To the memory of

A. L. Kroeber
Sino-Tibetan
A Conspectus

PAUL K. BENEDICT
Visiting Scholar, Columbia University

Contributing Editor:

PROFESSOR JAMES A. MATISOFF
Department of Linguistics
University of California, Berkeley

CAMBRIDGE
at the University Press 1972
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Linguistics', on which Paul Benedict and Robert Shafer had been working for many years and which still exists as an unpublished manuscript, some twelve volumes of it, in the files of the University of California and of the authors.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 Naturally enough, books which lie unpublished for years gather some dust.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 unchanging. 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vision, viewing the 'Sino-centric' linguistic area from a standpoint peripheral to it, had neither been duplicated nor superseded in the years since Dr Benedict completed his work and laid it aside to turn to other things.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 acknowledgment 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).

FRANK A. KIERMAN JR

Chinese Linguistics Project
Princeton University
1. Introduction p. 1
2. Taxonomy (general) p. 2
3. Taxonomy (Sino-Tibetan) p. 3
4. Tibeto-Burman classification p. 4
5. Tibeto-Burman reconstruction (history) p. 11
6. Tibeto-Burman primary sources p. 12
7. Tibeto-Burman consonants (general; final) p. 13
8. Tibeto-Burman consonants (initial) p. 17
9. Tibeto-Burman consonant clusters p. 37
10. Tibeto-Burman vowels (finals; diphthongs) p. 57
11. Tibeto-Burman vowels (medials) p. 70
12. Tibeto-Burman tones p. 85
13. Tibeto-Burman morphology (history) p. 92
14. Tibeto-Burman morphology (categories) p. 93
15. Tibeto-Burman pronouns p. 93
16. Tibeto-Burman numerals p. 93
17. Tibeto-Burman morphology and syntax (general) p. 95
18. Tibeto-Burman affixes (special) p. 96
19. Tibeto-Burman affixes (general) p. 97
20. Tibeto-Burman dental suffixes p. 98
21. Tibeto-Burman prefixes (general) p. 103
22. Tibeto-Burman prefixed *s- p. 105
23. Tibeto-Burman prefixed *r- p. 109
24. Tibeto-Burman prefixed *b- p. 110
25. Tibeto-Burman prefixed *g- p. 112
26. Tibeto-Burman prefixed *d- p. 114
27. Tibeto-Burman prefixed *m- p. 117
28. Tibeto-Burman prefixed *a- p. 121
Contents

29. Tibeto-Burman alternation (consonantal, vocalic) p. 124
30. Karen (general) p. 127
31. Karen morphology (categories) and syntax p. 129
32. Karen pronouns p. 129
33. Karen numerals p. 130
34. Karen prefixes p. 131
35. Karen initial consonants and clusters p. 133
36. Karen final consonants and medial vowels p. 142
37. Karen final vowels and semi-vowels p. 147
38. Karen tones p. 150
39. Chinese (general, history) p. 152
40. Chinese morphology (prefixes, suffixes, alternation) p. 154
41. Chinese pronouns p. 160
42. Chinese numerals p. 161
43. Chinese phonology (history) p. 163
44. Chinese consonants (initials, finals) p. 164
45. Chinese consonant clusters p. 174
46. Chinese vowels and diphthongs p. 179
47. Chinese tones p. 193
48. Résumé (Chinese) p. 195
Appendix I  Tibeto-Burman roots p. 199
Appendix II  English-TB index p. 210
Appendix III  Primary Tibeto-Burman sources p. 221
Appendix IV  Author’s and editor’s bibliography p. 229
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.
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.

Briarcliff Manor, New York
13 December 1969
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td><em>Analytic Dictionary</em> (Karlgren)</td>
</tr>
<tr>
<td>Anc.</td>
<td>Ancient</td>
</tr>
<tr>
<td>Ar.</td>
<td>Archaic</td>
</tr>
<tr>
<td>AT</td>
<td>Austro-Thai</td>
</tr>
<tr>
<td>B</td>
<td>Burmese</td>
</tr>
<tr>
<td>B-G</td>
<td>Bodo-Garo</td>
</tr>
<tr>
<td>B-L</td>
<td>Burmese-Lolo</td>
</tr>
<tr>
<td>Bod.</td>
<td>Bodish</td>
</tr>
<tr>
<td>Ch.</td>
<td>Chinese</td>
</tr>
<tr>
<td>G</td>
<td>Garo</td>
</tr>
<tr>
<td>GS</td>
<td><em>Grammata Serica</em> (Karlgren)</td>
</tr>
<tr>
<td>GSR</td>
<td><em>Grammata Serica Recens</em> (Karlgren)</td>
</tr>
<tr>
<td>IN</td>
<td>Indonesian</td>
</tr>
<tr>
<td>K</td>
<td>Kachin</td>
</tr>
<tr>
<td>K-N</td>
<td>Kuki-Naga</td>
</tr>
<tr>
<td>L</td>
<td>Lushei</td>
</tr>
<tr>
<td>PN</td>
<td>Polynesian</td>
</tr>
<tr>
<td>ST</td>
<td>Sino-Tibetan</td>
</tr>
<tr>
<td>STL</td>
<td>‘Sino-Tibetan Linguistics’ (Shafer and Benedict)</td>
</tr>
<tr>
<td>T</td>
<td>Tibetan</td>
</tr>
<tr>
<td>TB</td>
<td>Tibeto-Burman</td>
</tr>
</tbody>
</table>

## 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. `sam/sâm = Ar. sâm, Anc. sâm`

Tones as described in note 494:
- p’ing shêng A
- shang shêng B
- ch’ü 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.¹ ² 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 Conspectus 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 hikaku kenkyuu ryaku-si), Azia Ahurika Bunken Tyoosa 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 Conspectus 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.
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 impres-
sion 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 krwak ‘rat’ has an apparent Chepang cognate in rok-yu
‘rat’, indicating an analysis *k-rwak (with *k- ‘animal prefix’) for the former
(Chepang -yu apparently from TB *b-yu).

On the problems of subgrouping, see R. Shafer, ‘Classification of the Sino-
Tibetan languages’, Word xi (1955) (JAM).

For the Indo-Hittite hypothesis, see E. H. Sturtevant, A Comparative Gram-


Recent studies, aided greatly by F. K. Li’s uncovering of the Kam-Sui
languages of south-central China, have led to the setting up of an Austro-Thai
language stock comprising Thai, Kam-Sui, Ong-Be, the Kadai languages and
Austronesian; see Benedict, ‘Austro-Thai’, Behavior Science Notes 1 (1966), 227–
61; ‘Austro-Thai Studies: Material Culture and Kinship Terms’, ibid. 2 (1967),
All three articles plus a glossary of Austro-Thai (AT) roots will appear in book form

Société Finno-Ougrienne, 24 (1907), 1–6; K. Donner, ‘Beiträge zur Frage nach dem
Ursprung der Jenissej-ostjaken’, ibid. 37 (1930), 1–21; E. Lewy, ‘Zum Jenissei-
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), Mon-Khmer (Conrady), or other linguistic families have been equally unsuccessful.

§3. Taxonomy (Sino-Tibetan)


12 See also K. Wulff, 'Über das Verhältnis des Malay-Polynesischen zum Indochinesischen', Det Kongelige Danske Videnskabernes Selskab, Historisk-filologiske Meddelelser, 27 (1942), ii (JAM).

13 Shafer himself has made extremely far-flung (and far-fetched) connections of ST with other language families: 'Eurasial', Orbis 12 (1963); 'Athapaskan and Sino-Tibetan', IJAL 18 (1952); 'Note on Athapaskan and Sino-Tibetan', IJAL 35 (1969) (JAM).

14 The Miao-Yao (MY) languages have also at times been linked with Sino-Tibetan. J. Greenberg ('Historical Linguistics and Unwritten Languages', in Anthropology Today, ed. A. L. Kroeber, Chicago: Univ. of Chicago Press, 1953) has categorically affirmed the reality of this relationship; also R. Shafer, an extra-vagantly ST-centric advocate, has presented some correspondences ('Miao-Yao', Monumenta Serica 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 First Conference on Sino-Tibetan, Yale University, October 1968. As noted in the same paper, Min-chia (Yünnan, China) is probably (originally) also an AT language, but it has been...
phonectic 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.

§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.

\footnotesize\textit{overwhelmed} or \textit{invaded} by Chinese at an early (Ancient Chinese) period (Greenberg, op. cit., simply relates it to Chinese).

\footnotesize 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 (Mirish); perhaps also Aka, Digaro, Miju, and Dhimal.

4. Kachin; perhaps also Kadu-Andro-Sengmai (Luish) and Taman.

5. Burmese-Lolo (Burmish); 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,16,17 shows special affinity for Kachin, as does 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

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.
Bahing and Vayu. Abor-Miri and Dafla make up the nucleus of the (so-called) 'North Assam' group of Konow\textsuperscript{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.\textsuperscript{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).\textsuperscript{20,21} The 'Naked Naga' (Konyak) languages of the northern Assam–Burma frontier region (Banpara, Namsang, Tableng, Tamlu, Moshang, Chang) are most profitably compared with Bodo-Garo, though some of the easternmost members of the

\textsuperscript{18} S. Konow, 'Note on the Languages spoken between the Assam Valley and Tibet', \textit{JRAS} (1902), 127–37.

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

\textsuperscript{20} Garo shows an interesting division into two subtypes, which we have named
Tibeto-Burman classification

group (Moshang and Shangge, 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></th>
<th>Kachin</th>
<th>Namsang</th>
<th>Moshang</th>
<th>Garo</th>
<th>Chairel</th>
</tr>
</thead>
<tbody>
<tr>
<td>sun</td>
<td>dżan</td>
<td>san</td>
<td>šar</td>
<td>sal</td>
<td>sal</td>
</tr>
<tr>
<td>fire</td>
<td>?wan</td>
<td>van</td>
<td>var</td>
<td>wa?l</td>
<td>phal</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 Chitkhuli, Thebor, Kanashi, Ranglo (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,\(^{22}\) 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.\(^{23}\) Dzorgai (western Szuchuan), Lepcha (Sikkim), and Magari (Nepal) all appear to be closer to Tibetan-Kanauri than to any other nucleus. Lepcha (or Rong),\(^{24}\) 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, Meithei kul, Kachin khun < khul ‘score’).

R. A. D. Forrest (‘Lepcha and Mon-Khmer’, JAOS 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.

Burmese-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. Burmese-Maru (including Phön, Lashi, Atsi, Achang), Southern Lolo (including Phunoi, Akha, Lahu, Black Lolo, White Lolo, Mùng), 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 Burmese-Lolo nucleus, yet has numerous points of contact with Kachin.

Three extinct languages of Burmese-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 Burmese-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

'Tur Ktenntnis der Hsi-hsia Sprache', *Bull. de l'Acad. Imp. des Sciences de St Pétresbourg* 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.


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’, *HJAS* 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 竖 c 尼卒 d 王靜如 e 西夏文漢藏譯音釋略
f 西夏研究 g 鐵
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 Konow 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 Khoibiu, 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), Meithei (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, to point out the basic Kuki affinities of the language. Meithei, 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.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 ‘Burmic’, 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.

§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.
Houghton37 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,38 have established a number of phonological
generalizations in this field, with a special view to the system found in Ancient
Chinese.39 The present work may be regarded as an attempt to systematize and
extend these results along phonemic and morphophonemic lines.

36 Shafer’s article on Mru, ‘The linguistic relationship of Mru: traces of a lost
Tibeto-Burnic language’, JBRS 31 (1941), has been superseded by L. Löffler,
(JAM).
37 B. Houghton, ‘Outlines of Tibeto-Burman Linguistic Palaeontology’, JRAS
(1896), 23–55.
38 Material assembled on the Sino-Tibetan Linguistics Project of the Works
Progress Administration, sponsored by Prof. A. L. Kroeber of the Univ. of
39 R. Shafer, ‘The Vocalism of Sino-Tibetan’, JAOS 60 (1940), 302–37;
§6. Tibeto-Burman primary sources

Our principal sources for Tibeto-Burman are listed in Appendix II. 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 (LiCtard),40 Ao Naga (Clark), Bahing (Hodgson, 1857–8), Bodo (Endle, Hodgson, 1847, Skretras), Chang Naga (Hutton, 1929), Dafla (Bor, Hamilton), Garo (Bonnerjea, Chuckerbutty, Garo Mission, Keith), Gyarung (Edgar, Rosthorn, Wolfenden), Haka (Macnabb, Newland), Kachin (Hanson, Hertz, Needham), Kanauri (Bailey, Joshi), Lahu (Telford),41 Lakher (Savidge), Lisu (Fraser, Rose and Brown),42 Lushei (Lorrain and Savidge),43 Maru (Abbey, Clerk),44 Mikir (Neighbor, Walker), Miri (Lorrain, Needham), Nyi Lolo (Vial),45 Nung (Barnard), Sema Naga (Bor and Pawsey, Hutton), Sho (Fryer, Houghton), Siyin (Naylor, Rundall),46 Tangkhul (Pettingrew), 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 Yuan 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).


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 Tibet-Kanari, 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.  

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

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

**Velar:** $g$, $k$, $\gamma$, $h$  
**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 -gs, -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. 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.
'louse', *lam 'road, way', *s-min 'ripe', *ruf 'horn' (cf. the many examples cited below). The final velars (-k, -y) 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 Bahing, Kanauri, Tsangla, Miri, and many other TB languages, e.g. Bahing 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 §XI), and in Lushei; cf. L mit 'eye' < TB *mik, L va-hriet 'black pheasant' < 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,
Alterated with divergently in Mikir (-1 gsal-ba 'to be clear, distinct, bright worm') Dimasa bar-guru 'to blossom', Dhimal bar 'to flower', K pan, B pàn 'flower', from TB *ba-r.

53 Kachin on occasion has final -n ~ -o 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 ~ srim(-bu) 'worm (silkworm)' < *zril (n. 121); 'gran-pa 'fight' but ral- gri 'sword' (= war-knife) < TB *ral- (n. 220); cf. also T kun 'all' < TB *m-kul; skyin 'wild mountain goat' < TB *kye-l ~ *kyi[l ]; smin-ma 'eyebrow' < TB *t(m)-mul ~ *t(s)-mil (n. 56).

54 Gyarung (K. Chang, 1968) has a distinctive treatment of TB *-ul, via *-il; cf. Gyarung paei 'silver' < TB *(d)-nuil; Gyarung khorei 'snake', TB *b-rul. Burmese shows a complex picture in its reflexes for TB final *-il 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 > -we); see n. 55; add B tshè 'wash' < TB *(m)-syl; B re 'water' < TB *(m-)*tiril (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 kà 'dance' < TB *ga-r; B khà 'loins' < TB *s-ga-l (n. 66); B bhà (phà) '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 pàn 'flower' < TB *ba-r; B swan ~ swàn 'pour (out, upon)' < TB *s-w [a, a'] r; B san 'louse' < TB *s [a, a'] r ~ *s [a, a'] r; B ran 'quarrel' < TB *ra-l; B pàn 'tired' < TB *b [a, a'] l; B wàn 'circular' < TB *wal.

(c) replacement by final -i: B wài 'buy' < TB *ywár (n. 170); B khàl 'lead', TB khar-ba ~ mkhar-ba 'bronze, bell-metal', from TB *k [a, a'] r; B khài '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 bhai 'duck', apparently an early loan from an AT infixed root of the type *b/al/i(t)s/bi(t)s (reduplicated) via *bari with the fore-stressing and replacement of l/l by r which is typical of these TB loans (Benedict, 1967bis).

55 B mwè < *mui < *mul (replacement by -i), also mun < *mul (replacement by -n) in the phrase pà-mùn 'whiskers' ('cheek-hair') for ðà- mwè. Replacement of -l by -i is the regular treatment after the vowel u; cf. B ñue, T dyul 'silver'; B mwe, T sbrul 'snake'. Samong and Megyaw (Phôn dialects), which are closely related to Burmese, replace -l by -ŋ; cf. Samong moin 'snake' and 'silver', Megyaw myin 'body hair' and 'silver' (cf. Coll. T mul 'silver'). Simple loss of -l after a and i is
Sino-Tibetan: a conspectus

K mun~emun, 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-rynul, Lepcha fo-nyul~ fo-nyel < *s-nil, 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 (-?), for the roots *g-nis ‘2’, *s-nis ‘7’ (originally ‘5 + 2’) and *rus ‘bone’.\(^59\)

<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(^60,61) hni?</td>
</tr>
<tr>
<td>(5) seven</td>
<td>—</td>
<td>(stis</td>
<td>kēmēs</td>
<td>sni</td>
<td>senit</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 smīn-ma ‘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 ignar ‘elephant’, from *m-nar = ‘the snouted (nar) one (m-)’ (Benedict, 1940).

58 Lepcha also has the triplet form -nel, which Grünwedel relates to a-thyok a-yel ‘crown of head (a-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 sanit ‘7’); also TB *s-nes: Gyarung ašnās ‘lip, beak’; Kuki-Naga *kne? L he?, Tiddim ne? ‘lower lip’, cf. also K modi ‘to be wet; wet’, modit ‘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 tats < tik ‘1’. Nung shows the same development as Kadu, with sni ‘2’ but sanit ‘7’. B khū-hnats ‘7’ (khū ‘unit’) is of the same type as TB *s-nis; cf. also Lepcha nyāt < *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 ni?) 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 āru ‘bone’ for TB *rus).
Purik pug-ma ‘collar-bone’); Burmese-Lolo *put as reconstructed from Maru pat-lau < put- ‘knee’, Phunoi phat tho khau < phut ‘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 Initial Consonants</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB</td>
</tr>
<tr>
<td>*k</td>
</tr>
<tr>
<td>*g</td>
</tr>
<tr>
<td>*t</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 parcelling -t in Kachin, as in Lepcha ahrat ‘bone’, nyat ‘2’; cf. also Lepcha vot < wat, Vayu siy-wo < -wa ‘bee’, Kanauri was ‘honey’. T pus ~ pis < *puds ‘knee’ (with suffixed -s) is supported by the West T forms paks-mo (Purik) ~ bux-mo (Balti) and pig-mo (in Jäschke); cf. also T mhkris-pa, West T thigs-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 tsh- in Lushei, s- in Thado, Siyin and Tiddim; cf. L tsha?, Tiddim sa? ‘thick’, from TB *r-tas; L tshuak ‘free, release, come or go out’, Siyin suak ‘emerge’, B thwak ‘come out, emerge’, from TB *twak; L tshu-y ‘the inside (of anything)’, Tiddim sun ‘inside’; Bodo siy, Dimasa bisiy ‘inside, within’, Nungish: Rawang adun ‘in, middle’, madun ‘to be perpendicular, to straighten’, Trung atun ‘middle’, from TB *tw-y (No. 390), the last supported by an excellent Ch. correspondence *ti(n)j’i’un ‘middle’; apparently to be excluded from this set are both T gžun (perhaps from *gdžun) ‘the middle, midst’ and B twan ‘in’, ãthwân (-twây) ‘within’. The initial cluster *ty- apparently gave rise to Lushei and Thado š-, Tiddim s-; cf. L šen, Thado a-šen, a ů
Sino-Tibetan: a conspectus

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>
</tr>
</thead>
<tbody>
<tr>
<td>*d</td>
<td>d</td>
<td>d~t(h)</td>
<td>t</td>
<td>d~t(h)</td>
<td>d</td>
</tr>
<tr>
<td>*p</td>
<td>p(h)</td>
<td>p(h)~b</td>
<td>p(h)</td>
<td>p(h)~b</td>
<td>p(h)</td>
</tr>
<tr>
<td>*b</td>
<td>b</td>
<td>b~p(h)</td>
<td>p</td>
<td>b~p(h)</td>
<td>b</td>
</tr>
<tr>
<td>*s</td>
<td>s</td>
<td>s</td>
<td>th</td>
<td>th</td>
<td>th</td>
</tr>
<tr>
<td>*z</td>
<td>z</td>
<td>z~s</td>
<td>s</td>
<td>s</td>
<td>f</td>
</tr>
<tr>
<td>*ts</td>
<td>ts(h)</td>
<td>ts~dz</td>
<td>ts(h)</td>
<td>s~ts(h)</td>
<td>s</td>
</tr>
<tr>
<td>*dz</td>
<td>dz</td>
<td>dz<del>s</del>s</td>
<td>ts</td>
<td>ts(h)</td>
<td>f</td>
</tr>
<tr>
<td>*ŋ</td>
<td>ŋ</td>
<td>ŋ</td>
<td>ŋ</td>
<td>ŋ</td>
<td>ŋ</td>
</tr>
<tr>
<td>*n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>*m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>*r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>*l</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>l</td>
</tr>
<tr>
<td>*h</td>
<td>h</td>
<td>h</td>
<td>h</td>
<td>[]</td>
<td>h</td>
</tr>
<tr>
<td>*w</td>
<td>(zero)</td>
<td>w</td>
<td>w</td>
<td>w</td>
<td>w</td>
</tr>
<tr>
<td>*y</td>
<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 khā, G kha, L kha ‘bitter’ (TB *ka).


(10) T kun ‘all’, B kun ‘to come to an end, be used up’, ākun ‘all’ (TB *kun); Lepcha gān ‘all, each, whole’ is probable T loan.64

(11) T gar ‘a dance’, K gan~kəgan~khan ‘leap, bound, canter’, L ka-r ‘to step, pace, stride’ (TB *ga-r).65


Tiddim san ‘red’, B ta ‘very red, flaming red’, tya ‘very red’ (for Ch. correspondences see n. 488). L tśh- 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 inko) ‘20’, from koi ‘all’ (see p. 119); for the final, see nn. 53, 54.

65 Also Lahu qā ‘dance’, implying PLB *ʔka (JAM). B ʔkā ‘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 khā ‘loins’ belongs with a distinct TB root: *s-ga-l, along with remaining forms cited in text, as shown by Tiddim Chin xa:l<*khā: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
(13) T dgu, Kanauri zgūi ~ gūi, Nung tgō, K dzhkhu, B kui, G sku, L kua ~ pkua '9' (TB *d-kwu).

(14) Kanauri ku, K gau, Nung go, B khau, Dimasa dzuru-khau, L kou, Empeo gu ‘call’ (TB *gau).67

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

(16) Limbu gip (in comp.), Miju kap ~ kyep, Mikir kep < gip, Maring tšip < kyip, Yawdwin giyip (in comp.), B ḫiyip ‘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 dap, G tsudap, Bodo gadap, L tap ‘fireplace’ (TB *tak).69


(20) K dinduy, L dug ‘length’, Mikir diy ‘long’ (TB *duy); cf. also Lepcha (a-)thā ‘length’, length’.

(21) T de ‘that, that one’, K dai ‘this, that’, Nung de ‘this’ (TB *day).

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

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

(24) T pha ~ ṭapa ~ ṭapa, B bhā, ābhā, G pha ~ ṭpa, L pa ‘father’, but K wa ~ swa, Kadu swa, Moshang swa, Bunan swa ‘father’ (TB *pa).

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

(26) T ḫba-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


67 Lahu has kā ‘call’, implying PLB *kru (JAM).

68 Benedict (1967bis) has suggested a connection of this root with B rak, Rāwang (Nungish): Mutwang dial. /raʔ ‘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. pp. 319–20.

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 baʔ (low tone) (Maran) and the Mutwang dialect of Rāwang (Nungish) has baʔ (Morse), both pointing to an earlier *bak rather than *ba.
Sino-Tibetan: a conspectus

(28) Lepcha bū 'carry; burden, cargo', abūn 'vehicle', Miri buū, B pul, Mikir bu, Meithei pu, Ao Naga ṣpu, 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 bōp ~ lābōp 'calf of the leg', L bōp 'leg, hind leg of an animal' (TB *bōp); cf. Lepcha (ā-)bōp 'large (as belly)'.

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-, i- and s-, but are aspirated after the prefixes m-, and 'i-; 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'; dpyay-ba ~ spyay-ba 'suspend, make hang down', 'phyay-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', kloy 'wave' (Tibetan lacks the cluster khl-), (b) reduplicated forms, e.g. kyir-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 ~ lpaq (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', paŋ '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.) bōp 'foam, froth' (= swelling of water), Nungish: Rāwang thi bōp 'bubble' (thī 'water'), thil-bōp 'foam, bubble' (thīl 'saliva').

73 T pir 'brush, pencil' has been identified as a loan from AT (n. 474).
fixes; thus, L kal 'kidney' in the face of T mkal-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 khyè 'borrow (something to be returned in kind)'.

(32) T stoy, B thawyg 'thousand'.

(33) T rku-ba, Newari khul (see n. 294), Bahing ku, K lmg, Nung khë, B khul 'steal'.

(34) T ryang-pa, B khyäng '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 ga~gà 'word, speech' < TB *ka; G dak 'weave' < TB *tak; G tsudap 'fireplace' < TB *tap; G bu 'grandfather' < TB *pu; also the following:

(35) Mikir phek <*phik, G bibik 'bowels'.

(36) T ?a-phyi~phyi-mo, Kanauri a-pi, Bahing and Vayu pi-pi 'grandmother', B âphë 'great-grandfather', âphë-mà 'great-grandmother', but Lahu a-pi 'grandmother', G a(m)bi, Mikir phi, L pi 'grandmother'.

Lushei lacks initial g-, but has maintained d- and b- in some roots. Mikir has k- <*g- (e.g. kep '10' <*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 sbal-pa 'frog' (cf. n. 55).
B bhañ 'ordure', T shans 'dung of larger animals'.
B du 'knee', Miri lag-du 'elbow'.

74 Cf. also Nungish: Trung skiy~skhiy 'borrow/lend', with secondary final -η (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', CYYY7, 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. âphui ~ âbuat 'price' (No. 41); dyo < khrui 'horn' and ú-khrui
Sino-Tibetan: a conspectus

In the Lolo languages, however, initial voiced stops are maintained with some regularity, so the Lolo evidence is of considerable importance:

<table>
<thead>
<tr>
<th></th>
<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>*kruw</td>
<td>khrui</td>
<td>tšu</td>
<td>tšö</td>
</tr>
<tr>
<td>38</td>
<td>foot</td>
<td>*kriy</td>
<td>khre</td>
<td>tši</td>
<td>khi</td>
</tr>
<tr>
<td>39</td>
<td>copper</td>
<td>*grįy</td>
<td>krè</td>
<td>dži</td>
<td>dyi~dži</td>
</tr>
<tr>
<td>40</td>
<td>leaf</td>
<td>*pak</td>
<td>phak</td>
<td>phye</td>
<td>phye</td>
</tr>
<tr>
<td>41</td>
<td>price</td>
<td>*puw</td>
<td>aphui</td>
<td>phü</td>
<td>phö~phu</td>
</tr>
<tr>
<td>25</td>
<td>thin</td>
<td>*ba</td>
<td>pā</td>
<td>ba</td>
<td>bo</td>
</tr>
<tr>
<td>27</td>
<td>insect</td>
<td>*būw</td>
<td>pui</td>
<td>bū</td>
<td>bō~bu</td>
</tr>
<tr>
<td>28</td>
<td>carry</td>
<td>*būw</td>
<td>pui</td>
<td>—</td>
<td>bō</td>
</tr>
<tr>
<td>169</td>
<td>{pit,</td>
<td>*dwanj</td>
<td>twānj</td>
<td>du</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>hole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(37) Nung (Melam dialect) tškru ‘horn’, B khrui~khyui ‘horn’.
(38) T khri ‘seat, chair; frame’, Nung hi (cf. No. 412), B khre ‘foot’.
(39) T gri ‘knife’, K məgri ‘brass, copper, tin’, B krè ‘copper’.

(ù ‘head’), gaṇ < khaṇḍ ‘head’ and ā-khaṇḍ. Cf. also thā > dā ‘knife’ (T sta-re ‘ax’) but Lisu atha, Ahi mi-tho, Nyi mi-tha; bhū > bū ‘gourd’ but Lisu aphū, A phū ~ 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 Hsüeh-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 dò, Nasu d’ò, Lolomaa ntòp. 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 ?p- prefix (written h- in Tibetan) and partly from the s-prefix; see also Matisoff, ‘GD’.

<table>
<thead>
<tr>
<th></th>
<th>PTB</th>
<th>PLB</th>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
</tr>
</thead>
<tbody>
<tr>
<td>surd</td>
<td>aspired</td>
<td>aspired</td>
<td>plain</td>
<td>plain</td>
<td>plain</td>
</tr>
<tr>
<td>stop</td>
<td>voiced</td>
<td>voiced</td>
<td>plain</td>
<td>plain</td>
<td>plain</td>
</tr>
<tr>
<td>sonant</td>
<td>glottalized</td>
<td>aspired</td>
<td>aspired</td>
<td>voiced</td>
<td>voiced</td>
</tr>
<tr>
<td>s/h + surd</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s/h + sonant</td>
<td></td>
<td></td>
<td></td>
<td></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 sug-phak, Lambichong lāphak, Yakha sum-phak, Balali sin-bak) ‘leaf’, B phak ‘leaf’ (considered as an article of use)’, probably also K pha ‘tea plant’ (B lak-phak~lābhak ‘tea’).


(27) (above) B pui ‘insect; silkworm’, Lisu bū ‘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-kuw ‘9’ has been thus set up on the basis of the Lolo forms (Lisu ku, Ahi, Nyi, Lolopho kò) and K dākhu, G sku, in the face of T dgu, Nung tago; here we must postulate T dgu <dku through assimilation. Bahing, which ordinarily maintains the surd vs. sonant distinction, shows a parallel shift in the following:

(42) T skyur-ba, Gyarung katsūr, Tsangla tsur-pa, but Bahing dzyr <*sgyr ‘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 tsőr ‘sour, acid’ and sā-tsőr-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.78 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>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>pig</td>
<td>phag</td>
<td>wa?</td>
<td>wak</td>
<td>wak</td>
<td>vok</td>
</tr>
<tr>
<td>44</td>
<td>bamboo</td>
<td>spa</td>
<td>kepho</td>
<td>kwāa</td>
<td>wāa</td>
<td>rua</td>
</tr>
<tr>
<td>45</td>
<td>leech</td>
<td>pad-ma</td>
<td>inphat</td>
<td>wot</td>
<td>kwat</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 *bwār ~ *pwār (= *bar ~ *par) ‘burn; fire’ (No. 220); JAM notes that Kachin has a preglottalized form here: ?wan ‘fire’, comparable with Garo wa’l (Burling), also K ?wa ‘father’ (these are probably from TB prefixed *a- = ?a- forms). Chinese cognates also indicate an initial cluster of this type for the ST root represented in TB by the following: T ?a-baŋ ~ baŋ-po ‘father’s or mother’s sister’s husband’, Chepang paŋ, Limbu am-paŋ-a, Vayu pøŋ-pøŋ <*pøŋ, Nung a-vaŋ ‘father’s brother’, Lashi (B-L) vaŋ-mo ‘father’s older sister’s husband, husband’s father’, Lisu a-waŋ <*waŋ ‘father’s brother’, Garo a-vaŋ ‘father’s younger brother’ (see Benedict, 1941). The TB root for ‘pig’ (text) can be reconstructed *pwak, 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
Sino-Tibetan: a conspectus


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

(45) T *sryn-bu pad-ma (sryn-bu = ’bu ‘insect’), B *krwat < *k-r-wat, Lahu veʔ, L *vaŋ-wat; cf. Magari lowat, Rangkhol ervot, Angami Naga rewa, but Lepcha fet < *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 dophat < phophat, Meithei tin-ph ‘leech’. Burmese has doublet forms in the following two roots:

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

(47) Thebor ba-e ‘left’, K pai ‘left’, lopai ‘left-handed, awkward’, apai ‘to be awkward, speak with a brogue’, B bhai ‘left’, lak-wai ‘left hand’, wai ‘speak with loans (fore-stressed, as usual) from an AT root of the type *mba(~)mbu~u (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 *?- (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(p)-phak ‘leaf’ (n. 77) (K *pha ‘tea’ would be an early loan from Burmese in this analysis, since Kachin has wot ‘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 *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 *pw- (Gyarung ph-) or *bw- (Gyarung p-) as opposed to *w- (Gyarung w-) in certain roots; cf. Gyarung *phak, B ñwak ‘half’, from TB *pwak; Gyarung tapat ‘flower’, Nungish *sɨn-wat ‘bud (Rāwang); flower (Trung)’ (sɨn ‘tree’), B-L *wat ‘flower’, from TB *bwat; but Gyarung wyan ‘I wear’, tewyet ‘clothes’ < *wat (cf. Gyarung syan ‘I kill’, TB *g-sat), Rāwang (Nung) nw̄-wat ‘to cover breasts (nw̄) with breast-cloth’, B-L *wat ‘wear’ (B wat ‘wear’, ñwat ‘clothes’). In addition to the doublet forms in the text (Nos. 46 and 47), Burmese retains the initial cluster in TB *(s-)bwam ‘plump, swollen’ (No. 172) and B-L *bwā ‘grandmother’ (n. 463) (possibly both with a in ST); for TB *pwa ‘palm, sole’ (No. 418), on basis of original indicated by Chinese (n. 463), Burmese has bhāwa (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: phāifá < *ʔpak/hwak ‘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 vaʔ, Burmese wak. See Matisoff, ‘GD’, for the Lahu tone (JAM).
a brogue', Tangkhul wui-son 'left', phui kasiya '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:

(48) T phay ~'phay, Thebor phay 'spindle', K kəbəŋ 'hand-spindle', B wàŋ 'swing around; spin', way-rui 'spindle' (rui 'handle'), ãway 'spindleful of thread' (TB *pay).

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

(49) T skar-ma, Kanauri kar, Lepcha səhər, Miri təkər, K səgan, Western Kuki *s-gar (Kwoireng təsəgan, Khoirao səgan), Khami ka(r)-si ~ a-sì, but L (and general K) ar-sì 'star' (TB *s-kar).

(50) Lepcha fo-gom, Ku-kam (also wa u-kam) 'molar tooth', G wa-gam 'tooth', B àm (also àm-swà) 'molar tooth' (TB *gam, usually combined with *s-wa 'tooth', basic meaning 'jaw').

(51) Lepcha təhì <*təkhi, Mikir tšhe <*tekhe 'crab', Tangkhul khai 'fish', khai-reu 'crab', Khoirao tšəyai, Khami təsì, L ai 'crab' (TB *d-ka:y).81

(52) T khəb, Kanauri keb, B ?ap 'needle', from Burmese-Lolo *(t-)yap: Phön təyet <*təyəp, Lahu yɔ̀, Lisu wɔ̀, Ahi wɔ̀, revealing a development *k>*g>*γ~w after the prefix (TB *kap).82

80 Lahu has a labial nasal here: mèij (JAM). This may be from a nasal cluster: *gw-: *lak-bai >*laŋwai>*mai >*mèi; cf. Lahu phèj 'dog', from B-L *khway.

81 Lahu à-ci-ku 'crab' is cognate. Final -i is the regular Lahu reflex for *-ai; cf. B tshai '10', Lahu chi. The initial c- implies an older *ky-, however, hence one should perhaps reconstruct TB *d-kyə-y, thus explaining the loss of initial stop (text) (JAM). K (tšya-)-kham '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 Gyarung and six Ch’iang dialects (K. Chang), Trung (Nungish) and Lepcha ('needle'):

<table>
<thead>
<tr>
<th></th>
<th>Gyarung</th>
<th>Ch’iang</th>
<th>Trung</th>
<th>Lepcha</th>
</tr>
</thead>
<tbody>
<tr>
<td>needle</td>
<td>tekyəp</td>
<td>xe~he</td>
<td>uop</td>
<td>ryüm</td>
</tr>
<tr>
<td>house</td>
<td>tšam</td>
<td>tsi~tšye</td>
<td>tšım</td>
<td>hhyüm</td>
</tr>
<tr>
<td>jaw</td>
<td></td>
<td></td>
<td>skam</td>
<td>fo-gom</td>
</tr>
<tr>
<td>(molar teeth)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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


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; contrast the following, showing retention of *k*- even before *i*:

(54) K *khyi~*tšakhyi~*šik-*tši*, B khye~*gyi*, L *sa-khi*, Southern Kuki *d-khi ‘barking deer’ (TB *d-kiy*).

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) Kanauiri *ti*, Manchati *ti ‘water’, Kanauiri *thi-ss*, Bunau *thi ‘wet’, Vayu *ti*, Magari *di*, Achang (Burmese-Lolo) *ti*, Kanburi Lawa (Burmese-Lolo) *thi*, Nung *thi ‘water’, K *mōdī ‘moist, damp, wet’, *mōdit ‘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 *lān-jik ‘scorpion’, etymologized (Grünwedel, in Mainwaring) as ‘the evil one [T *sdig-pa “sin”] that has its abode under the stones [rāy].’

before the vowel *a*); cf. also K-N *e:k ‘excrement’, perhaps from TB *kyak* (n. 399). Benedict (1967b) has suggested an ultimate AT source (cf. IN *d’ayum ‘needle’, *ỹuma2 ‘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, 1967b), from an earlier prefix + *rum* form; cf. ‘indigo’: IN *tayum*, Lepcha *ryom < prefix +*ram, T rams (Benedict, 1967b); note that Chinese also has final -m for ‘needle’ (n. 482).

83 This is a peculiar root. Lahu has a labial initial /ph/ and Karen has *thw-; evidently this was a complex, phonologically unstable initial (JAM). Tiddim Chin, probably also Siyin (Stern, Asia Major 10), has an unique cluster here: *piw ‘dog’, indicating simple replacement of the initial *k* with *p* (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 kyd) ‘tiger’, which can be identified as a loan from Mon-Khmer (khla~kl 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:

(57) T se-ba~gse-ba~bse-ba 'rose-bush, rose', se-bru 'pomegranate', se-yab~bse-yab 'fig', Vayu se 'to fruit', se~si 'fruit', Bahing si 'to fruit', si-tsi 'fruit', Nung šiŋ ši 'fruit', K si~sisi 'fruit', sisi si 'bear fruit', B si 'bear fruit', dši 'fruit', G the~bethe 'fruit', Dimasa thaיכ 'bear fruit', bathai 'fruit', L thei, Mikir the~a-the 'fruit' (TB *sey).

(58) T gsod-pa, Pf. bsad, Nung sat, K sat, B sat, Dimasa thai <*that (see n. 50), L that, Mikir that 'kill' (TB *g-sat).84,85

(59) Tsangla za~za, Magari za, Digaro sa, K ša, B sā, G bisa, Dimasa sa~basa, L fa 'son, offspring', Nung za-mi 'daughter' (B sami) (TB *za).86

(60) West T zi 'something of a very small size or of quantity', K zi 'small', zi-zi 'small, minute', B sē 'small, fine, slender', Lahu i<*yi<*zi (TB *ziy).87

(61) T tshab-pa, B tshap 'repay' (TB *tsap).

(62) T tsha 'hot; illness', tsha-ba 'hot; heat; spice, condiment', tshad-pa 'heat; fever', B tsha 'hungry', tšha 'hunger; something faulty or hurtful' (but Lolo *tshaa 'hot'), G sa 'ache; sick', sa-ani 'pain', sa-gipa 'pepper', Dimasa sa 'ache, pain', sa-ba 'hot (used of the heat of chillies, peppers)', L ša~šat 'hot', Mikir so 'hot, excessive; to be ill, sore' (TB *tsa).

(63) T *tšab-pa, B tshap 'repay' (TB *tsap).

(64) T tshigs, Kanauri tšig, Lepcha (a-)tšak <*tšik, B ātshats <*ātshik, Nung 84 G sot 'kill', with discrepant initial and medial elements, must be referred to a distinct root; cf. rasot 'clip, crop, sever', sko rasot 'behead'.

85 It now appears that G sot (=so?ot) 'kill' belongs with this set, with both the initial and the vowel conditioned by an original vowel ō (n. 344).

86 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)', tša(-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: tsiat/tsi and dzsiat/zi 'child', from *tsa~*za (character normally read tsiat and is also the 1st cyclical character, but one archaic form of graph also used for dzsiat/zi,b the 6th cyclical character, the graph of which is ‘foetus’); Chinese also has the verbal doublet with voiced affricate initial: dzsiat/dzic 'to beget'. For the initial alternation in TB, cf. TB tii and *ziy 'urinate; urine' (n. 96).

87 This root is preglottalized in B-L (JAM), probably from an original form with *a-prefix.
Sino-Tibetan: a conspectus


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


(67) T mdza-ba ‘to love’, K ndia ‘show love; affectionate’, B tsa ‘have tender regard for another’ (TB *dza).89

(68) K dzan, L far-nu, Tangkhul azdr-và ‘sister (man speaking)’, Meithei itsal ~ itsan, Kadu san ‘younger sister’ (TB *dzar).

(69) Dimasa dšop, L fo-p, Thado tšop, Siyin tuop ‘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- (mɔhei ‘fruit’ < *sey, mɔhau ‘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 t-, m- and r-;90 cf. T rtsa(-ba) ‘vein; root’ < TB *r-sa; also the following:


88 Initial z- forms are also found in Lepcha: zo < *za ‘eat’, azom ‘food’, zot ‘graze’, ązot ‘pasturage’. The Tibetan form can be derived from *b-dza (Tibetan lacks the cluster *bdz- and has simplified to bz-), 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 ndżr? (high tone) for Kachin, probably from *-dzak, hence this form may be distinct.

90 For tsh- < s- after prefixed t-, cf. T si-ba ~ tší-ha ‘die’ < *sìy; T ’tșhar-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 *dxa, and in the following pair of roots:

(71) T žim-pa ‘well-tasted, sweet-scented’, Bahing dži-džim < *džim-džim ‘sweet’, Aka džim-tši ‘fresh (water)’, B tshim ‘pleasant to the taste, delicious, savory’, from TB *dxyim.91

(72) T žon-pa, Nung zun, K dzon ‘mount, ride (an animal)’ (TB *dxyon).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 mši, Miju mšen ‘claw’, Dhimal khur-siŋ ‘finger-nail’, B āśān ‘nail’, lak-sān ‘finger-nail’, khr-e-sān ‘toe-nail’, L tin ‘nail, claw, hoof’ (note the unaspirated initial), Khami msiŋ ~ msey, Siyin tsiŋ, Empeo mtišin ‘nail’, perhaps also Magari arkiŋ and K lmyin (< *lak-myin), Nung nyin (< *myin) ‘finger-nail’,93 on the strength of the Miři doublet lag-šin ~ lag-yin, id.; this root we have provisionally reconstructed *m-(t)šin.94

Kachin appears to have th- for *ts- in two roots:95

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

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 *ts̪am ~ sām (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 *ts̪ through pronominalization as a result of prefixed *a- = ţa- (Nung nyṣam ‘hide’ shows this prefix in typical nasalized form); note that the apparent Chinese cognate (sam/sam < ‘hair, feather’) also has the initial s-.

93 For Nung n(y)- < *my-, cf. Nung mit ~ nit ‘mind, temper’, K myit; Nung me ~ nc ‘eye’ < *myak (No. 402). Ahi and Nyi (Burmese-Lolo) regularly have n- < *my-, d- ~ dl- < by-, t(h)- ~ tl- < py-; cf. B myā, Ahi no, Nyi na ‘much, many’; B pyā < byā, Ahi do, Nyi dā-ма ‘bee’; B pyam, Ahi thō ~ the, Nyi tlō ‘to fly’. The shift *my- > n- before the high front vowel i appears also in Bahing (and general Kiranti) niŋ ‘name’ < *r-miŋ (Limbu has miŋ); Aka nyiŋ ‘to name’, ninyi ‘name’ < *r-miŋ, nỹyi ‘eye’ < *mik.

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 *tśr- (tś- = ċ-, a unit phoneme): *tśrum ‘mortar’ (apparently an old loan from AT;
Sino-Tibetan: a conspectus

(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)i)76.

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

<table>
<thead>
<tr>
<th></th>
<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>ăsî</td>
<td>si</td>
<td>sa</td>
<td>sə</td>
</tr>
<tr>
<td>59</td>
<td>child</td>
<td>*za</td>
<td>sà</td>
<td>ra</td>
<td>zo</td>
<td>za</td>
</tr>
<tr>
<td>61</td>
<td>leopard</td>
<td>*zik</td>
<td>sats</td>
<td>—</td>
<td>zô</td>
<td>ə</td>
</tr>
<tr>
<td>66</td>
<td>eat</td>
<td>*dza</td>
<td>tsà</td>
<td>dza</td>
<td>dzo</td>
<td>dza</td>
</tr>
</tbody>
</table>

Sonant initials for Burmese-Lolo often can be reconstructed with certainty, even when cognates from other TB groups are lacking,78 e.g. B sak, Lahu yâ?, Lisu ræ, Ahi ze, Nyi zə ‘descend’, from Burmese-Lolo *zak. In the following root, Burmese-Lolo shows a doublet formation:

(77) T ġtiid-pa ~ ġtii-ba ‘urinate’, ġtšin ‘urine’, K džit tïyi ~ džit dži ‘urinate’, džit ‘urine’, Nung tsi ‘urine’, tsi tsi ‘urinate’, B tshi ‘urine (the polite term)’, Lahu jë, Dimasa si-dî ‘urine; urinate’ (di ‘water’), from TB*ts(y)i; Burmese-Lolo also has the doublet *ziy ‘urine’, represented by B sè, Lisu rzi, Ahi zö, Nyi zə.

cf. N. Thai *qrum, Mak tsum toi ‘mortar’); *(r-)*tiray ‘count’; *m-štiril ‘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 *tšrîl (see n. 54 for final); Burmese furnishes a perfect semantic parallel: B tam-thwë ‘spittle’, from *ta-mtshwê = ‘its (m-) water (thwè)’, from TB *tswäy; cf. also Dhimal thop-tši ‘spittle’, G khu-tši ‘saliva’ = ‘mouth (khu)-water’, from TB *ti(y). T mtšhil-ma ‘spittle’ has the normal *ti(h)-reflex here; T rtsi-ba ‘count’ stands for *rtši- (Tibetan lacks the *rtš- cluster). Burmese, Nung and Lushei all show distinct reflexes in *tšrum ‘mortar’, and perhaps a doublet *tšum 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 yê; ‘3rd pers. prn.’: B sôŋ, Lahu yës. Burmese s-/Lahu y- is usually from PLB *zi- (JAM). Lisu has initial r- in ‘descend’ (text) but ræ- in ‘urine’ (text) and a doublet ræ- rô ‘use’ < B-L *zum (above). It is possible that a distinction between initial *z- and *i- must be set up for B-L, paralleling the distinction between *s- and *i-; we reconstruct B-L *ziy ‘urine’ rather than *ziy, 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 *zum ‘use’, with a possible cognate in Chinese: diyju/yiuy a ‘use, employ’, perhaps from an earlier *diyum (n. 479).

³ 用
Illustrations of TB initial nasals, liquids, \( h \)-, \( w \)-, \( y \)-:\n
(78) T \( \text{lya} \), K \( \text{mya} \), B \( \text{ya} \), G \( \text{bnya} \), L \( \text{ya} \sim \text{nya} \)'5' (TB \( *\text{l-ya} \sim *\text{b-ya} \)).

(79) T \( \text{yu-ba} \), B \( \text{yui} \), Nung \( \text{yu} \) 'weep, cry' (TB \( *\text{yuw} \)).

(80) T \( \text{na-ba} \) 'to be ill', \( \text{na} \) 'illness', Kanauri \( \text{na} \) 'to be hurt', B \( \text{na} \) 'to be ill', \( \text{ına} \) 'pain, disease', K and Nung \( \text{ına} \) 'illness', L \( \text{na} \sim \text{nat} \) 'to be ill; illness' (TB \( *\text{na} \)).

(81) T \( \text{nyi-ma} \), L \( \text{ni} \) 'sun, day', B \( \text{ne} \) 'sun', \( \text{né} \) 'day', K \( \text{ni} \) 'day', Dimasa \( \text{di-ni} \) 'today' (cf. K \( \text{dai-ni} \), lit. 'this day') (TB \( *\text{ni} \)).

(82) T \( \text{rmay-lam} \) 'dream' (lam \( \text{road, way} \)'), Miri \( \text{im-may} \), K \( \text{may} \sim \text{yup-may} \), Nung \( \text{ip-may} \), L \( \text{may} \), B \( \text{ip-mak} \) 'dream', \( \text{hmay-tak-mi} \) 'to be possessed (applied to somnambulism)', Lahu \( \text{má?} \) 'dream' (TB \( *\text{may} \)); note the use of TB \( *\text{ip} \) 'sleep' in composition.\n
(83) T \( \text{miy} \), Magari \( \text{armin} \), Limbu \( \text{miy} \), Dhimal \( \text{miy} \), K \( \text{myiy} \), L \( \text{hmiy} \), Rangkhol \( \text{emiy} \) 'name', G \( \text{mig} \) 'to name', \( \text{bimuy} \) 'name', B \( \text{mati} \) 'to be named', \( \text{dmuti} \) 'name', \( \text{hma'ri} \) 'to name', but Nung \( \text{biy} \) 'name' (Nung normally retains \( m \)-) (TB \( *\text{r-miy} \)).

(84) K \( \text{rap} \) 'central fireplace', \( \text{karap} \) 'lower screen over fireplace', Nung \( \text{mrarap} \) 'fireplace', B \( \text{mi-rap-paziy} \) 'wooden fireplace' (mi \( \text{fire} \)'), Maru \( \gamma \text{rc} < *\text{hrap} \) 'fireplace', L \( \text{rap} \), Mikir \( \text{rap} \) 'shelf over fire' (TB \( *\text{rap} \)).\n
(85) Vayu \( \text{ruy} \), Bahing \( \text{ruy} \), Lepcha \( \text{årôy} \), Tsangla \( \text{wa-ryô} \) (wa 'cow'), Miri

97 Lolo-Burmese provides solid evidence for the existence of aspirated and glottalized sonorants as well as plain ones; see Matisoff, 'GD'. STL mentions Burmese \( l \)-/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 \( \text{rmaŋ} \) 'dream' for Kachin, suggesting a possible clue to the B-L development \( *\text{rmaŋ} > *\text{rmak} \) (see n. 242). Prefixed \( *\text{r-} \) for this root is supported by Gyarung (K. Chang) \( \text{karmy} \) 'to sleep', from \( *\text{rmal[y]} \); for the semantics, cf. T \( \text{rmi-ba} \) 'to dream' < TB \( *\text{r}-\text{mway} \) 'to sleep'. Trung (Nungish) has \( \text{mlâŋ} \) 'dream', \( \text{mlâŋ} \) 'to dream', from \( *\text{lomâŋ} = *\text{rmâŋ} \) by metathesis; cf. Trung \( \text{a-mra} \) 'field', Mutwang (Râwang dial.) \( \text{rama} \), id. Note that in composition Burmese maintains the final nasal (\( \text{hmay} \)); the B-L forms in general point to an original \( \text{rmak} \) (as reconstructed by Burling and JAM).

99 Cf. the development of sonorant stops from nasals in Bisu: \( /\text{bi}/ \) 'fire'; this phenomenon is rare in TB generally (JAM). Nung (Râwang) \( \text{bîŋ} \) 'name' is a pseudo-cognate here, hence does not represent this rare shift; it has been derived (regular shift) from \( *\text{briŋ} \); cf. Trung \( \text{aŋ-pryŋ} \) 'name' (with typical nasalized \( *\text{a-} \) prefix); also Lepcha \( \text{bryŋ} \), id., from \( \text{bryŋ} \); a connection with TB \( *\text{bryŋ} \) 'to give birth' (No. 135) has been suggested (by JAM). Gyarung (K. Chang) has \( \text{termi} \) (high falling tone) < \( *\text{rmyîŋ} \), confirming the prefix in this root. For Kachin, Maran cites \( \text{myîŋ} \) (mid tone) 'name', \( \text{šmyîŋ} \) (low tone) 'to name', paralleling the Burmese forms.

100 See n. 69.
Sino-Tibetan: a conspectus

(86) T lag(-pa), Miri slak, Chairel (Luish) lak, K lo-, B lak 'arm, hand' (TB *lak).  

(87) T lam, K lam, B lam, G ram-a 'road', Nung lam 'side, direction', L lam 'way, direction, place', *lam-liang 'road' (liang 'large') (TB *lam).

(88) Bahing lun, Lepcha làn (also lun-in comp.), Miri ü-liñ (Abor ó-lun), K lun- *nlun, B kyauk < *k-lauk, G roy, Dimasa loy, L lun, Mikir arlon 'stone' (TB *r-lun).

(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', phun-wai 'whirlpool', Nung thi buñ wai 'whirlpool', B wai 'whirlpool', also 'soar around, as a bird; brandish a sword, weapon or stick', L vai 'row, paddle', also 'wave (the hand, arm)', Mikir iyvei 'fly around (as an insect)', but cf. Meithei pai 'to fly' (TB *way-).

(91) K wan, B wdn, L val 'circular' (TB *wal).

(92) T yab-mo-g-yab-mo 'the act of fanning or waving; fan', Miri mayap, B yap, Mikir hi-dzap 'fan', L za-p 'fan, winnow, flap, flutter', hmaiz-Za? 'a fan' (hmai 'face'), Tangkhul kaya 'to fan', G tso 'row, paddle, dig', Dimasa dzau 'paddle, dig or root up, winnow'; cf. also K katsap 'winnow' (TB *ya-p).


(94) Thebor yu, Tsangla yu, Digaro yu, Dhimal yu, G tsu, Dimasa dzu, 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
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 ıtsi-ba ~ ldži-ba < *s-li 'heavy', ldžid-pa 'heaviness, weight', Kanauri li-k, Manchati ıli-i, Vayu li-s, Lepcha li(-m), K li, Nung ǝli, B lè, G džrim, Dimasa risi, Bodo illit ~ gillit, L (and general Kuki) rít 'heavy' (TB *s-liy).

(96) Lepcha tük-liy ~ tük-liy, Nung liy, Miri slüy, B lań < *liy, L rīnj 'neck' (TB *liy).

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 kho) 'announce', from B hau > hò; cf. L hau 'abuse, reproach', hau? 'bespeak'. Loss of initial *h- is indicated in the following:

T hauñ-ba, K gaay '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 gá ~ ogá ~ ngá [n-gá], Nung ga ~ raga, Moshang ga, G ha 'earth', from TB *ri-ka.

Of the pair of semi-vowel initials, TB *y- presents relatively little difficulty. The shift from *y- to z- (Lushei) or to dž- ~ tś- (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: *li > *lyi > ldži 'heavy', also *s-li > *sliyi > ltsi; T ldži-ba ~ 'dži-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 ltšé '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- ('dži-ba 'flea'); with prefixed *b-, there is further simplification to ǝ-, Tibetan lacking the cluster *bdž- (cf. n. 88: T *bdza > bza 'eat'), hence T bži '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 < *hlyog/s 'iron', ultimately from an AT root ending in *-xíaq (Thai *hlek, Kam-Sui *ghlet, Lakkia khväk), 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 'džiŋ-pa ~ mɗiŋ-pa 'neck' belongs with this set, since it can be derived from *a-lyiŋ ~ *m-lyiŋ (n. 104).

107 Other possible initial *h- words in Lolo-Burmese include 'yawn': B hà, Lahu hà-ga? , Akha a-hà (prob. onomatopoetic); also 'be the case': B hut, Lahu hē? (JAM).
Sino-Tibetan: a conspectus

(e.g. Thado, Sho, Kami) preserve *y-. In addition to the correspondences illustrated above (G tī-, Dimasa dzī-), Garo-Bodo has another series with G dz-, Dimasa y-:

G dzjango, Dimasa yunj ‘insect’.
G dzak, Dimasa yaw <*yak ‘arm, hand’.
G dză, Dimasa ya ‘leg, foot’.

These roots are perhaps to be reconstructed with initial *y-, but the evidence here is not entirely satisfying.108 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 dzak-ra, Dimasa yaw-gada ‘right (hand)’ (TB *g-ya~*g-ra).

For this interchange of initials, cf. also TB *s-rak and *g-yak ‘ashamed, shy’.110

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 dzak~dza, Dimasa yaw~ya ‘arm’~‘foot’ belong in a curious series found in Konyak, Chairel, and Abor-Miri-Dafla; cf. Tableng yak~ya, Tamlu lak~la, Banpara tsak~tsia, Namsang dak~da, Moshang yok~ya (all in Konyak group), Chairel lak~la, Miri slak~sle, 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 twayak ‘hand’, L zak <*yak, B gyak-kalt~tshak-kalt ‘arm-pit’, also lak-kalt, id. (lak ‘arm’).

109 These B-G sets can be reconstructed *dyun ‘insect’ (cf. Chinese d’iông/ d‘iunj, id.); *dyak ‘arm, hand’, from TB *g-lak; *dyə ‘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 *gla/k with the prefixed *g- being treated as the first member of a cluster; K ista ‘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 Lushei and Burmese forms (n. 108); cf. also B-L *gyak ‘cubit’ (cited by JAM). Gyarung (K. Chang) has tekhye <*/khla[k] ‘upper arm’, apparently from TB *g-lak.

110 We now reconstruct TB *srak ‘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 <*swa ‘tooth’. T wa ‘fox’ has been derived from TB *gwa, as represented by Chamba Lahuli gūa, Bunan 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 wān ‘clear, pure, clean, undefiled’. 

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

(99) L *sa-wa (Kuki *wa), Mikir vo, Chepang wu, 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. Where Lepcha has v- < *w- we can be more certain of our reconstruction:

(100) Lepcha *svo < *swa 'husband', Dhimal wa-džan 'boy', wa-val 'man', Kuki *wa (Taungtha wa, Haka wa, Lakher *wa-pa) 'husband', K wa 'human being', Yellow Lahu vâ 'man, person' (TB *wa).

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

(101) T sna, Newari hna-sa, Magari hna, Dhimal hna-pu, Digaro hna-gam ~ hnyā-gom (note the palatalization), Nung šana, Kadu sâna, B hna, L hna-r (cf. No. 3) 'nose', Lepcha nyo 'nose' (TB *s-na).116

(102) T snabs, B hnap, L hnap 'nose' (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 hjâ 'borrow' < TB *r-nya, 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 mphar 'to be for sale', G phal 'sell'.

114 Magari is especially rich in aspirated or unvoiced initial nasals and liquids; cf. hwak ~ wah 'pig', hmut 'blow', hmaŋ-naŋ day 'dream' ('see in a dream'), hrang 'horn', hlay-hluy 'stone', hla 'leaf', and hme 'fire'. Magari also occasionally replaces kh- with k-, as in Mikir; cf. Magari hráp 'weep' < TB *krap.

115 It now seems that the *s- prefix served rather to glottalize the following initial at the PLB stage, e.g. Atsi n?ap, Maru nte? 'snout' < TB *s-na (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-na appears unlikely.

116 Cf. Lepcha ūno, a semantic doublet ('expletive') of ūnik 'eye', and B myak-hna 'face' ('eye-nose').

117 Kanauri regularly has st- < sn-; cf. stil- til 'gums' < *st-nil, stiy 'heart' < *st-nil, stis ~ tis '7' < *st-nis, and stam 'give forth smell' < *st-nam.
Sino-Tibetan: a conspectus


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 ʾ respectively.118 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 ‘i- (rare) and initial ‘u- and ‘u- 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).119

Illustrations of TB initial vowel:

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

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

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

(108) T ṭum ‘a kiss’, Lepcha ˈum ‘receive into mouth without swallowing’, Möri um-bom ‘hold (as inside the mouth)’, Mikir om ≪*um ‘chew; mouthful’, K mwaum ‘hold, as water or smoke in the mouth’, Nung im ‘mouthful’ (TB *um).


(110) T ṭog, B auk ‘below’ (TB *ok).

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

(112) Mikir ik, B ats-kui ‘older brother’ (TB *ik).

(113) Nung i<ik ‘strangle’, B ats ‘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.
Tibeto-Burman consonants (initial)

*yup ‘sleep’, and Tsangla *ip ~ *yip, Bunan *ib, Bahing *ip, Nung *ip, B *ip, Ao Naga *yip, Miri *yip (Abor *ip) ‘to sleep’ (‘cover the eyes’) (TB *ip); for the semantics, see Benedict, 1939, p. 224.\(^{120}\)

§9. Tibeto-Burman consonant clusters

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 r(^{121})</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>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>tw</td>
<td>(ty)</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>dw</td>
<td>(dy)</td>
</tr>
<tr>
<td>pr</td>
<td>pl</td>
<td>pw</td>
<td>py</td>
</tr>
<tr>
<td>br</td>
<td>bl</td>
<td>bw</td>
<td>by</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>sw</td>
<td>sy(^{122})</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>(zw)</td>
<td>(zy)(^{122})</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
<td>(dzw)</td>
<td>(dzy)(^{122})</td>
</tr>
</tbody>
</table>

(continues on p. 38)

120 The Mutwang dialect of Rāwang (Nungish) has *yip ‘sleep’, *s*yip ‘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), *sr- (n. 156), *zl- (n. 136), perhaps also *zl- for the following root: T sril ~ srin (-bu) ‘worm (silkworm)’; 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 *zi- (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-, *z- for *zy-, *tś- (unit phoneme = č-) for *tsy-, and *ds- (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)syag ‘clear, pure, clean’ becomes simply *syag; *s(y)ir ‘iron’ becomes *syi-r ~ *syːl (n. 244).
Illustrations of TB initial clusters with \( r \) or \( l \):

(115) \( T \text{kra}, \) Kanauri \( kra, \) K \( k\text{ra} \) ‘hair (of head)’ \((\text{TB } *s\text{-kra})\).

(116) \( T \text{khra}\text{b-khra}\text{b} \) ‘a weeper’, Kanauri \( k\text{ra}\text{p}, \) Thulung (Kiranti) \( kh\text{rap}, \) Magari \( h\text{rap}\sim r\text{ap}, \) Digaro \( kh\text{ro}\sim \text{kro}, \) K \( kh\text{rap}, \) G \( g\text{rap}, \) L \( t\text{ap}, \) Siyin \( k\text{ap} \) ‘weep’ \((\text{TB } *k\text{rap})\).

(117) \( T \text{’khru}\text{d-pa}\sim \text{‘khru}\text{-ba}, \) K \( k\text{hrut}, \) B \( k\text{hyui}, \) Dimasa \( g\text{ru} \) ‘bathe, wash’ \((\text{TB } *k\text{ruw})\).

(118) K \( k\text{hru}, \) B \( k\text{hrui}\sim k\text{hyui}, \) Lahu \( g\text{u}, \) G \( k\text{ru}, \) Khami \( m\text{khru}, \) Angami Naga \( m\text{ekru} \) ‘dove’, L \( t\text{hu-mi} \) ‘pigeon’, \( t\text{hu-rou} \) ‘dove’ \((\text{TB } *k\text{ruw})\).

(119) Bahing \( k\text{krit}, \) K \( k\text{rit}, \) Nung \( o\text{gyit}, \) B \( k\text{rit}, \) Mikir \( t\text{si}n-k\text{rit} \) ‘grind; gnash (the teeth)’ \((\text{TB } *k\text{rit})\); cf. \( T \) so \( k\text{hrig-khrig byed-pa} \) ‘grind the teeth’.

123 The voiced Lahu initial of \( g\text{u} \) ‘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/Lololama prenasalized, the latter with redundant aspiration (as in Tibetan after prefixed \( h\)- and \( m\)-); for the mysterious connection between nasality, aspiration and glottalization, see Matisoff, ‘Lahu and PLB’ and ‘GD’. In the following words there is a correspondence between this series and K prefixed \( m\text{-} \) (rarely \( n\text{-} \)) (JAM):

<table>
<thead>
<tr>
<th>Kachin</th>
<th>Lahu</th>
<th>Nasu</th>
<th>Lololama</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>door</td>
<td>nkha</td>
<td>—</td>
<td>a-\text{g}’u</td>
<td>( \eta\text{ky}’u )</td>
</tr>
<tr>
<td>yeast</td>
<td>mtsi</td>
<td>( d\text{i} )</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>thrust</td>
<td>m\text{džut}</td>
<td>( j\text{u}’ )</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>pillow</td>
<td>m\text{khum}</td>
<td>( (\text{u})\text{gê} )</td>
<td>—</td>
<td>( \eta\text{ky}’y )</td>
</tr>
<tr>
<td>pound, v.</td>
<td>madup</td>
<td>—</td>
<td>—</td>
<td>nt’\text{y}</td>
</tr>
<tr>
<td>wide</td>
<td>m\text{aden}</td>
<td>—</td>
<td>d’\text{u}</td>
<td>nt’\text{u}</td>
</tr>
<tr>
<td>side</td>
<td>m\text{ga}</td>
<td>( j\text{a} )</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>very</td>
<td>m\text{dzàn}</td>
<td>( j\text{a} )</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>bridge</td>
<td>m\text{khrai}</td>
<td>( g\text{o} )</td>
<td>d’\text{e}</td>
<td>nt’\text{e}</td>
</tr>
<tr>
<td>liquor</td>
<td>m\text{gye\text{p}}</td>
<td>( j\text{i} )</td>
<td>d’\text{i}</td>
<td>nt’\text{e}’\text{q}</td>
</tr>
</tbody>
</table>

We now reconstruct \( *m\text{-kraw} \), 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 gray-ba ‘cold, cool; coldness; to get or grow cold’, L ṭan ‘dry’, ṭan-tho:m ‘cold (weather)’, Mikir niŋ-kreŋ ‘cold weather, winter’ (niŋ ‘season’) (TB *gray).  

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


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


(125) Kanauri khow < kli, Bahing khli, Digaro kla < kli, K khyi, B khyē (prn. thyi) ~ ākhē, G khi ‘excrement’, Lepcha tskli ‘entrails, guts; mucus of entrails’, also T ltsi-ba ‘dung’ (TB *kliy).  


(127) T klun ‘river’, K krun ‘valley, dale’, B khyuŋ ‘concave; concave piece of ground, valley’ (TB *kluŋ).  

124 There must be a B-L variant in final *-k : Lahu kā?, Atsi kyo?, Maru kyō?, Akha gā?, from PLB *krak (JAM). Lisu has dzāya ‘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 hyā ‘cold’, of uncertain derivation. A variant root *glau must be recognized, however, on the basis of Trung (Nungish) glau ‘cold’, Mikir pay-kley ‘to freeze, congeal’ (note the parallel vocalism in the two roots). Finally JAM (1970 b) cites B-L *ngrau ‘cold’, from *m-gray.  

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

126 Kanauri ɔ < li ~ yi; cf. bōŋ ~ pōŋ ‘fill’ < TB *blin ~ *plin, pō ‘4’ < TB *blīy.  

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

128 This is a very peculiar root, probably because of the initial *kl- group. Lahu has a palatal affricate where a front velar is expected. Lahu c/ch indicates proto-variation between a plain and a glottalized initial (>*skran) (JAM). We now reconstruct this root *r-kl mê (Mikir arkle), yielding kr- in B-L through assimilation to the prefix; for the final, cf. B kraŋ ‘alive’ < TB *sryn (probable effect of the complex initial group); cf. also Lepcha (d)-yāŋ ~ (d)-yōŋ ‘brain, marrow’.  

129 T klun ‘river’ has frequently been compared with similar forms in S.E. Asia, notably Siamese klön, Cham kraŋ and Ch. kuy/kəŋ ‘river’ (in China specialized in reference to the Yangtse), but the TB root (*klun) may well be independent of a ṭ.
Sino-Tibetan: a conspectus


(129) Thami (Kiranti) ṣpra, Digaro pra, L tha, Thado ṣpha ‘good’ (TB *pra).

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

(131) K prut ~ ṣprut, B prut ‘to boil’ (TB *prut).


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

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

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

(136) T ‘broy ‘wild yak’, B prauy ‘buffalo, bison’ (TB *bray).

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


(139) K proŋ ‘to be burned, as a house’, kāproŋ ‘parboil’, Mikir phloy ‘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 kyon ‘river’ (usu. in comp. with uy ‘water’); cf. also T ldżons < *lyon (n. 104) ‘large valley’.

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


In general, TB medial 1 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)- (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 kyaň ‘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 buthluy ~ 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 pi- [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 ‘meteorite, 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:

*L tap, Siyin and Thado kap, Angami Naga kra.

*L foč ‘sour’, Angami Naga khro ‘acid’.

*L thui, Siyin khui; from TB *krw(y) for tšwe < tšwe.

*L u-fok, Thado u-pho?.

*Lha, Thado apha.

See Matisoff, ‘GD’, No. 98, for gliy/kyan.
*phral ‘cold (dry) season’: L thal, 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 zl-. The combinations dr-, sr- and sl- are to be construed as made up of prefix + initial *r- or *l-.135 Tibetan zl- 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 lum ‘round, globular’, L hlum ‘ball’ (TB *s-lum).136
(144) T zla-ba, Bahing la, Vayu tsolo < *tšala, Digaro hla~hlo, Nung sla, B ld (Samong səla, Lolo *hla), K šṭa, Kadu səda (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’, smray ~ smrey ‘word, speech’, smre-ba ‘wail, lament’ (cf. B mreq ~ prwak ‘utter, speak’, L biak ‘speak’), and nr- in snrubs and snron ‘names of two of the lunar mansions’, snrel(-g)i ‘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. mlauk for mrauk ‘north’, mlau for mrau ‘ditch’, mly for mrè ‘grandchild’, mlyui for myui ‘to swallow’, mlyau for myau ‘float’. Of the modern Burmese dialects, Tavoyan has retained ml- in a few words, notably mle for mre ‘earth’ and mlè for mrè ‘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; *tl- and *dl- appear unlikely candidates for TB.

136 We now prefer to reconstruct TB *zllum, the initial cluster *zl- yielding both L hl- and B l- (TB *sl- should yield B *hl-); note that the cluster zl- 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 šṭa, from *s-kla < *s-gla; cf. K šṭa2 ‘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);138 cf. also the following:

(145) Kanauri raŋ', Manchati hräy, Bunam śraŋs (Himalayish *s-raŋ-s), Chepang sëraŋ 'horse', but K kumra~kumraŋ, B mräy, Haka raŋ (TB *s-raŋ~*m-raŋ).139

The above root has a close parallel:
Kanauri raŋ, B mräy 'high'.140

Direct comparisons of the initial cluster are also available:

(146) Murmi (Bodish) mraŋ, B mraŋ 'see', perhaps also Nung yañ, id. (TB *mraŋ).140

(147) B mraŋ 'cut keenly', mrä 'very sharp, keen', K mya 'torn, ragged', əmra~əmya tear, maul, lacerate', Dimasa džəbraŋ <*džəbrak 'maul, claw, scratch' (TB *mraŋ).141

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

(149) Kanauri myag, B mraŋ 'grass' (TB *mraŋ).142

(150) T 'bru 'grain, seed', K myu~əmyu 'kind, sort, tribe', B myui 'seed', əmyui 'race, lineage; kind, class, sort' (TB *mruw).

138 Prefixed m+r/y becomes a voiced initial, as above: *mr, *my > Lahu m ('monkey', etc.), but see 'grandchild': Lahu h3, from *ml (<*hl) for another development (JAM). The TB root for the latter is *b-løy, suggesting a development of the type: *b-løy > *phløy > *hløy.

139 T rta is a possible cognate of this root (n. 102) (JAM). K kumraŋ appears to represent the product of a double prefixation: *k-m-raŋ, 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-raŋ-s (see n. 290 for the final *-s). Inasmuch as the horse, as 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 (-raŋ) one (m-) ' (the equivalent of 'its highness'); the auk-myit of B mraŋ 'high' relates to either tone in that language, hence there is no basic tonal discrepancy here (see §12).

140 Trung (Nungish) has mraŋ 'high, long', establishing the presence of prefixed *m- for this root (Kanauri drops most prefixes). Räwang, another Nungish language, has han 'high' (apparently unrelated) but yan 'long', the latter providing a parallel for Räwang 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 *-k) 'to cut with sharp instrument', suggesting the possibility of an original *pr- or *br- in this root or in a doublet root (note Dimasa džəbraŋ <*džəbrak).

142 T 'džag-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).
Sino-Tibetan: a conspectus

Note that Tibetan has developed br- in roots of this type. Burmese appears to have mr- 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 phrup '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.) tmli~tmyi 'earth' (TB *mliy).

(153) Kanauri myu 'to swallow' (nasalization not explained), K mayu? '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 yran 'contradict, deny', Nung yyey 'deny', oyyey 'slant~ slant oblique' (TB *yran); cf. L tan <*gran 'deny'.

(156) B yru<ru 'dark in color; darken', hiui 'dull, faded, wither', K nyui 'faded, wilted, withered', Nung yyô 'withered', oyyü 'fade' (TB *yruw).

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

(157) B kwai 'dammer-bee', L khuai~khoi, Thado khoi~khi-va (va 'bird'), Tangkulu khui, Lakher Íkha '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 kwan 'casting net' (TB *kwan).

(159) T khui, Kanauri kui, Thebor khui, Vayu uri, Chepang kwi, Baring khli-tsa, Limbu khi-a, Digaru nkwi, K gwi, Jili tsêwi, Nung tagi, B khwe, 'Garo A' dialects *kui (Koch and Ruga kui, Rabha ki), Dimasa si, L (and general Kuki) ñi, Mikir hi <*khi (obsolete word recorded by Robinson, 1849) 'dog' (TB *kwiy).

(160) T bgo-ba 'put on (cookies)', 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.), dagwa~daga (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 güm; Atsi súngom 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.
(161) T skyon-ba, pf. bskyangs ‘guard; keep, tend (cattle)’, B kyaṇaḥ ‘feed, tend cattle’ (TB *kyon).

(162) T skyen-ba ‘to be ashamed’, K khyen ~ tseḥ ‘red, crimson’ (TB *kyen).\(^{147}\)

(163) T brgyad, Kanauri ræ, Bahing ya, Thulung yet, Dumi ri, K mtsat, Nung ści, B hrats, G tšhet, Dimasa dżai < džat, L riat (Kuki *d-ryat) ‘8’ (TB *b-r-gyat).\(^{148}\)

(164) T brgya, K ltsa, Nung ya, B āra, G rittśa, Dimasa radza, Lza < ya ‘10’ (TB *r-gya).\(^{148}\)


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

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

(168) L (and general Kuki) tui ‘water; egg (“fowl-water”), Dhimal tui ‘egg’; also K msthui ‘to spit’, B thwē ‘to spit’, tam-thwē (perhaps from *ta-mthwē) ‘saliva, spittle’ (TB *twiy).\(^{149}\)


147 B kyaṇ, 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 *ky- in this root.

148 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 (brgy-) 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: brgyad < *bgryad (Tibetan lacks the initial group *gryy-). The element *-gryad represents the basic TB root *g-ryat, whence B hrats via *hret; Kachin has mtsat < *b-kyat < *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-kaw ‘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 wa-y ‘hole; make a hole’ appears to be cognate here, indicating a reconstruction *dwa-y.
Sino-Tibetan: a conspectus

(170) B phwai 'husks, chaff', L phuai 'shavings', Pankhu phəwai, Thado wai, Rangkhol śba~śvai, Sopvoma upfai <əphwai 'husks' (TB *pəwə-y).

(171) L (and general Kuki) pui 'feminine affix', K wi~yi 'feminine affix', śwəi~śyəi 'female' (TB *pwə(y)).

(172) T sbom-pa 'thick, stout, coarse', B phwal 'husks, chaff', L phuai 'shavings', Pankhu phawai, Thado wai, Rangkhol kbai-savai, Sopvoma upfai <əphwai 'husks' (TB *pəwə-y).

(173) T byi-ba 'rat, mouse', B pwe, L bui 'bamboo rat' (TB *bwə-y).


(175) T dbya 'bird, fowl', B pð (Ahi do, Lolopho byo, Nyi dla-ma, Lisu bya) 'bee' (TB *bya); for the semantics cf. No. 157.

(176) K lasawi 'shave or whittle off', gasawi 'rub up against (as a dog)', B swk 'whet, rub, polish', G si-rok 'shave', Dimasa si, L sui 'scrape' (TB *s(y)wi).

(177) T bya 'bird, fowl', B byà (Ahi do, Lolopho byo, Nyi dla-ma, Lisu bya) 'bee' (TB *bya); for the semantics cf. No. 157.

(178) T 'byor-ba~'byar-ba 'stick to, adhere to', sbyor-ba, pf. sbyar '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 lasawi 'shave or whittle off', gasawi 'rub up against (as a dog)', B swk 'whet, rub, polish', G si-rok 'shave', Dimasa si, L sui 'scrape' (TB *s(y)wi).

(181) T sa 'flesh, meat', sa-ba~swa-ba 'hart, stag', Kanauri sya 'flesh, meat, game', Magari mi-sia 'flesh, meat', Bahing sye, Sangpang sya 'flesh', K šan 'flesh, meat, deer flesh; deer', Nung ša (dialectal šia) 'flesh, meat', B så~äsà 'flesh, sà 'beast', L sa 'animal' ~ša 'flesh, meat' (TB *sya).

(182) T 'ses-pa, Vayu ses, B si 'know, understand', K ši 'news', G māsi, Dimasa mathi~mithi 'know', Bodo mithi 'know', dithi~khithi 'show' (TB *syc).

(183) K mətsəwi~mətsəwi 'pus', B tshew 'decayed, crumbling; rotten' (TB *tswəi).

(184) G gittīak 'red', Dimasa gādzəu<ghadzək 'red; gold', L ran-ka-tšak 'gold' (cf. raŋ-va 'tin'), K dža 'gold', Nung za 'silver, money' (TB *tṣyək).

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- > *bə- (JAM). Gyarung has prye <*pra (also pra- in comp.) 'fowl', pra-khu 'owl'; Angami Naga (Burling, 1962) has pera <*bra or *bra- '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).

152 Cf. Benedict, 1939, pp. 222–3, for the semantics of this root ('T ser 'yellow', gser 'gold', Gyarung kswurni (<*g-rni) 'red', tərn (,<*d-rni) 'gold'; Ahi Lolo tho 'white; silver').
Tibeto-Burman consonant clusters

(185) T ṭsød-pa, pf. ṭsød, L ṭlat ‘break, cut’ (TB *tsyat).

(186) K ṭsyap ‘to be on friendly terms; to adhere, as soot to a roof’, B ṭsap ‘join, unite, connect’, G ṭsap-ṭsap ‘adjacent’ (TB *tsyap).

(187) Bahing ṭyar ‘shine’, K ṭsán, Moshang ṭsarr, G sal ‘sun’ (TB *tsyar).


(190) T brnya-ba ~ brnyan-pa ‘borrow’, Nung ya ‘hire, rent, lend’, B hna ‘borrow or lend, hire or let (the same article to be returned)’ (TB *r-nya).

(191) K məni, Bodo and Dimasa mini, L nui (Kuki *m-nui) ‘laugh’ (TB *m-nw(y)).

(192) T rnyab-rnyab-pa ‘seize or snatch together’, K nyap ‘squeeze; extort’, B ṭap ‘to be squeezed’, ṭhap ‘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’, ṭnyen ‘take by force, coerce’, B ṭań ‘sigh, moan, groan; grumble or murmur at’, ṭnāń ‘hurt, oppress, bully’ (TB *nyen).

(194) T snyuy ‘disease, illness’, snyuy-ba ‘to be ill’, K nyuy ‘sad, dejected’, B ṭauy ‘to ache, be tired, cramped’ (TB *nyuy).

(195) B ṭmwe ‘twirl about’, L hmui-thal ~ hmui-thlur, Siyin mui ‘spindle’ (TB *(s)-mwiy).

(196) T rmi-ba ‘to dream’, Magari mi, Miju mui ‘to sleep’, K ṭsmwų ‘to be heavy with sleep’, B mwę ‘sleep, enjoy sleep’ (TB *mw(y)).

(197) Bahing myel ‘to be sleepy’, K myen ~ mye ‘fall into sleep or swoon’, B myći ‘to be sleepy, to sleep’ (TB *myel).

(198) T rod-pa ‘stiff, unable to help one’s self’, B ṭwät ‘old, tough’ (TB *rwat).

(199) T grog-ma, Gyarung körōk, Lohorong and Lambichong (Kiranti) khok, Miri ṭręk, Dafia ṭrub, Nung sro, B ṭarwak ‘ant’ (TB *rwak).153

(200) K ṭwų ‘gently sloping, slanting’, B hwwe ‘slant, be oblique’ (TB *rw(y)).

(201) L (and general Kuki) hww, Digaro ṭrwi ~ ṭro, Abor ṭrū ‘cane’ (TB *rw(y)).


153 Labu pū-γōʔ ‘ant’; the first element (B ṭā-) 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.
Sino-Tibetan: a conspectus

(203) T žag (Lahuli gyag), Manchati hrag ~ rag, Lepcha ’ayak, K ya, B rak ‘day (24 hours)’, L riak ‘pass the night’ (TB *ryak).154

(204) T žag ‘fat, grease (in a liquid state)’, L sa-hriak ‘oil, grease’ (sa ‘flesh’), B pân-rak ~ wat-rak ‘juice of flowers’ (TB *ryak).

(205) T iay(-po) N ?a-iay ‘uncle (mother’s brother)’, B dhhray ‘master, lord’ (written cihsyay in addressing a monarch), Kulti *r(y)ay (Chawte ray ~ oray, Laiyo ray, Thado gaŋ, Siyin nay) ‘father’s sister’s husband’ (TB *ryay).155

(206) K yut ‘become or grow worse, as illness’, Sayut ‘to be apathetic, indifferent’, B yut ‘inferior, mean’, hrut ‘to put down’ (TB *ryut).

(207) K yau ‘to be mixed’, kayau ‘mix, intermix’, B rau ‘mix, mingle’ (TB *ryaw).

(208) K yaloi, B kywai < klwai, L loi, Siyin loai ‘buffalo’ (TB *lwa.y).


(211) Lepcha lyak ‘to taste, try’ (Grünwedel), B lyak, Nung la ~ le, Miiri yak, G srak, L liak, Mikir iylek, Tangkhul khmolek ‘lick’; Magari let, K siylet ~ siylep (Maran dial. siyriat), T ldãogs (resp.) ‘tongue’, from TB *(m-)lyak ~ *(s-)lyak;157 cf. the related roots: L hliau ‘lick (as flames)’, K siylau ‘tongue’ (couplet form), from TB *(s-)lya-w; Bahing liam, Khambu and Yakha lem ‘tongue’, B ahlyam ‘coruscation of flame’, from TB *(s-)lyam.158

(212) T leb-mo ‘flat’, gleb-pa ‘make flat’, B lyap ‘very thin’ (TB *lyap).

154 Lahu hâ ‘night; pass the night’; PLB *hr-; see Manchati hrag, from TB *s-ryak or *zryak (T *zr- > ō, *zr- > ō). 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 žan in early texts, e.g. žan-žan or rgya-žan ‘chief uncle’, žan-ley ‘councillor’, žan-blon ‘minister’.

156 This root has been reconstructed *zray (Benedict, 1948), with the initial cluster *zr- contrasting with *zk- (*zril ‘worm’, n. 121); the Kuki root is *tray ‘father’s sister’s husband’, as shown by Haka (k-)tray (cited in Benedict, 1941) (Lushei lacks this root); cf. also Miiri (ā-bu) rian ‘father’s (ā-bu) younger brother’.

157 Another simplex/causative pair: Lahu liʔ/le ‘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’ (ā-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.
Tibeto-Burman consonant clusters


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 a), with the noteworthy exception of mni ‘laugh’ < TB *m-nwi(y), apparently through dissimilation. Kachin and Tibetan share in the development: *wa > o (Nos. 158, 160, 165, 169, 170, 198, 199, 209). Lepcha has *u > o, but *wa > u: kun ‘net’ < TB *kwan; sātum ‘wolf’ < TB *d-wam. Miri also has u for *wa: toruk ‘ant’ < TB *rwak; situm ‘bear’ < TB *d-wam. There is further evidence for this shift in Kachin:

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

B lwan ‘gimlet; bore with a gimlet’, K galun ‘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 tshwa, Kanauri tsa, B tshā ‘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 *xw-, *dzw- (but note *dzyw- in No. 242), *yw- 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- (yu-) is found both in Burmese and Lushei, also found elsewhere; note L oi < wai in Nos. 157 and 208. In Modern Burmese the development has been as follows: way > we ~ wi, wak > we?, wan ~ wam > wu, wat ~ swap > wu? (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 ~ kywaun for kywan ‘slave’, saun for swan ‘pour’.

159 The wa > o shift, though especially characteristic of Tibetan and Kachin, is also found elsewhere; note L oi < wai in Nos. 157 and 208. In Modern Burmese the development has been as follows: way > we ~ wi, wak > we?, wan ~ wam > wu, wat ~ swap > wu? (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 ~ kywaun for kywan ‘slave’, saun for swan ‘pour’.


161 Tibetan wa-zur appears to have been phonetic (for earlier wa or ã) in some instances; cf. T tshwa ‘salt’ (text), Ch. dz'iå, * id. (n. 487); T rwa ‘horn’ (p. 113); also T rtswa ‘grass’, with the medial -w- element preserved in Balti and Purik rtswa ~ tswa; cf. Ch. dz'wən/dz'wən~dz'wəm/dz'wənb ‘grass, herb’ (n. 455), but ts'og/t'su'c ‘grass’ appears to be only a pseudo-cognate.

162 TB initial *dzw- can be inferred from one B-L root which must be reconstructed with this initial cluster: B tswan ‘kite; (in comp.) hawk’, Atsi tsım, Lahu dì-cè ‘kite’, Lisu dzye ‘hawk, eagle; (in comp.) kite’, with a Chinese cognate (n. 453).

a 草 b 菊 c 草
but no cross-correspondences have been uncovered.\textsuperscript{163} Burmese appears to have shifted *yw- to nw- in one root:

\begin{itemize}
\item[(215)] K ya, Moshang ya, Nung ywa~ya~nwa, B nwà ‘cattle’ (TB *ywa).\textsuperscript{164,165}
\end{itemize}

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

\begin{itemize}
\item[(216)] L huam, K wam, B wám ‘dare’ (TB *hwam).
\end{itemize}

Another root with initial *hw- can be set up on the basis of the Bunan correspondence:

\begin{itemize}
\item[(218)] Bunan hwans~hoans ‘come out, go out’, T ‘on-ba<*wan ‘come’, Dhimal wanj, B wanj ‘enter’ (TB *hwanj).
\end{itemize}

Nung has initial hw- in the following pair:

\begin{itemize}
\item[(219)] Nung hwap (dial. ab), Bahing ap, Mira ap, Lepcha òp<*ap, Vayu wop<*wap ‘shoot (bow, gun)’, but Tsangla gap, Magari yap, K gap, Go go, Dimasa gau<*ga-p, L (and general Kuki) ka-p, id. (TB *ga-p).
\end{itemize}

Another root has initial hw-:

\begin{itemize}
\item[(220)] Nung hwar ‘burn, kindle’, K ʔwan, Moshang var, G waʔl ‘fire’, but Chairel phal<*phar, id., and T ‘bar-ba ‘burn, catch fire, be ignited’, sbor-ba (pf. sbar) ‘light, kindle’, Kanauri bar ‘burn’ (intr.), par (tr.), Mira par ‘light (as a fire), ignite’ (TB *bar~*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. *g-a-p or *g-(h)wa-p.

The cluster *hw- has been reconstructed for the additional pair of roots:

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

\textsuperscript{163} TB also has initial *yw- in the following root of limited occurrence: Bahing nwap ‘cousin’, Lepcha d-yop ‘levirate or sororate spouse (marriageable affinal kin)’, from TB *nwap.

\textsuperscript{164} Note the restricted eastern distribution of this root, which is to be regarded as an early loan from Thai *yua. Chinese ŋiàg >njua\textsuperscript{a} is distinct from this series.

\textsuperscript{165} This has been identified as an early loan from AT (Benedict, 1967bis); cf. also Gyarung (K. Chang) niywe<*niywa, and Trung (Nungish) yuŋ yua; Tibetan has nor ‘cattle’ (used mainly in derived meanings of ‘property, wealth’ and even ‘money’), apparently from *nwar (cf. the Burmese form), but the final -r is enigmatic.

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

\textsuperscript{167} See n. 78 for the present analysis of this root.

\textsuperscript{a} 4.
'light, brightness', T 'od < *?wad 'light, shine, brightness', nyi-?od 'sunlight', B ne-at 'sunlight' (archaic), Thado wat 'shine' (TB *hwa-t).

(222) Kanauri ʃuí, Bunun ʃuí, Chepang wi ~ wei, Vayu vi, Tsangla yi, Magari hyu [hú] < *hwi (cf. tʰhyu 'dog' < *khwi), Lepcha vi, Bahing hu-si, Dumi, Sang-pang, Waling, Dungmali hi, Lohorong hari, Lambichong and Chingtang hli < *hwi (cf. Vayu uri, Bahing khlí 'dog' < *khwi), Digaro hroí ~ hrweí, Miri iyi, K sai, Nung sò, B swè, G antsi, Dimasa thi, L thi, Mikir vi, Meithei i 'blood' (TB *s-hwiy).

In the latter root, note K sai rather than the anticipated *swi ~ *səwə, 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:

*ywάr 'sell': L zuar, Mikir dzor.
*ywε 'follow': L zu, Syin 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.

(223) T mkhwen-pa, K tiyey ~ tSye 'know', from TB *(m-)kyen.
(224) K khyen ~ gyen ~ tʃen 'snow, ice', B khym 'cold' (TB *kyam).

168 The appearance of this root in Tsangla suggests that T yiδ '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 swε are used in the derived meaning 'disposition, spirit'). T khraŋ 'blood' is isolated in Tibeto-Burman.

169 TB *s-hw̤oŋ is now preferred as the reconstruction for this root; the initial cluster *hw- is paralleled by TB *kحوŋ 'yam' (No. 238), and this reconstruction serves to explain forms such as Tsangla yi and L thi, the latter via *sɨ < *s-yi < *s-hwε.

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

171 Doublet forms are common in Kachin, e.g. khyun ~ sün 'kidneys', khyε ~ dʃε '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. lotiʃuŋ for ləkhoŋ '2', tiʃum for khom 'to go', dʒεtʃu for dʒəkhu '9'. For the assimilative *yam > *en shift of No. 224, cf. B pyam, K pyen 'to fly'; B krəm 'rough, coarse', K gren 'raw-boned, razor-backed', magren ~ dingren 'sharp', tingren 'rough'; B dʃam 'sound' (used in meaning 'voice'), K niŋsen ~ nsen 'sound, voice'; also Bahing sam 'breath, life', T sem(s) 'soul, spirit', sem(s)-pa, pf. sems ~ bsams 'think', bsam-pa 'thought', Lepcha a-sóm < *sam 'spirit, breath'.

4-2 51
The parallel K ts-<*gy- development is illustrated by Nos. 163 and 164; note also G ts-, Dimasa dz- 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:


Bahng 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’: Bahng dyal, Dumi del, Nachereng tyal, Kulung tel; cf. Lepcha tyol<*tyal, id.

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

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

(227) Bahng dyam ‘to be straight’, T ldam-pa ‘straight, upright’, B âtam ‘a straight, long piece’; probably also Nung âdam ‘plain (level ground), flat’, hi-dam ‘foot’ (= ‘flat of leg’), Gyarung tami 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 Limbu thay ‘above’, general Kiranti *tay ‘horn’.

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

T *tsay-ba~say-ba ‘make clear, cleanse’, señ-po~bsey-po ‘clean, white, thin, airy’ (note the a~e alternation), West T sins-po ‘thin, clear’ (West T lacks *sy-a-).

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’.
B tsay 'clear, pure', Lushei thiay 'clear, clean', Thado əsey, id., Meithei asey-ba 'clean', from TB *(t)syay.\(^{177}\)

TB medial *y after sibilants and affricates is best preserved in Tibetan, which makes a sharp distinction between s and ʃ, z and ʒ, ts and tʃ, and dz and dʒ. The palatalized forms can phonemically be written: /sy, xy, 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>*sey</td>
<td>asi</td>
<td>si</td>
<td>sa</td>
</tr>
<tr>
<td>181</td>
<td>*syə</td>
<td>sə</td>
<td>hwa</td>
<td>ho</td>
</tr>
<tr>
<td>228</td>
<td>*syam</td>
<td>sam</td>
<td>hə</td>
<td>hō</td>
</tr>
</tbody>
</table>

(228) Gyarung şom (possible effect on vowel), Nung şam (dial. šam), B sam 'iron' (TB *syam).\(^{179}\)

Lushei has s~ʃ~<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 tšok 'hit, strike'.

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

177 This root can now be reconstructed *syay (n. 122). West T siyg- (rather than *sens-) indicates an old medial -ya-~i- alternation (n. 251).

178 Burling has xwo' 'iron' for Lisu. In several Loloish languages the s/ʃ distinction is breaking down; Lahu has only /ʃ/, with s as an allophone before /k/; Akha preserves the distinction, with some confusions, in most dialects: šh 'iron', šāp 'meat', si 'fruit' (JAM).

As Matisoff (Lahu and PLB, 1969) has shown, a distinction between B-L (and TB) *ts- and tsy- (= tʃ-, c-) must also be recognized; cf. *tsh- in B tshu 'fat', Atsi tshü, Maru tshaù, Lahu chu, Lisu tshə, as opposed to *tshh- (= ch-) in B tshul 'widow', Atsi chú, Maru chük, Lahu chô, Lisu chê (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 su-k, id.; the vowel length appears to be secondary, but Lushei has tšu 'to notch; vulva', possibly from *tshu-k, since this language tends to drop final *-k after long vowels or diphthongs, e.g. Burling cites hru 'rub' for hru-k 'rub, wipe' (possible dialectical variation).

179 The Tsuta dialect of Gyarung (K. Chang) has the doublet sam ~ šom; Trung (Nungish) has šam; the root is also represented by Ch’iang (K. Chang) ši~ší~šye (see n. 251 for a discussion of this distribution). The Nung (Râwang) meaning of sam is ‘sword’ as well as ‘iron’, and a relationship with the K-N root *hryam is possible: TB *sry-~š- (we have no other examples); cf. L hriam 'sharp; weapon, tool', Thado əhm 'sharp'. Gyarung has initial s- for TB *s- in this root, but has šar 'louse' corresponding to B-L *šan (n. 251), hence a doublet *šar ~ *šar must be recognized for the latter.
Sino-Tibetan: a compactus

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 poŋc ‘ς’ < TB *b-ŋa and sa ‘child’ < TB *za, but nya ‘fish’ < TB *nya and sa ‘flesh’ < TB *sya.181 Kachin and Bahing also retain at least in part the distinction between palatalized and non-palatalized forms (see Nos. 186, 187 and 188). Garo parallels Lushei 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:

(229) Moshang adžal, K tšan, G tšel < *tšal, Dimasa gadžaiŋ < *gadža(i)l ‘far’, L fa-l ‘apart, isolated, detached’ (TB *dzya-l).

T’džu-ba ~ žu-ba ‘melt; digest’, G so ‘rot, decay’, Dimasa sau ‘rot, decay’, gasau ‘rotten’, masau ‘digest, disintegrate, rot in water’, perhaps from TB *zya-w, 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 inferentially on the basis of the correspondence: T ny- = B ŋ- (Nos. 189, 190). Most TB languages follow Burmese in simply dropping y, but note G na-tok ‘fish’ < TB *nya.

TB *ry- is maintained in Lushei (ri-) and appears also in the early Burmese inscriptions,182 but has become simply r- in Modern Burmese, y- in Kachin and ž- 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 perei, Rangkhol ril, Ao Naga rer ~ rer, Meithei lel, Mikir herei.

Both Burmese and Lushei 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 *ti- (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 ŋo ‘ς’.

182 The inscriptions have ryak for rak ‘day’, rya for ra ‘100’, and hsyats, syats, hyats, hyat, het for hrats ‘8’; cf. őḥsyāŋ for ṭhrāŋ ‘lord’ (No. 205).

183 Tibetan also has the doublet: yag-pa ~ džag-pa ‘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 gtśi-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 mṭhil-ma, L tśil ‘spittle’, Nung thil ‘spittle’, thil thil ‘to spit’, from TB *m-ts(y)l.184

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

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

(233) T šiy, Kanauri šiy, Magari šiy, Vayu siy, Bahing siy, Mīri ō-siy, Nung šiy ~ thiyan, B satś, L thi, Mīrir theyn ‘tree, wood’ (TB *siy).

(234) T mṭšin < mśīn, Kanauri śin, Mīri aśin, Nung phasūn, K śīn ~ masūn, B aśānī, L thin, Mīrir iythin ‘liver’ (TB *m-sūn).

Note that Tibetan, Kanauri, Magari, Mīri, and Nung regularly have s- in the above series, while Kachin has s- and Lushei and Mīrir have th- < *s-. G si, Dimasa thi ‘die’ parallel G māsi, Dimasa mathi ‘know’ < *syey (No. 182). Meithei has hak-śa ‘flesh’, ša ‘animal’ < *sya, as well as śi ‘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 hmān ~ hmyān ‘ripe’ < TB *s-min.


184 This root has now been reconstructed *m-tśiril (n. 95).
(236) T gnyid 'sleep', rnyid-pa 'wither, fade' (cf. g-yur 'sleep', g-yur-ba 'droop, hang (of fading flowers); recline, repose'), B niit 'nod the head; lean a little, as a post' (TB *n(y)it).

(237) T smyg-ma ~ smyug-ma 'cane, bamboo', B hmyats 'bamboo sprout', G bimik 'sprout, germ, blade' (TB *s-m(y)ik); cf. T mig, G mik 'eye' (West T mig-tsan 'having seeds or grains' = Classical T 'having eyes'); also Lepcha ydn-mjn '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 khe, Balali khu), Digaro gi 'yam', Nung gi 'yam, root', B kywé 'wild yam' (TB *kywiy).

(239) L tšuap, G kasop 'lungs' (TB *tšywap).

(240) Bahing tšwar 'cut with a knife by one stroke', Mikir tšor 'cut, chop' (TB *tšywar).

(241) T'tšor-ba, pf. Sor 'escape; flow out, run over', Lepcha tšhor 'the pouring of water', G sol-an 'flow', sol-gipa 'current', Dimasa di-sor 'flow', K ʃon 'flow, as tears, sweat, or water poured on the ground', B swan 'pour out, spill, shed', swán 'pour upon, cast by pouring liquid into a mold' (TB *sywar); cf. also T gšo-ba ~ bšo-ba 'pour out', K džº ~ tʃyo 'pour out, cast, enamel, dye' (see §7 for alternation of final vowel with *-r).

(242) T 'džol-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:

(243) B krwap-krwap 'rustlingly', K krop 'rustle' (TB *krwap).

(244) B khrwe-má 'daughter-in-law', K khrí 'paternal aunt's daughters, sister's children; son-in-law' (TB *khrwy).

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

185 Trung (Nungish) has gui 'taro', contrasting with dgei 'dog', apparently reflecting the distinction in initials in these two TB roots (*kywiy vs. *kway). Nungish in general simplifies TB final *-way or *-wi(y) in one way or another; in Rawang they fall together with TB final *-i: gi 'yam, root', dagi 'dog', also tori 'cane' (TB *(s)-rwi(y)) while in Lungmi (forms from N. Bodman) they are represented by -u: agu 'dog', toru 'cane' (contrast treatment on p. 137). Chepang also distinguishes between the two roots: goy < *[k]i 'root; sweet potato', kuy < *[khw)i '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 džum 'salt', šum 'to be salt; saltish', Kadu sum, Moshang šum, G khari-tšam (but sum as early form), Dimasa sem, Meithei thum (cf. tha 'moon' < *g-la) 'salt' (TB *g-ryum).  

(246) Lepcha hryam < hryāp ‘stand on tip of toe, rise’, Kiranti: rap (Bahing), rep~reb (Khaling et al.), yeb (Balali et al.) and rip (Sangpang), Vayu yep~ip, Nung rip, B rap, Meithei lep (Old Meithei tsörep) Dhimal džap, K tsap, Moshang tsap, Mikir ardžap, Empeo sap ‘stand’ (TB *g-ryap). In the latter root, Kachin has ts-<*g(r)y- as in Nos. 163 and 164. Mikir ardiju ‘ask, enquire’, T žu-ba < *ryu ‘request, put a question’, from TB *r-ryu(w).

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

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

The TB vowel system is made up of the five phonemes /a, o, u, i, e/, which appear both in medial and final position. With the exception of a, however, pure vowels in final position are rare, while combinations of vowel + w or y are character-
**Sino-Tibetan: a conspectus**

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

\[
\begin{array}{ccccc}
(-u) & (-o) & -a & (-e) & (-i) \\
-a w & -o w & (-a w) & (-e w) & (-i y) \\
\end{array}
\]

TB *-a*, the most common final in the system, is retained in most groups: cf. T, K, G, L kha, B khà '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 -au ~ -ou from TB *-a*, as in nou 'ear' < *g-na, yau 'fish' < *yya; 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></th>
<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>ṭpa</td>
<td>ṭpeu</td>
<td>ṭpu</td>
<td>ṭphu</td>
<td>ṭpyu</td>
</tr>
<tr>
<td>five</td>
<td>*b-ya</td>
<td>mŋa</td>
<td>mŋeu</td>
<td>pŋyù</td>
<td>mŋu</td>
<td>mŋyu</td>
</tr>
<tr>
<td>eat</td>
<td>*dza</td>
<td>ṭa</td>
<td>teu</td>
<td>ṭu</td>
<td>ṭu</td>
<td>ṭyu</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. Lushei final -o [-ɔ] interchanges with -ou as well as with -wa, -wat, and -wak, while Lushei -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 [-ɔ] and -e, for which a few Tibetan or Burmese comparisons have been uncovered; cf. *pro 'delight' (No. 130) and the following:  

189 The loss of final -k in Kachin makes for uncertainty in some comparisons of this type, e.g. K mtho '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-tše 'to spit' (lit. 'throw spittle'), which belong rather with G stu, Dimasa khu-di thu 'to spit' (kuh-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 mtho '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-kan 'spittle'; Rāwang (Nungish) ḍu 'vomit'; Kachin also has mston~ mandon '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 matho ‘high; pinnacle’ (TB *m-to).

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

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


Burmese appears to have diphthongized final *-o to -au (Modern -ɔ), as in Nos. 249 and 250; also final *-e to -ai (Modern -ɛ), 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:

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

and 251) must now be considered problematical; Maran cites pro? (high tone) ‘to bring out; come out’, spro? ‘bring out, exhume, contribute’, from *prok and *s-prok; also ke? (high tone) ‘to be or make neck-shaped’, from *kek; 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 tšy? (dži?) (high tone) ‘urinate’ (No. 77), apparently through assimilation to the final -t of džit.

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, -ŋ). Final -aw is generally written with a special symbol 'e-a', but occasionally as a+w, as in uwaw 'cuckoo' (u-ai), taw 'forest' (tau). Modern Burmese retains the pure vowels -u, -a, and -i, but has -o for -uw (transcribed -ui), -e for -iy (transcribed -e), -o 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>khyui</td>
<td>ōhuk</td>
<td>tshö</td>
<td>tshē</td>
</tr>
<tr>
<td>weep</td>
<td>yui</td>
<td>yuk</td>
<td>yō</td>
<td>yē</td>
</tr>
<tr>
<td>steal</td>
<td>khui</td>
<td>huk</td>
<td>kū</td>
<td>kē</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>phrul94</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 krè, Maru kyik ‘copper’; B lè, 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 w, however, as in B lè, Maru la ‘heavy’; B hle, Maru la ‘boat’; B wè, Maru wa ‘far’; B khwè, Maru kha ‘dog’; B swè, Maru sa ‘blood’.

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 ši-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 džökhu, B kui, G sku, L kua (with suffixed -a) ’9’ < TB *d-kuw (No. 13). Nung has -ö (Nos. 13, 27) or -ü (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<*-ku ‘uncle’; Nung akhō, Miri akū, Ao Naga okhu ‘uncle, father-in-law’ (wife’s father under system of cross-cousin marriage); K ku, Meithei iku ‘father-in-law’, B kui ‘honourific 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 namy-khu~ -khu, Miri mikki (Abor muikū), Nung māö (unexplained loss of initial), B mi-khu~ əkhu, G wal-ku, L mei-khu ‘smoke’, K wan-khu ‘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 pəmūi, Nung thəmō, Mirik vo-mu, L mu, Lakher pəhmo, Khami əhmo, Sho əhmii, Angami Naga re-mu~ mu-vi ‘eagle, hawk, kite’ (TB *muw).

Where both Burmese and Nung forms are lacking, as in TB *yu(w) ‘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 phru-phru, but we must reconstruct TB *plu on basis of Anong (Nungish speech recorded almost 100 years ago) pulu may ‘white’ (see STL, Vol. vii); 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 ə, which is then fronted in Akha: ‘four’ jə; ‘heavy’ Lahu hə; ‘bow’ hə/ə; ‘wind’ Lahu mə-hə; ‘boat’ Lahu hə-ləʔ-ə (Akha lə does not front the vowel as expected); ‘grandchild’ hə/ə (see n. 263) (JAM).
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).
(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).

(262) Kanauri kut-li, Bahing bli, B li, G ri-gay, Dimasa li ‘penis’ (TB *li).\(^{197}\)
(263) Vayu ri ‘decay’, Miri tori ‘wound, ulcer, sore’, K ri ‘to gleet’, ari ‘gleet’, nyi (n-yi) ‘matter, purulent discharge’, B ri~yi ‘to be rotten (of cloth), to gleet (as pus)’, ari ‘any slimy discharge’ (TB *ri).\(^{198}\)
(264) T sríd-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>Lushei</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>*-a-w</td>
<td>-u ~ -o</td>
<td>-au</td>
<td>-au</td>
<td>-o</td>
<td>-au</td>
<td>-au</td>
</tr>
<tr>
<td>*-ow</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>*-a-y</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 m’dze ‘penis’, from *m-lye < *m-ley (n. 104) belongs with this set, but shows vowel gradation.

\(^{198}\) Maran cites K ri? and ari? (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 ? of an original *a-prefix).

\(^{199}\) Lahu gli-lyd ‘tickle’, pè-li-ká ‘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 *dʒuɾu-khau, L *kou, Mikir *ku, Empeo *gəu ‘call’ (TB *gɔw).

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

(267) T *sdo-ba ‘to risk, hazard, venture; to bear up against, bid defiance’, B *taʊ ‘resent an insinuation, interfere in a quarrel’, L *dɔu ‘to be at enmity with’, also ‘to prop up’ (TB *dɔw); K *taʊ ‘to have premonitions, anticipate, foresee’ and B *taʊ ‘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 *thɔ, 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’,200 Lepcha *dʒu ‘thorn’, K *dʒu ‘thorn; prick with a thorn’, *dʒu ‘thorn, sharp spike of any kind’, B *tʃu ‘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 *kilit ‘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 *kāli ‘tickle’; borrowing of the TB forms from Western Thai, specifically Khamti, is a possibility here; Khamti has *kāli (prn. *kāli) and kap *kāle ‘armpit’, also tʃɔŋ *kāri ‘tickle’ (cf. the Nung form).

200 T *mtʃɔn ‘any pointed or cutting instrument; forefinger’ has perhaps been developed from this root.
Sino-Tibetan: a conspectus

tsù ‘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 < tsow), Mikir su ‘thorn, sting, panji’, iysu ‘thorn’, Tangkhul kasui ‘thorn’ (TB *tsow).

(277) T tsho-ba, B tshu ‘fat’, adj. (TB *tsow).

(278) Central T and West T sro-ma, K tsì?-ru (tsì? ‘louse’) ‘nit’ (TB *row).201


(282) Gyarung tēmē, Thebor me-kon, Magari me-me, Bahing me-ri, Dīgaro ̃omī ~ ̃omīn, K mai ~ nmai, Aka ̃omī, B āmī (cf. the Bahing form), G kime, Dimasa khermai ~ bermai, L mei, Aim01 rōmai, Mikir arme ‘tail’ (TB *r-may).204


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

202 Kachin also has the couplet forms sipli and siplaw, the regular word being siplet, which we have assigned to TB *lyak ‘lick’ (No. 211). B hlyā ‘tongue’ appears to have been influenced by the latter root.

203 Lahu has ha-tē ‘tongue’, ā-mī-hū ‘flame’ (JAM). This is cognate of B hlyā ‘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 ~ galai (mid tone) ‘change’ and galai (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 rdže-ba < *r-lye < *r-le (n. 104) ‘barter’, also ‘change (name, clothes)’ (this range of meanings also present in the AT counterparts).

64
Tibeto-Burman vowels (finals; diphthongs)

(284) K dai, L tei ‘self’ (TB *tay); cf. TB *s-tay ‘navel’ (No. 299).
(285) T  yes (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).
(287) B dlai, L lai ‘middle, center; navel’ (TB *la-y).
(288) K manai ‘twist’, B nai, Tangkhul khanai ‘knead’ (TB *m.y).
(289) K tSYai, L thi ‘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 thmi, B mi, L mey, Mikir me ‘fire’, K myi-phrap ‘lightning’ (‘fire-flashing’), myi-than tu ‘fire-fly’ (TB *mey).
(291) T nye-ba, K ni, B ni, L hnaei (with vowel gradation) ‘near’ (TB *ney).
(57) (above) T se (in comp.), Vayu se, Bahing si, Nung si, K si ~ ssi, B si ~ ssi, G the ~ bithe, Dimasa thai ~ bathai, L thei, Mikir the ~ athe ‘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 (*-a:w > -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 sni ~ toni, Garo khani, Dimasa khanai ‘hair (of head)’ (TB *ney).
(293) K meri, 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)bali; the TB form shows the typical r = 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-ri ‘tail’; Gyarung timi ‘fire’, témé ‘tail’ (contrast Vayu me ‘fire’, li ‘tongue’); Abor ômô ‘fire’, teme-eme ‘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>Lushei</th>
<th>Lakher</th>
<th>Thado</th>
<th>Bete</th>
<th>Empeo</th>
<th>Tangkhul</th>
</tr>
</thead>
<tbody>
<tr>
<td>call kou</td>
<td>kou</td>
<td>koi</td>
<td>gu</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>fly, n. thou</td>
<td>mṭheupa</td>
<td>thou</td>
<td>ithoi</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>field lou</td>
<td>(lo)</td>
<td>lou</td>
<td>loi</td>
<td>lu</td>
<td>lui</td>
</tr>
<tr>
<td>fat, n. thau</td>
<td>tho</td>
<td>(thou)</td>
<td>thai</td>
<td>pṭhau</td>
<td>thau</td>
</tr>
<tr>
<td>younger sibling nau</td>
<td>no</td>
<td>nau</td>
<td>nai</td>
<td>—</td>
<td>nau</td>
</tr>
<tr>
<td>grasshopper kha</td>
<td>khō-ṣu</td>
<td>kha</td>
<td>—</td>
<td>—</td>
<td>kha</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 pṭheu, 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 mṭhe-bo ‘thumb’, Nung thc, Mikir the ‘big, large, great’ (TB *tyay).


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


A few roots in *-oy have been reconstructed on the basis of the 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’, maib (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’āi, with identical semantic development.
Tibeto-Burmun vowels (finals; diphthongs) referred back to TB *-wa[y]; cf. L khoi ~ khwai ‘bee’ < TB *kwa:y (No. 157); L loi, K yoi ‘buffalo’ < TB *lwa:y; also the following:

(302) Bunan lo-i, K loi ~ lwe, B lwai ‘easy’ (TB *lway).209


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).

Burmese appears to have merged *-oy with *-wiy in the final -we:


(308) K (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’, magroi ‘howl, scream’, B krwê ~ kywê ‘call out, halloo, shout; screech and scream in large numbers, as birds’ (TB *groy).

(311) K khoi, B krwe ‘shellfish, shell’ (TB *kroy).212

209 TB *lway rather than *lvo[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. dai (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
Sino-Tibetan: a conspectus

(312) K khoi ‘borrow or lend (presupposes a return in kind)’, B krwe ‘debt’, ãkrwe ‘on credit’ (TB *kroy).

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

Note that Siyin has kauyi~koi<*koy (No. 307) as opposed to loai ‘buffalo’<TB lwa-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:

(314) K woi~we, Jili tewe, Kadu kwe<*k-we, Nung əwə, Moshang vi-sil, Shangge yok-əi ‘monkey’ (TB *woy).\(^{213}\)

The following root shows much fluctuation in final:


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

*dhk(ə)wə: L kheu~khei, Lakher təkheï ‘pick (as a sore), dig out (as a thorn)’, Mikir arke ‘scratch the soil for grain (in birds)’.

*hewe ‘burrow’: L hreu?, Lakher rei.

*ew ‘lean back’: L eu, Lakher əua.

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

Vowel gradation must be taken into account for a few TB roots, e.g. Mikir arvi<TB *r-bi(y) ‘left’ for TB *bay; L hñai ‘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 *-əw (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>hoy</td>
<td>qhui</td>
<td>kway</td>
</tr>
<tr>
<td>dove</td>
<td>m-khraw</td>
<td>khraw</td>
<td>qwaw</td>
<td>kwəw-</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 *khraw ‘dove’ is an old infixed /IR/, 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)woy, although Chinese has a possible cognate which points to ST initial *w-: giwän/yjwən ‘monkey’ (with suffixed -n).
Dimasa busu ‘thorn’ < TB *tsu(w) for TB *tsow; Dimasa khau ‘steal’ < TB *kow for TB *r-kow. This feature also appears in the following pair of roots:

(316) T ?ane ~ nene-mo, Tsangla enye, Kanauri ene < TB *ney, but Gyarung eni, Miri enyi, Nung eni, K ni, G ma-ni, L ni, Mikir ni ‘aunt (father’s sister); mother-in-law’, from TB *ni(y).


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

(318) K gau, B kù ‘cross over’ (TB *gow).

(319) K dau, B thu ‘thick’ (TB *tow).

(320) K mərau, Nung šaru thiŋ, B thān-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’, gon-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 thān-rū, cf. T than-tshu ‘resin, gum’ (tšhu ‘water’), than-šiŋ ‘fir, pine’ (šiŋ ‘tree’), Vayu thanj < *thanj ‘pine’; also B thān ‘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 Ablaut System’, Papers of the First Congress of Foreign Orientalists in Japan; E. J. Pulleyblank, ‘Close/open ablaut in Sino-Tibetan’, Lingua 14 (1965), 230–40 (JAM). Miller operates with a six-vowel system (with *-i for our *-uw = *-īw, but only *-i for both our *-i and *-iy = *-yi) and recognizes two sets of ablaut relationships: a ̃e ̃o; i ̃ū ̃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 ablaut 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. d’ām* ‘to talk’ (intr.), d’sm/d’ām# (same tone) ‘to
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. \(\ddot{a}tsom\) ‘hair’ < TB *tsam, lom ‘road’ < TB *lam, but \(\dddot{t}yaj\) ‘dark’ < TB *\(\ddot{t}yaj\). Mikir, however, with -o for TB final \(*a\) as in Lepcha, retains medial \(*a\) with the exception of a curious shift to \(\ddot{e}\) before final -m, as in nem-po ‘sesame’ < TB *s-nam, serim ‘otter’ < TB *s-ram, iynim ‘to smell’, nem-so ‘slight smell, stink’ < TB *m-nam. This shift is partially paralleled in Himalayish: Kanauri keb ‘needle’ < TB *kap, stem ‘daughter-in-law’ < TB *s-nam; also bren ‘get well’ < TB *bran. Occasional shifts to o or e are encountered elsewhere; cf. T Pag-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’, Nung \(\ddot{s}lap\) ‘leaves for packing food’ (TB *lap).

talk about’ (tr.) (GSR glosses both as ‘speak’), T gtim ‘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 -\(\ddot{y}\); cf. -\(k\)re\(n\) ‘cold’ < TB *gr\(\ddot{y}\)n; -\(k\)le\(n\) ‘congeal’ < TB *gl\(\ddot{y}\)n; \(k\)en ‘leg, foot’, T rkan(-pa) ‘foot, leg; stem, stalk’; note also Thado ke\(\ddot{y}\) ‘leg, foot’ but L ke and Tiddim xe < \(*k\)he, id., possibly from a doublet root: TB *ke\(\ddot{y}\); cf. Ch. g\(\ddot{y}en\)/\(\ddot{y}en\) ‘leg, shank’, g\(\ddot{y}en\)/\(\ddot{y}en\) ‘stalk’, with semantic development as in Tibetan (the Chinese vocalism suggests an original \(*g\)i[\(\ddot{y}\] rather than *\(g\)ey or *\(g\)an).

\(^a\) 腿 \(^b\) 墟
Tibeto-Burman vowels (medials)

(322) K dźi-groŋ (dźi ‘winged insect’), B khray, Mikir tim-khray (tim ‘gnat, midge’) ‘mosquito’ (TB *khray).\(^{219}\)

Long medial *a- appears in TB *ba-r ‘flower’, *ga-r ‘dance, leap, stride’, *ya-p ‘fan; winnow; paddle’, dzya-l ‘far’ (see above) and the following roots:\(^{220}\)

(323) B hak ‘hawk, raise phlegm’, also ‘stretch (the mouth), gag’, L ha-k ‘choke’ (TB *ha-k); cf. also Mikir tśiy 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’, mathan ‘impale’, L tamr ‘stick on a pole, make or set up a landmark, hang up’, Mikir tar ‘impale’ (TB *ta-r).

(327) B khak-ray ‘fork’, ḏkhak ‘branch’, Lahu ʒ-qd, L ka-k ‘fork (of tree)’; to be forked’ (TB *ka.k).\(^{222}\)

(328) T yay-po, K tsag <*g-yay (cf. Nos. I 63, I 64), G rittieg, Dimasa redzie9 <%yay (cf. No. 164), L za-y <*$ya-γ, Mikir ardżay <*r-yay ‘light (not heavy)’ (TB *r-yə).\(^{223}\)

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


The following pair appear to reflect an archaic TB doublet:

(330) K kay ‘to be hot; emit heat, as the sun or a flame’, kəkay ‘roast, toast, bake’, Nung dagay ‘toast’, B kəy ‘broil, roast, toast’, L ka-γ ‘burn’ (TB *ka-γ).\(^{223}\)

\(^{219}\) Further support for an original *a vocalism in this root is furnished by Nungish: Rāwang məgəy <*m-graya ‘mosquito’, Trung kray ‘fire-fly’.

\(^{220}\) Add the following pair of roots: K lam ‘to measure by fathoms’, ləlam ‘fathom’; B lam ‘to encompass with the arms’, dəlam ‘fathom’; L hləm ‘arm span’ but Tiddim ləm ‘fathom’; TB *lə[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), rəl-gri ‘sword’ (=war-knife); B ran ‘quarrel’; L rəl ‘war against, warrior’, Tiddim gəl <*rəl ‘battle, war, enemy’, Angami Naga (Burling) te-hrə ‘war’; TB *(g)-rəl.

\(^{221}\) *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-prefix: ʒ-má (JAM).

\(^{222}\) Also a glottalized root in PLB: *ʔkək <*ʔkək. The a- in Burmese is thus a re-prefixation after the original prefix had fused with the root (JAM). K kəʔ ‘to be parted, separated, open’, dəkхаʔ ‘to part, separate’ (Maran), probably also belongs with this set.

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

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:

(332) Mikir prαɲ ‘dawn’, G phriɲ, Dimasa phoroɲ ‘morning’ (TB *pray*).


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

TB *-ap > -p (sometimes dropped in Dimasa)
TB *-a-p > *-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 *kaɲ* and not *[^k]kaɲ* or *^kaɲ*; Nungish (Rawang) has dogαɲ ‘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 šš-pɔ ‘tomorrow’ (šɔ ‘morning’) (JAM). This is possibly a prefixed root: *b-raɲ; Trung (Nungish) has sraɲ ‘morning’, probably from an original *s-raɲ.

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 kλαɲ type (Bahnar klαɲ) but Khasi has klιɲ; closely similar forms appear in Miao (Hua Miao klαɲ, I Miao qλαɲ) but not elsewhere in AT. Forrest (JAOS 82, 1962) cites Lepcha kαλyʊɲ ‘sp. of eagle’ but this would indicate an original long medial u (n. 231); the Lepcha cognate is perhaps the standard term kum-thυʊɲ~pun-thυʊɲ ‘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: jαɲ (= ʔiɲ) ‘eagle, falcon’, from ʔiɲ (n. 419), with ʔ standing for *k or even *q (indicated by Miao forms). Tibetan has gλaɲ ‘eagle, vulture’, which has been compared (p. 178) with Ch. glαk/lαk ‘kind of bird’ but which might represent an old doublet of our general ST root here: *g-laɲ ~ *g-lαk; cf. Ch. djαk/jαk ‘hawk, kite’, from *jaŋ (n. 458); this reading for the Ch. graph is based on the use of djαk/jαkd ‘stringed arrow’ as phonetic, the graph then having been applied to another root (n. 453).
<table>
<thead>
<tr>
<th></th>
<th>116</th>
<th>118</th>
<th>219</th>
<th>92</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>weep</td>
<td>fireplace</td>
<td>shoot</td>
<td>fan, winnow, paddle</td>
</tr>
<tr>
<td>TB</td>
<td>*krap</td>
<td>*tap</td>
<td>*ga'p</td>
<td>*ya'p</td>
</tr>
<tr>
<td>Lushei</td>
<td>tap</td>
<td>*tap</td>
<td>*ka'p</td>
<td>*za'p</td>
</tr>
<tr>
<td>Garo</td>
<td>grap</td>
<td>tsudap</td>
<td>go</td>
<td>tso</td>
</tr>
<tr>
<td>Bodo</td>
<td>gap</td>
<td>gada'p</td>
<td>gau</td>
<td>dzau</td>
</tr>
<tr>
<td>Dimasa</td>
<td>gara</td>
<td>gap</td>
<td>gau</td>
<td>dzau</td>
</tr>
</tbody>
</table>

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

(335) K *malap*, 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*).

(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*).

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 *dzo-p* ‘suck, kiss’ and *o-l* ‘finish; relax’ (above), while long medial *e* occurs in the following pair of roots:

(339) Jili *tokhyen*, L *ke-l* ‘goat’ (TB *ke-l*).

(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 (-auk, -auy) but with *a* before other finals (-at, -an; -ap, -am):

(341) T *mdoys* ‘eye in peacock’s feather’, K *u-doy*, B *ú-daúy* ‘peacock’ (TB *doy*).

---

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 tsiy* ‘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 *thab* ‘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 *dö* ‘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 *kye-l*, since Jili (in Kachin group) preserves medial -y- before *e*; a doublet *kiyi[.]l* is represented by T *skyin* ‘wild mountain goat’ (n. 53).

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


(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 -añ, and before labials in Burmese -ip and -im; cf. B hrats ‘8’ < */ret < */ryat (TB *b-r-gyat); B hmání ‘mole’ < TB *r-men; B pyâní ‘plank’ < TB pley; also the following:

(346) K ren ‘to be equal’, diyren ‘place in a long, even row’; B rañitu ‘to be equal’, hrañ ‘put together side by side’; Dimasa ren ‘line’ (comp.), Mikir ren ‘line, range, row’ (TB *ren).


(348) K nem, Nung ñinem, B nim ‘low’ (TB *nem).

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


This root is to be kept distinct from the following:


229 Another glottalized PLB root (note Tibetan prefixed s-): *?kuk ‘outer covering’ (JAM). Bahing also has siñ-kok-te ‘bark’ (siñ ‘tree’). Two little known Himalayan languages indicate an original *kw- initial cluster: Choursaya kwak-te~ kok-te, Thulungya kwok-si~kok-si ‘skin’, and this appears significant in the light of Gyarung (K. Chang) werkhwak ‘its skin’, from *-rkhwak. We can now reconstruct TB *(r)-kwák, 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. kekb ‘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 *kwák).

230 Lahu a-kk ‘lac’ indicates PLB *kêrip, as does B khrip (JAM). For the semantics of this root, see Benedict, 1939. Râwang (Nungish) has both rap ‘lac insect’ and rip ‘flying ant’, the latter from *khrâp; cf. Râwang rap ‘winnow’ < *khrap (n. 382); for the relationship in meaning, cf. Miri tsrûk ‘ant’, also ‘lac insect’ < TB *râwak ‘ant’.

\[\text{脚} \quad \text{革} \]

74
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 a’ as opposed to long a (from TB *rnil; läy ‘stone’ < TB *r-luy, nyät ‘2’ < TB *g-nis, nyål~nyel ‘gums’ < TB *r-nil; Lepcha also has forms with medial u, which in at least three roots appear to reflect TB long *u: tâfuk ‘stomach’ < TB *pu-k, kun ‘tree’ < TB *ku-y 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 ā ~ u interchange, e.g. mät ‘to blow’, sîy-mut ‘wind’; cf. Bahing hmut ~ mut, Gyaru ng - mut, Kachin (Assam dial.) mut, Mirmut, B hmut ‘to blow (mouth, wind)’, from TB *(s)-mut. Further analysis of the Lepcha material shows that this language regularly has medial a or ā for TB medial *u, and medial u or ū for TB medial *w; in addition to the three roots cited in the text, cf. the following: tük-pät ‘knee’ < TB *put; târâk ‘6’ < TB *d-ruk; tük-tsam ‘mortar’ < TB *tśrum (or *tsam); sam ‘3’ < TB *g-sum; liam ‘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 tlhum, Siyin thum, Meithei thum), as contrasted with muk ‘foggy, misty’, muk-muk ‘dullness, darkness’ < TB *r-mu-k; mun ‘over-clouded, overcast’ < TB *mu-ŋ; ku-k ‘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’a-yum). The Lepcha correspondence permits the reconstruction of long medial *u in TB *nu-p ~ *ni[-]p ‘sink’: Lepcha nüp ‘to be covered with water’, also *(m-)u:m ‘hold in the mouth’: Lecha ūm ‘receive into mouth without swallowing’. Complex doublets must be recognized in some instances: TB *(m-)tuk ~ *(s-)tu-k ~ *(s-)du-k: Mikir iŋtok ‘to spit; spittle’ (n. 189); Maru taŋk ‘vomit, spew’; Lepcha tyuk ‘to spit’, dyuk ‘spittle’; TB *duŋ ~ *tuŋ ‘long, length’ (Lepcha ā-thāŋ ‘height, length’); also TB *pu-k ~ *buk ‘cave; belly’ (Lepcha tāfuk ~ tābok ~ tābak), with Chinese showing forms derived from *puk ~ *buk (n. 479). Lepcha, finally, has medial o or ō in three roots: -tōk ‘neck’ < TB *tuk; (d-)rōŋ ‘horn’ < TB *ruŋ; tsōr ‘sour, acid’ < TB *skyur, the last root apparently related to TB *su-ŋ ‘sour’, Ch. swân/ swân; this suggests the reconstructions *twak ‘neck’, *rway ‘horn’ (a doublet of *rwa) and *s-kywa-r and *swa-r ‘sour’. One would anticipate that Lepcha might make a similar distinction between medial ā < 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-bū ‘leech’ < TB *(m-)li-t are suggestive here.

231
Sino-Tibetan: a conspectus

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

TB *-uk, *-uy > B -auk, -auy but *-u·k, *-u·y > B -uik/-uk/, -uiy/-uy/.  
TB *-ik, *-iy > B -ats, /-ait/, -aŋ/-aín/.  
TB *in > B -aŋ/-aín/ (but *-it > B -it).

As noted above, B ui here is simply a positional variant (allophone) of the phoneme *u* 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 Lushei are available:

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


(355) B lak-khyauy < *lak-(k)yaui ‘finger’ (lak ‘hand’), khre-khyauiy ‘toe’

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

<table>
<thead>
<tr>
<th>Final *-ok</th>
<th>Lahu</th>
<th>Burmese</th>
<th>Tibetan</th>
<th>Lahu</th>
<th>Burmese</th>
<th>Tibetan</th>
</tr>
</thead>
<tbody>
<tr>
<td>fear</td>
<td>k dağıt</td>
<td>khrauk</td>
<td>dogs</td>
<td>t dağıt</td>
<td>tauk</td>
<td>dug</td>
</tr>
<tr>
<td>hit</td>
<td>d distribute?</td>
<td>tauk</td>
<td>—</td>
<td>š distribute?</td>
<td>khrauk</td>
<td>drug</td>
</tr>
<tr>
<td>below</td>
<td>há distribute?</td>
<td>rauk</td>
<td>og</td>
<td>r distribute?</td>
<td>nga</td>
<td>—</td>
</tr>
<tr>
<td>morning</td>
<td>š distribute?</td>
<td>sauk</td>
<td>—</td>
<td>š distribute?</td>
<td>khrauk</td>
<td>—</td>
</tr>
<tr>
<td>catch</td>
<td>t distribute?/tú distribute?</td>
<td>tauk</td>
<td>dugs-pa</td>
<td>mane</td>
<td>š-kú-mu</td>
<td>—</td>
</tr>
<tr>
<td>fire</td>
<td>qú distribute?</td>
<td>khauk</td>
<td>skog</td>
<td>dry</td>
<td>hú</td>
<td>khrauk</td>
</tr>
<tr>
<td>outer</td>
<td>distribute?</td>
<td>hauk</td>
<td>skyogs</td>
<td>drink</td>
<td>š distribute?</td>
<td>sauk</td>
</tr>
</tbody>
</table>

In addition to the above, we reconstruct final *-u·k* for ‘erect; prick’: T ’dzug, Burmese tsuik, Lahu ját (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 qhj?-n̂i. The aspirated Burmese variant confirms the glottalized initial (see ‘GD’) (JAM).
Tibeto-Burman vowels (medials)

(khre ‘foot’), K yuŋ ~ ləyuŋ < *lak-yuŋ, L zuŋ < *yuŋ, Khami məyuŋ ~ məzəuŋ ‘finger, toe’, from TB *(m-)yuŋ.234


(359) Lepcha kuy ‘tree’, dkuy ‘bush’; K kug ‘to branch; a branch’, lakug ‘limb, branch’; B &kuig ‘stalk, branch’, also dkuig ‘large branch, bough’ (apparently from kuij ‘hang over in a curve, bend downwards’); L ku-y ‘plant, tree, trunk of tree, stem of plant’ (TB *ku-y).

Burmese also offers evidence for short medial *u, but with change of final, in B kyauk < *k-lauk, L lug ‘stone’ < TB *(r-)lugu (above); cf. also B kauk < TB *guk ~ *kuk ‘bend, crooked’.

Burmese and Lushei show different vowel length in the following root:

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

234 Cf. also ‘finger’: B lak-hnui, Atsi nδyu, Maru nδyuk, Lahu lāʔ-n, Akha lāʔ-ŋ, Bisu tā-hŋuy, all related. Perhaps the prototype is something like *lak-saμ-yuŋ, since there is an additional second element in the compound; the sa- could be related to the second element in Lahu lāʔ/khi-šte ‘hand/foot’; see TB *s- prefix for body parts (JAM).

Add Lisu ləʔ-nii ‘finger’ to the above. Bisu -hŋuy suggests a derivation from *(s-)m-yuŋ (cf. the Khami prefix).

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

236 The Kachin and Nung forms cited under No. 488 (*r-muw) apparently belong here, since Maran cites K muʔ (high tone) ‘thunder, cloudy’, also lsmuʔ (low tone) ‘sky’ (Khauri = Gauri dialect), allowing the reconstruction TB *r-mu-k (an archaic doublet of *r-muw = *(r-)muw). Nungish (Rāwang) has mu < *mu-k ‘sky’ (mu ru ‘to be struck with lightning’), contrasting with thmō ‘eagle, hawk, kite’ < TB *muw = *muw; cf. also Nutwang dialect of Rāwang muʔ laŋ ‘heaven’ (Morse). Angami Naga (Burling) has hmuu-tSa ‘fog’, probably from *s-muk; cf. also n. 308.

237 A doublet form in initial b- is indicated by Lepcha, as well as by T 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’.
sino-tibetan: a conspectus

upright, plant', Lahu jú? '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 *klu-y 'valley, river' (B khyuiy) (above); cf. also the following:

(361) K duŋ, Namsang (Konyak group) toŋ, B thuŋ 'sit' (TB *tuŋ-y ~ *druŋ-y).

(362) Lepcha so muiŋ (= so muk) 'cloudy weather'; K muiŋ 'cloudy; sullen, sulky', B hmuŋ 'dull, downcast', hmuŋ 'very dark', from TB *muŋ-y, a doublet of *muŋ-k (No. 357).

(363) Lepcha muk 'weeds, rubbish', Miri pômuk 'dust', B âmuiŋ 'refuse, dust' (TB *muŋ-k).

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

(364) B mum 'begin to form, as a bud', âmum 'incipient bud', L muːm 'close (as a flower)', kuŋ-muːm 'bud; to bud' (TB *muːm).

(365) K nun 'to be worn, threadbare', kənun 'rub', mənun 'rub with the fingers', G nol 'rub, knead', L nuːl 'brush past, rub against' (TB *nuːl).

(366) T mur 'gills', mur-goy 'temples', mur-gram 'jaw' (cf. mur-ša 'gnaw, masticate'), Nung mr [mr] 'face', L hmuːr 'point, tip, prow', Thado mu < *mur 'beak', Khoibu mur, Tangkhul kəmor 'mouth' (TB *muːr).

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

Lepcha kūm 'arched, concave, vaulted', B kəhum 'convex, arched', L kum ~ kuːm 'concave' (TB *kuːm).

B *-ats (< TB *-ik) and -aŋ (< TB *-iŋ) can phonemically be written /-ait/ and /-ain/, thus paralleling B *auk < TB *-uk and *auŋ < TB *-uy. 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 muːm 'to bud; a bud' and mən, 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 (Rāwang) mr also glossed as 'mouthful', which is nearer the apparent basic meaning of 'mouth' for this root, with the likely Ch. cognate mən/muən 'gate, door' (n. 479).

241 In Modern Burmese final -aŋ represents -i, -e, -e, and -e. 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 man > mi 'to be named', hmən > hmi 'to name' < *miŋ; cf. also krəŋ > tyl 'ground' < *gliŋ, myəŋ > myi 'sleepy' < *myel, ayən > aθi 'nail' < *m(t)sin, hraŋ > hye 'long' < *s-riŋ, pyən > pye, phyən > phyə 'full' ~ 'fill' < *gliŋ ~ *pliŋ (Judson a)
ment, cf. B ats-ku’, ‘older brother’ < TB *ik, hmyats ‘bamboo sprout’ < TB *s-m(y)ik, nats ‘dirty’ < TB *n( y)ik, sat’s ‘small animal of tiger genus’ < TB *zik, ãthats ‘joint’ < TB *tsik, prán ‘full’, phrán ‘fill’ < TB *blîy ~ *piy, lañ ‘neck’ < TB *liy, mañ ‘to be named’, ámañ ‘name’ < TB *miy (above). The nasal > stop shift in final characteristic of Burmese242 (cf. ip-mak ‘dream’ < TB *mañ, kyauk < *k-lauk ‘stone’ < TB *r-lauy) is especially in evidence here; cf. B sat’s ‘tree’ < TB *siy (above) and the following pair of roots:


(368) T na-niy ‘last year’, giži-niy ~ že-niy ‘two years ago’, also lo-rnyîy ~ na-rrnyîy = na-niy (cf. rnyîy-pa ‘old, ancient’), Tsangla niy, Miri niy (in comp.), Nung and K niy, B ãhnañ < *ãhnik, Mikir niy ‘year’ (TB *niy).243

Burmese retains final *-it (Nos. 119, 236), final *-ip (Nos. 16, 114) and final *-im (Nos. 53, 71). Final *-in, however, is represented by *-añ, as in B ãsáñ, L thin ‘liver’ < TB *m-siñ; B hmán < hmyán, L nín ‘ripe’ < TB *s-miñ.

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

(369) K śiñ ~ śen ~ tšen < *kyín, B khyín, L khy-n ‘weigh’ (TB *kì-n).

indicates final -i for these two words); hmañ > hmé ‘mole’ < *r-men, hmañ > hmé ‘ripe’ < *s-miñ, asáñ > oðè ‘liver’ < *m-siñ, lañ > le ‘neck’ < *liy; hniñ > hnyë ‘hurt, oppress’ < *nyên, pyañi > pyë ‘plank’ < *pley, hráñ > hyë ‘put together side by side’ < *ren. The nasalized final -ç appears to be correlated in some measure with TB medial *e; cf. also T sre-moñ ~ sre-mo ‘weasel’, Mikir iyaren < *m-ren ‘mongoose’, B hráñ > hyë ‘squirrel’.

242 Indeed, of B-L in general (JAM). Cf. Trung (Nungish) śiñ ‘tree’, śiñ-lap ‘leaf’, śiñ-wat ‘flower’ but śiñ ~ sîk ‘firewood’, sîk-si ‘fruit’. The Mutwang dialect (Morse) of Râwang (Nungish) has a highly idiosyncratic final cluster -nt in two items, including nönt ‘heart’, from TB *s-niñ; the standard Râwang dialect (Barnard) has aní ‘brains’, and it would appear that the Mutwang form is a derivative of TB *a-niñ = ?a-niñ via *?niñ > nîn? (essentially a suprasegmental glottal accent) > *nnt. This development is closely paralleled in Gyarung (K. Chang) tešñit ‘heart’, identical in form with tešñit 7’ < *te/sniñ (TB *s-niñ). 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 *siñ) is retained in some Loloish languages (JAM) and the root for ‘heart’ (TB *s-niñ) shows forms very close to the original in two Chinese transcriptions for early B-L languages: Hsi-hsia (eleventh and twelfth centuries) niye; Pai-lang (third century) nîñ/nîñ, b

243 This root now reconstructed *s-niñ; Kachin has both niñ and šniñ, and Pyu has sni < *sniñ, both agreeing with B-L initial *hn- (and note Karen *hnuy).
The following roots also have this long medial vowel:

(370) L tší-p, G tšip ‘shut, close’, from TB *ts(y)i-p.


(372) Dhimal šir, G sil, Dimasa šer, L thi-r ‘iron’, from TB *s(y)i-r.\(^{244}\)

(373) T skyil-ba ‘to bend’, khyil-ba ‘wind, twist, roll’, Lepcha r4il ‘a screw’, K kyin ‘to be soft and easily twisted’, skyin ‘roll, as a turban, into a ball’, gyin ‘roll, fashion, as mud pellets’, L ki.l ‘corner, angle’ (TB *ki.l).

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 lubu ‘bowels’<TB *pik; G miŋ ‘to name’, bumuy ‘name’, Dimasa bumu (in comp. muy) ‘name’<TB *r-miŋ; Dimasa phuluy ‘fill in’<TB *pliy; Dimasa bithlim~buthluy ‘brain’<TB *kliŋ; G min, Dimasa min~mun ‘ripen’<TB *s-min; also the following roots:


(377) K phriŋ ‘bark’, Dimasa biriŋ~buruŋ ‘bark, call (as an animal)’ (TB *priŋ).\(^{245}\)

(378) Nung and K moliŋ, G buruŋ (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 *syal ‘iron’: Bahing syal, Sangpang syel~sel, Dumi sel, pointing to an archaic doublet in this root: TB *syiŋ~*syal (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 *rīŋ, suggesting that this might be a prefixed root: *b-rīŋ, although this should yield K *marīŋ (cf. No. 378) rather than phriŋ; cf. also Ch.*sriey/sieya ‘to bark’ (not in texts), probably from *s-ri-y (see n. 457 for the initial cluster here).

\(^{246}\) T ziŋ ‘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-diiw thum-dii 30') 3' < TB *g-sum; G sam, Dimasa sam-tho 'mortal' < TB *tsum; also the following pair of roots:

(381) Lepcha lyam < *s-lam 'to warm up food' (cf. K tsulum, B hlüm), K lum 'warm', malum 'simmer, heat', šlum 'heat, warm, as food', Nung lim 'warm', B lum 'warm', hlüm 'warm oneself by a fire', hlüm 'heat again, warm over', Bodo lum-doy (Hodgson) ~ lam (Endle) 'fever', Dimasa lim ~ lum 'to be hot, have fever', lim-ba 'illness, fever', also G gram tši 'sweat', Bodo galam 'to sweat', galam doi 'sweat', Dimasa gilim di ~ gulum di 'sweat' (= 'heat-water'; cf. Siyin kwo-ul 'sweat' ~ 'warm') (TB *lum).

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 = Dimasa i ~ u.

appears to be from *lyiy (n. 104), as indicated by Lepcha lyäy '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-rig ~ *s-ray, and Nung azim 'raw', B tsim 'green; unripe' (TB *dzim).
Sim-Tibetan: a conspectus

Several cross-checks with Lushei and/or Burmese are available; cf. L ruk, B khrauk, G dok, Dimasa do '6' < TB *d-ruk; L luṣ, B kyauk < *k-lauk, G roṣ, Dimasa loṇ 'stone' < TB *r-luṣ; 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 mattōk~mattṣak, Dimasa moso, L sa-zuk<*yuk, Mikir thidžok<*yok 'deer (sambhur)' (TB *d-yuk).

(387) B tauk 'fillip; cut by a single, light blow', Lahu dɔʔ '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 kuik 'bite with the teeth or an instrument; shear', G kik 'strip', Dimasa khu 'pare off (rind of fruit), strip' (TB *kw-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 khruíþ~khyuíþ, G griý 'cage' (TB *kru-y).

(390) L t̥hú-n 'the inside (of anything)', Bodo siŋ, Dimasa bisiŋ 'inside, within' (TB *tsyu-n).²⁴⁸

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 groy 'horn' < TB *ruy (above) and the following:

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

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

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

(395) K nguŋ (n-guy) 'back of a blade', G rikiŋ 'edge', dža-rikīŋ '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 kuŋ 'side, edge, border, brim, bank, rim', arkoy '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).
Tibeto-Burman vowels (medials)

indications of this feature elsewhere are not lacking. Thus, Sho (Southern Kuki) distinguishes between sok '6' < TB *d-ruk and puk 'belly' < TB *pu-k, thuk 'deep' < TB *tu-k, müg '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-bū (bū < TB *buw 'insect, snake'), L hli-t, Mikir iyliit 'water leech', Ao Naga melet 'horse-leech (usually found near water or in very damp localities)', K lip 'sp. of horse-leech' (cf. K šyllet ~ šyllep 'tongue'), from TB *(m-)li-t.

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

(397) K khus, G khul ~ khol, Dimasa khon, Mikir iykol ~ iykoi, Siyan kul, Haka kul ~ kwe '20', from TB *(m-)kul.

The above root contrasts with G kimil, Dimasa bikhimi, Mikir aymi < *aymil '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- ~ phuri 'snake' < TB *b-ru-l, while Meiti 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', smyig-ma ~ smyug-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 apr [aphar] 'shake (as a cloth)', khon-phr 'moth', G bil, Dimasa bir 'to fly' (TB *pur ~ *pir); cf. Bahing byer, Abor-Miri ber 'to fly'.

(399) Bahing tyup ~ trop ~ tip, Sunwari tup, K dup 'beat, strike', mādup 'pound, hammer', Nung dip 'beat', thrip 'strike against', Mikir dip-dip 'beat (heart, pulse)', thip 'beat (drum)' (TB *dup ~ *dip, *tup ~ *tip).

(400) T nub-pa 'fall gradually, sink; set (sun, moon); decay, decline', nub 'west; evening', snub-pa 'cause to perish, suppress', K nip 'shade, cast a shadow; be overcast, dim', šiynip 'shadow', Nung nām nip lam 'west' (nām 'sun', lam 'side'),

249 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).
Sino-Tibetan: a conspectus

Bahing nip ‘compress, express’, B nip ‘to be kept down’, knip ‘crush, put down, oppress’ (TB *nung~*nip).

(401) T rum ‘darkness, obscurity’, K rim ‘to be dusk, dark’, nrim ‘evening’, niyrim rim ‘twilight’, srin rim na ‘grey’ (na ‘black’), rim- rim we ‘twilight’ (TB *rum~*rim).

Nung regularly shows preference for medial i, as in mil ‘body hair’ <TB *mul, riyp ‘horn’ <TB *ruyp, 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 amik, Vayu meik, Magari mik, Bahing mi-tsi, Thulung, Dumi, Rai mik-si, Limbu mik, Dhimal mi, Miki smik, K myi, G mik, L mit, Mikir mek, but Burmese (and general Burmese-Lolo) myak, Nung me~me < *myak (see n. 93), perhaps also Gyarung témák ‘eye’ (TB *mek~*myak).

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

250 The Bahing and Burmese forms are preferably analyzed as part of a distinct set: TB *nip ‘crush, compress’; cf. Ch. njap/njapa ‘trample’, from ST *nep. TB *nu-p ~ *ni[-]p ‘sink’, with long medial u; on basis of Lepcha nüp (n. 231); add B-G *(h)nap < *(h)nup ‘set (sun), sink, drown’, also ‘enter, penetrate’, thus tying in directly with the principal Ch. cognate: nüap/niap ‘enter’ (n. 479). The initial cluster in B-G is probably from *sm-; 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. *šam ‘iron’ (n. 179) and the following root: Gyarung (K. Chang) sar ‘louse’, B san, id., from B-L *san (Maru šin, Lahu še, Lisu hū); 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 ‘l’ (n. 271); *(m-)lyat ~ *(m-)li:t ‘leech’ (n. 398); also *(m-)syil ~ *(m-)syal ‘wash’ (n. 462). The medial ya form is the more archaic, as shown by Miao-Yao *nyaj ‘year’ (approximate reconstruction), a very early loan from a doublet: *(s-)nyaj of ST *(s-)nyaj, as reconstructed on the basis of TB, Karen and Chinese; Ch. retains an indication of the early vocalism in náj ‘in past time, formerly’, a related form; cf. T rnyiŋ-pa ‘old, ancient’, lo-rnyiŋ ‘last year’. Chinese perhaps also reflects an archaic doublet: *syaj of ST *siŋ ‘tree’ in sjajd ‘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’).

a  b  c  d
do-grik ‘black pheasant’ (do ‘bird’), L va-hrit ‘black pheasant’ (va ‘bird’), but T sreg-pa, West T šrag-pa ‘pheasant’, Lepcha kšryak 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:


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

(405) T bsuyŋ ‘smell, esp. sweet smell’, K suŋ ‘scent, odor, smell’, but B sâŋ ‘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. 395); the aberrant vocalism of B hraŋ 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 viêtnamien’, 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 Yünnan, 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 seiyyō 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).\(^\text{254}\) Simple tonal systems of Tibetan type have been incompletely recorded for several TB languages, including Kadu (R. G. Brown, 1920), Sho (Fryer), Tangkhul (Pettigrew, 1918), Thado (Shaw), Chang (Hutton, 1929), Khami (Houghton, 1895), and Sema Naga.\(^\text{255}\) 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 Mìng (Bonifacy), Lahu (Telford), Lisu (Fraser), Ahi and Lolopho (Liétard), Nyi (Vial), and Moso (Rock). A partial correspondences between Tibetan and Burmese’, Gengo Kenkyuu 34, 90–5 (1958). 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 Yu Tao-ch’üan\(^a\) and Chao Yuän-jên,\(^b\) ‘Ts’ang-yang-chia-ts’o ch’ing ko’\(^c\) (‘Love Songs of Tshangs-dbyangs-ngya-mtsho’), CYY, Monographs, A-5 (1930). Cf. also G. de Roerich, ‘Modern Tibetan Phonetics, with special reference to the Dialect of Central Tibet’, JASB (n.s.) 27 (1931), 285–312.


\(^a\) 于道泉 \(^b\) 趙元任 \(^c\) 倉洋嘉錯情歌
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 (\( \Uparrow \)), and has in addition an 'intermittent voice' or 'creaky voice' tone (written \( \Uparrow \)). 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:

<table>
<thead>
<tr>
<th>Language</th>
<th>Burmese</th>
<th>Lahu</th>
<th>Lisu</th>
<th>Ahi</th>
<th>Lolopho</th>
<th>Nyi</th>
</tr>
</thead>
<tbody>
<tr>
<td>descend</td>
<td>sak &gt; te?</td>
<td>yā?</td>
<td>rē?</td>
<td>ze?</td>
<td>—</td>
<td>zē</td>
</tr>
<tr>
<td>sharp</td>
<td>thak &gt; the?</td>
<td>thā?</td>
<td>tshyē?</td>
<td>thye?</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</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 *na* 'black'. Akha further appears to have low-falling tone for the falling tone (\( \Uparrow \)) of Burmese, as demonstrated by Shafer, and low-rising or high-rising tone for the level tone (\( \downarrow \)) 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 -\( \Uparrow \) was added; the modern symbol (two dots) appears as early as A.D. 1219, in the Damayangyi pagoda inscription (see Tin, *JBRS* 19, 1929).

258 Tones are marked as follows: \( \Uparrow \) (high), \( \Uparrow \) (low), \( \Uparrow \) (rising), \( \Uparrow \) (falling), and \( \Uparrow \) (mid-high). Mid-level tones are left unmarked. Glottal stops are clearly described for Lahu (\( x^4 \) and \( x^6 \) in Telford) and Lisu (\( x^2 \) 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 Yünnan. In this dialect, as recorded by the writer (at K'unning, 1938), the *hsia p'ing shèng* is merged with *ju shèng* (glottal stop), and *shang shèng* and *ch'ü shèng* are reversed. Hence we write \( x?, \Uparrow \), and \( \Uparrow \) for Liétard's \( x^2 \), \( x^3 \), and \( x^4 \), respectively. The falling-tone value (\( \Uparrow \)) has also been assigned to Lahu \( x \), Lisu \( x^4 \), and Nyi \( \Uparrow \).
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 (\(\chi\)) or rising tone (\(\chi\)). Lahu often retains glottal stop in roots showing irregular treatment in Lolo; cf. B \(\text{phak}'\ 'leaf',\) Lahu \(\text{phà}'\, but Lisu \(\text{phyè}',\) Lolopho \(\text{pè}',\) Nyi \(\text{phè};\) B \(\text{nak}'\ 'black',\) Lahu \(\text{nà}',\) but Lisu \(\text{na}',\) Ahi \(\text{nyè},\) Lolopho \(\text{nè},\) Nyi \(\text{nè} (TB *\text{nak}:\ T \text{nag-po}, \text{Nung nà});\) B \(\text{krak}<\text{k-rak}'\ 'fowl',\) Lahu \(\gammaô\), but Lisu \(\gammaîā\), Ahi \(\gammaè\), Lolopho \(\gammaî\), Nyi \(\gammaè'); B \(\text{myak}(-\text{tsl})'\ 'eye',\) Lahu \(\text{mè?}-\text{št}',\) but Lisu \(\text{mîyè}-\text{št}',\) Ahi \(\text{nyè-sà},\) Lolopho \(\text{mè-du?},\) Nyi \(\text{ne-sò};\) B \(\text{û-hnauk}'\ 'brain',\) Lahu \(\text{û-ne?},\) but Lisu \(\text{wû-nyû},\) Ahi \(\text{û-nò}(TB *\text{s-nuk}).\) In rare instances glottal stop appears in Lolo in roots without final stop consonant, e.g. Ahi and Lolopho \(\text{liò} '4',\) B \(\text{lè}.

The 'creaky voice' tone (\(\chi\)) 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 \(\text{la} 'moon, month',\) Lahu \(\text{ha-pa},\) Lisu \(\text{hà-bà},\) Ahi \(\text{hîò-bò},\) Lolopho \(\text{hyô},\) Nyi \(\text{slà-bà} (\text{cf. T xla-ba}).\) In Burmese morphology this tone often imparts a diminutive or otherwise specialized force, e.g. \(\text{lyà}'\ 'thin',\) \(\text{lyå}'\ 'flimsy'; \(\text{khà}'\ 'bitter',\) \(\text{khà-ka} 'bitterish'\ (many forms of this type); B \(\text{lu}'\ 'man',\) \(\text{lù} (\text{pejorative}), \text{ne} 'sun', \text{nè} 'day',\) and also serves to subordinate pronouns and proper nouns, as in \(\text{na} 'I', \text{yà} 'mine'.\) In addition, many doublet forms that do not readily yield to classification are found, e.g. \(\text{tu} 'hammer',\) \(\text{thû} 'pound, hammer'; \(\text{ma} 'to be named',\) \(\text{hmàn} 'to name'; \(\text{ni} 'to be even',\) \(\text{hnî} 'make even'; \(\text{la} 'revolve, turn around (intr.)',\) \(\text{hlàí} 'turn around, make revolve (tr.)'\) (note the appearance

\[\text{khrauk > thyau?} \quad \text{khò?} \quad \text{tshò?} \quad \text{tsù?} \quad \text{tshò?} \quad \text{khù}
\]

\[\text{lauk > lau?} \quad \text{lò?} \quad \text{lò?} \quad \text{lu?} \quad \text{—} \quad \text{lù}
\]

\[\text{hrats > hyi?} \quad \text{hi} \quad \text{hi?} \quad \text{ih?} \quad \text{hc?} \quad \text{hè}
\]

\[\text{sats > òi?} \quad \text{è?} \quad \text{è?} \quad \text{(sò)} \quad \text{(sò ~ sò)} \quad \text{sò}
\]

\[\text{tshit > shei?} \quad \text{áchè?} \quad \text{âtshè?} \quad \text{khì?} \quad \text{âtshè?} \quad \text{tshì}
\]

\[\text{ip > ei?} \quad \text{â?} \quad \text{â?} \quad \text{yi?} \quad \text{yi?} \quad \text{i}
\]

\[\text{ap > a?} \quad \text{ýò?} \quad \text{wò?} \quad \text{wò? ~ ro?} \quad \text{vò?} \quad (\text{hyò})
\]

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 *\text{sat}'kill' (low series = voiced initial) < TB *g-sat; cf. JAM, 1970b.
of 'creaky voice' in these three transitive forms); kwē 'bend, curve', khwē 'curve, curl, coil', kwē 'bend round, be curved'. In some instances 'creaky voice' perhaps stands for an earlier stop consonant; cf. mrā 'very sharp, keen', mrak 'cut keenly'; hlā 'very, excessive' (verbal affix), T hlag 'more, beyond'; note also the correspondence to K suffixed -t and L -k in B kyā~khyd, K khrat, L tla-k~thla-k 'fall; let fall' (TB *kla). In general, however, the problem is primarily one of morphology rather than phonology. Shafer (Sino-Tibetica 4, 316) thus is not justified in writing ā for ā and reconstructing TB final -ə 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):

<table>
<thead>
<tr>
<th>Burmese Low-level Tone261</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burmese</td>
</tr>
<tr>
<td>house</td>
</tr>
<tr>
<td>rain</td>
</tr>
<tr>
<td>ill</td>
</tr>
<tr>
<td>buy</td>
</tr>
<tr>
<td>I, me</td>
</tr>
</tbody>
</table>

| 100 | āra | ha | hã | hõ | hyô | (hã) |
| name | man | -packages (mye) | mä | mì | mè |
| sun | ne | mā-ni | nyì | nyì | nyì | nyì |
| white; silver | phru | phu | phù | thò | phì | ñlù |
| thick | thu | thu | thù | thò | thù | thù |

260 Note also the use of 'creaky voice' with nominalizing ā- prefix: nam 'to smell (intr.)', nàm 'to smell (tr.)', ānám 'smell'; thu 'thick', ãthú (also dû) ' thickness'; these forms apparently were glottalized by the (non-phonemic) glottal onset of the prefix: ã-thu > a-thú; also (with intervocalic voicing) > ã-du > ã-du (the 'Tibetan stage' – see n. 339) > dû. Modern Burmese has 'creaky voice' as a suprasegmental morheme 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 JAS (1945), 65–7, note 7). It would appear that the general subordinating suffix *-ki of TB (see §17) was replaced in close juncture by -ʔi, 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 / / tone, as in 'house', is from old plain initials; Lahu / / tone (mid, unmarked) is from old aspirated and glottalized initials (JAM).
The above tables yield the equations: B × Lahu ь × χ = Lisu, Ahi, Lolopho, Nyi ь; and B χ = Lahu ь = Lisu χ = Ahi, Lolopho, Nyi ь. 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 tonemes 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 ь in the first group, χ in the second group):

262 Lahu tone /ʰ/ 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 /ʰʰ/ (very low), as in 'flesh' (JAM).
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’, ánam ‘unpleasant odor’, nàm ‘to smell (tr.)’; contrast tshwai ‘attach to, connect with (tr.)’, tswai ‘stick fast in, adhere (intr.)’, and phra ‘divide into several parts (tr.)’, prà ‘to be divided (intr.)’. Wolfenden 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.

263 Telford has hòn ‘boat’, an odd shift paralleled by B lè, Lahu hìn ‘heavy’; B lè, Lahu ēn ‘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 /ŋ/: ēn ‘four’, ēn ‘bend’, hòn ‘elephant’, hìn ‘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 ř- (see Matisoff, Lahu and PLB; ‘GD’).

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

266 ‘On the Ok Myit and She Pok, with a Proposed Revision of the Terminology of Burmese “Tones”’, JBRS 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 occasionallysuffixing. 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-ka (Waling) ~ ka-ya
(Rodong) ~ ëna (Limbu), Nung ya, B ya, G an ‘I’, with which must be grouped
*nya ‘I; self’, and perhaps Dhimal ka, L (and general Kuki) ka ‘I’.

(407) Thami, Magari, Chepang nay, K nay ~ na, B nay ‘thou’, G na?a ‘thou’,
nay-ni ‘thy’ (cf. B ñañ <*nyin ‘thou [female to female]’), L nay, also Dhimal and
Nung na ‘thou’.

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’.
‘thine’ (see above); Dhimal ka ‘I’, na ‘thou’; kay ‘my’, nay ‘thy’; kyel ‘we’, nyel
‘you’; kiny ‘our’, niy ‘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 yed 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: aŋ.
is noteworthy that this root has been replaced in several TB groups (T bdun, L səri). 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 '10' (No. 16) is poorly represented, and extreme variation obtains here (T btdu, 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 âšhai '10' appears to be related to this root through vowel gradation.²⁷²

The root *s-toṣ '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), *b-liy '4' (No. 410), *l-ŋa ~ *b-ŋa '5' (No. 78), *d-ruk '6' (No. 411), *b-r-ŋat '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 gsum, G gni and githam, as well as Digaro kryiy and kosay, but replacement or loss of this element is common everywhere; cf. K ni '2', masum < *b-sum '3' (influenced by məli < *b-li '4'); Nung шки '2', ətsum '3'; B hnats '2', səm '3'; L hni? '2', thum '3'. Prefixed *b- in *b-liy '4' is well established; cf. T bəi < *bli (this cluster lacking before i in Tibetan), Thulung bli, Kanauri pō < *pli (see n. 126), Magari buli, Digaro kəprei, Miri pi, Nung əbyi (dial. əβəli), K əməli < b-li, B lè (Maru byit < *b-liy), Mikir phli. T lŋa, Old Kuki *r-ŋa (e.g. Rangkhol riŋa) attest to TB *l-ŋa '5', but prefixed *b-, apparently through the influence exerted by *b-liy '4', is much more generally represented (Thami bŋa, Digaro mŋa, K mŋa < b-ŋa, Nung ŋŋa, B ŋa, G boaŋga, L ŋa). Prefixed *d- is well attested in *d-ruk '6' (T drug, Kanauri tūg, Lepcha tārāk, Digaro thārə, G dok, Mikir therok) and *d-kuw '9' (T dgu, Nung tagö, K džəkhu,

²⁷¹ We can now reconstruct TB *tyik (to explain T gtšig), and can further set up a doublet in ST showing the medial ɣa ~ i alternation (n. 251), viz. *tyik ~ *tyik, the former represented by Ch. *tʃ'jak/tʃ'jak '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 *tsyay, yielding both B âšhai and the various palatalized forms with final -i.

²⁷³ Trung (Nungish) has ti tʊŋ nai '1,000', ti tʊŋ gra '10,000' (ti '1'), appearing to contain the *tʊŋ element, but analysis is uncertain (Trung has ti ɟa '100', ɟat '8').
G sku, Kuki-Naga *d-kua), but note replacement of *d- by k- before root-initial *r- in Magari kruk, Nung toru (dial. 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 matsat < b-gyat ‘8’ (with loss of r) and latsa < *r-gya ‘100’; B hrats < (prefix +) ryat ‘8’ and ēra (rya in inscriptions) ‘100’; L riat ‘8’ and za < *ya ‘100’. The general Kuki-Naga root *d-ryat ‘8’ (Khami taya, Lakher tśri, Empeo dosat, Sema Naga tšše, Ao Naga tset, also Meithel tset ‘7’) shows replacement of *b- under the influence of *d-kua (TB *d-kuw) ‘9’. Tibetan, on the other hand, has developed bṛgya ‘100’ from *r-gya through hybridization with bṛgyad ‘8’, the general TB evidence (notably that of Kachin) unmistakably pointing to a distinction in the prefixes of these two roots.274

§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 nya-s kho-la rdun ‘by-me to-him beat’ = ‘I beat him’, nya-s de sès (or nya-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 tyidé khwè ‘big dog...’ or ‘dog (that is) big...’ (–dè with ‘creaky tone’, a morpheme of subordination), khwè tyide ‘dog is-big’, khwèdyi ‘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.
Sino-Tibetan: a conspectus

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-c3 ‘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 Meithei 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 Meithei-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 teba, Moso ba~mba ‘goitre’; T lte-ba ‘navel’, K šdai, 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. klu-ba ‘liquid’, dri-ma ‘filth’. This usage is even commoner in the early texts, e.g. gźu-mo for gźu ‘bow’, mda-mo for mda ‘arrow’. These suffixed forms are not otherwise differentiated, however, hence one cannot properly speak of grammatical gender here.
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 gā (with a 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', gosoy '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 *sya 'flesh; animal' in noun roots.

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

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

Prefixed *g-: rare; function unknown.

Prefixed *d-: rare; function unknown.

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

Nothing much has been written in the field of comparative TB morphology since 1940. The most important articles to appear on the subject are R. Shafer, 'Prefixes in Tibeto-Burmic', HfAS, 1945–7, and 'Phonétique comparée de quelques préfixes simples en sino-tibétain', BSLP, 1950; see also R. A. Miller, 'The Tibeto-Burman Infix System', fAOS 78, 3, 1958 (JAM).
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 -γ, -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 *zan rather than *za 'eat' (in the face of TB *dza). As already shown above (n. 62), the West T data confirm the derivation of -s from *-ds in pus-mo < *puds 'knee' < TB *put; cf. also the following root:

(412) T mkhris-pa < *mkhrids, West T thigs-pa 'bile', Nung sashi < *səkhri 'gall-bladder' (cf. No. 38), B sān-khre 'gall' (sān 'liver'), G kha-khít 'bile' (kha 'bitter' = 'liver'), Dimasa bikhlu < *bikhliit, id., from TB *(m-)kri-t.

The above root is a derivative of the following:

(413) Lepcha kri 'bitter', K khri 'acid, sour', Moshang shi < *əkhri 'acid' (cf. No. 416), Dimasa khiri 'sour', from TB *kri(y).

Suffixed -s(i) ~ -so used to form a type of 'middle voice' is found in several languages; cf. Kanauri krapši ~ skrapši 'cry together', toyši 'strike oneself or one another', sarši 'rise' (sar 'raise'), zaši 'be eaten', diši 'enter, lie down', bōši 'forget'; Nung itši 'laugh', njimši 'stool', narši 'stop (to rest)', khusši 'awake', maguši 'embrace, hug'; Bahing riso 'laugh', khľoso 'hide', tšiso 'bathe', phiso 'dress oneself', gyerso 'be glad', biso 'believe', yonso 'be melted'; Vayu lita~lista 'heavy', līš(-tše) 'be heavy', sišo 'kill', siš(-tše) 'kill thyself or for thyself' (< TB *siy 'die').

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. Przyluski 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.

280 Outlines, pp. 56 ff.; 'On Certain Alternations between Dental Finals in Tibetan and Chinese', JRAAS (1936), 401-16; 'Concerning the Variation of Final Consonants in the Word Families of Tibetan, Kachin, and Chinese', JRAAS (1937), 625-55.

281 Suffixed -s ~ -z is also found in other Himalayish languages, e.g. Bunang bris ~ briz 'write' (T 'bri-ba), hoangs 'come out' < TB *hway; Manchati branx 'sit', Tinan bracelets 'put together', sams 'think' (T sem-pa, pf. ents ~ bsams), voas
appears also in many ‘present’ roots, occasionally with extra-Tibetan correspondences, e.g. T *ses-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, Mīri tat ‘hear’ (TB *ta-s).282

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.283 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-vō ‘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. tsiś ‘rotten’, tshōs ‘fat’ < TB *tsou, kyōs ‘drunk’, liss ‘cold’, thiss ‘wet’ < TB *ti(y).

282 Trung (Nungish) has than ‘hear’, with secondary final -ŋ (cf. n. 74); Newari has ta-l, with suffixed -l (see n. 294). This root has now been reconstructed *tə-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 pwaŋ ‘to be rubbed off’, pwaŋ ‘rub, grind, lathe’; hmin ‘to have the eyes shut’, hmit ‘shut (the eye), wink’; pān ‘go round’, pāt ‘wind around, encircle’ (note the intransitive vs. transitive distinction here); Nung ph(y)it ~ ph(y)in ‘to loose, untie’; T phyen ~ phon, K phyet ‘flatulence’; T momon ‘cut, slice, shave’ (cf. T rmọ-ba ~ rmọd-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. šenə ‘body’ (AT has the identical semantic interchange; cf. IN *daginya ‘body, flesh’). Kachin also has (tiy-)khan ‘crab’ < TB *d-kə-y. Burmese has this suffix in yun ‘rabbit’ (like rats, these come in large numbers) < TB *b-yoo ‘rat’ (K yu~yun ‘rat’, T byiu ‘alpine hare’, L sa-zu-pui ‘hare’ = ‘big rat’); cf. also B yan ‘goose’ < *ŋa (as shown by Ch. evidence; n. 428), whence T yan (<-pa, -ma) ‘goose (wild)’, from *ŋa/ŋa; also B kyi-kən ‘crow’ < TB a

7-2 99
Sino-Tibetan: a conspectus

*b-yuw, K 旃 'flesh, meat, deer' < TB *sya, also the following pair of roots:

(417) Chepang ya, Nung ya, Miri yo < *ya, Mikir dzo < *ya, but L za-n < *ya-n, Thado yan 'night' (TB *ya).285

(418) Nung ur-pha 'palm', Miri lak-po < *-pa 'palm', le-po 'sole', B bhâwâ (phâwâ) 'palm, sole', G džak-pha 'palm', dža-pha 'sole', but K lephän < *lak-phan 'palm, sole' (all except Burmese in comp. with 'hand' and/or 'foot') (TB *pa).286,287

Suffixed *-t is clearly causative or directive in some instances, e.g. T 'byed-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:

(419) T nu-ma 'breast', Tsangla nu 'milk', B nui, L hnu-te 'breast, milk' (TB *nuw).

*ka: T kha-tha 'crow, raven', K kha, Nungish: Râwang than-kha, Trung tak-ka 'crow'. An additional important class of *-n (and *-t) suffixes 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'; Êa-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. bzi-tshan 'collection of four (bzi) 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 khay-pwân 'spouse' (B-L *khay 'grandfather', *bwa 'grandmother'); Kanauri mann 'mother' < TB *ma (cf. T ma-smad 'mother and children'); Lepcha a-fyût < *-sput 'father-in-law, wife's older brother' < TB *paw 'grandfather' (cf. T skud-po, cited above), (a-)zon < *-zan 'grandchild but (a-)zo 'great-grandfather' (reciprocal terms), from TB *sa 'child'; Dhimal tisan 'son', from TB *tsa '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 Tiddim 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 džia (Râwang) and ya? (Mutwang) 'night'; for the latter, cf. B ná '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' (lá) 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 madit 'moisten, wet, dip' <medi 'moist, wet'; K manit 'laugh at' <mani 'laugh'. The Bahing-Vayu -t(o) suffix is exclusively of this type; cf. Bahing ri-so 'laugh', ri-to 'laugh at'; Vayu khus '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- 'khrud-pa, K khrut 'wash, bathe' <TB kruw; T gdSi-ba-gdM-pa, K diit dii-dii tiyi 'urinate' <TB *ts(y)i; T stad-pa 'put on' <TB *ta 'place'; T mnyed-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', lagot- lkhot (also šagot) 'scoop up' (TB *r-k0-t).

(421) T du-ba 'assemble, meet, join', dud-pa 'to tie, knot', mdud 'knot, bow', sdud-pa 'put together, join, unite', K tut 'to be joined, bound or tied together', matut- kstut 'join, connect', Nung thu 'join (as a stream)', dathut 'join, unite', G stit <*stut 'tangle', ka-ani bistit 'a knot (ka 'tie') (TB *du-t-*tu-t).

(422) K stut 'stop, plug, cork, as a bottle', mstut 'to stop, cork; stopper', Nung sü 'to cork', aysü 'cork', B tshui 'stop up', ātshui 'stopper, plug' (TB *tsuw).

(423) T sud-pa, Magari su 'to cough', from TB *su(w).288

(424) K gėva-kowa-wa 'bite', B wā 'chew', Bodo wat-ot, Dimasa wai < *wat 'bite' (TB *wa).

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).289 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.

289 Cf. Kuki-Naga *dza(k) 'eat' <TB *dza, *ne(k) 'drink', *pe(k) 'give'; and L tlak 'fall' < TB *kla; Meithei nok, Mikir iynek <m-nik 'laugh' <TB *m-nwi(y); L zuk<yuk 'verbal affix indicating motion downwards' <TB *yu(w), as represented by Vayu yu 'descend' (yut tr.), Bahing yu 'descend', K yu 'descend', šeyu 'let down'.

101
nouns through suffixation of *-t ( > Haka -θ), as in ṣfa ‘child’ (< TB *za), ḍa-θ ‘to breed’, ṣbu ‘nest’ (L bu, Sho ṣbū, Khami ṭbu, Aimol ṛṇbū), bu-θ ‘build a nest’; ṣrə ‘food’, ṛəθ ‘grow food’, ṣva-r ‘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’, lud-pa ‘phlegm’ < lu-ba ‘cough, throw up phlegm’, drod ‘heat’ < dro-ba ‘to be warm’, sometimes paralleling forms in -s, as in blus-ma ‘ransom’ < blu-ba ‘to ransom’, ltad-mo ‘sight, spectacle’ ~ ltas ‘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-khu ‘smoke’ (wan-khu khu ‘to smoke’), Tangkhul khit ‘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. rdzu ‘deceive’ < 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 āsom ‘food’ < zo ‘eat’, āhrum ‘hot’ ~ āhrum ‘heat’ < hru ‘to be hot’, āyam ‘knowledge’ < ya ‘know’, šim ‘being’ < si ‘to be’, ābun ‘vehicle’ < bu ‘carry’ (note the use of prefixed ā-). 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-ŋa, Khaling and Rai bi-ŋa, Kambu pi-), Miri bi, Dhimal pi, B pè, Nyi Lolo ve-bi, Mikir pi ‘give’ (TB *biy).²⁹²

Kanauri has -n as a transitive verb suffix in a few forms, e.g. go-si ‘commit adultery with’, gon (tr.); hu-si ‘learn’, hun ‘teach’; cf. also khun ‘steal’, T rku-ba ‘steal’, rkun-ma ‘thief; theft’ (noun in -n), K logu ‘steal’, logut ‘thief’ (noun in -t), from TB *r-kwu (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, HJAS 5, 1941; cf. nags ‘forest’ and nag-pa ‘black’, dbus ‘middle’ and dbu ‘head’.

²⁹¹ L tshat ‘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 -ŋ (n. 74).

²⁹³ Add K-N *yan-ŋ ‘night; to be evening’ (n. 285); also L pan ‘thin’, Tiddim pa ~ pāt ‘to be thin’, pan (same tone) ‘to be very thin’, from TB *ba (No. 25).
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- ~ ni- ~ num- for TB prefixed *r-. The general TB root *r-pat 'leech', however, is represented by K wot rather than *lewot or *nwot; cf. also T pad-ma (with significant lack of aspiration, suggesting a lost prefix), Nung daphat < *d-pat ~ phaphat < *m-pat, Miri tpat < *d-pat, Digaro kope < *g-pat (cf. B krwat), Mikir inphat < *m-pat, Lakher tsava < *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 *siv (but syat ‘kill’ < TB *g-sat), bil ‘give’ < TB *biy, khul ‘steal’ < TB *r-kuw, džal ‘graze’ < TB *dzä ‘eat’, tal ‘hear’ < TB *ta.
Sino-Tibetan: a conspectus

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).

Bahing-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 to- < *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 to- < *d-. Kadu preserves prefixed *s-.

Burmese-Lolo: Prefixed *s- and *r- reflected in aspiration or unvoicing of initials. Other prefixes normally dropped without trace, but occasionally preserved before liquids or w-. 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 (∫ā-~ d∫ā-), and Nung (∫ā-), as well as in Lepcha (in the form of palatalization) and Burmese (in the form of aspiration or surdization of the initial);²⁹⁷ cf. T ’khor-ba ‘turn round’, skor-ba ‘surround’; K dam ‘stray’, ∫ādam ‘lead astray’; thum ‘to be ended’, d∫āthum ‘to end’ (d∫ā- for ∫ā- before surd stops); Nung ∫ānem ‘to be low’, ∫ānem ‘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’, phyauk ‘cause to be lost, destroy’; lwat ‘to be free’, hlwat ‘free, release’ (cf. the discussion in §8). Maru li ‘come’, ∫āli ‘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.²⁹⁸ 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’ (see 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 skrāy-ba ‘become swollen, swell’, stor-ba ‘to be or become lost, go astray’, syo-ba ‘become green’ (syo ‘green’), sgāy-ba ‘become full’ (‘gens-pa, Pf. bkāy ‘fill’). This ‘intensive’ function of prefixed *s- is reflected in TB *s-riy ~ *s-ray ‘live, alive, green, raw’, *s-kjur ‘sour’, *s-lum ‘round’, *s-liy ‘heavy’ and the following pair of roots:²⁹⁹

²⁹⁷ There is every reason to believe that the marker of causativization was glottalization at the PLB stage; see GD (JAM).

²⁹⁸ Burmese perhaps retains prefixed *s- before roots with initial w- or hw-; cf. swāŋ ‘put into’ and wāŋ ‘enter, go or come in’ < TB *hwāŋ; also swā ‘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 *wa used with verbs of movement (see Wolfenden, Outlines, p. 190).

²⁹⁹ 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,
Sino-Tibetan: a conspectus

(431) Bunan śraṅ ‘shame’, Magari kha-rak ‘to be ashamed’, Nung sra ‘shame’, śraṅ-sī ‘to be ashamed’, B hrak ‘to be ashamed, shy’, Mikir therak ‘shame, disgrace; to be ashamed, blush’ (TB *s-rak).

(432) * T smin-pa ‘ripen; ripeness; ripe’, Vayu min, Bahing miy ‘to be ripe; to be cooked’, Magari min ‘ripe, ripen’, Lepcha cimcin < *cimin ‘ripe, cooked’, mycin < *s-min ‘to be ripe’, Miri min, K myin ‘ripe’, Nung rmin ‘to be cooked; to rot (as wood)’, G min ‘fester, mature’, min-gipa ‘ripe’, Dimasa min ~ mun ‘ripen, cook’ (intr.), gimin ~ gumun ‘cooked, ripe, subduced (gumun di ‘pus’), L hmin ‘ripen, ripe’, Mikir men ‘ripe’ (TB *s-min).

The following root shows a transfer of function from ‘transitive’ to ‘in- tensive’:


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 sīnyat ~ sənat, B hnat, Lakher hna < *hnat ‘heddles (of loom)’, Ao Naga əṇet < *ənat ‘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’), hō ~ sa-hō ‘blood’, hok-wa ~ sa-hok-wa ‘skin’ but sīn-hok-wa ‘bark’ (sīn ‘tree’), and occasionally appears as an added element in other languages, e.g. Nung səro, Maru sərək ‘bone’ < *s-rue, corresponding to B āru, TB *rus. TB roots of this type include *s-kra ‘hair’, *s-lay (also *m-lay) ‘tongue’, *s-na ‘nose’, *s-nap ‘snot’, *s-niŋ ‘heart, brains’, *s-nuy ‘back’, *s-tay ‘navel, abdomen’, *s-hwiŋ ‘blood’ and the following (probably connected with TB *wa ‘bite, chew’):

(437) T so < *swa, Murmi swa, Bhramu swa, Manchati tshoa (initial unexplained), Thebor soa, Lepcha fo < *swa, Newari wa, K wa, Kadu səwa, Nung sa, B swa, Moshang va, G wa(<gam), Dimasa ha, L (and general Kuki) ha (initial unexplained), Mikir so < *s(w)a ‘tooth’ (TB *s-wa).

viz. TB *sriŋ ‘live’ (n. 304), *zlum ‘round’ (n. 136) and *srak ‘shame’ (n. 304). T sags < *ṭrag-s ‘joke, jest, fun’ = ‘a matter (-s) of shame (ṣag)’ 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’, səro ‘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 < \(*\)sāsram (cf. Lushei!), Miri si-ram, Nung səram, K ʃəram, Burmese-Lolo *sram (based on Maru χren, Phunoi sam), G matram, Dimasa matham, L sa-hram, Mikir ʃərim ‘otter’ (TB *s-ram).\(^{302}\)

\((439)\) T šig, Bunau širig, Kanauri rik, Lepcha šak < *šik, K tsiʔ, Nung ši, Miri tsik (Abor tik), G tik, Dimasa thi-khu~thi-pu, L hrik, Mikir rek ‘louse’ (TB *s-tik).\(^{303}\)

\((440)\) T ldži-ba~’dži-ba < *slɭi, Miri i-po, K khələwəi~kələi < *khwəli (through

Bodo-Garo has prefixed mi- in this capacity; cf. G matram, Dimasa matham ‘otter’; G mattəʃa, Dimasa məsi ‘tiger’; G mattʃək, Dimasa məso ‘deer’; G møy, Dimasa məiʃə ‘elephant’ (-yən is augmentative); G mapil ~ mapbil, Bodo muphur ~ məfər, Dimasa misubər ‘bear’ (note the vocalic harmony). This element is perhaps related to TB \(*\)r-mi(ʔ) ‘man (homo)’, as represented by T mi, Gyarung tərmi, Kanauri mi, Magari bhərmi, Kiranti *mi-na~*yap-mi, Digaro nome, Lushei (and general K-N) mi. 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. Phn) and does not appear in Maru or the Lolo languages; cf. the following:

B krak ‘fowl’; cf. Maru rə < *rək, Lahu yəʔ, also L va-rək ‘duck’, from TB *rək.


B krək ‘rat’; cf. Maru rək, Lahu ʃəʔ (known only from B-L).

B kyə < *klə ‘tiger’; cf. Samong kəla, Maru lə < *lə (known only from B-L, but related to Ch. xə/xəu < *kələ ‘tiger’).

B kɾət ‘leech’, from TB *r-pət.

B kriŋ ‘cane, rattan’; cf. Maru wəran~ram < *rim, also K rim, id., Lepcha rim ‘sp. of cane (Calamus flagellum)’, from TB *ri-m.

B kyəuk < *kələk ‘stone’; cf. Samong kələuk, Maru lauk-, from TB *r-ləŋ.

This root has been reconstructed *sram, as clearly indicated by both the Lepcha and Lushei forms indicating *sa-sram (*sa- ‘animal prefix’). Burmese has phyam ‘otter’, which can be analyzed as a derivative of *phram < *p-sram, with the \(p\)-element of undetermined origin.

This root now reconstructed *ʃriŋ (n. 304).
Sino-Tibetan: a conspectus

metathesis), Nung sōli, B khwè-hlé (Maru kola), L ui-hli, Mikir tšikli 'flea' (TB *s-lîy); note the appearance of this root in composition with TB *kwiy 'dog' in Kachin, Burmese, and Lushei.

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 sīg 'louse' < *s-rik; K tsi, Nung sī 'louse' < *s-rik, paralleling K tsiŋ ~ ktsiŋ, Nung māsiŋ 'green' < *s-siŋ; G tik, Dimasa thi-khu 'louse' < *s-rik, paralleling G matram, Dimasa matham 'otter' < *s-ram; G and Dimasa gathay 'green' < *s-ra; G and Dimasa tha 'potato' < *s-ra; Meithei hik 'louse' < *s-rik, paralleling hiŋ 'to be alive' < *s-siŋ, ha 'yam' < *s-ra.304

304 Benedict (1948) has reconstructed *sr- in TB *sriŋ 'live' and *srik 'louse', and to these we must now add *srak 'ashamed', all three with excellent cognates in Chinese, which has *sr-/s- for TB (and ST) *sr- (n. 457). The contrast with TB *sr- is best shown in Tibetan, Kachin, Mikir and Garo; cf. the following:

<table>
<thead>
<tr>
<th>otter</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></td>
<td></td>
<td>*sram</td>
<td>—</td>
<td>sram</td>
<td>šoram</td>
<td>*phram</td>
<td>serim</td>
</tr>
<tr>
<td>live</td>
<td></td>
<td>*sriŋ</td>
<td>—</td>
<td>tsiŋ</td>
<td>hrany</td>
<td>ren</td>
<td>than</td>
</tr>
<tr>
<td>louse</td>
<td></td>
<td>*srik</td>
<td>šrig</td>
<td>sig</td>
<td>tsiʔ</td>
<td>rek</td>
<td>tik</td>
</tr>
<tr>
<td>ashamed</td>
<td></td>
<td>*srak</td>
<td>šrag</td>
<td>šasgs</td>
<td>hraŋ</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/žiwoa 'bulb, tuber; potato' (not in GSR), perhaps from a ST doublet form *ţra (see n. 457 for the initial, n. 487 for the final, correspondence). Lushei, like Burmese, has hr- for both clusters: sa-hram 'otter', hrik 'louse'. Kanauri has sōŋ 'live' but rîk 'louse', the latter possibly through metanalysis: *s-rîk with TB *s- 'animal prefix' (as in the text), the 'prefix' then dropping in customary manner for Kanauri. Kanauri regularly has r- for TB *sr-, as in the following interesting pair of kinship terms: T sritiy-mo 'sister (man sp.)', Kanauri and Kanashi riŋz, Bunan śriŋz (TB *śr- and *sr- fall together here), Thebor sīg, Manchati hriŋ, Chamba Lahuli hri 'sister', Byangsi (state of Almora) riŋ-śa 'younger sister', Dhimal ri-ma 'sister', from TB *sriŋ; T sru 'mother's sister', 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); śo 'otter' (in γâ-śo-lo 'gray otter' = 'water-otter-big', as analyzed by JAM)<ST *sram; yāʔ (in yāʔ-ço) 'ashamed' (cited in JAM, 1970a)<ST *sraŋ.

*
§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 lawat 'leech' < *r-pat.

Kachin usually has lo- for *r- in verb roots (and in lotsa < *r-gya '100'), but n- ~ niy-~num- in noun roots. Noun roots with prefixed *r- include the following:

- **TB** *r-ka 'earth': Nung raga, K nga (n-ga).
- **TB** *r-say 'lizard': T rtsays-pa, K nsay.
- **TB** *r-ka-m 'edge, precipice': K ngam (n-gam) ~ nmsgam, G rikam.
- **TB** *r-gu-y 'edge; shin': K nguy (n-guy), G rikiy, Dimasa ruguy, Mikir arkoy.
- **TB** *r-luy 'stone': K nluy, Mikir arloj.
- **TB** *r-miy 'name': Magari armin, Gyarung -rmi, Rangkhol ermiy.
- **TB** *r-may 'tail': Digar lami ~ lamiy, Aka orm < *ormi, K nmai, Dimasa khermai ~ beimai, Aimol romai, Mikir arme.
- **TB** *r-nil ~ *r-nil(y) 'gums': T rnil, Dimasa ha-rni, G wa-riy < *wa-rni (in comp. with 'tooth').
- **TB** *r-pat 'leech': Magari lawat, B krwat < *k-rwat, G ruat, Rangkhol ervot, Angari Naga rewa.

(441) K nwa ~ niywa, G rua, Dimasa roa 'ax' (TB *r-wa).

(442) T rtsa(-ba) 'vein; root', Lepcha so < *sa 'veins, fibres of wood', K losa 'tendon, sinew, vein', Bodo roda ~ rota 'root; sinew, tendon', Dimasa rada 'vein', Chang (Konyak) hau < *sa 'nerve, tendon, vein', L tha 'sinew', tha-za-m 'veins, arteries, nerves', Ao Naga teza 'vein', Mikir artho 'nerve, sinew, vein, muscle' (TB *r-sa).

(443) B rwa 'to rain', L rua? 'rain', Bahing rya-wa 'rain' (cf. Khambu kowa, Waling tiswa, Rodong wa 'water'), Digar kera 'rain', G mikka wa, Dimasa ha 'to rain' (with loss of prefix) (TB *r-wa); perhaps also Lepcha so, from *wa.

(444) B rwa < *r-wa (Maru wo, Lashi wo, Atsi wa), Horpa (Hsi-fan group) hrwa, but Phön (Samong dial.) kwha, agreeing with L (and general Kuki) khua 'village' (TB *r-wa ~ *g-wa).

305 This root has now been reconstructed *r-pwa (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'.

109
**Sino-Tibetan: a conspectus**

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 **ryod-pa** ~ **r**yo-len-pa, Mikir arnu <*aryu* ‘roast, fry’ < TB *r-*yaw (above). Nung has prefixed *r-* in the following:

Nung **rodul** ‘roll, wrap, enwrap’, but *hi-* dul ‘legging’ (= ‘leg-wrapping’), *hi-* 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 la- for TB *r-* in *lagu* ‘steal’, T rku-ba < TB *r-kuw*; *lskhot* ‘scoop up’, T *rkod-*pa ‘dig out’ < TB *r-*ko-*t*; *lsthat* ‘coarse’ < TB *r-*ta-*t* (above); *lmu* ‘sky’, T *rmu-*ba ‘fog’ < TB *r-*muw; also the following:308

(445) T *rga*-ba, K *loga* ‘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’, *labu* ‘trousers, skirt’; *t*šyen ‘to do’, *l*tšyen ‘work’; *s*ōt ‘to scrape’, *ls*tōt ‘chisel, gouge’. Bodo-Garo preserves TB prefixed *r-* in G ritt*šey*, Dimasa red*šey*, Mikir ard*šay* ‘light’ < TB *r-*ya-*g* (above), also the following root:

(446) T *rma* ‘wound’, *rma-*ba ‘to wound’, K *nma* ~ *numma* ‘wound, scar’, G *mat* ‘to wound’, Dimasa bum*ai* <*bumat* ‘wound’, also K *mat* ~ *tsomat*, Nung *rmat*, G gilmat, Dimasa ger*ma* ‘nettle’ (= ‘the wounder’), with suffixed *-t* (TB *r-*ma and *r-*ma-*t*).309

---

§24. Tibeto-Burman prefixed *b-*

T prefixed b- is characteristically 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,

307 Angami Naga (Burling) has *ratu* < *rotul* ‘roll’, showing correspondence to Nungish; also *rnu* < *r*ma ‘listen’ < TB *r-*na, with correspondence to T *rna-*ba ‘ear’; cf. also *r*olu ‘bathe’ < TB *(r-)*lu(*w*) ~ *(m-)*lu(*w*).

308 K *lmu* ‘sky’ stands for *lmu*? (n. 236) and belongs with T rmugs-pa ‘dense fog’, from TB *r-*mu*k*; Gyarung (K. Chang) *termu* < *r-*mu or *r-*muk is indeterminate, as are Gurung and Thakali mu ‘sky’, but Chang Naga mūγ ‘sky’ belongs with TB *r-*muw = *r-*muw. Kachin has prefixed la- corresponding to T l-, perhaps through coincidence, in TB *(l-)*tak (n. 338); JAM notes that there is a secondary Kachin prefixed la- < *lak* ‘hand’, used in words pertaining to action with the hands and feet; see Hanson (1906), pp. 358–85, also Matisoff, Lahu and PLB.

309 This root is also represented in K-N: Tiddim ma ‘sharp edge of a knife; wound’.

110
Tibeto-Burman prefixed *b-

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 ma-, Nung has phə- (rarely bo-), 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 prefixed “b- (Mikir ph-) and *m- (Mikir iy-), thus permitting the exact reconstruction of Kuki-Naga roots such as the following:


Burmeese has shifted *b- to *m- before *r- or *l- in three of the roots cited below (cf. mrup ‘submerged’ < TB *brup), yet has simply ̀4’ for TB *b-liy (but Maru byit < *bliy).

TB prefixed *b- has been reconstructed for several roots:

TB *b-liy ‘forest’: K maliy, G buruy ~ bryi, Dimasa ha-blyi.

TB *b-yuw ‘rat’: West T byu-a, T byiu, Kanauri pəu (cf. pə ‘4’ < TB *b-liy), Mikir phidu, Rangkhol midu, Lakher pəzu, Sho pəy, S. Khami məy.310


(449) Bahing bla, Vayu blo < *bla, Newari bala, Magari mya, Nung thəma, K pala, Jili məla, B hmə, Phön (Samong dial.) bya, Kha Li (Southern Lolo) ka-mla (cf. kha ‘bow’) (Lefèvre-Pontalis), G bra, Dimasa bala, Tangkhul mala ‘arrow’ (TB *b-la); note that Kachin has prefixed pa- rather than the anticipated ma-, the latter obtaining in Jili.313

310 Add Gyarung pəzəu < *b-yu; also B yun ‘rabbit’, with suffixed -n (n. 284); the *b- prefix in this root perhaps stands for TB *bow (No. 27).

311 For the semantics, see Benedict, 1942 bis; cf. T tsha-bo, L tu ‘grandchild, nephew’.

312 K mali ‘young man’, originally ‘nephew’, as shown by the other meaning for this term, viz. ‘father-in-law’ (also nəλ 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 *təphray.

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 mər, G bré, Dimasa barai.

TB *b-la-p 'forget': K malap, Dimasa balau.

(Tb bred-pa (with suffixed -d), Digaro re, Aka rie, Nung phore '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', peme 'heal' (contrast K mai 'good', ėsmai 'heal'). As already suggested by Wolfenden (Outlines, p. 166), this prefix can be referred to Mikir pi 'give' (TB *biy) (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 *ga-~ka-~kha- with verb roots, in intransitives (e.g. kəgat 'run, flee', khara 'to be indifferent') as well as transitives. Elsewhere, however, this prefix is virtually unknown in this role, although Tangkhul (Kuki-Naga) has an otiose prefix of the same form (kəkap 'shoot' < *ga-p, kəyap 'fan' < *ya-p, kətsap 'weep' < *krap). Prefixed *g- has been reconstructed in *g-ryap 'stand' (K tsap <g-ya), *g-sat 'kill; fight, strike' (T gsod-pa, Pf. bsad 'kill'; K sat 'kill', gəsat ~ kəsat 'to Kachin (Khauri dial.) has an apparent cognate here (niya), 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 hmrh, Bhramu prə, Chepang la 'arrow', and B myauk (Intha dial. mrok ~mlok), Bhramu payuk, Chepang yuk 'monkey' are parallel formations, yet the latter root has been reconstructed *mruk rather than *m-ruk or *b-ruk on the strength of Bahing moro, Digaro təmyu, Gurung timyu, while the former has been reconstructed *b-la rather than *bla.

315 Add TB *b-riŋ 'bark' (n. 243).

316 This has been identified (n. 242) as an old loan from AT, with initial *b-handled as a prefixed element.

317 T žed-pa < *ryed- 'fear, be afraid' (cited on p. 175) apparently also belongs here (secondary palatalization before the e); Angami Naga (Burling) has proi 'fear', as if from *bray.
fight; a fight'; general TB sense is 'kill by striking'); *g-lwat 'free, release' (T glod-pa, B lwat ~ kywat ~ *klwat), also the following pair of roots:

(451) T g-ya-ba, K kya, B yā 'to itch' (TB *g-ya).

(452) K kya?, L zak < *yak to be ashamed, shy', Tangkhul khayak khavai 'venerable, shameful', khkhyak 'pay respect, venerate; shame, veneration' (TB *g-yak).

Prefixed *g-~k- as an adjectival (or verbal-noun) prefix is found in Gyarung, Kachin, Bodo-Garo, and Mikir, e.g. Gyarung k'isik 'new', K golu, Dimasa galau 'long', Mikir kethe 'great, large'. Wolfenden rightly identifies this as an old pronominal element (cf. K khan < kha-ni 'they two'), which appears as a prefix with kinship terms in Kachin (si-a kow 'his father', as opposed to na nwa 'thy father'). This element also is found as an inseparable prefix with words for parts of the body in Konyak (cf. Moshang k'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 *g- 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 groj, Bodo goj 'horn', Dimasa groj 'horn', goroj 'side, angle', bogroj 'corner, horn', all from TB *ruy. The same type of development can be seen in T grwa ~ gru 'angle, corner', rwa ~ ru 'horn'; cf. Gyarung teru ~ tere, Kanauri rud, Digaro ru ~ ro 'horn', also TB *kruw 'horn'.

Prefixed *g-~k- before r- is regularly treated as an initial in Tibetan; cf. T 'grib-pa 'decrease; grown dim', srib-pa 'darken; darkened', gri b 'shade, shadow', srib-pa 'grow dark', srib(s) 'darkness; shady side', rab-rib ~ hrab-hrib 'mist, dimness', B rip 'throw a shadow', arip 'shadow, shade'; T 'gran-pa 'fight, contend with', B ran 'quarrel'. A distinction is drawn in Tibetan script, however, between the cluster gy- and the combination g-y-, e.g. gyad 'champion' but g-yas-pa 'right (hand)' < TB *g-yas-pa 'right (hand) < TB *g-ya ~ *g-ra. This would indicate that Tibetan formerly distinguished between [gyad] and [gayas], and presumably between other pairs of this type, thus making s a phonemic element.

318 For the semantics, cf. Ch. chiao 'horn, angle'. Prefixed *g- before r- is regularly treated as an initial in Tibetan; cf. T 'grib-pa 'decrease; grown dim', srib-pa 'darken; darkened', grib 'shade, shadow', srib-pa 'grow dark', srib(s) 'darkness; shady side', rab-rib ~ hrab-hrib 'mist, dimness', B rip 'throw a shadow', arip 'shadow, shade'; T 'gran-pa 'fight, contend with', B ran 'quarrel'. A distinction is drawn in Tibetan script, however, between the cluster gy- and the combination g-y-, e.g. gyad 'champion' but g-yas-pa 'right (hand)' < TB *g-yas-pa 'right (hand) < TB *g-ya ~ *g-ra. This would indicate that Tibetan formerly distinguished between [gyad] and [gayas], and presumably between other pairs of this type, thus making s a phonemic element.

319 Angami Naga (Burling) has rons < *r-na 'listen', corresponding to T rna-ba 'ear', hence a doublet must be recognized for TB: *r-na ~ *g-na.

a 角
Sino-Tibetan: a conspectus

(Samong kəwa, L khua), *g-pa ‘bamboo’ (K kəwa, Mikir kepho); also the following pair of roots:

(454) K buŋ-li ‘breeze’ (buŋ ‘blow’), Gyarung khöl < *khəli, B le, Samong kəli, L thlɪ < *khəli ‘wind’ (TB *g-liy).

(455) K kəmu, B hmu, G me-gumu, Dimasa mu-khmu, Mikir kimu ‘mushroom, fungus’ (TB *g-muw).

The derivation of L *thl- < *khl- from *g-l- is questionable, however, and it is possible that here, as in Burmese (see n. 301), a distinct element k- is involved. Samong (Phön), which is archaic with respect to Burmese (cf. Samong kəlauk ‘stone’ = B kyauk; Samong kəla ‘tiger’ = B kyə), sometimes agrees with Lushei (as in kəwa ‘village’, kəli ‘wind’), yet has sola ‘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 da- (ta-, tha-) is nominalizing as well as directive, e.g. bu ‘to be stubby’, dabu ‘hump on cattle’; džu ‘converge at a central point’, dədžu ‘center’, while Nung da- vies with šə- as a causative prefix, as in suŋ ‘to be dry’, dəsʊŋ ‘to dry or cause to dry’. Ao Naga te- forms verbal noun derivatives (substantival or adjectival), e.g. tšak-ma ‘to crack’, tetšak-ma ‘crack’; metši ‘to bud’, temetši ‘bud’; əmay ‘to believe’, teməj < *teməj ‘faith’ (the Ao prefix, unlike its Kachin equivalent, appears before prefixed me- and ə- as well as the simple verb root). This prefix has been reconstructed with verbal roots only in the following pair:

(456) T’drub-pa, Lepcha hrap, Gyarung tup, Magari rup, B khyup ‘sew’ (TB *d-rup).320

(457) T drum-pa ‘long, languish, pine for’, B khyüm < *khrüm ‘pine away’ (T *d-rum).

320 It has been suggested (Benedict, 1967bis) that this represents an old loan from an AT root for ‘needle’ (see n. 82; this derivation is strongly supported by Thakali hru̇p ‘needle’, contrasting with *tu- ‘6’); it has now been reconstructed *drub as opposed to *d-ru̇k ‘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>hrap</td>
<td>krap</td>
<td>tō</td>
</tr>
<tr>
<td>six</td>
<td>*d-ru̇k</td>
<td>tārāk</td>
<td>khlɪ</td>
<td>khɔʔ</td>
</tr>
</tbody>
</table>
These roots closely parallel T *drug, Gyarung kutôk, B khrauk ‘6’ < TB *d-ruk (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 khagrawi ‘dirt, filth’ (possibly from *khogari by metathesis; cf. No. 440), B kri ‘to be dirty, filthy’, dkri2 ‘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 tom (also Gyarung timi) ‘fire’ < TB *mey.
Nung togi, Jili tokwi, Samong tokhwi ‘dog’ < TB *kwiy.
Nung daphat, Miri tapat ‘leech’ < TB *r-pat.

The Nung series is particularly rich: dogoy ‘tusk’, dori ‘horn’, thômô ‘eagle’, thwa ‘bamboo’, thôri ‘cane’, thôma ‘arrow’, thowan ‘snow, ice’. Gyarung prefixed tê–tô–, as described by Wolfenden (JRAS, 1936), is a separable element employed when the substantive is used independently, as in têrnô ‘ear’ (T rna-ba) but yo-yi rna ‘my ear’, no-ni rô ‘thy ear’, ni-ni rô ‘his ear’; têyôk < *tê–yôk ‘hand’ but yo-yôyôk ‘my hand’, no-nayôk ‘thy hand’, ni-nayôk ‘his hand’.322 Ao Naga te–to– is of similar type and, like the Gyarung prefix, is sometimes employed before other (older) prefixes, e.g. têna-roy ‘ear’, tepok ‘belly’, toko ‘chest’, temel ‘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 tô, Akha tô2 fit with T ’dur-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-yi < yo-gi < TB *ya-ki or *ya-gi.
must be assigned prefixed *d- in TB *d-ruk ‘6’, *d-kuw ‘9’ (above) and the
following root:

(461) T dom < *dwam, Gyarung twom, Kanauri and Thebor hom (apparently
from *s-wam, with TB animal prefix *s- for *d-; cf. Lushei), Digaro təhum ~ təhum
(as above), Bahing wam, Miri si-tum < *twam (with si- for the animal prefix)
‘bear’, Lepcha sstum ‘wolf’ (with analysis as for Miri), B wak-wam ‘bear’ (wak
‘pig’), wam-pulwe ‘wolf’ (possibly related to pulwe ‘flute’), Lahu yì-mí-tós, L
sa-vom (Kuki-Naga *d-wam), Mikir (thok-) wam ‘bear’, perhaps also K lawap
(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>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>411</td>
<td>six</td>
<td>*d-ruk</td>
<td>təru</td>
<td>therok</td>
<td>təru</td>
<td>səruk</td>
</tr>
<tr>
<td>13</td>
<td>nine</td>
<td>*d-kuw</td>
<td>təko</td>
<td>—</td>
<td>təki</td>
<td>təku</td>
</tr>
<tr>
<td>461</td>
<td>bear</td>
<td>*d-wam</td>
<td>təwuñ</td>
<td>-wam</td>
<td>təwəu</td>
<td>təwom</td>
</tr>
<tr>
<td>462</td>
<td>tiger</td>
<td>*d-key</td>
<td>təkei</td>
<td>teke</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>386</td>
<td>deer</td>
<td>*d-yuk</td>
<td>təzuk</td>
<td>thidzok</td>
<td>təsu</td>
<td>—</td>
</tr>
<tr>
<td>51</td>
<td>crab</td>
<td>*d-ka-y</td>
<td>təai</td>
<td>tsiəe</td>
<td>tsiəi</td>
<td>tsiəyai</td>
</tr>
</tbody>
</table>

(462) Kiranti *key-ba ‘tiger’ (Sangpang ki-pa, Lohorong ki-ba, Limbu keh-va,
Balali kö-ba), Miri si-ke ‘species of civet cat’.324

The *d- > tǐ- ~ ści- shift, found in Lakher and Western Kuki (e.g. Khoirao), is
paralleled by K džəkhu, G sku ‘9’ < *d-kuw; K džorit, 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’,
Extra-Kuki support for prefixed *d- is supplied in K khyi ~ tseykkhyi, Kuki-Naga
*d-khi ‘barking-deer’. Replacement by an ‘animal prefix’ is found in Miri si-ke
‘civet cat’ < *d-key, and G mattosk, 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
(tše- rather than te-) and in Poeron (dropped rather than replaced by ka-); cf. also
the distinctive treatment in Karen *shyai; prefixed *dž- for TB (and TK) is a
possibility but seems unlikely.

324 B khye-sats ‘leopard cat’ (local) (-sats < TB *zig) points to a variant TB
*kay. Mikir teke ‘tiger’ contrasts with tšehe ‘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).
Tibeto-Burman prefixed *d-


§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', mña-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 phə-<*ba-: phəsin 'liver' < TB *m-sin, phəle 'tongue' < TB *m-lay. 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 ~ nom-pa ~ snum-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 phənam 'to smell' (use uncertain); 326 B nam 'smell offensively, stink' (intr.), nəm 'smell, receive scent' (tr.), ānām 'odor'; Bodo manam 'to smell' (intr.); Dimasa maram 'to stink' (n <*r through dissimilation); L nam, Ao Naga menem 'to smell' (intr.); Tangkhul pənam 'odor', khəənənam 'to smell' (intr.); Mikir iənim 'to smell, be odorous' (intr.), əŋnim 'odor', nem-so 'slight smell, stink' (-so is diminutive), from TB *m-nam.

325 Prefixed *d- might also be reconstructed for T dbu, B ù, Anong (Nungish) u 'head'; T dbay, B ay 'strength, power', the indicated Burmese phonetic shift being precisely that found in modern Central Tibetan dialects.

326 Trung (Nungish) has pənam <*mənam, 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-ni:m (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).
Sino-Tibetan: a conspectus

TB prefixed *m- also appears in the following roots:

TB *m-nwi(y) 'laugh' (above): K mani, Bodo and Dimasa mini, Khami manui, Lakher paheii, Poeron manoi, Ao Naga mana, Tangkhul khamena, Mikir iynak (for the final -k, see n. 289).


TB *m-sow 'arise, awake' (above): Dimasa masau, Khami enthau, Lakher potheu, Ao Naga mese.

TB prefixed *m- alternates with *s- in the following:

TB *(m-)lyak (Kuki-Naga) and *(s-)lyak (Bodo-Garo) 'lick' (above): Sho mli, Lakher poli <*poliak (cf. Lakher hni, L hniak 'footprint'; Lakher bi, L biak 'speak'), Ao Naga mazak, Lhota myak (m-yak), Sema minya~minye, Tangkhul khavalek, 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 Meithel, 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 sun matiin-na 'by (-nu) the mouth (tiin) of the cattle (sun) of (-gi) his older brother (ya-ma)', nu-ton makhul 'nostril' ('nose its-hole'), mahei 'fruit', mana 'leaf', mas a 'branch', mara 'root', matu 'feather', momei 'tail', moko 'head', mohau 'fat', and ya 'tooth' but maya 'tusk', tsin 'mouth' but metsin

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. mubug~nbug 'wind' < bug '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', moba 'chief, ruler', but nda 'great, big, ferocious'; dup 'pound', mwdup 'sledge', but ndup 'blacksmith'. K n~niy- stands for *m- in nkha~nykha, Nung makka 'chin, jaw'; niyda (Khauri dialect), T mda 'arrow'; nduny~niydnug 'sword', T mduy 'lance, spear, pike'. Lhota Naga has n- for *m- before dentals, velars, and palatals (excluding y); cf. nli~mli 'tongue', Ao temeli, Sema smili; nt< 'liver', Ao temesen; nt'ha 'spittle', Ao metsa, Sema smthi; nkho 'knee', Ao temokok; but myak 'lick', Ao mezak.

328 K ndza? 'show love' may be unrelated (n. 89).
beak', na-ton ~ na-tol 'nose' but mana-tol 'trunk'. In the light of this Meithei evidence, TB prefixed *m- is to be regarded as an old nominal pronoun 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 Meithei (ossin 'sour'), and Bodo-Garo kha 'bitter', bikha ~ bakha 'liver' (with the distinct nominal pronoun 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. mgo 'head', mthi-ma 'tear', mthu 'lip'), and occasionally is susceptible of analysis, as in mthe-ba 'canine tooth' (tšhe-ba 'large'), mthe-bo 'thumb' < TB *tay 'large'.

In the Kuki-Naga nucleus, however, this prefix reaches the peak of development, being well attested in Sho, Khami (ma- in S. Khami, pa- in N. Khami), Lakher (pa-), Old Kuki (generally ma-, but ba- ~ pa- in Anal and Lamgang), Western Kuki (Khoirao ma- ~ n-, Empeo ba-), Tangkhul and Maring (ma-),330 the several Naga languages (ma-), 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-nui(y)</td>
<td>mñuï</td>
<td>pñhei</td>
<td>khówna</td>
</tr>
<tr>
<td>281</td>
<td>tongue</td>
<td>*m-lay</td>
<td>smðlai</td>
<td>alei</td>
<td>mñe</td>
</tr>
<tr>
<td>234</td>
<td>liver</td>
<td>*m-sin</td>
<td>—</td>
<td>pðthi</td>
<td>smòthin</td>
</tr>
<tr>
<td>231</td>
<td>spittle</td>
<td>*m-ts(y)il</td>
<td>mòtsë</td>
<td>pòtsï</td>
<td>—</td>
</tr>
<tr>
<td>397</td>
<td>twenty</td>
<td>*(m-)}kul</td>
<td>kui</td>
<td>—</td>
<td>mga</td>
</tr>
</tbody>
</table>

Notes: Standard Lakher alei 'tongue' (replacement of *m- by *a-), but palei in the Tlongsai dialect. Mikir de 'tongue' is best explained as a contraction of *nle < *iple, yet Mikir has iñlit 'leech' corresponding to Ao Naga mëlet. Mikir iñthe 'spittle' is distinct from the Kuki-Naga root but shows the same prefix; cf. also K møyen 'spittle', perhaps from yet another root (but cf. No. 74). Mikir iñkoi (early form iñkol) '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 mòtsë '20' is indicated by Sema Naga muku, with the initial stop preserved. For Tangkhul mgo < *m-kul, cf. pharë < *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 møyen 'wings' < pñyen '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 Empeo. The latter view must definitely be rejected, despite the parallelism presented by prefixed *s- (< *syā 'flesh').

330 Tangkhul occasionally has pa- rather than ma- in verb forms; cf. khównam, Mikir iñnim < *m-nam 'smell'; khównrun, Mikir payrum < payrüm 'add' (Mikir iñrum 'come together'); see Wolfenden, Outlines, p. 157. Nung has a curious nominalizing prefix ey-, which may even precede another prefix; cf. eyšü 'stopper' < sü 'close up, cork'; eywam 'cover' < wam 'to cover'; eymathip 'fold' < mathip 'to
Sino-Tibetan: a conspectus

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 ‘20’ (see above).
TB *(m-)*yuŋ ‘finger, toe’: Khami meyŋ ~ məzung, Lakher pəzau < *pəzun, Ao Naga temeyŋ.

TB *(m-)*li-t ‘leech’: Ao Naga melet, Mikir iylit.


Where outside correspondences are available, the reconstruction is simply *m-:

TB *m-lay ‘tongue’: Kuki-Naga *m-lay (see above); also Nung phəle < *bəlay (for *m-lay).

TB *(m-)*liŋ ‘nail, claw’: Khami msiŋ ~ mseyŋ, Lakher pətəŋ < *pətŋ, Siyin tsiŋ, Khoirao matin, Ao Naga temesəŋ; also Digaro msi, Miju msen ‘claw’.

Prefixed *m- with words for parts of the body appears also in *m-kal ‘kidney’ (Tangkhul omokei) and in several Kuki-Naga roots:

*m-kuk ‘knee’: Lakher pəkhu, Aog Naga temokok, Lhota nkho, Tangkhul khuk-sau, Haka kuk, Thado kug-bu, but Siyin kup, L khu-p through assimilation; probably connected with T khu(x) ‘corner, concave angle’.


*m-lyŋ ‘shoulder’: N. Khami pəlain, Sho ømløy, Thado leŋ, Haka liŋŋ, Meithei ləŋ-bal ~ ləŋ-ban.

Of special interest is the following series of roots (apparently all related):

(468) T kha ‘mouth, opening’, K məkha ‘to open, as the mouth; to be open, as a door; an opening, the mouth, as of a cave’, tsiyŋkha ‘door’, Nung phəŋ-kha ‘door, gate’, B tam-khə, id. (perhaps from *ta-mkha), Haka and L ka, Banjogi məka, S. Khami məkha, Lakher ḫəka, Mikir iyho < *iŋkha ‘mouth’, from TB *m-ka.

(469) K sumkha ‘to be wide open; spread, extend’, B kə ‘divaricate, be stretched apart, expanded, widened’, L ka ‘to open (as the legs)’, from TB *ka.

*fold*. This prefix, like Mikir in- and Tangkhul an-, is of secondary origin, and hardly furnishes support for reconstructing TB prefixed *y- or *n-. Shafer, ‘Prefixed n-, ng- in Tibetan’, Sino-Tibetica 1 (Berkeley, 1938), argues that T prefixed *- stands for earlier *y- and *n-, largely on the assumption that these elements ‘must’ have been present at an earlier period. T *-, 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).
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-ni), and as a pronominal prefix (a-) in these same groups; cf. Aimol rmai 'tail', rul rmai 'snake's tail'; Bahing big sta-mi ‘calf’ ('cow its-child'), byar spwaku '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 wa or swa ‘father’ (nwa ‘thy father’, kwa ‘his father’), mun~smun ‘body hair’, myi~emyi ‘eye’; Nung skhö ‘uncle’, ena ‘ear’; B abhá (ápahá) ‘father’, ámi ‘mother’ (but mi-bd ‘parents’), ásá ‘flesh’ (but nwá-sá ‘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-loŋ ‘boat’ (this might also be reconstructed *b-loŋ), *m-tow ‘fly’ (S. Khambi mathaut, N. Khambi pethaw, Lakher matheu-pa, L and Thado thou, Sema Naga smuthu), *m-tsyi ‘salt’ (L and Thado tsi, Banjogi moti, Rangkhol midži, Tangkhul mtsi, Ao Naga metsa, Sema smti, Mikir iñti); also Mikir iñphat ‘leech’ < TB *r-pat, Lakher píhmo ‘eagle’ < *muw, and Haka wi, Sho smui, Yawdwin mwí, Tangkhul mahviu < *m-(h)wi, K megwi (gwí in comp.) ‘elephant’, to be compared with Kuki *wí, K gwí < TB *kwíyí ‘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-pí ‘grandmother’ (vocative or not); (2) i-, the most common, used like Burmese a-, from *ay-* (Bisu ay-); (3) e-, not productive but frequent, probably from the stopped variant of No. 2 (*a-k-), as in a-lë? ‘salt’, a-che? ‘goat’, a-phë? ‘pepper’ (JAM).

336 The Bodo-Garo evidence is complicated by the presence of a 1st person pronominal prefix a-, as in Bodo ay-ni afa ‘my father’, nan-yi nanfa ‘thy father’, bi-ni bifa ‘his father’ (a- < ay-). TB prefixed *a- is almost entirely unrepresented in this nucleus, where replacement by pronominal *g- or *b- is the general rule.
Sino-Tibetan: a conspectus

'hand', aso 'so 'child'; Lhota Naga okhe 'hand', eyu 'neck', oka 'daughter', eyui 'wife' (*a- > o- ~ e-), Sho sho 'tooth', stui 'grandson'. Semantic specialization is sometimes encountered; cf. B swa 'tooth', aswa 'cutting edge'; im 'house', dim 'sheath'; myak 'eye', ämyak 'knot in timber'; Lepcha un 'water', äun 'water in which meat has been boiled'; vi 'blood', ävi 'menses'; vyen 'door', ävyen 'pass'; kuy 'tree', äkuy 'bush'; rip 'flower', ärip 'flower of cloth'.

Prefixed *a- with transitive or intransitive verbs appears in a number of languages, including Kachin, Nung, and Ao and Lhota Naga; cf. K tok 'cut', adep 'rap'; Nung zpha 'adhere' (intr.), contrasting with pha 'sew' (B pha 'patch') and dapha 'adhere, patch, affix, transplant' (TB *pa); tswun 'sag', as opposed to tswu 'hang, suspend' (intr.) and detsun (tr.); Ao asam, Lhota essan 'run'; Ao anak, Lhota enak 'scratch'. The same prefix appears in a nominalizing role in Burmese and occasionally elsewhere; cf. B wak 'halve', ëwak 'half'; thum 'tie in a knot', ëthum 'knot'; Lepcha yan 'sit', ëyan 'dwelling'; kut 'rule a line', ëkut 'strake'; Mikir ënym 'smell', ëynnim '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 ëhrum 'hot', as opposed to ëhrum 'heat' (hru 'to be hot'); K ëhat 'thick', ëkhu 'bitter'; Mikir ëthik 'just', ëkëve 'green, unripe' (ë- preceding prefixed kë-); Thado osa 'thick' (contrast Sho ëso 'thickness' ëso 'to be thick', as in Burmese); Lhota Naga ehme 'ripe' (hmen 'ripe'), Ao Naga ëmen ëte-ëmen '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 ëa- with kinship terms (zapha 'father', rakhu 'uncle', raphyil '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 *-a-, on the other hand, is written a- and explained as a phonetic variant of prefixed b- < *bqa-, 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'), akwos 'neck' (bokwos 'its neck'), amá 'mother', bàmá 'her mother' (b is 3rd person pronoun) (see Fr Bernard Haile, A Manual of Navaho Grammar, St Michael's, Arizona, 1926); Abchas (Caucasic family) abla 'eye' (sbla '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', 'gran-ba ~ bgran-ba 'count', 'dzö-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', 'bron '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 [?a] as opposed to [ə].

Gyarung, as recorded by Wolfenden (JRAS, 1936), makes a similar distinction between a-, as in atata 'father', ama 'mother' and ə~ä~ö-, as in sêsu 'goat', aphak 'half' (cf. B âwak), álapo 'donkey', äśiśa 'flesh', äśnas 'lip, beak', òbórö '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 *na (1st person) and *nany (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 ltag-ma 'upper part of place', Mikir thak 'surface, on, up, fore', K latha? 'upper, above', katha? 'above, overhead', Nung tha-kha ~ tha-lam 'up, above', B tak 'ascend', áthak 'upper part, space above', from TB *(l)-tak; cf. Garo dâk 'go, advance'.

339 This analysis now requires restatement. Tibetan (written or classical language) has a phoneme /?/ actualized in three quite different ways: (1) before y, as ?ː : g'yas/ 'right (hand)' = g'yas, contrasting with gyad 'champion' (see n. 318); (2) before stops/affricates, as glottalization or as ?ʔ (optional), through rule that syllable-initial vowels are pre-glottalized: /bυ/ 'insect' = ?bυ or ?bυ; (3) before vowels, as (zero): /oɡ/ 'below' = oɡ, contrasting with /oɡ/-ma 'throat' = ?oɡ (the latter, because of pre-glottalization rule).

The (zero) actualization of /?/ results from the following:

ʔʔoɡ = oɡ, with parallels elsewhere in Lahu, where this rule: ? + ? = ə leads to high-rising tone (Matisoff, Lahu and PLB), and in Highland Yao (H. C. Purnell, Phonology of a Yao Dialect, Hartford Studies in Linguistics, No. 15, 1965).

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 ? before initial vowel is seen as non-phonemic (conditioned), as elsewhere in TB.
Apart from prefixation and suffixification, only one general morphological process can be assigned to the parent TB speech, viz. alternation of root initial. This feature is present in a number of TB roots reconstructed above, viz. *bar~*par 'burn', *be~*pe 'broken, break', *blen~*plen 'straight, straighten', *blin~*plin 'full, fill', *brup~*prup 'overflow, gush', *byar~*pyar 'affix, plait, sew', *dup~*dip, *tup~*tip 'beat', *dyam~*tyam 'full', *gwa-n~*kwa-n 'put on clothes', *du-t~*tu-t 'join, tie, knot', *bip~*pip '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 *dza '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. 'bud-pa, Pf. and Imp. phud, Fut. dbud 'put off, pull off', also '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) 'bud and dbud are derivatives of an intransitive stem *bud, while phud and 'phud are from a transitive stem *pud. 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', JAOS 78, 3 (1958) (JAM). The 'infixes' described by Miller appear to be the product either of chance similarities, e.g. TB *kra~* 'bathe, wash' and T khu-ba 'fluid, liquid' (Miller finds an infixed -r- here) or of a misunderstanding of TB phonology, e.g. the -y- of T khyi 'dog' is not an infix (Miller) but represents the normal palatalization in Tibetan before the front vowel i; T nya 'fish' does not include an infixed -y- (Miller) but represents a normal shift (ny-<*gy-) for Tibetan (long ago noted in Benedict, 1939), the medial appearing even in Ch. nio/nyIo, from ST *nya.

341 Conrady (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

T’don-pa, Pf. bton, Fut. gdon, Imp. thon ‘cause to go out, go out’, but Kanauri ddn ‘go or come out’, tbn ‘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)pyan ‘frighten’, bar ‘burst, split, tear’ (intr.), phar (tr.); bar ‘burn (wood)’ (intr.), par (tr.); boy ‘burn’ (intr.), poy (tr.); bön ‘to be filled’, pön ‘to fill’ (TB *bliŋ~*pliŋ); 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. khug ‘bend, make crooked’, kug(-kug) ‘crooked; a crook’, B kauk ‘crooked’, ākauk ‘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’, cham ‘frighten’. Initial alternation is relatively rare in Bodo-Garo and is perhaps altogether lacking in Garo itself; cf. Bodo gen ‘come loose’, khen ‘loosen’; ben < *bleŋ ‘to be straight’, pheŋ < *phleŋ ‘make straight’; Dimasa belen ‘to be erect, straight’, giben ‘erect, straight’, sipheŋ ‘straighten out (crease, knot, kink)’, ga-phleŋ ‘straighten out, go straight’ (-phleŋ~*phliŋ is verbal auxiliary) < TB *bleŋ~*pleŋ. 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 prā́́n ‘full’ < *bliŋ, as shown by Lahu, Lisu, Lolopho bi, Ahi dc, Nyi dlc, but B prā́n ‘fill’ < *s-bliŋ (corresponding to K dáŋphriŋ) or *pliŋ. B hŋ-, hŋi-, hŋ-, hŋ-, 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-kueii, ‘Certain Phonetic Influences of the Tibetan Prefixes upon the Root Initials’, CYY Y 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).
Sino-Tibetan: a conspectus

pairs such as tsut ‘to be torn’, tshut ‘to tear’ indicate initial alternation (tsut < *dzut, tshut < *tstut). Siyen (Northern Kuki) has an initial alternation identical with that found in Burmese; cf. kiem ‘grow less’, khlem ‘make less’; kom ‘come together’, khom ‘bring together, collect’,343 but nothing comparable has been noted elsewhere in Kuki-Naga. Lepcha, which ordinarily forms its transitives through palatalization of the initial (see §22), has the interesting pair dyuk ‘spittle’, tyuk ‘to spit’ (cf. Mikir iytok ‘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 étō ‘poisonous’ (in comp.), Lisu ts ‘poisonous’, Nyi tu ‘to be poisoned’, Lopopho 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’, antši ‘eat’, antše-oaŋa ‘have eaten’ (Chuckerbutty); Bodo za ‘eat’, fisi ‘feed’ (LSI) < TB *dza. 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. bkaŋ, Fut. dgay, Imp. khoŋ ‘fill’.
T ’debs-pa, Pf. btab, Fut. gtab, Imp. thob ‘throw’.
T gsod-pa, Pf. bsad, Fut. bsad~gsad, Imp. sod ‘kill’.
T ’džog-pa, Pf. bzag, Fut. gzung, Imp. žog ‘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/B *a = T a ~ a (no alternation, except in the imperative)
ST/ST/B *a = T a ~ o
ST/ST/B *e = T a ~ e

We can now, by way of illustration, reconstruct TB *g-sāt (T gsod-pa, Pf. bsad), the back vowel serving to explain the seemingly irregular Garo form: soŋot (n. 85); also TB *sam ‘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 ~ bion ~ biuh ‘go!’, < bi-mig ‘to go’), Manchati and Tinan (-u), Gurung, Bhamu, 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 skyoŋ-ba, Pf. bskyāŋ, Fut. bskyāŋ, Imp. bskyoŋ(s) ‘to guard’, B kyaŋ < TB *kyoŋ (above).

(473) T dkrog-pa ~ skrog-pa ‘rouse, scare up’, *grog-tse* (Ladakhi) ‘take fright’ (Wolfenden, *Outlines*, p. 49, note 1), a doublet of skrag-pa ‘to be terrified, afraid’, B krauk ‘to fear’ < *grok* (Lahu kš?, Lisu dzɔ, Ahi dzɔ~dzu, Lolopho dzɔ, Nyig), khrauk ‘frighten’, from TB *grot*~*kroč*

§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 (Pgho), 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, 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. 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
Sino-Tibetan: a conspectus

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. On the comparative side, only the pioneer study by Mason and the more recent analysis by Gilmore can be cited.

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). 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: 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', BSLP 42 (1942–5), 103–11; 'À propos de la restitution du karen commun', 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.

348 See the Comparative Vocabulary of the LSI (Grierson, 1928); also the comparative word-lists in Scott (1900), and B. Houghton, 'Short Vocabulary of Red Karen', JRAS (1894), 28–49; E. J. Walton, 'The Yang Kalo' (Karieng) or White Karens', Journal of the Siam Society 16 (1922), 39–46; 'The Red Karens', ibid. 17 (1923), 74–99.

349 F. Mason, 'Notes of the Karen Language', JASB 27 (1858), 129–68; D. C. Gilmore, 'Phonetic Changes in the Karen Language', JBRS 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.

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 *tsü 'arm/hand', *hyam 'salty' and *hna 'flesh, meat', while another pair of roots shows a strange alignment with Chinese and Bodo-Garo, viz. *tho 'bird' and *may 'rice' (Benedict, 1967bis, note 7). Karen also has *mc? < *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.

128
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 lô, as in ya le lô wi takhô ‘I go to Rangoon (city)’; ya phe sabwa lô li? la bî (or ya phe li? la bî lô 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 bî ‘book one flat-thing (bî)’ = ‘one book’; γî ni phlô ‘house two round-things (phlô)’ = ‘two houses’; γî a phlô ‘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 -θi). 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

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 lō, e.g. γyi lō sabwa ðîy we nau ‘the (nau lit. ‘that’) house which Sabwa built’. The former is a pronominal prefix in constructions such as sabwa ayi ‘Sabwa’s house’, γyi ado ‘big house’, lit. ‘house its-bigness’. Purser and Aung (Comparative Dictionary of the Pwo-Karen Dialect) cite numerous forms with this prefix, e.g. akhō ‘breadth’, athau ‘length, height’, alai ‘breadth, width’, alay ‘length’; aphi? ‘skin, bark’, amq ‘spleen’, 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. 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:

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 yo and no, 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 ?a-m ‘name’ and ?a-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 ?atsa, 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 ătsa ‘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 *g-ni (nn. 356, 369). The root for ‘7’ is *hnat or *hmui-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>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>
</tr>
<tr>
<td>two</td>
<td>*g-nis</td>
<td>ni</td>
<td>ni</td>
</tr>
<tr>
<td>three</td>
<td>*g-sum</td>
<td>∅oum</td>
<td>∅q</td>
</tr>
<tr>
<td>four</td>
<td>*b-liy</td>
<td>lit</td>
<td>li</td>
</tr>
<tr>
<td>five</td>
<td>*l-ŋa</td>
<td>ŋat</td>
<td>yai</td>
</tr>
<tr>
<td>six</td>
<td>*d-ruk</td>
<td>ōu</td>
<td>xu</td>
</tr>
<tr>
<td>seven</td>
<td>*s-nis</td>
<td>nōt</td>
<td>nwe</td>
</tr>
<tr>
<td>eight</td>
<td>*b-r-gyat</td>
<td>ōt</td>
<td>ōd</td>
</tr>
<tr>
<td>nine</td>
<td>*d-kuw</td>
<td>kut</td>
<td>khwi</td>
</tr>
<tr>
<td>ten</td>
<td>*ti(y)</td>
<td>ŋi</td>
<td>shi</td>
</tr>
<tr>
<td>hundred</td>
<td>*r-gya</td>
<td>rea</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- > θ- in ‘3’ is standard, as are Pwo and Sgaw *ŋ- > y- in ‘5’ and *ts- > s(h)- in ‘10’. Pwo and Sgaw ŋ-, Taungthu θ- in ‘6’ and ‘8’ appear to be reflexes of stop + r clusters (see below); cf. TB *d-ruk ‘6’ and *b-r-gyat (> *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) ~ ya (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 yc ‘5’, and Pwo and Sgaw khwi ‘9’, can be explained on the basis of vocalization of the final stop element: *ŋa-t > *ŋai > yai ~ ye; *k(h)u-t > *khui > khwi; also Sgaw lwi ‘4’ < *lu-t < *li-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 ŋwa < *swa ‘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) lwi directly from *b-li (TB *b-lay); cf. the parallel development in Taungtha (a transitional Central-Southern Kuki language) lwi ‘nephew/niece’ < TB *b-lay (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.
Sino-Tibetan: a conspectus

*s-toa; Pwo and Sgaw θwi < *swi ‘blood’, TB *s-hwiıy; are isolated instances of agreement. Sgaw has a fairly extensive set of prefixes, sometimes alternating with initial consonant clusters, as in le ‘exchange’, kalc ~ klc ‘change, mix, combine’, Pwo lai ‘exchange, mix’ (in comp.), TB *lay.337 Sgaw wo ‘surround, encircle’, kwo ‘circle; surround; to be circular’, khwo (k-wo) ‘encircle, bend into a circle or curve; circle, curve’, Pwo wq ‘encompass; to be circular’, khwq (kh-wq) ‘to be circular’, TB *hway.338 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-lyi</td>
<td>khli</td>
</tr>
<tr>
<td>448</td>
<td>grandchild</td>
<td>*b-lyi</td>
<td>li</td>
</tr>
<tr>
<td>474</td>
<td>boat</td>
<td>*(m-)-liy</td>
<td>khli</td>
</tr>
</tbody>
</table>

(474) K li, B hle, Kuki-Naga *m-liy (or *b-lyi) ‘boat’ < TB *(m-)-liy.339

It is probable that the correspondence in prefixes in TB *g-lyi, Sgaw kali ‘wind’ is coincidental,340 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:


Taungthu pouʔa < *b-thɔʔ ‘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 *kluwa/kwa ~ gluá/luá, id. (n. 487).

357 The k- prefix in this root is matched in TB; cf. K gəlai ‘change, exchange’ (JAM).

358 Cf. also Karen *gway ‘circle, ring’: Taungthu kwaw, Pwo khwaq, Sgaw and Palaychi kwɔ (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 kun-li (Assam dial. kəli ndan), id.

361 TB *hl- 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; Lushei has khla here, identical in form with khla ‘moon’ < TB *s-gla; perhaps *s-hla or *s-ka is to be preferred.

a 蝨
Karen prefixes

Karen also has discordant (with TB) prefixed *k- in certain other roots:
Pwo and Sgaw kwa (k-wa) ‘ax’; TB *r-wa.

Sgaw khaʔ ‘phlegm’; TB *ha·k ‘hawk, gag, choke’.
Pwo kshaʔ, Sgaw kshaʔ ‘elephant’; B tshan.\(^{362}\)

Karen has prefixed *p- for TB *b- and *m- in the following pair of roots:\(^{363}\)
Pwo phla, Sgaw p̥ala ~ pla ‘arrow’; TB *b-la.
Pwo phle, Taungthu pre, Padaung ble, Sgaw p̥le ~ 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 khla ‘ashes’ suggests that the TB root might be *b-la (cf. Mikir phelo < *b-la) rather than *pla (cf. B pra < *pla).\(^{364}\)

Karen thwi ‘dog’ in the face of TB *kwiy is puzzling, but can be explained as follows: *kwiy > *k-wiy [k‘wiy], with the initial interpreted as a prefix, whence *t-wiy > thwi through the typically Karen process of alternating prefixes, e.g. Sgaw kəti ~ təti ‘medicine, tobacco’.\(^{365}\)

---

§35. Karen initial consonants and clusters

The phonemic system of Karen is a somewhat complicated version of that reconstructed 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, x, y, t, d, s, ʃ, z, p, b, n, m, θ, φ, r, l, y, w, h and ʔ; i, e, u, o, 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

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 (shɔ) nor Taungthu (tshan).

363 We now reconstruct Karen *bla ~ *pla (Taungthu) ‘arrow’ and *ble ‘tongue’ (n. 367).

364 Taungthu has pha (same tone) ‘ashes’, perhaps from *phla; the irregularities in this root are in keeping with the suggestion (Benedict, 1967bis) that this is an old loan from AT.

365 Karen *thɔʔ ‘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, χw, Ὲw, yw, lw. 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.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-la?, 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 khе 'tiger'; TB *d-key.
Pwo and Sgaw khwi <*ku-t '9'; TB *d-kuw.

Pwo tha? tha, Sgaw tha tha 'weave'; TB *taγ.
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 phii 'grandfather'; TB *puw.

In its treatment of initial sonant stops Karen resembles Lushei, in the Kuki (TB) group, i.e. initial *g- has become k(h)-, while *d- and *b- are maintained only in part.367 Initial *d- is preserved in Pwo dq, Sgaw dɔ 'cut (with dah)', TB *dan;

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, r and s are all described as rare. Taungthu has a skewed arrangement, with a tenth vowel (high back unrounded).

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'fwo/b'juw < *bwa) and in *bū 'younger sibling', possibly cognate with T bu 'child, son' (cf. Benedict, 1941: the Old Kuki languages commonly replace TB *za 'child' with forms derived from TB *na:wo '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 *b̥- and *d̥-, 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 *b̥- and they appear also in loan-words; cf. Karen *dwaʔ 'reckon', B twãk; also *dɔʔ 'knife', Ch. tog/tâub.

a 父    b 刀
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 *di(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’, dū ‘fight’, do ‘large’, dɔ ‘knife’; bq ~ bo ‘yellow’, bi? ‘squeeze’, be ~ khbc ‘goat’ (a Mon-Khmer loan-word), bŋ ~ bu ‘thin’, bu? ‘near’, bwa ~ wa ‘white’ (cf. B wa ‘yellow’), but TB cognates are exceedingly rare. The shift from sonant to surd stop is observed in Pwo and Sgaw khaʔ ‘shoot’, TB *ga-p; Pwo (Tennasserim dialect) and Sgaw phū ‘carry (child on back)’, TB *bwu.

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 ātsa ‘food’); Pwo and Sgaw pho-tha ‘child’, θa ‘fruit’, TB *za ‘child’. Pwo has initial z- in loan-words, e.g. ze ‘market’, B ze < dzshè. Taungthu has ts- (ts- before i) corresponding to Pwo and Sgaw sh-; cf. tši ‘to’, Pwo and Sgaw shì, TB *tši(y). The Karenni dialects (including Yintale and Manō) retain initial s-; cf. Yintale sun, Manō su ‘3’; Yintale sai, Manō si ‘die’; also Yintale tssi, 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 *kauʔ ‘to call out, be called out’ (Taungthu kau?, Pwo koʔ, Sgaw koʔ?), Tšug(s)-pa, Pf. bgug, Imp. khug ‘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) < *phūn-: Pwo phūn ~ phən, Palaychi and Sgaw phū; Taungthu has bū (same tone) < *pū. The suffixed *-n here is strikingly similar to that found in TB (§20); cf. also Taungthu takhun ‘steal’ (low tone A) < *gə-n; T *r-kəw, id. (T rku-ba ‘steal’, rkun-ma ‘thief; theft’; Kanauri khun ‘steal’); also Karen *kwa-n < *kwa-n- ‘put on (sarong), clothe (lower part of body)’: Taungthu kenn, Pwo k2, Palaychi fvu, Sgaw ku; TB *gwa-n ~ *kwa-n ‘wear; dress’; also Karen *kho-n < *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-kə-t ‘dig up, scoop out’ (T rko-ba ~ rko-pa, K ṭaɡot ~ ṭaḳhot; no suffixed -n forms known from TB).
**Sino-Tibetan: a conspectus**

tisi ‘horse’, corresponding to Pwo ʔe~kəʔe, Sgaw kəʔe, Taungthu ʔe (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 *tsi(y).
- Pwo sha, Sgaw sho ‘mortar’; TB *tsum.
- Pwo and Sgaw ñi ‘die’; TB *sìy.
- Pwo ñə, Sgaw ñə ‘3’; TB *gs-sum.
- Pwo ñi ‘to comb’ (comp.), Sgaw ñi ‘a comb’; TB *msi(y).
- Pwo and Sgaw ñaʔ ‘itch’; TB *msak.
- Pwo ñi, Sgaw ñe ‘tree, wood’; TB *sìy.
- Pwo and Sgaw ño ‘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 nū ‘breasts’; TB *nuw.
- Pwo and Sgaw ne ‘get, obtain’; TB *ney.
- Pwo and Sgaw maʔ ‘son-in-law’; TB *ma-k.
- Pwo mì, 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’, *hmi ‘petticoat, skirt’, *hmey ‘year’, *hmin ‘ripe/cooked’, *hme ‘fire’ (see text for these); also *hmi ‘2’, *hmai ‘mole (on skin)’, *hna ‘witch, spirit’, *hnə[m] ‘sesame’, *hna ‘wife’, *hmi ‘sleep’, *hmum ‘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-niy ‘year’; *s-min ‘ripe/cooked’; *s-nam ‘sesame’; also L sa-hyə ‘fish’ (sa ‘animal’), agreeing with Karen *hna< *hyya. Karen *hni ‘petticoat, skirt’ is perhaps from *s-ni; cf. B hni ‘spread out, for purpose of supporting’, dhni ‘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’).
Karen initial consonants and clusters

Pwo mi, Sgaw mi ‘name’; TB *r-miy.
Pwo and Sgaw me ‘fire’; TB *mey.
Pwo me, Sgaw me ‘tail’; TB *r-may.

Initial *ŋ- is preserved in Taungthu and Zayein, but regularly becomes z- in Mopwa, y- in Pwo and Sgaw:

<table>
<thead>
<tr>
<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-ŋa</td>
<td>ŋā~nā</td>
<td>zā</td>
<td>yai</td>
</tr>
<tr>
<td>406</td>
<td>I, me</td>
<td>*ŋa</td>
<td>—</td>
<td>ŋa~nā</td>
<td>za</td>
</tr>
<tr>
<td>477</td>
<td>plantain</td>
<td>*ŋak</td>
<td>ŋa</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(477) TB *ŋak ‘plantain’, as represented by Kiranti *ŋak, K ŋa~lŋa~lŋu (cf. Khaling le-ŋak-si, Nachereng li-ŋak-si), B hŋak.

Sgaw has initial ŋ- in ŋa ‘borrow, hire, lend’, a borrowing from B hŋa. Taungthu has retained initial *ŋ- also in tŋa ‘tooth’, Ch. ŋa > ŋa a ‘tooth’, Thai *ŋa ‘tusk, ivory’.

Pwo and Sgaw Karen has l- for TB *l- (initial), but the Karenni dialects show an unusual *l- > t- shift; cf. Manõ ta ‘moon’ < *la, ta ‘leaf’ < *la, ti ‘4’ < *li, ťti ‘tongue’ < *ple. The regular Karen correspondence is observed in the following:370

Pwo and Sgaw la ‘moon, month’; TB *s-la~*g-la.
Pwo lò, Sgaw lò ‘stone’; TB *r-lun.
Pwo lê, Sgaw lê ‘warm’; TB *lum.

Initial *r- in TB roots is represented by Pwo and Sgaw r-:
Pwo and Sgaw tho-ɣi? ‘pheasant’ (tho ‘bird’); TB *s-rík~*s-ryak.
Pwo ɣe, Sgaw ɣi~ɣe ‘rattan, cane’; cf. the following:

Pwo ɣu, Sgaw ɣu ‘snake’; TB *b-ru-l.
Pwo ɣai, Sgaw, ɣe ‘row’; TB *ren.

Taungthu is distinctive in its retention of initial *r-, as in rea ‘100’ (TB *r-gya), rôn ‘silver’ (a Mon-Khmer loan-word), and note pre ‘tongue’ for *ple. Pwo has initial r- in Mon, Burmese and English borrowings, e.g. rə ‘courthouse’ < B rûm (Modern you), rîphau? < 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-)lā.

370
Sino-Tibetan: a conspectus

Sgaw has initial h- corresponding to Pwo γ- in a number of roots, including the following:

Sgaw ha?, Pwo γa? ‘walk’.
Sgaw hɔ, Pwo γq ‘cry’.
Sgaw hə, Pwo γai ‘pungent’, also ‘come’.
Sgaw hə, Pwo γaq ‘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~γi ‘house’; TB *kim.
Sgaw hùi (shìi), Pwo qγu ‘steal’; TB *kuw.
Sgaw hə, 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,
Taungthu wa ‘bird’; TB *wa.
Pwo yu, Sgaw yü ‘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 *mlyuw, id. (K mayu).

Initial *w- is preserved also in Pwo θwa ‘tooth’, TB *s-wa, and Pwo and Sgaw θwi ‘blood’, TB *s-hwi. Initial w- would appear to be secondary in Pwo and Sgaw wa ‘bamboo’, TB *g-pa, and Pwo wa? ~ θwa?, Sgaw wa? ‘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
*kyim ‘house’ > *khymi (aspirated) > *hyi[m]
*r-kw ‘steal’ > *khayw (aspirated; palatalized by *r- prefix) > *hyū
*g-am ‘salty’ > *khym (unvoiced; palatalized by prefix) > *hyam
Taungthu has tšom ‘salty’, apparently from *khym.

372 Jones (Karen Linguistic Studies) cites Pwo, Palaychi and Sgaw ya ‘betel 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 ~ *yår, 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-yor-mo ‘sail’.

a 鹽
Karen initial consonants and clusters

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. khaʔ ‘phlegm’, TB *ha-k. Pwo has h- in the loan-word hau (Sgaw hə) ‘preach’, B hau (> hə), 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-mya ‘many in company’, B myə ‘many’. Medial l is sometimes substituted for r, as in Pwo and Sgaw moʔ ‘cannon’, B amrauk. 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). Three TB comparisons are available for Karen forms with velar + -l- initial clusters, but the material here is very limited:

Pwo and Sgaw khliʔ ‘fold up’; cf. L thlep < *khlep, id.
Pwo khlai ‘speak’; cf. T gleγ-ba, id.
Pwo khliʔ ‘put on (hat), shut down (lid)’, khliʔ biʔ ‘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

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-w- and *s-hyw- are represented by Karen *sw- (preserved in Taungthu), as shown by Karen *swa ‘tooth’ and *swi ‘blood’ (Taungthu swoi).

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 khlauʔ/khluiʔ, Sgaw kləʔ (all on low tones) ‘to cover’, from *gluʔ; also the apparent doublet root: Pwo lauʔ ~ liʔ, Sgaw liʔ (note vowel distinction) (all on high tones) ‘cover (e.g. with blanket)’, from *[k]hluʔ; perhaps an original *glup (intr.) yielded Karen *gluʔ while *klup (tr.) yielded Karen *hluʔ, but both forms are now transitive in Karen.
Sino-Tibetan: a conspectus

a blanket), wrap (as a child in a blanket'), Bodo dzokhlop 'cover, shut', Dimasa phukhlu 'tuck in', sukhlu 'drown, immerse', phun-khlu 'wrap around' (phun 'wrap'), from TB *kläp.

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 pγa, Pwo pa (pa or ha in some districts) 'man'.

Sgaw pγi, Pwo χwe 'how many'.

Sgaw pγe, Pwo χwe 'full', from *pγay (see below), a possible loan from B prań, phonemically /prain/, id. (TB *bliy).\textsuperscript{377}

Sgaw also has the initial cluster shγ-, notably in the following pair of roots:

Sgaw shγa 'otter', from *shγq (see below); cf. TB *s-ram.\textsuperscript{378}

Sgaw shγe ~ shwe, Pwo shwai ~ shwe 'crab'; cf. TB *d-ka-y.

The former suggests Tibeto-Karen initial *sr- (rather than *s-r-) in this root, whence Sgaw shγ-. The latter is to be interpreted in the light of the above discussion of the Sgaw h- = Pwo γ- series, apparently corresponding to TB *k- and Ch. g'->γ-; note that Ch. also has g'->γ- here (γāi).\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 kwe, Sgaw kwä 'bee'; cf. TB *kwa-y.

Pwo and Sgaw khwi 'comb (hair), brush (thread)'; cf. the following:

(480) Digaro se-kwi 'comb' (se 'to comb'), L khui? 'comb', from TB *kwi(y).

Pwo and Sgaw tha 'span (1st to 3rd fingers); measure with a span'; cf. TB *twa.

Pwo phū-thq ~ phū-thq, Sgaw thc 'bear'; cf. TB *d-wam (here *d- has been treated as an initial, as in T dom < *dwam).

Pwo and Sgaw ni 'laugh'; cf. TB *m-nwi(y).

Pwo and Sgaw phe 'chaff, husks'; cf. TB *pwa-y.

Pwo and Sgaw mi 'sleep'; cf. TB *mwiy.

\textsuperscript{377} This root must be reconstructed *byāi because of the low tonal series, hence it probably is cognate with TB *bliy 'full' via *brey although the loss of final nasal, is anomalous. Karen has the similar root *bγe 'buy': Taungthu phre, Pwo χwe, Sgaw pγe (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 *bl- (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}
Karen initial consonants and clusters

Medial *y has simply been dropped in Pwo and Sgaw ðe ‘to be skilled, able’ (*know’ in comp.), TB *sey, but has exerted some effect in the following:379

Pwo ya, Sgaw nya ‘fish’; TB *n ya.
Pwo me?, Sgaw me? ‘eye’; TB *myak.380,381

Note Sgaw ny-<*ny-, as contrasted with y-<*ny-. The Sgaw-Pwo correspondence reappears in Sgaw ny, Pwo yau ‘easy’; Sgaw nya, Pwo ya (in comp.), Taungthu sna ‘before, in front of’; cf. T sna ‘before (in time)’, sna (West T nyar) ‘fore- or front-side, forepart’. The vowels of me? ~ mä? ‘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 wä? ‘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-, paralleling γ-<*r-.

Cf. Pwo xi, Sgaw shyi ‘clean’; Pwo xe?, Sgaw shye? ‘avoid, shun’; Pwo xa, Sgaw tra ‘cage for fowls’; and Pwo xa alongside therei ‘deer’, from B darai (dəyə). The TB comparisons, however, are few in number and of uncertain significance:

379 This series also includes Karen *hle[m] ‘lick’: Pwo lə, Sgaw le, Palaychi -li (high tonal series); cf. TB *(s-)lyam ‘tongue; flame’. Taungthu, 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 Taungthu form; the latter is altogether irregular, since there is no other example of retention of final *-k in Taungthu or Karen, and Taungthu has mc?<*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 -yi?<*-rik ‘pheasant’ for TB *s-rik ~*s-ryak.

381 See n. 251 for present view of significance of *myak ‘eye’.

382 Taungthu has su ‘6’, sə ‘8’ but Palaychi 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></th>
<th>TB</th>
<th>Taungthu</th>
<th>Pwo</th>
<th>Palaychi</th>
<th>Sgaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>winnow</td>
<td>krap</td>
<td>—</td>
<td>χa?</td>
<td>kра</td>
<td>χa</td>
</tr>
<tr>
<td>body dirt</td>
<td>kɾy</td>
<td>-khri</td>
<td>χi</td>
<td>kɾi</td>
<td>χi</td>
</tr>
<tr>
<td>grind</td>
<td>krit</td>
<td>khrü</td>
<td>χai?</td>
<td>(lawi)</td>
<td>χi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>γei?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

T’khrap-pa ‘strike, beat; winnow, fan’; Chepang krap ‘winnow’, hrap<*khrap ‘thresh’; Nungish: Rwegian rap<*k(h)rhap ‘winnow, thresh; paddle, row’ (cf. Rwegian rip ‘flying ant’<TB *krep).

Two of the above roots are in low tonal series, hence must be reconstructed with
**Sino-Tibetan: a conspectus**

Pwo χαʔ, Sgaw χα ‘winnow’; cf. T ḫhrab-pa ‘strike, beat; winnow, fan’.

Pwo χɨ ‘set on edge, as the teeth’; TB *krim.

---

**§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 vowels, 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.383 Several of the Taungthu words with final nasal are isolated in Karen; cf. ḫrōy ‘mouth’, hau poŋ ‘good’, lɔn ‘come’, lam ‘house’, kam ‘gold’ (a Thai loan-word). The regular correspondences for TB final nasals are illustrated below:384

Pwo kʰq, Sgaw kʰo, Taungthu kʰaŋ ya ‘foot, leg’; cf. T rkaŋ-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 χɨ(low tone) ‘set on teeth’ (text), from *gri[m]; TB *krim; 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, ə, e (see example in n. 368); cf. also Karen *men ‘name’: Taungthu and Sgaw mi, Pwo mɛ (n. 442). Other Taungthu forms with final -aŋ or -am are now available (Jones): tʃhaw ‘elephant’, biŋ-ŋaŋ ‘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 *ə+nasal; cf. Karen *am ‘eat’ (Jones cites Taungthu ?am); TB *am ‘eat; drink’ (for *am); to the forms cited in text, add Lepcha am ‘food’; Rāwāng (Nungish): Mutwang dial. ōm ‘eat’, also Lushein (and general Kuki) in ‘drink’ via *yom (cf. L in ‘house’ < TB *kyim); also Karen *tha[y] ‘up, go up’: Pwo thq, Sgaw thɔ; TB: Bodish *s-tøy ‘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: tʃom ‘mortar’, som ‘3’, lom ‘warm’, lɔŋ ‘stone’, nɔŋ ‘horn’, but num ‘smell’ (possibly reflecting an original distinction in vowel length); add Taungthu ŋom ‘betel cud’; TB *(m-)u-m ‘hold in the mouth; mouthful’.
Karen final consonants and medial vowels

Pwo *mq, Sgaw *mɔ ‘dream’ (in comp. with ‘sleep’); cf. TB *may.
Pwo *wɔ, Sgaw *wɔ ‘surround; circular’; TB *hwaŋ.

Pwo *q, Sgaw ɔ, Taungthu am ‘eat’; cf. the following root:
(481) Nung am ‘eat’, Dhimal am ‘drink’ (TB *am).
Pwo phü-tha ~ phu-tha, Sgaw tho ‘bear’; TB *d-wam.

Pwo *γɛ, Sgaw *γe ‘row’; TB *ren.

Pwo *khɛ ‘speak’; cf. T gle-y-ba ‘say, talk, converse’. 385
Pwo *khɛ, Sgaw ki ‘tie around, gird, bind’; cf. B khyaŋ ‘bind, fasten’. 386

Pwo *nɔ, Sgaw na, Taungthu nuŋ ‘horn’; cf. TB *ruŋ (K nrŋ).
Pwo *lɔ, Sgaw la, Taungthu luŋ ‘stone’; TB *r-ruŋ.

Pwo shɔ, Sgaw shɔ ‘mortar’; TB *tsum.
Pwo *θɔ, Sgaw ɔ, Taungthu ɔum ‘ʒ’; TB *g-sum.
Pwo *lɔ, Sgaw la ‘warm’, TB *lum.
Pwo *nɔ, Sgaw na ‘smell’ (intr.); cf. T snum-pa ~ snom-pa ~ snam-pa ‘smell’ (tr.) and TB *m-nam.

Pwo *nɛ, Sgaw ni ‘year’; TB *nɨŋ.
Pwo *θɛ, Sgaw ɛ ‘tree, wood’; TB *siŋ.
Pwo *mɛ, Sgaw mi ‘ripe’; TB *s-min.
Pwo *γi ~ yi, 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 *nay.
Pwo *mai, Sgaw mä ‘mole’; TB *r-men ‘wen, mole’: B hmáŋ > hmi.


385 Pwo *khɛ (low tone) < *gle[i], agreeing closely with T gleŋ-.
386 Pwo *khɛ, Sgaw ki (both low tone) < *ge[i], probably a secondary voicing of the initial (B khyaŋ).

387 Lahu ge ‘pillow’, Lolomaa pk’ɔ, from *mekhum (n. 123) (JAM).
Sino-Tibetan: a conspectus

Vocalic shifts before (original) final nasals are characteristic of Karen. Pwo retains *a, but Sgaw shifts to *e, whereas both retain *a as a final or before stop consonants (see below). The high-front vowel *i is maintained in most roots (Sgaw *e ‘tree’ < *siŋ is altogether exceptional), but in one instance this vowel has been replaced by *u before final -n:

Pwo *tʰiŋ, Sgaw *tʰu ‘liver’; TB *m-sin.

Pwo, which lacks nasalized u and e, has shifted *u to o before *-ŋ, and to *ə or *i before *-n and *-m. In Burmese loan-words, however, the original vowel is simply approximated, e.g. *pə ‘story’, B *pum (> *pou), *pə ‘own, possess’, B *puŋ (> *pâŋ). The vowels *o and *e have been diphthongized to *a 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. *dwa? ‘reconc’, B *twak (> *twɛʔ); *lwa? ‘saw’, B *hvâ. Replacement of final stop consonants by glottal stop is observed in the following:

Sgaw *kaha? ‘phlegm’; TB *ha:k ‘hawk, gag, choke’.
Pwo *thaʔ *thâ, Sgaw *tha ṭha ‘weave’; TB *tak.
Pwo and Sgaw *maʔ ‘son-in-law’; TB *ma:k.
Pwo and Sgaw *yaʔ ‘plantain’; TB *yak.
Pwo and Sgaw *θaʔ ‘itch’; TB *m-sak.
Pwo *waʔ ~ *θwâ, Sgaw *wâ ‘leech’; TB *r-pat.
Pwo and Sgaw *xoʔ ‘8’; TB *b-r-gyat.
Pwo and Sgaw *noʔ ‘mouth’; cf. B *hnut.
Pwo and Sgaw *nuʔ ‘brain’ (generally in comp. with *kho ‘head’); cf. TB *nuk (483), as represented by K *nu~*nu, B *u-hnauk (*u ‘head’).
Pwo *q *yuʔ, Sgaw *giiʔ ‘rob’; cf. L *ru:k, Haka *rük, Lakher *půru (Kuki *m-rů:k) ‘steal’.
Pwo *khlūʔ ‘put on (hat), shut down (lid)’; TB *klup.
Pwo *khliʔ ‘fold up’; cf. L *thlep < *khlep.
Pwo and Sgaw *khliʔ ‘turtle’; cf. B *lip.
Pwo and Sgaw *θo-giʔ ‘pheasant’; cf. TB *s-rik ~ *s-ryak.

The Sgaw distinction between *ni ‘year’ and *θe ‘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 *θi ‘3’ and *nau ‘horn’, *lau ‘stone’; cf. also Pwo *θü, Sgaw and Karenni *tō, Taungthu *thuy ‘ant’ < *sam (the Taungthu form is from Mason, who cites *θuŋ ‘3’ for *θam).

This root has a doublet: *hlūʔ < *[k]lup (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 'khuyig-pa 'bind', B kyats 'twist hard and tight', Kuki *d-khik:
Rangkhol kit, Kom, Aimol, Hallam khit 'bind', Lakher tsakhir 'tie, knot', from TB *kikh; K kyit 'to gird, girdle', sijkhyit 'girdle', gyit 'to tie, bind', Nung sijkit 'band (waist), girdle, belt' (prob. loan from Kachin), are apparently distinct (cf. Ch. kiet).\(^a\)

Pwo and Sgaw phi? 'skin, bark'; cf. K phyi? < *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 -a? < *-ak but -o < *-ay.
Pwo -u? < *-uk but -o < *-uy.

Pwo and Sgaw no? 'mouth', B hnut 'mouth; womb' (above) also suggests the shift *o? < *-ut, but cf. T snod 'vessel', bu-snod 'uterus', as if from TB *s-not. Pwo has final -au and -ai (above) but significantly lacks final *-au? and *-ai? (Pwo kyai? '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? tha? 'to weave', Sgaw tha 'warp', tha tha (tonally differentiated) 'to weave'; cf. TB *tak.\(^{395}\)

\(^{391}\) The Sgaw forms (Jones, Karen Linguistic Studies) point to an earlier doublet: *gi? ~ *ki?, the initial voicing probably being secondary.

\(^{392}\) The reconstruction *phik is based on Jili mphik, with final velar stop preserved. Needham (1889) observes that the Kachin word is 'uttered sharply' (cf. n. 50).

\(^{393}\) Pwo and Sgaw phi? 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 -au? corresponding to Bassein Pwo -ii? (Sgaw alternates with -a?) in two roots having TB cognates with final *-up or *-u-p:

<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>to cover (glup)</td>
<td>—</td>
<td>khla?</td>
<td>khlu?</td>
<td>kla?</td>
</tr>
<tr>
<td>klup</td>
<td>—</td>
<td>lau?</td>
<td>lü?</td>
<td>lü?</td>
</tr>
<tr>
<td>to enter nu-p</td>
<td>ní?</td>
<td>nau?</td>
<td>nü?</td>
<td>nü?</td>
</tr>
</tbody>
</table>

For 'cover', see n. 376. For 'enter' Taungthu has ní? (high tone) < *hní?, as if from *s-nu-p (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 *tha? 'to weave'. Sgaw and Palaychi have lost the glottal stop in the latter as

\(^a\) 結
Sino-Tibetan: a conspectus

Pwo tho phli?, Sgaw thu? pleʔ ŋ thuʔ pʰyeʔ ‘to spit’; cf. TB *(m-)tuk.396

Pwo and Sgaw θa ‘breathe’ but θaʔ ‘heart’, the earlier meaning being reflected in certain compounds: Pwo θaʔ-kaʔ ‘to have a sense of tightness in the chest so as to breathe with difficulty’ (*kaʔ ‘tight’);397 cf. the following:


The following roots show complete loss of final stop both in Pwo and Sgaw:

Pwo χu, Sgaw χü ‘six’; cf. TB *d-ruk.

Pwo and Sgaw θeʔi ‘leech’ (cf. Pwo θeʔaʔ, 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 là-phak, Limbu pella), Dhimal hla-ba, Mikir lo < *la (TB *la); cf. also B lak-phak ~ làbhak ‘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 thaʔ thaʔ ‘weave’ (as in the text); Taungthu also preserves the glottal stop: thaʔ ‘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 thuʔ (as in the text). Taungthu has jthoʔ (low tone, high tone) ‘spittle’, from *b-thoʔ < *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’, saʔ ‘heart’.

398 Taungthu has lyʔʔ ‘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: pʰe ‘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 *krep (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 *yar ~ *yår (n. 372). There are two good examples of replace-
Karen final consonants and medial vowels

Pwo phau, Sgaw phə ‘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 γū ‘snake’; cf. TB *b-ru.

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 -ii for *-u, but -u appears in loan-words, e.g. Pwo and Sgaw tu ‘hammer’ < B tu. In Pwo, on the other hand, -ii is relatively rare (cf. phii ‘carry’, also ‘younger brother’, bii ‘rice’) and tends to alternate with -u, as in khii~khu ‘trap’. The following pair of roots are exceptional:


Final *-s is probably replaced by -t rather than dropped; cf. the Karen forms for ‘bone’: Taungthu tshut, Pwo ɕwi, Palaychi ʔa-ɕi, Sgaw ɕi, 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. nī ‘2’, is not applicable in this connection, since the TB root has now been reconstructed without the final *-s, which is a separable element (n. 61); Karen may have -t for *-s also in *hnat or *hmwi:t ‘7’ (n. 355).

402 Palaychi resembles Pwo rather than Sgaw in this series, but with -ii only in mū ‘sun’ and -mū ‘female (human)’ (Pwo mū), perhaps conditioned by the initial *m-; it has an irregular -b for ‘pour’. Taungthu agrees with Pwo in general, with -u in most forms but bū- ‘rice plant’, mū ‘sun’, bū ‘carry on back’, tsʔū ‘rotten’, and add ɲū ‘cry (weep)’, TB *ŋew; Taungthu has phu ‘younger sibling’ (Pwo phū) and mu ‘female (human)’ (Pwo mū), also the irregular myu ‘to swallow’ (n. 403). Final -u is found in all four Karen languages only in *ʔu ‘to blow’: Taungthu, Pwo and Sgaw ʔu, Palaychi vu.
Sino-Tibetan: a conspectus

cf. TB *mlyutw (the Karen forms point to an intermediate *myu < *m-yu, with the initial interpreted as a prefix; cf. K *myu).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 smo (but woma ‘my mother’), Vayu umu < *ama, Chepang ma, Newari ma, Lepcha amo < *ama, Digaro (na-)ma, Dhimal ama, Burmese-Lolo *ma (B má is used only as fem. suffix), Bodo (bi-)ma, G ama ‘mother’ (TB *ma).404

- Pwo khu, Sgaw khii ‘smoke, vapor’; cf. TB *kww.
- Pwo phu, Sgaw phii ‘grandfather’; cf. TB *puw.
- Pwo and Sgaw mü ‘sun’; cf. the following:

(488) T rmu-ba ‘fog’, K mu ‘to be cloudy; sky; thunder and lightning’, lmu (Khauri dial. mmu) ‘sky’, Nung mu ‘sky’ (mu ru ‘to be struck by lightning’), B mül(gh) ‘sky; clouds, rain’ (the -gh is a product of etymologizing); cf. also B mü ‘to cover, spread overhead (as an umbrella), âmui ‘roof’ (TB *r-muw).405,406

- Pwo ü~o, Sgaw ü ‘putrid, rotten’; cf. the following:

(489) K wuo? ‘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 th ò ‘die’; cf. TB *siy.
- Pwo li, Sgaw kali ‘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 thau, Sgaw thɔ, Taungthu ɔto ‘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-yaw (*?am ‘eat’), corresponding to Pwo qyu (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-mw-k (n. 236).

407 An excellent comparison is available for final *-e, viz. Karen *ple ‘slippery’, TB *ble ‘slip, slippery’ (n. 375).
Karen final vowels and semi-vowels

Pwo *phe, Sgaw *he (the initial is anomalous), Taungthu *pye, Yeinbaw *phi ‘give’; cf. Kuki-Naga *pel(k) (see n. 289), apparently distinct from TB *bīy.

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 -a), 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 ɓo ‘oil, fat’; TB *sa-w.
Pwo and Sgaw kho ‘head’; cf. the following:

(490) T mgo, Digaro ku-ru~mku-ra, mkau, Nung go~sg3, G sko, Dimasa sagau (in comp.), Meithei mako ‘head’, from TB *m-gaw~*(s-)gaw.

Pwo and Sgaw tho ‘bird’; cf. Bodo-Garo *daw (G do, Dimasa dau).

Pwo and Sgaw mo ‘mother; female’; TB *mow.

TB *-ey regularly yields Pwo and Sgaw -e (-i in some Karen dialects; cf. Taungthu 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 ɓe ‘to be skilled, able’; TB *syey ‘know’.

Pwo ɓe, Sgaw yi~ye ‘rattan, cane’; TB *rey.

Pwo and Sgaw me ‘boiled rice’; cf. Bodo-Garo *mey or *may ‘rice, paddy’ (see n. 206).

TB *-ay~*-a-y are perhaps retained in Karen (Pwo -ai, Sgaw -ɛ) under certain circumstances, but in general tend to fall together with *-ey.409 Both -ai and -ɛ are found in Pwo loan-words from Burmese; cf. Pwo phai ‘playing card’ and ‘satin’ (B phai > phè), but Pwo pwe, Sgaw pwe ‘festival’ (B pwai > pwe). Pwo also shows -ai~-ɛ interchange, as in shwai~shwe (Sgaw shyɛ~shwe) ‘crab’; cf. TB *d-ka-y. Sgaw sometimes preserves the distinction between *-ay (>-ɛ) and *-ey (>-ɛ) in

408 The Taungthu dialect cited by Jones (Karen Linguistic Studies) has me ‘fire’ and re ‘rattan’, as in Karen generally. Palaychi has final -i here: mi ‘fire’, yi ‘rattan’, mi~ne ‘get, obtain’. For ‘rice (cooked)’, however, Palaychi has mə (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, 1967bis.

409 Taungthu uniformly has final -e in this series: tshwe ‘crab’, me ‘tail’, mwe ‘yam (white)’, ṭe ‘to love’, phre ‘tongue’, pade ‘navel’, phe ‘chaff, husks’. Palaychi has no fewer than four different reflexes here: shwe ‘crab’ and mwe ‘yam’; mə ‘tail’ and ṭe ‘love’; ple ‘tongue’; di- ‘navel’. The evidence in general suggests that Karen retains some distinction between original *-ay and *-a-y (contrast ‘tail’ and ‘crab’) but the evidence is not consistent (cf. ‘husks, chaff’, unfortunately not represented in Palaychi).
roots which are not differentiated in Pwo; cf. Sgaw me ‘tail’, TB *r-may, but me ‘fire’, TB *mey (both me in Pwo). Sgaw kwc, Pwo kwe ‘bee’, TB *kwa-y, fits into the same pattern, but this root has perhaps been borrowed from Burmese (kwai > kwi). Pwo has -ai in lai, Sgaw lc ‘exchange’, TB *lay; nai ‘yam’, Sgaw nwc; cf. K nai; also ai ‘love’, Sgaw e; cf. Ch. *ad > *ti, *id. 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 pôle ~ pôle ‘tongue’; TB *m-lay ~ *s-lay.
- Pwo and Sgaw de ‘umbilicus’; TB *s-tay.
- Pwo and Sgaw phe ‘chaff, husks’; TB *pwa-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 nû? Sgaw nû? ‘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.

a ♯
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 hmrd ‘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 *hna ‘fish’ (Toneme 3); cf. L sa-hna, with a redundant sa- ‘animal prefix’ (hna <*sna), 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>shá</td>
</tr>
<tr>
<td>bear, n.</td>
<td>-wam-</td>
<td>-thá</td>
</tr>
<tr>
<td>span</td>
<td>thwa</td>
<td>thá</td>
</tr>
<tr>
<td>nose</td>
<td>hna</td>
<td>ná-</td>
</tr>
<tr>
<td>smell (intr.)</td>
<td>nam</td>
<td>nō-</td>
</tr>
<tr>
<td>sleep</td>
<td>mwé</td>
<td>mì</td>
</tr>
<tr>
<td>ripe</td>
<td>hmán</td>
<td>mì</td>
</tr>
<tr>
<td>die</td>
<td>se</td>
<td>òi</td>
</tr>
<tr>
<td>elephant</td>
<td>tshay</td>
<td>koshá</td>
</tr>
<tr>
<td>wind, n.</td>
<td>le</td>
<td>lì</td>
</tr>
<tr>
<td>day</td>
<td>né</td>
<td>ní</td>
</tr>
<tr>
<td>moon</td>
<td>lá</td>
<td>lá</td>
</tr>
<tr>
<td>name</td>
<td>man</td>
<td>mì</td>
</tr>
<tr>
<td>warm</td>
<td>lum</td>
<td>ló</td>
</tr>
<tr>
<td>hundred</td>
<td>ára</td>
<td>yá</td>
</tr>
<tr>
<td>bow</td>
<td>lè</td>
<td>khli</td>
</tr>
<tr>
<td>bitter</td>
<td>khá</td>
<td>khá</td>
</tr>
<tr>
<td>smoke</td>
<td>àkhui</td>
<td>khù</td>
</tr>
<tr>
<td>fish</td>
<td>yá</td>
<td>yà</td>
</tr>
<tr>
<td>dog</td>
<td>khwé</td>
<td>thwi</td>
</tr>
<tr>
<td>carry</td>
<td>pul</td>
<td>phù</td>
</tr>
<tr>
<td>fire</td>
<td>mì</td>
<td>mè</td>
</tr>
<tr>
<td>bamboo</td>
<td>vå</td>
<td>vå</td>
</tr>
<tr>
<td>liver</td>
<td>asáń</td>
<td>ṭù</td>
</tr>
<tr>
<td>blood</td>
<td>swè</td>
<td>ṭwì</td>
</tr>
</tbody>
</table>

[cont. on p. 152]
Burmese Pwo Sgaw

arrow hmrà phla plâ
sun múi(gh) mì mú
tail âmì me mè
five yà yai ýè
four lè lì kvî
ear nà na nà

The tonally irregular Sgaw form la 'moon' is matched by Sgaw kwc 'bee' corresponding to Pwo khvé, but Burmese has kwâi (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 khwî, Sgaw khwi '9'; B sîm, Pwo ò, Sgaw ò '3';412 B khwè-hlé, Pwo khti, Sgaw kli 'flea'; B aphuì, Pwo phû, Sgaw phû 'grandfather'; B phwai, Pwo phè, Sgaw phe 'husks'; B mrè, Pwo li, Sgaw lî, 'grandchild' (all with falling rather than level tone in Burmese); B tshum, Pwo shû, Sgaw shô 'mortar'; B im, Pwo yî-î, Sgaw hi 'house'; B nui, Pwo nu, Sgaw nû 'breasts' (all with level rather than falling tone in Burmese); also B yà, 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 sôm. 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: sê would be expected (it does occur before certain specific classifiers) but the usual form is sê, with final -ê. This arose from metanalysis with an automatic [?] before the vowel-initial in 'four' /s/ ([P?]): i.e. in counting a [-ê-] demarcated 'three' from 'four' to prevent the two vowels from fusing (JAM). Lahu gô 'nine' is regular with respect to B kui (< *kuv T2), but cf. Lisu ku, from *?k-, also with an intrusive glottal element (JAM).
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 Karlgren. 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 Grammata Serica of Karlgren.


415 See Wang’s article in Current Trends in Linguistics II for recent Chinese bibliography (JAM). Karlgren’s reconstruction schema is conveniently presented in his Compendium of Phonetics in Ancient and Archaic Chinese (BMFEA, No. 26, Stockholm, 1954); Karlgren’s Grammata Serica Recensa (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 Karlgren’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 sum ‘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 Karlgren, 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 Karlgren 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 d 的來源
The relationship between Tibeto-Burman and Chinese, as noted above (§2), is a remote one.\(^{417}\) 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,\(^{418}\),\(^{419}\) 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 \(\sim\) *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 long and regarded as phonetic inb 'confer a charge', reconstructed \(m\)-long.

\(^{419}\) We have both indirect and direct evidence for prefixation in Chinese. Unaspirated surd stops/affricates point to an earlier prefixed form: \(kjüg/kjew\) '9' \(<\) ST *d-kaw; \(kăn\) 'liver' \(<\) ST *b-ka-n; \(tšiog/tsi\) '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\(\|j\)č\(\|\)k\(\|j\)u\(\|\)k '6', since graph is phonetic in ml\(\|\)č/mju\(\|\)k 'concord' (n. 474); also s\(\|\)d/s\(\|\)h '4', from \(p\)-say (n. 436), the prefix representing an inference required to explain the unvoicing of the initial; also x\(\|\)wet 'blood', TB *s-h\(\|\)w\(\|\)y (n. 441), but the graph is used as a phonetic or loan in forms with initial si\(\|\)w- and su\(\|\)w- (GSR- 410), indicating a doublet *x\(\|\)wet which incorporates the *s- prefix in the root (cf. B su\(\|\)w). More direct evidence of prefixation is supplied by very early loans from Chinese, notably
cited, e.g. niđārā 'near', sniđārb 'seal' ('something affixed'); niđōkc 'ashamed', sniđōgd 'ashamed; to shame' (cf. TB *s-rak); māke 'ink', ḥmākt 'black' (cf. T nag-po 'black', snag 'ink', and B maŋ~hman '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 ḥ-. The comparison gljāp > liāpś '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-yaŋ < g-ryap). The following pair, phonetically irregular, suggest that prefixed *s- might be preserved in Chinese in the same manner: sīcht 'flea, louse', TB *s-rík; sēngọ 'live; bear, be born; fresh (as greens)', TB *s-ríj ~ *s-ray. The addition of a prefix in Ar. Ch. can be demonstrated for glām > lām1 'indigo', T rams.420,421

in the numerals (n. 435). Prefixed *s- is not represented by the forms in the text, which are from initial *sr- clusters: TB *sřak 'shamed', *sřīk 'louse', *sřīnj 'live' (nn. 304, 457), but it is represented in *srijōk/sjukk '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 (χm-) as indicated in the text; cf. also mwan/muun1 'sad, dull, stupid', muun/muun ~ χuun/χuanm 'blinded, confused', χuun/χuan 'dusk, evening, darkness; blinded', from ST *mun~*s-mun; T mun-pa 'dark', dmun-pa 'darkened'; also *s-ŋ- yielded *χŋ-; cf. < yanō 'goose', also *s-yan (phonetic is xānọ < *χyān 'cliff', and Thai loan is *haan < *hyaan, with *s- 'animal prefix' (p. 107) (*s-ŋ-ą-n; n. 428). Prefixed *b- is maintained before *r/- (n. 474). Prefixed *g- is preserved in verbal roots before *r- in glijapq 'stand' (text) = *g-liāp (n. 472) and t'ian < *kran 'battle' (n. 461); it is also maintained as an old pronominal element with words for body parts (see §25) before *r/- in three roots: lięny/ljān 'neck, collar', kięny/kjān ~ g jēng/gjāŋt 'neck', from *g-lię; TB *lię 'neck'; g'jakə 'tongue', from *g-ljäk, a doublet of d'jat/da'jāt (n. 472), id.; TB *(m-)lyak ~ *(s-)lyak 'lick; tongue'; kwat/kwatw 'bone', from *g-rus (TB *rus) via *k-ruwst (n. 479) with unvoicing of prefix (cf. n. 436); cf. Karen *k(h)rūt < *g-rus; for other examples of retention of velar prefix, cf. 'right (hand)' (n. 449) 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 *r- at times in metathesized form; cf. mięny/mięnj 'name' < *miy; also mięnj/międʒ < mięń 'order, command; name', from *mięny ~ *mięnj, as shown by the phonetic (and cognate) lięny/lijān 'command', all from an original *mięny < *mrīnj (see n. 442 for alternation of finals); TB *r-mię 'name' (also B mën '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, 1967bis) as an early loan from AT (IN *taγum, Thai *throom), with gr- for γ-, a non-Chinese sound at that
The modern dialects of Chinese employ a true prefix (a-) with kinship terms and certain forms of address; cf. the following examples from Cantonese: \( a\)-mas 'mother!', \( a\)-yi\( b \) 'aunt!', \( a\)-wong\( e \) 'Wong!', \( a\)-yi\( d \) 'No. 2 (servant)! ' (reference to servant's order of birth). Maspéro\(^{423}\) 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. Laufer\(^{424}\) 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.\(^{426}\)

\( \text{sad}t\) and \( \text{sånt} \) 'scatter'.

\( \text{ngiat} \sim \text{ngian} \) 'deliver a judicial decision'.

\( \text{gîtåth} \) and \( \text{gíwånt} \) 'say, speak'.

\( \text{iwåt} \sim \text{iwånt} \) 'luxuriant'.

\( \text{k'wåk} \) and \( \text{k'wång} \) 'wide'.

\( \text{gliåk} \sim \text{gliång} \) 'plunder, rob'.

\( \text{iåp} \sim \text{iåmn} \) '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 *yraam as back-loans; Tibetan has rams, with added -s as in other AT loans (ltšags 'iron', zangs 'copper', phyugs 'cattle') while Lepcha has ryom < */ram.

\(^{422}\) 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', \textit{BEFEO 14} (1914), 1–36.


\(^{425}\) 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-ñ, t-n, p-m', \textit{Mém. Soc. Ling. de Paris 12} (1903), 67–72.
Chinese morphology (prefixes, suffixes, alternation)

with verb paradigms in Bahing and many other TB languages). Boodberg\(^{427}\) 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. \(n\text{íčk}^a\) and \(snjõg^b\) ‘ashamed’ (see above); \(\cdot d\text{k} 'bad, evil' and \(\cdot d\text{g}' 'hate', both written; \(g'õkd 'learn' and \(g'õge 'teach'. The last example is most suggestive, allowing us to postulate the existence of a causative suffix (-x): \(*g'õk-x > *g'õg-x > g'õg (k > g\) in intervocalic position). A nominalizing suffix of similar type can be postulated for the following:

\[
\begin{align*}
&t'wåt \sim d'wåt ' \text{peel off, take off (as clothes)}. \\
t'wåds ' ' \text{exuviae of insects or reptiles}. \\
\text{kïeth} ' \text{to tie, knot}. \\
\text{kïed} ' ' \text{hair-knot, chignon}. \\
\text{dzi}õk > dî'õk ' ' \text{eat}. \\
\text{dzigk} ' \text{food; feed}. \\
\text{nåp} ' ' \text{bring in}. \\
\text{nåwåm} ' ' \text{interior}; cf. \(g'õp\) and \(g'wåb\ ' ' \text{join; tap and twåb ' ' answer}'.
\end{align*}
\]

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:

\[
\begin{align*}
\text{k'iwënt} ' ' \text{dog}; \text{TB} \ *\text{kwïy}. \\
\text{çïwët} ' ' \text{blood}; \text{TB} \ *\text{s-kwïy}. \\
\text{ñëtt} ' ' \text{sun, day}; \text{TB} \ *\text{niy}. \\
\text{ts'ëtl} ' ' \text{varnish}; \text{TB} \ *\text{tsiy ' ' juice, paint}'.\(^{428}\)
\end{align*}
\]

\(^{427}\) P. A. Boodberg, Notes on Chinese Morphology and Syntax; III: The Morphology of Final -n and -t, Berkeley, 1934.

\(^{428}\) 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 -ièn ~ -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 -ån (root final *-a preserved as long medial a-, yielding the anticipated vowel å 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'ien\(^n\) (A) and çien\(^w\) (A) (not in GSR) ‘heaven’ (an oft-cited doublet), from *khien (n. 464), from *hka/n ‘the heavens’; cf. T mkha ‘heaven, the heavens’ (cf. T nam-mkha ‘heaven, sky’, Magari nam-khan ‘sun’); also the complex doublet g'jon/g'jën\(^x\) ‘heaven, heavenly’, from *gen (n. 481) < *ga/n, showing voicing of the initial (after prefix) and intermediate palatalization of the vowel; also read kán,
The most significant occurrence of suffixed -n, however, is in kăn⁴a ‘liver’ < (prefix) + *ka-n, TB *ka ‘bitter’, the root form being represented by kʰob ‘bitter’ (with regular *-a > -o shift after velar initial). The unaspirated initial of kăn 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 kăn ‘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. sjênc ‘body’, TB *sa ‘flesh’ (K šan); mjen ~ mjen/mjên ‘people’, TB *r-m(y) ‘man (homo)’; tsiwɔn/tsiûn ~ ts’iwɔn/ts’iuënc ‘hare’, TB *yew ‘rat, rabbit’ (B yun ‘rabbit’); dz’wɔn/dz’uən ‘grass, herb’, T rtsuwa ‘grass’ (n. 455). Alternation between suffixed and unsuffixed forms is reflected in the following pair: b’iɔn/b’iên ~ b’iɔr/b’iër ‘female of animals’, TB *pɔi(y) ‘female’ (see n. 463 for loss of medial *u); sjωr/sjωñ ‘water’, t’siwan/t’siwan (irreg. for t’siûn) ‘stream, river’, TB *twɔy (see n. 452 for initials); cf. also k’iwan/k’iwen < *k’(i)u-n and ku/kuk (both tone B) ‘dog’, TB *kwoy (both forms show the *kwoy > *ku shift; the latter with unaspirated initial was prefixed); ɲa¹ (tone A) ‘domestic goose’, ɲanm (tone C) < *ɲa-n (n. 488) ‘wild goose’ (= ‘goose in flocks’), B ɲan ‘goose’ with a similar suffixed -n (n. 284). Chinese also has two forms suggesting the function of a ‘dual’ (cf. K -phn ‘palm, sole’), viz. sjɔǥ/sjən ‘hand’, t’siwan/t’siuan ‘thumb’ (but used for ‘hand’ in graphs), Karen tsi ‘hand/arm; d’iwan/dz’iün ‘lips’, T mtsu, id. The appearance of suffixed -n in kinship terms in TB is paralleled in Chinese; cf. swɔn/swɔn ‘grandchild’; TB *su(w), id.: K ʃu, Mir, Meithi, Anu (S. Kuki) su, Bodo sou, Dimasasu; kwɔn/kuan ~ *k’wɔn/k’uan (based on Mand. k’un) ‘older brother, descendant’, ST *kwo ~ *gwo ‘maternal uncle’ (B -kui ‘older brother’); ts’iën ‘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. kwɔ/kuot ‘net’, from *kwɔa; TB *kwɔn ~ *guan ‘casting net’; ST *kwa ~ *guwa; ts’dau ‘left (hand)’; T g-yon-pa, id., with suffixed -n, as shown also by T g-yo ~ yo ‘craft, cunning, deceit’ (cf. simser); ST *yâ (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. njêt/njët ‘sun/day’; TB *nay, but B ne ‘sun’, né ‘day’, the latter with ‘creaky voice’ (glottalization), probably from *a-nay = ?a-nay; Chinese has an apparent doublet here with suffixed -n, viz. nien⁴ ‘sunnit’. Two kinship terms, however, appear to have suffixed -t paralleling the Tibetan usage (n. 284); cf. d’êt ~ d’êt/d’êtx ‘nephew/niece’; TB *b-lay ‘grandchild; nephew/niece’ (see n. 458 for the initial); t’iwat/t’siût ‘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 肝  b 苦  c 身  d 民  e 畜  f 荟  g 北  h 水  i 川  j 犬  k 狗  l 鶴  m 鷺  n 手  o 寸  p 舌  q 孫  r 眭  s 親  t 逗  u 左  v 日  w 視  x 妻  y 出
further appears in nan'a 'difficulty, suffering', to be connected with TB *na 'ill'; cf. also ts'ân b 'eat; food, meal', TB *dza.a. 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'wât ~ d'wât ~ 'peel off, take off'.

tâng ~ 'rise, ascend', d'ânge ~ '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. kwân t (A) 'cap'; (C) 'put on cap'; TB *gwa-n ~ *kwa-n 'wear; dress'; Karen *kwan 'put on (clothes)'; cf. also tân 'red, vermilion; (KD) cinnabar' (= 'the red substance') and tsjên, h also t'sën/t'sien ~ 'red', from *t'a-n ~ tya-n; TB *tya-n: B tya ~ tya 'very red, flaming red' (intensive), Tiddim Chin than < *th(y)an 'red', twan/tuan 'solid, thick; lie thick on', tijwun/tjuên ~ d'wun/ d'ùn' thick (sc. darkness'); TB *tow ~ *doy 'thick' (but Chepang dun); tjwun 'to smoke' (intr.). TB *kow 'smoke' (but Sunwar kun, Newari kīn). In other roots, Chinese suffixed -n has no parallel elsewhere or corresponds to suffixed -t; cf. nan/nàn ~ 'blush'; Karen (Taungthu) na 'red'; d'wun/d'ùn 'accumulate; bring together (soldiers as a garrison)', also d'wun/d'ùn 'tie together, envelop'; TB *du-t: T 'du-ba 'assemble, meet, join', sdud-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'jwât/g'jusat ~ 'dig out (earth)', also k'saw/k'usat 'dig in the ground; underground'; TB *r-go-t ~ *r-ko-t (K logot ~ lokhot, also sgot, 'scoop up'); Karen *kho-n 'dig' (n. 368); cf. also 'laugh' (n. 458) and perhaps also d'xêt/d'xêt ~ 'sickness, pain'; TB *tsa 'hot; pain'. ST suffixed *-s is probably represented by -t in Chinese (paralleling ST final *s>-t); cf. sjêt 'all, completely; (AD) thoroughly know, perfectly understand' (probably the more basic meaning; graph has 'heart' as signific); TB *syey 'know' (T ses-pa).

430 The following root also shows an inconsistent pattern contrasting with that found in TB: g'juk/g'jwok ~ 'compressed, bent, curved (body); curl, twist (hair)', g'juk/g'jwok 'bend the body', k'juk/k'jwok 'bend, bent; crooked, unjust'; TB *m-ku-h 'angle; knee'; cf. also k'jôk/k'jük 'bow, bend' and k'jôk/k'jük '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. glâk/lâk 'to fear' (not in GSR in this meaning), k'âl/k'âk 'respect, reverent' = 'to inspire fear' (cf. k'iêp/kîypa 'reverent, respectful, careful', k'iêp/kîyôh 'to be afraid; attentive; scare'), perhaps also k'ôk/k'ôk 'fear', from *kh'râk (n. 472); TB *grâk ~ *krâk 'fear; frighten'; cf. also Karen *xa < *khra[k] 'scare, frighten with outcries, use violent language in order to terrify'.

419 難 a b 餐 j 敢 k 茶 t 悉 s 驚 b 餐 j

a b 餐 j 敢 k 茶 t 悉 s 驚 b 餐 j

a b 餐 j 敢 k 茶 t 悉 s 驚 b 餐 j
Sino-Tibetan: a conspectus

tś'êṅgā ‘clear, pure, bright’, džś'êṅgb ‘clean, cleanse’, džś'êṅgc ‘quiet, pure’.
t’āḍdā ‘great, excessive’, d’āḍc ‘great’.
t’ioṅg ‘sell grain’, d’ioṅkg ‘buy grain’ (note the alternation in finals).
kōgb ‘teach, instruct’, g’ōg‘imitate, follow’.
tṣiṅgl ‘son’, džś’iṅgk ‘beget’.

kian1 ‘see’, g’ianm ‘appear, be visible’. Here the sonant form is intransitive, the surd transitive, as in Tibeto-Burman; cf. g’ōg ‘imitate’ and d’ioṅk ‘buy grain’, above.\footnote{431}

§41. Chinese pronouns

Chinese parallels Karen in having an exact cognate for TB *ya ‘I’, viz. ngoa (with the regular *-a > -o shift after velar initial), but nioo (cf. Karen na) corresponding to TB *nay ‘thou’.\footnote{432} As pointed out by Karlgren,\footnote{433} 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>ngoap</td>
<td>niaoq</td>
<td></td>
</tr>
<tr>
<td>ngâr</td>
<td>niaa</td>
<td></td>
</tr>
</tbody>
</table>

Both ngâ and nia commonly appear also in subject (incl. genitive) position, whereas ngo and nio are almost entirely restricted to this position, i.e. ngâ and nia tend to usurp the nominative roles of ngo and nio (cf. French moi, English me). In the older Shu Ching text, however, this distinction is not observed, and dioṅ or dioṅ is the dominant 1st person pronoun, with ngo entirely lacking and ngâ gradually

\footnote{431} Karlgren’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.

\footnote{432} The *na form for ‘thou’, found also in Nung, appears to be an unstressed form of ST *nay ~ *na-y ~ *nay. TB has *nay but a doublet *na-y can be reconstructed on the basis of Ch. nīŋ/nēy\footnote{(n. 488)}; cf. also nag/nāi ~ *nīŋ/nēy\footnote{w ‘thou’, the latter set up on the basis of the general use of the graph as phonetic in -iag forms, including nīŋ/nēy\footnote{v ‘repeat, as before; again and again; (AD) follow, imitate’, TB *(s-)nay ‘follow’, from ST *(s-)nay}.}

\footnote{433} ‘Le proto-chinois, langue flexionelle’, J\'A (1920), 205–32.
increasing in usage. In the still earlier Shih Ching text, moreover, ngá is the dominant form (exclusively used in songs from some districts), with djo as secondary form. Karlgren concludes that these differences reflect dialectical divergences, which are closely related to styles, and that the dialect of Lu, reflected especially in the Lun Yü, retained a true inflection of the pronoun as an archaic feature. The fact that ngo rather than ngá is the phonetically regular representative of TB *ğa 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-Kanauri 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', J RAS (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 pwaṭb “eight”', TP 34 (1939), 165–73; Wang Ching-ju, 'Chung t'ai tsang mien shu-ch'ieh-tzu chi jên-ch'êng tai-ming-tz'u yü yüan shih ts'ai', ('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. pwaṭb '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. 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 隻 b 入 c 王靜如 d 中台藏緬數目字及人稱代名詞語源試探 e 百
Sino-Tibetan: a conspectus

- 'iēt' '1'; cf. Kanauri id.
  nījér > nīśīb '2'; TB *g-nis.
  sāmc '3'; TB *g-sum.
  sīàd > sīd '4'; TB *b-liy.
  ngoe '5'; TB *l-ŋa~*b-ŋa.
  līòk > līuk '6'; TB *d-ruk.
  kīāg > kīgu* '9'; TB *d-kuw.

The phonetic shifts illustrated in the above comparisons are regular for the most part (see below). Ar. Ch. sīàd '4' for TB *b-liy, however, requires explanation, since initial *l- should yield Ar. Ch. l-, while *bl- should yield Ar. Ch. bl- (T bāi < *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 māsām '3' < *g-sum through the influence exerted by mōli '4' < *b-liy and mānya '5' < *b-ŋa (see §16), we must suppose that Ar. Ch. sīàd '4' has been influenced by sām '3', with s- replacing initial *l-. 436

TB; cf. nō/phnu̯h '5', from *ŋa (text), but Thai has *hā < *hīa (Ong-Be ŋa), borrowed from a pre-Ar. Ch. form *ŋa < *ph(-)ŋa < *b-ŋa; TB *l-ŋa~*b-ŋa; *b-līòk/līuk '6' (cf. n. 474), reconstructed on basis of use of graph as phonetic in mīlōk (or *m-līòk)/mīuκ 'accord', confirmed by the doublet *phrok reflected in Thai *hrok (but Tho has irreg. sok), Ong-Be sok < *phrok (a regular shift, e.g. Ong-be sok < *sak 'vegetable', Thai *phrak); TB *d-ruk; pʰwāt '8', from *b-rīya (n. 148) < *b-rīyat (n. 488); TB *(b-)g-rīat, with simplification to *b̌wāt rather than *b̌yāt, the latter also existing as a doublet which served as the basis for the early Min-chia (AT stock) loan: p̌iat, probably also Thai and Kam-Sui *pēt (= pe-t), Ong-be bet = pēt. For further details on these early loans from the Ch. numeral system, see Benedict, 1967bis; all these languages have *sām '3', agreeing with the irregular Anc. Ch. form sām rather than with the regular Ar. Ch. form šam, TB *g-sum. The seemingly unrelated ts'iēt '7' can be derived from ST *s-nis (n. 471). Finally, pāk/pokm '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: *pāk(-rya) < *bāgrya; cf. T brgyad '8', metathesized from TB *(b-)g-rīya (n. 148); also, for '10' see n. 464.

436 This numeral can be derived from ST (and TB) *b-īya via *b-śya or *b-zya (cf. T bāi) and *p-sya (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 sja̯t in Shensi), perhaps representing an old suffix (cf. Karen *lōi- '4').
The richly varied phonological system of Archaic Chinese offers many difficulties of comparison with the relatively simple scheme found in Tibeto-Burman.\textsuperscript{437} 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\textsuperscript{438} and Shafer’s study of Sino-Tibetan vocalism (\textit{JAOS} 60, 1940; \textit{JAOS} 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 reconstructions 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.\textsuperscript{439} The present study is the first to attempt a comparison of properly reconstructed TB roots with Archaic Chinese forms.

\textsuperscript{437} Karlgren’s phonetic notation has been adopted for this discussion of Archaic Chinese with a view to facilitating reference to the \textit{Grammata Serica}. The following points should be noted: \textit{ng} is the velar nasal \textit{ŋ}; \textit{j} is the palatal semivowel \textit{j}; \textit{ʔ} is the glottal stop \textit{ʔ}; \textit{i} and \textit{ɻ} are palatal stops; \textit{s}, \textit{ts}, and \textit{dz} are supradental (cerebral); \textit{a} is close (as opposed to open) \textit{a}, and \textit{ɔ} is close \textit{o}; short vowels are indicated either by a micron or a subscribed dot, e.g. \textit{a} is short \textit{a}, \textit{ɔ} is short \textit{o}; \textit{ə} is the low-back vowel \textit{ə}; \textit{ɛ} is the low-front vowel \textit{ɛ}.


\textsuperscript{439} Many instances of this type can be cited from Shafer’s paper, e.g. \textit{d’a}\textsuperscript{a} ‘tea’ and \textit{T dza}; \textit{b} ‘lion’ and B \textit{khray-sé}; \textit{d’ung}\textsuperscript{c} ‘copper’ and \textit{T don’tshe} (also \textit{don’tshe}) ‘coin’ (of Indic origin); \textit{migu}\textsuperscript{d} and \textit{T mig-gi miu} ‘pupil (of eye)’, the latter to be analyzed (as in Jäschke) ‘little man of the eye’, with \textit{miu} as diminutive of \textit{mi} ‘man’, paralleling \textit{rdeu} ‘little stone’<\textit{rdo} (cf. Ch. \textit{d’ung}\textsuperscript{e} ‘pupil’ and \textit{d’ung}\textsuperscript{f} ‘boy”).

\begin{table}[h]
\begin{tabular}{llllllll}
\textbf{a} 菜 & \textbf{b} 狸 & \textbf{c} 師 & \textbf{d} 瞣 & \textbf{e} 瞳 & \textbf{f} 僖 \\
\end{tabular}
\end{table}
§44. Chinese consonants (initials, finals)

The consonants of Archaic Chinese are as follows:\(^{440}\)

<table>
<thead>
<tr>
<th>Laryngeal:</th>
<th>(glottal stop)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Velar:</td>
<td>k k' g g' ng χ</td>
</tr>
<tr>
<td>Palatal:</td>
<td>ɨ ɨ' d d' n [y] s</td>
</tr>
<tr>
<td>Dental:</td>
<td>t t' d d' n l s z ts ts' dz dz'</td>
</tr>
<tr>
<td>Cerebral:</td>
<td>[r] s t's t's' dz'</td>
</tr>
<tr>
<td>Labial:</td>
<td>p p' [b] b' m [w]</td>
</tr>
</tbody>
</table>

Glottal stop occurs before (otherwise) initial vowels, as in Burmese and probably other TB languages. The phoneme χ 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. χiweta ‘blood’, TB *s-hwiy (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. χ- (ST *h-); the TB root is now (n. 169) reconstructed *s-hwewa ‘blood’, with *hwew- showing unit-for-unit correspondence with Ch. χiwa- (for the suffixed -t see n. 428; for the ‘lost’ prefixed s- see n. 419). Another source for Ar. Ch. initial χ- is *khy-, either from palatalized (by high vowel) *kh- or from a *khl- or *khr- cluster (n. 472); cf. χiwm/χiwa ‘to smoke’ (intr.), TB *kaw ‘smoke’ (see n. 429 for suffixed -n); g'juy/g'jauc (C) ‘owl’ (only KD in this meaning; signfic is horned owl), also χiog/χiu ‘owl’ and kioq/kieu ‘kind of bird (owl?)’, TB *gu ~ *ku ‘owl’ (add Gyarung pra-khu ‘owl’ to forms cited in text); the Ch. forms are, respectively, from *gaw, *kaw (unprefixed) and *kow (prefixed), all with vowel gradation; cf. also Anc. Ch. xpy ‘nutmeg, cardamon’ (not in GSR) but all dialects point to Anc. Ch. *k'yu (Karlgren); note that the phonetic remained unpalatalized: k'u/k'su ‘rob’, TB *r-kaw ‘steal’; cf. also ‘heaven’ (n. 464). Chinese has some interchange of velar stop with * (=? in several phonetic series, and there is one ST comparison; cf. ien ‘smoke’, from ?i-n < *?u-n (n. 429), a complex doublet of the verbal form cited above; Nungish (Rawang) maö shows similar irregular loss of the velar stop, apparently via *m-?ö < *m-k(h)aw, and it is possible that the Chinese doublet ien similarly reflects an earlier prefix or preposed element (ST *mey ‘fire’).

\(^{a}\) 血 b 黑 c 恋 d 鸨 e 杏 f 蕾 g 冠 h 煙

164
Chinese consonants (initials, finals)

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 $ẻ$ (palatal) as well as $ḍ$ (cerebral) is noteworthy. Anc. Ch. had $ʔ$, but Karlgren has shown this to be the end-product of a development $ð > də > ʔ$. In the absence of $z$, the affricate $dʒ$ must be considered a unit phoneme rather than $d + ʔ$, 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 + $χ$ 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 Lushei treatment of finals discussed in §7): 442

- $tsiɛt'$ 'knot, joint'; TB $*tsiŋk$.
- $niɛn$ 'harvest, year'; TB $*niŋ$.
- $sjɛn$ '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 unprefixed 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. $kʰ'od$ 'bitter', TB $*ka$ ($kʰa$ in most TB languages), but $kān$ 'liver', from a prefixed root such as $*m-ka-n$ or $*b-ka-n$; cf. also $kiŋ$ '9', TB $*d-kuw$. 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 $piŋk$

442 Add $*šrjet/siŋth$ 'louse', TB $*šrik$ (n. 457); also 'fear' (n. 466). The conditioning factors governing this shift have not been uncovered. A doublet form $*r-min ~ *r-min$ 'name; command' can be set up for ST itself: TB $*r-min$ 'name', $*min$ 'command' (Burmese); Karen $*men < *min$ 'name'; Ch. $*miŋ ~ *miŋ$ 'name; command' (from $*r-min ~ *r-min$ (n. 419). A similar shift after medial $y$ apparently has occurred in one root, viz. $d’iʦt/dʒ’iæt < *g’iæt$ 'tongue', a doublet of $g’iak < *g’iak$, id. (n. 419), TB $(m-)lyak ~ *(s-)lyak$ 'lick; tongue'; Magari has let 'tongue' while Kachin has $siŋlet ~ siŋlep$, Maran dial. $siŋriat$, id., from this root, showing parallel shift.

442
Sino-Tibetan: a conspectus

'belly', \( p'i\dot{o}k \) (also \( b'i\dot{o}k \)) 'cave' (TB \( *p\dot{u}k \)), can readily be interpreted in terms of lost prefixes, pronominal or other, e.g. \( *m-p\dot{u}k > p'i\dot{o}k, *p\dot{u}k > p'i\dot{o}k \). Similarly, a lost prefix must be postulated for forms such as \( t\dot{i}k \) '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:

\[
g'woe 'fox'; \ TB *gwa.
\]

\[
g'ogd 'call, cry out'; \ TB *gaw.
\]

\[
g'emc 'hold in the mouth', also (tone C) 'put in the mouth'; \ TB *gam (491), as represented by T 'gam-pa 'put or throw into the mouth', 
\]

Miri gam 'seize (with teeth, as a tiger)'.

\[
b'\dot{j}igt 'carry on the back'; \ TB *buw.
\]

\[
d'\dot{o}k 'poison, poisonous'; \ TB *duk \sim \*tuk.
\]

Ar. Ch. has surd for TB sonant stop in \( \pi\dot{a}n \) 'give', TB \( *biy \) (but note also Kuki \( *pe-k \)), while the inverse relationship obtains in \( g'i\dot{\text{g}} \) 'uncle (mother's brother), father-in-law', TB \( *kuw \). Morphology may sometimes play a role here, e.g. \( g'oi \) 'door, opening' has perhaps been derived from an intransitive root with voiced initial \( *g\dot{a} \) corresponding to TB \( *ka \) and \( *m-ka \).

443 ST initial \( *b- \) apparently was well maintained in Chinese in the cluster \( *bu- \) (n. 463) but was often (perhaps usually) unvoiced elsewhere; cf. also \( pi\dot{u}k \) 'bat' (not in GSR), T \( *ba-k \) (see n. 488 for the vocalism); \( pu\dot{u}/pu\dot{u}n \) 'root, trunk', TB \( *bu\dot{u} \sim *pu\dot{u}l \); \( K\) \( \text{phun} 'tree, bush, stalk, wood', Moshang \( pu\dot{\imath}l \) 'tree' (length probably secondary), \( G\) \( bol 'tree', L \( \text{bul 'cause, beginning, the root, stump or foot (of tree), the lower end (as of stick, post, etc.)', Tiddim \( \text{bul 'bottom, base, foot (of building)'} \) (but this root used in compounds meaning 'tree' in Anal and other Kuki languages); \( p'i\dot{\text{jan}}/p'i\dot{\text{janm}} 'fly about, flutter', \ TB \( *byer 'fly'; also 'uncle/older brother' (n. 463). This parallels the surdization of prefixed \( *b- \) in the numerals (nn. 435 and 436) and elsewhere (n. 474). Finally, ST \( *b \) yielded \( (w)u \) after prefixed \( *d- \) in \( d'\dot{u}/d'\dot{\text{wu}} 'head', TB \( *(d-\dot{b}u).\)

444 For this root Chinese also has a cognate with surd initial and suffixed -\( n \), viz. \( kw\dot{u}/ku\dot{n} \sim *k\dot{\text{wan}}/k\dot{\text{wan}} \) 'older brother' (n. 428). Chinese also has \( g'\dot{\text{eg}}/\gamma\dot{\text{ai}}b 'crab', \ TB *\( d'\dot{ka}\)-\( y \), but note Karen \( *\text{tsyai} (a 'problem' root; see n. 323); cf. also \( k\dot{\text{an}} 'dry', g'\dot{\text{an}}/\gamma\dot{\text{an}} 'drought, dry' (text); \ TB \( *\text{kan} \); \( K\) \( \text{kan} 'to be dried up (as a stream)', B \( \text{kh\dot{\text{an}}}, \ Atsi\) (Burling) \( \text{h\dot{\text{an}} (BL \*\text{kan}) 'dry up'; also g'\dot{\text{ek}} 'ridge of house; the highest point; extreme limit, utmost', B-L \( \text{khak 'reaching its peak; (in price) expensive'} \) (this reconstruction by JAM), from ST \( *g\dot{\text{ek}} \sim *k\dot{\text{ek}} \); also 'needle' (n. 464).

445 TB perhaps has a variant \( *g\dot{a} \) here; cf. Trung (Nungish) \( sa\dot{\text{y} ga 'window'} \) (= 'window-opening'), Rawang \( \text{sr\dot{\text{im} say, id. (say possibly a loan from Ch. ch\dot{\text{u}ang).} \)

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; *$d$$ieng$\(^b\) 'fly', and TB *$y$an (No. 492), as represented by West T bu-$y$an 'bumble-bee', Kanauri $ya$' 'fly, bee', B $ya$ '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, theseunaspirated 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) $giwo/yiuc$ 'proceed, go to', TB *$s$-wa: Magari and Chepang $ha$ 'walk, move', Newari $wa$ 'come', K $wa$ 'to be in motion', B $swa$ 'go', Kuki group *$-wa$ (affixed with verbs of motion); cf. additional examples in n. 449.

\(^{448}\) This TB root has been reconstructed *($s$-)bran (n. 469). For ST *$y$-, cf. $djan/jân$\(^d\) (A) 'extend; continue; delay; stretch', $dian/jân$\(^e\) (A) 'mat' ('something spread out'), $dian/jan'$\(^C\) 'flow out, extend', perhaps also $diên/jên$\(^C\) (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) $san$ < *$y$an 'stretch'. It is possible that ST initial *$y$- yielded Ar. Ch. $d$- only in unprefixed roots, and that after (most or all) prefixes, this same initial yielded Ar. Ch. $zi$- (Benedict, 1948), with further evolution to $d$- and even to $ts/\bar{ts}'\$-, the last with three excellent examples; cf. $zjak/\bar{z}ak$ 'armpit', TB *($g$-) $yak$ (text; cf. n. 108); $ziâg/jâl$ (C) 'night', $dzjak/zâl$ 'evening, night', TB *$ya$ 'night', Karen *$hya$ 'evening' (see n. 487 for final); $tsôg/\bar{ts}âk$ 'spirits, wine' (note phonetic is $ziôg/jiû$, defined in KD as 'wine must'; see text), TB *$yu$($w$) 'liquor'; $tsiôn/\bar{ts}iôn$ ~ $ts\bar{i}ôn/\bar{ts}iôn$ 'hare' (with 'collective' -$n$ suffix; see n. 428), TB *$b$-$yw$ 'rat, rabbit' (B $yun$ 'rabbit'); $tsân$ 'left (hand)', T $g$-$yôn$-$p\=a$, id. (with suffixed -$n$; see n. 428).

\(^{449}\) A direct comparison of this type is furnished by the following (Benedict, 1967bis): $gwia/jiwê$,\(^p\) an obsolete root for 'elephant', the graph showing a hand at the head of an elephant (recognized by P. Boodberg, HYAS 2, 1937, 239–72,
Sino-Tibetan: a conspectus

Ar. Ch. appears to be more archaic than Tibeto-Burman in possessing a series of palatal consonants distinct from the dental series. Both types of consonants appear in initial position before semivocalic ɬ, hence are phonemically as well as phonetically distinct. Palatal ɮ- corresponds to TB *n- in *ɬaɬa '2', TB *g-nis; ɲɪɛt 'sun, day', TB *niy. It may be that original *n- was palatalized before ɬ in Ar. Ch. (cf. T ɡniyis '2', nyi-ma 'sun'), while Ar. Ch. dental n- belongs to a later level. No significant comparisons have been found for ɬ, ɬ, or ɬ.

Note 68), TB *m-gwi(y) 'elephant': K gwi ~ mawgi, Rāwang (Nungish) mawg < *mawgi, S. Kuki *m-wi. 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: dʒiɬ/ɬi (A) ~ tɬiɬtɬiɛ (C) 'mucus from the nose' (note the tones), TB *(sna-t)ɬi(y) (A) 'nose-water' (Dhimal ɦna-ɬhi 'snout'); ST *tay 'water'; the aspirated (hence unprefixed) form has tone C, indicating an original suffix (n. 494). The phonetic in this series (GSR-551) is dʒiɬ/ɬi ɬ 'barbarian', the graph showing 'man' and 'arrow', the latter as the basic phonetic (not recognized by Karlgren), to be interpreted as a close-juncture form (e.g. 'bow' + 'arrow') of *tɬiɬ (TB *tal), whence ɬiɬ/ɬiɛ 'arrow' (n. 461); this series includes another close-juncture form of this type, viz. dʒiɬ/ɬi (A) 'the fat over the stomach', from tɬiɬ/tɬiɛ (A) 'fat', TB *tsil (n. 461). Prefixed *g- is apparently represented by g- in giɬ/ɬiɛ (A) '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. giɬim/ɬiɲ (AD citation, based on irreg. Mand. hiuŋ) 'bear', from *wam < *wam (n. 488), TB *d-wam; giɬan/ɬiɬan (A) 'circle, circumference; round; return', giɬan/ɬiɬan (A) 'round', giɬan/ɬiɬan (C) 'wall round a courtyard'; also (aspirated and palatalized) giɬan/ɬiɬan (B) 'tie around, encircle', giɬan/ɬiɬan (B) 'enclosure for pigs' (also read gɬan/ɬian) also (without palatalization) giɬan/ɬiɬan (A) 'turn round, return', gɬan/ɬiɬan (A) 'ring; encircle'. Also (with *wa > *u > w shift) gɬan/ɬiɬan (C) 'pig-sty', TB *wal 'round, circular'. It appears that in parallel fashion ST (and TB) *hwa- yielded k(ɬ)- in Chinese; cf. kɒm 'dare', perhaps by dissimilation from *kawm (lacking in Chinese), TB *hwam, 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 (*wam > *gawm) 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. tɬiɬ/tɬiɬtɬiɛ 'red', TB *tsak, id.; iɬɡ/iɬɪɬtɬuɬ 'animal', TB *ia 'flesh, meat, animal' (see n. 487 for final), also the forms with 'collective' -n suffix (n. 428):

| a | ɬ | b | 丹麦 | c | c | d | 夷 | e | 矢 | f | 陖 | g | 脂 | h | 右 | i | 熊 | j | 貝 |
|---|---|---|-----|---|---|---|-----|---|---|---|-----|---|---|---|-----|---|---|---|-----|---|---|---|
| k | 圓 | l | 院 | m | 模 | n | 模 | o | 院 | p | 模 | q | 模 | r | 敵 | s | 赤 | t | 獸 |
The dental sibilants and affricates probably correspond to TB *s, *z, *ts, and *dz, although no reliable comparisons have been found for the voiced members of this group.\(^{453}\) Initial *s- is particularly well represented, as in *sma\(^{a}\) '3', TB *g-sum. Final *-s, a rare element even in Tibeto-Burman, has perhaps undergone rhotacism in Ar. Ch., as suggested by Karlgren (BMFEA 5, 1934); cf. n\(\text{i}r\text{b}\) ‘2’, TB *g-nis.\(^{454}\) TB initial *ts- is represented by ts- or ts' in *tsie\(\text{c}\) ‘knot, joint’, TB *tsik; ts'\(\text{e}\)\(\text{t}\) ‘varnish’, TB *tsiy; ts'\(\text{u}\)\(\text{ng}\) ‘onion’, T *btsoŋ, but simply by s- in sam\(\text{t}\) ‘hair’, TB *tsam; cf. also dz'\(\text{a}\)k ‘salt, salty’, TB *tsa.\(^{455}\) Initial z-, like initial \(\text{i}\)\(\text{e}\)\(\text{n}\) ‘body’, K \(\text{sa}\) ‘flesh, meat, deer’. The voiced stop in this series is represented only by d'\(\text{i}w\)\(\text{a}\)/d'\(\text{i}w\)\(\text{e}\)\(\text{n}\) ‘lips’ (with -n suffix), T mt\(\text{h}\)u, id. ST (and TB) initial *s- before the high back vowel u yielded Ch. s- in sw\(\text{u}\)\(\text{n}\)/sw\(\text{u}\)\(\text{n}\) (‘grandchild’) (with -n suffix; n. 428), TB *su\(\text{u}\)(w), id.; perhaps also ST *ts- > Ch. ts- before u (n. 455). The rare initial clusters of dental stop or affricate + y in TB yielded palatal in Chinese; cf. *t\(\text{y}\)\(\text{a}\)k/t\(\text{s}\)\(\text{i}\)\(\text{a}\)k ‘single, one’, ST *tyak (n. 271); t'\(\text{u}\)/t\(\text{s}\)\(\text{i}j\)u ‘red’, TB *tya (n. 487); t'\(\text{jo}\)/t\(\text{s}\)\(\text{j}\)\(\text{w}\)\(\text{m}\) ‘boil, cook’, TB *t\(\text{s}\)\(\text{w}\)\(\text{y}\) (n. 453). In the single comparison for the voiced stop in this series, however, Ar. Ch. has the dental + y (i) cluster, viz. d'\(\text{i}j\)\(\text{o}\)/d'\(\text{i}j\)\(\text{u}\)\(\text{n}\) ‘insect’, Bodo-Garo *d\(\text{y}\)\(\text{n}\) (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-prefixed) initial; cf. the following: t'\(\text{y}\)\(\text{r}\)/t\(\text{s}\)\(\text{t}\)\(\text{i}\) ‘fat’, TB *tsil; d'\(\text{j}\)\(\text{a}\)k/d\(\text{d}\)\(\text{j}\)\(\text{a}\)k\(\text{h}\) ‘eat’, TB *dza (but dental preserved in dz\(\text{j}\)\(\text{a}\)g/zi\(\text{a}\) ‘food, give food to’ (probably from a prefixed form); t'\(\text{i}\)\(\text{w}\)\(\text{a}\)/t\(\text{s}\)\(\text{i}\)\(\text{u}\)\(\text{e}\)\(\text{n}\) ‘nephew’ (with suffixed -t; n. 428), TB *tu ~ *du; si\(\text{w}\)\(\text{a}\)/si\(\text{w}\)\(\text{e}\) ‘water’, also (with suffixed -n) t'\(\text{i}\)\(\text{w}\)\(\text{a}\)/t\(\text{s}\)\(\text{i}\)\(\text{w}\)\(\text{e}\)\(\text{n}\) (irreg. for t'\(\text{i}\)\(\text{e}\)\(\text{n}\) (‘stream, river’, TB *t\(\text{w}\)\(\text{o}\)\(\text{y}\) ‘water’; si\(\text{a}\)/si\(\text{i}\)u ‘arrow’, TB *tal; Mikir thal (Old) > thai (Modern) ‘arrow’, L thal ‘arrow, dart’, but Tiddim thal ‘bow’, perhaps also Deori Chutiyia (B-G group) thal ‘bough’ (Benedict, 1940, No. 72); also (with initial alternation) t\(\text{a}\)\(\text{n}\) ‘rise’, t’\(\text{i}\)\(\text{a}\)\(\text{n}\)/t\(\text{s}\)\(\text{i}\)\(\text{a}\)\(\text{n}\) ‘lift’, TB *(s-)t\(\text{a}\)\(\text{n}\) (n. 482). In one root, however, Chinese appears to have dental affricate corresponding to palatal in TB; cf. ts\(\text{i}\)\(\text{a}\)p/ts\(\text{i}\)\(\text{s}\)\(\text{a}\)p ‘connect, come in contact; close to’, TB *ti\(\text{a}\)p ‘join, connect; adhere’ (G *tsap-tsap ‘adjacent’), possibly from ST *ts\(\text{y}\)\(\text{a}\)p.

\(^{453}\) ST (and TB) initial *z- is represented in Chinese by the anticipated dz/-z-initial in dz\(\text{j}\)\(\text{a}\)g/zi\(\text{a}\) ‘child’, a doublet of ts\(\text{i}\)g/\(\text{t}\)\(\text{i}\) ‘beget’, all pointing to a basic ST root *tsa ~ *dza, with *z- as a doublet of the latter (the initial *dz- form is lacking in TB, which has only T btsa-ba ‘to bear offspring’). The rare ST (and TB) *zy- cluster is represented simply by zi- in the one Ar. Ch. comparison available, viz. zi\(\text{g}\)/\(\text{g}\)\(\text{u}\) ‘a rott, decay’, TB *zya-w ~ *z\(\text{y}\)\(\text{u}\)(w) ‘rot, decay; digest’. ST (and TB) initial *dz- is represented by d'\(\text{i}w\)/d'\(\text{i}z\), with doublet dz/z-, in the basic root for ‘eat’ (n. 452). Finally, one excellent comparison is available for B-L (and by inference TB) initial *dzw-, viz. d\(\text{j}\)\(\text{w}\)/d\(\text{j}\)\(\text{n}\) ‘hawk, kite’, B-L *d\(\text{s}\)\(\text{w}\) (n. 162).

\(^{454}\) Ch. ni\(\text{r}\)/n\(\text{i}\)\(\text{e}\)\(\text{t}\) ‘2’ points to a basic ST root without final *-s, 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 ‘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. *tie\(\text{t}\) ‘joint’, TB *tsik (text,
The cerebral series š, tʃ, tʃʰ, 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. tʃʰoc ‘thorny trees, thorns’, TB *tsow; and šiød ‘boil, cook’, TB *tsyw. The comparative data gathered to date, however, are far too meagre to support this view, yet do not militate against it.\textsuperscript{457}

above); šiège ‘knee’ (=‘leg-joint’) (cf. G dža-tšik ‘leg-joint’=‘knee’); also tʃ’swun/tʃ’sum ‘thumb’ (but used for ‘hand’ in graphs), from *tsu-n (n. 428) but šiog/šiugu ‘hand’ (note the palatalization), Karen *tsi ‘hand/arm’; here we might reconstruct ST *šézw, with palatal shifting to dental affricate before the high vowel u, as in swum/swunb ‘grandchild’, TB *šu(w) (n. 452). Contrariwise, Chinese clearly has developed a secondary affricate in one root, viz. tʃ’som/tʃ’sám ‘3, a triad’, a doublet of sam/sám ‘3’, TB *g-sum (possible effect of the prefix; cf. Nungish: Râwang atsum ‘3’) and at times has an affricate initial in the face of a sprint in TB; cf. tʃ’iımk ‘sweep’, from *tʃ’im; TB *šim: Nungish: Râwang ŋim, Trung ŋıım ‘sweep’, B sim ‘strike with a motion towards one’s self’, Maru sɨm <*šim ‘sweep’ (Benedict, 1940, No. 45); tʃ’iım ‘to lie down to sleep’, from *tʃ’im; T gzim-pa (perhaps from *g-dzıım) ‘to fall asleep, sleep’ (ibid. No. 46); tʃ’iıp ~ tʃııp ‘whisper’, from *(tʃ)ıp/tııp; T sıb-pa ~ sıb-pa, id. (perhaps from *syıp ~ *syıp) (ibid. No. 39); dž’ièn ‘exhaust, entirely; (KD) use to the utmost; use up, finish’, from *dž’ın; T zın-pa (perhaps from prefix +*dəın) ‘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. dž’wun/dž’ıım ‘grass, herb’ (with ‘collective’-n suffix; n. 428), T rtswa ‘grass’ (n. 161); dž’ıt/dž’ııp ‘sickness, pain’ (with suffixed -t), TB tsa ‘hot; pain’, but tš’ın ‘eat; food, meal’, from *tʃ’a-n, TB *dza ‘eat’ (text and n. 487); possibly also tʃıar/tsır ‘older sister’, TB *dzar ‘sister (man sp.)’. It appears that initial affricates in general were highly unstable elements in ST, particularly so in Chinese.

\textsuperscript{456} See n. 448 for further analysis.

\textsuperscript{457} The Chinese retroflex (cerebral) series represents a secondary development from palatal+r clusters (Benedict, 1948). There are three excellent comparisons for Ch. *sr/- = TB *sr- (n. 304): *srıcˇ /stęa ‘louse’, TB *srık (see n. 442 for final); *srıŋ/ʃıŋ ‘live; bear, be born; produce; fresh (as greens)’, TB *šrıŋ ‘live, alive; green; raw’ (see n. 476 for vocalism); *srıaŋ/ʃıaka ‘color of face); looks, (womanly) beauty (also ‘lust in AD’); to show off’, TB *srık ‘ashamed, shy’ (=‘to show color of face’). The cluster *sr- can be reconstructed for Ar. Ch. itself on the basis of graph connections not only with l- but also with γ-; cf. *šrıaŋ/ʃı ‘recorder; record’ phonetic in liąg/ʃıw ‘officer’; *šrıam/ʃıam and glıım/ʃıam ‘forest’; šrıam / sıam and glıım / sıam ‘drip’ (these are both cognate pairs); *šrıu/ʃıu (B) ‘count’;
**Chinese consonants (initials, finals)**

Ar. Ch. has initial l- for both *r* and *l*, as in likok '6', TB *d-rük*. Early Chinese loan-words in Thai retain original *r*; cf. Thai *hruk* '6', and *graam* 'indigo', Ar. Ch. glăm, T rams.468 The fate of final *r* and *l* in Chinese is not so readily

(C) 'number' (cognate with TB *t-srøy*, below) has gliu/lu 'drag' as phonetic; also g'jga 'summer' phonetic in *sřng/atu* 'side-room' and *sřng/au* 'hoarse' (only in AD); *sřng/siawt* (place) where, with g'jgyu 'door' as phonetic (JAM suggests a comparison with K ra 'place'). Another strong argument for reconstructing *sr* (or *šl*) is provided by an early loan from AT, viz. *sréj*/syön 'reedom organ' (note, above, as phonetic), from AT *klušig* 'flute' (IN *t'ulig*, Thai *klulw* < *klurig*) via *śl[r, li* < *klulw*, li* (see n. 472 for ś < *klh*). The initial cluster *śr* (- = *śr*) has been reconstructed for three TB roots (n. 95), one of which has a Ch. cognate with the anticipated cluster (voiced); cf. *dśr* jérz/dźi 'spittle (of dragon)' (Ar. Ch. form not cited in GSR), TB *m-tšril* 'spittle'; cf. also *sřjši/siš* (B) 'count'; (C) 'number' (above), TB *(r-)*sřray 'count', via *sřray*, 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 *sr* (> Anc. Ch. sj-) corresponding to TB *sr-* , since there are two comparisons in the above phonetic series1 (GSR-812); cf. also *sřjši/siš*m 'clan, family, family name' (the original matri-clan name, as indicated also by the use of njo/miwo 'woman' as signific in the graph), TB *sřjši* 'sister': T *sři*-mo 'sister (man sp.)' (= 'the one carrying the matri-clan name', paralleling T min-po 'brother (woman sp.)' = 'the one carrying the patri-clan name', from TB *mi* 'name'); cf. also *sřjši/siš* and *p* 'weasel', TB *sre[p] 'weasel, squirrel'. The initial cluster *sr-* can also be inferred (and reconstructed) for the following: *sřjši/siš* 'older sister', TB *sru(w) 'aunt' (T sru); cf. also 'bark' (n. 245). The prefixed combination ST *sr-* also yielded Anc. Ch. sj-, probably from Ar. Ch. *sr*; cf. *sřjši/sišk* 'pass the night', TB *s-ryak* 'day (24 hours)' but Lahu há 'night; pass the night', L riak 'pass the night' (n. 154); also *sřjam/sišm* 'sharp' (graph has *d'jam* < *li*m 'tongue' as phonetic; n. 458), TB *(s-)*ryam, id. The dental stop + cluster is represented only by tšok/ťisk* 'weave', TB *trak*. The corresponding voiced paratal or dental + r clusters are rare; cf. d'jan/žián 'upwards; high, admirable; superior' (used as a title), TB *žr* 'uncle' (see n. 155 for parallel Tibetan use of the term); ST *żr-* > d'jži- in Chinese, which lacks initial *z-* ; cf. also d'jan/žián (B) 'earthworm', also djën/jën* (B) and djën/jën* (B), id. (note that all three triplet forms have the same tone), TB *sril* 'worm' (B ti, Thado til 'earthworm'), showing ST *żr-* > *żr-* > *dy-* > *y-* > dji-i-.

458 See n. 421 for present analysis of 'indigo'. Under conditions of palatalization (not fully worked out) ST *l* tends to be replaced in Chinese by Ɂ or dji; cf. 'neck' and 'tongue' (n. 419), 'eagle' (n. 225), also *djšk/jšk* 'wing' (GSR cites Ar. Ch. gšk, but djšk is indicated since the phonetic series includes tšok/tjšk), a TB *g-lak* 'arm' (this semantic interchange also appears in AT; cf. Formosa: Paiwan dials. valana 'wing', valana/lana 'arm'); djap/jšb 'leaf', TB *lap, id. There is evidence for further evolution of ST *l* to other dental stops (voiced or unvoiced), paralleling the Karenni *l* > t shift (p. 137), especially in the GSR-413 series (phonetic is tšed/tši); cf. d'iet ~ d'jēt/d'jēţ 'nephew/niece' (with suffixed
Sino-Tibetan: a conspectus
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'ân ~ d'âra ‘alligator’, b’jẽn ~ b’jẽrb ‘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 piwerc ‘to fly’, TB *pur ~ *pir, in support of a direct Ar. Ch.–TB correspondence for this final. As shown below, the final -r thus reconstructed

- t; n. 428), TB *b-lay ‘grandchild; nephew/niece’; t’iê’t/tšiêtd ‘leech’ (not in GSR), TB *(m-)li-t ‘water leech’ (contra Benedict, 1967bis, where an AT origin is suggested); possibly also qêd/t’îe (C) ‘heavily weighted down’, from *liêd < liêt (note tone), TB *(s-)løy ‘heavy’ (Bodo illit ~ gillit, L rit); cf. also the following: *liam/t’iem ‘lick, taste’ (not in GSR), from *liam/*liem, as shown by the Cantonese reading li-m (Karlgren calls this a ‘synonymous word’), TB *(s-)lyam ‘tongue; flame; this root is also represented in Chinese by the ‘hidden’ word for ‘tongue’ (*d’i'am ~ *d’i'am < *liam ~ *lijam), explaining the use of h as phonetic in d’i'am/d’iem ‘calm’ and *srjam/sjâm ‘sharp’ (n. 457), also in *d’i'am/d’iemk ‘sweet’ (not in GSR), cognate with TB: Kiranti *lem, id.: Waling, Nachereng, Chintang, Rungchangbung lem, Rodong lam-, Limbu ke-lim-ba, Yakha lim (contrast Yakha lem ‘tongue’ < TB *lyam). Chinese initial ji-li- definitely represents an earlier -r- in the cyclical term ziôg/jiû ‘cock’ (n. 487) and corresponds to TB (and ST) *ry- in zijk/lâkm ‘fluid, moisture’, TB *ryak ‘grease, oil, juice’, ST (and TB) *ry- apparently shifted to *ly- (perhaps because of the prefix) in d’iok/d’iek ‘peasant’, possibly also d’iër/d’iër, id., from *l[i]yak; TB *s-rìk ~ *s-ryak, id. Both types of correspondences are indicated in the following: ziôg/jiûp ‘laugh’ (graph is a loan in this sense), TB *rya-t, id. (see n. 488 for final), also d’iêt, id. (from the phonetic series singled out above), from *lyat < *ryat (with typical palatalization of the vowel; n. 488).

459 Ar. Ch. zwâr ‘fire’ might be compared with Nung hwarr ‘burn, kindle’, K wân, Moshang varr, G waâl ‘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. tsìr/tsiâ ‘older sister’, TB *dzar ‘sister (man sp.)’; piwâr/piwât (A) ‘fly’, piwên/piwênu (A) ‘fly, soar’, piwên/piwênu (C) ‘spread wings, fly up’, TB *pur ~ *pir ‘fly’; zwâr/zwâw (A) ‘fire’, from *phwâr (n. 463), b’jwân/b’jwâm (B) ‘burn, roast’ (series includes final -r forms), TB *bwâr ~ *pwâr ‘burn; fire’; sjèn (A) ‘new, renew’, sjân/sjän (A) ‘fresh (fish, meat); (KD) new, fine, clean’, TB *sar ‘new, fresh’; *sjên ‘louse’ (phonetic is sjênb; graph later applied to synonymous *strjét/sjet; see n. 457), TB *sar ~ *sâr, id.; sjän/sjên ‘sleet’, T ser-ba ‘hail’; suân/suând ‘sour’ (series includes final -r forms), TB *swâr, id.; b’wâr/b’wâu ~ pwâr/puâ ‘white’, L vara, id., from *pwar; Karen *b(?)wa, id., from *bwar < *pwar; pwâr/puâ (C) ‘spread out, sow; distribute; banish, reject; winnow; shake’ (Benedict, 1967bis, considers an AT loan), also (with apparent loss of final -r) puâr/puâk (B ~ C) ‘to winnow’; TB
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. ngin\textsuperscript{a} ‘silver’, TB *gul; mi\textsuperscript{b} ‘close the eyes, sleep’, TB *myel ‘sleepy’.\textsuperscript{461} The following comparison suggests that roots in final *-l sometimes gave rise to the final -n ~ -r doublets noted above: s\textsuperscript{\textacutedash}ian ~ s\textsuperscript{\textacutedash}jar\textsuperscript{c} ‘wash’, TB *\textup{(m\textup{-})s(y)il (493), as represented by T bsi\textup{-}ba ‘wash’ (a’ respectful’ usage, apparently derived from a meaning ‘to cool’), K s\textsuperscript{\textacutedash}in ~ k\textsuperscript{\textacutedash}s\textsuperscript{\textacutedash}in ‘wash, bathe’, L sil, Rangkhol ger\textsuperscript{\textacutedash}sil, Thado s\textsuperscript{\textacutedash}il ~ k\textsuperscript{\textacutedash}s\textsuperscript{\textacutedash}il, Khami mse (cf. m\textsuperscript{\textacutedash}tse ‘spittle’ < *m-ts(y)il), Lakher p\textsuperscript{\textacutedash}si, Mikir i\textsuperscript{\textacutedash}thi (Kuki-Naga *m-s(y)il ‘wash, bathe’).\textsuperscript{462}

\textbf{\textit{bwa\textsuperscript{r}}:} T ‘bor\textsuperscript{\textacutedash}ba, pf. bor ‘throw, cast, fling; leave, forswake’, Bahing war ‘throw away, squander, abandon’, Chepang wa\textsuperscript{\textacutedash}r ‘sow’, Mikir var ‘throw, cast, fling’, L vor\textsuperscript{\textacutedash}2 ‘scatter, throw up, toss’; d\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}am (A) ‘extend; continue; stretch’, d\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}an (C) ‘flow out, extend’ (series includes final -r forms), TB *ya\textsuperscript{\textacutedash}r ~ *y\textsuperscript{\textacutedash}ar ‘spread, extend; sail’ (but note Tiddim z\textsuperscript{\textacutedash}an < *yan ‘stretch’; n. 448); *b\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}b\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}t\textsuperscript{\textacutedash}n (B) ‘braid, plait’ (not in GSR), p\textsuperscript{\textacutedash}ian\textsuperscript{\textacutedash}p\textsuperscript{\textacutedash}ien ~ p\textsuperscript{\textacutedash}ian\textsuperscript{\textacutedash}p\textsuperscript{\textacutedash}ien (A) ‘plait, weave’, also b\textsuperscript{\textacutedash}ian\textsuperscript{\textacutedash}b\textsuperscript{\textacutedash}ien (B) ‘arrange in a series’, TB *by\textsuperscript{\textacutedash}ar ~ *py\textsuperscript{\textacutedash}ar ‘affix; plait, sew’ (but note Tiddim ph\textsuperscript{\textacutedash}an ‘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\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}pr/t\textsuperscript{\textacutedash}s\textsuperscript{\textacutedash}h ‘fat’, TB *ts\textsuperscript{\textacutedash}il, id. (n. 452); mi\textsuperscript{o}r/m\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}woi and m\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}war/m\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}woi (this doublet form reflected in the loan use of the graph) ‘eyebrow’, from *mir ~ *mur (*mil ~ *mul), TB *(s\textup{-})mul ~ *(s\textup{-})mil ~ *(r\textup{-})mul ‘body hair’ (T s\textup{\textacutedash}min\textup{\textacutedash}ma ‘eyebrow’; n. 56); d\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}en (series includes final -r forms), also d\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}k and d\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}j\textsuperscript{\textacutedash}an (all on tone B) ‘earthworm’, TB *z\textsuperscript{\textacutedash}ril ‘worm’ (n. 457); s\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}n ‘base of tooth’ (= ‘gums’) (phonetic of this series is \textit{sjan\textsuperscript{\textacutedash}st\textsuperscript{\textacutedash}n ‘arrow’, below), TB *s\textsuperscript{\textacutedash}nil ‘gums’ (nn. 452, 471); m\textsuperscript{\textacutedash}jan/m\textsuperscript{\textacutedash}ja\textsuperscript{\textacutedash}n ‘face’, L hme\textsuperscript{i}, id.; b\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}p ‘poor’, from *b\textsuperscript{\textacutedash}il; T dbul, id.; d\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}p ‘dust’, from *d\textsuperscript{\textacutedash}il; T rdul, id. (see n. 477 for the vocalism of these last two roots); pu\textsuperscript{\textacutedash}en/p\textsuperscript{\textacutedash}uen ‘root, trunk’, TB *bul ~ *pul ‘root, stump, tree’ (n. 443); s\textsuperscript{\textacutedash}jer\textsuperscript{\textacutedash}si ‘arrow’, TB *tal ‘arrow; bow’ (n. 452); d\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}jen\textsuperscript{\textacutedash}t ‘kidney’, TB *m\textsuperscript{-}kal (n. 463); t\textsuperscript{\textacutedash}an ‘coal, charcoal; lime’ (= ‘ashes’); T thal\textsuperscript{-}ba ‘dust, ashes and similar substances’; t\textsuperscript{\textacutedash}jan/t\textsuperscript{\textacutedash}s\textsuperscript{\textacutedash}jan\textsuperscript{\textacutedash}n ‘battle; to fight’ (series includes final -r forms), from *k\textsuperscript{\textacutedash}ran < *g\textsuperscript{\textacutedash}ran, TB *(g\textsuperscript{-})ra\textsuperscript{\textacutedash}l ‘fight, quarrel; war’ (see n. 472 for initial); gi\textsuperscript{\textacutedash}wan/ji\textsuperscript{\textacutedash}wan ‘round’, etc., TB *wal ‘round, circular’ (n. 449).

462 The Tibetan form is perhaps unrelated; the TB root has now been reconstructed *(m\textsuperscript{-})s\textsuperscript{\textacutedash}yil ~ *(m\textsuperscript{-})s\textsuperscript{\textacutedash}yal, the doublet being represented by T b\textsuperscript{\textacutedash}sil\textsuperscript{-}ba ‘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 iw and i (phonemically j in Karlgren’s notation). The available comparisons, however, are not numerous; cf. the following.463

\[\text{kiwana ‘dog’; TB } *\text{kwiy.}\]
\[\text{xiwetb ‘blood’; TB } *\text{s-hwiy.}\]
\[\text{swân ‘garlic’; cf. B krah-swan ‘onion’.}\]
\[\text{ngioe ‘fish’; TB } *\text{yya.}\]
\[\text{kiangf ‘ginger’; cf. B khyhy, id.}\]

The ST labial stop + w cluster is especially well represented in Chinese; cf.
\[\text{pjwolpiuh ‘man; (KD) husband’}, \text{TB } *(p)wa ‘man, person, husband’, \text{Karen } *waw ‘husband’; pjwol/piul (A) and pjwol/piul (B) ‘ax’, TB *r-pwa, id. (n. 78); pjwol/piulk ‘breath of four fingers’, TB *pwa ‘palm (of hand)’ (B phâwa); b’iul ‘father’, TB *pwa, Karen *ba ~ *pha (ST *bwa ~ *pwa); b’wâ/b’uâm ‘old woman (not in GSR), also ‘grandmother (vocative)’ (Benedict, 1942), B âbhâwâ ~ âphâwâ ‘grandmother’; b’wâr/b’uâ ~ pwâr/puân ‘white’, L va-r < *pwar-r, Karen *?b(?)wâ < *pwar (n. 460); pwâr/puê ‘sow; winnow’, puâl/puô ‘winnow’, TB *bwâr ‘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 â. The aspirated (= non-prefixed) surd stop + w yielded Ch. xw- (see n. 374 for the parallel shift in Karen); cf. b’iwân/b’iwna < *bwan < *bwâr burn, roast’, xwâr/xwâr < *phwâr ‘fire’ (n. 460), with â > a shift in the former before the secondary -n (n. 488); xiwân/xiwân < *phwâny ‘elder brother’, TB *bwan ‘uncle (usu. father’s brother)’; cf. also þâk/þâk ‘eldest brother, eldest’ (later developed present meaning: ‘father’s elder brother’), perhaps from *þwâny (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’iân/b’iên ~ b’iér/b’iér ‘female of animals’, TB *þwi(y) ‘female’ (n. 428); miyâd/myiyv ‘sleep, lie down to sleep’, TB *(r-)mway ~ *(s-)mway ‘sleep’; the latter word perhaps lost the medial *w at a relatively late stage, since the graph has the cyclical character miuâd/myweâ ‘as phonetic, and the phonetic series (GSR-531) has otherwise only initial miuâ- and mwa- forms; cf. also miuâ/myweâ ‘minute, small’, B mwê, id., from *mway, 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, 1967bis, 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

---

Notes:
463
464
In some cases it is difficult to determine whether medial \( \ddagger \) represents original medial \( \ddagger \) or is simply an index of palatalization;\(^{465} \) cf. gl\( \ddagger \)ap\( ^{a} \) ‘stand’, TB \*g\( \ddagger \)rap (where \( \ddagger \) might be regarded as a representative of \( \ddagger \)), but k\( \ddagger \)rap\( ^{b} \) ‘weep’, TB \*k\( \ddagger \)rap (where \( \ddagger \) stands for palatalization); cf. also \*n\( \ddagger \)ap\( ^{c} \) (based on Anc. Ch. niep) ‘to pinch, nip with the fingers’, TB \*nyap ‘pinch, squeeze’; \( \ddagger \) in and \( \ddagger \) in ‘think’, T snyam-pa ‘think; imagine; thought, mind’, snyam\( ^{s} \) ‘soul, mind; thought’; \( \ddagger \)k\( \ddagger \)t ‘mount, advance, promote’, T theg-pa <\( \ddagger \)thak (as shown by West T dialects) ‘lift, raise’; also li\( \ddagger \)et ‘fear’, T zed-pa <\( \ddagger \)ryed ‘fear, be afraid’.\(^{466} \)

\( \ddagger \)j\( \ddagger \)n/\( \ddagger \)j\( \ddagger \)n (A) ‘red’, sj\( \ddagger \)n/sj\( \ddagger \)n (A) ‘red ox; red’, from \*kh\( \ddagger \)n, TB \*ky\( \ddagger \)n. This shift explains the doublet: t\( \ddagger \)ien (A) and \( \chi \)ien\( ^{k} \) (A) ‘heaven’, from \*kh\( \ddagger \)ien (n. 428) (see n. 441 for the \( \ddagger \)h\( \ddagger \)-> \( \chi \)-shift). The initial cluster appears to be preserved in k\( \ddagger \)an/k\( \ddagger \)en\( ^{l} \) ‘see’, g\( \ddagger \)ein/y\( \ddagger \)en\( ^{m} \) ‘appear’ (text), TB (m-)ky\( \ddagger \)n ‘know’ (for the semantics, cf. PN \*k\( \ddagger \)it ‘see, appear, know’), but the medial \( \ddagger \)y is perhaps secondary in the TB root, with the likely ST reconstruction being \( *(m-)k\ddagger n \approx *(m-)ge\ddagger n \) (contrast the equation in n. 481 for the short ST vowel: TB \*e = Ar. Ch. \( \ddagger \)a). Other ST roots show similar shifts in Chinese to palatal or dental initial from velar stops before the front vowels \( \ddagger \) (primary or secondary) and \( \ddagger \) as well as \( \ddagger \); cf. d\( \ddagger \)\( \ddagger \)ap/\( \ddagger \)\( \ddagger \)n \( ^{p} \) ‘10’, from \*g(y)ip, TB \*gip, id.; t\( \ddagger \)j\( \ddagger \)m/t\( \ddagger \)jam\( ^{p} \) ‘needle’ (phonetic is g\( \ddagger \)m/y\( \ddagger \)m),\(^{p} \) also written\( ^{q} \) (with above root as phonetic), from \*k(y)am \( \approx \) \*k(y)ap, TB kap, id. (n. 82); d\( \ddagger \)\( \ddagger \)m/\( \ddagger \)\( \ddagger \)n ‘kidney’, from \*g(y)al, TB \*m-kal, id.; t\( \ddagger \)\( \ddagger \)m/t\( \ddagger \)jam\( ^{a} \) (A) ‘chopping-block’ (phonetic series includes k\( \ddagger \)m/k\( \ddagger \)m ‘vanquish, kill’), also t\( \ddagger \)jam/\( \ddagger \)jam\( ^{a} \) (B\( \approx \)C) ‘pillow; to use as pillow’, both from \*k(y)im (see n. 477 for vocalism), TB \*k\( \ddagger \)um ‘block; pillow’, Karen \*khu\( ^{l} \)m ‘chopping-block’; note also k\( \ddagger \)m/k\( \ddagger \)m ‘vanquish, kill’ (same word as above), in a series (GSR-658) with k\( \ddagger \)m\( ^{k} \) ‘now’ as phonetic but including also t\( \ddagger \)jam/t\( \ddagger \)jam\( ^{k} \) ‘walk hesitatingly’ and even t\( \ddagger \)jam/t\( \ddagger \)am ‘covet’ (the last listed separately by Karlqren under GSR-645); cf. T ‘g\( \ddagger \)u-pa, pf. gum, gums ‘die’, pf. bhum ‘kill, slaughter’; cf. also k\( \ddagger \)u/k\( \ddagger \)u \( ^{z} \) (C) ‘rob’, t\( \ddagger \)u/t\( \ddagger \)u\( ^{a} \) (A) ‘steal’, TB \*r-k\( \ddagger \)w (B) ‘steal’ but Karen \*hy\( ^{u} \), id., reveals an initial palatalizing element (n. 371), apparently leading to the dorsal 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 \*sip ‘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 \( \ddagger \) as a basic ST unit (n. 482), requiring reconstructions such as ST \*g\( \ddagger \)rap ‘stand’, \*k\( \ddagger \)rap ‘weep’, \*n\( \ddagger \)ap ‘pinch’ (with doublet \*n\( \ddagger \)ap; n. 471); \( \ddagger \)am ‘think’, tk\( \ddagger \) ‘mount; raise’; note that Chinese tends to shift the palatal to a dental nasal in some cases (see n. 452 for the parallel \( \ddagger \)-\( \ddagger \)-\( \ddagger \)- shift) but the palatal form is maintained in ni\( \ddagger \)am/n\( \ddagger \)jam\( ^{b} \) ‘soft’, B n\( \ddagger \)m, id. (L nem, id., appears to be indirectly cognate), ST \*n\( \ddagger \)m. Inasmuch as palatalization occurs in Chinese before most vowels (notably excluding \( \ddagger \)), medial \( \ddagger \) can be reconstructed for ST only in those roots for which it is attested in TB (\*g\( \ddagger \)rap ‘stand’).

466 A better comparison is provided by T ‘d\( \ddagger \)i\( \ddagger \)gs-pa ‘to be afraid; fear, dread; fearful’, from \*d\( \ddagger \)b\( ^{i} \)g (n. 104), ST \*lik, with shift of final \*k to -t before \*i (n. 442).
Sino-Tibetan: a conspectus

Initial clusters can be reconstructed for Ar. Ch. on the basis of the use of phonetic elements in characters.\textsuperscript{467,468} Combinations of stop, nasal or sibilant + l are most in evidence, while sn-, śn-, ḷm- and perhaps t’n- and sng- also appear; cf. the following:

\[ \text{g’liog} \rightarrow \text{liu} \text{a} \quad \text{‘whistling of the wind’}, \quad \text{kl’iog} \rightarrow \text{k’iub} \quad \text{‘down-curving’}, \quad \text{g’il’iog} \rightarrow \text{g’iuc} \quad \text{‘kind of precious stone’}, \quad \text{t’iog} \rightarrow \text{t’iu} \sim \text{liog} \rightarrow \text{liu} \quad \text{‘to get cured’}, \quad \text{ml’iog} \rightarrow \text{miuc} \quad \text{‘bind around’}. \]

\[ \text{ts’iam} \quad \text{‘all’}, \quad \text{kl’iam} \rightarrow \text{ki’am} \quad \text{‘measure, control’}, \quad \text{g’liam} \rightarrow \text{g’iam} \quad \text{‘restrict, frugal’}, \quad \text{χl’iam} \rightarrow \text{χiam} \quad \text{‘precipitous’}, \quad \text{ngl’iam} \rightarrow \text{ngiam} \quad \text{‘verify’}, \quad \text{gl’iam} \rightarrow \text{giam} \quad \text{‘gather, accumulate’}. \]

\[ \text{blwa’n} \rightarrow \text{lu’al} \quad \text{‘phoenix’}, \quad \text{pl’ian} \rightarrow \text{pianm} \quad \text{‘change’}, \quad \text{ml’wan} \rightarrow \text{mwan} \quad \text{‘southern barbarian’}, \quad \text{sl’wan} \rightarrow \text{swan} \quad \text{‘twins’}.\textsuperscript{469} \]

\textsuperscript{467} Karlgren has freely reconstructed initial clusters in his \textit{Grammata Serica}, while Simon (BSOS 9, 1938) has paid especial attention to the sn- ~ śn- cluster. Boodberg has made extensive use of ‘rhyming binoms’ (\textit{tieh yün})\textsuperscript{p} in reconstructing complex clusters; see his \textit{KD Notes} 1–4 (Berkeley, 1934–5), and ‘Some Proleptical Remarks on the Evolution of Archaic Chinese’, \textit{HJAS} 2 (1937), 329–72.

\textsuperscript{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’, \textit{TP} 51 (1964), 229–46. 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).

\textsuperscript{469} For \textit{pl’ian}/\textit{pianm} ‘change’, cf. Thai \textit{*pl’iak}, \textit{id}., from \textit{*p’liyan} (IN \textit{liyan}); this appears to be an old loan-word in Chinese. The early loan-word material further indicates \textit{pl’-} \rightarrow \textit{t’/ts’-} and \textit{p’l’-} \rightarrow \textit{t’/ts’-} shifts in Chinese; cf. \textit{t’iog}/\textit{ts’iu} ‘boat’, from \textit{*pl’iog}/\textit{p’liu}; cf. IN \textit{*parau} (Gurung, in the Himalayas, has \textit{plava}); \textit{*t’/ts’-} (GSR cites \textit{t’iog} for Ar. Ch.) ‘ox’ (calendarical term), from \textit{*p’liog}/\textit{p’liu}; cf. Thai \textit{*plaw}; from this same (ultimate AT) source came T \textit{phyugs} < \textit{*phlug-} ‘cattle’, with the suffixed -s characteristic of these loans from AT (Benedict, 1967bis). Prefixed \textit{*b-} + \textit{r/l-} gave rise to Ch. \textit{bl/l-} (n. 474), while ST (and TB) \textit{*bl-} and \textit{*br-} (generally) merged in Chinese with loss of the stop element, yielding \textit{d}/\textit{i/-}; cf. \textit{diak/jak} ‘shoot with arrow with string attached; arrow [of this type]’ (graph is picture of same), TB \textit{*bla} ‘arrow’ (see n. 487 for the final), perhaps also \textit{*t’jak/\textit{t’jaku}} (Ar. Ch. form not cited in GSR) ‘string attached to arrow’, from \textit{*pl’jak} (see discussion above); \textit{di’/j’iay} ‘full, fill’, TB \textit{*bl’in} ‘full’ ~ \textit{*plin} ‘fill’ (latter not represented in Ch.); \textit{di’j’iay} ‘fly’, TB \textit{*b-} \textit{j’iak} ‘fly, bee’ (text \textit{*yay}; add T \textit{shran} fly, bee’, Lepcha \textit{sum-bryon} ‘fly’). ST \textit{*br-} appears to parallel \textit{*y-} (n. 448) in yielding an affricate rather than \textit{di’/i/-} when prefixed; Mand. \textit{ts’ap} ‘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) \textit{d’/iay/d’s’iay} ‘string, cord’, from prefix + \textit{*bl’in}, Nungish: Metu \textit{ambri’} = \textit{*a(m)bri} (typical Nungish nasalized \textit{*a-} prefix) ‘cord’ (Desgodins, \textit{La Mission du Thibet}, 1872); this character is also read \textit{di’j’iay} ‘full (sc. of grain)’, apparently a doublet of the form cited above.

\begin{align*}
\text{a} & \quad \text{b} & \quad \text{c} & \quad \text{d} & \quad \text{e} & \quad \text{f} & \quad \text{g} & \quad \text{h} & \quad \text{i} & \quad \text{j} & \quad \text{k} & \quad \text{l} & \quad \text{m} & \quad \text{n} & \quad \text{o} & \quad \text{p} & \quad \text{q} & \quad \text{r} & \quad \text{s} & \quad \text{t} & \quad \text{u} & \quad \text{v} & \quad \text{w} & \quad \text{x} & \quad \text{y} & \quad \text{z}
\end{align*}
Chinese consonant clusters

sliag > *si 'recorder, record', liag > *li "officer".\(^{470}\)

sniad > ngiai 'cultivate, agriculture', sjad > sja "force, influence".

\(\text{njo} > \text{nzjw}0\) 'like', \(\text{sni} > \text{siw}0\) 'indulgent', snjo > sjwo 'coarse raw silk' and t'nijo > t'jw0 'season, flavor', both written.\(^{471}\)

låth 'wicked', t'låth > t'dt 'otter'.

lior > liei 'ritual vase', t'lior > t'iei 'body'.

makh 'ink', \(\chi m\kappa > \chi k\)m '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 > kan "select, distinguish", but glåm > lâm "barrier". This generalization, which underlies the reconstructions made by Karlsgen, is supported by glåm > lâmp "indigo", Thai *graam, as well as by the following comparisons from Tibeto-Burman.\(^{472}\)

\(^{470}\) See n. 457 for analysis of this cluster, now reconstructed *sr-.

\(^{471}\) There is evidence that ST prefixed *s- remained as a separable element in Chinese; cf. *niap/niap 'pincers, tweezers; to pinch, a pinch' (not in GSR), a doublet of *niap* (above), from ST *niap ~ *niap, also (from same phonetic series) sniap/siáp 'pinch between'; nák/núk 'ashamed', snjog/sjóu 'shame' (loan use); perhaps we should reconstruct *s-njók contrasting with snjog. 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 ijan/iáen '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'iog/t'iwu (cyclical character) (Karlsgen cites Ar. Ch. t'mjog) for 'ashamed/shame' (above) and the text example (njo/nziwox 'like' phonetic in *t'iog/t'iwu 'season'). There is also evidence for initial n- ~ ts- interchange in Chinese, including the classical Shuo Wên interpretation of the character nien 'year' as including ts'ien 'a thousand' as a phonetic (cf. the discussion in P. Boodberg, 'Some Proleptical Remarks on the Evolution of Archaic Chinese', H\textit{JAS} 2, 1937), from ST *s-ni, with support for the prefix furnished by the Chinese tonal system (n. 494; S. China dialects also reflect an earlier initial *hn- or the equivalent in this root). A pair of apparent Chinese-TB correspondences bear on this point: ts'jétb '7', TB *s-nis; *dz'jog/dz'i (Ar. Ch. form not cited in GSR) 'self', but graph is drawing of nose, and it is used as a sign for in b'jöd/b'jöd 'nose', TB *s-na; these roots imply *st->ts'- and *sd->z'd->dz'- (cf. N. Bodman, BIHP, \textit{Academia Sinica}, 39, pt. 2, 1969).

472 Ar. Ch. apparently unentirely between gljif, as in gljam/jäme '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-ljif-, as in g-liap/láp 'stand', TB *g-ryap, paralleling a similar distinction between blijif- and b-ljif- (n. 474). TB 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-
Sino-Tibetan: a conspectus

gliang > liang ‘cool’; TB *gran ‘cold’.
glâk > lákb ‘kind of bird’; cf. T glag ‘eagle, vulture’.

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(u)l[a] (n. 83) are especially enlightening; cf. ḥe ‘tiger’, from *χο< *khlo (prefix treated as first member of cluster), phonetic in several phonetic series: k′iɔ > χio, from *khlo ~ *χlo (medial i for *l); lɔ́ (prefix dropped), phonetic in lio, which again is phonetic in *t’iɔ/t’iwo (GSR cites Ar. Ch. t’iɔ), from *khlo; t’iɔ/t’iwo, also from *khlo (possibly via *khrio). Before the final *-y, ST *kl- (aspirated = non-prefixed) yielded Ch. t- via *ts<- ; cf. sjar/siks ‘dung’, TB *klay ‘excrement’. Chinese also has t- for initial *k(h)- in early loans from AT; cf. ‘reed organ/flute’ (n. 457), also sjon/siwo to hull grain with a pestle (graph shows two hands with a mortar and pestle), Sui tyun ‘to hull (rice)’, Thai *klooy: Ahom kloŋ ‘to husk paddy’, Siam. khau klŋŋ ‘rice (khau) partly shelled’, IN lōtŋŋ < *klŋŋ ‘mortar’ (Benedict, 1967b). This article also presents loan-word (Thai) evidence that *gl- ~ gl- yielded Ch. dental stop on occasion; cf. *d’gag/d’jàm ‘moss, lichen’ (not in GSR), Thai *glay ‘moss’; tieŋ ‘cauldron; (AD) sacrificial tripod’, Thai *gliang, Kam-Sui *gliay ‘tripod’; cf. also d’jat/d’jào ‘tongue’, from *gliat > *g-lyak (n. 419). ST prefixed *g-+r- yielded Ch. t’ts- (unvoiced) in t’jan/tśām’app 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. *χiaɾ/χiæŋ ‘vinegar; (AD) sour’ (Ar. Ch. form not cited in GSR), TR *kri(y) ‘acid, sour’ (cf. also ‘fear’, n. 429), but *srjo/siwo ‘foot’, TB *kry, id.; *srjo/siwo ~ *sriar/siæŋ (a doublet, one known from Ar. Ch., the other from Anc. Ch.) ‘son-in-law’, TB *kruay, id. (see n. 486 for the vocalism in this pair of roots). 473 Ar. Ch. pljat > pijet ‘writing brush’ has been compared with T *bri-ba ‘write’, but the Tibetan form has been derived through prefixation from *riy ‘write’; cf. also pljam > piʌm ‘receive from superiors’ (also read bljam > liam ‘grain allowance from public granaries’), bljam > liam ‘government granary’, and T *brim-pa ‘distribute, deal out, hand out’, Nung arim ‘cast away’ (the Tibetan word is used in this meaning in the Ladakhi dialect).

474 See n. 469 for labial stop + r/ cluster. The two comparisons cited in n. 473 both indicate that ST prefixed *b-+r/ yielded Ch. bli-li- and (through unvoicing; n. 443) pli-pj; thus, ST (and TB) *(b-)rim ‘distribute; cast away’, Ch. bliam (= b-liam)/liam and pljam/pjam (n. 473); cf. also *bljatlietu (GSR suggests biut for Ar. Ch.) ‘writing brush’, from *blut, a loan from AT *bɔlut ‘body hair, fur, fibre’ (Benedict, 1972), with doublet *(b-)ljuatlietu ‘pitch-pipe’, from *b-lut (cf. Eng. quill ‘feather; pen; musical pipe’); as shown above (n. 469), ST *blyielded Ch. dı/-, hence Ch. bl- here must be of more recent origin, confirming the loan status of this term in Chinese; *pljat/piet (GSR cites Ar. Ch. pljat) ‘writing brush’, with the same phonetic, from *plit, is the doublet of *blut, with
The Arc. Ch. vowel system, as reconstructed by Karlgren, comprises some 10 vowel phonemes, half of which are distinguished quantitatively:

Front vowels: \( i; \hat{e} \sim e; \varepsilon \)
Back vowels: \( \hat{a} \sim u; \hat{o} \sim \delta; \delta \sim o; \hat{a} \)
Central vowel: \( a \)
Low vowels: \( \hat{a}; \hat{a} \sim a \)

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: \( a, \hat{a}, \hat{a}, o, \) and \( u \). Final \( i \) appears only as the first member of a diphthong, while \( e, \varepsilon, \delta, \) and \( a \) 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 Ar. Ch. This feature is best revealed in the Ar. Ch. treatment of original medial \(*i\) before surd stops and nasals (\(*i > -\hat{ie}*-\):\(^{476}\)

(characteristic unvoicing of the labial stop (n. 443) and substitution of medial \( i \) for \( u \) (n. 477)); \( T \) \( \text{pir} \) ‘(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, 1967 bis). The rare ST \(*ml-* \) cluster possibly yielded Ch. \( ni- \); cf. \( n\hat{i}or/n\hat{i}ei* \) ‘mud, mire’, \( n\hat{i}etb* \) ‘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 \( m\hat{i}cw\hat{a}n* \) ‘look from afar, look towards; admire; hope’, TB \(*m\hat{ra}n \) ‘see’; cf. also \( \hat{p}w\hat{a}n\hat{t}d* \) ‘8’, from \(*b-ry\hat{at} \) (possible effect of the vowel \( \hat{a} \)).

\(^{475}\) Despite this dissimilarity, regular correspondences can now be demonstrated for these two vowel systems, as shown below.

\(^{476}\) ST (and TB) medial \(*i\) and \(*\hat{i}\) are subject to various shifts in Chinese, as shown in the following table:

<table>
<thead>
<tr>
<th>ST</th>
<th>TB</th>
<th>-k/-( \eta )</th>
<th>-t/-n/-r</th>
<th>-p/-m</th>
</tr>
</thead>
<tbody>
<tr>
<td>( i )</td>
<td>( i )</td>
<td>( \hat{e} )</td>
<td>( \hat{e} \sim \hat{e} \sim j\hat{o} )</td>
<td>( j\hat{o} )</td>
</tr>
<tr>
<td>( i )</td>
<td>( i )</td>
<td>( ie )</td>
<td>( \hat{e} \sim ie )</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

The ST high vowel \(*i\) regularly shifts to \( j\hat{o} \) before final \(-r\) and final \(-p/-m\) (Ch. lacks medial \( \hat{e} \) or \( ie \) in these positions) and shows alternation between \( \hat{e} \) or \( ie \) and \( j\hat{o} \) before final \(-n\), while \( j\hat{o} \) appears in one doublet from an original final \(*-l \) (‘wash’; text and n. 462); before \(-k/-\( \eta \), \( \hat{e} \) or \( ie \) is the regular reflex, with one instance each of alternation with \( j\hat{o} \) (‘full’, n. 469) and \( j\hat{a} \) (‘name’; n. 419); after initial \(*\hat{r}-\), the

\( a \) 泥 \hspace{1cm} \( b \) 漆 \hspace{1cm} \( c \) 漆 \hspace{1cm} \( d \) 八
Sino-Tibetan: a conspectus

siēn ‘firewood’; TB *siŋ ‘tree, wood’ (Trung also ‘firewood’).
siēnb ‘bitter’; TB *m-siŋ ‘liver’ < *siŋ ‘bitter, sour’.
miēnc ‘order, command’ (this earlier reading for miēng is revealed in several Shih Ching rimes); cf. B min, id.

*iēd ‘I’; cf. Kanauri id.

niētē ‘sun, day’ (with suffixed -t); TB *niŋ.

miēngt ‘name’; TB *r-miŋ.
līŋt ‘neck, collar’; TB *liŋ.

In the above examples i represents the semivowel j (in Karlgren’s notation), e.g. siēn phonemically is /syen/. True diphthongs, with vocalic i, also appear in this position; cf. the following:
nien ‘year’; TB *niŋ.
tsiet ‘joint’; TB *tsik.
tieng ‘top of the head, summit’; cf. K puŋdiŋ ‘zenith, top’ (puŋ- is a preformative).
tiek ‘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 kyit ‘to gird, girdle’, gyit ‘to tie, bind’ (apparently distinct from TB *kik).
niek ‘sink, drown’; cf. B nats < *nik ‘sink into, be immersed’, hnats < *s-nik ‘make to sink, immerse’.

iēn ‘strangle’ (note the sonant final); TB *ik.

Ar. Ch. also draws a distinction between semivocalic i+w and vocalic i+w. Phonemically, medial iw can be interpreted as /jw/, and iw as /u/, the latter probably actualized as [ʊ]. Thus, we may write /sjwar/ for siŋwar ‘water’; /g’uwt/ for g’iwt ‘dig out’. Considered thus phonemically, Ar. Ch. has the diphthongal pairs /ia/
vowel is lowered to e ‘live’ or je ‘louse’ (see n. 457). There is now some comparative support for the hypothesis (Benedict, 1948, note 6) that the Ch. medial je 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></th>
<th>ST</th>
<th>Mikir</th>
<th>Sgaw</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>tree/wood</td>
<td>*siŋ</td>
<td>thəŋ</td>
<td>θe</td>
<td>siēn⁴</td>
</tr>
<tr>
<td>year</td>
<td>*s-niŋ</td>
<td>niiŋ</td>
<td>θe</td>
<td>nien⁷</td>
</tr>
</tbody>
</table>

ST long medial *i: also appears to be reflected in *iens ‘smoke’, from *ʔi-n < *ʔu-n (with suffixed -n; nn. 429, 441, 477); in the single comparison for TB final *-i-t, Ch. has -iēt ‘leech’; n. 458), but note -iet ~ -iēt for *-i-t (suffixed -t) (‘nephew/niece’; n. 428).
and /ua/, /ie/ and /ue/, /ia/ and /ue/, all found in medial position only. In the following pair of roots medial vocalic \( u \) stands for TB medial \( *w \):

\[
k'iwan/kCuana \quad 'dog'; \quad TB \ *kwiy.
\]

\[
\chiiwet/\chiiuerta/b \quad 'blood'; \quad TB \ *s-hwiy.
\]

The medial cluster \( jav \) (=jw) before \( a \) corresponds to TB medial \( *u \) in the following:

\[
\begin{align*}
\piwaw & \ |/\piwaw/\c | 'fly'; \quad TB \ *pur \sim *pir. \\
\piwaw & \ |/\piwaw/\d | 'knee-cover'; \quad TB \ *pu/t 'knee'.
\end{align*}
\]

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 bts'ouj; khâk \( > \) khâkt 'shell, husk', TB \( *kok \) 'bark, rind, skin';\(^{478}\) perhaps also kus\( k \) '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: \( pijwAW/pijwAWb \) and \( pij\text{']t} \ 'knee-cover', from \( *put \sim *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 \( *u \sim *i \) 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 \( *(r-)kwâk \) (n. 229) and has a Ch. correspondence in final -wâk (n. 488). The correspondence for 'onion' (text) indicates that ST medial \( *o \) (rare) fell together in Chinese with \( *u \); cf. also 'dig' (n. 429), which has -wâk > *-ut for TB *-ot (original suffixed *-t). A different correspondence is suggested by b'âk/b'b'k 'white'; S. Kuki \( *bok, id. \) (Sho and Chinbok \( bok \), Yawdwin \( pok \)); G gibok \( \sim \) gipok, Dimasa guphu \( < *g-phuk, id. \); perhaps also Lepcha (d-)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/-η</th>
<th>-t/-n/-r</th>
<th>-p/-m</th>
</tr>
</thead>
<tbody>
<tr>
<td>u</td>
<td>u</td>
<td>(i)( \delta )</td>
<td>(i)( \nu \omega )</td>
<td>( \eta )</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
<td>(i)( \tilde{u} \sim (i)( u )</td>
<td>( \nu \omega )</td>
<td>( \tilde{\omega} )</td>
</tr>
</tbody>
</table>

Short medial \( *u \) before labials is represented by '3' (text); long medial \( *u \) by \( *um/\tilde{c}dm \) 'put in mouth; hold in mouth' (not in GSR), TB \( *(m-)u;m \); also \( nap/\tilde{m}p \) 'bring in', \( nuwab/nu\tilde{m}im \) (C) 'interior, inside, inner, in'; enter (loan for following)', the latter from \( *nu\tilde{b} < *nu\tilde{p} \) (note tone); also the doublet \( ni\tilde{p}/n\tilde{a}p \) 'enter; bring in', from \( *n(y)\tilde{p} \), TB \( *nu\tilde{p} \sim *ni[.\tilde{p}] \) 'sink', but Bodo-Garo also 'enter', with the same \( *u \sim *i \) alternation (n. 477); cf. also \( *sp\sim t\tilde{p} \) 'ears long and hanging down' (not in GSR), also \( ti\tilde{p}/t\tilde{i}p\tilde{b} \) 'hanging ears', apparently related (loan) to Thai (Siam.) \( *tu-p \) 'hanging ears (of dog)'. ST (and TB) medial \( *yu- \) also yielded \( -ja/\tilde{j}a- \) ('salt'; n. 472), as in the above doublet ('hanging ears'). Apart from forms
Sino-Tibetan: a conspectus

liňk > liuku ‘6’; TB *d-ruk.
piňk > piuku ‘belly’, piňk~b'iňk ‘cave’; TB *pu-k.
d'iňk > d'uoňk ‘poison’; TB *duk~*tuk.
miňk > miňke ‘eye’; cf. TB *mik. The *u~*i alternation shown here is fairly common within Tibeto-Burman (see §11).

Comparative material for TB medial *u before dentals and labials is extremely sparse (see Shafer, JAOS, 61, 1941, p. 26). Dissimilation of this vowel before the final labial -m is observed in sam’ ‘3’, TB *g-sum (the later Anc. Ch. form sám is irregular), with *u replaced by the ‘neutral’ (mid-central) vowel a. Yet Ar. Ch. does have final -um, dissimilated to -ung in Anc. Ch., e.g. piňm > piungs ‘wind’, g’ium > g’yungh ‘bear’ (cf. Korean kom, Jap. kuma).

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. mwañ/ mwañ ‘gate, door’, TB *mu-ñ ‘gills, beak, mouth, face’; cf. also miwañ/miwañ ‘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 = i is variable, probably influenced by lost prefixes); cf. *b-liňk/liuku ‘6’, TB *d-ruk; d’oňk/d’oňk ‘poison’, TB *duk~*tuk; d’oňk/d’oňk ‘insect’, Bodo-Garo *duyug (note G dok ‘6’, dzoy ‘insect’); kõõ/kjum ‘dwelling-house; palace; apartment; temple’ (graph shows two rooms and a roof), from *kym (cf. ‘bear’; n. 449), TB *kyım ~ *kyum ‘house’; kõõ/kjum ‘body, person’, TB *güy; Nungish: Räwangs guy ‘body, animal, self’, Mutwang dial. goy ‘body’, B ähauŋ ‘body, animal body’, Atsi kun, Lasis go- ‘body’ (B-L *guy or *goy); contrast kjum/kjum ‘bow (weapon)’, TB *ku-ŋ ‘tree; branch; stem’: B ähuiŋ ‘stalk, branch’, also ähuiŋ ‘large branch, bough’, apparently from kuŋ ‘hang over in a curve, bend downwards’ (cf. Deori Chutiya that ‘bough’, cognate with Tiddim that ‘bough’< TB *tal ‘arrow; bow’; muŋš (A) ‘darkened, blind’ (this character also read mjung/mjung ‘dream’, below), mjung/mjung (A) ~ mwaŋš (A) ‘darkened; ashamed, despondent’, TB *muŋ-sh ‘cloudy, dark; sullen’; *mwaŋ/mwaŋ (C) ‘last day of moon; dark, obscure, darkness’, from prefix + mwaŋ + suffix (note tone), TB *r-mu-š ‘fog(gy); dark, dull’ (an ST doublet of the foregoing root); k’ukš ‘lament, weep’, L kuš ‘shriek’; k’ïuk/k’ïuok ‘bend, bend’ (and related forms cited in n. 430), TB *m-ku-š ‘angle; knee’, related to an ST doublet with short vowel represented by kõō/kjuk ‘bow, bend’, kõō/kjuk ‘convex side of river bend’ (both characters loaned in these senses), TB *guk~*kuk ‘bend; crooked’; cf. the similar ST doublet: piňk/piuku ‘belly’, piňk/p’iuku~b’iňk/b’iňk ‘cave’ (text), TB *p’uk~*buk ‘cave; belly’, from ST *puk~*buk and *pu-k~*bu-k; vowel length is discrepant in tõŋ/tiŋ ‘middle; midway; interior, in’, TB *tu-ŋ ‘inside’; ‘middle’. As indicated in two of the above comparisons, Ch. medial -wu- is an alternative reflex for ST long medial *u- before velar finals.

480 Ar. Ch. final -um was derived from *-wam; cf. the analysis of ‘bear’ (n. 449), also pińm/piyun ‘wind’, with phonetic b’iwañ/b’iwañ ‘every, all’ but also used in meaning ‘wind’.

a 六 b 腹 c 禽 d 毒 e 目 f 三 g 風 h 熊 i 門 j 吻
k 六 l 毒 m 蟲 n 宮 o 貓 p 弓 q 夢 r 藝 s 猿 t 哭
u 曲 v 鞣 w 鞭 x 腹 y 禽 z 中 a 風 b 凡
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, 61, 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 mišn *‘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 -iən for ST *-yəl, but Ar. Ch. has -jan in the one comparison for ST *-yər (*to fly’, n. 443) while -iən corresponds to ST *-er (*slee/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 *iɛ > iɛ̯ shift (n. 476); cf. ‘sweet’ (n. 458), ‘face’ (n. 461), also ɟIan/ɟiən b (A) *‘connect; unite; in a row, consecutively’, ɟIan/ɟiənc (A) *‘join, bring together’, TB *ren *‘equal; place in a row; line, row’; also mjiat/mjāt d *drown; extinguish, destroy’, T med-pa *‘to be not, to exist not’ (not from mi yod-pa, as Jāschke 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 *-en have Ch. -iəŋ/ŋiən (‘weasel’, n. 457; ‘red’, n. 464), suggesting that it fell together with ST *-en (short i).

⁴⁸² The two TB roots cited have now been reconstructed *sam *‘breath, voice, spirit’ and *tap ~ *dəp *‘fold; repeat’, on the basis of the medial a ~ e alternation in Tibetan (n. 344). It is difficult to reconstruct medial *ə (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 yam, from *ryən < *rən < *bryən, palatalized before ə), Ch. diŋən (n. 469); TB *em *‘eat, drink’ (to explain Kuki *in), Ch. iəm (text); TB *kap *‘needle’ (to explain B ap, from *kəp, with eventual loss of velar initial), Ch. tʃəm/ʃəm and tʃəp/ʃəph (n. 464); TB *gəm *‘jaw (molar teeth)’ (to explain B əm, from *gyəm, as in above root), Ch. gəm/gyəm ‘jaw’. The vowel is not palatalized in the latter, paralleling gəm/ɡəm (A) *‘hold in the mouth’; (C) ‘put in the mouth’, TB *gəm *‘put into mouth, seize with mouth’ (text), from ST *gəm; also (with palatalized doublet) kəm/kəm (C) *‘cliff, bank; steep’ (not in GSR), kəm (A) *‘precipitous’, TB *(r)-ka[-]m (L kam ‘bank, shore, mouth’, kha: m *‘precipice’), from ST *(r)-ka[-]m; cf. also *cough’ (below). Generally, however, the correspondence is Ch. medial ja = TB medial *a, with numerous examples in final velars and labials (but no certain comparisons for final dentals); cf. ST tək *‘mount; raise’ (text and n. 465); *trək *‘weave’ (text); *sək *‘breathe, breath, life’ (text), *sək ~ *kək *‘ridge (of house); peak (highest point)’ (n. 444), *trək *‘color (face); shame’ (n. 457); *(g-)ək *‘arm; wing’ (n. 458); *gən ~ *gək *‘eagle, falcon’ (nn. 225, 458); *(s-)təŋ ~ *təŋ: tənm (A) *‘rise, ascend; raise’ (note lack of palatalization in this originally prefixed form), tʻŋən/tʻʃən (A) *‘lift, hold’, dʻŋən/dʻʃəp (A) *‘mount, ascend; ride, drive; be on top, above’, dʻʃəp (A) *‘lift, hold’ (note same tone A in all four forms); TB: Bodish *s-təŋ *‘upper part’; Karen *tha[n] *‘up, go up’ (n. 384); *nəŋ ~ *nənəŋ *‘thou’ (n. 432); *(s-)nəŋ *‘following’ (n. 432); cf. also *krəp *‘weep’ (text); *(n-)nəp ~ *(n-)nəp *‘pinch’ (text and n. 471); *sam *‘breath, spirit; heart’ (text); *(nəm *‘think’ (text and n. 465); *(n)əm *‘soft’ (n. 465); cf. also *təl *‘arrow; bow’ (n. 452) and *dzər ~ *tsər *‘sister’ (n. 460). ST long medial
Sino-Tibetan: a conspectus

sîm mô ‘heart’; cf. T sem(s) ‘soul, mind, spirit’, sem(s)-pa ‘think’; also bsam (a Pf. form of sem(s)-pa) and bsam-pa ‘thought’.

d'iap b ‘pile on; duplicate, repeat; fold’; cf. T lde-ba ‘bend round or back, double down’, lte-ba ‘turn down, turn in’, thebs ‘series, order, succession’; also TB *dia (No. 493), as represented by T lta-ba ‘fold or gather up, lay or put together’, lta-ma ‘a fold’, lda-ba ‘do again, repeat’, K tha-pa ‘layer’, ksha-tha-pa ‘add, place one upon another; again and again’, B tha-pa ‘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'u ‘rob’, TB *r-kw ‘steal’.\(^{483}\) Final -i, as pointed out above, is altogether lacking in Ar. Ch. as reconstructed by Karlgren.\(^{484}\) Ar. Ch. regularly has -iog or -iô for TB *-u~, and -isd or -iôr for TB *-i~-*iy:

*\(\text{s}~\) can be reconstructed for the following: k'os ‘draw (water)’, TB *ka-p, id., from ST *ka-p; cf. also k'sg/k'îv (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 khog(-pa) ‘cough’, v/n. points to a TB doublet *kâk.

The reconstruction of TB *-u as opposed to the more common *-sôw 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/?u but the best comparisons are either with TB roots in final *-aw (= -uw in text) or in final *-u(w), which can be either *-u or *-sôw (in absence of B-L or Nungish cognates); cf. k'u/k'sî ‘rob’, TB *r-kw ‘steal’ (but Dimasa has khau) (for the semantics, cf. TK *ru-k: K-N ‘steal’, Karen ‘rob’); k'ju ‘body, person’, TB *s(+)kw ‘body’: T skû, B kui(y) (the -y is a product of etymologizing); nîju/ nêju ‘nipple; milk; suckle; (AD) breast’, TB *snew ‘breast; milk’; also *srî/sî ‘older sister’, TB *srî(w) ‘aunt’ (n. 457); k'û/k'sul ‘mouth’, Bodo-Garo *k(h)u, id.: G kû~ khu, Dimasa khu, from TB *ku(w). The Dimasa ablaut form (khau) for ‘steal’ suggests that the first three ST roots, at any rate, are to be reconstructed with final *-sôw rather than *-sôw, paralleling the indicated distinction in ST between medial *\(\text{s}~\) and *\(\text{s}~\).\(^{483}\) In one comparison, however, final *-u can be reconstructed for ST on the basis of B-L data: d'u/dc2uk ‘head’, TB *(d-)bu (B ûi).

484 Chinese final -ia/iê, which is well represented in the language, apparently stands for ST final *-i (= -i), paralleling medial -ie- for ST long medial *i- (n. 476). TB has both *-a-w 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'yêl ‘ride (horse)’, B tsi (but ki in inscriptions), from *gi (Lisu dzi, Ahi and Lolopho dse, Nyi de), but these forms appear to involve old loans from AT with typical loss of an original medial *w (Thai *khwi~ *gwi) (Benedict, 1967 bis); the correspondence in final with Thai *-i is found also in kia/kyê ‘odd (number)’, Thai (Siam.) *gi, id. There is one excellent comparison with TB, viz. gwâ/iyê ‘elephant’ (obsolete), TB *m-gwâ(y) (n. 449), but this TB root can be reconstructed in either *-i or *-a-w (no B-L cognate). Other comparisons for Chinese final *-ia/iê are of doubtful significance; cf. pial/piye\(^o\)

\(^{483}\) The reconstruction of TB *-u as opposed to the more common *-aw 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/?u but the best comparisons are either with TB roots in final *-aw (= -uw in text) or in final *-u(w), which can be either *-u or *-sôw (in absence of B-L or Nungish cognates); cf. k'ulk'auf ‘rob’, TB *r-kaw ‘steal’ (but Dimasa has khau) (for the semantics, cf. TK *-rusk: K-N ‘steal’, Karen ‘rob’); kc$ ‘body, person’, TB *kaw ‘body’: T sku, B kui(y) (the -y is a product of etymologizing); nju/nîh ‘nipple; milk; suckle; (AD) breast’, TB *naw ‘breast; milk’; also *s~ju/sju ‘older sister’, TB *sru(w) ‘aunt’ (n. 457); k'ulk'auj ‘mouth’, Bodo-Garo *k(h)u, id.: G kû~ khu, Dimasa khu, from TB *ku(w). The Dimasa ablaut form (khau) for ‘steal’ suggests that the first three ST roots, at any rate, are to be reconstructed with final *-sôw rather than *-sôw, paralleling the indicated distinction in ST between medial *\(\text{s}~\) and *\(\text{s}~\).\(^{483}\) In one comparison, however, final *-u can be reconstructed for ST on the basis of B-L data: d'u/dc2uk ‘head’, TB *(d-)bu (B ûi).

484 Chinese final -ia/iê, which is well represented in the language, apparently stands for ST final *-i (= -i), paralleling medial -ie- for ST long medial *i- (n. 476). TB has both *-a-w 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'yêl ‘ride (horse)’, B tsi (but ki in inscriptions), from *gi (Lisu dzi, Ahi and Lolopho dse, Nyi de), but these forms appear to involve old loans from AT with typical loss of an original medial *w (Thai *khwi~ *gwi) (Benedict, 1967 bis); the correspondence in final with Thai *-i is found also in kia/kyê ‘odd (number)’, Thai (Siam.) *gi, id. There is one excellent comparison with TB, viz. gwâ/iyê ‘elephant’ (obsolete), TB *m-gwâ(y) (n. 449), but this TB root can be reconstructed in either *-i or *-a-w (no B-L cognate). Other comparisons for Chinese final *-ia/iê are of doubtful significance; cf. pial/piye\(^o\)
Chinese vowels and diphthongs

k'u'gb ‘0’; TB *d-kuw.
g'idgb ‘owl’ (signific is picture of horned owl); TB*gu (No. 494), as represented by K u-ku (u ‘bird’), B khu (Tavoyan dialect, as recorded by Tin, 1933), Lisu gu,483 Lakher va-ku (va ‘bird’), Mikir inhu <*ihku ‘owl’, perhaps also Kanauri kug ~ kuk through reduplication.

suc ‘cough’; TB *su(w). Note that the Ar. Ch. initial is not palatalized in this example.

b'izigb ‘carry on the back’; TB *buw.

ki'eg ‘pigeon, turtle-dove’; TB *kuw (No. 495), as represented by Miri pakii, B khu, Meithei khu-nu, Khami iymkhu ‘pigeon’ (contrast B khrui, Khami mkhru ‘dove’).

g'itoge ‘uncle, father-in-law’; TB *kuw.

sjadh ‘4’; TB *b-liy.

piadh ‘give’; TB *biy.

stari ‘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, 30, 1927) showed the way here with his ‘brown-and-white bear’, Ráwang (Nungish) sawi ‘bear’, possibly from TB *pwi(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’, JBRS XI (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, 1948bis 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 Karlgren’s view that this element is essentially a rhotacism, and here he cited ni'or/ni'si (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 -t 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. sjad/si'k (C) ‘4’, TB *b-lay (text); sjad/pyi (C) ‘give’, TB *bay (text); mjad/myrm (C) ‘sleep’, TB *(r-)muaw ~ *(s-)muaw (n. 463); contrast sjor/si'n (B) ‘die’, TB *saw (text); sjor/sio (B) ‘dung’, TB *klay (n. 472); b'jor/b'yip (B) ‘female of animals’, TB pwi(y) (n. 428); mjor/myori (A) ‘minute, small’, TB *muaw (n. 463); note also GSR-519, with liad/lyir (C) ‘sharp’ as phonetic in a fairly large series exclusively with final -r forms all in tone A. Tonal alternation is found in njor/ni'si (B ~ C) ‘deceased mother or ancestress’, TB *poj ‘grandmother’, while both tonal and vocalic alternation are displayed by djar/i (A) ~ t'iar/t'ieit (C)
Sino-Tibetan: a conspectus

reconstruction of final spirants (-γ, -δ), and Karlgren 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 iə as well as iu and iδ. 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 sjər a ‘die’ represents a type of consonantal offglide, i.e. ST *-i > Ar. Ch. -iər, falling together with ST *-ir > Ar. Ch. -iər.

TB final *-a after velars is represented by Ar. Ch. -o:

k'ob ‘bitter’; TB *ka.
g'wo ‘fox’; TB *gwa.
ngo ‘I’; TB *ya.
ngo ‘5’; TB *l-ŋa ~ *b-ŋa.
ngiə ‘fish’; TB *ŋya.

‘mucus from the nose’, TB *ti(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 *-a-y > -iər contrasting with ST *-a-y > *-iəd (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-ni-s ‘2’) yielded Ar. Ch. *-iər rather than *-iəd. Final -iər (rather than -iər) also appears in xier/xieig (A) ‘sour’, TB *kri(y) (n. 472); *siər/steig (C) ‘son-in-law’, TB *krawy, and it is possible that this final is the derivative of ST *-a-y (but note that two of the -iər/ieig forms are in tone C). For ‘son-in-law’ (above), Chinese has the doublet *srjo/siwo, paralleling *srjo/siwoj ‘foot’, TB *krawy (n. 472) as well as *srjul/siul ‘count’, TB *(r-)tiray (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 *-aw is usually represented by Ch. *-iəg/igu ~ *iəg/iəu, 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 *-a-w > *-iəg contrasting with *-a-w > *-iəg; cf. the ST medial *u ~ *u shifts described in n. 479. It has also been suggested (n. 483) that Ch. -u/əu and -ju might also be derivatives of ST *-a-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 *-a-y and *-a-w (and corresponding long vowel forms), e.g. ST *-a-w > *iəg (Ar. Ch.) > *iəu (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 *-a-w > *iəu (Anc. Ch.) directly. This view is of help in explaining the numerous irregularities noted by Karlgren in the development of Anc. Ch. forms, e.g. Anc. Ch. *səm ‘3’ (irregular), from ST *-sum directly rather than via *səm, the Ar. Ch. form (which should have yielded Anc. Ch. *səm).
The fate of original *-a after other types of initials, however, cannot be determined with any assurance. The available comparisons indicate that -a, -á, or -ã (*sôm); 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. *tsâ- ~ *dzâ- 'salt' (text and n. 161; the Tibetan 'wa-zur' form: tswa is perhaps significant here); *nâ 'goose' (nn. 428, 488); *ná 'red' (n. 429); *bvâ 'old woman, grandmother' (n. 463); *(g-)ya 'left' (n. 428), contrasting with *g-ya 'right' (n. 449); also kâ 'sing, song', TB *ka 'word, speech' (JAM notes meaning 'sing' in Lahu), from ST *kâ; ná 'I' has a special grammatical function (p. 160) and cannot be set up as an ST form distinct from *na (text). The apparent alternation -wâ ~ -o appears in t'wâb (C) 'spit', t'o/t'uo (B ~ C) 'eject from the mouth'; (AD) vomit, spit out', TB *(m-)tswa ~ *(s-)tswa 'spit'; spittle' (also 'vomit' in Nungish and Kachin); cf. also *kltwa/kswa ~ gltvâ/luâ 'snail', *glvâ/luâ 'koo-lo (a small wasp, a kind of mollusc)', Karen *khol 'snail', B khârû, id. The final -wâ of 'snail' (above) is a rare instance of this final in Chinese, since it generally has shifted to -wo ('fox', text) or to -d/-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 after initial velars (text) but also after labials and (non-palatalized) dentals; cf. *(r-)wa 'rain' (text); *(s-)wa 'be in motion, go, come' (n. 447); *pwa 'man, husband, person' (n. 463); *pwa or *b-wa 'palm (of hand)' (n. 463); *r-pwa 'ax' (n. 463); *pwa ~ *bwa 'father' (n. 463); *(k-)la 'tiger' (n. 472); also *(s-)la 'salt': lo/luof (in graphs as general signific for 'salt'), TB *la 'salt' (Miri slo < *a-la), Karen *hla, id. (Pwo la, on high tone); njo 'thou', TB (Nungish) *na (n. 432); no/nuoh 'crossbow', corresponding to Thai *hna, Vn. na, Rawang (Nungish) thma, Moso (B-L) tana 'crossbow', Sui hna 'bow' (Benedict, 1967 bis, 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/nuoh (A) 'wife and children' (cf. T ma-smad 'mother and children'), with the basic phonetic (and cognate) njo/njwoh (B) 'woman, lady, girl', TB *(m-)na: T mna-ma 'daughter-in-law', Murmi na-na, Vayu nu-nu < *na-na, K na, Chang Naga a-no < *na 'older sister', Byangsi (Almora State) na 'mother', pu-na 'aunt', Mii a-nä '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 < *hga, Ong-Be ya '5' (n. 435).

The normal shift after the palatals *i- and *y- was to -iyyu in Anc. Ch., with correspondences in Ar. Ch. as described in n. 486; cf. jiôg/jiûk 'animal', TB *ia 'flesh, meat, animal' (n. 452); giïg/jiûl 'right (hand)', TB *g-ya (n. 449); also jiïg/jiûm 'laugh' (character borrowed in this meaning),)TB *iya-t (see n. 458 for the -t suffix form of this root); cf. also (from the same phonetic series) jiôg/jiûn 'cock' (calendrical term), which has been identified (Benedict, 1967 bis) as a probable loan from *raka, the equivalent term in the Cambodian calendar, apparently via *row < *ra(ka), showing fore-stress as in the TB loan ('rak 'fowl')
are the Ar. Ch. representatives of ST *-a/-; cf. sa ‘sand’, T sa ‘earth’; ngāv ‘I’,
TB *ya; dzāc ‘salt’, TB *tsa; pād ‘kind of bamboo’, TB *g-pa ‘bamboo’;
pāe

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 ‘9’, a loan from Ch. kิว/kиu (Benedict, 1967bis, indicates *raw < *rāk < *rāka, a possible alternative explanation). A similar shift to the closely
related final -iu is shown by t'iu/tśiu ‘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. níq/niq ‘ear’, TB *ra-na
(apparently palatalized early by the *r- prefix); *dz'iqdz'i ‘self’ (= nose), TB
*sa-na (n. 471); tsig/tsi ~ dzig/zi ‘child’, TB *tsa ~ *sa (n. 86); d'izk/dz'ikk
‘eat’ (note the final -k) and dzig/zi ‘food, give food to’, TB *dzə (n. 452);
perhaps also, with suffixed -t, dz'iet/dz'ietm ‘sickness, pain’, TB *tsa ‘hot’; pain
(n. 429) (we would anticipate *dz'iet/dz'iet here; n. 488). The final -g of these
forms is to be interpreted as a secondary development after the vowel ə, 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/izk ‘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. *ag/ao ‘dumb (mute)’, TB *a=əya;
Burmeshe as ə with ‘creaky voice’ (glottal accent) and Karen has *ə-a?; cf. also
ziq/ia ‘evening’, dz'ak/zi ‘evening, night’, TB *ya; Burmeshe has ná with
‘creaky voice’, from *né-ya < *né-äya ‘day-its (ä-) evening’, from *nay ə-ya while
Ràwang (Nungish), Mutwang dial. has yà; Karen *hya also points to an earlier
prefixed element, perhaps ṭ(a)- rather than k- (n. 371).

As indicated in the text, Ar. Ch. also has -d (= -o) appearing to correspond to TB
final *-a in some roots, especially after labial initials. This final, recognized by
Karlsgren 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 an earlier *-wa (virtually absent in the Ar. Ch. system of finals); cf. *pá/pa ‘father (vocative)’ (not in GSR), from *pwa, a complex doublet of b'iuo/b'iu (n. 463), from ST *pwa ~ *bwə; *pá/pa (A) ‘palm of hand’ (not in GSR in this
meaning), also *pá/pau (B) ‘grasp; handful’, from *pwa, a complex doublet of
b'iuo/b'iu (n. 463), from ST *pwa ~ *bwə or *b-wa; *pá/paw ‘kind of bamboo’
(not in GSR), from *pwa; ST *(g-)pwa; cf. also *mad/ma (AD cites only Mand.
and Cant. forms) ‘mother, old woman’, from *mwa, a doublet of the old reading
for this character: *mo/muo ‘mare’; ST *ma (TB *ma ‘mother’, also *ma ‘fem.
suffix’). It thus appears that Ar. Ch. generally maintained ST final *-wa, with a
rare doublet in -o (n. 487), but shifted final *-wa either to -(i)wo (add ‘fox’, from
text, to the above examples) or to -d, with frequent doublet formation; cf. also
ká/ká (A) ‘male pig, boar’, from *kwa, a doublet of g'iuo/g'iu (A ~ C) ‘kind of
boar’, probably from *gwa-gwa (note tone C doublet), apparently related also to

a 沙 b 我 c 黄 d 芭 e 巴 f 九 g 朱 h 耳 i 伯 j 子
k 食 l 釦 m 疾 n 弋 o 哀 p 夜 q 夕 r 爸 s 父 t 巴
u 把 v 挫 w 亡 x 媽 y 餐 z 魚

188
We can confidently reconstruct *mwa in the ‘horse’ phonetic series because of the following excellent comparison: mã/ma! (C) ‘revile, curse’, from a form such as *mwa-pa (note tone), T dmod-pa ‘curse’, from *-mwa-d (with verbal suffixed -d), a regular shift in Tibetan (p. 49).

488 We must reconstruct both medial *a and *â for ST, along with medial *ə (n. 482), but the correspondences are complex, as shown by the following set for ST (and TB) medial *a:

*ə(r, y)ən > -(ə)jən: *grən ‘cold’ (text), *kən ‘ginger’ (text and n. 464); *zən ‘uncle; superior (title)’ (n. 457).

*(palatal) + -ak > -jək: *tsək ‘red’ (n. 452); *(g-)tyək ‘i’ (n. 271); *ryək ‘grease, oil; juice, fluid’ (n. 458); *(g-)yək ‘armpit’ (text and n. 448), but *(g-)yək > -jək > -t in (m-)lyək ~ *(s-)lyək ‘lick; tongue’ (n. 419).

*(y)əp > -(ə)p: *təp (or *tiəp ~ *tsəp) ‘join, connect; close/adjacent’ (n. 452); *ləp ‘leaf’ (n. 458).

*ə-yəm > -jəm: *s-rəm ‘sharp’ (n. 457); cf. also gəm/yəm ‘salt; salty’; Karen *hyəm ‘salty’ (n. 371), from ST *gyəm (?).

*-a(r, l) > -(ə)ən: *sər ‘new, fresh’ (n. 460) (note Ch. alternation: sjən ‘new’ ~ sjən ‘fresh’); sar = sər ‘house’ (n. 460); *(m-)kal ~ *(m-)gal ‘kidney’ (n. 460).

*-ən (suffixed -n) > -(ə)ən > -(ə)n: *sə-n ‘flesh/body’ (n. 428); *tsə-n ‘child; relatives’ (n. 428); *tə-n ‘red’ (n. 429); *ka-n ‘heavens’ (n. 428).

*-ət (suffixed -t) > -(ə)t: *rə-t ‘laugh’ (n. 458).

*maŋ > *məŋ; cf. TB *may: Trung (Nungish) dəməŋ ‘big (of persons); (comp.) older (brother, uncle)’, B ü-məŋ ‘uncle’ (məŋ ‘ruler, governor, official’), Ch. məŋ/məŋk ‘eldest (of brothers); great, principal’.

*-wəŋ > -wəŋ: *bəwəŋ ‘uncle/older brother’ (n. 463).

*(w)əm > -(ə)m: *(d-)wəm ‘bear’ (n. 449).
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.l > -wan ~ -wa.n ~ -we.n ( < *-un): *wa.l 'round, circular; circle, enclosure; encircle' (n. 448).

*-wan > -wan ~ -we.n ( < *-un): *dzwan 'hawk, kite' (n. 453); *(r)-tswa = *(r)-dswa-n 'grass' (n. 161) (latter with dz‘ian/dz‘ien doublet).

The corresponding long vowel, ST medial *a’, shifted in Chinese before final velars to a mid or high back vowel: o=ð or u=ð (usually palatalized; medial *ya- regularly yields medial jð), paralleling similar shifts of final *a=a = *a (n. 487); cf. *ba-k ‘bat’ (n. 443); *(s)-nay ~ *(s)-na.γ; cf. L hna-γ ‘thick (fluid)’, Ch. nịjų/nįjų (A) ‘heavy with dew’, nịjų/nįjųb (A ~ B) ‘rich growth of grain’, also nųy (A) ~ nųjų/nįjų (A) ‘thick, rich (sc. dew)’, nųjų/nįwų (A) ~ nųjų/nįwų (A) ‘thick covering, luxuriant growth’ (note same tone throughout); also *dwa-γ: cf. T dwa-γ ‘hole, cave, pit’, Ch. d’unγ (C) ‘hole, cave, ravine’ (meanings not attested in Ar. Ch.), probably also d’unγ (A) ‘tube’ (the vocalism in this root could also be explained in terms of the medial *wu). As in the root for ‘thick’ (above), an ST doublet is indicated for the following: *(r)-manγ ~ *(r)-maγ (‘dream’; cf. TB r-manγ, Ch. mịjų/nįjųγ ‘dream’; *nay ~ *naγ (also nųy) ‘thou’ (n. 432); *s-rukγ ~ *s-yakγ (‘day (24 hours); pass the night’ (n. 457). Vowel length is indeterminate in the following pair: *kaγЄ; cf. TB *kaγ (= *k[a, a]γ): Nungish: Trung a-kay, Rawang skhay ‘grandfather’; B phā-hay ‘father’, mī-hay ‘mother’ (hay-pwān ‘spouse’, khay-bhay ‘sir, madam’, Ch. kuγh ‘father’ > ‘grandfather (vocative)’ (honoriﬁc); *(s)-nák [k] ‘meat/flesh’; cf. Karen *hia < *hia (loss of final -k perhaps conditioned by a long vowel), Ch. nįjų/nįjųk. Another pair of roots shows a ﬁnal *yakγ ~ *ik doublet in TB, and here also length can only be reconstructed provisionally for ST; cf. *(s)-ryaγ [k] ‘pheasant’ (n. 458); *myaγ [k] ‘eye’ (n. 251), Ch. mįjų/mųjųk (text); perhaps ST *(s)-ryaγk and *myaγk.

ST long medial *a’ before dentals is represented by Ch. ō, intrinsically a long vowel (in Anc. Ch. the short vowel ‘gap’ was ﬁlled by a, derived from Ar. Ch. a). This shift is conﬁned exclusively by several roots in ﬁnal *(a = *a’) with the nominalizing -n suffix = /n/, differing morphophonemically from the similar /n/ ‘collective’ and ‘verbal’ sufﬁxes cited above, which yield Ch. ﬁnal -jën ~ -ien (n. 428). The basic *(a-n > -dn shift is shown by the following ST roots: *ka ‘bitter’, *(b)-ka-n ‘liver’ (text); *na ‘ill, pain’, *na-n ‘diﬃculty’ (text); *ta ‘bright red’, *(t)-a-n ‘vermilion (cinnabar)’ (n. 429); *gwa ~ *kwa ‘wear, put on (clothes)’, *gwa-n ~ *kwa-n ‘clothes; cap’ (n. 429) (note that Ch. kwān/kuānk 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 -än; cf. *g-an ~ *ka-n ‘dry’ (n. 444); *swaγ ‘sour’ (n. 460); *swa-n ‘onion/garlic’ (text) (this ST root is a possible loan from AT); cf. also ST *ta-n: TB *tanγ: T than-pa ‘dry weather, heat, drought’, B than-thām ‘nearly dry’, Ch. t’ān (not t’nān, as in GSR) ‘to dry up (as a river)’ (GS gloss; GSR glosses ‘foreshore’); ST *(m)-da-n: K ndān ‘crossbow’ (dia! kōli ndān ‘bow’), from TB *m-dān, Ch. d’anm ‘shot pellets; pellet of crossbow; (AD) crossbow’. The distinction between medial *a’ and ā before ﬁnal *-r cannot be established with any certainty for ST, and there is interchange here within TB itself.
by Shafer (JAOS, 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: 

\[
\text{ngan}^a \text{ 'goose (wild)' } \text{; cf. B } \text{yan}, T \text{ yan.}
\]

\[
g'\text{an}^b \text{ 'drought', k\text{an}^c \text{ 'to dry; dry'} } \text{; cf. B k\text{han} 'dried up'.}
\]

\[
\text{sw\text{an}^d \text{ 'garlic'} } \text{; cf. B krak-s\text{wan} 'onion'.}
\]

\[
t\text{am}^e \text{ 'carry on the shoulder'} \text{; cf. B th\text{am}, id.}
\]

\[
\text{sam}^f \text{ 'hair'} ; \text{TB } \text{*tsam.}
\]

\[
\text{sat}^g \text{ 'kill'} ; \text{TB } \text{*g-sat.}
\]

\[
t'\text{isk}^h \text{ 'weave'} ; \text{TB } \text{*tak.}
\]

\[
s\text{jik}^i \text{ 'breathe'} ; \text{TB } \text{*sak.}
\]

\[
k'\text{jik}^j \text{ 'weep'} ; \text{TB } \text{*krap.}
\]

If sonant stop finals are reconstructed for Sino-Tibetan, we should expect the following developments in Tibeto-Burman:489

\[
\text{ST } \text{*-ag} \text{ (or -ab) } > \text{TB } \text{*-aw} \text{ (length not considered).}
\]

\[
\text{ST } \text{*-ad} > \text{TB } \text{*-ay.}
\]

('spread; sail', n. 448). In the best comparison for TB long medial *a before labial final ('draw water', n. 482), Ch. has final -i\text{ep}, apparently from ST final *-e\text{p}.

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. *\text{grak} ~ *\text{krak} 'fear; frighten' (n. 430); *(r-)k\text{wak} 'bark, skin, leather' (n. 229); *(g-)t\text{am} ~ *(g-)d\text{am} 'talk, speak' (Ch. also dom) (n. 217); also *\text{bwar} ~ *\text{pwar} 'burn; fire' (n. 460); *\text{bwar} ~ *\text{pwar} 'toss, cast (away), sow, winnow' (n. 460), but *\text{pwar/bwar} ~ *\text{pwar} 'white' (n. 460). In other ST roots we can reconstruct medial *a on the basis of the Ch. cognate: *\text{hwam} 'dare' (n. 448); *t\text{am} 'carry on shoulder' (text). Before dental finals, however, ST medial *a was assimilated to the final, shifting to a, as shown conclusively by p\text{ak} "domestic goose", yan1 'wild goose', with 'collective' -n suffix (text and n. 428); cf. also sat\text{m} 'kill', TB *g-s\text{at} (text and n. 344); \text{chwar/chwain} 'fire' but b'\text{iwan/b'iwane} 'burn' (above), with *a > a before the secondary final -n; *n\text{a} 'red' (n. 429); *by\text{yar} ~ *\text{pyar} 'plait' (n. 460);*y\text{ar} (TB also *ya-r) 'spread, extend; sail, mat' (n. 448); ST *y\text{ar} yielded Ch. -jan in the last two roots; cf. also *\text{pwar} '8', indicating ST final *-ryat rather than *-ryat (this perhaps explains the anomalous *-e[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 t'\text{iat/itiats} 'break; bend; destroy', TB *t\text{at} 'break, cut' is a possible exception here (note t'i- = *ti-); cf. also sam\text{r} 'hair' (non-palatalized), TB *ts\text{am} ~ *s\text{am} 'head hair' (T 'ag-tshom 'beard'), indicating ST *ts\text{am} ~ *s\text{am} (with shift to a in Chinese perhaps conditioned by the initial); cf. also t'\text{ian/itiand} 'battle; to fight', TB *(g-)s\text{a} (n. 472), with indicated final -al 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.

\[\text{a 艾 b 毛 c 早 d 蒜 e 擔 f \text{ 科} g \text{ 殺 a 織 i 息 j 破} }\]

\[\text{k 與 l 鶴 m 殺 n 火 o 嬰 p 八 q 折 r \text{ 今} s 戦}\]
Sino-Tibetan: a conspectus

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.490,491

490 It is possible that Tibeto-Burman simply dropped an original sonant stop after a short medial vowel; cf. dąg > a 'dumb', a TB *(m-)a (note B á 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 *-ew (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/âu corresponding to TB final *-aw as well as *-aw (these also are the most likely ST reconstructions), as shown in three text examples ('call/cry out', 'fry/roast', 'fat'); cf. also mog/mâu 'hair; fur, feathers', K nmun nmâu 'beard' (couplet form), from TB *r-mul *r-m[a, a]-w. In two comparisons involving isolated TB forms, however, Chinese has final -u/zu or -iu (palatalized), possibly from ST *-āw; cf. *u/zu 'vomit', B aû, id., from *[a, a]-w; niuû 'monkey', K-N *na-w 'ape/monkey'; Tiddim *na-u '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 mag/mgu 'mother', TB *mow 'woman' (text) (cf. Karen *mû 'female') and t'iou/tiûf 'boil, cook', TB *tsøyw (n. 452); also the following pair, which show identical fronting (*o > e) after initial t-; cf. *tiog/tiêu 'deep, profound' (not in GSR), TB *tow ~ *dow 'thick' (also suffixed -n forms showing -wun/uen < *-un < *-o-n; n. 429); tiog/tiêu 'bird' (phonetic in above), Bodo-Garo *d[a, o]w, Karen *to < ST *tow ~ *dow (cf. K-N *m-tow 'fly', n.). Support for the indicated *-ow > -io/tiowo development after initial palatals ('boil/cook') is furnished by *siô/siûô 'rat', probably from *s(y)ow < *s(a)yaw < *s-a-yaw; ST *yôw 'rat' + *a 'animal' as prefixed element, precisely paralleling L sa-azu (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 *tây '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 > *mrawy > mîwîr/myuyi (see n. 486 for last shift); an identical metathesis should probably now be recognized also for Burmese and Bahng (n. 204). A similar *a > s or *a > e shift appears in the following pair: *o(d)/âîl (C) 'love', Karen pài (text, p. 150); mîr/miêk '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'îsîr/d'iele
Chinese vowels and diphthongs

γáu < g'oga 'cry out, call'; TB *gaw.
ngáu < ngog 'fry, roast'; TB *r-ŋaw.
sáu < sog 'fat (of animal)'; TB *sa-w.
méu < mag 'mother'; TB *mow 'woman', Karen *mo 'mother, female'.
t'ái < t'ád,ę d'ái < d'ád 'great, big'; TB *tay.
γaıs 'crab'; TB *d-ka-y.
mjwɛi < mjɛrh 'tail'; TB *r-may.
mieıi < miari 'rice (paddy)'; cf. Bodo-Garo *may or *mey (n. 206).
nígię < nıdı 'near'; TB *ney. Cf. also ní < nıırk 'near, close', nıét < nıar 'close-standing, familiar', nıak < nıak'm 'near, familiar', and Kiranti *ne ~ nek ~ ney 'near'.

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 shèng, shang shèng, and ch'ü shèng respectively. The so-called ju shèng 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 toneme tended to become phonemically distinct, so that all modern dialects have several separate

‘younger brother’, TB *doy ~ *toy ‘younger (youngest) sibling’ (cf. Anc. Ch. -ieu = TB *-iou, above); mjær/myir ‘beautiful’, TB *moy, id. (showing further palatalization of the vowel). The Ch. doublet for ‘near’ (text) shows typical replacement of *e by iɛ (⁺ = ja before most finals; n. 481) or by iɛ (⁻ = -ɛ/i; n. 486); cf. also siar/siɛr ‘rhinoceros’, T bse, id., probably from *b-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 maia 'buy', maib 'sell' (Anc. Ch. forms); 'iöm 'drink', 'iöm (same character) 'give to drink', niëgà 'ear', niëge 'cut off the ears'; giwànt 'distant', giwàn (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 shèng to ch'ü shèng in words with stop, affricate, or fricative initial is directly connected with surdization of these initials; see his article, 'Die Spaltung der chinesischen Tieftonreihe', 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, 1948 bis.

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 Haurdricourt commemorative volume, Paris, 1972). The Chinese ch'ü shèng, 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'ü shèng (C) is paired with either p'ing shèng (A) or shang shèng (B), with many different types of morphological relationships (hence no constant tonal function; see text). Category H (Derived Forms used as Comounds) yields the clue to the puzzle, e.g. g'ieígA* 'to ride' (citing only Anc. Ch. forms) < *gi, g'ieígC-dz'ak 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'iiN1 'middle' < *tun, t'iN1Cj 'hit the middle' < *tun-ba (or similar form); with nominalizing function: g'ieígA* 'to ride' (above), g'ieígC1 'rider' < *gi-bo (or similar form); b'íN1Bm 'eat' < *bídN, b'íN1Cn 'food' < *bídN-mo (or similar form). The kinship terminology furnishes further striking examples of the sandhi shift; cf. d'ieiB0 'younger brother' < *doy (n. 491), d'ieiCp 'to act as a y. bro.' < *doy-ba (or the like), also d'ieiBI ~ d'ieiCq1 'younger secondary wife', the latter from *doy-ma (female suffix); g'íN1Br 'mother's brother' < *gaw (n. 417), g'íN1Mc's 'mo.'s bro.'s wife < *gaw-ma (with female suffix) (this contraction recognized by H. Y. Féng, 'The Chinese kinship system', HJAS 2, 1937, No. 2); also siwO ~ sielCt 'son-in-/
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)rway-па (n. 472) (with male suffix); cf. B khrwe-má ‘daughter-in-law’ (with female suffix). The sandhi hypothesis also serves nicely to explain the well-known correlation between ch‘ü shēng 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‘u-ca ‘bean’; Thai *thua but N. Thai *dua, from AT *duba (regular Thai shift via *duwa), 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. *t‘ap/t‘ap-b ‘a kind of pulse’ (not in GSR), also read in Fang-yen as *d‘ap/d‘ap, with syllabic division (*dub-a) of the kind characteristic of TB (n. 487); this doublet points to an earlier *t‘ap ~ *d‘ap (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 Rawang (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

\[\text{§48. Résumé (Chinese)}\]
**Sino-Tibetan: a conspectus**

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 *tw\(^y\)\(^B\); cf. Dhimal tui < *tw\(^y\) ‘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>thi(^A)</td>
<td>thi (high)</td>
<td>*twi(^3)</td>
<td>d(^z)(^a) (high)</td>
<td></td>
</tr>
<tr>
<td>wet</td>
<td>?di(^B)</td>
<td>madi (mid)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>egg</td>
<td>?di(^B)</td>
<td>di (low)</td>
<td>thi (low)</td>
<td>*twi(^4) (T)</td>
<td>d(^z)(^a) (low)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*-twi(^1) (S)</td>
<td></td>
</tr>
</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 (HJAS 7, 1943). The divergences are interesting: piya\(^A\) ‘5’ and thu\(^o\)\(^A\) ‘9’ agreeing with Nungish as against Burmese, but ho\(^B\) ‘3’ agreeing with the divergent Burmese tone (n. 413); o\(^A\) ‘village’ agreeing with Burmese as against Nungish; pli\(^A\) ‘grandchild’ agreeing with Karen as against both Burmese and Nungish; note also smi\(^B\) ‘year’ and la\(^A\) ‘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 -\(?)\), a point which eluded Shafer; contrast plai\(^A\) ‘4’ with pai\(^B\) ‘give’, both probably reflecting old suffixed forms (cf. Karen *twi-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>Tone (\ast A)</th>
<th>I (high)</th>
<th>level</th>
<th>mid-falling</th>
<th>p’ing (‘level’)</th>
</tr>
</thead>
<tbody>
<tr>
<td>II (low)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tone (\ast B)</td>
<td>III (high)</td>
<td>falling</td>
<td>high-level</td>
<td>shang (‘rising’)</td>
</tr>
<tr>
<td>IV (low)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Mutwang dialect of Rawang (Nungish) appears to have low tone for \(\ast A\) and high tone for \(\ast B\), 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 \(\ast be \sim \ast pe\) ‘broken; break’ is exceptional in showing widespread glottalization: B pai\(\sim\) phai, L pe\(\phi\) (text) and add Rawang (Mutwang dial.) pe\(\?\) 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 chʰi shêng (above). He had also been led astray by irregular tones appearing in several basic roots, especially with pʰing tone rather than the anticipated shang tone; cf. the following: sjênAa ‘firewood’ but TK *siɲB ‘tree/wood’; sjênAb ‘bitter’ but TK *sinB, as reflected in *m-sinB ‘liver’; sjênAc ‘body’ but TK *saB ‘flesh/meat/animal’, K san (low tone) (Trung has iyaA); swân/suánA d ‘sour’ but TK *suA r/su-rB (Trung suiB ‘spoiled’); *srju/sju ‘older sister’ but TK *srA uB (Pyu sruB ‘kinsmen’); cf. also nienA f ‘year’ but TK *s-ni-yB (Karen *hneyB); njio/njwoA g ‘fish’ but TK *(s-)nyA (Karen *hA). 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. sjor/siB h ‘die’ but TK *sayA.
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.

a-
a (3rd pers. prn.) 93, 121, 123, 130
(m-)a dumb (mute) (105) 36, 188, 192
ak crack; mouth (106) 36
am = sm eat, drink (481) 142, 143,
183, 194
a:w cry out (273) 63

b-
ba thin (25) 19, 22, 90, 102
ba carry (26) 19
ba = (l-)ba ~ (m-)ba goitre 96
ba:k bat (animal) (125) 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 = bwär ~ pwär burn; fire (220)
7, 23, 50, 124, 125, 172, 174, 191
bar bloom; flower (1) 15, 71, 147
bay = bway left (hand) (47) 24-5, 65,
90
be peas, beans (253) 59
be ~ pe broken; break (254) 59, 196-7
bip ~ pip conceal; bury (376) 80, 124
biv = biv give (427) 99, 112, 166, 185,
196
bla See b-la
ble slip, slippery (141) 40, 59, 139,
148
bley ~ plen straight; straighten (352)
75, 124, 125
blin ~ plin full; fill (142) 40, 78-9, 80,
124, 125, 140, 176, 179
bok white 181
bop leg, calf of leg (30) 20
boy cowllick (308) 67
bra forked, scattered, divided (132) 40,
91, 102
bra See bya
brak rock (134) 40
bran convalesce (133) 40, 70
bray give birth (135) 31, 40
(s-)bray name 31
(s-)bray See yan
bren See pren
bray wild yak; buffalo (136) 40, 123
brup ~ prup overflow; gush, squirt (151)
44, 81, 111, 124
br(w)ak ~ (s-)br(w)ay speak 42, 118
bu ~ pu open; bud (260) 62
(d-)bu head 117
(r-)bu (K-N) nest 102
bul ~ pul root, stump, tree 166, 173
buw = baw carry (on back or shoulders)
(28) 20, 22, 101, 102, 135, 147, 151,
166, 185
buw = baw 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
bwm = (s-)bwm plump, swollen (172)
24, 46
bway uncle 23, 174, 189
bwar throw away, cast, sow, toss 172–3,
174, 191
bwär See bar
bwar flower 24
bway See bay
bwyi = bwyi bamboo rat (173) 32, 46
bya = bya ~ bra bird; bee (177) 29, 46,
90
byar ~ pyar = byär ~ pyär suffix; plait,
sew (178) 46, 124, 173, 191
byer fly, 83, 166
byon go; come (179) 46
Sino-Tibetan: a conspectus

d-
m-da arrow 96, 111-2, 118
dap = dap See tap
dan cut (22) 19, 134
daw defy, interfere, be at enmity with (267) 63
day that, this (21) 19, 115
di egg 45, 135, 196
(s-di-k) scorpion (56) 14, 26, 79, 80, 107
don ~ ton go out, come out, pull 125
don = (m-)don peacock (341) 73
dow See tow
doy See toy
drup See d-rup
duk ~ tuk poison; poisonous, poisoned (472) 76, 126, 166, 182
(dul-)tul dust 173, 181
duy = dug ~ tu-g long; length (20) 19, 75
dzuk vulva 53
dzywal = dzwal hang down, sag (242) 56

e-
e-k (K-N) feces 26, 146
ew (K-N) lean back 68

g-
r-ga old (445) 110
s-ga'1 back, loins, groin 18
gam = gam jaw (molar teeth) (50) 25, 183
gam put into mouth, seize with mouth (491) 166, 183
gar leave, abandon (15) 19
gar dance, leap, stride (11) 18, 71
gaw = gaw ~ kaw call (14) 19, 63, 66, 166, 192, 193
m-gaw ~ (s-)gaw head (490) 119, 149
gi (B-L) ride (horse) 184
gip ten (16) 19, 21, 94, 175
gla See kla
gla See s-lad ~ g-la
glak See klak
glan cold; freeze 39
gle-k (K-N) thunderbolt 41
gliy ground, island (128) 34, 40, 78
gliy tube; flute 41
gow cross over (318) 69
grak See grok
gram rough 51
gray cold (weather) (120) 39, 178, 189
s-graw bark; skin (121) 39
griy = gray copper (39) 22, 61
grok ravine (122) 39
grok ~ krok = grak ~ krak; grok ~ krok
fear; frighten (473) 76, 127, 159, 191
groy crow, howl, screech, scream (310) 67
gryum See g-ryum
gu = gu ~ ku owl (494) 46, 164, 185
guk ~ kuk bend; crooked 77, 125, 159, 182
guy body 182
r-guy edge, side; shin (395) 82, 109
gwa fox 34, 166, 186
gwa-n kwa-n wear, dress (160) 44, 124, 135, 159, 190
(m-)gwil(y) elephant 121, 167-8, 184
Appendix I: Tibeto-Burman roots

r-gya hundred (164) 45, 54, 57, 89, 94, 95, 109, 131, 137, 151, 161-2
b-r-gyat = (b-)g-ryat eight (163) 35, 45, 54, 57, 74, 88, 95, 96, 131, 141, 144, 161-2, 179, 191

h-
ha-k hawk, gag, choke (323) 71, 133, 139, 144
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
hla(k) more, beyond, excessive 89
hu breath 17
hus moisture; wet 2, 17
hwam dare (216) 50, 168, 191
hwag come (out); enter (218) 50
hwag encircle, circular; fence (217) 50, 132, 143
hwa-t shine; light (221) 50-1
s-hwiy = s-hyway blood (222) 51, 61, 106, 122, 132, 138, 139, 151, 154, 157, 164, 181
hyak scratch (230) 55
s-hyway See s-hwiy

i-
ik older brother (112) 36, 79
ik strangle (113) 36, 180
ip=yip sleep; conceal (114) 36-7, 88, 125
it one 94, 162

k-
ka bitter (8) 18, 21, 58, 88, 119, 122, 134, 148, 151, 154, 158, 165, 186, 190
ka crow, n. 99-100
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 open(ing); mouth; door (468) 38, 120, 160
r-ka earth (97) 33, 109
nak = khak (B-L) reaching its peak 166, 183
ka-k fork (327) 71, 121
ka~kâk cough up; phlegm 71, 184
kal congeal 15
k(a)li See g-li
m-kal kidney (12) 18, 120, 173, 175, 189
r-ka[-]m edge, bank, precipice; lips, mouth (329) 71, 109, 183
kan dry up 158, 166, 190
kay dry up (331) 71, 72
kay father, grandfather 100, 190
ka'y roast, toast, burn (330) 71, 72
(r-)kay leg, foot 70, 142
ka'p draw (water) (336) 73, 184, 191
kap = kâp needle (52) 25, 26, 70, 88, 166, 175, 183
kap fork (of legs), groin (338) 73
kar lead, bronze 15
s-kar = s-kar star (49) 25, 106
kat one 94
kaw See gaw
kaw basket (266) 63
kaw = khaw (K-N) grasshopper 66
d-ka:y crab (51) 25, 99, 116, 140, 149, 166, 192, 193
ke = (s-)ke(k) neck(-shaped) (251) 59
ke'l = kye-l ~ kyi[l] goat (339) 15, 73
d-kew = d-k(h)ew (K-N) pick, dig out, scratch 68
d-key = d-key ~ d-kay tiger (462) 107, 116, 134, 149
kik bind, twist, tie (484) 145
ki'l bind, twist; roll; angle (373) 75, 80
him = kyim ~ kyum house (53) 25, 26, 89, 122, 138, 143, 152, 182
ki'n weigh (369) 79
d-kiy = d-kay barking-deer (54) 26, 116
s-kiy = s-kay borrow (31) 21
kla = gla ~ kla fall (123) 39, 41, 89, 99, 101
klak = glak ~ klak cook (124) 39, 41
klaw dig out, weed (269) 63
kliy = r-kliy narrow (126) 39, 41, 80, 85
kliy = klây excrement (125) 39, 41, 178, 185
klum sweet 75
klup cover, wrap (479) 139-40, 144, 145
klur' valley, river (127) 127, 78
kok = (r-)kwâk bark, rind, skin (342) 20, 74, 76, 106, 191

201
Sino-Tibetan: a conspectus
kor valley; pit; cave (349) 74
r-ko-t = r-go-t ~ r-ko-t dig up, scoop out (420) 101, 110, 135, 159
kay bend (307) 67, 89
(s-)kra hair (115) 38, 106
kray mosquito (322) 71
krap beat, thrash, winnow (420) 101, 110, 135, 159
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
krit grind (119) 38, 141-2
(m-)kri-t bile (412) 98, 102, 119, 120
kri(y) acid, sour (413) 98, 102, 119, 120, 178, 186
kri(y) fear (416) 99
krok = k(h)vok (K-N) sour, acid 41
krok See grok
kroy borrow, lend; debt (312) 68
kroy shell(-fish) (31 I) 67, 67-8
kroy surround (313) 68
krug to be born; live; green (382) 81
kru-g cage (389) 82
kruw = kraw horn (37) 22, 113
kruw = m-kraw dove (118) 67, 68, 185
krwap rustle (243) 56
krwiy = krzuay son-/daughter-in-law (244) 56, 178, 186
krwiy = khrway (B-L) sweat 90
krwi(y) = khrwi(y) (K-N) sew 41
ku take up, lift 99
ku See gu
kuk bag, basket, receptacle (393) 82
kuk See guk
ku-k shear, strip, pare (388) 75, 82
(m-)ku-k angle; knee 120, 159, 182
(m-)kul all; twenty (397) 15, 18, 83, 119, 120
kum block, pillow; bench; bedstead (482) 38, 143, 175
kul[m concave, convex 75, 78
kun See (m-)kul
kuy tree; branch; stem (359) 75, 77, 122, 182
kut scrape, rule (line), scratch, itch, cut, carve (383) 81, 122
kuy = (m-)kaw pigeon (495) 185
kuy = kaw smoke (256) 61, 102, 134, 148, 151, 159, 164, 180
kuy = kaw uncle (maternal); father-in-law (255) 61, 100, 121, 122, 154, 158, 166, 185, 194
ku(w) (B-G) mouth 184
d-kuy = d-kaw ~ d-gew nine (13) 19, 23, 45, 61, 94-5, 116, 131, 134, 154, 162, 185, 188, 196
(r-)kuy = r-kaw steal (33) 21, 60, 69, 90, 99, 101, 102, 110, 135, 138, 164, 175, 184
(s-)kuy = (s-)kaw body 184
kwan = kwan ~ gwan casting net (158) 44, 49, 158
kwar hole (350) 74
(r-)kwák See kok
kway conceal, hide, shun (303) 67
kwa:y bee (157) 44, 67, 140, 150, 152
kwy = kway dog (159) 26, 44, 55, 61, 115, 124, 133, 151, 157, 158
kwi(y) comb (480) 140
(r-)kyak ~ (s-)kyak excrement 26, 146
kyam cold; snow, ice (224) 51
r-kyán single (34) 21
kye'l ~ ky[-]l See ke'l
(m-)kyen know (223) 51, 160, 175
kyen red; ashamed (162) 45, 174-5, 183
kyog = kyak ~ kyog guard; tend cattle (161) 45, 127
s-kuyr = s-kywa-r sour (42) 23, 75, 105
kuy = kyew (B-L) sweet 60
s-kywa-r See skyur
kwy = kywy yam (238) 56

l-
-la (masc. suffix) 96
la = (s-)la leaf (486) 137, 146
la salt 187
b-la = bla arrow (449) 43, 111, 112, 133, 139, 151, 152, 176, 188
b-la (K-N) cotton 111
g-la foot 34
(k-)la (B-L) tiger 26, 41, 91, 107, 114, 177-8, 187
s-la ~ g-la = s-gla moon (144) 32, 34, 42, 88, 106, 113, 114, 132, 196
lak = g-lak arm, hand (86) 32, 34, 87, 110, 171, 183

202
Appendix I: Tibeto-Burman roots

lam road; direction (87) 14, 32, 70, 142
la[.]m fathom (arm-spread) 71
lay falcon, vulture, eagle, kite, hawk (333) 72, 155, 171, 183
lap leaf (321) 70, 146, 171, 189
b-la-[ ] forget (335) 73, 112
lay change, exchange (283) 64, 132
lay pass, exceed (301) 66
m-lay ~ s-lay tongue (281) 33, 64, 66, 106, 115, 117, 119, 120, 133, 137, 139, 149, 150
la[y center; navel (287) 65
la[y dig, hoe (288) 65
lep = (s-)lep slice, pare, cut off (351) 75
(r-)ley barter, buy 64
li = li ~ (m-)ley penis (262) 62
g-li = k(a)li tickle; armpit (265) 265-6
liy = (m-)liy neck (96) 33, 79, 155, 171
b-liy forest (378) 80, 80-1, 111
lip dive, sink, drown (375) 80
(m-)li[t water leech (396) 2, 75, 83, 84, 120, 146, 172, 180
b-liy = b-ley four (410) 33, 61, 88, 91, 94, 104, 111, 112, 131, 152, 154, 162, 185, 196
b-liy = b-ley grandchild, nephew/niece (448) 42, 43, 61, 111, 131, 132, 152, 158, 171-2, 180, 196
d-liy = d-ley bow, n. (463) 117, 132, 151
g-liy = g-ley wind, n. (454) 61, 91, 114, 132, 148, 151
(m-)liy = (m-)lay boat (463) 61, 91, 132, 139, 151
s-liy = s-lay fleas (440) 33, 107-8, 132, 152
s-liy = (s-)lay heavy (95) 33, 61, 98, 102, 105, 172
(m-)lay boat (467) 120, 121
low (K-N) field 66
low long, tall (279) 64, 113
luk (B-L) enough 88
lum warm (381) 75, 81, 84, 137, 142, 143, 151
s-lum = slum round (143) 42, 105, 106
m-lug (K-N) heart 120
r-lug stone (88) 32, 41, 75, 77, 79, 82, 109, 114, 137, 142, 143, 144
(m-)lu[w] = (r-)[u[w] ~ (m-)lu[w] pour;
barle 110, 147
lwan bore, pierce 49
g-lwat free, release (209) 41, 48, 105, 113
lway easy (302) 67
lwa-y buffalo (208) 48
lwi(y) flow; stream (210) 48
lyak-s (Bod.) good 54
(m-)lyak ~ (s-)lyak lick; tongue (211) 48, 118, 141, 155, 178, 189
m-lyak See mra
(s-)lyam tongue; flame 48, 64, 141, 171, 172
m-lyan (K-N) shoulder 120
lyap flat, thin (212) 48
lyap = (s-)lyap fitter, flash; lightning (213) 49
(s-)lyaw lick; tongue 48
m-
ma (fem. suffix) 96
ma (negative) 96
ma mother (487 96, 121, 123, 136, 148, 156, 188, 189
r-ma wound (446) 110
ma[k son-in-law (324) 71, 136, 144
may big; older (brother, uncle) 189
may = r-may dream (82) 31, 79, 142, 143, 182, 190
ma-t lose, disappear (425) 101
r-ma-t nettle See r-ma (446)
may good (300) 66, 112
may (B-G) rice, paddy 65, 128, 149, 192, 193
r-may tail (282) 64, 66, 109, 118, 121, 137, 149, 150, 192, 193
r-men wen, mole (104) 36, 74, 79, 136, 143
mey fire (290) 31, 65, 66, 115, 136, 137, 149, 150, 151
mik = myak eye (402) 14, 29, 55, 56, 80, 84, 88, 121, 122, 128, 141, 145, 182, 190
s-min ripe, cooked (432) 14, 55, 79, 80, 106, 122, 136, 142, 143, 151
r-min name (83) 29, 31, 78, 79, 80, 88, 89, 109, 130, 137, 142, 151, 155, 165, 180
mit extinguish (374) 80, 183
r-mi(y) man (homo) 107, 119, 158
mliy = mlay earth, country (152) 42, 44, 90, 179
mlyuw = mlyaw swallow, v. (153) 42, 44, 138, 147-8
mow, move, work, do (280) 64
mow woman, bride (297) 66, 149, 192, 193
moy beautiful (304) 67, 193
(r-)moy bud, blossom (304) 67
mra much, many (148) 29, 43, 91, 139
m rak = m rak ~ brak cut, tear (147) 43, 89
m rak = m - lyak grass (149) 43
m ray see (146) 43, 179
m ruk monkey 43, 112
mrov = mrov grain, seed; lineage 43, 123
mu k arm(-length), cubit (394) 82
musk rubbish, refuse, dust, weeds (363) 75, 78
r-mu-k fog(gy); dark, dull (357) 75, 77, 110, 182
mu1 = (s-)mu1 - (s-)mil - (r-)mu1 body hair 15-16, 75, 83, 90, 113, 173, 181
muam bud (364) 78
mu .g cloudy, dark; sullen (362) 75, 78, 182
mu r gills, beak, mouth, face (366) 78, 182
(s-)mut blow (mouth, wind) 75
muw = muw eagle, hawk (257) 61, 77, 115, 121
g-muw = g-muw mushroom, fungus (455) 114
(r-)muw = (r-)mow sky, clouds, fog (488) 77, 90, 110, 147, 148, 152
muwy = (r-)muwy ~ (s-)muwy sleep (196) 31, 47, 136, 140, 174, 185
(s-)muwy = (s-)muwy twirl; spindle (195) 47
myak See mik
myel sleepy (197) 47, 78, 173, 183
s-m(y)ik cane; sprout (237) 56, 79, 83, 106
na dwell, rest (414) 99
na ill; pain (80) 31, 89, 101, 136, 158-9, 190
g-na = r-na ~ g-naear; hear(453) 58, 91, 110, 113, 121, 136, 148, 152, 188, 194
(m-)na mother, older sister, daughter-in-law 187
s-na ~ s-na-y nose (101) 16, 35, 90, 106, 136, 151, 177, 188
nak black 88, 102, 155
nam sun, sky 148
m-nam smell (464) 35, 70, 89, 91, 105, 117, 119, 122, 136, 142, 143, 151
s-nam daughter-in-law, wife, sister (103) 35, 70, 84, 106
s-nam sesame (435) 70, 106, 136
nay = (s-)nay follow (334) 72, 160
nay thou (407) 93, 123, 130, 143, 160, 190
s-nap snot (102) 35, 106
s-nat heddles (436) 106
na-w younger sibling (271) 63, 66, 134
na-y twist, knead (286) 65
nem nyam = nham low (348) 74, 85, 105
s-nes lip 16, 123
ney near (291) 65, 68, 155, 193
ney = (r-)ney hair (of head) (292) 65
(r-)ney get, obtain (294) 66, 101, 136, 149
(r-)ni red 46, 91
r-nil ~ r-ni(y) ~ *s-nil gums (3) 16, 35, 75, 91, 100, 173, 177
niy = s-niy year (368) 79, 84, 136, 142, 143, 144, 165, 177, 180, 196, 197
s-niy heart, mind, brain (367) 79, 106
nip crush, compress 84
g-nis = g-ni-s two (4) 16, 75, 94, 130, 131, 147, 162, 168, 169, 185, 186
s-nis seven (5) 16, 79, 93-4, 130, 131, 147, 162, 169, 177
niy = nay sun, day (81) 31, 55, 88, 89, 136, 151, 157, 158, 168
ni(y) aunt, mother-in-law (316) 69
b-ni(y) drawers, petticoat (476) 136
s-not vessel; womb 144, 145, 150
now tender, soft (274) 274
nuk = (s-)nuk brain (483) 88, 144, 150
nu l rub, rub against (365) 78
s-nuy back; after (354) 76, 106
nup ~ nip = nu-p ~ ni[-]p sink (400) 75, 83-4, 145, 157, 181
nuw = nuw breast; milk (419) 100, 136, 152, 184
m-muwy laugh (191) 47, 49, 101, 118, 119, 140
ny = n-
nym = nham See nem
nyap = nay pinch, squeeze (192) 47, 175, 177, 183
### Appendix I: Tibeto-Burman roots

<table>
<thead>
<tr>
<th>Root</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>nye</strong></td>
<td>punish (252)</td>
</tr>
<tr>
<td><strong>nyen</strong></td>
<td>press(ed); oppress, coerce (193)</td>
</tr>
<tr>
<td><strong>n(y)ik</strong></td>
<td>filth, excrement (235)</td>
</tr>
<tr>
<td><strong>n(y)it</strong></td>
<td>nod; sleep (236)</td>
</tr>
<tr>
<td><strong>nyan</strong></td>
<td>press(ed); oppress, coerce (193)</td>
</tr>
<tr>
<td><strong>nyik</strong></td>
<td>filth, excrement (235)</td>
</tr>
<tr>
<td><strong>nit</strong></td>
<td>sleep (236)</td>
</tr>
<tr>
<td><strong>nyuy</strong></td>
<td>sad; tired (194)</td>
</tr>
<tr>
<td><strong>1-ya-b-ga</strong></td>
<td>five-(78)</td>
</tr>
<tr>
<td><strong>s-ya (B)</strong></td>
<td>before (141)</td>
</tr>
<tr>
<td><strong>gak</strong></td>
<td>plantain (477)</td>
</tr>
<tr>
<td><strong>?la-n</strong></td>
<td>goose (99, 155, 158, 187, 191)</td>
</tr>
<tr>
<td><strong>r-gaw</strong></td>
<td>fry, roast (270)</td>
</tr>
<tr>
<td><strong>ya-w</strong></td>
<td>ape, monkey (192)</td>
</tr>
<tr>
<td><strong>gay</strong></td>
<td>self (285)</td>
</tr>
<tr>
<td><strong>yow</strong></td>
<td>white, green, yellow (296)</td>
</tr>
<tr>
<td><strong>goy</strong></td>
<td>gentle, quiet, moderate (3)</td>
</tr>
<tr>
<td><strong>gra</strong></td>
<td>meet (154)</td>
</tr>
<tr>
<td><strong>yruw</strong></td>
<td>dark; faded, withered (156)</td>
</tr>
<tr>
<td><strong>yul</strong></td>
<td>silver</td>
</tr>
<tr>
<td><strong>guw = yaw</strong></td>
<td>weep, cry (31, 60, 102, 147)</td>
</tr>
<tr>
<td><strong>gwa</strong></td>
<td>cattle (215)</td>
</tr>
<tr>
<td><strong>gwap</strong></td>
<td>cousin, in-law</td>
</tr>
<tr>
<td><strong>VYa</strong></td>
<td>fish</td>
</tr>
<tr>
<td><strong>r-vya</strong></td>
<td>borrow (190)</td>
</tr>
<tr>
<td><strong>ok</strong></td>
<td>finish; relax (111)</td>
</tr>
<tr>
<td><strong>o-l</strong></td>
<td>nauseated; vomit (343)</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>(masc. suffix)</td>
</tr>
<tr>
<td><strong>pa</strong></td>
<td>father (24)</td>
</tr>
<tr>
<td><strong>pa=pwa</strong></td>
<td>palm, sole (418)</td>
</tr>
<tr>
<td><strong>pa patch, sew</strong></td>
<td></td>
</tr>
<tr>
<td><strong>g-pa=g-pwa</strong></td>
<td>bamboo (44)</td>
</tr>
<tr>
<td><strong>pak=pwak</strong></td>
<td>hide, v. (46)</td>
</tr>
</tbody>
</table>

**Appendix I:**

- **nye** = fie punish (252) 59
- **nyen** = (s-)hen press(ed); oppress, coerce (193) 47
- **n(y)ik** = (s-)nik ~ (s-)nek filth, excrement (235) 55
- **n(y)it** = nit nod; sleep (236) 56
- **nyan** = (s-)nen press(ed); oppress, coerce (193) 47
- **nyik** = (s-)nik ~ (s-)nek filth, excrement (235) 55
- **nit** = sleep (236) 47
- **nyuy** = sad; tired (194) 47
- **1-ya-b-ga** = five-(78) 31, 58, 96, 100, 113, 118, 121, 122, 134, 174, 187, 188, 189
- **s-ya (B)** = before (141) 35, 47, 54, 58, 96, 100, 113, 118, 121, 122, 134, 174, 187, 188, 189
- **gak** = plantain (477) 137, 144
- **?la-n** = goose (99, 155, 158, 187, 191) 35, 47, 54, 58, 96, 100, 113, 118, 121, 122, 134, 174, 187, 188, 189
- **r-gaw** = fry, roast (270) 63, 110, 192, 193
- **ya-w** = ape, monkey (192) 35, 47, 54, 58, 96, 100, 113, 118, 121, 122, 134, 174, 187, 188, 189
- **gay** = self (285) 65, 93
- **yow** = (s-)vow white, green, yellow (296) 66, 105
- **goy** = gentle, quiet, moderate (3) 68
- **gra** = meet (154) 44
- **yruw** = dark; faded, withered (156) 44
- **yul** = silver 15, 173
- **guw = yaw** = weep, cry (31, 60, 102, 147)
- **gwa** = cattle (215) 50
- **gwap** = cousin, in-law (50)
- **VYa** = fish (189) 47, 54, 58, 107, 124, 136, 141, 151, 174, 186, 197
- **ok** = below (110) 36, 76, 123
- **o-l** = finish; relax (111) 36, 73
- **u-prok** = -phrok (K-N) toad 41
- **pu** = bu
- **pu-w** = pwak pig (43) 14, 23-4, 87, 133, 189
- **pak=pwak** = plantain (477) 137, 144
- **pa** = pwa father (24) 19, 23, 58, 96, 100, 113, 118, 121, 122, 134, 174, 187, 188, 189
- **pa=pwa** = palm, sole (418) 24, 100, 174, 187, 188-9
- **pa patch, sew** 122
- **g-pa=g-pwa** = bamboo (44) 23-4, 114, 115, 138, 139, 151, 188
- **pak=pwak** = hide, v. (46) 24, 50
- **pak=(r-)pak** = leaf (40) 23, 88
- **pay=pwak pig (43) 14, 23-4, 87, 133, 189
- **pam** = See bam
- **pay=pwak** = spindle (48) 25
- **par** = trade, buy, sell 35
- **par** = See bar
- **r-pat** = leech (45) 2, 20, 23-4, 103, 109, 115, 121, 132, 138-9, 144
- **pe** = See be
- **pe(k)** = (K-N) give 101, 149
- **per** = flat, thin (340) 73, 97
- **pik** = (bowels (35) 21, 80
- **pip** = See bip
- **pir** = See pur
- **piy=pay** = grandmother (36) 21, 121, 122, 134, 185
- **pla** = ashes (137) 40, 133
- **pley** = flat surface, plank, slab (138) 40, 79
- **pley** = See bley
- **pliy** = See bliy
- **plon** = burn (139) 40
- **plon** = run, flee (140) 40
- **plu** = white 41, 46, 60-1, 89
- **d-po=d-pho** = (K-N) shield 58
- **pop** = aperture, crack (345) 74
- **pra** = good (129)
- **pral=phral** = (K-N) cold (dry) season 42
- **pray** = dawn, morning (332) 72
- **pren=pren~bren** = pus; boil 143
- **priy=b-riy** = bark, v. (377) 80, 112
- **pro** = delight, enjoy (130) 40, 58
- **pro=pro(k)** = come out, bring out (248) 59
- **u-prok=phrok** = (K-N) toad 41
- **pruk** = See brup
- **prut** = boil, v. (131) 40
- **pryo** = soft, boiled; boil (250) 59
- **pu** = See bu
- **pu-k=pu-k~buk** = cave; belly (358) 75, 77, 83, 115, 165-6, 182
- **pun** = wrap, cover; wear (385) 81
- **pur~pir** = fly, v. (398) 83, 172, 181
- **put** = knee (7) 16-17, 20, 75, 83, 98, 181
- **puw=pwak** = grandfather; older brother (23) 19, 21, 100, 134, 148, 152
- **puw=pwak** = valuable; value, price (41) 23, 90

---

[205]
Sino-Tibetan: a conspectus

*pwa* See *pa*

(\(p\))wa See *wa*

pwak half 24, 122

pwak See *pak*

p\(\text{wa}\)r See bar \~ par

p\(\text{wa}^y\) husks; shavings (170) 46, 140

149, 150, 152

p\(\text{wi}^y\)(y) female (171) 46, 96, 158, 174, 185

*pyak* = *pywak* sweep broom (174) 14, 46, 141

pyam fly, v. 29, 51

pyay hang (175) 20, 46

pyar See *byar*

pyaw fly, swim (176) 46

pyaw See *pyak*

pywak See *pyak*

s-ra(m) = *sram* otter (438) 70, 107, 108, 140

s-ray high (43) 43, 108, 155, 170, 183

(b-)ras fruit; rice 17, 123

raw = (s-)raw dry, dead, old; carcass (268) 63

b-ray fear (450) 112

ren equal; place in a row; line, row (346) 74, 79, 137, 142, 143, 183

(s-)rew (K-N) burrow 68

rey rattan, cane (478) 137, 149

b-rey buy (293) 65, 65-6, 112, 140

ri decay, rotten; gleet (263) 62

s-ri be, exist (264) 62

s-rik = *srik* louse (439) 13-14, 107, 108, 155, 165, 170, 172, 180

s-rik \~ s-ryak pheasant (403) 14, 84-5, 137, 141, 144, 172, 190

(b-)rim distribute; cast away 178

ri\(\text{m}\) rattan, cane 107

b-riiy See *priiy*

s-riiy long; elongate (433) 78, 106

s-riiy \~ s-ray = *sriiy* live, alive, green, raw (404) 39, 81, 85, 105-6, 108, 155, 170, 180

rim See *rum* (g-)rii \~ (s-)rii grow dark; shade, shadow 113

ri\(\text{t}\) reap, cut, scrape, shave (371) 80

riiy = *ray* draw, mark; boundary (429) 103, 110-11, 178

ri\(\text{y}\) dirt; odor (459) 96, 115

roy cat, tiger 107

(s-)row nit (278) 64

(s-)row pine, fir (320) 69

d-ruk six (411) 41, 45, 75, 76, 82, 83, 88, 94-5, 114, 115, 116, 141, 146, 154, 161, 162, 171, 182

m-ru\(\text{k}\) (K-N) steal 144

b-ru\(\text{l}\) snake (447) 15, 43, 78, 83, 111, 119, 137, 147

rum \~ rim dark, dusk, twilight (401) 84

d-rum long for, pine (457) 114

ruy = *ray* horn (85) 14, 31-2, 75, 82, 84, 113, 142, 143, 144

d-rup = *drup* sew (456) 25-6, 114, 115

s-rup sniff up, sip (384) 81

rus bone (6) 16, 75, 106, 130, 147, 155, 169

rwak rat 2, 107

rwak = g-rwak ant (199) 47, 49, 74

rway See *ruiiy*

rwa-t horn 113

rwat stiff, tough (198) 47

ri\(\text{yi}\) = (s-)ri\(\text{way}\) slope, slant (200) 47

ri\(\text{yi}(y)\) = (s-)ri\(\text{yi}(y)\) cane (plant) (201) 47, 56

ryak = s-ryak day (24 hours) (203) 48, 54, 155, 171, 190

ryak grease, oil, juice (204) 48, 172, 189

s-ryak See s-rik to show

ryak layout

ryal (K-N) hail 54

(s-)ryam (K-N) sharp 53, 171, 189

ryan = *zray* uncle (205) 48, 54

g-ryap stand (246) 52, 57, 112, 155, 175, 177, 178

(b-)g-ryat See *b-rgyat*
Appendix I: Tibeto-Burman roots

rya-t laugh (202) 47, 98, 101, 159, 172, 187, 189
ryaw mix (207) 48

47, 98, 101, 159, 172, 187, 189

ryut grow worse; inferior (206) 48

- s-

r-sa vein, sinew; root (442) 28, 109

sak breathe, breath, life (485) 146, 183, 191

m-sak itch (465) 118, 136, 144

sal clear (272) 63, 66, 118, 136, 149, 192, 193

sam = som breath, voice, spirit 51, 126, 183, 184

sar new, fresh 147, 172, 189

sar ~ sar louse 15, 53, 84, 147, 172, 189

r-say lizard (70) 28, 109

g-sat = g-sát kill (58) 13, 27, 88, 110, 112-13, 126

saw oil, fat, grease (272) 63, 66, 118, 136, 149, 192, 193

sey fruit (57) 27, 28, 30, 53, 65, 118

m-sin liver (234) 55, 79, 117, 119, 144, 151, 180, 197

siiy tree, wood (233) 55, 79, 84, 88, 136, 142, 143, 144, 165, 180, 197

siiy = siiy die (232) 28, 55, 61, 98, 136, 148, 151, 185, 197

m-sii(y) comb (466) 101, 118, 136

m-sow arise, awake (295) 66, 118

soy graze (almost hit) (306) 67

sya See s-ra

sram See s-ram

srey[ ] weasel, squirrel 79, 171, 183

sriy sister 108, 171

sru[ ] aunt; father-in-law; relative 108, 171, 197

g-sum three (409) 28, 75, 81, 94, 131, 136, 142, 143, 152, 153, 162, 169, 170, 181, 182, 186-7, 196

su[ ] smell, scent (405) 85

sur = swa~ sour (42) 23, 75, 78, 172, 190, 197

su[ ] cough (423) 101, 185

swa~ See sur

sya = syi~

(m-)syal See (m-)syil

syay See (t)syan

syey know (182) 46, 54, 55, 65, 90, 149, 159, 169

(m-)s(y)i= (m-)syl ~ (m-)syil wash, bathe (493) 15, 84, 173, 179
s(y)i= = syim black, blue, dark (380) 81
s(y)i=r= syir ~ sya~ iron (372) 80

s(y)iwy = syway rub, scrape, shave (180) 46

sy = ~

sya = ta flesh, meat, animal (181) 46, 49, 53, 54, 90, 99-100, 106-7, 121, 123, 158, 168-9, 187, 189, 192, 197
syam = sam iron (228) 53, 84, 91

syar = sar rise; east 28

tar See sar

sim sweep 170

tirak See s-rak

tirik See s-rik

tiy See s-riy

su(w) grandchild 158, 169, 170

sywar = swar flow; pour (241) 15, 56

- t-

ta (neg. imperative) 97

ta put, place (19) 19, 101

yta ~ ty-n red 17-18, 159, 169, 188, 189, 190

s-ta knife 22

tak = thak (B-L) sharp 87

tak = trak weave (17) 14, 19, 21, 134, 144, 145-6, 171, 183, 191

(l-)tak = l-tak ascend; above 52, 110, 123
tal arrow; bow 168, 169, 173, 182, 183
tan dry 190
tan pine, fir 69
tap fireplace (18) 19, 21, 73
tap = tsp ~ dsp fold; repeat (493) 183, 184
ta-p capable, fit; beautiful (337) 73

tar hang; impale (326) 71

ta-s = tâ-s hear (415) 99, 103

r-ta-t=r-tas thick (426) 16, 17, 102, 110, 122

tay big (298) 66, 113, 119, 160, 192, 193
tay self (284) 65

s-tay navel; abdomen (299) 65, 66, 106, 150

(m-)ti-s wet 16, 26, 45, 101

ti(y) water (55) 20, 26, 30, 45, 58, 134, 135, 148, 168, 185-6, 196

207
Sino-Tibetan: a conspectus

m-to high (247) 59, 96, 118, 148
ton See don
s-toy thousand (32) 21, 94
tow = tow ~ dow hammer (317) 69, 88, 147
tow = tow ~ dow thick (319) 60, 69, 77, 89, 159, 192
m-tow = m-thow (K-N) fly, n. 66, 121, 192
toy = doy ~ toy younger (youngest) sibling (309) 67, 192–3, 194
tu = du ~ tu dig (258) 62
tu = tu ~ du nephew (259) 62, 158, 169
tuk cut, knock, pound (387) 76, 82
tuk See duk
(m-)tuk ~ (s-)twk ~ (s-)duk spit, vomit; spit; spit; spit; spit
58, 75, 126, 132, 146
tuk = twak neck (393) 75, 82
tul See (r-)dul
trk thick, deep (356) 77, 82, 83
(r-)tul = r-tul roll up, wrap 110, 147
twγ = twγ ~ dwγ sit (361) 78
turtle See duy
turtle See tsyurγ
tup ~ tip See dup ~ dip
twaw = (m-)twa span (165) 45, 140, 151
(m-)twa ~ (s-)twa spit; spit; spit; spit
58, 105, 187
twan wrinkle, shrink 49
twak come out, emerge 17
twak See tuk
twiy = twiy flow; suppurate (167) 45
twiy = twiy water; egg; spit; spit; spit
30, 45, 158, 169
twi(y) sweet (166) 45
tyak very, real, certain, just 20, 52, 122
tyak = tak (B) lift, bear 52, 175, 183°
tyal See dyal
tyam See dyam
tyam See ta
tyan See ta
tyan black, dark (225) 52, 70
s-tyan = s-toy (Bod.) upper part 52, 142, 159, 169, 183
t(y)i(k) = (g-)tyik one 84, 94, 169, 189

ts-
tsak child, grandchild, nephew/niece 27, 30, 100, 111, 154, 158, 169, 188, 189
tsak hot; pain (62) 27, 28, 49, 136, 151, 159, 170, 188
tsak salt (214) 49, 169, 187, 188
tsam = tsam ~ sam head hair (73) 28, 29, 30, 70, 169, 191
tsyan = tshang (B-L) elephant 133, 142, 151
tsap repaint (63) 27
tsik joint (64) 27–8, 79, 165, 169–70, 180
til fat, n. 16, 168, 169, 173
m-(t)sin = m-tsyen nail, claw (74) 29, 37, 78, 109, 120
tsit = tsit (B-L) goat 88
tsiy = (r-)tesy juice; paint; drugs (65) 28, 55, 157, 169
r-tesi = (r-)tisay count (76) 30, 171, 186
tsot antelope, sambhur (344) 74
tsw fat, adj. (277) 53, 64
tswor prick; thorn, panji (276) 63–4, 69, 170
tsum = tsrum mortar (75) 28, 29, 29–30, 75, 78, 81, 136, 142, 143
tsaw = tsaw cork, plug, stop up (422)
tsyow See ts(y)i(y)
tsyay ~ (r-)tyay play (289) 53–4, 54, 65
m-tsyen See m-(t)sin
m-tesy (K-N) salt 121
ts(y)i(y) = tsyay ten (408) 94, 131, 136
tswor cook, boil, bake (275) 63, 169, 170, 192
tswγ = twγ inside; middle (390) 17, 82, 182
tsy = ts-
tsyak = tsak red; gold (184) 14, 46, 168, 189
tsyap = tsap join, connect; adhere (186) 47, 169, 189
tsyar = tsar shine; sun (187) 7, 47
tsyat = tšāt break; cut (185) 47, 191
ts(y)i = tsi urinate (77) 30, 55, 101, 102, 136, 148
m-tes(y)i = m-tširil spittle (231) 15, 30, 55, 61, 119, 171
m-s(y)i'p = ts'i'p shut, close (370) 80

208
Appendix I: Tibeto-Burman roots

(g-)tʃo pour out 56, 112
(r-)tʃay See r-ːtʃay
m-ːtʃil See m-ːtʃ(y)il
tʃum See tsum
tʃuk = tʃuk (K-N) hit, knock against 53
tʃuk = tʃuk steep, adj. (353) 76
tʃur = tʃur wring, squeeze (188) 47
tʃwap = tʃwap lungs (239) 56
tʃyar = tʃyar cut, chop (240) 56
u putrefy; stale; stink (489) 147, 148
u = (m-)u whine, howl, bark (261) 62
urn = (m-)u-m hold in the mouth; mouthful (108) 36, 75, 84, 142, 181
ut swaggering; noisy (109) 36
w-
wa = (b)wa bird (99) 35, 107, 138
wa = wa-t bite, chew (424) 101, 106
wa = (p)wa man, person, husband 24, 35, 132, 138, 174, 187
r-wa = r-pzwa ax (441) 24, 109, 133, 174, 187
r-wa rain (443) 109, 167, 187
r-wa ~ g-wa village (444) 109, 113-14
s-wa be in motion, go, come 105, 167, 187
s-wa tooth (437) 34, 106, 122, 131-2, 138, 139
wal round, circular (91) 15, 32, 168, 173, 190
d-wam bear, n. (461) 49, 104, 107, 116, 140, 142, 143, 151, 168, 182, 189
was bee; honey 17
wat wear; clothes 24
wɔːy whirl, brandish, wave (90) 32
wɔi = wɔi (B-L) far 61
wɔy = (b)wɔy monkey (314) 68, 107
wʊl = vʊl (K-N) graze (animals) 83
y-
y'a night (417) 100, 102, 138, 167, 188

g-ya itch (451) 113
g-ya ~ g-ra right (hand) (98) 34, 113, 123, 155, 168, 187
(g-)yak armpit 34, 167, 170, 189
g-yak ashamed, shy (452) 34, 113
yə = (s-)brə fly, bee (492) 167, 176, 183
r-yə light (weight) (328) 71, 110
yaʔ fan, winnow, paddle (92) 32, 71, 73, 112
yaɾ ~ yaɾ ~ ɾə spread, extend; sail 138, 146, 167, 173, 191
yok poker; pudding-stick 14
yip See ip
yu (B-L) take 60
d-yuk deer (sambhur) (386) 82, 116
(m-)yəŋ finger, toe (355) 76-7, 77, 120
yuv = yuv leak, drip (430) 103
b-yaɾ = b-yaɾ rat; rabbit (93) 2, 32, 61, 69, 99-100, 111, 138, 158, 167, 192
yu(w) descend 101
yu(w) liquor (94) 32, 167, 170
r-yu(w) ask, request 57
ywar (K-N) sell; buy 15, 51, 89
ywi (K-N) follow 51
z-
za child (offspring) (59) 27, 30, 54, 90, 100, 102, 122, 135, 169, 188
zak (B-L) descend 30, 87
zik leopard (61) 27, 30, 79
ziya = ɔya small, minute (60) 27
ziy = ɔyi (B-L) urine 30, 90
zlu See s-lum
zril worm 15, 16, 37, 171, 173
zyaɾ ~ zyu(w) rot, decay; digest 54
z-
ɔya See ziy
ɔraʔ See ryaŋ
zum (B-L) use 30
APPENDIX II

English–TB index

Note: Number references are to the series running through the text.

a-
abandon gar (15)
abdomen s-tay (299)
above (l-tak = l-tak
acid kri(y) (413)
krok = k(h)rok (K–N)
adhere tsyap = tsap (186)
affix byar ~ pyar = byar ~ pyar (178)
after s-nug (354)
alive s-ri~ s-ray = sri~ (404)
all (m-)kul (397)
age ki-l
(m-)ku-k
animal sya = sa (181)
announce ha-w
ant krep (347)
ruwak = g-ruwak (199)
antelope tsot (344)
aperture pop (345)
arise m-sow (295)
arm lak = g-lak (86)
arm (length) mu-k (394)
armpit g-li = k(a)li (265)
(g-)yak
arrow b-la = bla (449)
m-da
tal
ascend (l-tak = l-tak
ashamed g-yak (452)
key = (162)
s-rak = strak (431)
asashes pla (137)
ask r-yu(w)
aunt ni(y) (316)
sru(w)
awake m-sow (295)
ax r-wa = r-pwa (441)
b-
back s-ga’l
s-nuy (354)
bag kuk (393)
bake tsyow (275)
bamboo g-pa = g-pwa (44)
bank r-kat’[m] (329)
bark, n. kok = (r-)kwa:k
s-graw (121)
bark, v. priy = b-riy (377)
u = (m-)u (261)
barter (r-)ley
basket kaw (266)
kuk (393)
bat (animal) ba:k (325)
bathe kraw = kraw (117)
(m-)lu(w) = (r-)lu(w) ~ (m-)lu(w)
(m-)syil = (m-)syil ~ (m-)syal
(493)
be s-ri (264)
beak mu-r (366)
beans be (253)
bear, n. d-wam (461)
bear, v. tyak = tak (B)
beat dup ~ dip, tup ~ tip (399)
krap
beautiful moy (304)
tap (337)
bedstead kum (482)
bee bya = bya ~ bra (177)
kwa-y (159)
was
yan = (s-)bra? (492)
before s-ya (B)
belly pu’k = pu’k ~ buk (358)
below ok (110)
bench kum (482)
bend guk ~ luk
koy (307)
bespeak ha-w
beyond hla:w
big ma
tay (298)
bile (m-)kri-t (412)
bind kik (484)
ki-l (373)
Appendix II: English-TB index

bird bya = bya ~ bra (177)
daw (B-G) (144)
wa = (b)wa (99)
birth, give bray (135)
bite hap (89)
wa = wa-t (424)
bitter ka (8)
black nak

bird bya = bya ~ bra (177)
daw (B-G) (144)
wa = (b)wa (99)
birth, give bray (135)
bite hap (89)
wa = wa-t (424)
bitter ka (8)
black nak

s(y)im = syim (380)
tyaj (225)

[(s)-kuw = (s)kow]

boil, n. pren = pren ~ bren
boil, v. pryo (250)
tsyow (275)
boiled pryo (250)
bone rus (6)
bore luan
born, to be kruj (383)
borrow kroy (312)
r-nya (190)
s-kiy = s-key (31)
boundary riy = ray (429)
bow, n. d-liy = d-ray (463)
tal
bowels pik (35)
brain s-nigy (367)
nuk = (s)-nuk (483)
branch ku-nj (359)
brandish wa-y (90)
brake tsyat = tsat (185)
be ~ pe (254)
bray, n. mow = mow (419)
bray, v. kwaj (254)

brother, older puw = pow (23)
bud bu ~ pu (260)
mum (364)
(r-)moy (304)

brother, older puw = pow (23)
bud bu ~ pu (260)
mum (364)
(r-)moy (304)

buffalo broj (136)
luwa-y (208)
bug krep (347)
burn bar ~ par = hwar ~ pwar (220)

ka-y (330)
ploy (139)
burrow (s)rew (K-N)
bury bip ~ pip (376)
buy b-rey (293)
par
(r-)ley
yvar
cage kruj (389)
calf of leg bop (30)
call gaw = gaw ~ haw (14)
cane (plant) rey (478)

ri-m
rwi(y) = (s)-rwi(y) (201)
s-m(y)ik (237)

capable ta-p (337)
carcass raw = (s)-raw (268)
carry ba (26)
carry (on back or shoulders) buw = bow (28)
carve kut (383)
cast away (b-)rim
cat roj

cattle pwa (215)
cave dwan = dwa-j (169)
kor (349)
pu-k = pu-k ~ buk (358)
center la:y (287)
certain tyak
change lay (283)
chew wa = wa-t (424)
child (offspring) tsu

za (59)

chin (m-)ka ~ (s-)ka (470)
choke ha-k (323)

chop tcyvar = tcyvar (240)
circular hwaj

wal (91)
claw m-(t)sin = m-tsyen (74)
clean (t)syan = syaj

clear sal

(t)syan = syaj
Sino-Tibetan: a conspectus

close, v. ts(y)i:p = tsi:p (370)
clothes wat
clouds (r-)muw = (r-)maw (488)
cloudy mu:y (362)
coerce nyen = (s-)hen (193)
cold glan
  kyam (224)
cold (dry) season pral = phral (K-N)
cold (weather) grag (120)
comb kw(y) (480)
m-s;(y) (466)
come byon (179)
s-wa
come (out) hway (218)
come out don ~ ton
  pro = pro(k) (248)
twak
compress nip
concave ku[m]
conceal bip ~ pip (376)
iy = iyp (114)
kway (303)
congeal, n. kal
connect tsyap = tSap (186)
contradict yray (155)
convalesce bran (133)
convex ku[m]
cook klak = glak ~ klak (124)
tsyow (275)
cooked s-min (432)
copper griy = gray (39)
cork tswu = tsw (422)
cotton b-la (K-N)
cough su(w) (423)
cough up ka-k
count r-tds = (r-)tds (76)
country mliy = mlay (152)
cousin wap
cover klup (479)
pun (385)
up (107)
cowlick boy (308)
crab d-ka'y (51)
crack ak (106)
pop (345)
crooked guk ~ kuk
crow, n. ka
crow, v. groy (310)
cross over gaw (318)
crush nip
cry nyu = nyw (79)
cry out a-w (273)
cubit mu:k (394)
cut da:n (22)
kut (383)
muak = muak ~ bruk (147)
ra = ra-t (458)
ri:t (371)
tsyat = tSat (185)
tsywar = tswar (240)
tuk (387)
cut off lep = (s-)lep (351)
dance ga:r (11)
dare hwam (216)
dark mu:y (362)
  yruw = yro (156)
r-muk (357)
rum ~ rim (401)
s(y)im = syim (380)
tyan (225)
dark, grow (g-)rip ~ (s-)rip
daughter-in-law krwiy = krwayy (244)
  m-na
  s-nam (103)
dawn pray (322)
day niy = nay (81)
day (24 hours) ryak = (s)ryak (203)
dead raw = (s-)raw (268)
debt kroy (312)
decay ri (263)
  yu:sw ~ yu(w)
decayed tsiyw = tsowy (183)
deep tu:k (356)
deer (sambhur) d-yuk (386)
deer (barking-) d-kiy = d-kwy (54)
defeat bam ~ pam (471)
defeated, to be bam ~ pam (471)
defy daw (267)
delight pro (130)
demon (m-)hla (475)
deny nyay (155)
descend yu (w)
  zak (B-L)
devaricate ka (469)
die siy = sy (232)
dig la:y (288)
  tu = du ~ tu (258)
dig out d-kew = d-k(h)ew (K-N)
  klaw (269)
emerge twak
encircle hwan
enjoy pro (130)
enmity with, be at daw (267)
enough luk (B-L)
enter hwan (218)
equal ren (346)
erect, v. dsu[·k] (360)
exceed lay (301)
excessive hla(k)
exchange lay (283)
excrement kliy = kløy (125)

n(y)ik = (s-)nik ~ (s-)iek (235)

(r-)kyak ~ (s-)kyak

exist s-ri (264)
extend ya-r = ya-r ~ yár
extinguish mit (374)
eye mik ~ myak (402)

f-
face mu-r (366)
faded yruw = yrow (156)
falcon lan (333)
fall, v. kla = gla ~ kla (123)
fan ya-p (92)
far dzya-l = dza-l (229)

wiy = way (B-L)
fat, adj. tow (277)
fat, n. sa-w (272)
tsil
father pa = pwa (24)
father-in-law kuw = kew (255)
sru(w)
fathom (arm-spread) la[·]m
fear b-ray (450)

grôk ~ krok = grâk ~ krâk; grôk ~ krok (473)

kri(y) (416)
feces e-k (K-N)
female pwi(y) (171)
fence hwan
field law (K-N)
fight ran = (g-)ra-l
fill blin ~ plin (142)

dyam ~ tyam (226)
filth kriy = kray (460)
n(y)ik = (s-)nik ~ (s-)iek (235)
finger (m-)yuŋ (355)
finish o-l (111)
fir (s-)row (320)
tan
fire bar ~ par = bwär ~ pwär (220)
mey (290)
fireplace rap (84)
tap (18)
fireplace shelf rap (84)
fish n’ya (189)
fit ta’p (337)
five l-na ~ b-na (78)
flame (s-)lyam
flash lyap = (s-)lyap (213)
flat lyap (212)
flat surface pley (138)
flea s-liy = s-ly (440)
flow lwi(y) (210)
flower ba’r
bوات
flute gliy
fly, n. m-tow = m-thow (K-N)
yan = (s-)brain (492)
fly, v. byer
pur ~ pir (398)
pyam
pyaw (176)
fog (r-)muw = (r-)maw (488)
fog(gy) r-mur (357)
fold tap = tap ~ dep (493)
follow nay = (s-)nay (334)
ywi (K-N)
foot g-la
kriy = krey (38)
(r-)kay
forest b-liy (378)
forget b-la’p (335)
fork ka-k (327)
fork (of legs) kap (338)
forked bra (132)
four b-liy = b-ly (410)
fowl rak
fox gwa
free, v. g-lwat (209)
freeze glay
fresh sar
frighten grok ~ krok = gråk ~ kråk;
grok ~ krok (473)
frog s-bal
fruit (b-)ras
sey (57)
fry r-yaw (270)
full biń = pien (142)
dyam ~ tyam (226)
fungus g-muw = g-maw (455)
g-
gag ha’k (323)
gasp haya
gentle nay (315)
get (r-)mey (249)
gills mu-r (366)
give biy = bay (427)
pek (K-N)
gleet ri (263)
go byon (179)
s-wa
go out don ~ ton
goat ke’l = kye’l ~ kyi[l] (339)
tsit = tshit (B-L)
god (m)ha (475)
goitre ba
gold tsyak = tšak (184)
good lyak-s (Bod.)
may (300)
pra (129)

goose ya-n
grain mruw = mraw (150)
grandchild b-liy = b-ly (448)

su(w)

s-wo
graft

grandfather puv = puv (23)
grandmother bwa (B-L)
piy = poy (36)
grass mra = myak (149)
grasshopper kaw = khaw (K-N)

graaze (almost hit) soy (306)
(laminals) vwl = vul (K-N)
grease ryak (204)
saw (272)


green dzim
krui (383)
yow = (s-)yow (296)
s-ryi ~ s-ray = shr (404)
grind krit (119)
groin kap (338)
sga’l
Appendix II: English–TB index

<table>
<thead>
<tr>
<th>English</th>
<th>TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>I ka</td>
<td>i-</td>
</tr>
<tr>
<td>ya</td>
<td>(406)</td>
</tr>
<tr>
<td>ñay</td>
<td>(285)</td>
</tr>
<tr>
<td>ice</td>
<td>kyam</td>
</tr>
<tr>
<td>ill</td>
<td>na</td>
</tr>
<tr>
<td>nuyun = (s-)niyun</td>
<td>(194)</td>
</tr>
<tr>
<td>impale</td>
<td>ta·r</td>
</tr>
<tr>
<td>inferior</td>
<td>ryut</td>
</tr>
<tr>
<td>in-law</td>
<td>qwap</td>
</tr>
<tr>
<td>insect</td>
<td>bwu = baw</td>
</tr>
<tr>
<td>dyun</td>
<td>(B-G)</td>
</tr>
<tr>
<td>inside</td>
<td>tsuw·ñ = tu·ñ</td>
</tr>
<tr>
<td>interfere</td>
<td>daw</td>
</tr>
<tr>
<td>iron</td>
<td>syam = sam</td>
</tr>
<tr>
<td>s(y)i·r = syi·r ~ sya·l</td>
<td>(372)</td>
</tr>
<tr>
<td>island</td>
<td>gliñ</td>
</tr>
<tr>
<td>itch</td>
<td>g·ya</td>
</tr>
<tr>
<td>kut</td>
<td>(383)</td>
</tr>
<tr>
<td>m-sak</td>
<td>(465)</td>
</tr>
<tr>
<td>j-</td>
<td></td>
</tr>
<tr>
<td>jaw (m-)ka~(s-)ka</td>
<td>(470)</td>
</tr>
<tr>
<td>jaw (molar teeth)</td>
<td>gam = gəm</td>
</tr>
<tr>
<td>join</td>
<td>du·t ~ tu·t</td>
</tr>
<tr>
<td>tsyap = tsap</td>
<td>(186)</td>
</tr>
<tr>
<td>joint</td>
<td>tsik</td>
</tr>
<tr>
<td>juice</td>
<td>ryak</td>
</tr>
<tr>
<td>tsiy = (r-)tsy</td>
<td>(65)</td>
</tr>
<tr>
<td>k-</td>
<td></td>
</tr>
<tr>
<td>kidney</td>
<td>m-kal</td>
</tr>
<tr>
<td>kill</td>
<td>g-sat = g sät</td>
</tr>
<tr>
<td>kiss</td>
<td>dzə·p</td>
</tr>
<tr>
<td>kite</td>
<td>dzwan</td>
</tr>
<tr>
<td>lay</td>
<td>(333)</td>
</tr>
<tr>
<td>knead</td>
<td>na·y</td>
</tr>
<tr>
<td>knee</td>
<td>du</td>
</tr>
<tr>
<td>put</td>
<td>(7)</td>
</tr>
<tr>
<td>knife</td>
<td>s-ta</td>
</tr>
<tr>
<td>knock</td>
<td>tuk</td>
</tr>
<tr>
<td>knock against</td>
<td>tsyuk = tšuk</td>
</tr>
<tr>
<td>knot</td>
<td>du·t ~ tu·t</td>
</tr>
<tr>
<td>know (m-)kyen</td>
<td>(223)</td>
</tr>
<tr>
<td>syey</td>
<td>(182)</td>
</tr>
<tr>
<td>l-</td>
<td></td>
</tr>
<tr>
<td>lac</td>
<td>krep</td>
</tr>
<tr>
<td>laugh</td>
<td>m-nwïl(y)</td>
</tr>
<tr>
<td>rya-t</td>
<td>(202)</td>
</tr>
<tr>
<td>lead, n.</td>
<td>kar</td>
</tr>
</tbody>
</table>
leaf la = (s-)la (486)
  lap (321)
  pak = twak (40)
leak yuu = ynn (430)
lean back ew (K-N)
leap ga-r (11)
leave gar (15)
leech r-pat (45)
leech (water) (m-)li·t (396)
left (hand) bay = bway (47)
leg bop = bop (30)
  (r-)kaŋ
lend kroy (312)
length dug = dug ~ tu·ŋ (369)
leopard zik (61)
lick (m-)lyak ~ (s-)lyak (211)
  (s-)lyaw
life sak (485)
lift ku
  tyak = tsh (B)
light hwa·t (221)
light (weight) r-ya·ŋ (328)
lightning lyap = (s-)lyap (213)
line ren (346)
lineage mruw = mraw (150)
lip s-nes
lips r-ka·m (329)
liquer yu(w) (94)
live kruŋ (383)
  s-riŋ ~ s-raŋ = šriŋ (404)
liver m-sin (234)
lizard r-san· (70)
loins s-ga·l
long dug = dug ~ tu·ŋ
  low (279)
  s-riŋ (433)
long for d-rum (457)
lose ma·t (425)
louse sar = sar
  s-riŋ = šriŋ (439)
love m-dza (67)
low nem = nyam = naŋ (348)
lungs tsywap = tšwap (239)

  m-
man (homo) r-mi(y)
man wa = (p)wa
many mra (148)
mark riŋ = ray (429)
marrow kliŋ = (r-)kliŋ (126)
meat sya = ša (181)
meet yra (154)
middle tsyu·ŋ = tu·ŋ (390)
milk nuw = new (419)
mind, n. s-niŋ (367)
minute, adj. ziŋ = šiŋ (60)
mix ryaw (207)
moderate yoy (315)
mood hus
mole (on skin) r-men (104)
monkey mrük
  woy = (b)woy (314)
moon s·la~ g·la = s·gla (144)
more hla(k)
morning pray (322)
mortar tsum = tsrum (75)
mosquito kray (322)
mother ma (487)
  (m-)ma
mother-in-law ni(y) (316)
motion, be in s-wa
mouth ak (106)
  ku(w) (G-B)
  m·ka (468)
  mu·r (366)
  r·ka·m (329)
mouthful hap (89)
  um = (m-)um
move mow (280)
much mra (148)
mushroom g·muw = g·maw (455)

  n-
nail (finger-, toe-) m-(t)sin = m·tsyen (74)
name rm-ŋ (83)
  s-bray
nauseated on (343)
navel la·y (287)
  s·tay (290)
near ney (291)
neck liŋ = (m-)liŋ (96)
  tuk = twak (393)
neck-(shaped) ke = (s-)ke(k) (251)
needle kap = kop (52)
nephew tu = tu~du (259)
nephew/niece b·liŋ = b·lay (448)
  tsa
nest (r-)bu (K-N)
net, casting kwan = kwan ~ gwan (158)
nettle r·ma·t See r·ma (446)
new sar
niece/nephew $b$-$liy = b$-$løy$ (448)

*tsa*

night $ya$ (417)
nine $d$-$kow = d$-$kow \sim d$-$gaw$ (13)
nit ($s$-$row$ (278)
nod $n(y)it = nît$ (236)
ooisy $ut$ (109)
nose $s$-$na \sim s$-$na$-$r$ (101)

pig $pak = pway$ (43)
pigeon $kuw = (m$-$)kaw$ (495)

*tsa*

pillow $kum$ (482)
pinch $nyap = nap$ (192)
pine, n. ($s$-$row$ (320)

*tsa*

pine, v. $d$-$rum$ (457)
pit $dwa$-$n = dwa$-$n$ (169)

*tsa*

kôr (349)

place, v. $ta$ (19)

plait $byar \sim pyar = byår \sim pyår$ (178)
plank $pley$ (138)

plant, v. $dsu[\cdot]k$ (360)
plantain $yak = (s$-$)nyak$ (477)

play, v. $tsya$-$y = (r$-$)tsya$-$y$ (289)
plug $tsuc = tsw$ (422)
plump $bwa = (s$-$)bwaam$ (172)
poison $doku$-$tuk$ (472)
poisoned $duku$-$tuk$ (472)
poisonous $duku$-$tuk$ (472)
poker yok

potato $s$-$ra = sra$ (434)
pound, v. $tuk$ (387)
pour ($m$-$)lu$-$w = (r$-$)lu$-$w \sim (m$-$)lu$-$w$ (241)

pour out ($g$-$)tsa$ (241)
precipice $r$-$ka[\cdot]m$ (329)
press(ed) $nyen = (s$-$)nen$ (193)

price $puw = paw$ (41)

prick $tsuc$ (276)
pull $don \sim ton$
punish $nye = ne$ (252)
pure ($t$)$syə = syə$
pus $pren = pren \sim bren$

$tsu$-$y = tsw$ (183)
put $ta$ (19)
put into mouth $gam$
putrefy $u$ (489)

*tsa*

quiet $njoy$ (315)

quil $q$-$ra\cdot l$

r-

rabbit $b$-$yuv = b$-$yuv$ (93)

rain $r$-$wa$ (443)

rat $b$-$yuv = b$-$yuv$ (93)

*r*

rwak

rat, bamboo $bwi = bway$ (173)
rattan $rey$ (478)
Sino-Tibetan: a conspectus

ravine grok (122)
raw dzim
s-riŋ ~ s-raŋ = s-riŋ (404)
real tyak
reap ri-t (371)
receptacle kuk (393)
red kyen (162)
(r-)-ni
ta ~ ty-a-n
tsyak = ṭṣak (184)
refuse, n. mu-k (363)
related do (249)
relative sru(w)
relax 0.1 (111)
release g-lwat (209)
repay tsap (63)
repeat tap = tep ~ dsp (493)
request r-yu(w)
rest, v. na (414)
rice (b-)ras
moy (B-G)
rice paddy *bu(w) (K-N)
ride dzyon = dšon (72)
ride (horse) gi (B-L)
right (hand) g-ya ~ g-ra (98)
rind kok = (r-)kwāk
ripe s-min (432)
rise syar = šar
river kluy = šar
road lam (87)
roast kaŋ (330)
r-paw (270)
rock brak (134)
roll, v. ki-l (373)
roll up (r-)tul = r-tul
root bul ~ pul
r-sa (442)
rot zya-w ~ zyu(w)
rotten ri (263)
rough gram
round s-lum = zlum (143)
wal (91)
row, place in a row ren (346)
rub mu-l (365)
s(y)wiy = sywew (180)
rub against mu-l (365)
rubbish mu-k (363)
rule (line) kut (383)
runt ploy (140)
rustle khrwap (243)
sad nyuŋ = (s-)nūŋ (194)
sag dzuyal = džul (242)
sail ya-r = ya-r ~ yār
salt g-ryum = gryum (245)
la
tsa (214)
sambhur tsot (344)
scattered bra (132)
scent suŋ (405)
scoop out r-k-o-t = r-go-t ~ r-k-o-t (420)
scorpion (s-)di-k (56)
srape kut (383)
ri-t (371)
s(y)wiy = sywew (180)
scratch d-ke-w = d-k(h)ew (K-N)
hyak (230)
kut (383)
pruk (391)
scream groy (310)
speech groy (310)
see mraŋ (146)
seed mraw = mraw (150)
seize (with mouth) gam
self ṭay (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)
pa
shade (g-)rip ~ (s-)rip
shadow (g-)rip ~ (s-)rip
sharp (s-)ryam (K-N)
tak = thak (B-L)
shave ri-t (371)
s(y)wiy = sywew (180)
shavings pwa-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 = ṭsar (187)
shoot, v. ga-p (219)
shoulder m-lyaŋ (K-N)
shrink twan
<table>
<thead>
<tr>
<th>English- TB index</th>
<th>Shun kway (303)</th>
</tr>
</thead>
<tbody>
<tr>
<td>shut ts(y)i:p = tl:i:p (370)</td>
<td></td>
</tr>
<tr>
<td>shy g-yak (452)</td>
<td></td>
</tr>
<tr>
<td>s-rak = srak (431)</td>
<td></td>
</tr>
<tr>
<td>sibling, younger na-w (271)</td>
<td></td>
</tr>
<tr>
<td>side r-gu-γ (395)</td>
<td>Silver γul = (d-)γul</td>
</tr>
<tr>
<td>sinew r-sa (442)</td>
<td>Single r-kyan (34)</td>
</tr>
<tr>
<td>sink, v. lîp (375)</td>
<td>Nup ~ nîp = nusp ~ n[-]p (400)</td>
</tr>
<tr>
<td>sip s-rup (384)</td>
<td></td>
</tr>
<tr>
<td>sister sriy</td>
<td></td>
</tr>
<tr>
<td>s-nam (103)</td>
<td></td>
</tr>
<tr>
<td>sister (of man) dzar (68)</td>
<td></td>
</tr>
<tr>
<td>sit bam = pam (471)</td>
<td>Twγ = twγ ~ dwγ (361)</td>
</tr>
<tr>
<td>six d-ruk (411)</td>
<td></td>
</tr>
<tr>
<td>skin s-graw (121)</td>
<td>Red to mway = mway- (495)</td>
</tr>
<tr>
<td>kok = (r-)kwâk</td>
<td></td>
</tr>
<tr>
<td>Sky nam</td>
<td></td>
</tr>
<tr>
<td>(r-)muw = (r-)mow (488)</td>
<td></td>
</tr>
<tr>
<td>Slab plen (138)</td>
<td></td>
</tr>
<tr>
<td>Slant rwiy = (s-)rway (200)</td>
<td></td>
</tr>
<tr>
<td>Sleep ip = îp (114)</td>
<td></td>
</tr>
<tr>
<td>Mwiy = (s-)mway ~ (s-)mwayy (196)</td>
<td></td>
</tr>
<tr>
<td>n(y)it = nit (236)</td>
<td></td>
</tr>
<tr>
<td>Sleepy myel (197)</td>
<td></td>
</tr>
<tr>
<td>Slice, v. lep = (s-)lep (351)</td>
<td></td>
</tr>
<tr>
<td>Slip ble (141)</td>
<td></td>
</tr>
<tr>
<td>Slippery ble (141)</td>
<td></td>
</tr>
<tr>
<td>Slope rwiy = (s-)rway (200)</td>
<td></td>
</tr>
<tr>
<td>Small ziy = ziyy (60)</td>
<td></td>
</tr>
<tr>
<td>Smell m-nam (464)</td>
<td></td>
</tr>
<tr>
<td>Sun (405)</td>
<td></td>
</tr>
<tr>
<td>Smoke kuw = kow (256)</td>
<td></td>
</tr>
<tr>
<td>Snake h-ru:l (447)</td>
<td></td>
</tr>
<tr>
<td>Buw = bw (27)</td>
<td></td>
</tr>
<tr>
<td>Snap at hap (89)</td>
<td></td>
</tr>
<tr>
<td>Snow kym (224)</td>
<td></td>
</tr>
<tr>
<td>Snot s-nap (102)</td>
<td></td>
</tr>
<tr>
<td>Snuff up s-rup (384)</td>
<td></td>
</tr>
<tr>
<td>Soft now (274)</td>
<td></td>
</tr>
<tr>
<td>Pryo (250)</td>
<td></td>
</tr>
<tr>
<td>Sole (of foot) pa = pwa (418)</td>
<td></td>
</tr>
<tr>
<td>Son-in-law kruwy = kwowy (244)</td>
<td></td>
</tr>
<tr>
<td>Ma-k (324)</td>
<td></td>
</tr>
<tr>
<td>Soul (m-)ila (475)</td>
<td></td>
</tr>
<tr>
<td>Sour kri(y) (413)</td>
<td></td>
</tr>
<tr>
<td>Krok = k(h)rok (K-N)</td>
<td></td>
</tr>
<tr>
<td>S-kyur = s-kywar (42)</td>
<td></td>
</tr>
<tr>
<td>Sour su:r = swa:r (42)</td>
<td></td>
</tr>
<tr>
<td>Span twa = (m-)twa (165)</td>
<td></td>
</tr>
<tr>
<td>Speak br(w)ak ~ (s-)br(w)an</td>
<td></td>
</tr>
<tr>
<td>Spear m-dun</td>
<td></td>
</tr>
<tr>
<td>Speech ka (9)</td>
<td></td>
</tr>
<tr>
<td>Spindle pany = pway (48)</td>
<td></td>
</tr>
<tr>
<td>Spirit sam = sam</td>
<td></td>
</tr>
<tr>
<td>Spit (m-)tuk ~ (s-)tu-k ~ (s-)du-k</td>
<td></td>
</tr>
<tr>
<td>(m-)twa ~ (s-)tw</td>
<td></td>
</tr>
<tr>
<td>Spittle m-t(y)i1 = m-tisyl (231)</td>
<td></td>
</tr>
<tr>
<td>Spoiled m-hew (K-N)</td>
<td></td>
</tr>
<tr>
<td>Spread ka (469)</td>
<td></td>
</tr>
<tr>
<td>Yaγ = yaγ ~ yâr</td>
<td></td>
</tr>
<tr>
<td>Sprout, n. s-m(y)ik (237)</td>
<td></td>
</tr>
<tr>
<td>Squeeze nyp = n(ip) (192)</td>
<td></td>
</tr>
<tr>
<td>Tsyur = tsur (188)</td>
<td></td>
</tr>
<tr>
<td>Squirrel sre[y]</td>
<td></td>
</tr>
<tr>
<td>Squirt brup ~ prup (151)</td>
<td></td>
</tr>
<tr>
<td>Stale u (489)</td>
<td></td>
</tr>
<tr>
<td>Stand g-rup (246)</td>
<td></td>
</tr>
<tr>
<td>Star s-kar = s-kar (49)</td>
<td></td>
</tr>
<tr>
<td>Steal m-ru:k (K-N)</td>
<td></td>
</tr>
<tr>
<td>R-kuw = r-kaw (33)</td>
<td></td>
</tr>
<tr>
<td>Steep, adj. tsuk = tsuk (353)</td>
<td></td>
</tr>
<tr>
<td>Stem ku-γ (359)</td>
<td></td>
</tr>
<tr>
<td>Stick (pudding-) yok</td>
<td></td>
</tr>
<tr>
<td>Stiff ruat (198)</td>
<td></td>
</tr>
<tr>
<td>Stink u (489)</td>
<td></td>
</tr>
<tr>
<td>Stone r-lun (88)</td>
<td></td>
</tr>
<tr>
<td>Stop up tsuw = tsow (422)</td>
<td></td>
</tr>
<tr>
<td>Straight blen ~ plen (352)</td>
<td></td>
</tr>
<tr>
<td>Dyam (227)</td>
<td></td>
</tr>
<tr>
<td>Straighten blen ~ plen (352)</td>
<td></td>
</tr>
<tr>
<td>Strangle ik (113)</td>
<td></td>
</tr>
<tr>
<td>Stream, n. lw[i(y)] (210)</td>
<td></td>
</tr>
<tr>
<td>Strength (d-)baγ</td>
<td></td>
</tr>
<tr>
<td>Stride ga-r (11)</td>
<td></td>
</tr>
<tr>
<td>Strip, v. ku:k (388)</td>
<td></td>
</tr>
<tr>
<td>Stump bul ~ bul</td>
<td></td>
</tr>
<tr>
<td>Suck dzop (69)</td>
<td></td>
</tr>
<tr>
<td>Sullen mu-γ (362)</td>
<td></td>
</tr>
<tr>
<td>Sun nam</td>
<td></td>
</tr>
<tr>
<td>Miy = n(y) (81)</td>
<td></td>
</tr>
<tr>
<td>Tsyar = tisar (187)</td>
<td></td>
</tr>
<tr>
<td>Suppurate twiy = twy (167)</td>
<td></td>
</tr>
<tr>
<td>Surround kroy (313)</td>
<td></td>
</tr>
<tr>
<td>Swagger ut (109)</td>
<td></td>
</tr>
</tbody>
</table>
swallow, v. mlyuw = mlyow (153)
sweat kruy = khrwéy (B-L)
sweep pyak = pywak (174)
sim
sweet dz(y)im = dzim (71)
klum
kyyuw = khyow (B-L)
twi(y) (166)
swim pyaw (176)
swollen bwam = (s-)bwam (172)
sword m-duŋ

tail r-may (282)
take yu (B-L)
take up ku

tall low (279)
tear, v. mruk = mruk ~ brak (147)
ten gip (16)
tend (cattle) kyoy = kyoy = khyoy (161)
tender now (274)
that day (21)
thick r-ta-t = r-tas (426)
tow = tow = dow (319)
tuŋ (356)
thin ba (25)
lyap (212)
peŋ (340)
this day (21)
thorn tsow (276)
thou na (407)

valuable puw = paw (41)
value puw = paw (41)
vein r-sa (442)

very tyak

vessel s-not

valley kluŋ (127)
kor (349)

village dyal ~ tyal

r-wa = g-wa (444)

voice sam = sam

vomit (m-)tuk ~ (s-)tuk ~ (s-)du-k

on (343)

vulture lay (333)

vulva dzuk

war ran = (g-)ra:l
warm lum (381)

wash kruw = krow (117)
(m-)s(y)il = (m-)syil ~ (m-)syal (493)
waste m-hew (K-N)

water ti(y) (55)
twiw = twaw (168)

wave, v. wa:y (90)

wear (clothes) bu(w) (428)

gwa-n = kwa-n (160)
pun (385)
wat

Sino-Tibetan: a conspectus
weasel sre[y]  
weave tak = trak (17)  
weed, v. klau (269)  
weeds mu-k (363)  
weep krap (116)  
ηωω = ηωω (79)  
weep, v. klaw (269)  
wen r-men (104)  
wet hus (m-)ti-s  
whine u = (m-)u (261)  
whirl wa·y (90)  
white bok  
ηωω = (s-)ηωω (296)  
plu  
wife s-nam (103)  
wind, n. g-liy = g-low (454)  
winnow krap  
ya·p (92)  
withered ηρυω = ηρωω (156)  
woman mow (297)  
womb s-not  
wood siy (233)  
word ka (9)  
work mow (280)  
worm zril  
worse, grow ryut (206)  
wound r-ma (446)  
wrap klup (479)  
pun (385)  
(r-)tul = r-tul  
wring tsyr = tiur (188)  
wrinkle twan  
yak, wild broy (136)  
yam kywiy = kyway (238)  
\( s-ra = s-ra \) (434)  
year niy = s-niy (368)  
yellow ηωω = (s-)ηωω (296)  
younger (youngest) sibling toy = doy ~ toy (309)
Sino-Tibetan: a conspectus

POLA Project on Linguistic Analysis (reports of the Phonology Laboratory of the Department of Linguistics, University of California at Berkeley)

TAK Tooman Azia Kenkyuu (Southeast Asian Research), Kyoto

TP T’oung Pao

WZKM Wiener Zeitschrift für Kunde des Morgenlandes

ZDMG Zeitschrift der Deutschen Morgenländischen Gesellschaft

Abbey, W. B. T.

Anderson, J. D.
1885. A Short List of Words of the Hill Tippera Language with their English Equivalents. Shillong.

Baber, E. C.

Bacot, J.
1913. Les Mo-So. Leide.

Bailey, T. G.

Barnard, J. T. O.

Beames, J.

Bell, C. A.

Bernot, L.

Bhat, D. N. Shankara.

Boell, P.

Bonifacy, A. L.

Bonnerjea, B.

Bor, N. L.

Bor, N. L. and Pawsey, C. R.
Appendix III: Primary Tibeto-Burman sources

Bridges, J. E.

Brown, N.
1837. 'Comparison of Indo-Chinese Languages', JASB 6, 1023–38.
1849. 'On the Aborigines of the Eastern Frontier' (communicated by B. H. Hodgson), JASB 18, 967–75.
1850. 'Aborigines of the North East Frontier' (communicated by B. H. Hodgson), JASB 19, 309–16.
1851. 'Specimens of the Naga Language of Assam', JAOS 2, 157–65.

Brown, R. G.

Brown, W. B.

Burling, Robbins

Butler, J.
1873. 'A Rough Comparative Vocabulary of some of the Dialects spoken in the "Nágá Hills" District', JASB 42, Appendix, i–xxix.
1875. 'A Rough Comparative Vocabulary of two more of the Dialects spoken in the "Nágá Hills"', JASB 44, 216–27.

Campbell, A.
1840. 'Note on the Limboos, and other Hill Tribes hitherto undescribed', JASB 9, 595–615.

Chang, Kun

Chuckerbutty, R. N.

Clark, E. W.

Clerk, F. V.

Conrady, A.
1891. 'Das Newāri: Grammatik und Sprachproben', ZDMG 45, 1–35.
1893. 'Ein Sanskrit–Newāri Wörterbuch, aus dem Nachlass Minayeff's herausgeben', ZDMG 47, 539–73.

Csoma de Körös, A.

Das, S. C.
Sino-Tibetan: a conspectus

Davies, H. R.
1909. *Yün-nan, the Link between India and the Yang-tze*, appended vocabularies. Cambridge.

D'Ollone

D'Orléans, H.

Dundas, W. C. M.

Edgar, J. H.

Endle, S.
1884. *Outline Grammar of the Kachāri (Bara) Language*. Shillong.

Foucault, P. E.

Francke, A. H.
1900. ‘Sketch of Ladakhi Grammar’, *JASB* 70, pt. 1, Extra No. 2.
1917. ‘Vokabular der Manchadsprache’, *ZDMG* 71, 137–61.

Fraser, J. O.

Fryer, G. E.
1875. ‘On the Khyeng People of the Sandoway District, Arakan’, *JASB* 44, 39–82.

Garo Mission (preface by M. C. Mason)

Gerard, A.
1842. ‘A Vocabulary of the Kunawur Languages’, *JASB* 11, 479–551.

Grierson, G. A. (ed.).

Grünwedel, A.

Gurdon, P. R. T.

Hamilton, R. C.

Hanson, O.

Hertz, H. R.

Hesselmeyer, C. H.
1838. ‘The Hill tribes of the Northern frontier of Assam’, *JASB* 37, 192–208.
Appendix III: Primary Tibeto-Burman sources

Hodgson, B. H.
1847. *On the Aborigines of India; Essay the First, on the Kochh, Bòdó and Dhímál Tribes*. Calcutta.
1847 bis. ‘On the Aborigines of the sub-Hímalayás’, *JASB* 16, 1235–44.
1853 bis. ‘Sífán and Hórsök Vocabularies’, *JASB* 22, 117–51.
1857–8. ‘Comparative Vocabulary of the Languages of the broken Tribes of Népal’, *JASB* 26, 317–522; 27, 393–442.

Hodson, T. C.

Houghton, B.

Hughes, W. G.

Hutton, J. H.

Hu T’an and Tai Ch’ing-sha

Jäschke, H. A.
1865. ‘Note on the Pronunciation of the Tibetan Language’, *JASB* 34, 91–100.

Johnston, R. F.

Jörgensen, H.

Joshi, T. R.

Judson, A.
1888. *A grammar of the Burmese Language*.

Kao Hua-nien

Keith, T. J.

Kerr, A. F. G.
Sino-Tibetan: a conspectus

Latter, T.
1846. 'A Note on some Hill Tribes on the Kuladyne River, Arracan', JASB 15, 60–78.

Lefèvre-Pontalis, P.
1892. 'Notes sur quelques populations du nord de l'indo-Chine', JA (8th ser.) 19, 259–69.

Lewin, T. H.
1869. The hill Tracts of Chittagong and the Dwellers therein, with Comparative Vocabularies of the Hill Dialects. Calcutta.

Liétard, A.
1909. 'Notes sur le dialectes Lo-lo', BEFEO 9, 549–72.
1911 bis. 'Notions de grammaire Lo-lo, dialecte A-hi', TP 12, 627–63.

Lorrain, J. H.

Lorrain, J. H. and Savidge, F. W.

Ma Hsiieh-liang


McCabe, R. B.

McCulloch, W.
1859. Account of the Valley of Munnipore and of the Hill Tribes, with a Comparative Vocabulary of the Munnipore and other Languages. Calcutta.

Macnabb, D. J. C.

Mainwaring, G. B.

Missionaires Catholiques du Thibet (A. Desgodins et al.)

Myaing, Ba

Naylor, L. B.

Needham, J. F.
1886. Outline Grammar of the Shai'yâng Mirî Language. Shillong.
[no date] A few Dîgârû (Târoan), Mîjû (M'jû) and Thibetian words [no place].

Neighbor, R. E.

Newland, A. G. E.
Appendix III: Primary Tibeto-Burman sources

Okell, John

Peal, S. E.
1873. ‘Vocabulary of the Banpará Nágás’, *JASB* 42, Appendix. xxx–xxxvi.
1883. ‘Notes of a trip up the Dihing basin to Dapha Pani’, *JASB* 52, 7–53.

Pettigrew, W.

Phayre, A. P.

Primrose, A. J.

Read, A. F. C.

Robinson, W.
1849. ‘Notes on the Languages spoken by the various tribes inhabiting the valley of Asam and its mountain confines’, *JASB* 18, 183–237, 310–49.
1851. ‘Notes on the Dophlá and the peculiarities of their language’, *JASB* 20, 126–37.
1855. ‘Notes on the Languages spoken by the Mi-Shmis’, *JASB* 24, 307–24.

Rock, J. F.

Roerich, G. de
1933. ‘The Tibetan dialect of Lahul’, *Journal of the Urasvati Himalayan Research Institute* 3.

Rose, A. and Brown, J. C.

Rothorn, A. von
1897. ‘Vokabularfragmente ost-tibetischer Dialekte’, *ZDMG* 51, 524–33.

Roux, H.
1924. ‘Deux tribus de la région de Phongsaly (lao septentrional)’, *BEFEO* 24, 373–500.

Rundall, F. M.

Savidge, F. W.

Schirokogoroff, S. M.

Schmidt, I. J.

Scott, J. G.

Shaw, W.
Sino-Tibetan: a conspectus

Skrefsrud, L. O.
1889–90. 'Mecherne i Assam og deres Sprog', Nordisk Tidsskrift for Filologi (n.s.) 9, 223–36.

Soppitt, C. A.
1887. A Short Account of the Kuki-Lushai Tribes of the North East Frontier, with an Outline Grammar of the Rangkhol-Lushai Language. Shillong.

Stack, E.
1897. Some Tsangla-Bhutanesen Sentences, Pt III. Shillong.

Stewart, J. A.

Stewart, R.
1855. 'Notes on Northern Cachar', JASB 24, 582–701.

Stilson, L.

Taylor, L. F.

Telford, J. H.

Tin, P. M.
1915. 'Burmese Archaic Words and Expressions', JBRS 5, 59–90.
1933. 'The Dialect of Tavoy', JBRS 23, 31–46.

Vial, P.

Walker, G. D.

Wen Yü
1950. 'An abridged Ch’iang vocabulary' (Chiu Tzu Ying dialect)', Studia Serica 9: 2, pp. 17–54.

Williamson, W. J.

Witter, W. E.

Wolfenden, S. N.
1936. 'Notes on the Jyârung Dialect of Eastern Tibet', TP 32, 167–204.

Yüan Chia-hua.
1953. The Folksongs and Language of the Ahi People, Peking.
1947. 'Preliminary investigation of the Woni language of Er-shan', Publication of the Frontier Peoples' Culture Department of the Literary and Scientific Institute of Nan-k’ai State University, Vol. 4, Tientsin.
APPENDIX IV

Author's and editor's bibliography

Benedict, Paul K.
1948. 'Tonal Systems in Southeast Asia', *JAOS* 68, 184–91
[The following secondary sources are also cited in the text or notes.]
1941. 'Kinship in Southeastern Asia'. Dissertation for Ph.D. presented in
Department of Anthropology, Harvard University.
1942. 'Thai, Kadai and Indonesian: a New Alignment in Southeastern Asia',
1942bis. 'Tibetan and Chinese Kinship Terms', *HjAS* 6, 313–37.
1943. 'Secondary Infixation in Lepcha', *Studies in Linguistics* 1, no. 19.
1948bis. 'Archaic Chinese *g* and *d*', *HjAS* 11, 197–206.
1967. 'Austro-Thai Studies: Material Culture and Kinship Terms', *Behavior
Science Notes* 2, 203–44.
1967bis. 'Austro-Thai Studies: Austro-Thai and Chinese', *Behavior Science
Notes* 2, 275–336.
1968. 'Austro-Thai and Sino-Tibetan' (mimeographed). Paper read at *First
Conference on Sino-Tibetan*, Yale University, October 1968.
1969. 'The Sino-Tibetan Tonal System' (mimeographed). Paper read at Second
Conference on Sino-Tibetan, Columbia University, October 1969.
1972. *Austro-Thai*. Scheduled for publication by H.R.A.F. Press (New Haven,
Conn.).

Matisoff, James A.
1967. *A grammar of the Lahu Language*. University of California, Dissertation,
644–5.
1969b. 'Lahu and Proto-Lolo-Burmese.' Occasional papers of the Wolfenden
Society on Tibeto-Burman Linguistics (No. 1.), Ann Arbor, August 1969,
117–221. (Reviewed by R. B. Jones in *JAOS* 30, 1, November 1970, 230–1.)
1969c. 'Verb concatenation in Lahu: the syntax and semantics of "simple"
 juxtaposition', *Acta Linguistica Hafniensia* (Copenhagen) 12, 1, 69–120.
1970a. 'Glottal dissimilation and the Lahu high-rising tone: a tonogenetic case
study', *JAOS* 90, 1, January–March 1970 (Studies presented to Mary R.
Haas on her 60th birthday), 13–44.
1970b. 'The tonal split in Loloish checked syllables', Occasional papers of the
Wolfenden Society (No. 11), Urbana. 44 pages. (Also to appear in *JAOS* in an
expanded version.)
Sino-Tibetan: a conspectus
