', \text{gliam} > \text{li"am}^\text{k} 'gather, accumulate'.\]

\[\text{bhwān} > \text{łuān}^1 'phoenix', \text{plān} > \text{p'ān}^\text{m} 'change', \text{mlćan} > \text{mćan}^\text{n} 'southern barbarian', \text{slćan} > \text{swano}^\text{o} 'twins'.\]

467 Karlgren has freely reconstructed initial clusters in his Grammata Serica, while Simon (BSOS 9, 1938) has paid especial attention to the sn- ~ šn- cluster. Boeddeker has made extensive use of ‘rhyming binoms’ (tjëh yün)\(^6\) in reconstructing complex clusters; see his KD Notes 1-4 (Berkeley, 1934-5), and ‘Some Proleptical Remarks on the Evolution of Archaic Chinese’, HJAS 2 (1937), 329-72.

468 The problem of initial clusters in Chinese has received much attention; note especially R. A. D. Forrest, ‘A Reconsideration of the Initials of Karlgren’s Archaic Chinese’, TP 51 (1964), 239-46. Much remains to be done here, and Karlgren’s reconstructions (including some cited in the text) must be viewed with circumspection (cf. n. 415, also the following note).

469 For plān/p'ān^m 'change', cf. Thai *plīan, id., from *plīyan (IN *līyan); this appears to be an old loan-word in Chinese. The early loan-word material further indicates *pl|- > t'its- and *p'l|- > t'|its- shifts in Chinese; cf. t'īōg/tśi"u^c 'boat', from *plīōg/plīu; cf. IN *para (Gurung, in the Himalayas, has plava); *t'īōg/tśi"u (GSR cites t'nīōg for Ar. Ch.) 'ox' (calendrical term), from *p'liōg/p'li"u; cf. Thai *plāv; from this same (ultimate AT) source came T phyug < *phlug- 'cattle', with the suffix -s characteristic of these loans from AT (Benedict, 1967b). Prefixed *b'-r|- gave rise to Ch. bl|l|- (n. 474), while ST (and TB) *bl- and *br- (generally) merged in Chinese with loss of the stop element, yielding dīj|-; cf. dīk|f|k 'shoot with arrow (string attached; arrow [of this type])' (graph is picture of same), TB *bla 'arrow' (see n. 487 for the final), perhaps also *t'jak/tšiak\(^3\) (Ar. Ch. form not cited in GSR) 'string attached to arrow', from *pljak (see discussion above); dīn|jiy\(^\prime\) 'full, fill', TB *blīn 'full ~ *plīn 'fill' (latter not represented in Ch.); dīn|jiy\(^\prime\) 'fly', TB *(s)-brḗy 'fly, bee' (text *yay; add T sbray fly, bee', Lepcha sum-bryon 'fly'). ST *br- appears to parallel *y- (n. 448) in yielding an affricate rather than dš|j- when prefixed; Mand. ts'ay\(^\prime\) 'housefly' (listed in AD, but no Anc. Ch. or Ar. Ch. reading) thus is to be considered a doublet of the above word for 'fly'; also (from the same phonetic series) d'̄iŋ|dś|iŋ\(^\prime\) 'string, cord', from prefix + *blīn, Nungish: Metu ambrīŋ = *a(m)brīŋ (typical Nungish nasalized *a- prefix) 'cord' (Desgodins, La Mission du Thibet, 1872); this character is also read dīn|jiy\(^\prime\) 'full (sc. of grain)', apparently a doublet of the form cited above.
Chinese consonant clusters

sliog > sɨn ‘recorder, record’, liog > ljɨb ‘officer’.

sngiad > ngiei ‘cultivate, agriculture’, sjad > sjiai ‘force, influence’.

nɨo > nɨjɨwo ‘like’, snɨo > sjɨwo ‘indulgent’, snɨo > sjɨvo ‘coarse raw silk’ and
tnɨo > tɨjɨwo ‘season, flavor’, both written.

lət h ‘wicked’, t’lət > t’di ‘otter’.

lɨr > lier ‘ritual vase’, t’lɨr > t’ieik ‘body’.

mək > ‘ink’, ɨmək > ɨokm ‘black’.

Note the loss of the medial element after surd initials, in contrast to the loss of
sonant stop (but not nasal) initials before medial l, e.g. klan > kanv ‘select,
distinguish’, but glän > ləno ‘barrier’. This generalization, which underlies the
reconstructions made by Karlgren, is supported by glän > ləmp ‘indigo’, Thai
*graam, as well as by the following comparisons from Tibeto-Burman:

470 See n. 457 for analysis of this cluster, now reconstructed *ʃr-.

471 There is evidence that ST prefixed *s- remained as a separable element in
Chinese; cf. *niap/niaŋ ‘pincers, tweezers; to pinch, a pinch’ (not in GSR), a doublet
of *niaŋ (above), from ST *niap ~ *nįap, also (from same phonetic series) sniŋ/siŋ ‘pinch between’; nįok/nįuk ‘ashamed’, snjɔŋ/siŋu ‘shame’ (loan use); perhaps we
should reconstruct *s-niok contrasting with snjɔŋ. The latter would represent a
fusion of prefix with initial at an Ar. Ch. level; a still earlier fusion, at a ST level,
is represented by sjɔn/siŋv ‘base of tooth’ (‘gums’), TB *s-nil ‘gums’. There is
also evidence, however, that Chinese developed a stop element in this *s-n-
combination under undetermined conditions, comparable to Kanauri st- (n. 117;
Kanauri stil ‘gums’); cf. the phonetic element *t’iŋɔ/t’iŋu (cyclical character)
(Karlgren cites Ar. Ch. t’iŋɔ) for ‘ashamed/shame’ (above) and the text example
(ɨn/o/nɨjɨwo ‘like’ phonetic in *t’iŋɔ/t’iŋɔ ‘season’). There is also evidence for
initial n-~ ts- interchange in Chinese, including the classical Shuo Wên interpreta-
tion of the character niɛn ‘year’ as including ts’en ‘thousand’ as a phonetic (cf.
the discussion in P. Boodberg, ‘Some Proleptical Remarks on the Evolution of
Archaic Chinese’, HYAS 2, 1937), from ST *s-niŋ, with support for the prefix
furnished by the Chinese tonal system (n. 494; S. China dialects also reflect an
earlier initial *hm- or the equivalent in this root). A pair of apparent Chinese-DB
 correspondences bear on this point: ts’iŋb ‘7’, TB *s-nis; *dɔjɔg/dɔjɔc (Ar. Ch.
form not cited in GSR) ‘self’, but graph is drawing of nose, and it is used as a
signific in b’iɔd/b’yiɔ ‘nose’, TB *s-na; these roots imply *st- > ts’- and *sd- >

472 Ar. Ch. apparently distinguished between gli[ɻ], as in gliam/jam ‘salt’
(Ar. Ch. form not cited in GSR, but phonetic is klam/kam ‘see’), TB *gryum, id.
(see n. 479 for vocalism), and prefixed g-li[ɻ]-, as in g-lijap/liap ‘stand’, TB *g-ryap,
paralleling a similar distinction between bli[ɻ] and b-li[ɻ]- (n. 474). ST velar
stop+r/l clusters also gave rise in Chinese to palatalized velars and palatal or
dental stops/spirants under conditions which have not yet been determined.
The Chinese correspondences for B-L *(k)-la ‘tiger’ (ultimately a loan from Austro-

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gliang > liang* ‘cool’; TB *gray ‘cold’.
glák > lák* ‘kind of bird’; cf. T glag ‘eagle, vulture’.
kĮjāp > kĮjāp* ‘weep’; TB *krap.

The first of the above comparisons parallels gliap > liap* ‘stand’, TB *g-ryap, in which the prefix has been treated as an initial. We may infer that medial *r and *l after labial initials underwent similar shifts in Ar. Ch., but comparative material is lacking here.\(^{473,474}\)

Asiatic *k(ū)la; n. 83) are especially enlightening; cf. *xo ‘tiger’, from *xلو < *khlo (prefix treated as first member of cluster), phonetic in several phonetic series: kJo ~ χJo, from *khlo ~ *xlo (medial I for *l); lō (prefix dropped), phonetic in liJo,\(^{h}\) which again is phonetic in *tJo/tJo (GSR cites Ar. Ch. t’iJo), from *khlo; t’Jo/tJo, also from *khlo (possibly via khrJo). Before the final *-ay, SY *kI- (aspirated = non-prefixed) yielded Ch. s- via *š*-; cf. sjar/sIek ‘dung’, TB *kIay ‘excrement’. Chinese also has s- for initial *k(h)-l- in early loans from AT; cf. ‘reed organ/flute’ (n. 457), also sjwuy/sIwuy* ‘to hull grain with a pestle’ (graph shows two hands with a mortar and pestle), Sui tswu ‘to hull (rice)’, Thai *klooy: Ahom kloy ‘to husk paddy’, Siam. khau kloyp ‘rice (khau) partly shelled’, IN latuy < *kluy ‘mortar’ (Benedict, 1967b). This article also presents loan-word (Thai) evidence that *gl- ~ gl- yielded Ch. dental stop on occasion; cf. *d’agl/d’aglm ‘moss, lichen’ (not in GSR), Thai *gIay ‘moss’; tiey ‘cauldron; (AD) sacrificial tripod’, Thai *gliay, Kam-Sui *gliay* ‘tripod’; also d’Iat/d’Iat ‘tongue’, from *gIat < *g-lyak (n. 419). ST prefixed *g+-r- yielded Ch. t’Irt- (unvoiced) in tjan/tšIam ‘battle; to fight’, TB *(g)-ra-l (n. 461). Two sets of reflexes occur in the comparisons for ST initial *kr-, the basis for the apparent distinction remaining unknown; cf. *xhrI/xIeIa ‘vinew; (AD) sour’ (Ar. Ch. form not cited in GSR), TR *kri(y) ‘acid, sour’ (cf. also ‘fear’, n. 429), but *srieI/sIwor ‘foot’, TB *kray, id.; *sriel/sIwr ~ *sriel/sIeIa (a doublet, one known from Ar. Ch., the other from Anc. Ch.) ‘son-in-law’, TB *krway, id. (see n. 486 for the vocalism in this pair of roots).

473 Ar. Ch. plIst > pIet ‘writing brush’ has been compared with T *bri-ba ‘write’, but the Tibetan form has been derived through prefixation from *riy ‘write’; cf. also plIm > pImu ‘receive from superiors’ (also read bhIam > bhIm ‘grain allowance from public granaries’), bhIm > bhIm ‘government granary’, and T *brim-pa ‘distribute, deal out, hand out’, Nung *rim ‘cast away’ (the Tibetan word is used in this manner in the Ladakhi dialect).

474 See n. 469 for labial stop + r/l cluster. The two comparisons cited in n. 473 both indicate that ST prefixed *b+-r/l yielded Ch. bliIli- and (through unvoicing; n. 443) plI/pI-; thus, ST (and TB) *bI-riy ‘distribute; cast away’, Ch. blIm (= bIam)/liam* and plIam/pIam (n. 473); cf. also plIwot/pIext (GSR suggests biwot for Ar. Ch.) ‘writing brush’, from *blut, a loan from AT *bulut ‘body hair, fur, fibre’ (Benedict, 1972), with doublet *biIwot/bIext ‘pitch-pipe’, from *bI-lut (cf. Eng. quill ‘feather; pen; musical pipe’); as shown above (n. 469), ST *bl-yielded Ch. diIi-; hence Ch. bl- here must be of more recent origin, confirming the loan status of this term in Chinese; *plIet/pIext (GSR cites Ar. Ch. plIet) ‘writing brush’, with the same phonetic, from *plut, is the doublet of *blut, with
§46. Chinese vowels and diphthongs

The Arc. Ch. vowel system, as reconstructed by Karlgren, comprises some 10 vowel phonemes, half of which are distinguished quantitatively:

Front vowels: \( i; \hat{e} \sim e; \epsilon \)

Back vowels: \( \ddot{u} \sim u; \hat{o} \sim o; \ddot{a} \sim o; \check{a} \)

Central vowel: \( \check{a} \)

Low vowels: \( \ddot{a}; \hat{a} \sim a \)

It is apparent that this vowel system is far richer than anything to be found in Tibeto-Burman, and indeed serious difficulties arise in comparative analysis. In final position only the following vowels (all long) are found: \( a, \ddot{a}, \hat{a}, o, \) and \( u \). Final \( i \) appears only as the first member of a diphthong, while \( e, \epsilon, \hat{o}, \) and \( \check{a} \) appear only before final stop, nasal, or \(-r\). The dissimilarity of the two systems, then, extends even into the features of distribution.\(^{475}\)

Diphthongization, as already pointed out by the writer (Benedict, 1940), is the keynote of the development of vowels in Arc. Ch. This feature is best revealed in the Arc. Ch. treatment of original medial \(*i\) before surd stops and nasals (\(*i > -i\acute{e}-\)):\(^{476}\)

characteristic unvoicing of the labial stop (n. 443) and substitution of medial \( i \) for \( u \) (n. 477); \( T \) *pir ‘(writing) brush, pencil’ shows the same vocalic shift and the unvoicing, but with the fore-stress (rather than end-stress) and the \( l > r \) shift which are typical features of these early AT loans in TB (Benedict, 1967bis). The rare ST *ml- cluster possibly yielded Ch. ni-; cf. niār/nieiu ‘mud, mire’, niēt\(^b\) ‘black sediment in muddy water; (AD) clay, mud’ (with suffixed -t; n. 428), TB *mlay ‘earth, country’.

ST initial *mr-, however, apparently yielded *mw- at an early stage in Chinese; cf. ‘horse’ (n. 487) and ‘tail’ (n. 491), perhaps also mjawc ‘look from afar, look towards; admire; hope’, TB *mray ‘see’; cf. also pwāt\(^d\) ‘8’, from *b-ryāt (possible effect of the vowel \( \ddot{a} \)).

\(^{475}\) Despite this dissimilarity, regular correspondences can now be demonstrated for these two vowel systems, as shown below.

\(^{476}\) ST (and TB) medial \(*i\) and \(*i\) are subject to various shifts in Chinese, as shown in the following table:

<table>
<thead>
<tr>
<th>ST</th>
<th>TB</th>
<th>-k/-ŋ</th>
<th>-t/-ŋ/-r</th>
<th>-p/-m</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>i</td>
<td>ĭë</td>
<td>ĭë ~ ië ~ iā</td>
<td>ĭo</td>
</tr>
<tr>
<td>i’</td>
<td>i’</td>
<td>ië</td>
<td>ĭë ~ ië</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

The ST high vowel \(*i\) regularly shifts to ĭo before final -r and final -p/-m (Ch. lacks medial ĭë or ië in these positions) and shows alternation between ĭë or ië and ĭo before final -n, while ĭo appears in one doublet from an original final *-l (‘wash’; text and n. 462); before -k/-ŋ, ĭë or ië is the regular reflex, with one instance each of alternation with ĭo (‘full’, n. 469) and ĭā (‘name’; n. 419); after initial *sr-, the

\(^{a}\) 泥 \(^{b}\) 沮 \(^{c}\) 眈 \(^{d}\) 八
Sino-Tibetan: a conspectus

siěna 'firewood'; TB *siŋ 'tree, wood' (Trung also 'firewood').
siěnb 'bitter'; TB *m-sin 'liver' < *sin 'bitter, sour'.
mìęnc 'order, command' (this earlier reading for mìャng is revealed in several Shih Ching rimes); cf. B min, id.

·ıe̯ ı 'l'; cf. Kanauri id.

nìęte 'sun, day' (with suffixed -t); TB *niy.
mìęng 'name'; TB *r-miŋ.
lìęng 'neck, collar'; TB *liy.

In the above examples ı represents the semivowel j (in Karlsgren's notation), e.g. siën phonemically is /syen/. True diphthongs, with vocalic i, also appear in this position; cf. the following:
nien 'year'; TB *niy.

tsięt 'joint'; TB *tsik.
tięng 'top of the head, summit'; cf. K puŋdiŋ 'zenith, top' (puŋ- is a preformative).
tięk 'drop; to drop, drip'; cf. T gtig(s)-pa ~ btig-pa ~ thig-pa 'drop, drip', thigs-pa 'a drop'.

kiet 'to tie, knot'; cf. K kyi̯t 'to gird, girdle', gyit 'to tie, band' (apparently distinct from TB *kik).
niek 'sink, drown'; cf. B nats < *nik 'sink into, be immersed', hnats < *s-nik 'make to sink, immerse'.

·ıęgn 'strangle' (note the sonant final); TB *ik.

Ar. Ch. also draws a distinction between semivocalic ı+w and vocalic i+w. Phonemically, medial ıw can be interpreted as [jw], and ıw as [u], the latter probably actualized as [ui]. Thus, we may write /siwər/ for siwər 'water'; /g'uat/ for g'ıwət' 'dig out'. Considered thus phonemically, Ar. Ch. has the diphthongal pairs /ia/

vowel is lowered to ẽ ('live') or ıe ('louse') (see n. 457). There is now some comparative support for the hypothesis (Benedict, 1948, note 6) that the Ch. medial ıe vs. ie distinction reflects an original ST length distinction (Mikir and Sgaw Karen show a similar lowering of the vowel when short):

<table>
<thead>
<tr>
<th>tree/wood</th>
<th>ST</th>
<th>Mikir</th>
<th>Sgaw</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>*siŋ</td>
<td>theŋ</td>
<td>òe</td>
<td>siěna</td>
</tr>
<tr>
<td></td>
<td>*s-niŋ</td>
<td>niŋ</td>
<td>ni</td>
<td>nien</td>
</tr>
</tbody>
</table>

ST long medial *i- also appears to be reflected in *ien 'smoke', from *ʔi-n < *ʔu-n (with suffixed -n; nn. 429, 441, 477); in the single comparison for TB final *-i-t, Ch. has -ięt ('leech'; n. 458), but note -ięt ~ -ięt for *-i-t (suffixed *-t) ('nephew/niece'; n. 428).

180
and /ua, /ie/ and /ue/, /ia/ and /ua/, all found in medial position only. In the following pair of roots medial vocalic u stands for TB medial */w*:

\[ k'iwən/k'una \] ‘dog’; TB */kwiy.
\[ xiwet/xiuet \] ‘blood’; TB */s-hwiy.

The medial cluster iw (=jw) before a corresponds to TB medial */u* in the following:

\[ piwr | pijwər | c ‘fly’; TB *pur ~ *pir. \]
\[ pijwət | pijwət | d ‘knee-cover’; TB *put ‘knee’. \]

Ar. Ch. has simple medial u before velar finals, but the best available comparisons are with TB medial */o* rather than */u*; cf. ts'unge ‘onion’, T bsöy; kluk > kluk ‘shell, husk’, TB *kok ‘bark, rind, skin’; 477 perhaps also kuku ‘grain’, B kauk ‘rice plant’. Lowering of medial */u* to o before final -k is indicated by the following, although it should be noted that Anc. Ch. usually has u: 479

477 Chinese has a doublet here: pijwət/pijwət | h and pijət | i ‘knee-cover’, from *put ~ *pit, with evidence of similar doublets in other roots: ‘eyebrow’ (n. 461), paralleling similar doublet in TB; ‘writing brush’ (n. 474); ‘enter’ (n. 479). At times Chinese has medial */u* for TB */u~*i doublets (‘to fly’, n. 460; ‘house’, n. 479) but at other times it has medial */i* for TB medial */u* (‘poor’ and ‘dust’, n. 461; ‘block/pillow’, n. 464; ‘smoke’, n. 476); this alternation, which is more common in association with labial initials or finals (assimilation or dissimilation), must be assigned to ST itself.

478 The TB root has now been reconstructed */r-hwavah (n. 220) and has a Ch. correspondence in final -wāk (n. 438). The correspondence for ‘onion’ (text) indicates that ST medial */o* (rare) fell together in Chinese with */u*; cf. also ‘dig’ (n. 429), which has -wət/wət < */-ut for TB */-ot (original suffixed */-t*). A different correspondence is suggested by b’āk/b’uk ‘white’; S. Kuki *bok, id. (Sho and Chinbok bok, Yawdwin pók); G gibok ~ gibok, Dimasa guphu < */g-phuk, id.; perhaps also Lepcha (ā-)bok ‘white and black, nearly half of each (of animals)’, from TB *bok(?).

479 The ST high back vowel */u* undergoes shifts in Chinese closely analogous to those shown by */i*; cf. the following table:

<table>
<thead>
<tr>
<th>ST</th>
<th>TB</th>
<th>-k/-ŋ</th>
<th>-t/-n/-r</th>
<th>-p/-m</th>
</tr>
</thead>
<tbody>
<tr>
<td>u</td>
<td>u</td>
<td>(j)ō</td>
<td>(j)œ</td>
<td>a</td>
</tr>
<tr>
<td>w</td>
<td>w</td>
<td>(j)ū ~ (i)u</td>
<td>œ</td>
<td>œ</td>
</tr>
</tbody>
</table>

Short medial */u* before labials is represented by ‘j’ (text); long medial */u* by *am/ām ‘put in mouth; hold in mouth’ (not in GSR), TB *(m-)*u|m; also nāp/nāp ‘bring in’, nəwəb/nəwəm (C) ‘interior, inside, inner, in; enter (loan for following)’, the latter from *nu:b < *nəp (note tone); also the doublet nāp/nəp ‘enter; bring in’, from *n(y)i:ip, TB *ni:u ~ *ni['].ip ‘sink’, but Bodo-Garo also ‘enter’, with the same *u ~ *i alternation (n. 477); cf. also *təp/təp ‘ears long and hanging down’ (not in GSR), also tiəp/tiəp ‘hanging ears’, apparently related (loan) to Thai (Siam.) *twəp ‘hanging ears (of dog)’. ST (and TB) medial */yu- also yielded *jə: ‘salt’; n. 472), as in the above doublet (‘hanging ears’). Apart from forms
liök > liukə ‘6’; TB *d-ruk.
piök > piukb ‘belly’, p’iök ~ b’iök ‘cave’; TB *pu-k.
d’ök > d’uök ‘poison’; TB *duk ~ *tuk.

miök > miuk ‘eye’; cf. TB *mik. The *u ~ *i alternation shown here is fairly common within Tibeto-Burman (see §xi).

Comparative material for TB medial *u before dentals and labials is extremely sparse (see Shafer, J.AOS, 61, 1941, p. 26). Dissimilation of this vowel before the final labial -m is observed in som’i ‘3’, TB *g-sum (the later Anc. Ch. form sām is irregular), with *u replaced by the ‘neutral’ (mid-central) vowel ə. Yet Ar. Ch. does have final -um, dissimilated to -ung in Anc. Ch., e.g. pi’um > piung ‘wind’, gi’um > giungh ‘bear’ (cf. Korean kom, Jap. kuma).480

derived from suffixed -n and -t (several cited in nn. 428 and 429) there is only one likely comparison for long medial u before final dentals (rare in TB), viz. mwoun/mwun ‘gate, door’, TB *mu-r ‘gills, beak, mouth, face’; cf. also miwun/miwn ‘corner of lips; shut the lips’. As in the case of medial *i, however, the ST length distinction is reflected in forms with velar finals, the short vowel being lowered to ə (the palatalization = j is variable, probably influenced by lost prefixes); cf. *b-liök/ljukk ‘6’, TB *d-ruk; d’ök/d’uök ‘poison’, TB *duk ~ *tuk; d’iök/d’iunm ‘insect’, Bodo-Garo *dyun (note G dok ‘6’, dzoŋ ‘insect’); kiöŋ/kiunj ‘dwellings-house; palace; apartment; temple’ (graph shows two rooms and a roof), from *kyum (cf. ‘bear’; n. 449), TB *kyim ~ *kyum ‘house’; kiöŋ/kiunj ‘body, person’, TB *gunj: Nungish: Rāwang gunj ‘body, animal, self’, Mutswang dial. goŋ ‘body’, B əkhunj ‘body, animal body’, Atsi kun, Lisu go- ‘body’ (B-L *gun or *goŋ); contrast kiunj/kiunj ‘bow (weapon)’, TB *kunj ‘tree; branch; stem’: B əkhiunj ‘stalk, branch’, also əkunj ‘large branch, bough’, apparently from kun ‘hang over in a curve, bend downwards’ (cf. Deori Chutiya thal ‘bough’, cognate with Tiddim thal ‘bow’< TB *tal ‘arrow; bow’); munj (A) ‘darkened, blind’ (this character also read miunj/mijunj ‘dream’, below), miunj/mijunj (A) ~ mwunj (A) ‘darkened; ashamed, despondent’, TB *mu-n ‘cloudy, dark; sullen’; mwaŋ/mwaŋ (C) ‘last day of moon; dark, obscure, darkness’, from prefix + mwok + suffix (note tone), TB *r-mu-k ‘fog(gy); dark, dull’ (an ST doublet of the foregoing root); k’uk ‘lament, weep’, L ku-k ‘shriek’; k’iuk/k’iwok ‘bend, bend’ (and related forms cited in n. 430), TB *m-hu-k ‘angle; knee’, related to an ST doublet with short vowel represented by k’iök/k’iuk ‘bow, bend’, k’iök/k’iuk ‘convex side of river bend’ (both characters loaned in these senses), TB *guk ~ *kuk ‘bend; crooked’; cf. the similar ST doublet: piök/piukx ‘belly’, p’iök/p’iukx ~ b’iök/b’iukx ‘cave’ (text), TB *pu-k ~ *buk ‘cave; belly’, from ST *puk ~ *buk and *pu-k ~ *bu-k; vowel length is discrepant in tiöŋ/tiunj ‘middle; midway; interior, in’, TB *tuŋ ‘inside; middle’. As indicated in two of the above comparisons, Ch. medial -we- is an alternative reflex for ST long medial *w- before velar finals.

480 Ar. Ch. final -um was derived from *swum; cf. the analysis of ‘bear’ (n. 449), also piunj/piunj ‘wind’, with phonetic b’iwm/b’iwmb ‘every, all’ but also used in meaning ‘wind’.
Only scattered comparisons can be cited for the mid-back and mid-front vowels *o and *e, which are poorly represented in Tibeto-Burman itself.481 Shafer (1941, JAOS, 6x, pp. 18 and 24–5) has tables for both vowels, but the material is of uncertain quality. The best single comparison for TB medial *e is *miem ‘close the eyes, sleep’, TB *myel ‘sleepy’ (see Benedict, 1940, p. 113). In the following pair, comparisons may be made with medial *a as well as *e.482

481 See n. 478 for ST medial *o. The text example shows -ian for ST *-yel, but Ar. Ch. has -ian in the one comparison for ST *-yer (‘to fly’, n. 443) while -ian corresponds to ST *-er (‘sleek, hail’), n. 460). The regular correspondence for ST medial *e before dental or labial finals, however, is Ar. Ch. ja, which shows a similar lowering of the vowel, paralleling the medial *i > î ~ ī shift (n. 476); cf. ‘sweet’ (n. 458), ‘face’ (n. 461), also ljan/ljænb (A) ‘connect, unite; in a row, consecutively’, ljan/ljænc (A) ‘join, bring together’, TB *ren ‘equal; place in a row, line, row’; also miat/miæd ‘drown; extinguish, destroy’, T med-pa ‘to be not, to exist not’ (not from mi yod-pa, as Jäschke believed, if this form is cognate), a doublet of the general TB root *mit ‘extinguish’ (but Dimasa ‘destroy’), ST *met ~ *mit. The two examples of ST final *-ey have Ch. -jiŋ/jiŋ ‘(wesel)’, n. 457; ‘red’, n. 464), suggesting that it fell together with ST *-iy (short i).

482 The two TB roots cited have now been reconstructed *som ‘breath, voice, spirit’ and *tsp ~ *dop ‘fold, repeat’, on the basis of the medial a ~ e alternation in Tibetan (n. 344). It is difficult to reconstruct medial *a (as distinct from medial *a) for TB roots lacking the Tibetan alternation, but we have done so (provisionally) in a few roots, and these all have Ch. cognates with the same medial vowel; cf. TB *(s-)bray ‘fly, bee’ (to explain B yau, from *ryau < *ryau < *bryau, palatalized before a), Ch. djan/jian (n. 469); TB *am ‘eats, drink’ (to explain Kuki *ìn), Ch. iram (text); TB *kap ‘needle’ (to explain B ap, from *kyap, with eventual loss of velar initial), Ch. t’iram/t’iram and t’iop/t’iop (n. 464); TB *gam ‘jaw (molar teeth)’ (to explain B əm, from *gyam, as in above root), Ch. g’ėm/g’ēm ‘jaw’. The vowel is not palatalized in the latter, paralleling g’em/g’ëm (A) ‘hold in the mouth’; (C) ‘put in the mouth’, TB *gam ‘put into mouth, seize with mouth’ (text), from ST *gam; also (with palatalized doublet) k’em/k’ëm (C) ‘cliff, bank; steep’ (not in GSR), k’i’om (A) ‘precipitous’, TB *r-kā[-]m (L kami ‘bank, shore, mouth’, kha-m ‘precipice’), from ST *(r-)ko[-]m; cf. also ‘cough’ (below). Generally, however, the correspondence is Ch. medial î = TB î medial a, with numerous examples in final velars and labials (but no certain comparisons for final dentals); cf. ST tak ‘mount; raise’ (text and n. 465); *trak ‘weave’ (text); *sak ‘breathe, breath, life’ (text), *gok ~ *kak ‘ridge (of house); peak (highest point)” (n. 444), *tak ‘color (face); shame’ (n. 457); *(g-)łak ‘arm; wing’ (n. 458); *g-loy ~ *g-lak ‘eagle, falcon’ (nn. 225, 458); *(s)-tak ~ *døn: tøm (A) ‘rise, ascend, raise’ (note lack of palatalization in this originally prefixed form), t’iøy/t’siøy (A) ‘lift, hold’, d’iøy/d’iøy (A) ‘mount, ascend; ride, drive; be on top, above’, d’iøy/d’iøy (A) ‘lift, hold’ (note same tone note in all four forms); TB: Bodish *s-tøy ‘upper part’; Karen *θau[y] ‘up, go up’ (n. 384); *nay ~ *nay ‘thou’ (n. 432); *(s)-nay ‘following’ (n. 432); cf. also *køy ‘weep’ (text); *høp ~ *høp ‘pinch’ (text and n. 471); *səm ‘breath, spirit; heart’ (text); *nám ‘think’ (text and n. 465); *nám ‘soft’ (n. 405); cf. also *töl ‘arrow; bow’ (n. 452) and *dzər ~ *tsər ‘sister’ (n. 460). ST long medial
sîmə ‘heart’; cf. T sem(s) ‘soul, mind, spirit’, sem(s)-pa ‘think’; also bsams (a Pf. form of sem(s)-pa) and bsam-pa ‘thought’.

d’iəp b ‘pile on; duplicate, repeat; fold’; cf. T lde-b-pa ‘bend round or back, double down’, lтеb-pa ‘turn down, turn in’, thebs ‘series, order, succession’; also TB *tap (No. 493), as represented by T ltab-pa ‘fold or gather up, lay or put together’, ltab-ma ‘a fold’, ldab-pa ‘do again, repeat’, K thap ‘layer’, kothap ‘add, place one upon another; again and again’, B thap ‘place one on another, add to; repeat, do again’.

Ar. Ch. has final -u, but this element is rare and only one good comparison has been found, viz. k’uč ‘rob’, TB *r-kwv ‘steal’⁴⁸³ Final -i, as pointed out above, is altogether lacking in Ar. Ch. as reconstructed by Karlgren.⁴⁸⁴ Ar. Ch. regularly has -iûg or -iòg for TB *-u~*-uw, and -i̇d or -i̇r for TB *-i~*-iy:

*ə can be reconstructed for the following: khipd ‘draw (water)’, TB *kha-p, id., from ST *ka-p; cf. also k’og/k’əć (C) ‘cough’, from *khak-ma or the like (n. 494); TB *ka-k ‘cough up; phlegm’ (Mikir and Lushei), as if from ST *ka-k, but T khogs-pa ‘cough’, v/n. points to a TB doublet *kak.

⁴⁸³ The reconstruction of TB *-u as opposed to the more common *-sw is based entirely on evidence supplied by B-L and Nungish, and the Chinese evidence is hardly sufficient to set up this distinction for ST itself. Chinese has many forms in final -u/wu but the best comparisons are either with TB roots in the final *-sw (= -uw in text) or in final *-u(w), which can be either *-u or *-sw (in absence of B-L or Nungish cognates); cf. k’u/k’uwt ‘rob’, TB *r-ksw ‘steal’ (but Dimasa has khau) (for the semantics, cf. TK *-r-w:k, K-N ‘steal’, Karen ‘rob’); k’uṣa ‘body, person’, TB *(-e)ksw ‘body’: T sku, B ku(y) (the -y is a product of etymologizing); nju/n’juh ‘nipple; milk; suckle; (AD) breast’, TB *new ‘breast; milk’; also *srju/sju ‘older sister’, TB *srw ‘aunt’ (n. 457); k’u/k’wu ‘mouth’, Bodo-Garo *k(h)u, id.: G ku/khu, Dimasa khu, from TB *ku(w). The Dimasa ablaut form (khu) for ‘steal’ suggests that the first three ST roots, at any rate, are to be reconstructed with final *-əsw rather than *-sw, paralleling the indicated distinction in ST between medial ə and e (n. 482). In one comparison, however, final *-u can be reconstructed for ST on the basis of B-L data: d’u/d’gw ‘head’, TB *d-i̇bu (B ãi).

⁴⁸⁴ Chinese final -ia/iie, which is well represented in the language, apparently stands for ST final -i (= -i:), parallelizing medial -ie- for ST long medial *i: (n. 476). TB has both *-iə and *-i, but this distinction is maintained only in B-L, and comparative data are inadequate for setting this up as a feature of ST itself (cf. n. 483 as regards the similar situation for the ST high back vowel). A direct correspondence is supplied by g’ia/g’iie1 ‘ride (horse)’, B isi (but ki in inscriptions), from *gi (Lisu dzi, Ahi and Lololoph dze, Nyi de), but these forms appear to involve old loans from AT with typical loss of an original medial *w (Thai *khwvi~*gwvi) (Benedict, 1967bis); the correspondence in final with Thai *-i is found also in kia/kya ‘odd (number)’, Thai (Siam.) *gi, id. There is one excellent comparison with TB, viz. gwia/pywia1 ‘elephant’ (obsolete), TB *m-gwvi(y) (n. 449), but this TB root can be reconstructed in either *-i or *-iy (no B-L cognate). Other comparisons for Chinese final *-ia/iie are of doubtful significance; cf. pia/pyia⁰

a 心 b b c d c d c e f g h i j k l m
ki⁵⁴g⁴⁴ ‘9’; TB *d-kuw.

g⁴⁴tʰu⁴⁴ ‘owl’ (signific is picture of horned owl); TB *gu (No. 494), as represented by K u-khu (u ‘bird’), B khu (Tavoyan dialect, as recorded by Tin, 1933), Lisu gu,⁴⁸⁵ Lakher va-ku (va ‘bird’), Mikir i⁵⁴h⁴⁴ < *i⁵⁴k⁴⁴ ‘owl’, perhaps also Kanauri kug ~ kuk through reduplication.

sug⁴⁴ ‘cough’; TB *su(w). Note that the Ar. Ch. initial is not palatalized in this example.

bʰi⁵⁴g³⁴ ‘carry on the back’; TB *buw.

ki⁵⁴ɡ⁴⁴ ‘pigeon, turtle-dove’; TB *kuw (No. 495), as represented by Miri pako, B khu, Meithei khu-nu, Khamie i⁵⁴m⁴⁴k⁴⁴ ‘pigeon’ (contrast B khrui, Khami məkhru ‘dove’).

g⁴⁴ɡ²⁴ ‘uncle, father-in-law’; TB *kuw.

sí⁴⁴d⁴⁴ ‘4’; TB *liy.

pi⁴⁴d’h⁴⁴ ‘give’; TB *biy.

ši⁴⁴r⁴⁴ ‘die’; TB *siy.

The reconstruction of final -g, -d, and -r for Ar. Ch. in roots of this type will be questioned by many.⁴⁸⁶ Simon (MSOS, 39, 1927) showed the way here with his ‘brown-and-white bear’, Rāwang (Nungish) sëvi ‘bear’, possibly from TB *pevi(y) (plus *s- ‘animal prefix’), with regular loss of medial *w in Chinese before the front vowel i (n. 463).

⁴⁸⁵ The word for ‘owl’ is not cited in the standard Lisu source (Fraser), but does appear in C. M. Enríquez, ‘The Yawyins or Lisu’, JBR 11 (1921), 70-4, in the form ‘owl or night-bird’. The Kachin and Burmese forms (with aspirated initial) suggest the reconstruction *ku rather than *gu.

⁴⁸⁶ This knotty problem was resolved in Benedict, 1948b in favor of the ‘offglide’ explanation of Ar. Ch. final *g and *d as derivatives of ST final *-w and *-y, respectively, this all tying into a general interpretation of the development of the voiced fricatives (including semi-vowels) in Chinese (n. 446); for Ar. Ch. final -r in roots of this type, however, the writer favored Karlken’s view that this element is essentially a rohotacism, and here he cited níŋ/niŋ (C) ‘2’, TB *g-nis.

This is no longer tenable, however, since the ST root must be reconstructed without the final *-s, and in any event Chinese has -r rather than -r for this final (see discussion in n. 454). We must therefore revert to our earlier view (text) of final -r as an offglide in roots of this type. It also now appears that final -r forms normally occurred in Ar. Ch. in open juncture (tones A and B), final -d forms in close juncture (tone C) (n. 494); cf. sì⁴⁴d/ši⁴⁴k (C) ‘4’, TB *b-loy (text); pì⁴⁴d/pi⁴⁴l (C) ‘give’, TB *bo⁴⁴y (text); mì⁴⁴d/my⁴⁴m (C) ‘sleep’, TB *b(-)-məwɔyt ~ *s(-)-məwɔyt (n. 463); contrast sì⁴⁴r/sin (B) ‘die’, TB *so⁴⁴y (text); sì⁴⁴r/sio (B) ‘dung’, TB *klo⁴⁴y (n. 472); bʰi⁴⁴r/bʰi⁴⁴p (B) ‘female of animals’, TB pevi(y) (n. 428); mì⁴⁴r/mi⁴⁴wɔyt (A) ‘minute, small’, TB *məwɔyt (n. 463); note also GSR-519, with li⁴⁴d/li⁴⁴t (C) ‘sharp’ as phonetic in a fairly large series exclusively with final -r forms all in tone A. Tonal alternation is found in pì⁴⁴r/pi⁴⁴s (B ~ C) ‘deceased mother or ancestress’, TB *pu⁴⁴y ‘grandmother’, while both tonal and vocalic alternation are displayed by di⁴⁴r/i (A) ~ tʰi⁴⁴r/ʃi⁴⁴i (C)
reconstruction of final spirants (\(-\gamma, -\delta\)), and Karlsgren later (BMFEA, 5, 1934) suggested the forms adopted in this review. It might be argued that Ar. Ch. -g was developed secondarily after the back vowel \(u\), and -d after the front vowel \(i\), yet Ar. Ch. has -g after medial \(i\) as well as \(i\) and \(i\)\. The assumption that all final sonant stops were dropped or replaced by -w or -y in Tibeto-Burman, on the other hand, involves no insuperable difficulty. Inasmuch as Tibeto-Burman retains final *-r, however, we must infer that Ar. Ch. -r in sjor ‘die’ represents a type of consonantal offglide, i.e. ST *-i > Ar. Ch. -i, falling together with ST *-ir > Ar. Ch. -i.

TB final *-a after velars is represented by Ar. Ch. -o:

\[\text{k`o} \text{b} ‘\text{ bitter}; \text{ TB } *\text{ka}.\]
\[\text{g`w} \text{c ‘fox}; \text{ TB } *\text{gwa}.\]
\[\text{ng} \text{d ‘I}; \text{ TB } *\text{ya}.\]
\[\text{ngo} ‘5’; \text{ TB } *\text{l-} \text{na} \sim *\text{b-} \text{na}.\]
\[\text{ngio} ‘\text{ fish}; \text{ TB } *\text{nya}.\]

‘mucus from the nose’, TB *tii(y) ‘water’ (n. 449). The root for ‘2’ (above) also shows final -r with tone C (close juncture), so it could be argued that some other distinction should be reconstructed, e.g. ST *-\(\sigma\)-y > -\(i\)r contrasting with ST *-\(\sigma\)-y > -\(\j\)d (paralleling the distinction suggested in n. 483 for the ST high back vowel); it is also possible that an original ST suffixed *-s (cf. TB *g-\(n\)-i-s ‘2’) yielded Ar. Ch. -\(i\)r rather than -\(\j\)d. Final -\(i\)r (rather than -\(i\)r) also appears in \(\text{xir} / \text{xieiz} (A) ‘sour’, \text{ TB } *\text{kri}(y) (n. 472); *\text{sriar} / \text{sei} (C) ‘son-in-law’, \text{ TB } *\text{krawy}, and it is possible that this final is the derivative of ST *-\(\sigma\)-y (but note that two of the -\(i\)r / -\(i\)eiz forms are in tone C). For ‘son-in-law’ (above), Chinese has the doublet *srjo / sjwoi, paralleling sr jo / sjw o ‘foot’, TB *khrawy (n. 472) as well as srju / sjw ‘count’, TB *(r-)tjrwy (n. 457), all apparently through the effect of the retroflex (r) initial cluster; cf. the similar shift of final *-a after initial palatals (n. 487).

ST (and TB) final *-\(e\)w is usually represented by Ch. -\(i\)w / sjw ~ -\(i\)w / sjw, with palatalization before the vowel, as shown by the text citations. The basis for the apparent distinction in Ar. Ch. (based on evidence from rhymes) is not known, but it is possible that it reflects an ST distinction in vocalic length: ST *-\(\sigma\)-\(e\)w > -\(i\)w contrasting with *-\(e\)w > -\(i\)w; cf. the ST medial *\(e\) ~ *\(u\) shifts described in n. 479. It has also been suggested (n. 483) that Ch. -\(u\) and -\(i\) might also be derivatives of ST *-\(e\)-\(w\), and certain phonetic series (notably GSR-131 and GSR-132) show interchange between the two types of finals. The correspondence for ‘owl’ (text) is irregular and shows vowel gradation, as do the two related forms (n. 441).

The above evidence suggests an essentially circular development for both ST *-\(\sigma\)-\(w\) and *-\(e\)-\(w\) (and corresponding long vowel forms), e.g. ST *-\(e\)-\(w\) > -\(i\)w (Ar. Ch.) > -\(i\)w (Anc. Ch.). This seems somewhat unlikely (although possible) and perhaps it is preferable to regard Ar. Ch. as a ‘sister’ (but older) dialect of Anc. Ch. rather than as directly ancestral to it, allowing ST *-\(e\)-\(w\) > -\(i\)w (Anc. Ch.) directly. This view is of help in explaining the numerous irregularities noted by Karlsgren in the development of Anc. Ch. forms, e.g. Anc. Ch. sjamk ‘3’ (irregular), from ST *-sun directly rather than via s\(a\)m, the Ar. Ch. form (which should have yielded Anc. Ch.

\(a\) \(\text{ 死 b 畫 c 狐 d 首 e 五 f 魚 g 隻 h 婦 i 乙 j 数 k 三}\)

\(a\) \(\text{ 死 b 畫 c 狐 d 首 e 五 f 魚 g 隻 h 婦 i 乙 j 数 k 三}\)

\(a\) \(\text{ 死 b 畫 c 狐 d 首 e 五 f 魚 g 隻 h 婦 i 乙 j 数 k 三}\)
The fate of original *-a after other types of initials, however, cannot be determined with any assurance.\(^{487}\) The available comparisons indicate that -a, -á, or -â (̆sám); the unusually large number of doublets, triplets and even more complex multiple forms in Chinese also lends itself to a general explanation along these lines.

\(^{487}\) Final *-á must be reconstructed for a few ST roots (in TB and Karen it falls together with *-a); cf. *tsá~*dzá ‘salt’ (text and n. 161; the Tibetan ‘wa-zur’ form: tswa is perhaps significant here); *ýá ‘goose’ (mn. 428, 488); *ná ‘red’ (n. 429); *bыв ‘old woman, grandmother’ (n. 463); *(g-)yá ‘left’ (n. 428), contrasting with *g-ya ‘right’ (n. 449); also káà ‘sing, song’, TB *ha ‘word, speech’ (JAM notes meaning ‘sing’ in Lahu), from ST *ká; ýá ‘I’ has a special grammatical function (p. 160) and cannot be set up as an ST form distinct from *ýa (text). The apparent alternation -wá~-o appears in t’wáb (C) ‘spit’, t’o/t’uoC (B) ‘eject from the mouth; (AD) vomit, spit out’, TB *(m-)twa~*(s-)twa ‘spit; spittle’ (also ‘vomit’ in Nungish and Kachin); cf. also *k’wa/kwa~glwá/luá ‘snail’, *glaúluá ‘kuo-lo (a small wasp, a kind of mollusc)’, Karen *k’lo ‘snail’, B kháá, id. The final -s`va of ‘snail’ (above) is a rare instance of this final in Chinese, since it generally has shifted to -s`wo (‘fox’, text) or to -s`-a, especially after labial initials, as in the text citations (see n. 463 for an interpretation of these).

ST (and TB) final *-a is subject to several different shifts in Chinese, with final -o appearing not only after initial velars (text) but also after labials and (non-palatalized) dentals; cf. *(r-)s`va ‘rain’ (text); *(s-)sva ‘be in motion, go, come’ (n. 447); *pva ‘man, husband, person’ (n. 463); *pva or *b-sva ‘palm (of hand)’ (n. 463); *(r-)pua ‘ax’ (n. 463); *pva~*b`va ‘father’ (n. 463); *(k-)la ‘tiger’ (n. 472); also *(s-)la ‘salt’: lo/luo ‘salty; (AD) rock-salt’ (used in graphs as general signific of ‘salt’), TB *la ‘salt’ (Miri slo~*a-la), Karen *hla, id. (Pwo la, on high tone); njo ‘thou’, TB (Nungish) *na (n. 432); no/mu0h ‘crossbow’, corresponding to Thai *hna, Vn. na, Ràwàng (Nungish) t`hna, Moso (B-L) t`hàna ‘crossbow’, Sui h`na ‘bow’ (Benedict, 1967bis, considers the Ch. form an early loan from an unknown source; cf. the Ch. forms for ‘tiger’, similarly attributed to borrowing; these must all date from a period antedating the *-a~o shift in Chinese); no/mu01 (A) ‘wife and children’ (cf. T m`na-mad ‘mother and children’), with the basic phonetic (and cognate) njo/njwol (B) ‘woman, lady, girl’, TB *(m-)na: T mña-ma ‘daughter-in-law’, Mumi na-na, Vayu nu-nu~*na-na, K na, Chang Naga a-no~*na-na ‘older sister’, Byangsi (Almora State) na ‘mother’, pu-na ‘aunt’, Mìri a-ná ‘mother (Abor ‘grandmother’), Lakher (Kuki) i-na ‘mother’. The *-a~o shift in Chinese apparently occurred not long before the Archaic period, since the original vowel is reflected in an early loan in the AT languages, viz. Thai *ha~*hna, Ong-Be y`a ‘5’ (n. 435).

The normal shift after the palatals *-s- and *-y- was to -iow in Anc. Ch., with correspondences in Ar. Ch. as described in n. 486; cf. siog/siyuk ‘animal’, TB *sá ‘flesh, meat, animal’ (n. 452); giog/jiow ‘right (hand)’, TB *g-ya (n. 449); also ziog/jiow ‘laugh’ (character borrowed in this meaning), TB *rya-t (see n. 458 for the -t suffixed form of this root); cf. also (from the same phonetic series) siog/jiow ‘cock’ (calendrical term), which has been identified (Benedict, 1967bis) as a probable loan from *raka, the equivalent term in the Cambodian calendar, apparently via *raw~*ra(ka), showing fore-stress as in the TB loan (*ra(ka) ‘fowl’).
are the Ar. Ch. representatives of ST *-a; cf. sa‘ ‘sand’, T sa ‘earth’; ngā‘ I’, TB *ya; dz’āc ‘salt’, TB *tsa; pād ‘kind of bamboo’, TB *g-pa ‘bamboo’; pāg but with different syllabic division (*ra-ka ~ *rak-a); the corresponding term in the Thai calendar is *raw, which now appears to have been influenced (possible ‘back-
loan’) by Chinese, since Thai itself does not show the vocalic shift from *a; cf. 
Thai *kaw ‘o’, a loan from Ch. ㄠ/ㄠ (Benedict, 1967 bis, indicates *raw < 
*raga < *raka, a possible alternative explanation). A similar shift to the closely 
related final -ją is shown by t’ią/tiù ‘red’, TB *tya (n. 452).

A third correspondence for ST (and TB) final *-a is found after dental affricates 
and sibilants and palatalized *n and *l (at early level); cf. niŋ/niŋ ‘ear’, TB *r-na 
(apparently palatalized early by the *r- prefix); *dz’iŋ/dz’iĩ ‘self’ (= nose), TB 
*s-na (n. 471); tsiŋ/tsi ~ dzsiŋ/zii ‘child’, TB *tsa ~ *sa (n. 86); d’jok/dz’iokk 
‘eat’ (note the final -k) and dzsiŋ/zii ‘food, give food to’, TB *dza (n. 452); 
perhaps also, with suffixed -t, dz’iɔt/ dz’iɛmt ‘sickness, pain’, TB *tsa ‘hot; pain’ 
(n. 429) (we would anticipate *dz’iɔt/ dz’iɛt here; n. 488). The final -g of these 
forms is to be interpreted as a secondary development after the vowel a, which 
does not occur as a final; the forms for ‘eat’ (above) show that final -k is possible 
here as a doublet formation; cf. also dz’ok/jok ‘arrow with string attached’, TB *bla 
‘arrow’ (n. 469).

Finally, a fourth correspondence for ST (and TB) final *-a is found under 
conditions of initial (non-phonemic) glottalization of the root (or of the prefix 
*a-), with parallels in TB and Karen; cf. *dŋ/ŋ ‘dumb (mute)’, TB *p=ŋa; 
Burmese has d with ‘creaky voice’ (glottal accent) and Karen has *-pə; cf. also 
ziŋ/jəv ‘evening’, dzjok/zjok ‘evening, night’, TB *ya; Burmese has d with 
‘creaky voice’, from *nə-ya < *nə-dya ‘day-its (d-) evening’, from *nəv ɲa-ya while 
Rāwang (Nungish), Mutwong dial. has ya?; Karen *hya also points to an earlier 
prefix element, perhaps p(ə)- rather than k- (n. 371).

As indicated in the text, Ar. Ch. also has -d (=-s) appearing to correspond to TB 
final *-a in some roots, especially after labial initials. This final, recognized by 
Karlgren as distinct from Ar. Ch. final -a (Anc. Ch. has -a for both) on the basis of 
rhyme evidence, apparently had been developed in many if not most instances 
from earlier *-wa (virtually absent in the Ar. Ch. system of finals); cf. *p̥a/pa ‘
father (vocative)’ (not in GSR), from *pwa, a complex doublet of b’iwo/b’iʌs 
(n. 463), from ST *pwa ~ *bwa; *p̥a/pa ‘(A) palm of hand’ (not in GSR in this 
meaning), also *p̥a/pa (B) ‘grasp; handful’, from *pwa, a complex doublet of 
b’iwo/b’iʌv (n. 463), from ST *pwa ~ *bwa or *b-wa; *p̥a/pa ‘kind of bamboo’ 
(not in GSR), from *pwa; ST *(g-)pwa; cf. also *m̥a/mə (AD cites only Mand. 
and Cant. forms) ‘mother, old woman’, from *mwa, a doublet of the old reading 
for this character: *m̥o/mu ‘mare’; ST *ma (TB *ma ‘mother’, also *ma ‘fem.
suffix’). It thus appears that Ar. Ch. generally maintained ST final *-wā, with 
a rare doublet in -o (n. 487), but shifted final *-wa either to -iwo (add ‘fox’, from 
text, to the above examples) or to -d, with frequent doublet formation; cf. also 
k’d/kəv (A) ‘male pig, boar’, from *kwa, a doublet of g’iwo/g’iwo (A ~ C) ‘kind of 
boar’, probably from *gwa-gwa (note tone C doublet), apparently related also to 

a 沙 b 我 c 頭 d 芭 e 巴 f 九 g 朱 h 耳 i 自 j 子 k 食 l 鉢 m 疫 n 鸞 o 愚 p 夜 q 夕 r 爸 s 父 t 巴 u 把 v 扶 w 旨 x 嬰 y 鞠 z 號
Chinese vowels and diphthongs

‘palm of the hand’, TB *pā; pāa ‘father’ (Ar. Ch. form inferred), TB *pa; màb ‘mother’ (Ar. Ch. form inferred), TB *ma.

Medial *a is sometimes retained in the form a or ã, sometimes replaced by the palatalized combination ãa.488 No equation can be made for the short vs. long
gwân/g’uân (A) ‘kind of pig’ (with ‘collective’ -n suffix). This last root is of unusual interest since it perhaps represents an archaic form of pā/pāa ‘sow, pig’, from *pwa; cf. TB *pwaak (both identified as loans from AT; n. 78). On the basis of this present interpretation of Chinese final -ā/ã, we can reconstruct *mwa (rather than *mra, as suggested by Pulleyblank) for mā/mæ ‘horse’, from an earlier *mra; cf. TB *s-ra~*m-ra (Gyarung has ʧbɔrɔ), but the finals do not correspond, hence there is presumptive evidence here of an early loan from a disyllabic (or longer) form: *m[ ]ray[ ] (source unknown), with Chinese and TB showing the same distinction in syllabic division as in other early loans; cf. the following:

<table>
<thead>
<tr>
<th>(Source)</th>
<th>TB</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>cock/fowl</td>
<td>*raka</td>
<td>*rak</td>
</tr>
<tr>
<td>pig</td>
<td>*mba(γ)-</td>
<td>*pwaak</td>
</tr>
<tr>
<td>horse</td>
<td>*ml[ ]ray[ ]</td>
<td>*m-rañ</td>
</tr>
</tbody>
</table>

We can confidently reconstruct *mwa in the ‘horse’ phonetic series because of the following excellent comparison: mā/mæ1 (C) ‘revile, curse’, from a form such as *mwa-pa (note tone), T dom-pa ‘curse’, from *-mwa-d (with verbal suffixed -d), a regular shift in Tibetan (p. 49).

488 We must reconstruct both medial *a and *ã for ST, along with medial *a (n. 482), but the correspondences are complex, as shown by the following set for ST (and TB) medial *a:

*-(r, y)yañ > *iañ: *gray ‘cold’ (text), *kyañ ‘ginger’ (text and n. 464); *irañ ‘uncle; superior (title)’ (n. 457).

*(palatal) + -ak > -iak: *tsak ‘red’ (n. 452); *(g-)tyak ‘1’ (n. 271); *ryak ‘grease, oil; juice, fluid’ (n. 458); *(g-)yañ ‘armpit’ (text and n. 448), but *yañ > -iak > iat in (m-)iyak ~ *(s-)iyak ‘lick; tongue’ (n. 419).

*(y)añ > -iap: *tsaip (or *tșap ~ *tsap) ‘join, connect; close/adjacent’ (n. 452); *lap ‘leaf’ (n. 458).

*-(r, y)yañ > -iyan: *sryan ‘sharp’ (n. 457); cf. also g’em/gǝmj ‘salt; salty’; Karen *hyam ‘salty’ (n. 371), from ST *gyam (?).

*-(r, l) > -iên: *sar ‘new, fresh’ (n. 460) (note Ch. alternation: sjên ‘new’ ~ sjan ‘fresh’); sar ~ sār ‘louse’ (n. 460); *(m-)kål ~ *(m-)gal ‘kidney’ (n. 460).

*-(a-n) (suffixed -n) > -iên ~ ien: *sâ-n ‘flesh/body’ (n. 428); *tsa-n ‘child; relatives’ (n. 428); *tya-n ‘red’ (n. 429); *ka-n ‘heavens’ (n. 428).

*-(a-t) (suffixed -t) > -iet: *rya-t ‘laugh’ (n. 458).

*mañ > *mañ; cf. TB *mañ: Trung (Nungish) domñ ‘big (of persons); (comp.) older (brother, uncle)’, B û-mañ ‘uncle’ (mañ ‘ruler, governor, official’), Ch. mañ/mañk ‘eldest (of brothers); great, principal’.

*xwañ > xwañ: *bswañ ~ *pwañ ‘uncle/older brother’ (n. 463).

*(w)añ > -um: *d-wañ ‘bear’ (n. 449).

abcdedefghijklmnopqrstuvwxyz
medial a distinction in Tibeto-Burman, inasmuch as no sure Ar. Ch. comparison has been found for TB long a. This fact is clearly borne out in the table arranged

\*(w)a> -wan ~ -wàn ~ -wèn (\(<\,*-un\): \*wal ‘round, circular; circle, enclosure; encircle’ (n. 448).

\*wan > -wan ~ -wèn (\(<\,*-un\): \*dzwan ‘hawk, kite’ (p. 453); \*(r)-tswa ~ (r)-dzwa-n ‘grass’ (n. 161) (latter with dz\'im/dz\'ien doublet).

The corresponding long vowel, ST medial \*a-, shifted in Chinese before final velars to a mid or high back vowel: o ~ ò or u ~ u (usually palatalized; medial \*ya- regularly yields medial iô), paralleling similar shifts of final \*a=\=a- (n. 487); cf. \*ba\'k ‘bat’ (n. 443); \*(s)-này ~ \*(s)-nà-y; cf. L hna\'y ‘thick (fluid)’, Ch. nîn\'y/nîn\'y\' (A) ‘heavy with dew’, nîn\'y/nîn\'y\', r(y) (A ~ B) ‘rich growth of grain’, also nûn\' (A) ~ nîn\'y/nîn\'y\’ (A) ‘thick, rich (sc. dew)’, nîn\'y/nîn\'y\’ (A) ~ nîn\'y/nîn\'y\’ (A) ‘thick covering, luxuriant growth’ (note same tone throughout); also \*dwa\'y: cf. T dwa\'y ‘hole, cave, pit’, Ch. d\'un\' (C) ‘hole, cave, ravine’ (meanings not attested in Ar. Ch.), probably also d\'un\' (A) ‘tube’ (the vocalism in this root could also be explained in terms of the medial \*w). As in the root for \‘thick’ (above), an ST doublet is indicated for the following: \*(r)-mày ~ \*(r)-mà-y ‘dream’; cf. TB r-mày, Ch. mîn\'y/mîn\'y ‘dream’; \*này ~ \*nà-y (also nà) ‘thou’ (n. 432); \*ryàk ~ \*s-ryàk ‘day (24 hours); pass the night’ (n. 457). Vowel length is indeterminate in the following pair: \*ka\'y; cf. TB \*kày (= \*k[a-\, a\'-])p: Nungish: Trung a-\, kày, Rawang \, khàn, B phà\'-khàn ‘father’, ml\-khàn ‘mother’ (khàn-pwàn ‘spouse’, khàn-bhya ‘sir, madam’), Ch. kàny ‘father’ \(\not=\) ‘grandfather (vocative)’ (honorific); \*(s)-nà:y\' [k] ‘meat/flesh’; cf. Karen \*hà < \*h\'àk (loss of final -k perhaps conditioned by a long vowel), Ch. nîk/nî\'uk. \[Another pair of roots shows a final -yàk ~ \*ik doublet in TB, and here also length can be reconstructed provisionally for ST; cf. \*(s)-ryàk [k] ‘pheasant’ (n. 458); \*myà:k [k] ‘eye’ (n. 251), Ch. mjôk/mjôk (text); perhaps ST \*(s)-ryàk and \*myà-k.\]

ST long medial \*a- before dentals is represented by Ch. à, intrinsically a long vowel (in Anc. Ch. the short vowel ‘gap’ was filled by à, derived from Ar. Ch. a). This shift is shown conclusively by several roots in final \*a- (\(\not=\) a-) with the nominalizing -n suffix = /n/, differing morphophonemically from the similar /n/ ‘collective’ and ‘verbal’ suffixes cited above, which yield Ch. final -i\'en ~ -i\'en (n. 428). The basic \*a-n > -àn shift is shown by the following ST roots: \*ka ‘bitter’, \*(b)-kà-n ‘liver’ (text); \*na ‘ill, pain’, \*nà-n ‘difficulty’ (text); \*ta ‘bright red’, \*ta-n ‘vermilion (cinnabar)’ (n. 429); \*gwa ~ kwa ‘wear, put on (clothes)’; \*gwa-n ~ kwa-n ‘clothes, cap’ (n. 429) (note that Ch. kwà\, kàn is primarily nominal: tone A = ‘cap’); \*dza ‘eat’, \*dza-n ‘food’ (text and n. 455). On the basis of this correspondence we can reconstruct ST long medial \*a- in several other roots, all with Ch. final -àn; cf. \*ga-n ~ \*kà-n ‘dry’ (n. 444); \*swà-r ‘sour’ (n. 460); \*swà-n ‘onion/garlic’ (text) (this ST root is a possible loan from AT); cf. also ST \*ta-n: TB \*tan: T than-pa ‘dry weather, heat, drought’, B thàn-thân ‘nearly dry’, Ch. t\'àn (not t\'nàn, as in GSR) ‘to dry up (as a river)’ (GS gloss; GSR glosses ‘foreshore’); ST \*(m)-dà-n: K ndàn ‘crossbow’ (dialect. kàlì ndàn ‘bow’), from TB \*m-dàn, Ch. d\'àm ‘shot pellets; pellet of crossbow; (AD) crossbow’. The distinction between medial \*a- and à before final -r cannot be established with any certainty for ST, and there is interchange here within TB itself.

\[\text{Notes to p. 190:}\]

\[\text{1. The symbol k (as in kà) indicates a sound not present in the text.}\]

\[\text{2. The symbol ò indicates a high back vowel.}\]

\[\text{3. The symbol u indicates a mid back vowel.}\]

\[\text{4. The symbol ò indicates a high back vowel.}\]
Chinese vowels and diphthongs

by Shafer (J\AOS, 61, 1941, p. 28), yet he seems to conclude (p. 29) that a quantitative distinction can be established for Sino-Tibetan. Actually, we can simply point out that there are two types of correspondences in Ar. Ch. for TB medial *a:

- ngan\a ‘goose (wild)’; cf. B ьан, T ыан.
- g\dьan\b ‘drought’, k\dьаn\c ‘to dry; dry’; cf. B ьхдн ‘dried up’.
- sw\dь\dэ ‘garlic’; cf. B ьрак-сьван ‘onion’.
- t\dьмэ ‘carry on the shoulder’; cf. B ьхдм, ьд.
- sam\b ‘hair’; TB *tsam.
- sat\b ‘kill’; TB *g-sat.
- т’яж ‘weave’; TB *tak.
- s\dькэ ‘breathe’; TB *sak.
- k’льдп ‘weep’; TB *krap.

If sonant stop finals are reconstructed for Sino-Tibetan, we should expect the following developments in Tibeto-Burman:

ST *-ag (or -ab) > TB *-aw (length not considered).

ST *-ad > TB *-ay.

(‘spread; sail’, n. 448). In the best comparison for TB long medial *a- before labial final (‘draw water’, n. 482), Ch. has final -jop, apparently from ST final *-st.ip.

ST medial *a is reflected in the medial a ~ o alternation in Tibetan (n. 344). Several roots show a direct correspondence with Ch. a before final velars, labials or *r; cf. *грак ~ *крак ‘fear; frighten’ (n. 430); *(r-)квак ‘bark, skin, leather’ (n. 229); *(g-)там ~ *(g-)дам ‘talk, speak’ (Ch. also дом) (n. 217); also *бвэр ~ *твэр ‘burn; fire’ (n. 460); *бвэр ~ *твэр ‘toss, cast (away), sow, winnow’ (n. 460), but *твэр/бвэр ~ *твэр ‘white’ (n. 460). In other ST roots we can reconstruct medial *а on the basis of the Ch. cognate: *гвым ‘dare’ (n. 448); *там ‘carry on shoulder’ (text). Before dental finals, however, ST medial *а was assimilated to the final, shifting to a, as shown conclusively by ьдак ‘domestic goose’, ьдам ‘wild goose’, with ‘collective’ -n suffix (text and n. 428); cf. also sat\b ‘kill’, TB *g-sat (text and n. 344); квэр/квэн ‘fire’ but б’йвэн/б’йвэн ‘burn’ (above), with *а~a before the secondary final -n; *нa ‘red’ (n. 429); *бьэр ~ *пьэр ‘plait’ (n. 460); *твэр (TB also *yаr) ‘spread, extend; sail, mat’ (n.448); ST *твэр yielded Ch. -jan in the last two roots; cf. also пьвэн ‘8’, indicating ST final *-rydt rather than *-ryat (this perhaps explains the anomalous *-r[t] final in Karen).

This secondary a vowel in Chinese is normally not palatalized (except where \i stands for *y), contrasting with the normally palatalized primary a (above), but т’ят/твят ‘break; bend; destroy’, TB *тсат ‘break, cut’ is a possible exception here (note т’ят ~ *тсат; cf. also саm\b ‘hair’ (non-palatalized), TB *тсам ~ *сам ‘head hair’ (T’ag-tshom ‘beard’), indicating ST *тсам ~ *сам (with shift to a in Chinese perhaps conditioned by the initial); cf. also т’ян/тсйэн ‘battle; to fight’, TB *г-ра-l (n. 472), with indicated final -д for ST.

489 A reconstruction schema of this kind for ST finals still cannot be excluded but it seems much less likely than the proposals offered in the present notes.
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ST *-og (or -ob) > TB *-ow.
ST *-od > TB *-oy.
ST *-eg (or -eb) > TB *-ew.
ST *-ed > TB *-ey.

The Ar. Ch. finals, if correctly reconstructed, point to an ST system of the type shown above. Anc. Ch., however, has diphthongs of TB type, and a few direct comparisons can be made:

490 It is possible that Tibeto-Burman simply dropped an original sonant stop after a short medial vowel; cf. a 'dumb',* TB *(m)-a (note B a in this root).

491 As presently reconstructed, ST lacks true diphthongs but numerous forms with final *-w or *-y are theoretically possible: ST *-aw and *-ay, *-āw and *-āy, *-ow and *-oy, *-ew and *-ey, as well as *-əw and *-əy (this pair covered in n. 486); a full set of ST finals of the above type with corresponding long vowels is also theoretically possible. Our comparative material on these finals is still scanty, more so than might be anticipated, and we have good evidence for only a few of the possible combinations. Chinese has final -og/āu corresponding to TB final *-aw as well as *-a-w (these also are the most likely ST reconstructions), as shown in three text examples ('call/cry out', 'fry/roast', 'fat'); cf. also mog/māu 'hair; fur, feathers', K *mmun mmau 'beard' (couplet form), from TB *r-mul *r-m[a, a]-w. In two comparisons involving isolated TB forms, however, Chinese has final -u/ŋu or -ju (palatalized), possibly from ST *-āw; cf. u/-ŋu 'vomit', B aú, id., from *[a, a]-w; giud 'monkey', K-N *ga-w 'ape/monkey'; Tiddim ga-' ape', L yau 'gray monkey'; cf. the ablaut in the root for 'steal' (n. 483). There are three different reflexes in the Chinese comparisons for TB final *-ow, perhaps because of influence exerted by the initials; contrast mog/mu 'mother', TB *mow 'woman' (text) (cf. Karen *mû 'female') and t'jo/tʲiwo 'boil, cook', TB *tsów (n. 452); also the following pair, which show identical fronting (*>e) after initial t; cf. *t'iog/tieugh 'deep, profound' (not in GSR), TB *tow ~ *dow 'thick' (also suffixed -n forms showing -om/um < *-un < *-o-n; n. 429); *tio/teugh 'bird' (phonetic in above), Bodo-Garo *d[a, o]w, Karen *tō < ST *tow ~ *dow (cf. K-N *m-tow 'fly', n.). Support for the indicated *-ow > -io/iwo development after initial palatals ('boil/cook') is furnished by sio/siwo 'rat', probably from *i(y)ow < *s[a]yow < *sa-yow; ST *sav 'rat' + *sa 'animal' as prefixed element, precisely paralleling L sa-zu (see n. 428 for suffixed -n doublet from this root).

The material on final *-y forms is still skimpier, if anything, and in general is quite unsatisfactory. Chinese apparently retained distinctions among ST *tāy 'big', *(d)-ka-y ~ *(d)-ga-y 'crab' and *r-may 'tail' (text), the last showing centralization of the short medial *a, along with metathesis of the prefix (cf. 'name'; n. 419) followed by *r > w after initial m- (cf. 'horse'; n. 487), as follows: *r-may > *r-may > *mray > *mraw > miow/myow (see n. 486 for last shift); an identical metathesis should probably now be recognized also for Burmese and Bahing (n. 204). A similar *a>e or *a>e shift appears in the following pair: *d/-qil (C) 'love', Karen Pai (text, p. 150); mier/mieik 'rice (paddy)' (text), B-G *m[a, e]y 'rice', Karen *may (n. 408); see n. 486 for effect of tone on final -d. Two comparisons for TB final *-oy indicate that palatalization also occurred here; cf. d'ier/d'iei
γάυ < g'ogā ‘cry out, call’; TB *gaw.
ngáu < ngogā ‘fry, roast’; TB *r-ŋaw.
sáu < sogā ‘fat (of animal)’; TB *sa-ŋaw.
mau < megā ‘mother’; TB *mow ‘woman’, Karen *mo ‘mother, female’.
t'ài < t'ātā, d'ài < d'ātā ‘great, big’; TB *tay.
γάις ‘crab’; TB *d-ka-y.
mjwēi < mjwērh ‘tail’; TB *r-may.
miei < miari ‘rice (paddy)’; cf. Bodo-Garo *may or *mey (n. 206).

Here we may infer either (a) final sonant stops were replaced by semivowels both in Ar. Ch. and Tibeto-Burman, or (b) final sonant stops in Ar. Ch. (if actually present) simply represented consonantal off-glides. If the first alternative is chosen, we must still interpret final -r in the last three comparisons as an offglide, inasmuch as Tibeto-Burman maintains original final *-r.

§47. Chinese tones

The Chinese tonal system can be interpreted in terms of three tonemes, viz. level (unmarked), rising (‡), and falling (§), or p'ing shēng, n shang shēng, o and ch'ū shēng, p respectively. The so-called ju shēng a of Chinese philologists is simply the level tone in syllables with final stop consonant (glottal stop in many modern dialects). The three tonemes are conditioned (in Ar. and Anc. Ch.) by the initial, being relatively high in words with surd initial, relatively low in words with sonant initial. With the general shift from sonant to surd initials shortly after the Anc. Ch. period (A.D. 600–900), the high and low varieties of each tone tended to become phonemically distinct, so that all modern dialects have several separate

2. 'younger brother', TB *doy ~ *tøy ‘younger (youngest) sibling’ (cf. Anc. Ch. -ieu = TB *-ow, above); mjwār/mjir ‘beautiful’, TB *moy, id. (showing further palatalization of the vowel). The Ch. doublet for 'near' (text) shows typical replacement of *e by ja (= ja before most finals; n. 481) or by ja (> -jəri; n. 486); cf. also siér/siér ‘rhinoceros’, T bṣe, id., probably from *h-sey (this isolated comparison suggests basic retention of *-ey in Chinese).
The falling toneme has generally been regarded as of late origin, by Chinese as well as Western scholars. It is undoubtedly significant that many Anc. Ch. words derived from Ar. Ch. forms in -g or -d should bear this toneme, but we find it also with words in final -m, -n, or -ng, in which loss of final cannot be postulated. We must infer, then, that all three tonemes existed in Ar. Ch.

A careful comparison of Chinese tones with the Tibeto-Karen system represented by Burmese-Lolo and Karen has yielded no positive results. If any inference at all about Sino-Tibetan tones is justified, it must be the negative conclusion that tones were lacking in the parent speech, and that the TB and Ar. Ch. tonal systems were developed independently. Ar. Ch. tones occasionally play a morphological role, as in ma\textsuperscript{a} 'buy', ma\textsuperscript{b} 'sell' (Anc. Ch. forms); i\textsuperscript{m}c 'drink', i\textsuperscript{m} (same character) 'give to drink', ni\textsuperscript{g}d 'ear', ni\textsuperscript{g}e 'cut off the ears'; gi\textsuperscript{w}\textsuperscript{a}nt 'distant', gi\textsuperscript{w}\textsuperscript{a}n (same character) 'keep away from, keep aloof from', but no constant function can be assigned any given toneme.

Simon has shown that the widespread shift from shang shêng to ch'û shêng in words with stop, affricate, or fricative initial is directly connected with surdization of these initials; see his article, 'Die Spaltung der chinesischen Tiefentonreihe', AM 4 (1927), 612–18.

Certain Wu dialects have reduced to a pair of tonemes and apparently even to zero contrast (toneless language); cf. Benedict, 1948bis.

A two-tone system has now been reconstructed for ST; see Benedict, 'The Sino-Tibetan Tonal System' (mimeographed), read at Second Conference on Sino-Tibetan, Columbia University, October, 1969 (to appear in revised form in the Haudricourt commemorative volume, Paris, 1972). The Chinese ch'û shêng, a late development in that language (text), now appears to have been a sandhi tone, replacing either of the two basic tones in close juncture. Downer ('Derivation by tone-change in Classical Chinese', BSOAS 22, 1959, 258–90) has described eight different categories in which ch'û shêng (C) is paired with either p'ing shêng (A) or shang shêng (B), with many different types of morphological relationships (hence no constant tonal function; see text). Category H (Derived Forms used as Compounds) yields the clue to the puzzle, e.g. g\textsuperscript{y}i\textsuperscript{g}A\textsuperscript{g} 'to ride' (citing only Anc. Ch. forms) < *gi, g\textsuperscript{y}i\textsuperscript{g}C-dz\textsuperscript{e}\textsuperscript{h} 'mounted bandits'. The remaining categories can readily be accounted for by reconstructing a system of suffixes, resulting in a morphological picture much like that of Tibetan, e.g. with verbalizing function: t\textsuperscript{i}u\textsuperscript{A1} 'middle' < *t\textsuperscript{u}, t\textsuperscript{u}C\textsuperscript{j} 'hit the middle' < *t\textsuperscript{u}-ba (or similar form); with nominalizing function: g\textsuperscript{y}i\textsuperscript{g}A\textsuperscript{k} 'to ride' (above), g\textsuperscript{y}i\textsuperscript{g}C\textsuperscript{1} 'rider' < *gi-bo (or similar form); b\textsuperscript{h}i\textsuperscript{u}m\textsuperscript{Bm} 'cat' < *hu\textsuperscript{a}n, b\textsuperscript{h}i\textsuperscript{u}m\textsuperscript{Cn} 'food' < *hu\textsuperscript{a}n-mo (or similar form). The kinship terminology furnishes further striking examples of the sandhi shift; cf. d\textsuperscript{e}i\textsuperscript{B0} 'younger brother' < *d\textsuperscript{o}w (n. 491), d\textsuperscript{e}i\textsuperscript{Cp} 'to act as a y. bro.' < *d\textsuperscript{o}y- (or the like), also d\textsuperscript{e}i\textsuperscript{B} ~ d\textsuperscript{e}i\textsuperscript{Cq} 'younger secondary wife', the latter from *d\textsuperscript{o}m-ma (female suffix); g\textsuperscript{y}i\textsuperscript{g}B\textsuperscript{r} 'mother's brother' < *g\textsuperscript{w} (n. 417), g\textsuperscript{y}i\textsuperscript{m}\textsuperscript{g} 'mo.' bro.'s wife' < *g\textsuperscript{w}-ma (with female suffix) (this contraction recognized by H. Y. Feng, 'The Chinese kinship system', HFAS 8, 1937, No. 2); also si\textsuperscript{w}g\textsuperscript{C} ~ sei\textsuperscript{Ct} 'son-in-

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{a} & \textbf{b} & \textbf{c} & \textbf{d} & \textbf{e} & \textbf{f} & \textbf{g} & \textbf{h} & \textbf{i} & \textbf{j} & \textbf{k} & \textbf{l} & \textbf{m} & \textbf{n} & \textbf{o} & \textbf{p} & \textbf{q} & \textbf{r} & \textbf{s} & \textbf{t} \\
\hline
\end{tabular}
§48. Résumé (Chinese)

In conclusion, the following points in re Chinese and Tibeto-Burman (or Tibeto-Karen) should be resumed: (a) Chinese shows almost no trace of the fairly elaborate TB morphology, (b) the two stocks have only a small segment of roots in law' < *k(h)ray-pa (n. 472) (with male suffix); cf. B khre-o-ma ‘daughter-in-law’ (with female suffix). The sandhi hypothesis also serves nicely to explain the well-known correlation between ch'u sheng and Ar. Ch. final -g and -d (text), since it would be anticipated that secondary voicing would occur in close juncture (note also the correlation described in n. 486). Final support for this hypothesis comes from early Chinese loans from AT, which show tone C in penultimate syllable positions comparable to those that obtain in the sandhi situations described above; cf. the following: d'u/d'gu ^a ‘bean’; Thai *thua but N. Thai *dua, from AT *duba (regular Thai shift via *duwe), as confirmed by Miao-Yao *dop, with Chinese showing the same kind of syllabic division (*du-ba) as described above (n. 487) for other early loans; Chinese has a doublet here (N. Bodman; personal communication), viz. *top/tôp ^b ‘a kind of pulse’ (not in GSR), also read in Fang-yan as *d'ôp/d'ôp, with syllabic division (*dub-a) of the kind characteristic of TB (n. 487); this doublet points to an earlier *tup ~ *dop (n. 479).

The remaining two (basic) tones of Chinese now appear to correlate with the two-tone system of TK as represented in B-L and Karen (text). The situation is not nearly so clear for TB in general, in part because of the continuing scarcity of tonal data for most of these languages; it should also be noted that some TB groups appear to lack tonal systems (secondarily), e.g. Tibetan (the modern tones are secondary) and Bodo-Garo (R. Burling; personal communication). The writer long ago noted a correlation of the TK tones with those of Trung (Nungish), essentially a two-tone system, as recorded by C. P. Lo (n. 27); we now also have information on the tones of a fairly large number of forms in the Mutwang dialect of Râwang (Morse; n. 27), which has three tones correlating with the two tones of Trung (details not all worked out). More recently the writer has had access to a considerable body of material on Kachin tones (L. Maran; personal communication). Kachin has three tones (reduced to two in syllables with final stop) appearing to show a bewildering complexity of relationships to the B-L tones (JAM has undertaken an analysis of this material) but with one basic underlying correlation (K high tone with our tone B; see below). Finally, the tones of several Kuki languages have now become available to a restricted degree, viz. Lushei (R. Burling, ‘Lushai phonemics’, Indian Ling., xvii, 1957), Tiddim (Henderson; n. 46) and Siyin (Stern; n. 46); these show a systematic correlation with one another (three or four basic Kuki tones) as well as a basic correlation with the above TK system: Kuki Tone *1 (Lushei high-level, marked with superscript 1 in Burling) with our tone A (see below). As in the case of Kachin, only a beginning has been made towards the solution of the complex problems presented by this tonal system. Burling has also published a paper (‘Angami Naga phonemics and word list’, Indian Ling., xxi, 1962) on the tones of Angami Naga; this material has not yet been studied in detail, and must be supplemented by tonal data on other Naga languages, but

\(^{a}\) 豆 \(^{b}\) 麦

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common, (c) the phonological systems of the two stocks differ in many respects, and can scarcely be reconciled at all at some points, (d) the tonal systems of the two stocks appear not to be correlated. Our belief that the two stocks are genetically

there appears to be a complex relationship of the five Angami tones to the basic two-tone system of B-L and Karen, with the two mid tones (‘resonant’ and ‘normal’) showing a general correlation with our tone A (see below). The fragments of information available on other TB languages suggest that they also will eventually be shown to correlate with this basic two-tone system; cf. the following contrast from Taman (R. G. Brown, 1911), a language with closest affinity for Kachin: ‘egg’ = ‘fowl (its-) water’ (n. 149); separate roots for ‘water’: TB *ti(y)A and *twayB; cf. Dhimal tui < *tway ‘egg’ but tsi < *ti(y) ‘water’ (no tonal data for this language); probably tone-sandhi in both roots is involved (T Tiddim, S Siyin):

<table>
<thead>
<tr>
<th></th>
<th>Karen</th>
<th>Kachin</th>
<th>Taman</th>
<th>Kuki</th>
<th>Angami</th>
</tr>
</thead>
<tbody>
<tr>
<td>water</td>
<td>thiA</td>
<td>thi</td>
<td>*twayA</td>
<td>dżA</td>
<td></td>
</tr>
<tr>
<td>wet</td>
<td>modiA</td>
<td>(high)</td>
<td></td>
<td>(low)</td>
<td></td>
</tr>
<tr>
<td>egg</td>
<td>?diB</td>
<td>di (low)</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

The two-tone system of TB can be traced back to the eleventh century and earlier in the Pyu inscriptions (Burma; capital city near modern Prome), a language most closely related to Nungish (n. 33). Pyu has two basic tones, one represented by: (visarga), the source of this tone mark (tone *B) in Burmese, and these two tones show a general correlation with the two basic tones of Burmese, as recognized by Shafer (HyAS 7, 1943). The divergences are interesting: pīpaA ‘5’ and tkuoaA ‘9’ agreeing with Nungish as against Burmese, but hoB ‘3’ agreeing with the divergent Burmese tone (n. 413); oA ‘village’ agreeing with Burmese as against Nungish; plīA ‘grandchild’ agreeing with Karen as against both Burmese and Nungish; note also smB ‘year’ and laA ‘moon’, serving to establish the basic tones of those two roots in which B-L and/or Nungish forms have undergone special development or tone change. Pyu has two-tone contrast also in stopped syllables (only final -P), a point which eluded Shafer; contrast plādA ‘4’ with patB ‘give’, both probably reflecting old suffixed forms (cf. Karen *lwi-t ‘4’).

The basic two-tone correlation involving TB (Karen, B-L and Trung) and Chinese is as follows (see text for details of Karen and B-L tones):

<table>
<thead>
<tr>
<th></th>
<th>Karen</th>
<th>Burmese</th>
<th>Trung</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tone *A</td>
<td>I (high)</td>
<td>level</td>
<td>mid-falling</td>
<td>p'ing ('level')</td>
</tr>
<tr>
<td></td>
<td>II (low)</td>
<td>(unmarked)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone *B</td>
<td>III (high)</td>
<td>falling</td>
<td>high-level</td>
<td>shang ('rising')</td>
</tr>
<tr>
<td></td>
<td>IV (low)</td>
<td>(l)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Mutwang dialect of Rāwāng (Nungish) appears to have low tone for *A and high tone for *B, while the mid tone has some correspondences with each (insufficient data for analysis). The so-called ‘third tone’ of B-L (Tone No. 3 in the Burling-Matisoff system) is clearly peripheral although apparently of some antiquity in this group; it appears to be the product of glottalization (nn. 260, 487). TB *be ~ *pe ‘broken; break’ is exceptional in showing widespread glottalization: B pai ~ phai, L pe2 (text) and add Rāwāng (Mutwang dial.) pe2 rat ‘break’, perhaps
related must rest, ultimately, on the fact that they have certain basic roots in common, and that phonological generalizations can be established for these roots. It might be argued that the ST elements constitute only a superstratum in Chinese, and that the substratum is of distinct origin. In historical terms, the Chou people might be regarded as the bearers of a ST language, which became fused with, or perhaps immersed in, a non-ST language spoken by the Shang people. In any event, it is certain that the ST hypothesis illuminates only one of the many dark recesses in the complex linguistic history of the Chinese.

also Karen *beʔ 'chop (off)', yet one hesitates to reconstruct glottalization as a distinctive feature for TB or ST.

As might be anticipated, there are numerous exceptional forms, especially in the numerals, with Chinese perhaps having more than its share, yet the fact of the correlation itself seems clear enough. The writer had originally (1948) inclined to the view that no correlation between the TK and Chinese tonal systems could be established, partly because he had not hit upon the sandhi explanation for ch'ü shéng (above). He had also been led astray by irregular tones appearing in several basic roots, especially with p'ing tone rather than the anticipated shang tone; cf. the following: sjên\textsuperscript{A}s ‘firewood’ but TK *siʔ\textsuperscript{B} ‘tree/wood’; sjên\textsuperscript{A}b ‘bitter’ but TK *sin\textsuperscript{B}, as reflected in *m-sin\textsuperscript{B} ‘liver’; sjên\textsuperscript{Ac} ‘body’ but TK *ʃa\textsuperscript{B} ‘flesh/meat/animal’, K ʃan (low tone) (Trung has ʃya\textsuperscript{A}); swān/suán\textsuperscript{A}d ‘sour’ but TK *swaʔ/suʔ\textsuperscript{B} (Trung suł\textsuperscript{B} ‘spoiled’); *sruʔ/suʔe ‘older sister’ but TK *sru\textsuperscript{B} (Pyu sru\textsuperscript{B} ‘kinsmen’); cf. also nien\textsuperscript{A}r ‘year’ but TK *s-niʔ\textsuperscript{B} (Karen *hney\textsuperscript{B}); ɲio/ɲio\textsuperscript{A}s ‘fish’ but TK *(s-)nya\textsuperscript{B} (Karen *hnia\textsuperscript{B}). These exceptional forms in Chinese reflect a consistent tone *B > *A shift after initial *s/h-, paralleling a very similar situation uncovered in Lahu (JAM: ‘GD’); this might also account for the irregularity in another basic root, viz. sjəɾ/si\textsuperscript{B}h ‘die’ but TK *səy\textsuperscript{A}.

\begin{tabular}{lllllll}
\textbf{a} & \textbf{b} & \textbf{c} & \textbf{d} & \textbf{e} & \textbf{f} & \textbf{g} & \textbf{h} \\
薪 & 辛 & 身 & 酸 & 演 & 年 & 魚 & 死 \\
\end{tabular}
APPENDIX I

Tibeto-Burman roots

Prefatory note: Numbers in parentheses refer to the series running through the text. Page references in bold type are for those numbered in the text.

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ak crack; mouth (106) 36
am = am eat, drink (481) 142, 143, 183, 194
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b-

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ba carry (26) 19
ba = (l-)ba ~ (m-)ba goitre 96
ba = k bat (animal) (325) 71, 166, 190
bal tired (29) 15, 20
s-bal frog 15, 21, 107
bam ~ pam be defeated, sit; defeat (471) 125

(d-)bay strength 117
s-bay dung 21

bar ~ par = bvwār ~ pvwār burn; fire (220) 7, 23, 50, 124, 125, 172, 174, 191
bar = bvwār bloom; flower (1) 15, 71, 147
bay = bvwāy left (hand) (47) 24-5, 65, 90
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bu ~ pu open; bud (260) 62
(d-)bu head 117
(r-)bu (K-N) nest 102
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bvw = bvw carry (on back or shoulders) (28) 20, 22, 101, 102, 135, 147, 151, 166, 185
bvw = bvw insect, snake (27) 19, 22, 90, 111, 123
*bu(w) (K-N) rice paddy 135
bu(w) wear (428) 103, 110
bwa (B-L) grandmother 24, 100, 174, 187
bvwam = (s-)bvwam plump, swollen (172) 24, 46
bwy uncles 23, 174, 189
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di egg 45, 135, 196
(s-)di’k scorpion (56) 14, 26, 79, 80, 107
do related (249) 59
don~ton go out, come out, pull 125
dony=(m-)doŋ peacock (341) 73
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du knee; elbow 21
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han pant, gasp 33
hap bite, snap at, mouthful (89) 32, 33
ha’w announce, bespeak 33
m-hew (K-N) spoiled, waste(d) 68
(m-)hla soul, demon, god (475) 132
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hu breath 17
hus moisture; wet 2, 17
hwam dare (216) 50, 168, 191
hwang come (out); enter (218) 50, 132, 143
hwang encircle, circular; fence (217) 50, 132, 143
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ka I 93
ka open, divaricate, spread (469) 120, 121, 134
ka word, speech (9) 18, 21, 187
(m-ka ~ (s-ka jaw, chin (470) 121, 134
m-ka opening); mouth; door (468) 38, 120, 166
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m-kal kidney (12) 18, 120, 173, 175, 189
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kla = gla ~ kla fall (123) 39, 41, 89, 99, 101
klak = glak ~ klak cook (124) 39, 41
klaw dig out, weed (269) 63
klia = r-klia marrow (126) 39, 41, 80, 85
klia = klia excrement (125) 39, 41, 178, 185
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klup cover, wrap (479) 139–40, 144, 145
klua valley, river (127) 127, 78
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krap beat, thrash, winnow 74, 141-2
krap weep (116) 13, 38, 41, 73, 98, 112, 175, 178, 183, 191
krep bug; ant; lac (347) 74, 107, 146
krim threaten; set teeth on edge (379) 81, 142
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(m-)-kul all; twenty (397) 15, 18, 83, 119, 120
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ku-y tree; branch; stem (359) 75, 77, 122, 182
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descend yu (w)

zak (B-L)
devaricate ka (469)
die siy = siy (232)
dig la-y (288)
tu = du ~ tu (258)
dig out d-kew = d-k(h)ew (K-N)
klaw (269)
emerge twak
encircle hwany
enjoy pro (130)
enmity with, be at daw (267)

---

equivalent luk (B-L)
enter hwany (218)
equal ren (346)

---
educe, v. dzul[-]k (360)
exclude lay (301)

---
excessive hla(k)
exchange lay (283)

---
increment kliy = klxy (125)
*n(y)ik = (s-)nik ~ (s-)nek

---
(r-)kyak ~ (s-)kyak

exist s-ri (264)
extend ya'r = ya'r ~ yår
extinguish mit (374)

---
eye mik ~ myak (402)

f-

face mu'r (366)
faded nruw = nraw (156)
falcon lay (333)
fall, v. kla = gla ~ kla (123)
fan ya'r (92)

far dzya'l = dša'l (229)
tviy = tvy (B-L)
fat, adj. tsow (277)
fat, n. sa-w (272)

Tsil

father pα = pwa (24)
father-in-law kriw = kw (255)

sru(w)
fathom (arm-spread) la[-]m

---
fear b-ray (450)
grok ~ krok = gråk ~ kråk; grok ~
krok (473)

kri(y) (416)

feces e-k (K-N)
female pwi(y) (171)
fence hway
field low (K-N)
fight ran = (g-)ra-l
fill bliy = pliy (142)
dyam ~ tyam (226)

---
fillth kriy = kraw (460)
n(y)ik = (s-)nik ~ (s-)nek (235)
finger (m-)yuw (355)

finish o-l (111)
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fir (s-)row (320)

tay

fire bar ~ par = bωr ~ ωr (220)

mey (290)

fireplace rap (84)

tap (18)

fireplace shelf rap (84)

fish n̂a (189)

fit ta-p (337)

eve l̄-n̄a ~ b-n̄a (78)

flame (s-)lyam

flash lyap = (s-)lyap (213)

flat lyap (212)

per (340)

flat surface pl̄en (138)

flea s-l̄iy = s-l̄ey (440)

flea pl̄en (140)

flesh sya = sa (181)

flitter lyap = (s-)lyap (213)

flow hoi (210)

srovar = svar (241)

tsway = tswo (167)

flower bar

bewat

flute glih

fly, n. m-tow = m-thow (K-N)

yah = (s-)r̄a (492)

fly, v. byer

pur ~ pir (398)

pyam

pyaw (176)

fog (r-)mow = (r-)mow (488)

fog (gy) r-muck (357)

fold tap = t̄ap ~ d̄ap (493)

follow n̄an = (s-)n̄an (334)

yui (K-N)

foot g-la

kriy = krey (38)

(r-)kay

forest h-l̄iy (378)

forget h-l̄ap (335)

fork ka-k (327)

fork (of legs) kap (338)

forked b̄a (132)

four b-l̄iy = b-l̄ey (410)

fowl rak

fox gwa

free, v. g-l̄wat (209)

freeze glan

fresh sar

frighten grok ~ krok = grâk ~ krâk;

grok ~ krok (473)

toy s-bal

fruit (b-)ras

sey (57)

fry r-paw (270)

full b̄īy ~ pl̄iy (142)

dyam ~ tyam (226)

fungus g-mu = g-mu (455)

g-

gag hâk (323)

gasp hāŋ

gentle j̄o (315)

get (r-)ney (249)

kils mu (366)

give biy = b̄ay (427)

pe(k) (K-N)

gleet ri (263)

go byon (179)

s-wa

go out don ~ ton

goat k̄̄ī= k̄̄e-l̄~ k̄̄i[l̄] (339)

tsi = tsii (B-L)

god (m)hla (475)

goitre ba

gold tsyak = t̄ak (184)

good lyak-s (Bod.)

may (300)

pra (129)

goose ya-n

grain m̄ow = m̄ow (150)

grandchild b-l̄iy = b-l̄ey (448)

su(w)

tsa

grandfather paw = paw (23)

grandmother bwa (B-L)

piy = p̄ay (36)

grass m̄ak = m̄yak (149)

grasshopper kaw = k̄̄aw (K-N)

graze (almost hit) soy (306)

(animals) wul = wul (K-N)

grase ryak (204)

saw (272)

green dzim

kriy (383)

now = (s-)now (296)

s-riy ~ s-riy = ōriy (404)

grind krit (119)

groin kap (338)

s-ga-l
ground gliy (128)
guard kyon = kydn ~ kyon (161)
gums r-nil ~ r-nil(y) ~ s-nil (3)
gush brup ~ prup (151)

h-
hail, n. ryal (K-N)
hair (body) mul = (s-)mul ~ (s-)mil ~ (r-)mul (2)
hair (head) ney = (r-)ney (292)
   (s-)kra (115)
   tsam = tsâm ~ sâm (73)
half ptaak
hammer tov = tow ~ dow (317)
hand lak = g-lak (86)
hang pyan (175)
ta-r (326)
hang down dzyoal = dzóval (242)
hawk, n. dzwana (B-L)
   lay (333)
   mnuw = msw (257)
hawk, v. ha-k (323)
head (d-)bu
   m-gaw ~ (s-)gaw (490)
hear g-na = r-na ~ g-na (453)
   ta-s = tá-s (415)
heart m-luy (K-N)
s-nil (367)
heavy s-liy = (s-)lai (95)
heddles s-na (436)
hide, v. kway (303)
   pak = ptaak (46)
high m-ray
   m-to (247)
hit tsyuk = tsuk
hoe la-y (288)
hold in the mouth um = (m)um (108)
hole dwyan = dwuny (169)
   kvar (350)
honey was
horn kruw = krw (37)
   runy = rwan (85)
   rwa-t
horse s-ray ~ m-ray (145)
hot tsa (62)
howl groy (310)
   u = (m)-u (261)
house kim = kyim ~ kyum (53)
hundred r-gya (164)
husband wya = (p)wya (100)
husks pta-y (170)

I ka
   na (406)
   yay (285)
   ice kyam (224)
   ill na (80)
   nyun = (s-)nu (194)
   impale ta-r (326)
   inferior ryut (206)
in-law tyap
insect bwe = bwe (27)
   dyun = B-G
inside tsyu = tu-y (390)
interfere dau (267)
iron syam = sam (228)
   s(y)i-r = syi-r ~ sya-l (372)
   island gliy (128)
itch g-ya (451)
   kut (383)
   m-sak (465)

j-
jaw (m-)ka = (s-)ka (470)
jaw (molar teeth) gam = gnm
join du-t ~ tu-t (421)
   tsyap = tsa (186)
   joint tsik (64)
juice ryak (204)
   tsy = (r-)tsy (65)

k-
kidney m-kal (12)
kill g-sat = g sät
kiss dzo-p (69)
kite dzwana (B-L)
   lay (333)
knead na-y (286)
knee du
   (m-)ku-k
   put (7)
knife s-ta
knock tuk (387)
knock against tsyuk = tsuk
knot du-t ~ tu-t (421)
know (m-)kyen (223)
   syey (182)
l-
lac krep (347)
laugh m-mo(y) (191)
   rya-t (202)
lead, n. kar

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leaf la = (s-)la (486)
lap (321)
pak = peqak (40)
leak yuw = yew (430)
lean back ev (K-N)
leap gar = (b)gar (11)
leave gar (15)
leech r-pat (45)
leech (water) (m-)li-t (396)
left (hand) bay = bway (47)
leg bop (30)
(r-)haŋ
lend kroy (312)
length dun = dun ~ tuŋ (79)
leopard zik (61)
lick (m-)lyak ~ (s-)lyak (211)
(s-)lyaŋ
life sak (485)
lift ku
	tyak = tsyk (B)
light hwa-t (221)
light (weight) r-yaŋ (328)
lightning lyap = (s-)lyap (213)
line ren (346)
lineage mruw = mraw (150)
lip s-nes
lips r-ka-[ŋ)m (329)
liquor yu(w) (94)
live kruŋ (383)
s-riŋ ~ s-ray = ėriŋ (404)
liver m-sin (234)
lizard r-say (70)
loins s-ga(l)
long dun = dun ~ tuŋ (79)
low (279)
s-riŋ (433)
long for d-rum (457)
lose ma-t (425)
louse sar ~ šar
s-rike = šrik (439)
love m-dsa (67)
low nem ~ nyam = nam (348)
lungs tsywap = tšwap (239)

m-
man (homo) r-mi(y)
man wa(y) = (p)teca
many mra (148)
mark riy = ray (429)
marrow klin = (r-)kliŋ (126)
meat sya = ša (181)

meet yra (154)
middle tsw-ŋ = tšuŋ (390)
milk nuw = new (419)
mind, n. s-niŋ (307)
minute, adj. ziy = zay (60)
mix ryaw (207)
moderate yoy (315)
mootre hus
mole (on skin) r-men (104)
monkey mruk

woy = (b)woy (314)
moon s-la ~ g-la = s-gla (144)
more hla(k)
morning praŋ (322)
mortar tsum = tšrum (75)
mosquito kraŋ (322)
mother ma (487)
(m-)na
mother-in-law ni(y) (316)
motion, be in s-wa
mouth ak (106)
ku(w) (G-B)
m-ka (468)
məɾ (366)

mouthful ʰap (89)
um = (m-)u-m
move mow (280)
much mra (148)
mushroom g-muw = g-mew (455)

n-
nail (finger-, toe-) m-(t)sin = m-tsyen (74)
name rm-iŋ (83)
s-bray
naseated on (343)
navel laŋ (287)

s-tay (299)

near ney (291)
neck ⁸liŋ = (m-)liŋ (96)

⁴tuk = tšuŋ (393)
neck(-shaped) ke = (s-)ke(k) (251)
needle kap = kəp (52)
nephew tu = tu ~ du (259)
nephew/niece b-liŋ = b-lay (448)

tsa
nest (r-)bu (K-N)
et, casting kwan = kwan ~ gwan (158)
nettle r-ma-t See r-ma (446)

new sar

216
niece/nephew b-liy = b-loy (448)

pig pak = pwak (43)

tsa

tsa

night ya (417)
pigeon kew = (m-)kew (495)

nine d-kaw = d-kaw ~ d-gaw (13)
pillow kum (482)

nit (s-)row (278)
pinch nyap = nhip (192)

nod n(y)it = nih (236)
pine, n. (s-)row (320)

tañ

noisy ut (109)
pine, v. d-ram (457)

tañ

nose s-na ~ s-nar (101)
pit dwañ = dwañ (169)

o-

kor (349)

obtain (r-)ney (249)

place, v. ta (19)

odor ri(y) (459)

plaint byar ~ pyar = byär ~ pyär (178)

oil ryak (204)

plank pløy (138)

sa-w (272)

plant, v. dzu[]k (360)

old raw = (s-)raw (268)

plantain nyak = (s-)nyak (477)

r-ga (445)

play, v. tsyry = (r-)tsyry (289)

older (brother, uncle) man

plug tswe = tswe (422)

older sister (m-)na

plump bwan = (s-)bwan (172)

one it

poison duk ~ tuk (472)

kat

poisoned duk ~ tuk (472)

i(y)ik = (g-)tik

poisonous duk ~ tuk (472)

open bu ~ pu (260)
poker yok

ka (469)
potato s-ra = sra (434)

open(ing) m-ka (468)
pound, v. tuk (387)

oppress nyen = (s-)nen (193)
pour (m-)lu(w) = (r-)lu(w) ~ (m-)lu(w)

otter s-ram = sram (438)

swar = swar (241)

overflow brup ~ brup (151)

pour out (g-)tsø

owl gu = gu ~ ku

precipice r-ka[m] (329)

p-

press(ed) nyen = (s-)nen (193)

paddle, v. ya:p (92)

price piw = piw (41)

paddy may (B-G)

prick tsøw (276)

pain na (80)
pull don ~ ton

tsa (62)
punish nye = ne (252)

paint tsiy = (r-)tsiy (65)

pure (t)xyøn = sxyø

palm (of hand) pa = pwa (418)
pus pøn = pøn ~ bøn

panji tsøw (276)

tswøy = tswøy (183)

pant han

put ta (19)

pore ku:k (388)

put into mouth gam

lep = (s-)lep (351)
putsyø

pass, v. lay (301)

putrefy ù (489)

path pa

quiet yö (315)

peacock doø = (m-)doø (341)

quarrel ran = (g-)ra'l

peas be (253)
rabbit b-yeø = b-yeø (93)

penis li = li ~ (m-)ley (262)

rain r-wa (443)

person wa = (p)wa (100)
rat b-yeø = b-yeø (93)

daffi

petticoat b-ni(y) (476)
rivak

pheasant s-rîk ~ s-ryak (403)
rivak

picket, v. d-kew = d-k(h)ew (K-N)
rivak

ri"m
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ravine grok (122)
raw dzim (371)
s-riŋ ~ s-ray = š-riŋ (404)
real tyak
reap ri:t (371)
receptacle kuk (393)
red kyen (162)
(r)-ni
ta = tya-n (184)
tsyak = tšak
refuse, n. mu:k (363)
related do (249)
relative srul(w)
relax əl (111)
release g-lvat (209)
repay tsap (63)
repeat tap = tšp ~ dšp (493)
request r-yul(w)
rest, v. na (414)
rice (b)-ras
moy (B-G)
rice paddy *bu(w) (K-N)
ride dzyon = džon (72)
ride (horse) gi (B-L)
right (hand) g-yār ~ g-ra (98)
rind kok = (r-)kwāk
ripe s-min (432)
rise syar = šar
river kluy (127)
road lam (87)
roast kaŋ (330)
r-naw (270)
rock brak (134)
roll, v. ki:l (373)
roll up (r)-tul = r-tul
root bul ~ pul
ra-sa (442)
rot zya-w ~ zyu(w)
rotten ri (263)
rough gram
round s-lun = zlum (143)
wal (91)
row, place in a row ren (346)
rub nu:l (365)
*(y)wiy = sywuy (180)
rub against nu:l (365)
rubbish mu:k (363)
rule (line) kut (383)
run ploy (140)
rustle kswap (243)
s-
sad nyuy = (s)-nuŋ (194)
sag dzyuwal = dzval (242)
sail ya:r = ya:r ~ yār
salt g-ryum = gryum (245)
lā
tsa (214)
sambhur tsot (344)
scattered bra (132)
scent suŋ (405)
scoop out r-ko-t = r-go-t ~ r-ko-t (420)
scorpion (s)-di:k (56)
scrap kūt (383)
ri:t (371)
*(y)wiy = sywuy (180)
scratch d-kew = d-k(h)ew (K-N)
hyak (230)
kut (383)
pruk (391)
scream groy (310)
screech gray (310)
see mraŋ (146)
seed mruw = mruw (150)
seize (with mouth) gam
self p̄ay (285)
tay (284)
sell par
ywar
sesame s-nam (435)
set teeth on edge krim (379)
seven s-nis (5)
sew byar ~ pyar = byār ~ pyār (178)
d-rup = drup (456)
krwi(y) = khrwi(y) (K-N)
pā
shade (g)-rip ~ (s)-rip
shadow (g)-rip ~ (s)-rip
sharp (s)-ryam (K-N)
tāk = thak (B-L)
shave ri:t (371)
*(y)wiy = sywuy (180)
shavings pswa:y (170)
shear ku:k (388)
shell(-fish) kroy (311)
shield d-po = d-pho (K-N)
shin r-guŋ (395)
shine hwa-t (221)
*tsyar = tšar (187)
shoot, v. ga:p (219)
shoulder m-lyan (K-N)
shrink twan

218
shun kway (303)
shut ts(y)i'p = tsi'p (370)
shy g-yak (452)
s-rak = srak (431)
sibling, younger na-w (271)
side r-guwη (395)
silver yul = (d-)yul
sinew rsa (442)
single r-kyan (34)
sink, v. lip (375)

\[ nup \sim np = nu:p \sim n[i]p \] (400)
sip s-rup (384)
sister srip

\[ s-nam \] (103)
sister (of man) dzar (68)
sit bam = pam (471)
\[ twη = tu\eta \sim dwη \] (361)
six d-ruk (411)
skin s-graw (121)
koh = (r-)kwak
sky nam

\[ (r-)mew = (r-)maw \] (488)
slab pleη (158)
slant ruyi = (s-)rway (200)
sleep ip = yip (114)

\[ mwiy = (r-)mway \sim (s-)mway \] (196)
\[ n\dot{y}\dot{it} = n\dot{it} \] (236)
sleepy myel (197)
slice, v. lep = (s-)lep (351)
slip ble (141)
n slippery ble (141)
slope ruyi = (s-)rway (200)
small ziy = zay (60)
smell m-nam (404)
sun (405)
smoke kway = kow (256)
snake b-ru'1 (447)
bew = bow (27)

\[ snap at hap \] (89)
snow kym (224)
snot s-nap (102)
nuff up s-rup (384)
soft now (274)
pryo (250)
sole (of foot) pa = pwa (418)

\[ son-in-law kruwy = kruwy \] (244)
maw (324)
soul (m-)hla (475)
sour kri(y) (413)
krok = h(h)rok (K-N)
s-kjur = s-kjur (42)
sour stu = swa-r (42)
span twa = (m-)twa (165)
speak br(w)ak = (s-)br(w)an
spear m-duη
speech ka (9)
spindle pæ = pwaη (48)

\[ (s-)mwiy = (s-)mway \] (195)
spirit sam = som

\[ spit (m-)tuk \sim (s-)tuk \sim (s-)duk \] (m-)twa \sim (s-)twa
twiy = tway (168)
spoiled m-hew (K-N)
spread ka (469)

\[ yar = yar \sim yər \] (sprout, n. s-m(y)i)k (237)
squeeze nyap = nąp (192)

tsyur = tsur (188)
squirrel src[2]
squirt brup = prup (151)
stale u (489)
stand g-ryap (246)
star s-kar = s-ka (49)
steal m-ruk (K-N)

\[ r-kwe = r-kow \] (33)
steep, adj. tsyuk = tsuk (353)
stem kuη (359)
stick (pudding-) yok
stiff rwat (198)
stink u (489)
stone r-low (88)
stop up tsuw = tsow (422)
straight bley = pleη (352)
dyam (227)
straighten bley = pleη (352)

\[ strangle ik \] (113)
stream, n. kwi(y) (210)
strength (d-)baŋ
stride gaη (11)

\[ strip, v. kwk \] (388)
stump bul = bull (69)
suck dzo-p (69)
sullen muη (362)
sun nam

\[ nuy = nay \] (81)

\[ tsyar = tsar \] (187)

\[ suppurate twiy = tway \] (167)
surround kroy (313)
swagging ut (109)
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tooth s-wa (437)
tough rwat (198)
trade par
tree buē ~ pul
kuñ (359)
siñ (233)
tube gliñ
twenty (m-)kul (397)
twilight rump ~ rim (401)
twirl (s-)mwiñ = (s-)mwñ (195)
twist kik (484)
ki-l (373)
nay (286)
two g-niñ = g-mi-s (4)

uncle bwañ
ryañ = ṣrañ (205)
uncle (maternal) kuñ = ṭoñ (255)
upper part s-tyañ = s-tyñ (Bod.)
urinate ts(y)i = ṭsi (77)
urine xiñ = ṭò (B-L)

valuable puñ = ṭoñ (41)
value puñ = ṭoñ (41)
vein r-sa (442)

very tyañ
vessel s-not
village dyāñ ~ tyañ
r-wañ ~ g-wañ (444)
voice sam = sam

vomit (m-)tuñ ~ (s-)tuñ ~ (s-)duñ on (343)
vulture lañ (333)
vulva ḍśuk

war râñ = (g-)rañ
warm lum (381)
wash kuñ = ṭoñ (117)
(m-)s(y)iñ = (m-)syliñ ~ (m-)syal (493)
waste m-hew (K-N)
water tì(y) (55)
twyñ = twñ (168)
wave, v. wò-wò (90)
wear (clothes) buñ (428)
gwà-n ~ kwañ (160)

run (385)
wat
Appendix II: English–TB index

weasel sre[y]  
weave tak = trak (17)  
weed, v. klaw (269)  
weeds mu:k (363)  
weep krap (116)  
   ηου = ηω (79)  
weigh ki:n (369)  
wen r-men (104)  
wt hus  
   (m-)ti-s  
whine u = (m-)u (261)  
whirl wa:y (90)  
white bok  
   ηου = (s-)ηου (296)  
   plu  
wife s-nam (103)  
wind, n. g-liy = g-lay (454)  
winnow krap  
   ya:p (92)  
withered ηρου = ηρου (156)  
woman mow (297)  

womb s-not  
wood siy (233)  
word ka (9)  
work mow (280)  
worm sril  
worse, grow ryut (206)  
wound r-ma (446)  
wrap klu:p (479)  
   pun (385)  
   (r-)tu = r-tul  
wring tsyur = tsur (188)  
wrinkle twan  

yak, wild broŋ (136)  
yam kywiŋ = kywɔy (238)  
   s-ra = sra (434)  
year niy = s-niŋ (368)  
yellow ηου = (s-)ηου (296)  
younger (youngest) sibling toy = doŋ ~  
   toy (309)

APPENDIX III

Primary Tibeto-Burman sources

Abbreviations

AM   Asia Major
AO   Acta Orientalia
BEFO Bulletin de l’École Française d’Extrême-Orient
BMFEA Bulletin of the Museum of Far Eastern Antiquities (Östasiatiska  
     Samlingarna)
BSLP Bulletin de la Société Linguistique de Paris
BSOS Bulletin of the School of Oriental Studies
CYSY Academia Sinica, Bulletin of the Institute of History and Philology
HJAS Harvard Journal of Asiatic Studies
IJAL International Journal of American Linguistics
JAS Journal of Asian Studies
JASB Journal of the Asiatic Society of Bengal
JBR Journal of the Burma Research Society
JNC BRAS Journal of the North-China Branch of the Royal Asiatic Society
JRASB Journal of the Royal Asiatic Society of Bengal
MSOS Mitteilungen des Seminars für Orientalische Sprachen
OLZ Orientalische Literaturzeitung
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**POLA** Project on Linguistic Analysis (reports of the Phonology Laboratory of the Department of Linguistics, University of California at Berkeley)

**TAK** Toorna Azia Kenkyuu (Southeast Asian Research), Kyoto

**TP** T'oung Pao

**WZKM** Wiener Zeitschrift für Kunde des Morgenlandes

**ZDMG** Zeitschrift der Deutschen Morgenländischen Gesellschaft

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