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Sino-Tibetan: A Conspectus

To the memory of A. L. Kroeber

Sino-Tibetan A Conspectus

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Foreword

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Linguistics', on which Paul Benedict and Robert Shafer had been working for many years and which still exists as an unpublished manuscript, some twelve volumes of it, in the files of the University of California and of the authors.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 Naturally enough, books which lie unpublished for years gather some dust.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vision, viewing the 'Sino-centric' linguistic area from a standpoint peripheral to it, had neither been duplicated nor superseded in the years since Dr Benedict completed his work and laid it aside to turn to other things.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 acknowledgement of germane work accomplished since it was drafted. To pick the original apart and reweave it, as the men of ancient Syria rewove Chinese silk for the Roman market, would have been a daunting task, one that would almost certainly have prohibited the entire enterprise; and it is questionable that such an effort would have added significantly to the value of the book, considering that its audience is composed of linguistic specialists.

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

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

Foreword

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

FRANK A. KIERMAN JR

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Preface

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

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

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

Preface

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

P. K. B.

Briarcliff Manor, New York
13 December 1969

Abbreviations

AD	Analysia Distingence (Vanlana)	INT	T., 1 1
	Analytic Dictionary (Karlgren)	IN	Indonesian
Anc.	Ancient	\mathbf{K}	Kachin
Ar.	Archaic	K-N	Kuki-Naga
AT	Austro-Thai	L	Lushei
\mathbf{B}	Burmese	PN	Polynesian
B-G	Bodo-Garo	\mathbf{ST}	Sino-Tibetan
B-L	Burmese-Lolo	STL	'Sino-Tibetan Linguistics'
Bod.	Bodish		(Shafer and Benedict)
Ch.	Chinese	\mathbf{T}	Tibetan
G	Garo	TB	Tibeto-Burman
GS	Grammata Serica (Karlgren)		
GSR	Grammata Serica Recensa		
	(Karlgren)		

Phonetic symbols/tone marks

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BURMESE
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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. $s \ge m/s a = Ar$. $s \ge m$, Anc. $s \ge m$.

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. 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, are superficial and, in some respects, altogether misleading. It is hoped that the present survey will help fill this gap in Far Eastern studies.

- I 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).
- 3 W. Grube, Die sprachgeschichtliche Stellung des Chinesischen, Leipzig, 1881; Terrien de Lacouperie, Languages of China Before the Chinese, London, 1887; A. Trombetti, Elementi di Glottologia, Bologna, 1923, pp. 153-67; J. Przyluski, 'Le Sino-Tibétain', in A. Meillet and M. Cohen, Les Langues du Monde, Paris, 1924, pp. 361-84; W. Schmidt, Die Sprachfamilien und Sprachkreise der Erde, Heidelberg, 1926, Chap. 3, 'Die Sprache Ost- und Südasiens'; Fang-kuei Li, 'Languages and Dialects', in The Chinese Year Book, 1936-7, pp. 121-8.
- 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.

§2. Taxonomy (general)

Two great taxonomic problems must be considered in connection with Sino-Tibetan, viz. the nature of the affiliations of the three primary groups, and the classification of the multitudinous divisions within Tibeto-Burman itself.⁵ 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.⁶ 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.^{7,8} A number of students, including Ramstedt, Donner, Lewy, Bouda, and Findeisen,⁹ have sought to connect Yenisei-Ostyak (Ket) with Sino-

of Illinois, Urbana, 1970. This recent publication contains extensive word-lists on these languages, the material on Chepang confirming the author's original impression of this language as a key link between northern and southern groups within TB, e.g. the rare TB root *hus 'moisture; wet' is represented in Chepang (hus 'dew') as are both TB roots for 'leech' (pyaat 'land leech', lit 'water leech'); even the seemingly isolated B 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-yəw).

- 5 On the problems of subgrouping, see R. Shafer, 'Classification of the Sino-Tibetan languages', Word II (1955) (JAM).
- 6 For the Indo-Hittite hypothesis, see E. H. Sturtevant, A Comparative Grammar of the Hittite Language, Philadelphia, 1933, pp. 29-33.
- 7 'Thai, Kadai, and Indonesian: A New Alignment in Southeastern Asia', American Anthropologist n.s. 44 (1942), 576-601.
- 8 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 I (1966), 227–61; 'Austro-Thai Studies: Material Culture and Kinship Terms', ibid. 2 (1967), 203–44; 'Austro-Thai Studies: Austro-Thai and Chinese', ibid. 2 (1967), 275–336. All three articles plus a glossary of Austro-Thai (AT) roots will appear in book form under the title Austro-Thai (New Haven: HRAF Press, scheduled for 1972).
- 9 G. J. Ramstedt, 'Über den Ursprung der sog. Jenisej-ostjaken', Journal de la Société Finno-Ougrienne, 24 (1907), 1-6; K. Donner, 'Beiträge zur Frage nach dem Ursprung der Jenissei-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 Caucasic (Hodgson, Bouda), Mon-Khmer (Conrady), 11,12 or other linguistic families have been equally unsuccessful. 13,14

§3. Taxonomy (Sino-Tibetan)

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

Ostyakischen', *Ungarische Jahrbücher* 13 (1933), 291–309; K. Bouda, 'Jenisseischtibetischen Wortgleichungen', *ZDMG* 90 (1936), 149–59; H. Findeisen, 'Die Keto', *Forke Festschrift*, Frankfurt a. M., 1937, pp. 52–68.

10 B. H. Hodgson, 'On the Mongolian Affinities of the Caucasians', JASB 22 (1853), 26–76; K. Bouda, 'Die Beziehungen des sumerischen zum baskischen, westkaukasischen und tibetischen', Mitt. der Altorient. Gesell., Bd 12, Hft 3, Leipzig, 1938.

11 A. Conrady, 'Eine merkwürdige Beziehung zwischen den austrischen und den indochinesischen Sprachen', Kuhn Festschrift, München, 1916, pp. 475–504; 'Neue austrisch-indochinesische Parallel', AM I (1922), 23–66. The direct comparisons suggested by R. Shafer, 'Annamese and Tibeto-Burmic', HJAS 6 (1942), 399–402, are not convincing.

12 See also K. Wulff, 'Über das Verhältnis des Malay-Polynesischen zum Indochinesischen', Det Kunglige 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 extravagantly 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, Minchia' (Yünnan, China) is probably (originally) also an AT language, but it has been a R*

1-2

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

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

Immediate genetic relationship must be inferred for the several languages within each nucleus, and somewhat less immediate relationship for other languages mentioned in connection therewith.

- 1. Tibetan-Kanauri (Bodish-Himalayish); perhaps also Dzorgai, Lepcha, and Magari.
 - 2. Bahing-Vayu (Kiranti); perhaps also Newari.
 - 3. Abor-Miri-Dafla (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.

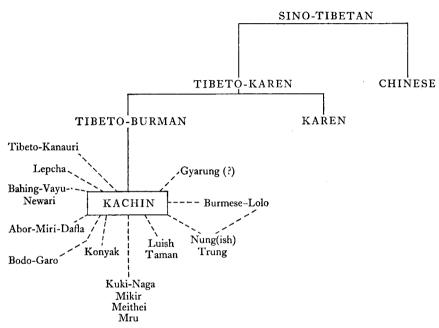
Bahing-Vayu, Abor-Miri-Dafla, and Bodo-Garo are relatively compact units. Bahing is the best known of a number of little differentiated languages and dialects of Nepal – the Kiranti languages of Hodgson (1857–8). Two subtypes can be recognized, viz. Bahing (including Sunwari, Dumi, Khaling, Rai) and 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

¹⁶ G. A. Grierson, 'Kadu and its Relatives', BSOS 2 (1921), 39-42.

¹⁷ The scanty material on the Luish group has now been supplemented by Bernot (1967), which includes a vocabulary of some 500 words of Cak as well as comparisons with other languages of the group.

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Bahing and Vayu. Abor-Miri and Dafla make up the nucleus of the (so-called) 'North Assam' group of Konow¹⁸ and the *Linguistic Survey of India (LSI)*. Aka (or Hrusso) has the most points of contact with this nucleus, and Dhimal (in Sikkim) the fewest.¹⁹ The Mishmi tribes of North Assam show a fundamental linguistic cleavage, not recognized in the *LSI*, into Digaro and Miju (Needham,



Schematic chart of ST groups

s.a., Robinson, 1855), both with rather vaguely defined resemblances to Abor-Miri-Dafla and Aka. Bodo (including Dimasa) and Garo are subtypes of a well-differentiated nucleus which includes also the moribund and phonetically aberrant Deori Chutiya language of North Assam (W. B. Brown, 1895). 20, 21 The 'Naked Naga' (Konyak) languages of the northern Assam-Burma frontier region (Banpara, Namsang, Tableng, Tamlu, Moshang, Chang) are most profitably compared with Bodo-Garo, though some of the easternmost members of the

¹⁸ S. Konow, 'Note on the Languages spoken between the Assam Valley and Tibet', JRAS (1902), 127-37.

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

²⁰ Garo shows an interesting division into two subtypes, which we have named

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 *niv and *mev):

	Kachin	Namsang	Moshang	Garo	Chairel
sun	dźan	san	śar	sal	sal
fire	Pwan	van	var	wa? l	phal

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, Rangloi (or Tinan), Bunan, Manchati, and Chamba Lahuli, while a minor subtype is made up of four little-known languages of the state of Almora (Rangkas, Darmiya, Chaudangsi, Byangsi). Zhang-zhung, an extinct language known only from a Tun-huang manuscript, 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

^{&#}x27;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.

²¹ See R. Burling, 'Proto-Bodo', Language 39, 3 (1959) (JAM).

²² See F. W. Thomas, 'The Żań-żuń Language', JRAS (1933), 405-10.
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').

²⁴ 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

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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, 25 Akha, Lahu, Black Lolo, White Lolo, Müng), and Northern Lolo (including Lisu, Ahi, Nyi, Lolopho, Chöko, Phupha, Ulu, Independent Lolo). Distinct residual subtypes are represented by Kanburi Lawa of northern Siam (Kerr), Moso (or Nakhi) of western Yünnan (Bacot),26 and the so-called Hsi-fana languages of western Szuchuan, including Manyak and Horpa (Hodgson, 1853 bis), Menia (Davies), and Muli (Johnston). Nung (or Nu-tzŭ^b), 27 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, c spoken in northwestern China during the eleventh and twelfth centuries, is related not simply to Moso and Lolo, as recognized by Laufer,28 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 Chiengrai 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).

26 See J. Rock, 'Studies in Na-khi literature', BEFEO 37 (1937); A Na-Khi-English Encyclopedic Dictionary, Serie Orientale Roma XXVII, Part I, Rome, 1963 (IAM).

27 See Lo Ch'ang-p'ei, A Preliminary Report of the Trung Language of Kung-Shan (Kunming, Yünnan, 1942) (in Chinese), and the briefer version, 'A preliminary study of the Trung language of Kung Shan', HJAS 8, 3-4 (1945) (JAM). The Nung forms cited in the text are from Rawang (Barnard). The Mutwang dialect of Rawang has been described in two studies by R. H. Morse: 'Phonology of Răwang', Anthrop. Ling. 5, No. 5, May 1963; 'Syntactic Frames of the Ruwang (Rawang) Verb', Lingua 15 (1965), 338-69. Răwang and Trung are separate languages in a Nungish group which includes still other (poorly known) members.

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, c西夏

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The Hsi-hsia material, despite the not inconsiderable body of recent research, ²⁰, ³⁰ 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, ^a 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. ³¹ 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'iaob of the Chinese annals. The extremely fragmentary nature of the Pyu inscriptions, which have been studied by C.O. Blagden, ^{32, 33} discourages any attempt at precise

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

29 N. Nevsky, 'A Brief Manual of the Si-Hia Characters with Tibetan Transcriptions', Research Review of the Osaka Asiatic Society, No. 4, Osaka, 1926; A. Dragunov, 'Binoms of the typec in the Tangut-Chinese Dictionary', Akademiia Nauk, Doklady, Series B (1929), 145-8; S. N. Wolfenden, 'On the Tibetan Transcriptions of Si-Hia Words', JRAS (1931), 47-52; 'On the Prefixes and Consonantal Finals of Si-Hia as evidenced by their Chinese and Tibetan Transcriptions', JRAS (1934), 745-70; Wang Ching-ju,d 'Hsi-hsia wên han tsang i yin shih lüeh'e ('Notes on the Chinese and Tibetan Transcriptions of Hsi-hsia'), CYYY 2 (1930), 171-84; 'Hsi-hsia yen-chiu'f ('Hsi-hsia Studies'), CYYY Monographs, A-8 (1932), A-11 (1933).

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

31 See Wang, art. cit. (1932), pp. 15-55.

32 'A Preliminary Study of the Fourth Text of the Myazedi Inscriptions', $\Re AS$ (1911), 365-88; 'The "Pyu" Inscriptions', $\Re BRS$ 7 (1917), 37-44 (reprinted from Epigraphia Indica 12).

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 變
 c 尼卒
 d 王靜如
 c 西夏文漢藏譯音釋略

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

Mikir (Assam), 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, ³⁵ 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

^{34 &#}x27;Zur Kenntnis der Kuki-Chinsprachen', ZDMG 56 (1902), 486-517.

³⁵ See E. Stack, The Mikirs (edited by Lyall), London, 1908.

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-Burmic language', JBRS 31 (1941), has been superseded by L. Löffler, 'The contribution of Mru to Sino-Tibetan linguistics', ZDMG 116, I (1966) (JAM).
- 37 B. Houghton, 'Outlines of Tibeto-Burman Linguistic Palaeontology', $\Re AS$ (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 California, 1935–40.
 - 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 III. Tibetan and Burmese, the two important literary members of the family, are relatively well known (Csoma de Körös, Schmidt, Jäschke, Das, Missionaires Catholiques, and Judson), but the minor literary languages (Newari, Lepcha, Meithei) have unfortunately been so poorly described that only limited use can be made of them. A number of the non-literary TB languages, which make up the bulk of the family, have been rather fully, if not very accurately, recorded, and most of this material can be used to good advantage if sufficient judgment is exercised. Included in this group are Ahi Lolo (Liétard),40 Ao Naga (Clark), Bahing (Hodgson, 1857-8), Bodo (Endle, Hodgson, 1847, Skrefsrud), 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 (Pettigrew), Thado 61 (1941), 18-31. P. K. Benedict, 'Semantic Differentiation in Indo-Chinese'. HIAS 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).

41 See J. Matisoff, Review of Burling, 'Proto-Lolo-Burmese', in Language, 1968; 'Glottal Dissimilation and the Lahu High-rising Tone', JAOS (Festschrift for Mary Haas on her Sixtieth Birthday), 1970 (henceforth cited as 'GD'); Lahu and Proto-Lolo-Burmese, Occasional Papers of the Wolfenden Society 1, Ann Arbor, Mich. 1969 (JAM).

42 See DeLagnel Haigh Roop, 'A Grammar of the Lisu Language', Yale

University Dissertation, 1970 (JAM).

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

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

45 See Ma Hsüch-liang, A Study of the Sani I Dialect, Peking, 1951 (in Chinese)

(JAM).

46 A modern study is provided by T. Stern, 'A Provisional Sketch of Sizang (Siyin) Chin', Asia Major 10 (1963), 222-78. E. J. A. Henderson, Tiddim Chin,

(Hodson, Shaw). In the present sketch we shall devote most of our attention to Tibetan-Kanauri, esp. Tibetan (T); Kachin (K); Burmese-Lolo, esp. Burmese (B); Bodo-Garo, esp. Garo (G); and Kuki-Naga, esp. Lushei (L). In every point under discussion, however, an attempt will be made to present all the relevant evidence, whether from these key languages or from elsewhere.⁴⁷

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

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

Velar: g k y hDental: d t n s z r lLabial: b p mSemi-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. ⁴⁹ Many TB roots are of this type, e.g. *krap 'weep', *g-sat 'kill', *s-rik

London: Oxford Univ. Press, 1965, furnishes a much needed modern description and glossary of a Kuki speech.

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

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

49 In Classical Tibetan these final stops are written as sonants (-g, -d, -b), and it has generally been supposed that they were originally sonant stops that have become unvoiced in modern Tibetan dialects. In view of the evidence from other TB languages, however, one must conclude that these stops were weakly articulated, imploded lenis surds which the Tibetan alphabet-makers likened to their initial lenis sonant rather than fortis surd stops. A similar situation exists in Siamese, in which final surd stops were written with letters for lenis rather than fortis stops.

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'louse', *lam 'road, way', *s-min 'ripe', *ruŋ 'horn' (cf. the many examples cited below). The final velars (-k, -ŋ) tend to disappear much more readily than do the dentals or labials, e.g. in Thebor as contrasted with Kanauri, in Dimasa as contrasted with Garo, in Kachin and Nung, and in practically all modern Burmese-Lolo languages as contrasted with Old Burmese. ^{50,51}

Final stops and nasals make up distinct series in Tibeto-Burman, and most instances of interchange can readily be interpreted in terms of conditioning factors, e.g. B yauk-má~yauŋ-má 'pudding-stick', with -k>-ŋ before -má (cf. T yog-po 'poker'). Factors of this type play a prominent role in the verb paradigms of 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 § II), and in Lushei; cf. L mit 'eye' < TB *mik, L va-hrit 'black pheasant' < TB *s-rik, ti-t' 'scorpion' < TB *(s-)di-k. The medial palatal element -y- sometimes exerts a similar influence, as in L phiat 'sweep' ~ phia? 'broom' < TB *pyak; cf. L ta? 'weave' < TB *tak for the replacement of final -k by glottal stop.

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

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

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

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

52 Shafer (JAOS 60, 1940, pp. 311-12 and Note 23) seems to misinterpret the Bahing phenomenon. Bahing verbal stems are well preserved in the transitive imperative forms; contrast bap-to 'scratch' (with stem *bap) and mim-to 'understand' (with stem *mim).

Nung, Lushei, Dimasa, Moshang, et al.; are replaced by -n in Kachin⁵³ and alternated with -n in Meithei; are merged in Garo (-r > -l); and are treated divergently in Mikir (-l > -i) or dropped, -r retained).⁵⁴ The following pair of roots is representative:

- (1) T'bar-ba 'begin to bloom, blossom', L par' flower, to blossom', Mikir par 'petal', anphar (<*a-inphar <*a-mphar) 'catkin, inflorescence, flower', G bibal 'flower', Dimasa bar-guru 'to blossom', Dhimal bar 'to flower', K pan, B pan 'flower', from TB *bar.
- (2) Lepcha (ă-)myal~(ă-)myel<*s-mal~*s-mel, L hmul, Mikir aŋmi<*aŋmil, Nung mil, G kimil, Moshang mul~kəmul, B (ă-)mwè 'body hair, fur, feathers',⁵⁵
- 53 Kachin on occasion has final $-n \sim -\infty$ doublet for TB final *-l; cf. K myen \sim mye 'fall into sleep', TB *myel; K ban' to be at rest', ba' tired' < TB *bal. Tibetan has final $-l \sim -n$ alternation in several roots of this type; cf. $sril \sim srin(-bu)$ 'worm (silkworm)' < *zril (n. 121); 'gran-pa' fight' but ral-gri 'sword' (= war-knife) < TB *ra·l (n. 220); cf. also T kun' all' < TB *m-kul; skyin' wild mountain goat' < TB *kye·l \sim *kyi[·]l; smin-ma' eyebrow' < TB *(s-)mul \sim *(s-)mil (n. 56).
- 54 Gyarung (K. Chang, 1968) has a distinctive treatment of TB *-ul, via *-il; cf. Gyarung papei 'silver' < TB *(d-)mul; Gyarung khorei 'snake', TB *b-ru·l. Burmese shows a complex picture in its reflexes for TB final *-l and *-r, with vowel quality and possibly also length playing a role. In TB final *-il there is simple loss of *-l, but in TB *-ul there is variation between replacement by -n and by -i (followed by *-ui > -we); see n. 55; add B tshè 'wash' < TB *(m-)syil; B re 'water' < TB *(m-)tśril (n. 95); also B ākun '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 kå '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 pan 'flower' < TB *ba·r; B swan \sim swan 'pour (out, upon)' < TB *sw [a, a·] r; B san 'louse' < TB *s [a, a·] r \sim *s [a, a·] r; B ran 'quarrel' < TB *ra·l; B pan 'tired' < TB *b [a, a·] l; B wan 'circular' < TB *wal.
- (c) replacement by final -i: B wai 'buy' < TB *ywar (n. 170); B khai 'lead', T'khar-ba ~ mkhar-ba 'bronze, bell-metal', from TB *k [a, a·] r; B khai 'congeal', Kuki *khal: L khal, Tiddim xal, but the Burmese form might belong rather with L kha·r '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(ts)bi(ts) (reduplicated) via *baribiwith 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 pà-mwè. Replacement of -l by -i is the regular treatment after the vowel u; cf. B ywe, 'T dyul 'silver'; B mrwe, 'T sbrul 'snake'. Samong and Megyaw (Phön dialects), which are closely related to Burmese, replace -l by -n; cf. Samong moin 'snake' and 'silver', Megyaw myain 'body hair' and 'silver' (cf. Coll. T mul 'silver'). Simple loss of -l after a and i is

K $mun \sim nmun$, id., $ninmun \sim nmun < *r-mul$ 'beard', from TB *(s-)mul $\sim *(r-)mul.^{56}$

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

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

TB final *-s is maintained only in some of the northern speeches, notably Tibetan, Gyarung and Kanauri. We have reconstructed this final, on the basis of the correspondences in Kachin (-t) and Lushei (-?), for the roots *g-nis '2', *s-nis '7' (originally '5+2') and *rus 'bone'. 59

	Tibetan	Kanauri	Gyarung	Garo	Kachin	Lushei
(4) two	gnyis	nis	kĕnĕs	gni	$ni^{60,61}$	hni₽
(5) seven		$\left\{ egin{array}{l} stis \ tis \end{array} ight.$	kĕs n ĕs	sni	sənit	
(6) bone	rus-pa		_		nrut	ru?

Contrast the following root:

- (7) Lepcha tuk-păt 'knee'; T pus-mo (West 'Γ pis-mo) 'knee'; K phut 'kneel', ləphut 'knee'; Nung phaŋ-phit 'knee', ur-phut 'elbow', ra-phut 'shoulder' (cf. indicated by B khà 'loins', T mkhal-ma 'kidneys'; B bhà (phà), T sbal-pa 'frog'; B tshi 'oil', ătshi 'fat', T tshil 'fat'; B ti, Thado til 'earth-worm'.
- 56 T smin-ma 'eyebrow' belongs with this set; see n. 53 for the final -n; we must recognize a doublet: $*(s-)mul \sim *(s-)mil$, with the typical TB (and ST) medial $u \sim i$ alternation reflected also in Chinese (n. 477).
- 57 Add Mikir *iynar* 'elephant', from *m-nar='the snouted (nar) one (m-)' (Benedict, 1940).
- 58 Lepcha also has the triplet form -nel, which Grünwedel relates to ă-thyok ă-nel 'crown of head (ă-thyok)'. Possibly connected with TB *r-ni 'red' (n. 265).
- 59 We can now add TB *r-tas 'thick' (n. 63), although Nungish (Răwang) has that (cf. Răwang sənit '7'); also TB *s-nes: Gyarung äśnäs 'lip, beak'; Kuki-Naga *hne?: L he?, Tiddim ne? 'lower lip'; cf. also K mədi 'to be wet; wet', mədit '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 əni '2' but sənit '7'. B khú-hnats '7' (khú '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 arui '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.

TB Initial Consonants

TB	Tibetan	Kachin	Burmese	Garo	Lushei
*k	k(h)	$k(h) \sim g$	k(h)	$k(h) \sim g$	k(h)
*g	g	$g \sim k(h)$	k	$g \sim k(h)$	\boldsymbol{k}
*t	t(h)	$t(h) \sim d$	t(h)	$t(h) \sim d$	$t(h)^{63}$

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', \$\mathcal{F}RAS\$ (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 paralleling -t in Kachin, as in Lepcha āhrāt 'bone', nyāt '2'; cf. also Lepcha vot < wat, Vayu siŋ-wo < -wa 'bee', Kanauri wās 'honey'. T pus ~ pis < *puds 'knee' (with suffixed -s) is supported by the West T forms puks-mo (Purik) ~ buχ-mo (Balti) and pig-mo (in Jäschke); cf. also T mhkris-pa, West T 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 tshury 'the inside (of anything)', Tiddim suy 'inside'; Bodo siy, Dimasa bisiy 'inside, within', Nungish: Rawang əduy 'in, middle', məduy 'to be perpendicular, to straighten', Trung atuy 'middle', from TB *tury (No. 390), the last supported by an excellent Ch. correspondence a(tiôn/t'iuy 'middle'); apparently to be excluded from this set are both T gźuy (perhaps from *gdźuy) 'the middle, midst' and B tway 'in', āthway (-tway) 'within'. The initial cluster *ty-apparently gave rise to Lushei and Thado ś-, Tiddim s-; cf. L śen, Thado ā-śen,

TB	Tibetan	Kachin	Burmese	Garo	Lushei
*d	d	$d \sim t(h)$	t	$d \sim t(h)$	d
*p	p(h)	$p(h) \sim b$	p(h)	$p(h) \sim b$	p(h)
*b	\boldsymbol{b}	$b \sim p(h)$	Þ	$b \sim p(h)$	\boldsymbol{b}
*s	s	s	s	th	th
*z	z	$z\sim \dot{s}$	s	s	f
*ts	ts(h)	$ts \sim dz$	ts(h)	$s \sim t \dot{s}(h)$	s
*dz	dz	$dz \sim ts \sim \acute{s}$	ts	$t\acute{s}(h)$	f
*ŋ	y	y	y	y	ŋ
*n	n	n	n	n	n
*m	m	m	m	m	m
*r	r	r	r	r	r
*1	l	l	l	r	l
*h	h	(zero)	h	[]	h
*w	(zero)	w	w	w	zv
*y	y	y	y	t ś $\sim d$ ź	z

Illustrations of TB initial stop consonants:

- (8) T kha-ba, K kha, B khà, G kha, L kha 'bitter' (TB *ka).
- (9) T bka, B tsa-ka 'word, speech', K $g\dot{a} \sim \partial g\dot{a}$ 'word, speech', $\dot{s}\partial g\dot{a}$ 'speak', Nung kha 'speech, language' (TB *ka).
- (10) T kun 'all', B kun 'to come to an end, be used up', \check{a} kun 'all' (TB *kun); Lepcha gun 'all, each, whole' is probable T loan. 64
- (12) T mkhal-ma, L kal 'kidneys', B khà 'loins'; cf. T sgal-pa 'small of the back', Meithei nam-gal~nam-gan, Maring nam-gal, G dźaŋ-gal 'back' (TB *m-kal).66

Tiddim san 'red', B ta 'very red, flaming red', tya 'very red' (for Ch. correspondences see n. 488). L $t\dot{s}h$ - can also stand for an original TB *tsy- (= $t\dot{s}$ -), as in No. 353 ($t\dot{s}uk$ 'steep').

- 64 These forms appear to belong with TB *m-kul '20' in view of Mikir iykoi (early form iykol) '20', from koi 'all' (see p. 119); for the final, see nn. 53, 54.
- 65 Also Lahu qā 'dance', implying PLB *?ka (JAM). B kā '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 khà 'loins' belongs with a distinct TB root: *s-ga·l, along with remaining forms cited in text, as shown by Tiddim Chin xa:l < *kha·l 'groin' (tone 3), distinct from kal 'kidney' (tone 1); cf. also K kan (perhaps from *kal) 'to put, or be, on the back'.

- (13) T dgu, Kanauri zgŭi~gŭi, Nung təgö, K dźəkhu, B kuì, G sku, L kua~pəkua '9' (TB *d-kuw).
- (14) Kanauri ku, K gau, Nung go, B khau, Dimasa dźuru-khau, L kou, Empeo gu 'call' (TB *gaw).⁶⁷
 - (15) Nung gar, G gal, Dimasa gar 'leave, quit, abandon' (TB *gar).
- (16) Limbu gip (in comp.), Miju kap~kyep, Mikir kep < gip, Maring tšip < kyip, Yawdwin gyip (in comp.), B ăkyip '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 tśudap, Bodo gadap, L tap 'fireplace' (TB *tap).69
- (19) T sta-gon 'preparation, arrangement', stad-pa 'put on, lay on', Tsangla tha 'put, place', Kanauri ta 'place, set, appoint', Vayu ta 'put, place; keep', Lepcha tho-m < *tha 'place', K da 'put, place', ta 'to be left, placed', B thà 'put, place' (TB *ta).
- (20) K dinduy, L duy 'length', Mikir diy 'long' (TB *duy); cf. also Lepcha (a-)thŭy 'height, 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 ăphui (ăbhui), G bu, L pu, Mikir phu, Meithei ipu 'grandfather' (TB *puw).70
- (24) T pha~?apha~?apa, B bhá, ăbhá, G pha~əpa, L pa 'father', but K wa~əwa, Kadu əwa, Moshang wa, Bunan əwa 'father' (TB *pa).
 - (25) T ba-spu 'a little hair (spu)', K pha, Nung ba, B pa, G ba 'thin' (TB *ba).
- (26) T'ba-ba 'bring, carry', K ba 'carry (child on back)', Nung ba 'carry (on the shoulder)', G ba 'carry', Digaro ba 'carry (a child)' (TB *ba).71
- (27) T'bu 'worm, insect' (West T'bu-rin 'snake'), Lepcha bu 'reptile, worm', B puì 'insect', Bahing bu-sa, Digaro təbo ~ təbu, Aka beü ~ bü, Miri təbuü, Nung bö, K pu ~ ləpu, Kadu kəphu, G tśipu 'snake' (TB *buw).
 - 67 Lahu has kù 'call', implying PLB *kru (JAM).
- 68 Benedict (1967 bis) has suggested a connection of this root with B rak, Răwang (Nungish): Mutwang dial. /ra? '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, 1942 bis, 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 ba? (low tone) (Maran) and the Mutwang dialect of Răwang (Nungish) has ba? (Morse), both pointing to an earlier *bak rather than *ba.

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- (28) Lepcha bǔ 'carry; burden, cargo', abǔn 'vehicle', Miri buü, B pul, Mikir bu, Meithei pu, Ao Naga apu, L pu 'carry (on the back or shoulders)' (TB *buw).
 - (29) Bahing bal, B pan 'tired, weary', K ban 'to be at rest', ba 'tired' (TB *bal).
- (30) K $bop \sim labop$ 'calf of the leg', L bop 'leg, hind leg of an animal' (TB *bop); cf. Lepcha (\check{a} -)bop 'large (as belly)'.⁷²

The significant contrast in the stop series is that between voiced and unvoiced consonants. Aspiration is clearly of a subphonemic order; unvoiced stops are aspirated in initial position, unaspirated after most or all prefixes. Tibetan faithfully reflects this pattern in most respects. Tibetan surd stops are unaspirated after the prefixes g_{-} , d_{-} , b_{-} , r_{-} , l_{-} and s_{-} , but are aspirated after the prefixes m_{-} , and s_{-} ; cf. the following verb forms: skor-ba 'surround, encircle', 'khor-ba 'turn round'; $gtib(s)-pa \sim thibs-pa$ 'gather (of clouds)', thib-pa 'very dark'; $dpyan-ba \sim spyan-ba$ 'suspend, make hang down', 'phyan-ba' hang down'. Tibetan does have a number of words with initial unaspirated surd stop, and thus aspiration after stops is phonemic here; yet these exceptional forms are unquestionably of secondary origin. Included in this group are (a) words with initial kl-, e.g. klu 'serpentdemon', 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~lpags (in comp.) 'skin, hide, bark', kug~kug-kug 'crooked', kum-pa~kum-kum 'shriveled', and (d) loan-words and forms based on modern dialects, e.g. Ladakhi ti 'water' (a loan-word from the Kanauri group). The more important words not included here are ka-ba 'pillar', kun 'all' < TB *kun, krad-pa 'shoe', pan '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-pè-qu 'calf', from PLB *pum/pup (JAM). Cf. also Kachin (Needham: Assam dial.) bəp 'foam, froth' (= swelling of water), Nungish: Răwang thi bəp 'bubble' (thi 'water'), thil-bəp 'foam, bubble' (thil '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 mkhal-ma suggests a lost prefix m-(cf. the discussion in §27). Burmese, unlike Tibetan, has aspirated surd stops after original prefixes s- and r-:

- (31) T skyi-ba, B khyè 'borrow (something to be returned in kind)'.74
- (32) T ston, B thaun 'thousand'.
- (33) T rku-ba, Newari khul (see n. 294), Bahing ku, K ləgu, Nung khü, B khul 'steal'.
 - (34) T rkyan-pa, B khyàn '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 '10' 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 $ga \sim aga$ 'word, speech' < TB *ka; G dak 'weave' < TB *tak; G tśudap '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 ăphè 'great-grandfather', ăphè-má '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 bhay 'ordure', T sbays 'dung of larger animals'.

B du 'knee', Miri lag-du 'elbow'.75

74 Cf. also Nungish: Trung $skiy \sim skhiy$ 'borrow/lend', with secondary final -y (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. $aphui \sim abhui$ 'price' (No. 41); dyo < khrui 'horn' and u-khrui

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In the Lolo languages, however, initial voiced stops are maintained with some regularity, so the Lolo evidence is of considerable importance:⁷⁶

		TB	Burm.	Lisu	Ahi	Nyi
37	horn	*kruw	khrui	tśhu	tśhö	hkə
38	foot	*kriy	khre	tśhi	khi	tshə
39	copper	*griy	krè	$d\acute{z}i$	$dyi \sim d\acute{z}i$	dźə
40	leaf	*pak	phak	phyæ	phye	phe
41	price	*puw	aphuì	рhü	phö ~ phu	phu
25	thin	*ba	pà	ba	bo	ba
27	insect	*buw	риì	bü	$b\ddot{o} \sim bu$	bu
28	carry	*buw	puì		bö	bu
,	fpit,	*dwaŋ	twàŋ	du	_	du
169	hole					

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

(\dot{u} 'head'), $ga\dot{u} < kha\dot{u}y$ 'head' and \dot{u} - $kha\dot{u}y$. Cf. also $th\dot{a} > d\dot{a}$ 'knife' (T sta-re 'ax') but Lisu atha, Ahi mi-tho, Nyi mi-tha; $bh\dot{u} > b\dot{u}$ 'gourd' but Lisu $aph\ddot{u}$, A $ph\ddot{u} \sim ph\ddot{o}$, 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'o, Lolomaa nt'v. 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 ?o- prefix (written h- in Tibetan) and partly from the s-prefix; see also Matisoff, 'GD'.

PTB	surd	Q+stop	sonant	s/h + surd	s/h + sonant
	↓	↓	\downarrow	\	
PLB	aspirated	voiced	plain	glottalized	vd. glottalized
	↓	↓	↓	↓	↓ _
(Burmese	aspirated	plain	plain	aspirated	aspirated
{ Lahu	aspirated	voiced	plain	plain	voiced }
Lisu	aspirated	voiced	voiced	plain	plain J

Q is an arbitrary symbol for a prefix which led to voicing, usually a nasal (JAM).

- (40) Kiranti *phak (Waling suŋ-phak, Lambichong lăphak, Yakha sum-phak, Balali siŋ-bak) 'leaf', B phak 'leaf' (considered as an article of use)', probably also K pha 'tea plant' (B lak-phak~lăbhak 'tea').⁷⁷
- (41) K phu 'to be of value, expensive', dżəphu 'price; wages', Nung əphü 'valuable, expensive', dəphü 'cost, price', B ăphuì ~ ābhuì 'price'.
 - (27) (above) B puì 'insect; silkworm', Lisu bü '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 $k\ddot{o}$) and K $d\dot{z}akhu$, G sku, in the face of T dgu, Nung $tag\ddot{o}$; 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 kətśyur, Tsangla tśur-pa, but Bahing dzyur <*sgyur 'sour'; cf. also Kanauri sur-k, Rodong sur-e, L thu·r, Mikir thor, id., from *su·r (TB *s-kyur and *su·r); Lepcha has both tśór 'sour, acid' and să-tsór-lă '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:

43	pig	Tibetan <i>phag</i>	Mikir phak	Kachin wa?	Burm. wak	Garo wak	Lushei <i>vok</i>
	bamboo	spa	kepho	kəwa	$w\dot{a}$	wa	rua
45	leech	pad-ma	iŋphat	wot	krwat	ruat	vat

77 This root has now been reconstructed *(r-)pak, on the basis of the Burmese doublet phak ~ rwak (also phak-rwak), possibly also Lambichong lăphak (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 *bwâr ~*pwâr (=*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-bay~bay-po 'father's or mother's sister's husband', Chepang pay, Limbu am-pay-a, Vayu poy-poy<*pay, Nung a-way 'father's brother', Lashi (B-L) vay-mo 'father's older sister's husband, husband's father', Lisu a-w><*-way 'father's brother', Garo a-way '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

- (43) Cf. Jili (Kachin) təwak, Phön (Burmese-Lolo) təwo, Empeo (Kuki-Naga) gəbak 'pig', all with prefixes.
 - (44) T spa~sba 'cane', K kəwa~wa, L rua <*r-wa 'bamboo'.
- (45) T srin-bu pad-ma (srin-bu='bu 'insect'), B krwat <*k-r-wat, Lahu vè?, L vaŋ-vat; cf. Magari ləwat, Rangkhol ervot, Angami Naga reva, but Lepcha fot < *phat 'leech'.

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

- (46) T phag 'something hidden; concealment', B phak~hwak 'hide, conceal' (note the aspiration).⁷⁹
- (47) Thebor ba-e 'left', K pai 'left', ləpai 'left-handed, awkward', əpai '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 $*mba(\gamma)mbu\gamma u$ (Benedict, 1967 bis, but with reconstruction as cited above). The root for 'leech' (text) does not appear to have a Chinese cognate, but Karen has prefixed *r- (n. 356); we reconstruct TB (and TK) *r-pat, with *p->w- generally after the prefix, but with Nung and Meithei maintaining the stop (text); Burmese has a parallel development in TB *(r-)pak 'leaf' (n. 77) (K pha 'tea' would be an early loan from Burmese in this analysis, since Kachin has 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 *r-pwa rather than *r-wa for this root (No. 441) on the basis of Gyarung sarpye < *-[r]-pa 'kind of ax'. We can also reconstruct TB *(p)wa 'man, person, husband' (No. 100) on the basis of the original *pwa indicated by Chinese (n. 463). Gyarung (forms from K. Chang) is of special value in reconstructing TB initial *pw- (Gyarung ph-) or *bw- (Gyarung p-) as opposed to *w- (Gyarung w-) in certain roots; cf. Gyarung əphak, B awak 'half', from TB *pwak; Gyarung tapat 'flower', Nungish *sin-wat 'bud (Răwang); flower (Trung)' (sin 'tree'), B-L *wat 'flower', from TB *bwat; but Gyarung wyan 'I wear', tewyet 'clothes' < *wat (cf. Gyarung syan 'I kill', TB *g-sât), Răwang (Nung) nun-wat 'to cover breasts (nun) with breast-cloth', B-L *wat 'wear' (B wat 'wear', awat '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 *bwa 'grandmother' (n. 463) (possibly both with \hat{a} in ST); for TB *pwa 'palm, sole' (No. 418), on basis of original indicated by Chinese (n. 463), Burmese has bhawa (phawa), 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: $ph\acute{a}/f\acute{a} < *2pak/?wak$ 'hide something', which (like Burmese phak/hwak) come from a causative *s- prefix at the PLB stage, becoming *?- at a later stage. The simplex ('to hide oneself') is Lahu $v\acute{a}$?, Burmese wak. See Matisoff, 'GD', for the Lahu tone (JAM).

a brogue', Tangkhul wui-śoŋ 'left', phui kəsiŋə '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 kəbay 'hand-spindle', B wáy 'swing around; spin', way-ruì 'spindle' (ruì 'handle'), ăway '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 săhor, Miri təkar, K səgan, Western Kuki *s-gar (Kwoireng tsəgan, Khoirao səgan), Khami ka(r)-si~a-si, but L (and general Kuki) ar-si 'star' (TB *s-kar).
- (50) Lepcha fo-gom, K u-kam (also wa u-kam) 'molar tooth', G wa-gam' tooth', B àm (also àm-swà) 'molar tooth' (TB *gam, usually combined with *s-wa' tooth', basic meaning 'jaw').
- (51) Lepcha tāhi < *tākhi, Mikir tšehe < *tekhe 'crab', Tangkhul khai 'fish', khai-reu 'crab', Khoirao tšəγai, Khami təai, L ai 'crab' (ΤΒ *d-ka·y). 81
- (52) T khab, Kanauri keb, B ?ap 'needle', from Burmese-Lolo *(t-) γ ap: Phön $t = \gamma e t < *t = \gamma ap$, Lahu γo ?, Lisu $w = \gamma$?, Ahi $w = \gamma$?, revealing a development * $k > *g > \gamma \sim w$ after the prefix (TB *kap).

80 Lahu has a labial nasal here: $m\bar{\epsilon}$ (JAM). This may be from a nasal cluster: *yw-: *lak-bai> *laywai> *mai> *m\bar{\epsilon}; cf. Lahu ph\bar{\epsilon} 'dog', from B-L *khwəy.

81 Lahu á-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-kya·y, thus explaining the loss of initial stop (text) (JAM). K (tśyə-)khan 'crab' also belongs with this root (n. 284). The Chinese (perhaps also Karen) cognate indicates an original initial *g- (without palatalization) for this root (n. 445), but it is possible that palatalization arose later (possibly at the proto-TB level) through influence from the final.

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

	Gyarung	Ch'iang	Trung	Lepcha
needle	tekyep	$xe \sim he$	иор	ryŭm
house	ţṣam	$t \acute{s} i \sim t \acute{s} y e$	tśiəm	khyŭm
jaw (molar teeth)			skam	fo-gom

Note: Trung skam 'molar tooth', from sa 'tooth' + /kam (<'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:

(53) T khyim, Bahing khyim~khim, Vayu kim~kem, Lepcha khyum, Miri akum, Mru kim, Andro kem, Mikir hem <*khem, Chairel him, Limbu him, Namsang hum, Chepang kyim~tim, Nung kyim~tism~tism, Kadu tyem, Moshang yim~yüm, Magari im~yum, Meithei yum, B im, Lahu yè, Chinbok im, L (and general Kuki) in (showing assimilation of the final) 'house' (TB *kim).

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

(54) K khyi~tsyəkhyi~sik-tśi, 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) Kanauri ti, Manchati ti 'water', Kanauri thi-ss, Bunan thi 'wet', Vayu ti, Magari di, Achang (Burmese-Lolo) ti, Kanburi Lawa (Burmese-Lolo) thi, Nung thi 'water', K $m \rightarrow di$ 'moist, damp, wet', $m \rightarrow di$ 'to wet, dampen; wet, damp, moist'; G $t\acute{s}i$ 'water', from TB *ti(y). By way of contrast, Garo has $t \sim d$ for *d- before i:
- (56) T sdig-pa 'scorpion', sdig-srin 'crab, crawfish' (srin 'insect'), L $ti \cdot t$ 'scorpion', G na-tik 'shrimp' (na 'fish'), from TB $*(s-)di \cdot k$; Lepcha has dik $l\check{a}\eta$ -fik 'scorpion', etymologized (Grünwedel, in Mainwaring) as 'the evil one [T sdig-pa "sin"] that has its abode under the stones $[l\check{a}\eta]$ '.

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

83 This is a peculiar root. Lahu has a labial initial $|ph\hat{+}|$ 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: Pwi 'dog', indicating simple replacement of the initial *k with ? (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 kya) 'tiger', which can be identified as a loan from Mon-Khmer (khla ~ kla forms) (rather than vice versa) because of the presence of this root in the Munda languages of India (kula ~ kul forms).

Illustrations of TB initial sibilants and affricates:

- (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 siy si 'fruit', K si~ssi 'fruit', ssi si 'bear fruit', B sì 'bear fruit', äsì 'fruit', G the~bithe 'fruit', Dimasa thai 'bear fruit', bathai 'fruit', L thei, Mikir the~athe '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 $za \sim \acute{z}a$, Magari za, Digaro sa, K $\acute{s}a$, B $s\grave{a}$, G bisa, Dimasa $sa \sim basa$, 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 $s\dot{e}$ 'small, fine, slender', Lahu i < *yi < *7zi (TB *ziy).87
- (61) T gzig, Nung khan-zi 'leopard' (khan 'tiger'), B sats < *sik 'small animal of the tiger genus' (TB *zik).
- (62) T tsha 'hot; illness', tsha-ba 'hot; heat; spice, condiment', tshad-pa 'heat; fever', B tsha 'hungry', ătsha 'hunger; something faulty or hurtful' (but Lolo *tsha '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 śa ~ śat 'hot', Mikir so 'hot, excessive; to be ill, sore' (TB *tsa).
 - (63) T'tshab-pa, B tshap 'repay' (TB *tsap).
 - (64) T tshigs, Kanauri tsig, Lepcha (a-)tśak < *tśik, B ătshats < *ătshik, 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 \hat{a} (n. 344).

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

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

a子 b巳 c字

- tsi, Mikir sek 'joint', G dźak-tśik 'elbow' ('arm-joint'), dźa-tśik 'knee' ('leg-joint') (TB *tsik).
- (65) T rtsi 'all liquids of a somewhat great consistency, such as the juice of some fruits, paints, varnish', K tsi~ətsi, B tshè 'drugs, medicine, tobacco, paint', Nung mətsi 'medicine' (TB *tsiy).
- (66) Bahing dźa, Nagari dźya, K śa, B tsa 'eat', ătsa 'food', G tśha 'eat', L fa? 'feed with the mouth', but T za-ba~bza~ba, Kanauri za 'eat' (TB *dza).88
- (67) T mdza-ba 'to love', K ndźa 'show love; affectionate', B tsa 'have tender regard for another' (TB *m-dza).⁸⁹
- (68) K dźan, L far-nu, Tangkhul əzăr-vă 'sister (man speaking)', Meithei itśal~itśan, Kadu san 'younger sister' (TB *dzar).
- (69) Dimasa dźop, L fo·p, Thado tsop, 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 (tsh 'hair' <*tsh sum-bal 'mortar' <*tsh (tsh sa-ba 'hot' <*tsh), but *tsh (tsh fruit' <*tsh sey, tsh mohau 'fat' <*tsh sa-ba 'hot' <*tsh). 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 '-, m- and r-; ⁹⁰ cf. T rtsa(-ba) 'vein; root' < TB *r-sa; also the following:

- (70) T rtsans-pa 'lizard', K nsan son 'jungle lizard', B san-kyau 'skink (earth lizard)', san-lip 'species of skink' (TB *r-san).
- 88 Initial z- forms are also found in Lepcha: zo < *za 'eat', $\check{a}zom$ 'food', zot 'graze', $\check{a}zot$ '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 ndźa? (high tone) for Kachin, probably from *-dźak, hence this form may be distinct.
- 90 For tśh-<\$- after prefixed '-, cf. T \$i-ba ~ 'tśhi-ba ' die' < *siy; T 'tśhar-ba ~ \$ar-ba ' rise, appear, become visible (of the sun, etc.)', \$ar ' east', Kanauri \$ar ' lift, bear, carry', \$ar-st ' rise' (refl. form), Nung nam \$arr ' sunrise', nam \$arr kha ' east' (nam ' sun').

Tibetan has dropped the occlusive part of the affricate initial in za-ba 'eat' < TB *dza, and in the following pair of roots:

- (71) T źim-pa 'well-tasted, sweet-scented', Bahing dźi-dźim < *dźim-dźim 'sweet', Aka dźim-tśi 'fresh (water)', B tshim 'pleasant to the taste, delicious, savory', from TB *dz(y)im.91
- (72) T źon-pa, Nung zun, K dźon 'mount, ride (an animal)' (TB *dzyon).91

Kachin and Nung show a similar development in the following:

(73) T ?ag-tshom 'beard of the chin', Kanauri tsam 'wool, fleece', mik-tsam 'eyebrow', Magari tsham 'hair, wool', Tsangla tsam, Bahing tsam, B tsham, L sam 'hair (of head)', Dhimal tsam 'hide, bark', G mik sam 'eyebrow', but K sam 'hair (of head)', Nung əŋsam 'hide', and Ladakhi sam-dal, Lahuli yar-sam 'mustache' (TB *tsam).92

The TB initial is uncertain in the following:

(74) T sen-mo 'finger- or toe-nail', Digaro mśi, Miju msen 'claw', Dhimal khur-siŋ 'finger-nail', B ăsàń 'nail', lak-sàń 'finger-nail', khre-sàń 'toe-nail', L tin 'nail, claw, hoof' (note the unaspirated initial), Khami msiŋ ~ mseŋ, Siyin tśiŋ, Empeo mitśin 'nail', perhaps also Magari arkin and K ləmyin (<*lak-myin), Nung nyin (<*myin) 'finger-nail', 93 on the strength of the Miri doublet lag-śin ~ lag-yin, id.; this root we have provisionally reconstructed *m-(t)sin. 94

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

- (75) B tshum, Nung sum-phay, K thum, L sum, G sam 'mortar' (TB *tsum).
- g_I The Tibetan forms with initial \acute{z} in Nos. 71 and 72 have probably been derived from prefixed forms such as *bd \acute{z} (cf. n. 88).
- 92 This root now reconstructed *tsâm ~ sâm (for vocalism, see n. 344); K sam is probably an early loan from Burmese, but the Nung, Ladakhi and Lahuli forms all point to a doublet with initial *s-, probably derived from the standard root in *ts-through preglottalization as a result of prefixed *a-= Pa- (Nung *aysam 'hide' shows this prefix in typical nasalized form); note that the apparent Chinese cognate (sam/sama 'hair, feather') also has the initial s-.
- 93 For Nung $n(y) \langle *my -$, cf. Nung $mit \sim nit$ 'mind, temper', K myit; Nung $m\epsilon \sim n\epsilon$ 'eye' $\langle *myak$ (No. 402). Ahi and Nyi (Burmese-Lolo) regularly have $n \langle my -$, $d \langle dl \langle by -$, $t(h) \langle tl \langle py -$; cf. B mya, Ahi no, Nyi na 'much, many'; B $pya \langle bya$, Ahi do, Nyi dla ma 'bee'; B pyam, Ahi $th\ddot{o} \sim th\epsilon$, Nyi $tl\ddot{o}$ 'to fly'. The shift *my > n- before the high front vowel i appears also in Bahing (and general Kiranti) niy 'name' $\langle *r miy$ (Limbu has miy); Aka nyin 'to name', ninyi 'name' $\langle *r miy, nyi$ 'eye' $\langle *mik$.
 - 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 $*t\acute{s}-=\acute{c}-$, a unit phoneme): $*t\acute{s}rum$ 'mortar' (apparently an old loan from AT;

(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)il). 95

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

		TB	Burm.	Lisu	Ahi	Nyi	Lahu
57	fruit	*sey	ăsì	si	sa	sə	šī
59	child	*za	sà	ra	20	za	уâ
61	leopard	*zik	sats	_	$z\ddot{o}$	$z\partial$	
71	hair	*tsam	tsham	tśhye	tshə	tshe	jŧ
66	eat	*dza	tsà	dza	dzo	dza	câ

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

(77) T gtśid-pa~gtśi-ba 'urinate', gtśin 'urine', K dźit tśyi~dźit dźi 'urinate', dźit 'urine', Nung tsi 'urine', tsi tsi 'urinate', B tshi 'urine (the polite term)', Lahuj‡, Dimasa si-di '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-)tsrəy 'count'; *m-tśril 'spittle'; the latter pair have significant Chinese cognates (n. 457). B re 'count' reflects this *tśr- cluster rather than the *r- prefix. This correspondence is strengthened by B re 'water' (also ri in inscriptions), from *tśril (see n. 54 for final); Burmese furnishes a perfect semantic parallel: B tam-thwè 'spittle', from *ta-mthwè = 'its (m-) water (thwè)', from TB *twəy; cf. also Dhimal thop-tśi 'spittle', G khu-tśi 'saliva' = 'mouth (khu)-water', from TB *ti(y). T mtśhil-ma 'spittle' has the normal *tś(h)-reflex here; T rtsi-ba 'count' stands for *rtśi- (Tibetan lacks the *rtś- cluster). Burmese, Nung and Lushei all show distinct reflexes in *tśrum 'mortar', and perhaps a doublet *tsum should be recognized, but the irregularity might also be attributed to the apparent loan-word status of this root (above).

96 Cf. also 'use': B sùm, Lahu $y\hat{\varepsilon}$; '3rd pers. prn.': B sàm, Lahu $y\hat{\sigma}$. Burmese s-/Lahu y- is usually from PLB *z- (JAM). Lisu has initial r- in 'descend' (text) but rz- in 'urine' (text) and a doublet $rze \sim r\ddot{\sigma}$ 'use' < B-L *zum (above). It is possible that a distinction between initial *z- and *\varepsilon- must be set up for B-L, paralleling the distinction between *s- and *\varepsilon-; we reconstruct B-L *\varepsilon\var

Illustrations of TB initial nasals, liquids, h-, w-, y-:97

- (78) T lŋa, K məŋa, B ŋà, G boŋa, L ŋa~pəŋa '5' (TB *l-ŋa~*b-ŋa).
- (79) T nu-ba, B nui, Nung nü 'weep, cry' (TB *nuw).
- (80) T na-ba 'to be ill', nad 'illness', Kanauri na 'to be hurt', B na 'to be ill', ăna 'pain, disease', K and Nung əna 'illness', L na~nat 'to be ill; illness' (TB *na).
- (81) T nyi-ma, L ni 'sun, day', B ne 'sun', né 'day', K ni 'day', Dimasa di-ni 'today' (cf. K dai-ni, lit. 'this day') (TB *niy).
- (82) T rman-lam 'dream' (lam 'road, way'), Miri im-man, K man~yup-man, Nung ip-man, L man, Mikir man, G dźu-man 'dream', B ip-mak 'dream', hman-tsa-san 'walk in sleep', hman-tak-mi 'to be possessed (applied to somnambulism)', Lahu mâ? 'dream' (TB *man); note the use of TB *ip 'sleep' in composition.98
- (83) T min, Magari armin, Limbu min, Dhimal min, K myin, L hmin, Rangkhol ermin 'name', G min 'to name', bimun 'name', B man 'to be named', aman 'name', hman 'to name', but Nung bin 'name' (Nung normally retains m-) (TB *r-min).99
- (84) K rap 'central fireplace', kərap 'lower screen over fireplace', Nung mərap 'fireplace', B mì-rap-paùŋ 'wooden fireplace' (mì 'fire'), Maru γrε <*hrap 'fireplace', L rap, Mikir rap 'shelf over fire' (TB *rap).¹⁰⁰
 - (85) Vayu ruŋ, Bahing ruŋ, Lepcha ăróŋ, Tsangla wa-roŋ (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 ?may 'dream' for Kachin, suggesting a possible clue to the B-L development *?may > *?mak (see n. 242). Prefixed *r- for this root is supported by Gyarung (K. Chang) karmye 'to sleep', from *-rma[y]; for the semantics, cf. T rmi-ba 'to dream' < TB *(r-)mvvy 'to sleep'. Trung (Nungish) has mlvy 'dream', mlvy mlvy 'to dream', from *lvmvy = *r-mvy by metathesis; cf. Trung a-mra 'field', Mutwang (Răwang dial.) roma, id. Note that in composition Burmese maintains the final nasal (hmay-); the B-L forms in general point to an original ?mak (as reconstructed by Burling and JAM).
- 99 Cf. the development of sonorant stops from nasals in Bisu: |bi| 'fire'; this phenomenon is rare in TB generally (JAM). Nung (Răwang) biŋ 'name' is a pseudo-cognate here, hence does not represent this rare shift; it has been derived (regular shift) from *briŋ; cf. Trung aŋ-prəŋ 'name' (with typical nasalized *a-prefix); also Lepcha bryaŋ, id., from sbraŋ; a connection with TB *braŋ 'to give birth' (No. 135) has been suggested (by JAM). Gyarung (K. Chang) has termi (high falling tone) < *-rmiŋ, confirming the prefix in this root. For Kachin, Maran cites myiŋ (mid tone) 'name', śəmyiŋ (low tone) 'to name', paralleling the Burmese forms.

100 See n. 69.

- əröŋ, Moshang (Konyak) əruŋ, K $ruŋ \sim nruŋ$, Nung dəriŋ $\sim riŋ$, Ggroŋ < g-roŋ 'horn' (TB *ruŋ). 101
- (86) T lag(-pa), Miri əlak, Chairel (Luish) lak, K lə-, B lak 'arm, hand' (TB *lak). 102
- (87) T lam, K lam, B làm, G ram-a 'road', Nung lam 'side, direction', L lam 'way, direction, place', lam-lian 'road' (lian 'large') (TB *lam).
- (88) Bahing luŋ, Lepcha läŋ (also luŋ- in comp.), Miri ü-liŋ (Abor ö-lüŋ), K luŋ ~ nluŋ, B kyauk < *k-lauk, G roŋ, Dimasa loŋ, L luŋ, Mikir arloŋ 'stone' (TB *r-luŋ).
- (89) T hab 'mouthful', B hap 'bite at, as a fish or dog', L hap 'bite, snap'.
- (90) K wai 'whirl, as a whirlpool; stir, as with a ladle; strike out with a sweeping movement', phuŋ-wai 'whirlpool', Nung thi buŋ wai 'whirlpool', B wài 'whirlpool', also 'soar around, as a bird; brandish a sword, weapon or stick', L vai 'row, paddle', also 'wave (the hand, arm)', Mikir iŋvei 'fly around (as an insect)', but cf. Meithei pai 'to fly' (TB *way·).
 - (91) K wan, B wan, L val 'circular' (TB *wal).
- (92) T yab-mo~g-yab-mo 'the act of fanning or waving; fan', Miri məyap, B yap, Mikir hi-dźap 'fan', L za·p 'fan, winnow, flap, flutter', hmai-za? 'a fan' (hmai 'face'), Tangkhul kəyap 'to fan', G tśo 'row, paddle, dig', Dimasa dźau 'paddle, dig or root up, winnow'; cf. also K kətsap 'winnow' (TB *ya·p).
- (93) Bahing $y\ddot{o} < *yu$, K $yu \sim yun$, Nung $yu \sim yi$ [yii], L sa-zu, Thado yu-tśa, Mikir phidźu, Kanauri $p\breve{u}u$ 'rat', West T (Balti) byu-a 'rat, mouse', T byiu [byu] 'alpine hare' (cf. L sa-zu-pui 'hare' = 'big rat') (TB *b-yuw). ¹⁰³
- (94) Thebor yu, Tsangla yu, Digaro yu, Dhimal yu, G $t \le u$, Dimasa $d \le u$, L zu, Meithei yu 'liquor, wine, beer', from TB *yu(w).

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

- 101 This root now reconstructed *rway, a doublet of *rwa (n. 231).
- 102 The usual Kachin word for 'hand' is peculiar: lota? (high tone), lo-appears as the preformative in several words relating to hands and feet. The t is like the t in T rta 'horse', suggesting epenthetic t after liquids; cf. also K mota? (high tone) 'lick', T ldag; and sota 'moon/month' from an lt-cluster) (JAM). For a different interpretation of the Kachin forms, see nn. 109 and 137; the writer considers T rta 'horse' as entirely distinct from other TB forms.
- 103 B yun 'rabbit' belongs with this root (cf. the Tibetan and Lushei meanings); the suffixed -n is the 'collective' (n. 284), appearing also in Kachin (text); the Ch. cognate compares closely with the Burmese form in all respects: $tsiwan/tsiuen^2 \sim tsiwan/tsiuen'$ 'hare', from *tsun < *yun (n. 428); T byiu < byi-ba 'rat' (No. 173).

Lolo *r->y-, and $r-\sim l-$ 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 ltśi-ba~ldźi-ba<*s-li 'heavy', ldźid-pa 'heaviness, weight', Kanauri li-k, Manchati hli-i, Vayu li-s, Lepcha li(-m), K li, Nung əli, B lè, G dźrim, Dimasa risi, Bodo illit~gillit, L (and general Kuki) rit 'heavy' (TB *s-liy). 104
- (96) Lepcha $t\check{u}k$ - $li\eta \sim t\check{u}\eta$ - $li\eta$, Nung $li\eta$, Miri əlü η , B $la\acute{n} < *li\eta$, L $ri\eta$ 'neck' (TB $*li\eta$). 106

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

TB initial *h- is rare, and can be reconstructed for only a few roots of restricted range, with only *hap 'bite, snap' (No. 89) represented in more than two main divisions (T, B, L). Kachin has this initial only in the loan-word ho (usually pronounced kho) 'announce', from B $ha\dot{u} > h\dot{z}$; cf. L hau 'abuse, reproach', hau? 'bespeak'.\(^{107} Loss of initial *h- is indicated in the following:

T han-ba, K gəan '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 ~ zgá ~ ngá [n-gá], Nung ga ~ rzga, Moshang ga, G ha 'earth', from TB *r-ka.

Of the pair of semi-vowel initials, TB *y- presents relatively little difficulty. The shift from *y- to z- (Lushei) or to $d\dot{z}$ - $\sim t\dot{s}$ - (Garo, Mikir) is characteristic of both the Garo-Bodo and Kuki-Naga groups in general, although many Kuki languages

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>ldźi 'heavy', also *s-li>*hlyi>ltśi; T ldźi-ba~'dźi-ba 'flea', from *(α-)li, TB *s-liy (the *s- prefix is not represented in this root in Tibetan, having been replaced by *a- or simply dropped); T ltśe 'tongue', from *hlye<*s-le<TB *s-lay (here the *s- prefix is represented by *h-). With prefixed *a-, the shift is simply to dź-('dźi-ba 'flea'); with prefixed *b-, there is further simplification to ź-, Tibetan lacking the cluster *bdź-(cf. n. 88: T *bdza>bza 'eat'), hence T bźi '4' represents a perfectly regular development from TB *b-ləy (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 ltśags <*hlyag/s 'iron', ultimately from an AT root ending in *-χliaq (Thai *hlek, Kam-Sui *qhlet, Lakkia khyāk), the typically TB a vocalism in this instance certainly being archaic (cf. Benedict, 1967 bis).

105 Nung lin 'neck' cited in Peal, 1883, who has reversed the words nyin 'nail' and lin 'neck'.

106 T' $dźiy-pa \sim mdźiy-pa$ 'neck' belongs with this set, since it can be derived from *a-lyiy \sim *m-lyiy (n. 104).

ro7 Other possible initial *h- words in Lolo-Burmese include 'yawn': B hà, Lahu há-gô?, Akha a-hà (prob. onomatopoetic); also 'be the case': B hut, Lahu hô? (JAM).

(e.g. Thado, Sho, Kami) preserve *y-. In addition to the correspondences illustrated above (G $t\dot{s}$ -, Dimasa $d\dot{z}$ -), Garo-Bodo has another series with G $d\dot{z}$ -, Dimasa y-:

- G dźon, Dimasa yun 'insect'.
- G dźak, Dimasa yau < *yak 'arm, hand'.
- G dźa, Dimasa ya 'leg, foot'.

These roots are perhaps to be reconstructed with initial *y-, but the evidence here is not entirely satisfying. 108, 109 Initial *r- \sim *y- interchange is indicated for the following root:

(98) T lag g-yas, Lepcha gyo-m<*gya, B lak-ya, but K ləkhrá, G dźak-ra, Dimasa yau-gada 'right (hand)' (TB *g-ya~*g-ra).

For this interchange of initials, cf. also TB *s-rak and *g-yak 'ashamed, shy'. 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 $d\acute{z}ak \sim d\acute{z}a$, Dimasa $yau \sim ya$ 'arm' \sim 'foot' belong in a curious series found in Konyak, Chairel, and Abor-Miri-Dafla; cf. Tableng $yak \sim ya$, Tamlu $lak \sim la$, Banpara $t\acute{s}ak \sim t\acute{s}ia$, Namsang $dak \sim da$, Moshang $yok \sim ya$ (all in Konyak group), Chairel $lak \sim la$, Miri $əlak \sim əle$, Dafla $əla \sim al$ (a-l) 'arm' \sim 'foot'. The root for 'arm' in final -k is perhaps simply a prefixed form of TB *lak (No. 86), yet cf. Gyarung təyak 'hand', L zak < *yak, B $gyak-kali \sim tshak-kali$ 'arm-pit', also lak-kali, id. (lak 'arm').

109 These B-G sets can be reconstructed *dyun 'insect' (cf. Chinese d'iôn/d''iun, a id.); *dyak 'arm, hand', from TB *g-lak; *dya 'leg, foot', from TB *g-la; cf. Chepang la 'foot' (but Kiranti generally lan). It is now possible to bring K ləta? 'hand' into this set, from *glak with the prefixed *g- being treated as the first member of a cluster; K 'səta 'moon', from *s-gla, furnishes an exact parallel (n. 137); in unprefixed forms, Kachin has kr- (krin- 'hill' < TB *glin). A separate TB root *(g-)yak appears to be required to account for the Lushei and Burmese forms (n. 108); cf. also B-L *Pgyak 'cubit' (cited by JAM). Gyarung (K. Chang) has tekhlye < */khla[k] 'upper arm', apparently from TB *g-lak.

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

III Lepcha f-<*sw-, as in fo<*s-wa 'tooth'. T wa 'fox' has been derived from TB *gwa, as represented by Chamba Lahuli $g\check{u}a$, Bunan $goa-nu\sim gwa-nu$. The initial stop appears to be preserved in the form gaa 'fox' cited for the Amdo dialect (Kansu) in N. M. Przhevalski, *Mongolie et pays des Tangoutes* (trans. by G. de Laurens), Paris, 1880.

112 Cf. K wan 'clear, pure, clean, undefiled'.

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

(99) L sa-va (Kuki *wa), Mikir vo, Chepang wa, Nyi Lolo wa 'bird'.

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

(100) Lepcha əvo < *əwa 'husband', Dhimal wa-dźan 'boy', wa-val 'man', Kuki *wa (Taungtha wa, Haka va, Lakher əwa-pa) 'husband', K wa 'human being', Yellow Lahu và '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.^{114, 115} 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 həna-gam ~ hnya-gom (note the palatalization), Nung śəna, Kadu səna, B hna, L hna r (cf. No. 3) 'nose', Lepcha nyo 'snot' (TB *s-na). 116
 - (102) T snabs, B hnap, L hnap 'snot' (TB *s-nap).
- (103) Gyarung snom 'sister', Magari arnam 'maiden', Nung ənam 'cousin', ənam-me 'sister', Byangsi and Chaudangsi (Almora group) nam-sia, Kanauri stem <*snem, 117 Lepcha nyom, K nam, G nam-tsik 'daughter-in-law', B maunhnam 'husband and wife' (archaic) (TB *s-nam).

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 hyà 'borrow' < TB *r-ŋya, also the following:

- 113 Lepcha has f- for ph- in a number of roots, as well as f- $\sim p$ alternation; cf. Lepcha $far \sim afar$ '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~wak 'pig', hmut 'blow', hman-nan dan 'dream' ('see in a dream'), hran 'horn', hlan~hlun 'stone', hla 'leaf', and hme 'fire'. Magari also occasionally replaces kh- with h-, as in Mikir; cf. Magari hrap '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 n?e? 'snot' < TB *s-nap (No. 102); cf. Burling, PLB, on Atsi and Maru; also Matisoff, 'GD' (JAM). The writer prefers to regard glottalization and aspiration here as alternative developments from TB prefixed *s-, since a series such as B hnap < *n?ap < *s-nap seems unlikely.
- 116 Cf. Lepcha ănyo, a semantic doublet ('expletive') of ămik 'eye', and B myak-hna 'face' ('eye-nose').
- 117 Kanauri regularly has st-<sn-; cf. stil~til 'gums'<*s-nil, stiy 'heart'<*s-niy, stis~tis' 7'<*s-nis, and stam 'give forth smell'<*s-nam.

(104) T rmen-pa~śa-rmen 'gland, wen', rme-ba 'speck, mark, mole', B hmáń 'mole' (TB *r-men).

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 ? and ' respectively. Burmese has simply the glottalized variety, which we have not indicated in our transcription. We lack adequate information on other TB languages, but the material in general suggests that the glottalized approach is the normal one in the TB area. The Tibetan distinction cannot be shown to be an inherited feature, and consequently we have reconstructed TB roots with pure vowel initial, with the rule that vowels in initial position were preglottalized. Note further that Tibetan has initial yi- as opposed to 'i- or ?i- (rare) and initial 'u- and ?u- but not wu-. 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 $m \ni a$, B \acute{a} , L \acute{a} 'to be dumb' (TB *(m-)a).
- (106) T ?ag-tshom 'beard of the chin' (= 'mouth-hair'; cf. the resp. term źal-tshom, with źal 'mouth'), Lepcha ók 'to open (as door, mouth)', Bunan ag 'mouth', B ak 'crack open', ăak 'opening, gap' (TB *ak).
- (107) K $up \sim wup$, Mikir up, B up 'to cover', L up 'to shelter' (TB *up).
- (108) T Pum 'a kiss', Lepcha ŭm 'receive into mouth without swallowing', Miri um-bom 'hold (as inside the mouth)', Mikir om < *um 'chew; mouthful', K məum 'hold, as water or smoke in the mouth', Nung im 'mouthful' (TB *um).
 - (100) T ?ud 'swaggering, bragging', B ut 'noisy' (TB *ut).
 - (110) T ?og, B auk 'below' (TB *ok).
- (111) Magari ol 'to finish', G ol 'lax, loose; relax', L o·l 'to have little to do' (TB *o·l).
 - (112) Mikir ik, B 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)',
- 118 Cf. the study by G. L. M. Clauson and S. Yoshitake, 'On the Phonetic Value of the Tibetan Characters ['] and [?] and the Equivalent Characters in the hPhags-pa Alphabet', JRAS (1929), 843-62; also the remarks in O. Schrader, 'Siamese Mute H', AM 3 (1926), 33-48.
 - 119 See n. 339; also n. 120.

Pyup 'sleep', and Tsangla $ip \sim yip$, Bunan ib, Bahing ip, Nung ip, B ip, Ao Naga yip, Miri yup (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 $(r \sim l)$, (b) consonant (or cluster of foregoing type) + semi-vowel $(w \sim y)$. The following combinations can be established for Tibeto-Burman:

Medial r^{121}	Medial l	Medial w	Medial y
kr	kl	kw	ky
gr	gl	gw	gy
	_	tw	(ty)
		dw	(dy)
pr	pl	pw	рy
br	bl	bw	by
_		szv	sy^{122}
		(zw)	$(zy)^{122}$
_		tsw	tsy^{122}
_		(dzw)	$(dzy)^{122}$

(cont. on p. 38)

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

*zr- (n. 135), *sr- and *śr- (n. 304), *zr- (n. 136), *zl- (n. 136), perhaps also *zr- for the following root: T sril~srin (-bu) 'worm (silk-worm)'; Thado til 'earthworm' (cf. also L til 'testicles'); B ti 'earthworm', from B-L *di (Lisu bi-di); Chinese has a 'triplet' for 'earthworm' (all on same tone) pointing to an original initial such as *zr- (n. 457).

122 In view of the recognition of the initial clusters *\$sr-\$ and *\$zr-\$, it is advantageous to recognize a separate palatal series here: *\$s-\$ for *\$sy-\$, *\$z-\$ for *\$zy-\$, *\$ts-\$ (unit phoneme=\$z-\$) for *\$tsy-\$, and *\$dz-\$ (unit phoneme=\$z-\$) 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)syan\$ 'clear, pure, clean' becomes simply *\$syan\$; *\$s(y)ir 'iron' becomes *\$syir \$\sim *\$syal (n. 244).

Medial r^{121}	Medial l	Medial w	Medial y (cont.)
ηr		(yw)	ŋy
		nw	ny
mr	ml	mw	my
		rw	ry
		lw	ly
		hw	(hy)
_		(yw)	

Illustrations of TB initial clusters with r or l:

- (115) T skra, Kanauri kra, K kəra 'hair (of head)' (TB *s-kra).
- (116) T khrab-khrab 'a weeper', Kanauri krap, Thulung (Kiranti) khrap, Magari hrap~rap, Digaro khro~kro, K khrap, G grap, L tap, Siyin kap 'weep' (TB *krap).
- (117) T 'khrud-pa~'khru-ba, K khrut, B khyuì, Dimasa gru 'bathe, wash' (TB *kruw).
- (118) K khru, B khruì~khyuì, Lahu gû, G kru, Khami məkhru, Angami Naga mekru 'dove', L thu-mi 'pigeon', thu-rou 'dove' (TB *kruw).¹²³
- (119) Bahing khrit, K krit, Nung əgyit, B krit, Mikir tšinkrit 'grind; gnash (the teeth)' (TB *krit); cf. T so khrig-khrig byed-pa 'grind the teeth'.
- 123 The voiced Lahu initial of $g\hat{u}$ '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/Lolomaa prenasalized, the latter with redundant aspiration (as in Tibetan after prefixed h- and m-); for the mysterious connection between nasality, aspiration and glottalization, see Matisoff, 'Lahu and PLB' and 'GD'. In the following words there is a correspondence between this series and K prefixed m- (rarely n-) (JAM):

	Kachin	Lahu	Nasu	Lolomaa	Other
door	nkha		a-gʻu	ŋkʻu	B tam-khà < *ta-mkhà
yeast	mətsi	dî	_	_	
thrust	mədźut	jû?			
pillow	m eg k hum	$(\dot{u}$ -) $g\hat{\varepsilon}$		$\eta k^{\epsilon} \mathbf{v}$	Nung məkhim
pound, v.	mədup		_	nt $^{\epsilon}v$	T mthu
wide	məden		$d^{\epsilon}u$	nt ^c w	
side	məga	jâ		_	
very	mədźan	jâ		_	
bridge	məkhrai	go	dz ' ε	nts ⁽ e	
liquor	тәдуер	$j\hat{i}$	$dz^{'}i$	ntş'z	

We now reconstruct *m-krəw, since there is evidence for this nasal prefix in B-L as well as K-N, as indicated clearly by the above table of correspondences assembled by JAM, which includes two general TB roots: 'door' (No. 468) and 'pillow' (No. 482).

- (120) T gran-ba 'cold, cool; coldness; to get or grow cold', L tan 'dry', tan-tho-m 'cold (weather)', Mikir nin-kren 'cold weather, winter' (nin 'season') (TB *gran). 124
- (121) T sgro-ba 'bark of willow', gro-ga 'thin bark of birch-tree', K śəgrau 'outer skin, as of fruit' (TB *s-graw).
- (122) T grog-po 'deep dell, ravine', B khyauk (prn. dyau?) 'chasm, gulf', K and Nung khəro 'ravine' (TB *grok).
- (123) Lepcha klo < kla, Mikir klo < kla, K khrat 'fall', B kyá 'fall', khyá 'let fall', L tla·k 'fall', thla·k 'let fall' (TB *kla).
- (124) B kyak 'to be cooked', khyak 'cook', Lahu cá 'to boil', K khya 'prepare glutinous rice', Mikir arklak~arklok 'boil over', L tlak 'boil or cook without salt' (TB *klak). 125
- (125) Kanauri khö < kli, 126 Bahing khli, Digaro klai < kli, K khyi, B khyè (prn. thyì) ~ ăkhyè, G khi 'excrement', Lepcha təkli 'entrails, guts; mucus of entrails', also T ltśi-ba 'dung' (TB *kliy). 127
- (126) Mikir arkley, L thliy, B khray-tshi, Lahu λ-chɔ-pwε~λ-cɔ-pɔ 'marrow', Dimasa buthluy~bithlim 'brain' ('skull-marrow') (TB *kliy). 128
- (127) T kluy 'river', K kruy 'valley, dale', B khyuiy 'concave; concave piece of ground, valley' (TB *klu·y). 129
- 124 There must be a B-L variant in final *-k: Lahu kâ?, Atsi kyo?, Maru kyò?, Akha gá?, from PLB *krak (JAM). Lisu has dźya '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 hyáy 'cold', of uncertain derivation. A variant root *glay must be recognized, however, on the basis of Trung (Nungish) glay 'cold', Mikir pay-kley 'to freeze, congeal' (note the parallel vocalism in the two roots). Finally JAM (1970 b) cites B-L *ngray '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 $\ddot{o} ; cf. <math>b\ddot{o}\eta \sim p\ddot{o}\eta$ 'fill' < TB *bli\(\tau\) \sim *pli\(\eta\), $p\ddot{o}$ '4' < TB *b-li\(\text{i}\).

 127 Our analysis of the treatment of TB *l- before the vowel \(i\) in Tibetan (n. 104) furnishes a simple explanation for the Tibetan form here: *s-kli (prefixed *s- with roots for parts of body) > skl\(\eta\) is (Tibetan lacks initial *skl-) > lt\(\delta\); contrast *sgl- (also lacking in Tibetan), which yielded TB \(\alpha\)l- in 'moon' (n. 137).
- 128 This is a very peculiar root, probably because of the initial *rkl- group. Lahu has a palatal affricate where a front velar is expected. Lahu c/ch indicates proto-variation between a plain and a glottalized initial (<*skray) (JAM). We now reconstruct this root *r-kliy (Mikir arkley), yielding kr- in B-L through assimilation to the prefix; for the final, cf. B hray 'alive' < TB *sriy (probable effect of the complex initial group); cf. also Lepcha (\check{a} -)yáy \sim (\check{a} -)yóy 'brain, marrow'.
- 129 T kluy 'river' has frequently been compared with similar forms in S.E. Asia, notably Siamese klovy, Cham krauy and Ch. kuy/koya 'river' (in China specialized in reference to the Yangtse), but the TB root (*kluvy) may well be independent of

- (128) T gliŋ 'island, continent; region, country', K kriŋ-muŋ 'hill' (cf. kriŋ 'firm, stable, immovable'), B krań 'dry land, ground', Lahu mì-gɨ 'land' (TB *gliŋ).
 - (129) Thami (Kiranti) əpra, Digaro pra, L tha, Thado əpha '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 ~ śprut, B prut 'to boil' (TB *prut).
- (132) Kanauri bra 'forked (of roads)', pra 'spread, stretch', Bahing bra 'scatter; to be distant', K bra 'scattered, dispersed', B prà 'divided into several parts', G bibra 'junction', Dimasa bara~bubra 'confluence (of rivers), fork (of tree)' (TB *bra). 130
- (133) Kanauri bren 'get well', K bran 'become convalescent, recover; increase', Nung ban 'convalesce', dəban 'heal', B pran 'return; repeat; recover from fainting' (TB *bran).
 - (134) T brag, K luy-bra, G roy-brak 'rock' (TB *brak).
 - (135) T'bran-ba 'to bear, give birth', L pian 'to be born' (TB *bran).
 - (136) T'bron 'wild yak', B praun 'buffalo, bison' (TB *bron).
 - (137) B pra, Mikir phelo < phla, G tapra, Dimasa thapla 'ashes' (TB *pla). 131
- (138) K bren ~ byen 'flat and wide', lun-byen 'slab', phun-pyen 'plank', Nung śiŋ-byen 'plank', B pyáń 'to be reduced to a level; plank; flat surface', kyauk-pyáń 'flat level stone, slab', Mikir kaplen 'plank', G bol-plen, Dimasa bon-palan ~ bo-phalan 'plank' (TB *plen).
- (139) K pron 'to be burned, as a house', kapron 'parboil', Mikir phlon 'burn the dead; cremation' (TB *plon).
- (140) K phron 'flee, run away', Mikir arplon 'run', inplon 'run, gallop' (TB *plon). 132
 - (141) Kanauri ble 'to slip', Digaro ble 'slippery' (TB *ble).
- (142) Kanauri böŋ < bliŋ 'to be full', pöŋ < pliŋ 'fill', Kanashi plen 'fill', Lepcha (a-)blyǎn < *bliŋ, Digaro bloŋ 'full', Miri büŋ (Abor buüŋ) 'full', Nung biŋ 'to fill, be full', K phriŋ 'to be full', dźəphriŋ 'fill', B práń 'to be full', phráń 'fill, make full, complete', Lahu bî 'full', Mikir pleŋ 'full, complete; fulfill', pepleŋ 'fill', Dimasa phuluŋ 'fill in (rice into a basket)' (TB *bliŋ ~ *pliŋ).

all these; a more likely comparison is supplied by Lepcha kyon 'river' (usu. in comp. with un 'water'); cf. also T ldžons < *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.
- 131 R. B. Jones (Karen Linguistic Studies, Berkeley, 1961) reconstructs a Proto-Karenic *khlå(h) 'ashes'. Lahu has qh??-lá; cf. T gog-thal (JAM). See n. 364 for this root, which presents many difficulties.
 - 132 Cf. B hraun 'flee' (JAM).

In general, TB medial *l* clusters are better preserved than medial *r* clusters. while surd stop clusters are much better represented than sonant stop clusters. The several languages differ widely in their treatment of these clusters. Tibetan maintains most stop clusters, yet lacks initial pl-, which presumably has become p(h)y- (we have no certain examples for this shift). No comparisons have been found, however, for the few Tibetan words with initial bl- (incl. bla 'superior', bla-ma' lama', blu-ba' ransom', blo 'mind', blon-po' officer'), and scarcely any for those with initial gl- (No. 128, and cf. Tglin' flute, fife', B kyan' tube closed at one end').133 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, v for medial l, but there are numerous exceptions to this generalization (Nos. 117, 122, 126, 128, 130, 137, 142). 134 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 buthlun ~ bithlim 'brain' < *klin (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 $p(h) - \langle *pr -, k(h) - \langle *kr -, or occasionally other languages:$

^{*}krap 'weep': L tap, Siyin and Thado kap, Angami Naga kra.

^{*}k(h)rok 'sour': L tok 'sour', Angami Naga khro 'acid'.

^{*}khrwi 'sew': L thui, Siyin khui; from TB *krwi(y); cf. K tśyowi~tśywi.

^{*}u-p(h)rok 'toad': L u-tok, Thado u-pho?.

^{*}phra 'good': L tha, Thado apha.

¹³³ See Matisoff, 'GD', No. 98, for glin/kyań.

¹³⁴ The development r>y in Burmese has badly confused the phonetic picture here, and has led to frequent interchange between the two letters for these sounds in written Burmese (cf. No. 118). Medial l appears in many forms from the early inscriptions, but $r \sim l \sim ly$ interchange is common even at that period (ca. A.D. 1100–1500). Medial l in the inscriptions corresponds to TB *r as well as *l, hence the Burmese evidence is not of critical value in making this distinction; cf. the following early forms: klauk for kyauk 'stone' (TB *r-luy), klwat for kywat 'to be freed' (TB *g-lwat), klya for kya 'tiger' (Burmese-Lolo *k-la), khlya for khya 'let fall' (TB *kla), klyak for kyak 'to be cooked' (TB *klak), but khlauk for khrauk '6' (TB *d-ruk), klyak for kyak 'to be cooked' (TB *klak), but khlauk for khrauk '6' (TB *d-ruk), klyak for klak 'white' (cf. Horpa klak), klak for klak 'foot' (TB *klak), klak for klak 'foot' (TB *klak), klak for klak 'foot' (TB *klak).

*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-.\frac{135}{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) Tzlum-pa, Klum, B $l\dot{u}m$ 'round, globular', Lhlum 'ball' (TB *s-lum). 136

(144) T zla-ba, Bahing la, Vayu tśolo < *tśăla, Digaro həla ~ hlo, Nung səla, B lá (Samong səla, Lolo *hla), K śəta, Kadu səda (the dental in these two languages cannot be explained) 'moon' (TB *s-la), but L thla < *khla, Meithei tha < *khla, Mikir tśiklo (cf. tśikli 'flea'), from TB *g-la, whence perhaps Magari gya(-hot). 137

Some evidence exists for the nasal clusters * ηr -, *mr- and *ml-. Tibetan has initial mr- in smra-ba 'speak, talk', $smra\eta \sim smre\eta$ 'word, speech', smre-ba 'wail, lament' (cf. B $mrwak \sim prwak$ 'utter, speak', L biak 'speak'), and nr- in snrubs and snron 'names of two of the lunar mansions', $snrel(-g)\dot{z}i$ 'sloping, oblique; pellmell'. Lepcha, which is especially rich in consonant clusters (many secondary), has $mr \sim mry$ -, $ml \sim mly$ -, and even ηr -, 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 ηr -, while a number of initial ml- and mly- forms appear in the inscriptions, e.g. mlauk for mrauk 'north', $mlau\eta$ for mraun 'ditch', mliy for mre 'grandchild', mlyui for myui 'to swallow', mlyau for myan 'float'. Of the modern Burmese dialects, Tavoyan has retained ml- in a few words, notably mle for mre 'grandchild', while Taungyo vacillates between

r35 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 *zlum, 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 səta, from *s-kla < *s-gla; cf. K ləta? 'hand' < *glak (n. 109).

mr- and ml-. B $mr\dot{e}$ 'grandchild', $hmr\dot{a}$ '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 ray', Manchati hray, Bunan śrays (Himalayish *s-ray-s), Chepang sĕray 'horse', but K kumra~kumray, B mrày, Haka ray (TB *s-ray~*m-ray). 139

The above root has a close parallel:

Kanauri ran, B mrán 'high'.140

Direct comparisons of the initial cluster are also available:

- (146) Murmi (Bodish) mraŋ, B mraŋ 'see', perhaps also Nung yaŋ, id. (TB *mraṅ). 140
- (147) B mrak 'cut keenly', mrá 'very sharp, keen', K mya 'torn, ragged', əmra~əmya tear, maul, lacerate', Dimasa dźəbrau <*dźəbrak 'maul, claw, scratch' (TB *mrak).¹⁴¹
- (148) T bra-ba 'to have or be in great plenty, abound', Kanauri mra, Manyak (Hsi-fan group) təbra, B myà 'much, many' (TB *mra).
 - (149) Kanauri myag, B mrak 'grass' (TB *mrak).142
- (150) T'bru 'grain, seed', K myu~əmyu 'kind, sort, tribe', B myuì 'seed', ămyuì '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 $h\bar{\jmath}$, from *ml (<*hl) for another development (JAM). The TB root for the latter is *b- $l \ni y$, suggesting a development of the type: *b- $l \ni y>*phl \ni y>*hl \ni y$.
- 139 Trta is a possible cognate of this root (n. 102) (JAM). K kumray appears to represent the product of a double prefixation: *k-m-ray, including the TB *k'animal prefix' (n. 301). In Himalayish the earlier *m- prefix was dropped (normal development here), then the TB *s- 'animal prefix' (p. 107) was added, yielding *s-ray-s (see n. 290 for the final *-s). Inasmuch as the horse, a relatively recent arrival here (S.E. Asia), is often described in derived forms (IN has *ad'ar/an' the learned one'), one is tempted to relate this TB root for 'horse' to the root for 'high' (see text) = 'the high (-ray) one (m-)' (the equivalent of 'its highness'); the aukmyit of B mráy 'high' relates to either tone in that language, hence there is no basic tonal discrepancy here (see §12).
- 140 Trung (Nungish) has mray 'high, long', establishing the presence of prefixed *m- for this root (Kanauri drops most prefixes). Răwang, another Nungish language, has hay 'high' (apparently unrelated) but yay 'long', the latter providing a parallel for Răwang yay '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 dz > brau < *dz > brak).
- 142 T'dźag-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).

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. məli 'country; mountain', Manyak (Hsi-fan group) məli~mli, B mre, Tavoyan dial. mle, Phön (Samong dial.) təmli~təmyi 'earth' (TB *mliy).
- (153) Kanauri myu 'to swallow' (nasalization not explained), K $m \rightarrow yu$? 'throat; to swallow', B myui (inscriptions mlyui) 'to swallow' (TB *mlyuw). 143

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

- (154) B yrà, K nya 'meet, encounter' (TB *yra).
- (155) B yray 'contradict, deny', Nung nyey 'deny', ənyey 'slant' ~ əney 'oblique' (TB *yray); cf. L tay < *gray 'deny'.
- (156) B ŋrui~ńui 'dark in color; darken', hńui 'dull, faded, wither', K nyui 'faded, wilted, withered', Nung ŋyö 'withered', əŋyü 'fade' (TB *ŋruw).

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

- (157) B kwai 'dammer-bee', L khuai ~ khoi, Thado khoi ~ khui-va (va 'bird'), Tangkhul khui, Lakher əkha 'bee', Nung kha 'bee (domesticated)' (TB*kwa·y). 144
- (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). 145
- (159) T khyi, Kanauri kui, Thebor khui, Vayu uri, Chepang kwi, Bahing khlitśa, Limbu khi-a, Digaro nkwi, K gwi, Jili təkwi, Nung təgi, B khwè, 'Garo A' dialects *kui (Koch and Ruga kui, Rabha ki), Dimasa si, L (and general Kuki) ui, Mikir hi <*khi (obsolete word recorded by Robinson, 1849) 'dog' (TB *kwiy). 146
- (160) T bgo-ba 'put on (clothes)', gon-pa 'put on (clothes); clothing', gos 'garment, dress', skon-pa 'to dress, to clothe another person', K khon 'wear (as bracelets)', Nung gwa~ga 'to dress' (intr.), dəgwa~dəga (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 gùm; Atsi sùmgòn 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. bskyans 'guard; keep, tend (cattle)', B kyaùn 'feed, tend cattle' (TB *kyon).
 - (162) T skyen-ba 'to be ashamed', K khyen~tsen 'red, crimson' (TB *kyen).147
- (163) T brgyad, Kanauri ræ, Bahing ya, Thulung yet, Dumi ri, K mətsat, Nung əśat, B hrats, G tśhet, Dimasa dźai < dźat, L riat (Kuki *d-ryat) '8' (TB *b-r-gyat). 148
- (164) T brgya, K lətsa, Nung ya, B ăra, G rittśa, Dimasa radźa, Lza < yaʻ100' (TB *r-gya). 148
- (165) T mtho 'span', B thwa 'measure with a span', ăthwa 'span' (TB *twa).
- (166) K dəwi~dwi, G tśi, 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 məthwi 'to spit', B thwè 'to spit', tam-thwè (perhaps from *ta-mthwè) 'saliva, spittle' (TB *twiy). 149
- (169) T doy 'deep hole, pit, ditch', Nung duy-khr 'hole', B tway 'hole, pit', Lahu γt -tû, Lisu du 'well' (B re-twày, lit. 'water-pit'), Lolopho \dot{si} -du 'cave, hole', Nyi Lolo fe-du 'cave', pu-du 'hole' (TB *dway). 150
- 147 B kyan, an intensive used with ni 'red', belongs with this root: ni-kyan-kyan 'pale red' (= color of blushing); this form supports the reconstruction of the initial cluster *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 (mətsat '8'). The root for '8' was metathesized in Tibetan: brgyad <*bgryad (Tibetan lacks the initial group *bgry-). The element *-gryad represents the basic TB root *g-ryat, whence B hrats via *hret; Kachin has mətsat < *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-kəw '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-.
- 149 Cf. Benedict, 1939, p. 225, for the semantics of this root. Lushei preserves the full compound ar-tui 'fowl-water' only in ke-ar-tui 'heel' ('foot-egg'), Mikir keŋ-ti. TB *ti(y) 'wet; water' (No. 55) has yielded K mədi 'wet', di 'egg', Moshang wu-di 'egg' ('fowl-egg'), also G tśi 'water', bitśi ~do-bitśi 'egg' ('fowl-its-water'), khu-tśi 'saliva' ('mouth-water') and the parallel Dimasa di series. Dhimal distinguishes between tui 'egg' (TB *twiy) and tśi (Toto ti) 'water', thop-tśi 'spittle', hna-thi 'snot' (TB *ti(y)).
- 150 Tiddim Chin $wa \cdot \eta$ 'hole; make a hole' appears to be cognate here, indicating a reconstruction * $dwa \cdot \eta$.

- (170) B phwai 'husks, chaff', L phuai 'shavings', Pankhu phəwai, Thado wai, Rangkhol śəbai ~ səvai, Sopvoma upfai < əphwai 'husks' (TB *pwa·y).
- (171) L (and general Kuki) pui 'feminine affix', K wi~yi 'feminine affix', śwwi~świ 'female' (TB *pwi(y)).
- (172) T sbom-pa 'thick, stout, coarse', K bom 'swell', bom-bom 'swelling; round and chubby', B phwám 'fat, plump', L puam 'swollen; to swell' (TB *bwam).
 - (173) T byi-ba 'rat, mouse', B pwè, L bui 'bamboo rat' (TB *bwiy).
- (174) T phyag-ma 'broom', 'phyag-pa 'sweep', L hmun phiat 'sweep', hmun phia? 'broom', Empeo piag, Chepang phek, Mikir arphek 'broom', Miri pök 'sweep', sam-pök 'broom', K we~ye 'sweep', dinye 'broom' (TB *pyak).
 - (175) T dpyan-ba~spyan-ba~'phyan-ba, K əphyan 'hang' (TB *pyan).
- (176) T'phyo-ba'swim, soar, float', K pyau~byau'fly, float; play, shoot, as a fish' (TB *pyaw).
- (177) T bya 'bird, fowl', B pyà (Ahi do, Lolopho byo, Nyi dla-ma, Lisu byæ) 'bee' (TB *bya); for the semantics cf. No. 157. 151
- (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 ləsəwi 'shave or whittle off', gəsəwi 'rub up against (as a dog)', B swè 'whet, rub, polish', G si-rok 'shave', Dimasa si, L sui 'scrape' (TB *s(y)wiy).
- (181) T śa 'flesh, meat', śa-ba ~ śwa-ba 'hart, stag', Kanauri śya 'flesh, meat, game', Magari mi-śia 'flesh, meat', Bahing sye, Sangpang sya 'flesh', K śan 'flesh, meat, deer flesh; deer', Nung śa (dial. śia) 'flesh, meat', B sà ~ ăsà 'flesh', sà 'beast', L sa 'animal' ~ śa 'flesh, meat' (TB *sya).
- (182) T śes-pa, Vayu ses, B si 'know, understand', K śi 'news', G masi, Dimasa mathi~mithi 'know', Bodo mithi 'know', dithi~khithi 'show' (TB *syey).
- (183) K mətsəwi ~ mətswi 'pus', B tshwè 'decayed, crumbling; rotten' (TB *tswiy).
- (184) G gittśak 'red', Dimasa gadźau < gadźak 'red; gold', L raŋ-ka-tśak 'gold' (cf. raŋ-va 'tin'), K dźa 'gold', Nung za 'silver, money' (TB *tsyak). 152
- 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->*bź-(JAM). Gyarung has prye < *pra (also pra- in comp.) 'fowl', pra-khu 'owl'; Angami Naga (Burling, 1962) has pera < *bra or *b-ra 'fowl'; a doublet *bra must be recognized on this basis; there is also a possibility that this is an old loan from AT (Benedict, 1967 bis).
- 152 Cf. Benedict, 1939, pp. 222-3, for the semantics of this root (T ser 'yellow', gser 'gold', Gyarung kəwurni (<*g-rni) 'red', tərni (<*d-rni) 'gold'; Ahi Lolo tho 'white; silver')).

- (185) T gtśod-pa, pf. btśad, L tśat 'break, cut' (TB *tsyat).
- (186) K tśyap 'to be on friendly terms; to adhere, as soot to a roof', B tsap 'join, unite, connect', G tśap-tśap 'adjacent' (TB *tsyap).
 - (187) Bahing tśyar 'shine', K dźan, Moshang ron-śarr, G sal 'sun' (TB *tsyar).
- (188) Bahing tsyur 'wring', Bunan tshur 'squeeze out', Kanauri tsur 'to milk', Haka sur 'wring' (TB *tsyur).
- (189) T nya, Chepang $\eta a \sim nya$, Lepcha ηo , Tsangla ηa , K ηa , Nung ηa , B $\eta \dot{a}$, G $na-t \delta k$, Bodo $\eta a \sim na$, L $h \eta a$ 'fish' (TB $*\eta v a$).
- (190) T $brnya-ba \sim brnyan-pa$ 'borrow', Nung ya 'hire, rent, lend', B $hy\dot{a}$ 'borrow or lend, hire or let (the same article to be returned)' (TB *r-yya).
- (191) K məni, Bodo and Dimasa mini, L nui (Kuki *m-nui) 'laugh' (TB *m-nwi(y)).
- (192) T rnyab-rnyab-pa 'seize or snatch together', K nyap 'squeeze; extort', B ńap 'to be squeezed', hńap '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', śənyen 'take by force, coerce', B ńàń 'sigh, moan, groan; grumble or murmur at', hńàń 'hurt, oppress, bully' (TB *nyen).
- (194) T snyun 'disease, illness', snyun-ba 'to be ill', K nyun 'sad, dejected', B naun 'to ache, be tired, cramped' (TB *nyun).
- (195) B hmwé '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 śəməwi 'to be heavy with sleep', B mwé 'sleep, enjoy sleep' (TB *mwiy).
- (197) Bahing myel 'to be sleepy', K myen \sim mye 'fall into sleep or swoon', B myan 'to be sleepy, to sleep' (TB *myel).
 - (198) T rod-pa 'stiff, unable to help one's self', B rwat 'old, tough' (TB *rwat).
- (199) T grog-ma, Gyarung kŏrŏk, Lohorong and Lambichong (Kiranti) khorok, Miri təruk, Dafla torub, Nung sərə, B părwak 'ant' (TB *rwak). 153
 - (200) K rəwi 'gently sloping, slanting', B hrwe 'slant, be oblique' (TB *rwiy).
- (201) L (and general Kuki) hrwi, Digaro tərui~təroi, Abor tərü 'cane' (TB *rwi(y)).
- (202) T gźa-ba 'to sport, joke, play', gźas 'play, joke', bźad-pa~gźad-pa 'laugh, smile', Thebor rot, Bunan sred, Magari ret, Bahing rit~ris, Khaling ret, Nachereng hres, Nung it, Digaro məra, Aka ra, B rai 'laugh' (TB *rya-t).
- 153 Labu $p\dot{u}-\gamma\hat{s}$? 'ant'; the first element (B $p\ddot{a}$ -) is from the 'insect' root (No. 27); see 'GD', No. 97 (JAM). Other TB languages usually exhibit either the TB *k- 'animal prefix' (Tibetan, Gyarung and Kiranti) or the *s- 'animal prefix' (Nung), while Miri-Dafla has the late *d- prefix, the root apparently never occurring without prefix.

- (203) T źag (Lahuli gyag), Manchati hrag~rag, Lepcha 'ayak, K ya, B rak 'day (24 hours)', L riak 'pass the night' (TB *ryak). 154
- (204) T źag 'fat, grease (in a liquid state)', L sa-hriak 'oil, grease' (sa 'flesh'), B pàn-rak~wat-rak 'juice of flowers' (TB *ryak).
- (205) T $\angle za\eta(-po) \sim 2a-\angle za\eta$ 'uncle (mother's brother)', B $\underline{a}hra\eta$ 'master, lord' (written $\underline{a}hsya\eta$ in addressing a monarch), Kuki * $r(y)a\eta$ (Chawte $ra\eta \sim \partial ra\eta$, Laiyo $ra\eta$, Thado $ga\eta$, Siyin $\eta a\eta$) 'father's sister's husband' (TB * $rya\eta$). 155, 156
- (206) K yut 'become or grow worse, as illness', śəyut 'to be apathetic, indifferent', B yut 'inferior, mean', hrut 'to put down' (TB *ryut).
- (207) K yau 'to be mixed', kəyau 'mix, intermix', B rau 'mix, mingle' (TB *ryaw).
 - (208) K nəloi, B kywai < klwai, L loi, Siyin loai 'buffalo' (TB *lwa·y).
- (209) T hlod-pa 'loose, relaxed', glod-pa 'loosen, relax, slacken', K lot 'escape; be free, unrestrained', śəlot 'set free', B lwat 'to be free', hlwat 'free, release', kywat < klwat 'loosed, freed', khywat 'release, free' (TB *g-lwat).
- (210) K $ləwi \sim lwi$ 'flow, as water', L (and general Kuki) lui 'stream, river' (TB *lwi(y)).
- (211) Lepcha lyak 'to taste, try' (Grünwedel), B lyak, Nung la~le, Miri yak, G srak, L liak, Mikir iŋlek, Tangkhul khəməlek 'lick'; Magari let, K śiŋlet ~ śiŋlep (Maran dial. śiŋriat), T ldźags (resp.) 'tongue', from TB *(m-)lyak ~ *(s-)lyak; 157 cf. the related roots: L hliau 'lick (as flames)', K śiŋlau 'tongue' (couplet form), from TB *(s-)lya·w; Bahing liam, Khambu and Yakha lem 'tongue', B ăhlyam '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 há 'night; pass the night'; PLB *hr-; see Manchati hrag, from TB *s-ryak or *źryak (T *sr->ś-, *źr->ź-). We can now reconstruct TB *s-ryak on the basis of the above evidence (T źag 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 źaŋ in early texts, e.g. źaŋ-źaŋ or rgya-źaŋ 'chief uncle', źaŋ-loŋ 'councillor', źaŋ-blon 'minister'.
- 156 This root has been reconstructed *źraŋ (Benedict, 1948), with the initial cluster *źr- contrasting with *zr- (*zril 'worm', n. 121); the Kuki root is *traŋ 'father's sister's husband', as shown by Haka (k-)traŋ (cited in Benedict, 1941) (Lushei lacks this root); cf. also Miri (ä-)bu riaŋ 'father's (ä-bu) younger brother'.
- 157 Another simplex/causative pair: Lahu lè?/lé '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' (\ddot{a} -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.

(213) Lepcha lyop <*lyap 'glitter, flash, glisten', sălyop 'sheet-lightning', B hlyap 'glitter; lightning' (TB *lyap).

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 ϑ), with the noteworthy exception of $m \vartheta n i$ 'laugh' < TB *m - n w i (y), apparently through dissimilation. Kachin and Tibetan share in the development: *w a > o (Nos. 158, 160, 165, 169, 170, 198, 199, 209). Lepcha has *a > o, but *w a > u: k u n 'net' < TB *k w a n; sătum 'wolf' < TB *d - w a m. Miri also has u for *w a: $t \vartheta r u k$ 'ant' < TB *r w a k; situm 'bear' < TB *d - w a m. There is further evidence for this shift in Kachin:

B twán 'wrinkled; shrink', K thun 'shrink'.

B lwan 'gimlet; bore with a gimlet', K gəlun '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, 160, 161 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 śwa-ba for śa-ba 'hart', from śa 'flesh' < TB *sya (No. 181), and the following:

(214) T tshwa, Kanauri tsa, B tshà 'salt' (TB *tsa).

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

The clusters *zw-, *dzw- (but note *dzyw- in No. 242), *yw-, *hw- and *yw- are difficult to establish for TB roots, yet it is highly likely that all five existed in the parent TB speech. ¹⁶² Initial yw- (yu-) is found both in Burmese and Lushei,

159 The wa > o shift, though especially characteristic of Tibetan and Kachin, is also found elsewhere; note L oi < wai in Nos. 157 and 208. In Modern Burmese the development has been as follows: $wap > we \sim wi$, $wak > we \sim v$, $wan \sim wam > wu$, $wat \sim wap > wu \sim v$ (but final -wa is maintained). Both medial and final wa interchange with au (> o) in the Pagan inscriptions, e.g. rwauh for rwa 'village', $kyaun \sim kywaun$ for kywan 'slave', saun for swan 'pour'.

160 B. Laufer, 'Ueber das va zur: ein Beitrag zur Phonetik der tibetischen Sprache', WZKM 12 (1898), 289-307; 13 (1899), 199-226.

161 Tibetan wa-zur appears to have been phonetic (for earlier wa or \hat{a}) in some instances; cf. T tshwa 'salt' (text), Ch. $dz'\hat{a},^a$ id. (n. 487); T rwa 'horn' (p. 113); also T rtswa 'grass', with the medial -w- element preserved in Balti and Purik rtswa ~ stswa; cf. Ch. $dz'wan/dz'uan \sim dz'ian/dz'ien^b$ 'grass, herb' (n. 455), but $ts'\hat{o}g/ts'\hat{a}u^c$ 'grass' appears to be only a pseudo-cognate.

162 TB initial *dzīz- can be inferred from one B-L root which must be reconstructed with this initial cluster: B tsīzan 'kite; (in comp.) hawk', Atsi tsūn, Lahu á-cè 'kite', Lisu dzye 'hawk, eagle; (in comp.) kite', with a Chinese cognate (n. 453).

a鹺 b荐 c草

but no cross-correspondences have been uncovered. Burmese appears to have shifted * ηw - to nw- in one root:

(215) K ηa , Moshang ηa , Nung $\eta wa \sim \eta a \sim nwa$, B nwa 'cattle' (TB * ηwa). 164,165

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'. Lushei has initial hu- in the following pair of roots:

- (216) L huam, K wam, B wám 'dare' (TB *hwam).
- (217) L huan 'yard, enclosure', K wan 'surround, encircle; circle, enclosure, compound', śəwan 'shut in, fence in', Nung wan 'surround', B wàn 'fence made of wrought materials, forming an enclosure', Kiranti *wan-wan 'circular' (Balali wan-wan, Lohorong wen-wen) (TB *hwan).

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

(218) Bunan hways ~ hoays 'come out, go out', T 'oy-ba < *'way 'come', Dhimal way, B way 'enter' (TB *hway).

Nung has initial hw- in the following pair:

- (219) Nung hwap (dial. ab), Bahing ap, Miri ap, Lepcha óp <*ap, Vayu wop <
 *wap 'shoot (bow, gun)', but Tsangla gap, Magari nap, K gap, Go go, Dimasa
 gau <*ga·p, L (and general Kuki) ka·p, id. (TB *ga·p).
- (220) Nung hwar 'burn, kindle', K ?wan, Moshang var, G wa?l '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.), Miri par 'light (as a fire), ignite' (TB *bar~*par). 167

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

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

- (221) Bahing hwa 'light', Lepcha o-m 'shine', om-bo 'illuminating', a-om
- 163 TB also has initial *yw- in the following root of limited occurrence: Bahing ywap 'cousin', Lepcha ă-yop 'levirate or sororate spouse (marriageable affinal kin)', from TB *ywap.
- 164 Note the restricted eastern distribution of this root, which is to be regarded as an early loan from Thai *yua. Chinese $y\underline{i}\underline{u}g > y\underline{i}\underline{y}u^a$ is distinct from this series.
- 165 This has been identified as an early loan from AT (Benedict, 1967 bis); cf. also Gyarung (K. Chang) ninwye < *ninwa, and Trung (Nungish) nun nua; 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.
 - 166 For 'hide' see n. 88; Lahu has gû? 'butt with head' (JAM).
 - 167 See n. 78 for the present analysis of this root.

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

(222) Kanauri śui, Bunan śu, Chepang wi ~ wei, Vayu vi, Tsangla yi, 168 Magari hyu [hü] <*hwi (cf. tśhyu 'dog' <*khwi), Lepcha vi, Bahing hu-si, Dumi, Sangpang, Waling, Dungmali hi, Lohorong həri, Lambichong and Chingtang həli <*hwi (cf. Vayu uri, Bahing khli 'dog' <*khwi), Digaro həroi ~ hrwei, Miri iyi, K sai, Nung śö, B swè, G antśi, Dimasa thi, L thi, Mikir vi, Meithei i 'blood' (TB *s-hwiy). 169

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

- *ywar 'sell': L zuar, Mikir dźor.170
- *ywi 'follow': L zui, Siyin yui.

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

- (223) T mkhyen-pa, K tśyen~tśye 'know', from TB *(m-)kyen.
- (224) K khyen~gyen~tsen 'snow, ice', B khyàm 'cold' (TB *kyam).

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

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

170 This root is also represented by Meithei $yol \sim yon$ '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 wai 'buy' also belongs here, the same semantic shift occurring in AT (the Ong-Be language of Hainan); see n. 54 for the final. Răwang (Nungish) has wan 'buy' rather than the anticipated *war.

171 Doublet forms are common in Kachin, e.g. khyun ~ sun' kidneys', khye ~ dźe '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. lətsauŋ for ləkhoŋ '2', tsaum for khom 'to go', dzətsu for dzəkhu '9'. For the assimilative -yam>-en shift of No. 224, cf. B pyam, K pyen 'to fly'; B kràm 'rough, coarse', K gren 'raw-boned, razor-backed', məgren ~ dingren 'sharp', tingren 'rough'; B ăsam 'sound' (used in meaning 'voice'), K ninsen ~ 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'.

The parallel K ts-<*gy- development is illustrated by Nos. 163 and 164; 172 note also G $t\dot{s}$ -, Dimasa $d\dot{z}$ - 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. $ta \sim tya$ 'very red' (n. 429); also the following:

B tak-tak~tyak-tyak 'very'; T thag-pa 'to be sure, decided, certain', tig-tig 'certainly', L tak 'very, real, exact', Mikir ăthik 'just', from TB *tyak.¹⁷³

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

(225) Lepcha tyan 'dark', Tsangla tsan, K tśyan~mətśyan 'black' (TB *tyan).

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

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

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

- (226) Bahing dyam 'to be full (as a vessel)', Vayu dam 'to be full', tam 'fill', T ltam-pa 'state of being full, e.g. a vessel full of water', ltam(s)-pa 'to be full', gtam(s)-pa 'full', tham-pa ~ them-pa 'complete, full' (TB *dyam ~ *tyam). 174
- (227) Bahing dyam 'to be straight', T ldem-pa 'straight, upright', B ătam 'a straight, long piece'; probably also Nung ədam 'plain (level ground), flat', hi-dam 'foot' (= 'flat of leg'), Gyarung təmi 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 *thyak: T theg-pa 'lift, raise, bear, endure', Ladakhi thag 'bear', Purik thyak 'lift', Balti thyak-pa 'patience'. 176

Bodish *styaŋ 'upper part': T steŋ, Ladakhi staŋ; possibly related to Limbu thaŋ 'above', general Kiranti *taŋ 'horn'.

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

T' $tsay-ba \sim say-ba$ ' make clear, cleanse', $sey-po \sim bsey-po$ ' clean, white, thin, airy' (note the $a \sim e$ alternation), West T siys-po' thin, clear' (West T lacks *sya-),

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 ətey, id., Meithei əsey-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 ś, z and ź, ts and tś, and dz and dź. The palatalized forms can phonemically be written: |sy, zy, tsy, dzy|. Burmese retains no trace of this distinction, but many Lolo languages have a distinctive set of correspondences for TB *sy-:178

		TB	Burm.	Lisu	Ahi	Nyi
57	fruit	*sey	asì	si	sa	sə
181	flesh	*sya	sà	hwa	$ho \sim hu$	ra
228	iron	*syam	sam	hэ	hö	rə

(228) Gyarung som (possible effect on vowel), Nung sam (dial. siam), B sam 'iron' (TB *syam). 179

Lushei has $s \sim s < TB *sy$ 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 tśuk 'knock against', Mikir tśok 'hit, strike'.

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

177 This root can now be reconstructed *syan (n. 122). West T sins- (rather than *sens-) indicates an old medial $-ya-\sim -i$ - alternation (n. 251).

178 Burling has $xw\bar{o}$ 'iron' for Lisu. In several Loloish languages the s/\bar{s} distinction is breaking down; Lahu has only $/\bar{s}/$, with s as an allophone before $/\bar{s}/$; Akha preserves the distinction, with some confusions, in most dialects: s/m 'iron', s/a? 'meat', s/a 'fruit' (JAM).

As Matisoff (Lahu and PLB, 1969) has shown, a distinction between B-L (and TB) *ts- and tsy- (=ts-, c-) must also be recognized; cf. *tsh- in B tshu 'fat', Atsi tshu, Maru tshau, Lahu chu, Lisu $tsh\bar{s}$, as opposed to *tsh- (=ch-) in B tshui 'widow', Atsi chu, Maru chuk, Lahu chî, Lisu chi (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 *dźuk 'vulva': B tsauk, Atsi dźul, Maru dźok, Chang Naga su·k, id.; the vowel length appears to be secondary, but Lushei has tśhu 'to notch; vulva', possibly from *tśhu·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 \$am \sim \sim m;\$ Trung (Nungish) has \$yam;\$ the root is also represented by Ch'iang (K. Chang) \$i \sim \siy i \siy \siy e\$ (see n. 251 for a discussion of this distribution). The Nung (Răwang) meaning of \$iam\$ is 'sword' as well as 'iron', and a relationship with the K-N root *hryam\$ is possible: TB *sry->\$i-(we have no other examples); cf. L hriam 'sharp; weapon, tool', Thado \$ibem\$ 'sharp'. Gyarung has initial \$i-\$ for TB *\$i-\$ in this root, but has \$ix ar 'louse' corresponding to B-L *\$ian (n. 251), hence a doublet *sar \sim *\$iar must be recognized for the latter.

play', from *tsya·y (No. 289), but T has rtse-ba < *rtsay 'to play, frolic, joke', which has possibly retained the original non-palatalized initial. 180

Lakher, in the Kuki group, seems to reflect TB medial *y in its vocalism; cf. Lakher paya '5' < TB *b-ya and so 'child' < TB *za, but ya 'fish' < TB *yya 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 $\partial d\hat{z}al$, K tsan, G tšel < *tšal, Dimasa $gad\hat{z}ai\eta$ < * $gad\hat{z}a(i)l$ 'far', L $fa\cdot l$ 'apart, isolated, detached' (TB * $dzya\cdot l$).

T'dźu-ba~źu-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 y-(Nos. 189, 190). Most TB languages follow Burmese in simply dropping y, but note $G na-t\delta k$ 'fish' < TB *yya.

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 ź- in Tibetan (Nos. 202–7). An additional Kuki-Naga root with initial *ry- can be reconstructed:

Kuki-Naga *ryal 'hail': L rial, Thado giel, Lakher pərei, Rangkhol ril, Ao Naga rer~rər, 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- $pa \sim legs$ -mo, Ladakhi lags-pa, Balti and Purik $lya\chi$ -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 $*(r-)tsya\cdot y$, with *tsy- standing for a dental affricate +y cluster rather than for the palatal *ts- (n. 122); Tibetan lacks the cluster *rts-, however, so that an original TB $*(r-)tsa\cdot y$ 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 yz' 5'.

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

183 Tibetan also has the doublet: yag-po~'dźag-po 'good', from *(a-)lyag-(n. 104).

Magari and Tangkhul (No. 211) and in Chepang (No. 174). TB *mly- yields B mly- (archaic)~my-, Kanauri my-, K məy- (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 gtsi-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 mtśhil-ma, L tśil 'spittle', Nung thil 'spittle', thil thil 'to spit', from TB *m-ts(y)il.¹⁸⁴

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

- (232) T śi-ba~'tśhi-ba, Kanauri śi, Magari śi, Limbu si, Miri śi, Nung śi, K si, B se, G si, Dimasa thi, L thi, Mikir thi 'die' (TB *siy).
- (233) T śiŋ, Kanauri śiŋ, Magari śiŋ, Vayu siŋ, Bahing siŋ, Miri ö-śiŋ, Nung śiŋ ~ thiŋ, B sats, L thiŋ, Mikir theŋ 'tree, wood' (TB *siŋ).
- (234) T mtśhin < mśin, Kanauri śin, Miri əśin, Nung phəśin, K sin ~ məsin, B asan, L thin, Mikir inthin 'liver' (TB *m-sin).

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

(235) T nyag-nyig 'filth, dirt', snyigs-pa 'degenerated', snyigs-ma 'impure sediment', B nats 'dirty, filthy', G antśnek 'dirt', snek 'sloppy' (in comp.), Dimasa dźini 'dirt', K nyi \sim nye 'evacuate the intestines', Nung ni 'excrement' (TB *n(y)ik); the G and K forms suggest a variant form *s-n(y)ek.

- (236) T gnyid 'sleep', rnyid-pa 'wither, fade' (cf. g-yur 'sleep', g-yur-ba 'droop, hang (of fading flowers); recline, repose'), B $\acute{n}it$ 'nod the head; lean a little, as a post' (TB *n(y)it).
- (237) T smyig-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 yăŋ-miŋ '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 khi, Limbu khe, Balali khu), Digaro gi 'yam', Nung gi 'yam, root', B kywè 'wild yam' (TB *kywiy). 185
 - (239) L tśuap, G kasop 'lungs' (TB *tsywap).
- (240) Bahing tśwar 'cut with a knife by one stroke', Mikir tśor 'cut, chop' (TB *tsywar).
- (241) T'tśhor-ba, pf. śor 'escape; flow out, run over', Lepcha tśhor 'the pouring of water', G sol-aŋ 'flow', sol-gipa 'current', Dimasa di-sor 'flow', K śon 'flow, as tears, sweat, or water poured on the ground', B swan 'pour out, spill, shed', swàn 'pour upon, cast by pouring liquid into a mold' (TB *sywar); cf. also T gśo-ba \sim bśo-ba 'pour out', K dźo \sim tśyo 'pour out, cast, enamel, dye' (see §7 for alternation of final vowel with *-r).
- (242) T'dźol-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 khrwè-má 'daughter-in-law', K khri 'paternal aunt's daughters, sister's children; son-in-law' (TB *krwiy).

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

185 Trung (Nungish) has gui 'taro', contrasting with dəgei 'dog', apparently reflecting the distinction in initials in these two TB roots (*kywəy vs. *kwəy). Nungish in general simplifies TB final *-wəy or *-wi(y) in one way or another; in Răwang they fall together with TB final *-i: gi 'yam, root', dəgi 'dog', also təri 'cane' [TB *(s-)rwi(y)] while in Lungmi (forms from N. Bodman) they are represented by -u: agu 'dog', təru '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 dźum 'salt', śum 'to be salt; saltish', Kadu sum, Moshang śum, G khari-tśham (but sum as early form), Dimasa sem, Meithei thum (cf. tha 'moon' < *g-la) 'salt' (TB *g-ryum). 186
- (246) Lepcha hryām <*hryāp 'stand on tip of toe, rise', Kiranti: rap (Bahing), rep~reb (Khaling et al.), yeb (Balali et al.) and rip (Sangpang), Vayu yep~ip, Nung rip, B rap, Meithei lep (Old Meithei tśərep) Dhimal dźap, K tsap, Moshang tśap, Mikir ardźap, Empeo sap 'stand' (TB *g-ryap). 186

In the latter root, Kachin has ts-<*g(r)y-, as in Nos. 163 and 164. Mikir $ard \not zap <*r-yap$ has a parallel in the following root:

Mikir ardźu 'ask, enquire', T źu-ba < *ryu 'request, put a question', from TB *r-yu(w).

The influence exerted by prefixes is further shown in Nos. 163 and 164, which parallel No. 246 in some languages: K mətsat '8', tsap 'stand'; Empeo təsat '8', sap 'stand'; Meithei təret '7', tśərep 'stand' (Old Meithei form).

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

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

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

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

188 It now appears preferable to recognize the vowel ∂ for TB, but only in nonfinal position. This is especially indicated for the finals *- ∂ and *- ∂ (preferable to *-uv and *-iy), and there are also indications that medial * ∂ still existed in certain positions at the reconstructed TB level, e.g. it explains vocalic alternation in Tibetan verbs (n. 344). Inasmuch as we probably should recognize the vowel ∂ in any event, it is advantageous to analyze prefixes along these lines, e.g. prefixed * ∂ - is ∂ - rather than ∂ - (with phonemic zero stress); * ∂ - ryap 'stand' is * ∂ - vontrasting with * ∂ - valt'.

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

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 -ɔ, 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 ~ śau '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:

	TB	Khoirao	Empeo	Kabui	Maram	Kwoireng
father	*pa	әра	әреи	әри	əphu	әруи
five	*b- ya	məŋa	miŋeu	рәŋи	miŋu	тәŋуи
eat	*dza	ta	teu	tu	tu	tyu

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 [-o] 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 [-o] and -e, for which a few Tibetan or Burmese comparisons have been uncovered; cf. *pro 'delight' (No. 130) and the following: 189,190

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

190 The problem indicated in n. 189 has now been greatly clarified with the aid of modern data on Kachin supplied (personal communication) by L. Maran, who records the final glottal stop (from TB *-k). K mətho '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-kəŋ 'spittle'; Răwang (Nungish) du 'vomit'; Kachin also has məton ~ mədon 'throw up', probably from *m-to-n; TB *(m-)twa ~ *(s-)twa. For Mikir iŋtok < TB *m-tuk, see n. 231. Two of the comparisons cited in the text (Nos. 248)

- (247) T mtho-ba~mthon-po 'to be high', K mətho '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', śəpro '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', śəpyo 'to boil', B prau~pyau 'quite ripe, very soft', praú 'soft, tender', phraù 'to parboil' (TB *pryo).
 - (251) T ske 'neck, throat', K ke 'to be or make neck-shaped' (TB *ke).190
- (252) T nye-źo 'mishap', nyes-pa 'calamity; punishment', K nye 'punish; cause woe' (TB *nye).

Burmese appears to have diphthongized final *-o to -au (Modern -o), as in Nos. 249 and 250; also final *-e to -ai (Modern - ϵ), 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).
- (254) L pe? 'to break or be broken', B pai 'to be broken off, chipped', phai 'break off a small piece from a larger, crumble', G be 'break; broken', pe 'break down', Dimasa bai 'break, get broken', sabai 'break', gabai 'broken', phai 'hatch', do-phai 'break with some instrument' (TB *be~*pe).

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:

and 251) must now be considered problematical; Maran cites pro? (high tone) 'bring out; come out', sapro? '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 dźit tśyi? (dźi?) (high tone) 'urinate' (No. 77), apparently through assimilation to the final -t of dźit.

191 For the Burmese inscriptions, see Ch. Duroiselle, 'The Burmese Face of the Myazedi Inscription at Pagan', *Epigraphia Burmanica* 1, pt. 1 (1919), 1-46; K. Seidenstücker, 'Beiträge zur altbirmanischen Wortkunde', *AM* 4 (1927), 1-16; Pe Maung Tin, 'Philological Features of the Inscriptions', *JBRS* 19 (1929), 78-9.

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Both -u and -i are written with symbols for long vowels, while -u- in -uw is written 'ui' to indicate the special phonetic value (probably mid-unrounded) of this phoneme before the labial (-w) as well as before velars (-k, -y). Final -aw is generally written with a special symbol 'e-a', but occasionally as a+w, as in uwaw 'cuckoo' (\dot{u} - $a\dot{u}$), 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 $-\varepsilon$ for -ay (transcribed -ai), i.e. all diphthongal combinations have been leveled off to pure vowels (u and u are lowered, u 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):

	Burmese	Maru	Ahi	Nyi	Lahu
sweet	khyui	tśhuk	tśhö	tshə	cho
weep	ŋui	$\eta u k$	$\eta \ddot{o}$	η_{∂}	
steal	khuì	khuk	khö	$kh\partial$	$qh\hat{\jmath}$
thick	thu	thau	tho	thu	thu
take	yu	yu	yo	yu	уù
white	$phru^{194}$	phyu	tho	ślu	phu

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'. 195

TB *-iy has been reconstructed for roots in which Burmese has -e <*-iy corresponding to -i in Tibetan, Kachin, Garo, Lushei and most other TB languages, e.g. T śi-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 dźakhu, 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 ?akhu~khu-bo, Vayu ku-ku, Bahing ku-ku, Digaro (na-)ku, Mikir ni-hu <*-khu 'uncle'; Nung əkhö, Miri əkü, 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 'honorific 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 nəmiy-khu~-khau, Miri mikki (Abor muikü), Nung məö (unexplained loss of initial), B mì-khuì~ăkhuì, G wal-ku, L mei-khu 'smoke', K wan-khut 'smoke', wan-khut khu 'to smoke'; TB *kuw (note general use in composition with words for 'fire').

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

(257) Miri pəmuü, Nung thəmö, Mikir vo-mu, L mu, Lakher pəhmo, Khami əhmo, Sho əhmü, 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 (= *-əy) after *l to 2, which is then fronted in Akha: 'four' $3/\ddot{o}$; 'heavy' Lahu $h\hat{o}$; 'bow' $h\hat{o}/\ddot{o}$; 'wind' Lahu $m\hat{u}-h\hat{o}$; 'boat' Lahu $h\hat{o}$ -lô\rightarrow -q\overline{o} (Akha $l\hat{o}$ does not front the vowel as expected); 'grandchild' $h\hat{o}/\ddot{o}$ (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 phodu, L tu, B tu 'nephew' (TB *tu). 196
- (260) T'bu-ba 'open (of flowers)', Nung phu 'open', nam-phu 'blossom, bud', K pu 'to bloom, bud', əpu 'blossom, bud', B phù 'to bud, swell', ăphù 'bud, swelling', Mikir inpu 'open, dilate', phu 'bud' (TB *bu~*pu).
- (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-gan, Dimasa li 'penis' (TB *li). 197
- (263) Vayu ri 'decay', Miri tari 'wound, ulcer, sore', K ri 'to gleet', ari 'gleet', nyi (n-yi) 'matter, purulent discharge', B $ri \sim yi$ 'to be rotten (of cloth), to gleet (as pus)', ari 'any slimy discharge' (TB *ri). 198
 - (264) T srid-pa 'existence' (with suffixed -d), B hri 'to be' (TB *s-ri).
- (265) Nung khri 'tickle' but ra-kyi tsip 'armpit' <*ra-kli (ra- 'shoulder'), B kăli 'tickle', gyak-kăli~tshak-kăli~lak-kăli 'armpit' (lak 'arm'), Lakher kili 'tickle', ba-kəli 'armpit' (TB*g-li); cf. Dimasa sisi-khai 'tickle', sisi-khor 'armpit' (='tickle-hole'). 199

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

TB	Tibetan	Kachin	Burmese	Garo	Dimasa	Lushei
*-aw	-0	-au	-au	-0	-au	-ou
$*-a\cdot w$	$-u \sim -o$	-au	-au	-0	-au	-au
*-ow	-0	$-u \sim -au$	-u	-0	-au	-ou
*-ay	-e	-ai	-ai	- <i>e</i>	-ai	-ei
*-a·y	-e	-ai	-ai	- <i>e</i>	-ai	-ai
*-ey	-e	-i	-i	-e	-ai	-ei

196 B-L *du (Lisu -du), hence we must reconstruct TB * $tu \sim *du$. Gyarung (K. Chang) has tendau 'nephew', perhaps from *te/mdou, with vowel gradation.

197 T mdźe 'penis', from *m-lye < *m-ley (n. 104) belongs with this set, but shows vowel gradation.

198 Maran cites K ri? and sri? (low tone) 'gleet' but nyi (high tone) 'matter'; the glottal stop of the first two forms possibly reflects a glottal accent; cf. B $ri \sim yi$ (all these forms possibly glottalized by the non-phonemic ? of an original *a-prefix).

199 Lahu g_{ℓ}^{2} -li-ya 'tickle', $p\dot{\epsilon}$ -li- $k\bar{a}$ '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 dźuru-khau, L kou, Mikir ku, Empeo gu 'call' (TB *gaw).
- (266) B khaù 'small basket for presenting offerings', L khou 'kind of basket' (TB *kaw).
- (267) T sdo-ba 'to risk, hazard, venture; to bear up against, bid defiance', B taù 'resent an insinuation, interfere in a quarrel', L dou 'to be at enmity with', also 'to prop up' (TB *daw); K tau 'to have premonitions, anticipate, foresee' and B tau 'guess, presume' may also belong here.
- (268) T ro 'corpse, carcass; residue, sediment', Lepcha hryu <*/sru 'to be dry, dead (as leaf)', B rau 'very old, near withering (as leaves)', L rou 'dry, dead' (TB *raw).
- (269) K krau 'dig out, as worm's or a bee's nest from a hollow tree', L thlou 'to weed' (TB *klaw).
- (270) T ryod-pa~ryo-len-pa 'parch, roast, fry', K kəŋau 'fry', Mikir arnu < aryu 'roast, bake, fry, grill', Tangkhul khəyui 'fry' (Naga-Kuki *ŋou) (TB *r-ŋaw).
- (271) T nu-bo 'younger brother', nu-mo 'younger sister' (West T no and no-mo), Lepcha nŭm-nu 'blood relation', K nau, L nau 'younger sibling', G no 'younger sister', Bodo bina nau 'sister' (TB *na-w).
- (272) K sau 'oil, fat, grease; oily, savory', L thau 'fat, grease; to be fat', G tho, Dimasa thau 'oil', Bodo thau 'oil', gathau 'sweet to taste; savor' (TB *sa·w).
- (273) B au 'cry out, bawl, howl', L au 'scream, cry out', perhaps also Dimasa hau 'shout in chorus' (TB $*a\cdot w$).
- (274) Nung and K nu 'tender, soft', B $n\dot{u}$ 'young, tender', $n\dot{u}$ 'to be made soft', L nou 'young, soft, tender' (TB *now).
- (275) T'tshod-pa~'tsho-ba 'cook in boiling water, bake', K dźu 'burn, roast, broil, bake', Nung əsu 'boil', thi su 'boiling water', B tshu 'boil, bubble, effervesce', G so, Dimasa sau 'burn', L śou, Lakher śaeu 'boil', Meithei əsau 'heat' (TB *tsyow).
- (276) Kanauri tso 'thorn', 200 Lepcha d ź u 'thorn', K d ź u 'thorn; prick with a thorn', $\partial d z u$ 'thorn, sharp spike of any kind', B t s h u '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 *gali '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 kālit 'tickle'; borrowing of the TB forms from Western Thai, specifically Khamti, is a possibility here; Khamti has kāle (prn. kāli) and kap kāle 'armpit', also tšup kāri 'tickle' (cf. the Nung form).

200 T \it{mtshon} 'any pointed or cutting instrument; forefinger' has perhaps been developed from this root.

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 kəsui 'thorn' (TB *tsow).

- (277) T tsho-ba, B tshu 'fat', adj. (TB *tsow).
- (278) Central T and West T sro-ma, K tsi?-ru (tsi? 'louse') 'nit' (TB *row).201
- (279) K gəlu 'long', B lu 'disproportionately tall', G ro, Dimasa galau \sim lau-ba 'long' (TB *low).
- (280) K mu~əmu 'work, labor; affair, matter', śəmu 'move, stir', Nung əmu 'labor, business, matter', B mu 'do, perform', āmu 'deed, action', āhmú 'business, work, affair', G mo 'move', Dimasa mau 'move', samau 'move, shake' (TB *mow).
- (281) T ltśe < *s-le 'tongue', me-ltśe 'flame', Kanauri le, Lepcha ăli, Vayu li, Limbu le-sot 'tongue' (cf. Lepcha lin-śet), Nung phəle 'tongue', thəmi-səle 'flame', K lai 'tongue' (couplet form), G sre 'tongue', wal-sre 'flame', Dimasa salai 'tongue', wai-slai 'flame', L lei (Kuki *m-lei), Mikir de 'tongue' (TB *m-lay~*s-lay). 202, 203
- (282) Gyarung těmě, Thebor me-kon, Magari me-me, Bahing me-ri, Digaro lomi~lomin, K mai~nmai, Aka orim, B ămrl (cf. the Bahing form), G kime, Dimasa khermai~bermai, L mei, Aimol romai, Mikir arme 'tail' (TB *r-may).²⁰⁴
- (283) K lai 'to be changed', gəlai 'change, exchange; barter', məlai 'change, repent; substitute', Nung thəle 'alter, change, exchange', B lai 'change, exchange', G sre 'change, exchange', Dimasa salai 'alter, change, exchange', salai lai 'interchange, exchange', L lei 'buy, barter' (TB *lay).²⁰⁵
- 201 A rare root, represented also by Gyarung (K. Chang) dzəru 'louse egg'; the dz- 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 *śiŋli* and *śiŋlau*, the regular word being *śiŋlet*, which we have assigned to TB *lyak 'lick' (No. 211). B hlya 'tongue' appears to have been influenced by the latter root.
- 203 Lahu has $ha-t\grave{c}$ 'tongue', $\grave{a}-m\bar{\imath}-ha$ 'flame' (JAM). This is cognate of B hlya 'tongue', probably from a distinct root (n. 158).
- 204 One is tempted to interpret the Bahing and Burmese forms in terms of metathesis, but there is no analogy whatsoever for this shift in either language. The Burmese form must therefore be regarded as a contraction of *a-mai-ri, with the regular -ai correspondence.
- 205 Two distinct roots must be recognized here, viz. TB *lay 'change, exchange' and *(r-)ley 'barter, buy', the latter apparently related to TB *b-rey 'buy' (No. 293), which has been identified as a loan-word from AT (n. 207). For Kachin, Maran distinguishes between lai~gəlai (mid tone) 'change' and gəlai (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 rdźe-ba <*r-lye <*r-le (n. 104) 'barter', also 'change (name, clothes)' (this range of meanings also present in the AT counterparts).

- (284) K dai, L tei 'self' (TB *tay); cf. TB *s-tay 'navel' (No. 299).
- (285) T ned (with suffixed -d) 'I, we' (elegant), K nai 'I', L nei 'self' (TB *nay).
- (47) (above) K pai~ləpai, B bhai, lak-wai, L vei, Mikir arvi (with vowel gradation) 'left (hand)' (TB *bay).
 - (286) K mənai 'twist', B nai, Tangkhul khənai 'knead' (TB *na·y).
 - (287) B ălai, L lai 'middle, center; navel' (TB *la·y).
 - (288) K lai 'dig up', L lai 'dig, hoe' (TB *la·y).
- (289) K tśyai, L tśai '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 thami, 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 hnai (with vowel gradation) 'near' (TB *ney).
- (57) (above) T se (in comp.), Vayu se, Bahing si, Nung si, K si ~ ssi, B sì ~ ăsi, G the ~ bithe, Dimasa thai ~ bathai, L thei, Mikir the ~ athe 'fruit' (TB *sey).
- (182) (above) T śes-pa, Vayu ses, B śi, G masi, Dimasa mathi 'know', K śi 'news' (TB *syey).

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 $-\varepsilon < *-ay$, is also of help here. Reconstructions can sometimes be made on the basis of the Nung or Kachin forms alone:

- (292) Gyarung rni, Nung əni~təni, Garo khəni, 206 Dimasa khanai 'hair (of head)' (TB *ney).
 - (293) K məri, Miri re, Garo bre, Dimasa barai 'buy' (TB *b-rey).²⁰⁷ 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 hadźai '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, 1967 bis) as a loan-word from AT; cf. IN *bəli ~ *bili, from AT *(m)bali; the TB form shows the typical r=l/l equation, with handling of the *b- as an ordinary TB verbal prefix; a separate (but related) loan perhaps yielded TB *(r-)ley 'barter, buy' (n. 205). Chinese has a possible loan

merging *-aw and *-ow, *-ay and *-ey (>-u and -e, respectively, in Mikir), but occasional distinctions are made in a few languages, e.g. Bahing mi 'fire' but me-ri 'tail'; Gyarung timi 'fire', těmě 'tail' (contrast Vayu me 'fire', li 'tongue'); Abor ömö '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:

	Lushei	Lakher	Thado	Bete	Empeo	Tangkhul
call	kou		kou	koi	gu	
fly, n.	thou	mətheup	a thou	ithoi	_	_
field	lou	(lo)	lou	loi	lu	lui
fat, n.	thau	tho	(thou)	thai	pəthau	thau
younger sibling	nau	no	nau	nai		nau
grasshopper	khau	khɔ-śu	khau			khau

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 pətheu, Ao Naga meso 'arise, awake' (TB *m-sow).

(296) T syo 'blue, green', L you 'white', Thado you 'clean', Sho nau 'green', Bete ayoi 'yellow' (TB *yow).

(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 mthe-bo 'thumb', Nung the, Mikir the 'big, large, great' (TB *tay).208
- (299) T lte-ba, K dai ~ śədai 'navel', G ste 'abdomen' (TB *s-tay).
- (300) K mai, Nung me, Mikir me 'good, well' (TB *may).
- (301) K lai ~ śəlai 'pass; exceed', Nung le ~ səle 'pass', G re, Dimasa lai 'pass', Mikir le 'over, excess, profit' (TB *lay); cf. L lei 'fine, debt, tax'.

A few roots in *-oy have been reconstructed on the basis of Kachin and Lushei material. This final appears in both these languages, but in some instances can be

from the same general AT source: mai^a (tone B) 'buy', mai^b (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'âi,c with identical semantic development.

a買 b賣 c太

referred back to TB *-wa[·]y; cf. L khoi~khwai 'bee' < TB *kwa·y (No. 157); L loi, K yəloi 'buffalo' < TB *lwa·y; also the following:

- (302) Bunan lo-i, K loi~lwe, B lwai 'easy' (TB *lway).209
- (303) K koi 'shun', məkoi 'hide, conceal', B kwai 'conceal, keep out of sight' (TB *kway).

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:

- (307) B kwé 'bend round, be curved', kwè 'to bend, curve', khwe 'to curve, curl, coil, wind into a ring; a coil', khwè 'flat ring, ferrule', Lkoi, Siyin kauyi ~ koi 'crooked, bent', Dimasa sugui 'to bend', gugui 'bent' (T *koy).²¹⁰
- (308) K (Khauri dial.) boi 'to have a flexure or cowlick', B bhwe 'circular flexure in the hair of animals' (TB *boy).
- (309) K śadoi 'last born child in a family', wa-doi~wa-dwe 'father's younger brother; stepfather', nu-doi~nu-dwe 'mother's younger sister; stepmother', B thwè~ăthwè 'youngest', mi-thwè 'mother's younger sister; stepmother', bhá-thwè 'father's youngest brother; stepfather', G ma-de 'aunt, stepmother', Bodo udui 'to be young', ma-doi 'mother's sister', Dimasa gidi 'younger (child)', bidi 'father's younger brother', ma-di 'father's younger sister' (TB *doy~toy).²¹¹
- (310) K goi 'crow, as a cock; squeak, as some kinds of snakes; laugh loudly', məgroi 'howl, scream', B krwè~kywè '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 *lw[a, a]y by convention (we write short vowel in roots for which length cannot be determined).
- 210 For Siyin, Stern, Asia Major 10 (1963), cites kui (low tone) 'bend' (intr). and kuei (high tone) 'bend' (tr.); Tiddim Chin has kuai 'bend'; these forms probably represent an original *koi (as in Lushei) rather than *kway.
- 211 Add Trung (Nungish) ik-ra a-dəi (tone A) 'younger brother (ik-ra)', a-la a-dəi 'younger uncle (a-la)'; cf. dəi (tone A) 'short', a-dəi (tone B) 'small (persons)', also Lepcha di(-m) 'small'.
- 212 TB *kroy rather than *krwəy, since Kachin has khri 'son-in-law' for TB *krwəy (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

- (312) K khoi 'borrow or lend (presupposes a return in kind)', B krwè 'debt', äkrwè 'on credit' (TB *kroy).
- (313) K khoi 'surround, enclose', B khrwe-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 towe, Kadu kwe <*k-we, Nung owe, Moshang vi-sil, Shangge yok-vi 'monkey' (TB *woy).²¹³

The following root shows much fluctuation in final:

(315) K ywi 'gentle, mild, peaceful, quiet', əywi-śa~əyoi-śa 'gently, peacefully, moderately', B ywé 'appear in small measure; gentle, moderate', L yoi 'quiet, silent', yui 'downhearted, sad', yuai 'listless, quiet, silent' (TB *yoy).

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

*d-k(h)ew: L kheu? ~ khei, Lakher tśəkhei 'pick (as a sore), dig out (as a thorn)', Mikir arke 'scratch the soil for grain (in birds)'.

*hrew 'burrow': L hreu?, Lakher rei.

*ew 'lean back': L eu, Lakher əua.

*m-hew: L heu 'spoiled, wasted', Lakher pəhua '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 hnai 'near' $< TB */na\cdot y$ for TB *ney;

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

	TB	Thai	Kam-Sui	Oceanic
shellfish	k(h)roy	hoy	qhui	kway
dove	m- khr v w	khraw	qwaw	kwəw-

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 |l|, as found in other roots, in which event TB *k(h)roy is to be interpreted as a loan from an AT infixed form preserved only in this loan.

213 Trung (Nungish) has a-koi 'monkey', with prefixed k-, as in Kadu. Mikir ki-pi, Miri si-be 'monkey' perhaps belong with this set; we now reconstruct TB *(b)woy, although Chinese has a possible cognate which points to ST initial *w-: $giwan/yiwon^a$ 'monkey' (with suffixed -n).

Dimasa busu 'thorn' < TB *tsu(w) for TB *tsow; Dimasa khau 'steal' < TB *kow for TB *r-kuw. This feature also appears in the following pair of roots:

- (316) T ?ane~nene-mo, Tsangla ənye, Kanauri əne < TB *ney, but Gyarung əni, Miri ənyi, Nung əni, K ni, G ma-ni, L ni, Mikir ni 'aunt (father's sister); mother-in-law', from TB *ni(y).
- (317) Ltu-bau? ~ tu-bou? 'hammer' < TB*tu(w), but T mtho-ba~tho-ba'large hammer', Thebor tho-a 'large hammer', tho-ro~tho-tśuŋ 'small hammer', Nung du-ma, K sumdu, B tu, Dimasa dau-bu 'hammer', K thu, B thú 'to pound, hammer' (TB *tow). 214

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 səru thin, B thàn-rù '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 (Răwang) 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 thàn-rù, cf. T than-tshu 'resin, gum' (tshu 'water'), than-sin 'fir, pine' (sin 'tree'), Vayu thon < *than 'pine'; also B thàn '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 *-uv rests on a misconception of the phonemic value of the form -uiv found in the early Burmese inscriptions (ui is allophone of u before v).
- 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 *- \ddot{u} for our *- $uw = *-\partial w$, but only *-i for both our *-i and *- $iy = *-\partial y$) and recognizes two sets of ablaut relationships: $a \sim e \sim o$; $i \sim \ddot{u} \sim u$. This scheme includes the medial * $u \sim *i$ alternation in Tibetan and elsewhere (see pp. 83 and 84) but neglects the basic medial * $ya \sim *i$ alternation (see pp. 84 and 85); it also encompasses the medial $a \sim o$ and $a \sim e$ 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'âma' 'to talk' (intr.), d'm/d'âmb (same tone) 'to

§11. Tibeto-Burman vowels (medials)

All five vowel phonemes occur in medial position. Lushei distinguishes between short and long vowels in this position, and this distinction is reflected in Haka and other Kuki-Naga languages. Other TB languages, insofar as they have been recorded accurately, do not show this feature in any consistent way, although vowel length is sometimes marked. The Lushei distinction between a and a, and between a and a, is reflected in certain correspondences in Bodo-Garo and Burmese-Lolo (see below), hence we must suppose that the distinction obtained also for a and a, a and a, 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. ătsom 'hair' < TB *tsam, lom 'road' < TB *lam, but tyan 'dark' < TB *tyan. Mikir, however, with -o for TB final *-a as in Lepcha, retains medial *a with the exception of a curious shift to $e \sim i$ before final -m, as in nem-po 'sesame' < TB *s-nam, serim 'otter' < TB *s-ram, innim 'to smell', nem-so 'slight smell, stink' < TB *m-nam. 218 This shift is partially paralleled in Himalayish: Kanauri keb 'needle' < TB *kap, stem 'daughter-in-law' < TB *s-nam; also bren 'get well' < TB *bran. Occasional shifts to o or e are encountered elsewhere; cf. T ?ag-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 śəlap 'leaves for packing food' (TB *lap).

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

218 Mikir also has e for *a before final - η ; cf. -kre η 'cold' < TB *gra η ; -kle η 'congeal' < TB *gla η ; ke η 'leg, foot', T rka η (-pa) 'foot, leg; stem, stalk'; note also Thado ke η 'leg, foot' but L ke and Tiddim xe < *khe, id., possibly from a doublet root: TB *ke η ; cf. Ch. g'ie η /\(\gamma\)ie η a 'leg, shank', g'\(\tilde{e}\eta/\gamma\)e η b' 'stalk', with semantic development as in Tibetan (the Chinese vocalism suggests an original *gi[\cdot]\eta\) rather than *ge η or *ga η).

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(322) K dźi-groŋ (dźi 'winged insect'), B khraŋ, Mikir tim-kraŋ (tim 'gnat, midge') 'mosquito' (TB *kraŋ).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 tšiŋ khak 'expectorate, clear throat, cough up; phlegm, sputum', L kha·k 'phlegm'.
- (324) T mag-pa, Lepcha myok < *s-mak, Dhimal hma-wa, Miri mak-bo ~ mag-bo, K da-ma?, B sa-mak, Lahu à-má-pā, L ma·k-pa 'son-in-law' (TB *ma·k).²²¹
 - (325) G do-bak (do 'bird'), L ba·k 'bat' (TB *ba·k).
- (326) K than 'hang, as a sword at the side', məthan 'impale', L tar 'stick on a pole, make or set up a landmark, hang up', Mikir tar 'impale' (TB *tar).
- (327) B khak-ray 'fork', ăkhak 'branch', Lahu ∂ -qá, L ka·k 'fork (of tree); to be forked' (TB *ka·k). 222
- (328) Tyaŋ-po, K tsan < *g-yan (cf. Nos. 163, 164), G rittsen, Dimasa redźen < *r-yan (cf. No. 164), L $za \cdot n < *ya \cdot n$, Mikir ardźan < *r-yan 'light (not heavy)' (TB $*r-ya \cdot n$).

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

(329) K ngam (n-gam) 'precipitous; precipice', kha ningam 'bank of a river (kha)', B kàm (archaic khàm) 'bank of a river or sea', knut-khàm 'lips' (= 'mouth-bank'), G rikam 'bank, margin, rim', L kam 'bank, shore, mouth', kha·m 'precipice' (TB *r-ka[·]m).

The following pair appear to reflect an archaic TB doublet:

- (330) K kaŋ 'to be hot; emit heat, as the sun or a flame', kəkaŋ 'roast, toast, bake', Nung dəgaŋ 'toast', B kaŋ 'broil, roast, toast', L ka·ŋ 'burn' (ΤΒ *ka·ŋ).²²³
- 219 Further support for an original *a vocalism in this root is furnished by Nungish: Răwang məgaŋ < *m-graŋ 'mosquito', Trung kraŋ 'fire-fly'.
- 220 Add the following pair of roots: K lam 'to measure by fathoms', ləlam 'fathom'; B lam 'to encompass with the arms', ălam 'fathom'; L hlam 'arm span' but Tiddim la·m 'fathom'; TB *la[·]m; T 'gran-pa 'vie with, contend for, strive; (in general sense) fight', from *g-ral (see n. 318 for initial, n. 54 for final), ral-gri 'sword' (=war-knife); B ran 'quarrel'; L ra·l 'war against, warrior', Tiddim ga·l < *ra·l 'battle, war, enemy', Angami Naga (Burling) te-hrə 'war'; TB *(g-)ra·l.
- 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 reprefixed form: $\hat{\sigma}$ -má (IAM).
- 222 Also a glottalized root in PLB: *?kak < *?əkak. The a- in Burmese is thus a re-prefixation after the original prefix had fused with the root (JAM). K kha? 'to be parted, separated, open', dźəkha? 'to part, separate' (Maran), probably also belongs with this set.
- 223 Tiddim Chin has kan (rising tone) 'to dry up', contrasting with kan (level tone) 'to fry', also kan (level tone) 'to burn'. Both these roots (Nos. 330 and 331)

(331) K kan 'to be dry, as paddy, garments or the like', L kan 'evaporate, dry up', also 'fry' (TB *kan). 223

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 pray 'dawn', G phriy, Dimasa phoroy 'morning' (TB *pray).224
- (333) K laŋ 'bird of the falcon family', gəlaŋ 'eagle, kite, hawk', laŋ-da ~ laŋ-daŋ 'vulture', B làŋ-tá 'vulture', hrwe-làŋ-tá 'eagle' (= 'golden vulture'), làŋ-yun 'species of hawk', G do-reŋ 'falcon, kite', Bodo dau-leŋ-a 'eagle', Dimasa dau-liŋ 'kite' (TB *laŋ).²²⁵
- (334) K nay 'follow', mənay 'companion', sənay 'adhere to, follow up'; B hnáy <*s-náy 'with, together with', hnay-hnay 'common, ordinary', G sniy 'follow, imitate', sniy-gipa 'apostle', Dimasa phanay 'attach, set anything to another thing' (causative form) (TB *nay).

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

TB *-ap > -ap (-p sometimes dropped in Dimasa)

TB *- $a \cdot p >$ *- $a \cdot w >$ -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 * $ka\cdot y$ and not *[] $ka\cdot y$ or */ $ka\cdot y$; Nungish (Răwang) has $d \ni gay$ '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 šó-pō 'tomorrow' (šó 'morning') (JAM). This is possibly a prefixed root: *b-raŋ; Trung (Nungish) has sraŋ 'morning', probably from an original *s-raŋ.

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 klan type (Bahnar klan) but Khasi has klin; closely similar forms appear in Miao (Hua Miao klan, I Miao glon) but not elsewhere in AT. Forrest (7AOS 82, 1962) cites Lepcha $k \bar{a} l y \bar{u} n$ 'sp. of eagle' but this would indicate an original long medial u (n. 231); the Lepcha cognate is perhaps the standard term kum-thyón ~ pun-thyón 'eagle, kite' (with palatalization of the original velar + l initial cluster). For rest 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: $i \partial y^a (= 2i \partial y)$ 'eagle, falcon', from $2li \partial y$ (n. 419), with 2 standing for k or even *q (indicated by Miao forms). Tibetan has glag 'eagle, vulture', which has been compared (p. 178) with Ch. glak/lakb 'kind of bird' but which might represent an old doublet of our general ST root here: *g-lan ~ *g-lak; cf. Ch. diak/jakc 'hawk, kite', from *liak (n. 458); this reading for the Ch. graph is based on the use of diak/jakd 'stringed arrow' as phonetic, the graph then having been applied to another root (n. 453).

		TB	Lushei	Garo	Bodo	Dimasa
116	weep	*krap	tap	grap	gap	gara
118	fireplace	*tap	tap	tśudap	gadap	gap
219	shoot	*ga·p	ka∙p	go	gau	gau
92	fan, winnow, paddle	*ya·p	za∙р	tśo	dźau	dźau

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

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

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

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

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

- (339) Jili təkhyen, L ke·l 'goat' (TB *ke·l).228
- (340) Dimasa gepher 'flat', L per 'flat and thin' (TB *per).

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

(341) T mdons 'eye in peacock's feather', K u-don, B ú-daùn 'peacock' (TB *don).

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 tsin 'beautiful' but defines thap as follows: 'to be of a deep, black or red colour; to be ruddy, and thus beautiful; to be pleasing, agreeable, delightful' (suggesting that this is basically a color name). In Tibetan the root is perhaps represented by thabs 'opportunity, chance, possibility'='the fit (thab-) place or time (-s)'; cf. also T stabs 'mode, manner, way, measure'. The Bodo-Garo forms can be compared directly with B tau, Lahu dɔ'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 *kyi[·]l is represented by T skyin 'wild mountain goat' (n. 53).

- (342) T skog-pa~kog-pa 'shell, rind', phyi-kog 'bark' (phyi 'outside'), Bahing kok-te 'skin', B ăkhauk, Lahu à-qú 'bark' (TB *kok).²²⁹
- (343) K $on-on \sim go-on \sim won$ 'feel squeamish, nauseated', B an 'retch, vomit' (TB *on).
 - (344) T gtsod~btsod 'Tibetan antelope', B tshat 'sambhur' (TB *tsot).
 - (345) L pop 'hole, aperture', B pap 'to be a crevice, crack open' (TB *pop).

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

- (346) K ren 'to be equal', diyren 'place in a long, even row'; B rań-tu 'to be equal', hrań 'put together side by side'; Dimasa ren 'line' (comp.), Mikir ren 'line, range, row' (TB *ren).
- (347) Kiranti *khrep 'ant', K krep ~ śəkrep 'bug', B khrip 'lac' < 'lac insect' (TB *krep). 230
 - (348) K nem, Nung enem, B nim 'low' (TB *nem).

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

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

This root is to be kept distinct from the following:

- (350) L khuar~khur 'hole, cavity', Nung duŋ-khr [-khər] 'hole' (for duŋ-, see No. 169) (TB *kwar).
- 229 Another glottalized PLB root (note Tibetan prefixed s-): *?kuk 'outer covering' (JAM). Bahing also has siy-kok-te 'bark' (siy 'tree'). Two little known Himalayan languages indicate an original *kw- initial cluster: Chourasya 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-)kwâk, 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'wâka '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 *kwâk).
- 230 Lahu a-kɨ 'lac' indicates PLB *ʔkrip, as does B khrip (JAM). For the semantics of this root, see Benedict, 1939. Răwang (Nungish) has both rap 'lac insect' and rip 'flying ant', the latter from *khrip; cf. Răwang rap 'winnow' < *khrap (n. 382); for the relationship in meaning, cf. Miri təruk 'ant', also 'lac insect' < TB *rwak 'ant'.

- (351) K lep, G rep, Dimasa lep, L hlep 'slice, pare, cut off' (TB *lep), but Lepcha has lip 'to slice, cut in slices'.
- (352) K prey, G din-brey 'straight', Dimasa beley 'to be erect, straight', gibley 'erect, straight', si-phley 'straighten out' (TB *bley~*pley).

The high-medial vowels *u and *i of TB are well maintained in Tibetan, Kachin and Lushei, but partial or complete replacement by lower vowels $(o \sim e \sim a)$ 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 \check{a} as opposed to long a (from TB *a): $hr\check{a}t$ 'bone' < TB *rus, $l\check{a}y$ 'stone' < TB *r-luy, $ny\check{a}t$ '2' < TB *g-nis, $ny\check{a}l \sim nyel$ 'gums' < TB *r-nil; Lepcha also has forms with medial u, which in at least three roots appear to reflect TB long $*u \cdot : t\check{a}fuk$ 'stomach' < TB $*pu\cdot k$, kuy 'tree' < TB $*ku\cdot y$ and muk 'weeds' TB $*mu\cdot k$ (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 $\tilde{a} \sim u$ interchange, e.g. $m\tilde{a}t$ 'to blow', $s\tilde{u}\eta$ -mut 'wind'; cf. Bahing hmut ~ mut, Gyarung -mut, Kachin (Assam dial.) mut, Miri mut, 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 a for TB medial *u. and medial u or ŭ for TB medial *u; in addition to the three roots cited in the text, cf. the following: tūk-pāt 'knee' < TB *put; tārāk '6' < TB *d-ruk; tuk-tsam 'mortar' <TB *tsrum (or *tsum); sam '3' < TB *g-sum; lyam 'to warm up food', from *s-lam < TB *lum; (a-)myal ~ (a-)myel 'body hair' < TB *(s-)mul; khlyam 'sweet', from *s-klam < TB *klum (L thlum, Siyin thum, Meithei thum), as contrasted with muk 'foggy, misty', muk-muk 'dullness, darkness' < TB *r-mu·k; mun 'overclouded, overcast' < TB *mu·n; kuk 'to rake, scrape', etc. < TB *ku·k; kum 'arched, concave, vaulted' < TB *ku[·]m; cf. also ryŭm' needle', an apparent loan from AT (n. 82, citing IN *d'ayum). The Lepcha correspondence permits the reconstruction of long medial *u· in TB *nu·p~*ni[·]p 'sink': Lepcha nup 'to be covered with water', also *(m-)u·m' hold in the mouth': Lecha ŭm' receive into mouth without swallowing'. Complex doublets must be recognized in some instances: TB *(m-)tuk \sim *(s-)tu·k \sim *(s-)du·k: Mikir intok 'to spit; spittle' (n. 189); Maru tauk 'vomit, spew'; Lepcha tyuk 'to spit', dyuk 'spittle'; TB *dun ~ *tu·n 'long, length' (Lepcha a-thun 'height, length'); also TB *pu·k~*buk 'cave; belly' (Lepcha tăfuk ~ tăbak ~ tăbak), with Chinese showing forms derived from *puk ~ *buk (n. 479). Lepcha, finally, has medial o or o in three roots: -tok 'neck' < TB *tuk; (ã-)rón 'horn' < TB *run; tśór 'sour, acid' < TB *skyur, the last root apparently related to TB *sur' sour', Ch. swân/suân; this suggests the reconstructions *twak 'neck', *rwan 'horn' (a doublet of *rwa) and *s-kywar and *swar 'sour'. One would anticipate that Lepcha might make a similar distinction between medial $\tilde{a} < \text{TB } *i$, and medial i (or e) $< \text{TB } *i\cdot$, but this cannot be established on the basis of the material now at hand, although Lepcha kil 'screw' < TB *ki·l, and Lepcha hlet-bu 'leech' < TB *(m-)li·t are suggestive here.

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

TB *-uk, *- $u\eta$ > B -auk, - $au\eta$ but *- $u\cdot k$, *- $u\cdot \eta$ > B -uik |-uk|, - $ui\eta$ |- $u\eta$ |.

TB *-ik, *- $i\eta$ > B -ats, /-ait/, -an /-ain/.

TB *in > B - an' / - ain / (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). ²³² In addition to B khrauk, L ruk '6' < TB *d-ruk, the following cross-checks with Lushei are available:

- (353) B tsauk 'steep', L tshuk 'descend, steep (downwards), down' (TB *tsyuk).
- (354) B hnaùŋ 'to be after', ăhnaùŋ 'coming after, last', ăhnaûŋ 'back (of a knife)',²³³ L hnuŋ 'the back', hnuŋ-a 'after, behind', Mikir ənuŋ 'back' (TB *s-nuŋ).
 - (355) B lak-khyaùn < *lak-(k)yaùn 'finger' (lak 'hand'), khre-khyaun 'toe'
- 232 Lahu and probably other Loloish languages have two correspondences to Burmese final -auk; we reconstruct *-ok and *-uk:

Final *-ok							
	Lahu	Burmese	Tibetan		Lahu	Burmese	Tibetan
fear	kớΡ	{ krauk \ khrauk	dogs	poison	t∂P	tauk	dug
flint	mí-jò₽	mì-kyauk	_	behind	-nó	nauk	_
below	hό	?auk	og	project	ηś	ŋauk	*******
morning	šź	sauk		six	khò₽	khrauk	drug
hit	dô₽	tauk	_				
			Fina	l *-uk			
	Lahu	Burmese	Tibetan		Lahu	Burmese	Tibetan
catch fire	tò?/tú	tauk	dugs-pa	mane	ò-kú-mu	_	rŋog-ma
outer	qıí	khauk	skog	dry	hú	khrauk	_
covering	g						
scoop	lú	hauk	skyogs	drink	šú	sauk	

In addition to the above, we reconstruct final *-wk for 'erect; prick': T'dzug, Burmese tsuik, Lahu jû? (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 qhò?-nó. The aspirated Burmese variant confirms the glottalized initial (see 'GD') (JAM).

- (khre 'foot'), K yun ~ ləyun < *lak-yun, L zun < *yun, Khami məyun ~ məzun 'finger, toe', from TB *(m-)yun. 234
- (356) T 'thug-pa ~ mthug-pa 'thick', stug(s)-pa 'thickness', B thuik-thuik 'thickly', L thu·k 'deep' (TB *tu·k). ²³⁵
- (357) T rmugs-pa 'dense fog; inertness', smug-po 'dark red, purple-brown'; Lepcha muk 'foggy, misty', muk muk 'dullness, darkness'; B muik 'dark; ignorant', L mu·k 'dull (color)' (TB *mu·k).²³⁶
- (358) T phug(s) 'innermost part', phug-pa 'cavern'; Miri sap-puük, Abor rak-puük 'cave' (cf. T brag-phug 'rock cavern'); Nung and K luŋ-pu 'cave' (with luŋ 'rock'=T brag); Lepcha tăfuk <*-phu·k, also tăbak ~ tăbok <*-buk, Gyarung tĕpŏk, Limbu səpok ~ səpu, Sho pük, Kabui puk, Maring uk, Meithei puk, Mikir pok 'belly', Ao Naga tapok 'cave', tepok 'belly', B wàm-puik 'outside of belly' (cf. puik 'pregnancy'), G ok 'belly', L pu·k 'cave' (TB *pu·k ~ buk).²³⁷
- (359) Lepcha kuŋ 'tree', ăkuŋ 'bush'; K kuŋ 'to branch; a branch', ləkuŋ 'limb, branch'; B ăkhuiŋ 'stalk, branch', also ăkuiŋ 'large branch, bough' (apparently from kuiŋ 'hang over in a curve, bend downwards'); L ku·ŋ 'plant, tree, trunk of tree, stem of plant' (TB *ku·ŋ).

Burmese also offers evidence for short medial *u, but with change of final, in B kyauk < *k-lauk, L luy 'stone' < TB *r-luy (above); cf. also B kauk < TB * $guk \sim$ *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-hnuì, Atsi n²yuì, Maru n²yuk, Lahu là²-nɔ, Akha là²-nō, Bisu là-hñuŋ, all related. Perhaps the prototype is something like *lak-sənə-yuŋ, since there is an additional second element in the compound; the sə- could be related to the second element in Lahu là²/khɨ-šɛ 'hand/foot'; see TB *s- prefix for body parts (JAM).

Add Lisu $l \approx ?-ni$ 'finger' to the above. Bisu $-h \tilde{n} u \eta$ suggests a derivation from *(s-)m-yu η (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 mu? (high tone) 'thunder, cloudy', also lomu? (low tone) 'sky' (Khauri = Gauri dialect), allowing the reconstruction TB *r-mu·k (an archaic doublet of *(r-)muw = *(r-)mo·w). Nungish (Răwang) has mu < *mu·k 'sky' (mu ru 'to be struck with lightning'), contrasting with thomö 'eagle, hawk, kite' < TB *muw = *mo·w; cf. also Nutwang dialect of Răwang mu? laŋ 'heaven' (Morse). Angami Naga (Burling) has hmuu-tśa '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 ' $bug(s)-pa \sim big(s)-pa$, $phug-pa \sim phig-pa$ 'sting, pierce, bore, make a hole'.

upright, plant', Lahu $j\hat{u}\hat{r}$ 'pierce, stab, implant'; L fuk 'to erect, be erect' (TB * $dzu[\cdot]k$).

Long medial u can at times be reconstructed on the basis of the Burmese forms alone, as in $klu \cdot y$ 'valley, river' (B khyuiy) (above); cf. also the following:

- (361) Kduy, Namsang (Konyak group) toy, B thuiy 'sit' (TB $*tu\cdot y \sim *du\cdot y).$
- (362) Lepcha so mun (= so muk) 'cloudy weather'; K mun 'cloudy; sullen, sulky', B hmuin 'dull, downcast', hmuin 'very dark', from TB *mu· η , a doublet of *mu·k (No. 357).
- (363) Lepcha muk 'weeds, rubbish', Miri $p\ddot{o}muk$ 'dust', B $\ddot{a}hmuik$ 'refuse, dust' (TB * $mu\cdot k$).²³⁸

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

- (364) B mum 'begin to form, as a bud', ămum 'incipient bud', L mu·m 'close (as a flower)', ku?-mu·m 'bud; to bud' (TB *mu·m). 239
- (365) K nun 'to be worn, threadbare', kənun 'rub', mənun 'rub with the fingers', G nol 'rub, knead', L nu·l 'brush past, rub against' (TB *nu·l).
- (366) T mur 'gills', mur-gon 'temples', mur-'gram 'jaw' (cf. mur-ba 'gnaw, masticate'), Nung mr [mər] 'face', L hmu·r 'point, tip, prow', Thado mu < *mur 'beak', Khoibu mur, Tangkhul khəmor 'mouth' (TB *mu·r). 240

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 $*mu\cdot m$; cf. also:

Lepcha $k\check{u}m$ 'arched, concave, vaulted', $Bkh\grave{u}m$ 'convex, arched', $Lkum \sim ku \cdot m$ 'concave' (TB * $ku[\cdot]m$).

B *-ats (< TB *-ik) and -ań (< TB *-iy) can phonemically be written /-ait/ and /-ain/,²⁴¹ thus paralleling B -auk < TB *-uk and *-auy < 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 mu-um 'to bud; a bud' and məum, 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 (Răwang) mr also glossed as 'mouthful', which is nearer the apparent basic meaning of 'mouth' for this root, with the likely Ch. cognate mwən/muəna 'gate, door' (n. 479).

241 In Modern Burmese final $-a\hat{n}$ represents -i, -e, $-\varepsilon$, and $-\varepsilon$. 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 $ma\hat{n} > mi$ 'to be named', $hm\hat{a}\hat{n} > hm\hat{\varepsilon}$ 'to name' $<*mi\eta$; cf. also $kr\hat{a}\hat{n} > ty\hat{i}$ 'ground' $<*gli\eta$, $my\hat{a}\hat{n} > my\hat{i}$ 'sleepy' <*myel, $as\hat{a}\hat{n} > a\theta\hat{i}$ 'nail' <*m-(t)sin, $hra\hat{n} > hye$ 'long' $<*s-ri\eta$, $py\hat{a}\hat{n} > py\hat{e}$, $phy\hat{a}\hat{n} > phy\hat{e}$ 'full' $<*bli\eta \sim*pli\eta$ (Judson

ment, cf. B ats-kui 'older brother' < TB *ik, hmyats 'bamboo sprout' < TB *s-m(y)ik, ńats 'dirty' < TB *n(y)ik, sats 'small animal of tiger genus' < TB *zik, ătshats 'joint' < TB *tsik, práň 'full', phráň 'fill' < TB *bliy~*pliy, laň 'neck' < TB *liy, maň 'to be named', ămaň 'name' < TB *miy (above). The nasal > stop shift in final characteristic of Burmese²⁴² (cf. ip-mak 'dream' < TB *may, kyauk < *k-lauk 'stone' < TB *r-luy) is especially in evidence here; cf. B sats 'tree' < TB *siy (above) and the following pair of roots:

(367) T snyin 'heart, mind', Kanauri stin, Limbu nin-wa, B hnats < *hnik, Lushei (Ngente dial.) nin 'heart', Mikir nin 'heart, mind', Nung ənin, G tənin 'brains' (TB *s-nin).

(368) T na-niŋ 'last year', gźi-niŋ ~ źe-niŋ 'two years ago', also lo-rnyiŋ ~ na-rnyiŋ = na-niŋ (cf. rnyiŋ-pa 'old, ancient'), Tsangla niŋ, Miri nyiŋ (in comp.), Nung and K niŋ, B ăhnats < *ăhnik, Mikir niŋ 'year' (TB *niŋ). 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 *-an, as in B ăsân, L thin 'liver' < TB *m-sin; B hmán ~ hmyán, L hmin 'ripe' < TB *s-min.

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

(369) K sin~sen~tsen<*kyin, B khyin, L khi·n 'weigh' (TB *ki·n).

indicates final -i for these two words); $hm\acute{a}\acute{n} > hm\acute{e}$ 'mole' <*r-men, $hm\acute{a}\acute{n} > hm\acute{e}$ 'ripe' <*s-min, $as\grave{a}\acute{n} > \vartheta \wr \acute{e}$ 'liver' <*m-sin, $la\acute{n} > le$ 'neck' <*lip; $h\acute{n}\acute{a}\acute{n} > hny\acute{e}$ 'hurt, oppress' <*nyen, $pya\acute{n} > pye$ 'plank' <*pley, $hra\acute{n} > hye$ 'put together side by side' <*ren. The nasalized final -e appears to be correlated in some measure with TB medial *e; cf. also T sre-moy ~ sre-mo 'weasel', Mikir iyren < m-ren 'mongoose', B $hr\acute{a}\acute{n} > hy\acute{e}$ 'squirrel'.

242 Indeed, of B-L in general (JAM). Cf. Trung (Nungish) sin 'tree', sin-lap 'leaf', sin-wat' flower' but sin ~ sik' firewood', sik-si' fruit'. The Mutwang dialect (Morse) of Răwang (Nungish) has a highly idiosyncratic final cluster -nt in two items, including nönt 'heart', from TB *s-nin; the standard Răwang dialect (Barnard) has ənin 'brains', and it would appear that the Mutwang form is a derivative of TB *a-nin=Pa-nin via *Pnin>nin? (essentially a suprasegmental glottal accent)>*nint. This development is closely paralleled in Gyarung (K. Chang) teșnit 'heart', identical in form with teșnit '7' < *te/snis (TB *s-nis). The Burmese-Lolo shift, which probably has a similar origin, cannot be assigned to the proto-B-L period, since an original final nasal in the root for 'tree' (TB *sin) is retained in some Loloish languages (JAM) and the root for 'heart' (TB *s-nin) shows forms very close to the original in two Chinese transcriptions for early B-L languages: Hsi-hsia (eleventh and twelfth centuries) nien; Pai-lang (third century) niən/niin.

243 This root now reconstructed *s-niy; Kachin has both niy and səniy, and Pyu has snì < *snìy, both agreeing with B-L initial *hn- (and note Karen *hney).

The following roots also have this long medial vowel:

- (370) L tsi.p, G tsip 'shut, close', from TB *ts(y)i.p.
- (371) B rit 'reap, mow, shave', L ri·t 'scrape with a hoe', Mikir ret 'scrape, shave', Miri rit 'cut' (TB *ri·t).
 - (372) Dhimal śir, G sil, Dimasa śer, L thi-r 'iron', from TB *s(y)i-r.244
- (373) T skyil-ba 'to bend', 'khyil-ba 'wind, twist, roll', Lepcha kil 'a screw', K kyin 'to be soft and easily twisted', akyin '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 bubu 'bowels' < TB *pik; G miy 'to name', bumuy 'name', Dimasa bumu (in comp. muy) 'name' < TB *r-miy; Dimasa phuluy 'fill in' < TB *pliy; Dimasa bithlim~buthluy 'brain' < TB *kliy; G min, Dimasa min~mun 'ripen' < TB *s-min; also the following roots:

- (374) Abor-Miri mit, Nung śəmit, K simit (Assamese dial.), L timit, Tangkhul khəśimit, Mikir met, G kimit 'extinguish', Dimasa khumu 'destroy' (TB *mit).
- (375) K phun-lip 'dive' (phun 'water') (Hertz: kha phun-lip si 'drown'), G tśi rip 'dive' (tśi 'water'), srip 'sink', Bodo thrup 'sink', Dimasa lip~lup 'dive', gilib~gulub 'drown' (TB *lip), perhaps also Lepcha lap 'bury'.
- (376) T byib-pa 'cover, wrap up; hide, conceal', Bodo phop~fop 'bury', Dimasa bib~bub 'conceal oneself, hide', phip~phup 'bury', Mikir pip 'bury' (TB *bip~*pip).
- (377) K phriy 'bark', Dimasa biriy ~ buruy 'bark, call (as an animal)' (TB *priy). 245
- (378) Nung and K məlin, G burun (Garo Mission) ~ brin (Chuckerbutty) 'forest', Dimasa ha-blin 'jhum field in second year of cultivation' (ha 'earth') (TB *b-lin).²⁴⁶
- 244 The Kiranti group has *sya·l 'iron': Bahing sya·l, Sangpang syel~sel, Dumi sel, pointing to an archaic doublet in this root: TB *syi·r~*sya·l (see p. 84 for the medial alternation); the alternation of finals suggests that this is an old loan-word from AT.
- 245 Chang Naga (Konyak group) has lǎy 'to bark', from *riy, suggesting that this might be a prefixed root: *b-riy, although this should yield K *məriy (cf. No. 378) rather than phriy; cf. also Ch. *sriey/sieya 'to bark' (not in texts), probably from *s-riy (see n. 457 for the initial cluster here).
- 246 T źiŋ 'field, ground, soil, arable land' may belong with this set, since it a 程

- (379) K khrim 'threaten', məkrim '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 \sim sum-ba, gisim \sim gusum 'black, blue, dark', L thim 'dark; darkness', from TB *s(y)im.

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

- (381) Lepcha lyam <*s-lam 'to warm up food' (cf. K śəlum, B hlúm), K lum 'warm', məlum 'simmer, heat', śəlum 'heat, warm, as food', Nung lim 'warm', B lum 'warm', hlum 'warm oneself by a fire', hlúm 'heat again, warm over', Bodo lum-don (Hodgson)~lam (Endle) 'fever', Dimasa lim~lum 'to be hot, have fever', lim-ba 'illness, fever', also G gram tśi 'sweat', Bodo galam 'to sweat', galam doi 'sweat', Dimasa gilim di~gulum di 'sweat' (='heat-water'; cf. Siyin kwo-ul 'sweat'~'warm') (TB *lum).
- (382) T'khruŋ-ba 'to be born; shoot, sprout, grow (of seeds and plants)', K khruŋ 'live, be alive', məkruŋ 'fresh sprouts, new twigs', Bodo gakhraŋ 'fixed, firm, healthy', Dimasa gakhraŋ 'green' (TB *kruŋ).²⁴⁷

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

- (383) Lepcha kut 'to rule a line', ă-kut 'strake', hut <*khut 'to scratch, as body or earth', ă-hut 'scratching; a rake', K khut 'scrape, rub', Nung tśakut 'itch', B kut 'scratch', khut 'gash, chop, cut, beat (metal)', G kit 'carve', ka-kit 'itch', Dimasa khu 'engrave on wood or stone' (TB *kut).
- (384) B hrup 'snuff up, sip, sup', Dimasa surup 'sip, lap, smoke', khu sirip 'gargle' (khu 'mouth'), perhaps also Manchati srub 'spittle' (TB *s-rup); cf. also Lepcha hūp 'a sip, gulp', háp 'to suck'.
- (385) K phun 'put on and wear, as a coat; cover, as with a blanket', G pin-dap 'cover', Dimasa phin~phun 'put on, wrap, cover' (TB *pun).

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

TB medial u = L u = B au = G aro and Dimasa o.

TB medial $*u = L \ u = B \ ui = Garo \ i = Dimasa \ i \sim u$.

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

247 Cf. the closely similar semantic development shown by TB *s-rin \sim *s-ran, and Nung zzim 'raw', B tsim 'green; unripe' (TB *dzim).

Several cross-checks with Lushei and/or Burmese are available; cf. L ruk, B khrauk, G dok, Dimasa do '6' < TB *d-ruk; L luŋ, B kyauk < *k-lauk, G roŋ, Dimasa loŋ 'stone' < TB *r-luŋ; 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 mattśak mattśak, Dimasa moso, L sa-zuk < *-yuk, Mikir thidźak < *-yok 'deer (sambhur)' (TB *d-yuk).
- (387) B tauk 'fillip; cut by a single, light blow', Lahu d3? 'hit, beat', G dok ~ dak 'knock, pound', Dimasa do 'knock, hit down, hammer down, stamp', L tuk 'cut, chop' (TB *tuk); cf. also Lepcha tyók < *s-tók '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 *ku·k); cf. also Lepcha kuk 'to rake, scrape or draw towards self as with a stick; to hoe superficially; to pull upwards with hook; to ladle, spoon out; to toss, as bull with horns'.
 - (389) B khrúin ~ khyúin, G grin 'cage' (TB *kru·n).
- (390) L tshu·ŋ 'the inside (of anything)', Bodo siŋ, Dimasa bisiŋ 'inside, within' (TB *tsyu·ŋ).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 tšethok, also Lepcha tŭk-tok (tok in comp.) 'neck' (TB *tuk).
- (393) T khug-ma 'pouch, little bag', G khok 'basket', Dimasa bain-kho 'basket carried on a load', bokho 'receptacle', Mikir hok <*khok 'small hanging basket' (TB *kuk); cf. also Lepcha kóm ba-gűk 'purse' (kom 'silver, money').
- (394) Kiranti *muk (Lambichong, Chingtang, Yakha muk) 'arm, hand', G mik 'cubit', Bodo mu 'arm-length', perhaps also B muik 'measure with breadth of fist' (TB *mu·k).
- (395) K nguŋ (n-guŋ) 'back of a blade', G rikiŋ 'edge', dźa-rikiŋ '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', arkoŋ 'shin' (TB *r-gu-ŋ).

The distinction between short and long medial *u cannot be established for any languages other than Lushei, Burmese and Garo-Bodo, possibly also Lepcha, yet

248 This root has now been reconstructed *tu·y (n. 63).

indications of this feature elsewhere are not lacking. Thus, Sho (Southern Kuki) distinguishes between sok '6' < TB *d-ruk and pük 'belly' < TB *pu·k, thük 'deep' < TB *tu·k, 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 > 0 (Nos. 42, 88, 108, 358, 386, 392, 393, also 395 with $u \sim 0$ 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-bǔ (bǔ < TB *buw 'insect, snake'), L hli·t, Mikir iŋlit 'water leech', Ao Naga melet 'horse-leech (usually found near water or in very damp localities)', K lip 'sp. of horse-leech' (cf. K śiŋlet~śiŋlep 'tongue'), from TB *(m-)li·t.

Mikir reveals an interesting agreement with Bodo-Garo in the following root: (397) K khun, G khol~khal, Dimasa khon, Mikir iŋkol~iŋkoi, Siyin kul, Haka kul~kwe '20', from TB *(m-)kul.

The above root contrasts with G kimil, Dimasa bikhimi, Mikir aŋmi <*aŋmil '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 $u \cdot in phurul \sim phurui$ 'snake' < TB *b-ru·l, while Meithei offers a contrast between lil 'snake' < TB *b-ru·l, and kul '20' < TB *kul.

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

- (398) T 'phur-ba, Central T 'phir-ba 'to fly', Nung əphr [əphər] 'shake (as a cloth)', khoy-phr 'moth', G bil, Dimasa bir 'to fly' (TB *pur~*pir); cf. Bahing byer, Abor-Miri ber 'to fly'.²⁴⁹
- (399) Bahing $tyup \sim t\ddot{v}p \sim tip$, Sunwari tup, K dup 'beat, strike', $m \sigma dup$ 'pound, hammer', Nung dip 'beat', $\sigma thip$ 'strike against', Mikir dip dip 'beat (heart, pulse)', $\sigma thip$ 'beat (drum)' (TB $\sigma tup \sim tup \sim tup \sim tup$).
- (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', sinnip 'shadow', Nung nəm nip lam 'west' (nəm '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).

Bahing nip 'compress, express', B nip 'to be kept down', hnip 'crush, put down, oppress' (TB * $nup \sim *nip$).²⁵⁰

(401) Trum 'darkness, obscurity', Krim 'to be dusk, dark', nrim 'evening', niŋrim rim 'twilight', sərim 'twilight', Nung rim-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, rin 'horn' < TB *run, 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 ămik, Vayu mek, Magari mik, Bahing mi-tśi, Thulung, Dumi, Rai mik-si, Limbu mik, Dhimal mi, Miri əmik, K myi, G mik, L mit, Mikir mek, but Burmese (and general Burmese-Lolo) myak, Nung me ~ ne < *myak (see n. 93), perhaps also Gyarung těmňák 'eye' (TB *mik ~ *myak). 251

(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. $niap/ni\ddot{a}p^a$ 'trample', from ST *nep. TB *nu·p ~*ni[·]p 'sink', with long medial u· on basis of Lepcha $n\ddot{u}p$ (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: $niap/niziap^b$ 'enter' (n. 479). The initial cluster in B-G is probably from *sn-; cf. the following (the first entry from TB *s-nam):

	Garo	\mathbf{Bodo}	Dimasa
daughter-in-law	nam	ham	ham
enter, etc.	пар	hap	hap
good	nam	ham	ham

251 The *myak form for this root must now be regarded as the earlier in view of the evidence not only from Karen (*me<*myak) but also from Ch. (n. 488). Nungish stands closest of all other TB groups to the B-L family, while Gyarung also shares in a number of roots found only here, e.g. *sam 'iron' (n. 179) and the following root: Gyarung (K. Chang) sar 'louse', B san, id., from B-L *san (Maru śin, Lahu śe, Lisu hü); TB *sar~śar. 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 $ya \sim i$ alternation in ST itself; cf. ST *tyik \sim *tyak ' 1' (n. 271); *(m-)lyat \sim *(m-)li·t 'leech' (n. 398); also *(m-)syil \sim *(m-)syal 'wash' (n. 462). The medial va form is the more archaic, as shown by Miao-Yao *nyan 'year' (approximate reconstruction), a very early loan from a doublet: *(s-)nvan of ST *(s-)nin, as reconstructed on the basis of TB, Karen and Chinese; Ch. retains an indication of the early vocalism in nâyc 'in past time, formerly', a related form; cf. T rnyin-pa 'old, ancient', lo-rnyin 'last year'. Chinese perhaps also reflects an archaic doublet: *syan of ST *sin 'tree' in siand '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').

do-grik 'black pheasant' (do 'bird'), L va-hrit 'black pheasant' (va 'bird'), but T sreg-pa, West T śrag-pa 'pheasant', Lepcha kəhryak fo 'kaliy-pheasant' (fo 'bird') (TB *s-rik~*s-ryak).

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

(404) Kanauri śöŋ <*sriŋ (see n. 126), Manchati sriŋ, Chamba Lahuli sriŋ ~ śiŋ 'live, be alive', L hriŋ 'fresh, green', hriŋ? 'bear, beget', Meithei hiŋ 'be alive', Mikir reŋ 'live, come to life', reŋ-seŋ 'green, verdant' (an apparent couplet from *s-reŋ), K tsiŋ < *śriŋ 'grass; grassy, green', kətsiŋ 'fresh, green, raw, unripe', Nung məśiŋ < *m-śriŋ 'green (color)', śin 'grass' (possible loan from Kachin), also əthiŋ 'unripe, uncooked' (cf. No. 231), but B hraŋ 'live, be alive', G thaŋ <*sraŋ 'live', gathaŋ 'green', Dimasa gathaŋ 'alive, living; green, unripe' (TB *s-riŋ ~ *s-raŋ). 252

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

(405) T bsuŋ 'smell, esp. sweet smell', K suŋ 'scent, odor, smell', but B sàŋ '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 *śriŋ (n. 305); 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', \$\mathcal{J}AOS\$ 68, 184-91) are Haudricourt, 'De l'origine des tons en viêtnamien', \$\mathcal{J}A\$ 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 seityoo taikei no hikaku kenkyuu), TAK 4, 1, June 1964. See also his 'Tonemic

altogether (Read, Bailey, 1908), while the two-tone system of Central T dialects can be interpreted in terms of the initials of Classical Tibetan (high tones from original surds, low tones from sonants). Simple tonal systems of Tibetan type have been incompletely recorded for several TB languages, including Kadu (R. G. Brown, 1920), Sho (Fryer), Tangkhul (Pettigrew, 1918), Thado (Shaw), Chang (Hutton, 1929), Khami (Houghton, 1895), and Sema Naga. Shote 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 Müng (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 Yü Tao-ch'üan² and Chao Yüan-jên, b 'Ts'ang-yang-chia-ts'o ch'ing ko'c ('Love Songs of Tshangs-dbyangs-rgya-mtsho'), CYYY, 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.

255 See N. L. Bor and J. H. Hutton, 'The Use of Tones in Sema Naga', JRAS (1927), 103-9.

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examination of Phunoi and Akha by Shafer²⁵⁶ 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 (\(\frac{1}{2}\)), and has in addition an 'intermittent voice' or 'creaky voice' tone (written '\(\frac{1}{2}\)). ²⁵⁷ Only words ending in a voiced element (vowel or nasal) are affected by these tones. Words ending in an unvoiced element (surd stop) are not subject to tonal differentiation, Burmese in this respect thus paralleling both Chinese and Thai (as reconstructed). Modern Burmese, as well as Lahu, Phunoi and Akha (see n. 256), and most Lolo languages, replace final stop by glottal stop: ²⁵⁸

stop	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
hand, arm	$lak > l \epsilon $?	là?	lŵ?	lye?	<i>le</i> P	lè
pig	$wak > w\epsilon $?	và₽	$v\hat{x}$?	vye?	$v \varepsilon$?	$v\dot{e}$
descend	$sak > \theta \varepsilon $?	уàР	râ?	ze?		zź
sharp	thak > the P	thâ₽	tshy ě ?	thye?	_	
					Loomt	on A 90

(cont. 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 (x) of Burmese, as demonstrated by Shafer, and low-rising or high-rising tone for the level tone (x) of Burmese.

257 The 'creaky voice' tone (auk-myit) involves semi-closure of the glottis and a weak final glottal catch. Vowels affected by auk-myit are half-long, whereas vowels affected by low-level or high-falling (she-pauk) tone are long, and vowels before final stop consonants (glottal stop in Modern Burmese) are short. In the early inscriptions auk-myit was recorded with the 'vowel-support' sign (taken from Mon script), whence the modern symbol (subscribed dot). She-pauk, however, was usually left unmarked, although occasionally a final -h was added; the modern symbol (two dots) appears as early as A.D. 1219, in the Damayangyi pagoda inscription (see Tin, 7BRS 19, 1929).

258 Tones are marked as follows: $\stackrel{\checkmark}{\times}$ (high), $\stackrel{?}{\times}$ (low), $\stackrel{\checkmark}{\times}$ (rising), $\stackrel{?}{\times}$ (falling), and $\stackrel{?}{\times}$ (mid-high). Mid-level tones are left unmarked. Glottal stops are clearly described for Lahu (\times^4 and \times^5 in Telford) and Lisu (\times^2 and \times^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'unming, 1938), the hsia p'ing shêng is merged with ju shêng (glottal stop), and shang shêng and ch'ü shêng are reversed. Hence we write \times ?, $\stackrel{?}{\times}$, and $\stackrel{\checkmark}{\times}$ for Liétard's \times 2, \times 3, and \times 4, respectively. The falling-tone value ($\stackrel{?}{\times}$) has also been assigned to Lahu \times , Lisu \times 4, and Nyi $\stackrel{?}{\times}$.

	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
six	khrauk > thyau?	kh∂P	tśh3?	tśhu ?	tśho?	khú
enough	lauk > lau?	<i>l</i> 32	<i>l5</i> ?	lu?		lú
eight	hrats > hyi?	hí	hî?	ih?	$h \varepsilon P$	hè
tree	$sats > \theta i$?	š ‡ ?	sž?	$(s\ddot{o})$	$(s \grave{\partial} \sim s \dot{\sigma})$	sà
goat	tshit > shei?	áchè?	atśhî?	khi?	atśö?	tshi
lie down, sleep	ip > ei?	уį́Р	yî?	yiP	yi?	í
needle	ap > a?	γὸΡ	พว์?	$wo? \sim ro?$	vö₽	$(h\eta\hat{s})$

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 (\(\delta\)) or rising tone (\(\delta\)). Lahu often retains glottal stop in roots showing irregular treatment in Lolo; cf. B phak 'leaf', Lahu \(\delta\)-ph\(\delta\)?, but Lisu phy\(\delta\), Ahi phy\(\delta\), Lolopho p\(\delta\), Nyi ph\(\delta\); B nak 'black', Lahu n\(\delta\)?, but Lisu na, Ahi ny\(\delta\), Lolopho n\(\delta\), Nyi n\(\delta\) (TB *nak: T nag-po, Nung na?); B krak < k-rak 'fowl', Lahu \(\gamma\)\(\delta\)?, but Lisu a\(\gamma\)\(\delta\), Ahi y\(\delta\), Lolopho y\(\delta\), Nyi y\(\delta\); B \(\delta\)-hauk 'brain', Lahu \(\delta\)-n\(\delta\)?, but Lisu \(\wideta\)-n\(\delta\), Ahi \(\delta\)-n\(\delta\) (TB *s-nuk). In rare instances glottal stop appears in Lolo in roots without final stop consonant, e.g. Ahi and Lolopho li? '4', B l\(\delta\).

The 'creaky voice' tone (\star) 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 $l\dot{a}$ 'moon, month', Lahu ha-pa, Lisu $h\dot{q}$ - $b\dot{a}$, Ahi $hl\dot{o}$ - $b\dot{o}$, Lolopho $hy\dot{o}$, Nyi ś $l\dot{a}$ - $b\dot{a}$ (cf. T zla-ba). In Burmese morphology this tone often imparts a diminutive or otherwise specialized force, e.g. $ly\dot{a}$ 'thin', $ly\dot{a}$ 'flimsy'; $kh\dot{a}$ 'bitter', $kh\dot{a}$ - $kh\dot{a}$ 'bitterish' (many forms of this type); B lu 'man', $l\dot{u}$ (pejorative), ne 'sun', $n\dot{e}$ 'day', and also serves to subordinate pronouns and proper nouns, as in ya 'I', $y\dot{a}$ 'mine'. In addition, many doublet forms that do not readily yield to classification are found, e.g. tu 'hammer', $th\dot{u}$ 'pound, hammer'; $ma\dot{n}$ 'to be named', $hm\dot{a}\dot{n}$ 'to name'; $\dot{n}\dot{u}$ 'to be even', $h\dot{n}\dot{u}$ 'make even'; $la\dot{n}$ 'revolve, turn around (intr.)', $hl\dot{a}\dot{n}$ 'turn around, make revolve (tr.)' (note the appearance

²⁵⁹ It now appears, at least as regards Lisu (Fraser), that this tonal distinction reflects an original (proto-TB level) distinction between voiced and unvoiced initials, of the same general type as that encountered in Karen, Chinese and elsewhere in S.E. Asia (Benedict, 1948); certain exceptional forms perhaps reflect lost prefixes, e.g. B-L *sat'kill' (low series = voiced initial) < TB *g-sat; cf. JAM, 1970b.

of 'creaky voice' in these three transitive forms); kwè 'bend, curve', khwe 'curve, curl, coil', kwé 'bend round, be curved'. In some instances 'creaky voice' perhaps stands for an earlier stop consonant; cf. mrá 'very sharp, keen', mrak 'cut keenly'; hlá 'very, excessive' (verbal affix), T hlag 'more, beyond'; note also the correspondence to K suffixed -t and L -k in B kyá ~ khyá, 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 ă for á 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):

Burmese Low-level Tone²⁶¹

	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
house	im	уè	hį	$h\grave{x}$	hì	$h\grave{\epsilon}$
rain	rwa	mû-yè	$h\grave{q}$	hò	$h \dot{o}$	hà
ill	na	$n\dot{a}$	nà	nò	nò	nà
buy	wai	$v_{m{t}}$	wù	$v\dot{a}$	$v\grave{\epsilon}$	υÈ
I, me	ŋa	ŋà	ŋwà	$(g\dot{o})$	$\eta \dot{o}$	ŋà
100	ăra	ha	hà	hò	hyò	(há)
name	mań	$\dot{\jmath}$ - $m\varepsilon$	(mye)	mà	mi	тè
sun	ne	mû-ni	nyì	nyì	nyì	nyì
white; silver	phru	phu	phù	thò	phì	ślù
thick	thu	thu	thù	thò	thù	thù

260 Note also the use of 'creaky voice' with nominalizing ă- prefix: nam 'to smell (intr.)', nàm 'to smell (tr.)', ănám 'smell'; thu 'thick', ăthú (also dú) 'thickness'; these forms apparently were glottalized by the (non-phonemic) glottal onset of the prefix: ?a-thu>ă-thú; also (with intervocalic voicing)>?ă-du>?du (the 'Tibetan stage' - see n. 339)>dú. Modern Burmese has 'creaky voice' as a suprasegmental morpheme of subordination, derived from the obsolete (literary) subordinating particle -l, which also has 'creaky voice' (see Benedict, review of W. Cornyn, Outline of Burmese Grammar, in JAOS (1945), 65-7, note 7). It would appear that the general subordinating suffix *-ki of TB (see §17) was replaced in close juncture by -?i, 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).

Burmese High-falling Tone

	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
child, son	sà	уâ	râ	zó	zó	zá
bee	pyà	pε̂	$by \hat{x}$	dó	byó	dlá-mà
eat	tsà	câ	$dz\hat{a}$	$dz \acute{o}$	$dz \acute{o}$	dzá
thin	pà	рâ	bâ	$b\acute{o}$		bá
flesh, meat	ăsà	$\hat{\sigma}$ - $\check{s}\bar{a}^{262}$	$hw\hat{a}$	hó ~ hú	$h\acute{o}$	rá
insect; silk	puì	$p\hat{u} \sim p\bar{u}$	bû	$b\ddot{o}\sim b\acute{u}$	$b\sigma$	$(b\grave{u})$
price	ăphuì	phû	phû	phố~ phi	i phổ	(phû)
sky	mui(gh)	mû	$m\hat{u} \sim m\hat{u}$	тú	amú	тú
steal	khuì	qhŝ	khû	khố		khớ
urine	sè	ĵ₽̂	rzî	ző		zá

The above tables yield the equations: $B \times = Lahu \ ^{\prime}_{\times} \sim \times = Lisu$, Ahi, Lolopho, Nyi $\ ^{\prime}_{\times}$; and $B \ ^{\prime}_{\times} = Lahu \ ^{\prime}_{\times} = Lisu \ ^{\prime}_{\times} = Ahi$, Lolopho, Nyi $\ ^{\prime}_{\times}$. 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 $\ ^{\prime}_{\times}$ in the first group, $\ ^{\prime}_{\times}$ in the second group):

group):	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
earth	mre	mì-g ì	mi-næ	$m\hat{\imath}$	$m\hat{\imath}$	mi
short, low	nim	nÈ	nyě	$n\hat{e}\sim n\hat{o}$	(nyi?)	$ny\bar{\imath}$
hair (body), feather	ămwè	э̀-ти	mü	nổ		пū
hear, listen	na	na	na-nă?	nô		na
nose	hna	nā-qhɔ̂	na-bè	nô-bo₽		na- bi
know	sí	šī	sγuě	sâ	s€	$s\bar{a} \sim s\dot{a}$
sweat	khrwè	kŧ	tśĭ	tśhâ		$kiar{arepsilon}$
left (hand)	∫lak-wai \bhai	$mar{arepsilon}$	l ŵ ?-γŭ	vâ	υÊ	avē

262 Lahu tone /^/ 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 /-/ (very low), as in 'flesh' (JAM).

	Burmese	Lahu	Lisu	Ahi	Lolopho	Nyi
much, many	myà	mâ	myâ	nŏ	myô	nā
iron	sam	šo	$(h\grave{\flat})$	hŏ̈́	hổ	$(r\grave{\partial})$
boat	hle	h ၁- l òʔ- q $ar{o}^{263,264}$	li	lĭ	lĭ	ślī
tiger	kyà	lâ	lâ-ma	lŏ	lŏ	$lar{a}$
red^{265}	ni	$ni \sim ni$	ni	$nyi \sim ni$	nyî	nyi
ear	nà	nā-pə	nă-pɔ	nŏ-pâ	nŏ-pâ	nā-po

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', anam 'unpleasant odor', nam '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.)'. Wolfenden²⁶⁶ attempted to explain the high-falling tone of Burmese in terms of lost final consonants, but his analysis is altogether faulty. No general theory of TB tones can be attempted until the materials for a comprehensive comparative study of tones throughout the TB area are made available.267

263 Telford has hơn 'boat', an odd shift paralleled by B lè, Lahu hồn 'heavy'; B lè, Lahu hồn '4'; B lè, Lahu hồ-mà 'bow'; B le, Lahu hồ 'wind' (all forms from Telford).

264 Telford's dialect of Lahu has more nasalization than Matisoff's, particularly after /2/: 2n 'four', 2n 'bend', 2n 'elephant', 2n '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 2n (see Matisoff, Lahu and PLB; 'GD').

265 A root of restricted distribution can now be set up on the basis of Gyarung (Wolfenden) $\partial wurni < *-rni$, Ch'iang (K. Chang) $\dot{n}hi$ 'red'; this root perhaps is the basis for a more widely distributed root, viz. $*r-nil \sim *r-ni(y)$ '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 occasionally suffixing. TB morphology has attracted the attention of a number of scholars, including Schiefner, Conrady, Von Koerber, Bonnerjea, Simon, and Wolfenden, ²⁶⁸ 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.

268 F. A. von Schiefner, 'Tibetische Studien', Bull. de l'Académie des Sciences de St.-Pétersbourg 8 (1851); A. Conrady, Eine indochinesische Causativ-Denominativ Bildung und ihr Zusammenhang mit den Tonaccenten, Leipzig, 1896; H. N. von Koerber, Morphology of the Tibetan Language, Los Angeles, 1935; B. Bonnerjea, 'Morphology of some Tibeto-Burman dialects of the Himalayan Region', TP 33 (1937), 301-60; W. Simon, 'Certain Tibetan Suffixes and their Combinations', HJAS 5 (1941), 372-91; 'Tibetan dan, cin, kyin, yin, and ham', BSOS 10, pt 4 (1942), 954-75; S. N. Wolfenden, Outlines of Tibeto-Burman Linguistic Morphology, London, 1929 (cited as Outlines). Note also the keen observations by Francke and Simon in H. A. Jäschke, Tibetan Grammar (with Addenda by A. H. Francke and W. Simon), Berlin, 1929.

§15. Tibeto-Burman pronouns

The 1st person and 2nd person independent personal pronouns are *ya 'I' and *nan 'thou':

(406) T ya, Kiranti ay (Rai, Rungchengbung) ~ ay-ka (Waling) ~ ka-ya (Rodong) ~ əya (Limbu), Nung ya, B ya, G ay 'I', with which must be grouped *yay '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 ńàń < *nyìy '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 $nay \sim na$ 'thou', nwa (n-wa) 'thy father'. Pronominal inflection, clearly of secondary origin, is encountered in the Himalayish group and occasionally elsewhere; cf. B ya 'I', ya 'mine'; nay 'thou', nay 'thine' (see above); Dhimal ka 'I', na 'thou'; kay 'my', nay 'thy'; kyel 'we', nyel 'you'; kiy '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), ²⁶⁹ 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. ²⁷⁰

§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: ay.

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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 gtśig; TB *t(y)ik. 271

The root *gip '10' (No. 16) is poorly represented, and extreme variation obtains here (T btśu, L śom), yet a Kachin-Konyak-Bodo-Naga root can be established:

(408) K $t \le i \le i$, Namsang $i-t \le i$, Moshang $rok-\le i$, G $t \le i$, Dimasa $d \le i$ '10', also Miju s i (in comp.), from TB $t \le (y)i(y)$; B $a t \le i$ '10' appears to be related to this root through vowel gradation. ²⁷²

The root *s-ton '1,000' (No. 32) appears only in Tibetan and Burmese-Lolo, 273 but *r-gva '100' (No. 164) is well represented, as are *g-nis '2' (No. 4), *g-sum '3' (No. 409), *b-liy '4' (No. 410), *l- $\eta a \sim$ *b- ηa '5' (No. 78), *d-ruk '6' (No. 411), *b-r-gyat '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 kəyin and kasan, but replacement or loss of this element is common everywhere; cf. K ni '2', masum < *b-sum '3' (influenced by mali < *b-li '4'); Nung ani '2', atsum '3'; B hnats '2', sùm '3'; L hni? '2', thum '3'. Prefixed *b- in *b-liy '4' is well established; cf. T $b \not\approx i < *bli$ (this cluster lacking before i in Tibetan), Thulung bli, Kanauri pö <*pli (see n. 126), Magari buli, Digaro kəprei, Miri pi, Nung əbyi (dial. əbəli), K məli < b-li, B lè (Maru byit < *b-liy), Mikir phli. T lŋa, Old Kuki *r- ηa (e.g. Rangkhol rina) attest to TB *l- ηa '5', but prefixed *b-, apparently through the influence exerted by *b-liv '4', is much more generally represented (Thami bəna, Digaro məna, K məna < b-na, Nung pəna, B nà, G bona, L na). Prefixed *d- is well attested in *d-ruk '6' (T drug, Kanauri tŭg, Lepcha tărăk, Digaro there, G dok, Mikir therok) and *d-kuw '9' (T dgu, Nung tegö, K dźekhu,

²⁷¹ We can now reconstruct TB *tyik (to explain T gtsig), and can further set up a doublet in ST showing the medial $ya \sim i$ alternation (n. 251), viz. *tyak \sim *tyik, the former represented by Ch. *t'iäk/tsiäka '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 ătshai and the various palatalized forms with final -i.

²⁷³ Trung (Nungish) has ti tun nai '1,000', ti tun gra '10,000' (ti '1'), appearing to contain the */ton element, but analysis is uncertain (Trung has ti śya '100', śyat '8').

G sku, Kuki-Naga *d-kua), but note replacement of *d- by k- before root-initial *r- in Magari kruk, Nung təru (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 mətsat <b-gyat '8' (with loss of r) and lətsa <*r-gya '100'; B hrats < (prefix +) ryat '8' and ăra (rya in inscriptions) '100'; L riat '8' and za <*ya '100'. The general Kuki-Naga root *d-ryat '8' (Khami təya, Lakher tśəri, Empeo dəsat, Sema Naga tətśe, Ao Naga tezet, also Meithei təret '7') shows replacement of *b- under the influence of *d-kua (TB *d-kuw) '9'. Tibetan, on the other hand, has developed brgya '100' from *r-gya through hybridization with brgyad '8', the general TB evidence (notably that of Kachin) unmistakably pointing to a distinction in the prefixes of these two roots. 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 na-s kho-la rdun 'by-me to-him beat' = 'I beat him', na-s de ses (or na-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 tyìdé khwè 'big dog...' or 'dog (that is) big...' (- $d\dot{\epsilon}$ with 'creaky tone', a morpheme of subordination), khwè tyide 'dog is-big', khwèdyì '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.

parent language these elements were largely lacking. Only one correspondence of any significance has been uncovered here:

T $-kyi \sim -gyi \sim -yi \sim -i$, 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 mâ-cò '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-ya '5', although Tibetan has this prefix in a number of roots; cf. T lba-ba 'wen, goitre', Digaro təba, Moso ba ~ mba 'goitre'; T lte-ba 'navel', K śədai, G ste (TB *s-tay).

277 Tibetan applies suffixes of this type $(-pa \sim -ba \sim -bo)$, and $-ma \sim -mo)$ to inanimates as well as animates, e.g. khu-ba 'liquid', dri-ma 'filth'. This usage is even commoner in the early texts, e.g. $g \not\equiv u$ -mo for $g \not\equiv u$ '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.²⁷⁸ In modern TB languages the prefixes normally have reduced stress and the neutral ϑ type of vocalization. Thus, the form written *g- is to be interpreted as *g ϑ (with ϑ as a separate phoneme) or as $g\check{\alpha}$ (with $\check{\alpha}$ 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', gepher '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.

278 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', $H\mathcal{J}AS$, 1945–7, and 'Phonétique comparée de quelques préfixes simples en sino-tibétain', BSLP, 1950; see also R. A. Miller, 'The Tibeto-Burman Infix System', $\mathcal{J}AOS$ 78, 3, 1958 (JAM).

§20. Tibeto-Burman dental suffixes

The dental suffixes *-s, *-t, and *-n are particularly troublesome. All three suffixes appear only in roots with vocalic or semivocalic ending, in accordance with the general TB phonemic rule that consonant clusters occur only in root-initial position.²⁷⁹ In Tibetan, however, suffixed -s appears also after final -g, -b and -y, -m, but not after dentals, hence -s is in many cases to be referred to *-ds or *-ns. Wolfenden, who has paid special attention to these suffixes, ²⁸⁰ 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 səhi <*səkhri 'gall-bladder' (cf. No. 38), B sàń-khre 'gall' (sàń 'liver'), G kha-khit 'bile' (kha 'bitter' = 'liver'), Dimasa bikhlu <*bikhlit, id., from TB *(m-)kri-t.

The above root is a derivative of the following:

(413) Lepcha kri 'bitter', K khri 'acid, sour', Moshang əhi < *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 krapśi ~ skrapśi 'cry together', toŋśi 'strike oneself or one another', sarśi 'rise' (sar 'raise'), zaśi 'be eaten', diśi 'enter, lie down', bŏśi 'forget'; Nung itśi 'laugh', nimśi 'stoop', narśi 'stop (to rest)', khuŋśi 'awake', mɔguśi 'embrace, hug'; Bahing riso 'laugh', khlöso 'hide', tśiso 'bathe', phiso 'dress oneself', gyerso 'be glad', biso 'believe', yoŋso 'be melted'; Vayu lita ~ lista 'heavy', liś(-tśe) 'be heavy', siśto 'kill', siś(-tśe) 'kill thyself or for thyself' (<TB *siy'die'). ²⁸¹ Tibetan -s is regularly employed with verbs in the 'perfect root', but

279 In early Tibetan texts -d is found after -n, -r, and -l. This element, the da drag of Tibetan scholars, has been convincingly explained on phonological grounds by J. 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', JRAS (1936), 401–16; 'Concerning the Variation of Final Consonants in the Word Families of Tibetan, Kachin, and Chinese', JRAS (1937), 625–55.

281 Suffixed -s ~ -z is also found in other Himalayish languages, e.g. Bunan bris ~ briz 'write' (T 'bri-ba), hoangs 'come out' < TB *hway; Manchati brayz 'sit', Tinan bragz 'put together', sams 'think' (T sem-pa, pf. sems ~ bsams), voas

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

- (414) T gnas-pa 'be, live, dwell, stay', Kanauri na-śi 'rest', Bahing na-so 'take rest' (TB *na).
- (415) T thos-pa, Vayu thas(-tse), Tsangla tha, Lepcha thyo < *s-ta, Nung tha, Miri 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:

(416) T khri-le-ba 'fear', Moshang əhi < *əkhri 'fear' (cf. No. 413), L ti < *kri 'fear, be nervous', K khrit 'fear, be afraid', khrit gəri? 'fear and tremble', perhaps also G an-skit 'quail, shudder', from TB *kri(y).

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-vvo 'ascend', ku-to 'bring up' (the transitive form), Yakha khu 'lift up, raise', B khù 'take out or up and put into a dish, pluck, gather'. Kanauri also has -s~-ss as an adjectival suffix, e.g. tśis 'rotten', tshŏs 'fat' < TB *tsow, kyŏs 'drunk', liss 'cold', thiss 'wet' < TB *ti(y).

282 Trung (Nungish) has thay 'hear', with secondary final -y (cf. n. 74); Newari has ta-l, with suffixed -l (see n. 294). This root has now been reconstructed *tâ-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 $-n \sim -t$ alternation is found in Burmese and elsewhere; cf. B pwan 'to be rubbed off', pwat 'rub, grind; lathe'; hmin 'to have the eyes shut', hmit 'shut (the eye), wink'; pan 'go round', pat 'wind around, encircle' (note the intransitive vs. transitive distinction here); Nung $ph(y)it \sim ph(y)in$ 'to loose, untie'; T 'phyen $\sim phyen$, K phyet 'flatulence'; K $mot \sim mon$ 'cut, slice, shave' (cf. T $rmo-ba \sim rmod-pa$ '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 śan 'flesh, meat, deer' (text) has a direct cognate (the vocalism is regular) in Ch. śiĕn² 'body' (AT has the identical semantic interchange; cf. IN *dagin 'body, flesh'). Kachin also has (tśyə-)khan 'crab' < TB *d-ka·y. Burmese has this suffix in yun 'rabbit' (like rats, these come in large numbers) < TB *b-yəw 'rat' (K yu~yun 'rat', T byiu 'alpine hare', L sa-zu-pui 'hare'='big rat'); cf. also B yàn 'goose' < *ya (as shown by Ch. evidence; n. 428), whence T yan (-pa, -ma) 'goose (wild)', from *ya/ya; also B kyì-kàn 'crow' < TB

- *b-yuw, K śan 'flesh, meat, deer' < TB *sya, also the following pair of roots:
- (417) Chepang ya, Nung ya, Miri yo <*ya, Mikir $d \pm o <*ya$, but L $za \cdot n <*ya \cdot n$, Thado yan 'night' (TB *ya). 285
- (418) Nung ur-pha 'palm', Miri lak-po <*-pa 'palm', le-po 'sole', B bhǎwà (phǎwà) 'palm, sole', G dźak-pha 'palm', dźa-pha 'sole', but K ləphan <*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: Răwang 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'; ?a-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. bźi-tshan 'collection of four (bźi) things', also gnyen-tshan 'kindred, relations (gnyen)' (this directly cognate with similar form in Chinese; n. 428), This system is reflected elsewhere only sporadically, cf. B khan-pwan 'spouse' (B-L *khan 'grandfather', *bwa 'grandmother'); Kanauri mann 'mother' < TB *ma (cf. T masmad 'mother and children'); Lepcha ă-fyăt < *-sput 'father-in-law, wife's older brother' < TB *pow 'grandfather' (cf. T skud-po, cited above), (a-)zon < *-zan 'grandchild' but (a-)zo 'great-grandfather' (reciprocal terms), from TB *za 'child'; Dhimal tśan '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 $za \cdot n$ 'night', as in Lushei, but Siyin (Stern, Asia Major 10, 1963) has $za \cdot n$ 'to be evening', hence this apparently exceptional form in K-N belongs with the trio of roots cited below (pp. 102-3). Nungish has $d\dot{z}ia$ (Răwang) and ya? (Mutwang) 'night'; for the latter, cf. B $\dot{n}\dot{a}$ 'night', from $*n(\dot{e})-ya$ (ne 'sun', né 'day'), which also belongs in this set. The appearance of 'creaky voice' here and in 'day' (né) and 'moon, month' ($l\dot{a}$) 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 mədit 'moisten, wet, dip' < mədi 'moist, wet'; K mənit 'laugh at' < məni 'laugh'. The Bahing-Vayu -t(o) suffix is exclusively of this type; cf. Bahing ri-so 'laugh', ri-to 'laugh at'; Vayu khu 'steal', khut 'cause to steal'; Vayu muś(-tśe) 'sit', muś-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 gtśi-ba~gtśid-pa, K dźit dźi~dźit tśyi: 'urinate' < TB *ts(y)i; T stad-pa 'put on' < TB *ta 'place'; T rnyed-pa 'get, obtain' < TB *ney; K məsit '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', ləgot~ ləkhot (also śəgot) 'scoop up' (TB *r-ko-t).
- (421) T'du-ba 'assemble, meet, join', dud-pa 'to tie, knot', mdud 'knot, bow', sdud-pa 'put together, join, unite', sdud 'folds of a garment', 'thu-ba 'gather, collect', K tut 'to be joined, bound or tied together', mətut ~ kətut 'join, connect', Nung thu 'join (as a stream)', dəthut 'join, unite', G stit < *stut 'tangle', ka-ani bistit 'a knot' (ka 'tie') (TB *du-t ~ *tu-t).
- (422) K tsut 'stop, plug, cork, as a bottle', mətsut 'to stop, cork; stopper', Nung sü 'to cork', aysü 'cork', B tshui 'stop up', ătshui 'stopper, plug' (TB *tsuw).
 - (423) T sud-pa, Magari su 'to cough', from TB *su(w).288
- (424) K gəwa~kəwa~wa 'bite', B wà '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 ($na \sim nat$ 'ill', $ba \sim bat$ 'owe', $pu \sim put$ '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 tla·k 'fall' < TB *kla; Meithei nok, Mikir innek < 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', śəyu 'let down'.

nouns through suffixation of *-t (> Haka - θ), as in ∂fa 'child' (< TB *za), $fa \cdot \theta$ 'to breed'; ∂bu 'nest' (L bu, Sho $\partial b\ddot{u}$, Khami $t\partial bu$, Aimol $r\partial bu$), $bu \cdot \theta$ 'build a nest'; $\partial r\partial t$ 'food', $\partial t\partial t$ 'grow food', $\partial t\partial t$ 'husband', $\partial t\partial t\partial t$ '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 blud-pa $\sim blus$ -ma 'ransom' < blu-ba 'to ransom', ltad-mo 'sight, spectacle' $\sim ltas$ 'miraculous sign, omen' < lta-ba 'to look'. As suggested above, many or all -s forms of this type may be derivatives of *-ds forms:

(426) T'thas-pa' hard, solid', Nung that 'thick', K that 'thick', ləthat 'coarse, rough', Mikir arthat 'fat, thick, callous', Meithei ətha-ba' thick' (TB*r-ta-t). 290, 291

TB*-t also appears in this role in other languages, e.g. Kanauri brad 'branch' < bra' forked' (cf. No. 327); K lit 'load' < li' heavy'; K wan-khut 'smoke' (wan-khut khu 'to smoke'), Tangkhul khut 'smoke', TB *kuw; TB *(m-)kri-t 'bile' < *kri(y) 'sour'.

Tibetan suffixed -n is often adjectival, as in dron-mo 'warm' < dro-ba 'to be warm', but is commonly found also in secondary noun forms, e.g. rdzun 'false-hood' < rdzu-ba 'deceive', zan 'food' (also zas) < za-ba 'to eat', gtsin 'urine' < gtsi-ba 'urinate'. Lepcha shows a similar pattern with suffixed -n and -m, the latter perhaps connected with the verbal-noun suffix $-m \sim -am \sim -im$ of Kanauri; cf. Lepcha azom 'food' < zo 'eat', azom 'hot' azom 'heat' < zom 'to be hot', zom 'knowledge' < zom 'know', zom 'knowledge' < zom 'know', zom 'being' < zom 'to be', zom 'vehicle' < zom 'carry' (note the use of prefixed zom). 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 $bi \sim bi$ -ya, Khaling and Rai bi-ya, Khambu pi-), Miri bi, Dhimal pi, B $p\dot{e}$, Nyi Lolo ve-bi, Mikir pi 'give' (TB *biy). ²⁹²

Kanauri has -n as a transitive verb suffix in a few forms, e.g. $go-\acute{si}$ 'commit adultery with', gon (tr.); $hu-\acute{si}$ '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-kuw (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 tsha? '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 -n (n. 74).

293 Add K-N * $ya \cdot n$ 'night; to be evening' (n. 285); also L pan 'thin', Tiddim $pa \cdot pa \cdot t$ 'to be thin', pan (same tone) 'to be very thin', from TB *ba (No. 25).

- (428) K bu 'wear (as a shirt or trousers)', Thado bu 'wear', Lakher ∂bu 'wear (as a cloth)', L bun 'put on or wear (as ring, boots), encircle', from TB *bu(w).
- (429) T 'bri-ba 'draw, write', bris 'picture (drawn or painted)', ris 'figure, form, design', ri-mo 'figure, painting, drawing; markings', K məri? 'to mark, line, rule', dumrit 'mark with an edge-tool, as around a log', rit 'fix, as a boundary', ərit 'dividing line between two paddy fields', dźərit 'boundary, border', Nung rəga dərit 'boundary' (rəga 'country'), B rè 'write, paint, delineate', G a-ri, Dimasa ha-ri 'boundary' (a-~ha- 'earth'), L ri 'boundary', ri·n 'draw a line, scratch; line, scratch' (TB *riy).
- (430) Tsangla yu, Nung əyü, B yui, Meithei yu 'leak', Lakher zu < yu 'drip, leak; a drop', Haka $zu\theta < yut$ 'leak, drip, fall', K yun $\sim k$ əyun 'leak', L and Haka zun < yun 'excrement, urine' (TB *yuw). 294

§21. Tibeto-Burman prefixes (general)

294 Newari has a verb conjugation in -n, as well as one in -t and three in -l; see H. Jörgensen, 'Linguistic remarks on the verb in Newari', AO 14 (1936), 280-5. These finals appear to be secondary for the most part; cf. sit 'die' < TB *siy (but syat 'kill' < TB *g-sat), bil 'give' < TB *biy, khul 'steal' < TB *r-kuw, džal 'graze' < TB *dza 'eat', tal 'hear' < TB *ta.

The development of prefixes in the several TB nuclear groups has been as follows:

Tibetan-Kanauri: Prefixes well preserved in Tibetan, although sometimes treated as root-initials, as in dom < *d-wam 'bear'. Gyarung likewise has a full set of prefixes, with significant differences from the Tibetan set (Wolfenden, $\mathcal{J}RAS$, 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(\check{a})- (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 ta-<*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 pecular phonetic shifts. Replacement by or alternation with preformatives (full syllabic forms) is especially characteristic of Kachin. Jili differs significantly from Kachin, notably in the employment of $t \rightarrow - *d -$. Kadu preserves prefixed *s-.

Burmese-Lolo: Prefixed *s- and *r- reflected in aspiration or unvoicing of initials. Other prefixes normally dropped without trace, 295 but occasionally preserved before liquids or w-. 296 Nung, however, has a full set of prefixes comparable with that found in Kachin, which appears to have exerted some influence morphologically as well as lexically (the Nung are under the cultural and political domination of the Kachin).

Bodo-Garo: TB prefixes in general not so well maintained as in Tibetan or Kachin, partly because of replacement by the more recent pronominal elements *g- and *b-. Prefixes largely dropped in the Konyak group, which approximates to Burmese-Lolo in this respect.

Kuki-Naga: TB prefixes generally well preserved here, with the exception of the Central Kuki languages (excluding Lakher), although many unusual phonetic shifts are observed. Lushei, like Burmese, shows aspirated or unvoiced initials

295 JAM has now shown (n. 123) that TB prefixed *m- was maintained in proto-BL, although only exceptionally in Burmese itself (except before liquids); we must also reconstruct B-L prefixed *b- in 'four' (TB *b-l-y) because of the Maru form ($byit \sim bit$).

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 (śɔ-~dźɔ-), and Nung (śɔ-), 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', śɔdam' lead astray'; thum' to be ended', dźɔthum' to end' (dźɔ- for śɔ- before surd stops); Nung ənem' to be low', śɔnem' 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', śɔli' '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 skray-ba 'become swollen, swell', stor-ba 'to be or become lost, go astray', syo-ba 'become green' (syo 'green'), sgay-ba 'become full' ('geys-pa, Pf. bkay 'fill'). This 'intensive' function of prefixed *s- is reflected in TB *s-riy~*s-ray 'live, alive, green, raw', *s-kyur '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. swày 'put into' and way 'enter, go or come in' < TB *hway; also swà 'go', Magari and Chepang hwa 'walk, move', Newari wa 'come', K wa 'to be in motion' (used as verbal affix), and the Kuki verbal affix *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,

- (431) Bunan śrag 'shame', Magari kha-rak 'to be ashamed', Nung səra 'shame', śəra-śi 'to be ashamed', B hrak 'to be ashamed, shy', Mikir therak 'shame, disgrace; to be ashamed, blush' (TB *s-rak).³⁰⁰
- (432) T smin-pa 'ripen; ripeness; ripe', Vayu min, Bahing min 'to be ripe; to be cooked', Magari min 'ripe, ripen', Lepcha ămăn < *ămin 'ripe, cooked', myăn < *s-min 'to be ripe', Miri min, K myin 'ripe', Nung min 'to be cooked; to rot (as wood)', B hmyán~hmán 'to be ripe', G min 'fester, mature', min-gipa 'ripe', Dimasa min~mun 'ripen, cook' (intr.), gimin~gumun 'cooked, ripe, subdued' (gumun di 'pus'), L hmin 'ripen, ripe', Mikir men 'ripe' (TB *s-min).

The following root shows a transfer of function from 'transitive' to 'intensive':

(433) T riy-ba 'long', sriy-ba 'extend, stretch, postpone', Lepcha (ă-)hyrăn < */s-riy 'long', K ren 'long', śəren 'lengthen', but Dhimal hrin <*srin, B hrań < *sriy 'long'.

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).
- (435) Miri nam-duŋ, Nung sənam, B hnàm, Mikir nem-po 'sesame' (TB *s-nam).
- (436) K śinnat ~ sənat, B hnat, Lakher hna < *hnat 'heddles (of loom)', Ao Naga ənet < *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'), hö~sa-hö 'blood', hok-wa~sa-hok-wa 'skin' but siŋ-hok-wa 'bark' (siŋ 'tree'), and occasionally appears as an added element in other languages, e.g. Nung sərö, Maru səruk 'bone' <*s-ruw, corresponding to B ărui, 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-nuŋ 'back', *s-tay 'navel, abdomen', *s-hwiy 'blood' and the following (probably connected with TB *wa 'bite, chew'):

(437) T so <*swa, Murmi swa, Bhramu swa, Manchati 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 *śriŋ 'live' (n. 304), *zlum 'round' (n. 136) and *śrak 'shame' (n. 304). T śags < *śrag-s 'joke, jest, fun' = 'a matter (-s) of shame (śag)' 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

Lushei sa-kei 'tiger', sa-va 'bird', sa-vom 'bear', sa-hna 'fish'.

Miri si-tum 'bear', si-ram 'otter', si-be 'monkey'.

Tibetan sbal-pa 'frog', sdig-pa 'scorpion', srin-bu 'insect', stag 'tiger', spre 'monkey'.

Kachin səgu 'sheep', səwoi 'pangolin', səkrep 'bed-bug', səru 'mole', səroŋ 'tiger'.

Nung səwi 'bear', sərə 'ant', səri 'barking-deer'.

Most TB roots for animals can be reconstructed without this prefix, but the following are exceptional:

- (438) Τ sram, Lepcha săryom < *săsram (cf. Lushei!), Miri si-ram, Nung səram, K śəram, Burmese-Lolo *sram (based on Maru χrɛn, Phunoi sam), G matram, Dimasa matham, L sa-hram, Mikir serim 'otter' (TB *s-ram). 302
- (439) T śig, Bunan śrig, Kanauri rik, Lepcha śak < *śik, K tsi?, Nung śi, Miri təik (Abor tik), G tik, Dimasa thi-khu~thi-pu, L hrik, Mikir rek 'louse' (TB *s-rik). 303
 - (440) T ldźi-ba~'dźi-ba<*sli, Miri i-po, K khələwi~khəlai<*khwəli (through
- 301 Bodo-Garo has prefixed mi- in this capacity; cf. G matram, Dimasa matham 'otter'; G mattśa, Dimasa misi 'tiger'; G mattśok, Dimasa moso 'deer'; G mon, Dimasa miyun 'elephant' (-yun is augmentative); G mapil ~ mapbil, Bodo muphur ~ məfur, Dimasa misubur 'bear' (note the vocalic harmony). This element is perhaps related to TB *r-mi(y) 'man (homo)', as represented by T mi, Gyarung těrmi, Kanauri mi, Magari bhərmi, Kiranti *mi-na ~ *yap-mi, Digaro nəme, 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. Phön) and does not appear in Maru or the Lolo languages; cf. the following:

B krak 'fowl'; cf. Maru ro < *rak, Lahu $\gamma \hat{a}$?, also L va-rak 'duck', from TB *rak.

B krauŋ 'cat'; cf. Maru rauŋ 'wild-cat', Lahu γ ò, also K $ron \sim səro \gamma \sim səro \gamma$ 'tiger, leopard', from TB *roŋ.

B krwak 'rat'; cf. Maru ruk, Lahu fâ? (known only from B-L).

B $ky\dot{a} < *kl\dot{a}$ 'tiger'; cf. Samong $k\partial la$, Maru lo < *la (known only from B-L, but related to Ch. $xo/xuo^a < *khlo$ 'tiger').

B krwat 'leech', from TB *r-pat.

B krim 'cane, rattan'; cf. Maru wram ~ ram < *rim, also K rim, id., Lepcha rim 'sp. of cane (Calamus flagellum)', from TB *ri·m.

B kyauk < *klauk 'stone'; cf. Samong kəlauk, Maru lauk-, from TB *r-luy.

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

303 This root now reconstructed *śrik (n. 304).

metathesis), Nung səli, B khwè-hlè (Maru kəla), L ui-hli, Mikir tśikli 'flea' (TB *s-liy); 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 sig 'louse' <*s-rik; K tsi, Nung si 'louse' <*s-rik, paralleling K tsiy~kətsiy, Nung məsiy 'green' <*s-riy; G tik, Dimasa thi-khu 'louse' <*s-rik, paralleling G matram, Dimasa matham 'otter' <*s-ram; G and Dimasa gathay 'green' <*s-ray; G and Dimasa tha 'potato' <*s-ra; Meithei hik 'louse' <*s-rik, paralleling hiy 'to be alive' <*s-riy, ha 'yam' <*s-ra.³⁰⁴

304 Benedict (1948) has reconstructed *sr- in TB *sriy '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:

	TB	Bunan	Tibetan	Kachin	Burmese	Mikir	Garo
otter	*sram		sram	śəram	*phram	serim	matram
live	*śriŋ			tsiŋ	hraŋ	reŋ	thaŋ
louse	*śrik	śrig	śig	tsiP		rek	tik
ashamed	*śrak	śrag	śags	_	hrak	therak	_

The Garo distinction (not reflected in Dimasa, which uniformly has initial th-: matham 'otter', thi- 'louse', gathan 'alive') enables us to reconstruct TB *śra 'potato, yam' (No. 434) on the basis of Dimasa and G tha; cf. Ch. *d'io/zivvoa 'bulb, tuber; potato' (not in GSR), perhaps from a ST doublet form *źra (see n. 457 for the initial, n. 487 for the final, correspondence). Lushei, like Burmese, has hr- for both clusters: sa-hram 'otter', hrik 'louse'. Kanauri has śöŋ 'live' but rik 'louse', the latter possibly through metanalysis: *s-rik 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 srin-mo 'sister (man sp.)', Kanauri and Kanashi rinz, Bunan śrins (TB *śr- and *sr- fall together here), Thebor śin, Manchati hrin, Chamba Lahuli hrī 'sister', Byangsi (state of Almora) rin-śa 'younger sister', Dhimal ri-ma 'sister', from TB *srin; 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 threeway distinction here (later lost in Burmese itself); Lahu has há 'night'; 'pass the night'<ST *s-ryak (n. 48); šo 'otter' (in γ }-šo-lo 'gray otter' = 'water-otter-big', as analyzed by JAM)<ST *sram; ya? (in ya?-tɔ) 'ashamed' (cited in JAM, 1970 a) < ST *śrak.

§23. Tibeto-Burman prefixed *r-

Prefixed *r-, of uncertain function, appears in a number of noun roots, and must also be reconstructed for a few verb roots. It is preserved in Tibetan, Kachin, Bodo-Garo, Mikir (ar-), and occasionally elsewhere; note especially Magari ar-, as in arghan 'wasp', arkin 'fingernail', armin 'name', but l > wat 'leech' < *r-pat. Kachin usually has l > 0 for *r- in verb roots (and in l > 0), but l > 0), but l > 00. Noun roots with prefixed *r- include the following:

TB *r-ka 'earth': Nung rəga, K nga (n-ga).

TB *r-san 'lizard': T rtsans-pa, K nsan.

TB *r-ka·m 'edge, precipice': K ngam (n-gam) ~ ningam, G rikam.

TB *r-gu- η 'edge; shin': K $ngu\eta$ (n- $gu\eta$), G $riki\eta$, Dimasa $rugu\eta$, Mikir $arko\eta$.

TB *r-luŋ 'stone': K nluŋ, Mikir arloŋ.

TB *r-min 'name': Magari armin, Gyarung -rmi, Rangkhol ermin.

TB *r-may 'tail': Digaro ləmi~ləmiŋ, Aka ərim<*ərmi, K nmai, Dimasa khermai~bermai, Aimol rəmai, Mikir arme.

TB *r- $nil \sim *r$ -ni(y) 'gums': T rnil, Dimasa ha-rni, G wa-riy < *wa-rni (in comp. with 'tooth').

TB *r-pat 'leech': Magari lowat, B krwat < *k-rwat, G ruat, Rangkhol ervot, Angari Naga reva.

- (441) K nwa~niywa, G rua, Dimasa roa 'ax' (TB *r-wa).305
- (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 kəwa, Waling tśəwa, Rodong wa 'water'), Digaro kəra '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 vɔ, Lashi wo, Atsi wa), Horpa (Hsi-fan group) hrəva, but Phön (Samong dial.) kəwa, agreeing with L (and general Kuki) khua 'village' (TB *r-wa~*g-wa). 306

306 Nungish also has the *r- prefix here: Mutwang (Morse) rəwa 'village, town'.

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).

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~ryo-len-pa, Mikir arnu <*aryu 'roast, fry' <TB *r-yaw (above). Nung has prefixed ro- in the following:

Nung rodul 'roll, wrap, enwrap', but hi-dul 'legging' (= 'leg-wrapping'), hi-dul dul 'wear gaiters'; cf. West T (Ladakhi) thul-ba' roll or wind up', T thul-pa' dress made of the skins of animals' (= 'something rolled or wound up'), from TB*(r-)tul.

Kachin has prefixed lb- for TB *r- in lbgu 'steal', T rku-ba < TB *r-kuw; lbkhot 'scoop up', T rkod-pa 'dig out' < TB *r-ko-t; lbthat 'coarse' < TB *r-ta-t (above); lbmu 'sky', T rmu-ba 'fog' < TB *r-muw; also the following: 308

(445) T rga-ba, K ləga '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', ləbu 'trousers, skirt'; tśyen 'to do', lətśyen 'work'; śot 'to scrape', ləśot 'chisel, gouge'. Bodo-Garo preserves TB prefixed *r- in G rittśen, Dimasa redźen, Mikir ardźan 'light' < TB *r-yan (above), also the following root:

(446) T rma 'wound', rma-ba 'to wound', K nma~numma 'wound, scar', G mat 'to wound', Dimasa bumai < *bumat 'wound', also K mat~tsəmat, Nung rəmat, G gilmat, Dimasa germa '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 $r ext{-}tuu < ext{*}r ext{-}tul$ 'roll', showing correspondence to Nungish; also $r ext{-}n ext{-}a$ 'listen' < TB * $r ext{-}n ext{-}a$, with correspondence to T $r ext{-}n ext{-}b ext{a}$ 'ear'; cf. also $r ext{-}l ext{u}$ 'bathe' < TB * $(r ext{-})l ext{u}(w) \sim ext{*}(m ext{-})l ext{u}(w)$.

308 K ləmu 'sky' stands for ləmu? (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 $m\ddot{u}\gamma < m\ddot{v}w$ 'sky' belongs with TB *r-muw = *r-məw. Kachin has prefixed lə- corresponding to T l-, perhaps through coincidence, in TB *(l-)tak (n. 338); JAM notes that there is a secondary Kachin prefixed lə- < *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'.

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 mo-, Nung has pho- (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 *b- (Mikir ph-) and *m- (Mikir iy-), thus permitting the exact reconstruction of Kuki-Naga roots such as the following:

*b-la' cotton': Mikir phelo, Lakher pəla, N. Khami phəlo, S. Khami məhla, L la. Burmese has shifted *b- to *m- before *r- or *l- in three of the roots cited below (cf. mrup 'submerged' < TB *brup), yet has simply lè '4' for TB *b-liy (but Maru byit < *bliy).

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

TB *b-lin 'forest': K məlin, G burun ~ brin, Dimasa ha-blin.

TB *b-yuw 'rat': West T byu-a, T byiu, Kanauri pĭu (cf. pö '4' < TB *b-liy), Mikir phidźu, Rangkhol midźu, Lakher pəzu, Sho pəyü, S. Khami məyu.³¹⁰

- (447) Τ sbrul, Thebor brul, Magari bul, B mrwe < *mrul, Mikir phurul (early form) ~ phurui, Ao Naga per, Sema Naga σρεγü ~ σρεγi, Tangkhul phσrə, N. Khami pəwi, S. Khami məgui, L ru·l 'snake' (ΤΒ *b-ru·l).
- (448) Nung phəli, B mrè (mliy in inscriptions), Lolo li 'grandchild', Mikir phili-po 'nephew', phili-pi 'niece', K məli 'young man', G (aŋ-)ri < *li, Chang (Konyak) li 'nephew' (TB *b-liy). 311,312
- (449) Bahing bla, Vayu blo <*bla, Newari bala, Magari mya, Nung thəma, K pəla, Jili məla, B hmrà, Phön (Samong dial.) bya, Kha Li (Southern Lolo) ka-mla (cf. kha 'bow') (Lefèvre-Pontalis), G bra, Dimasa bala, Tangkhul məla 'arrow' (TB *b-la); note that Kachin has prefixed pə- rather than the anticipated mə-, the latter obtaining in Jili. 313
- 310 Add Gyarung $pe\acute{z}iu < *b-yu$; also B yun 'rabbit', with suffixed -n (n. 284); the *b- prefix in this root perhaps stands for TB * $b\overrightarrow{v}$ (No. 27).
- 311 For the semantics, see Benedict, 1942 bis; cf. T tsha-bo, L tu 'grandchild, nephew'.
- 312 K məli 'young man', originally 'nephew', as shown by the other meaning for this term, viz. 'father-in-law' (also niŋli 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 təphrer 'grand-child', from */phrəy.
- 313 This root has now been reconstructed *bla, agreeing with Karen (*bla), but *mla is also a possibility; T mla 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'.314 Similarly, the few verbal roots for which this prefix has been reconstructed shed little light on its nature:315

TB *b-rey 'buy': K məri, G bre, Dimasa barai.316

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

(450) T bred-pa (with suffixed -d), Digaro re, Aka rie, Nung phore 'to fear, be afraid', Mikir phere 'fear, doubt, dread' (TB *b-ray).³¹⁷

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', śəmai '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', gso-ba 'pour out'). Kachin has prefixed ga- $\sim kaa$ - $\sim khaa$ - with verb roots, in intransitives (e.g. kaagat '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 (kaaap' shoot' <*ga-p, kaayap' fan' <*ya-p, katsap' weep' <*krap). Prefixed *g- has been reconstructed in *g-ryap 'stand' (K tsap < g-yap), *g-sat 'kill; fight, strike' (T gsod-pa, Pf. bsad 'kill'; K sat 'kill', gasat $\sim kasat$ 'to

Kachin (Khauri dial.) has an apparent cognate here (ninda), 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 $hmr\grave{a}$, Bhramu $p \Rightarrow ra$, Chepang la 'arrow', and B myauk (Intha dial. $mrok \sim mlok$), Bhramu $p \Rightarrow yuk$, 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 $t \Rightarrow myu$, Gurung timyu, while the former has been reconstructed *b-la rather than *bla.
 - 315 Add TB *b-riy 'bark' (n. 245).
- 316 This has been identified (n. 242) as an old loan from AT, with initial *b-handled as a prefixed element.
- 317 T $\acute{z}ed$ -pa<*ryed-'fear, be afraid' (cited on p. 175) apparently also belongs here (secondary palatalization before the e); Angami Naga (Burling) has $pr \acute{e}i$ '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 kəya, B yà 'to itch' (TB *g-ya).

(452) K kəya?, L zak < *yak 'to be ashamed, shy', Tangkhul khəyak khəvai 'venerable, shameful', kəkhəyak 'pay respect, venerate; shame, veneration' (TB *g-yak).

Prefixed $g-\sim k$ - as an adjectival (or verbal-noun) prefix is found in Gyarung, Kachin, Bodo-Garo, and Mikir, e.g. Gyarung $k \in Sik$ 'new', K $g \ni lu$, Dimasa g a lau 'long', Mikir $k \in Sik$ 'great, large'. Wolfenden rightly identifies this as an old pronominal element (cf. K k han < k ha - ni 'they two'), which appears as a prefix with kinship terms in Kachin ($Si-ak \ni wa$ 'his father', as opposed to Sik and 'thy father'). This element also is found as an inseparable prefix with words for parts of the body in Konyak (cf. Moshang $k \ni sik$) vocabulary recorded by Hughes (1881) are provided with this prefix. In Bodo-Garo prefixed *Sik- has in some roots coalesced with the initial and thus been preserved, while the more recent pronominal *Sik- prefix has been added at a later date, e.g. Sik- Sik-

(453) T rna-ba, Nung əna 'ear', K na 'ear', na (diff. tone) 'hear'; B nà 'ear', na 'listen'; Rengma Naga əkhəna 'ear', na 'hear'; Bhramu kəna, Kadu kənà, Tangkhul khəna, Lamgang əkəna, Anal kəna 'ear'; G khna, Dimasa khana 'hear', G na-tśil 'ear' (TB *g-na).

Prefixed *g-, apparently of non-pronominal origin, has been recognized for *g-ya~*g-ra'right(hand)' (probably from the final velar of TB*lak 'arm, hand'); also *g-la 'moon' (L thla), *g-ryum 'salt' (K $d\acute{z}um < *g-yum$), *g-wa 'village'

318 For the semantics, cf. Ch. chiao^a 'horn, angle'. Prefixed *g- before r- is regularly treated as an initial in Tibetan; cf. T 'grib-pa 'decrease; grown dim', sgrib-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-ya ~ *g-ra. This would indicate that Tibetan formerly distinguished between [gyad] and [gəyas], and presumably between other pairs of this type, thus making a phonemic element.

319 Angami Naga (Burling) has $r = na \cdot \text{listen'}$, corresponding to T rna-ba 'ear', hence a doublet must be recognized for TB: *r- $na \sim *g$ -na.

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

- (454) K buy-li 'breeze' (buy 'blow'), Gyarung khəle < *khəli, B le, Samong kəli, L thli < *khli 'wind' (TB *g-liy).
- (455) Kk amu,Bhmui,Gm e-gumu,Dimasam u-khmu,Mikirk imu '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 kya), sometimes agrees with Lushei (as in kəwa 'village', kəli 'wind'), yet has səla '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 do- (to-, tho-) is nominalizing as well as directive, e.g. bu 'to be stubby', dobu 'hump on cattle'; dzu 'converge at a central point', dodzu 'center', while Nung do- vies with so- as a causative prefix, as in sun 'to be dry', dosun 'to dry or cause to dry'. Ao Naga te- forms verbal noun derivatives (substantival or adjectival), e.g. tsak-ma 'to crack', tetsak-ma 'crack'; metsi 'to bud', temetsi 'bud'; oman 'to believe', toman <*teoman 'faith' (the Ao prefix, unlike its Kachin equivalent, appears before prefixed me- and o- 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 khyùm < *khrùm 'pine away' (T *d-rum).

320 It has been suggested (Benedict, 1967 bis) that this represents an old loan from an AT root for 'needle' (see n. 82; this derivation is strongly supported by Thakali hrup 'needle', contrasting with 'tu '6'); it has now been reconstructed *drub as opposed to *d-ruk '6', accounting for the following contrasts:

	TB	Lepcha	Trung	Lahu
sew	*drub	hrap	krap	tź
six	*d-ruk	tărăk	khlu	kh∂P

These roots closely parallel T drug, Gyarung kutŏk, B khrauk '6' < TB *d-ruk (above). Tibetan prefixed d-, like prefixed b- and g-, coalesces with TB initial *r-; cf. the following:

- (458) T dra-ba 'cut, clip, lop, dress, prune, pare', Lepcha hra 'cut', Nung rat 'sever', B hrá 'wound by a slight cut', G ra~rat, Dimasa ra 'cut, reap' (TB *ra).
- (459) T dri(-ma) 'dirt, filth, ordure; odor', Bahing $ri \sim \partial ri$ 'odor', ri-ku 'filth, dirt', Lepcha $m\partial ri$ 'dirt', from TB *ri(y).

The above root is to be distinguished from the following:

(460) Kanauri and Thebor kri 'dirt, dirty', K khəgrəwi 'dirt, filth' (possibly from *khwəgəri by methathesis; cf. No. 440), B krè 'to be dirty, filthy', ăkrè 'dirt, filth' (TB *kriy).

Prefixed d-~t- with noun roots is characteristic of several scattered TB languages, viz. Gyarung, Abor-Miri, Nung, Jili, Phön (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 thomi, Samong tomi (also Gyarung timi) 'fire' < TB *mey.

Nung təgi, Jili təkwi, Samong təkhwi 'dog' < TB *kwiy.

Nung dəphat, Miri təpat 'leech' < TB *r-pat.

The Nung series is particularly rich: dəgoŋ 'tusk', dəri 'horn', thəmö 'eagle', thəwa 'bamboo', thəri 'cane', thəma 'arrow', thəwan 'snow, ice'. Gyarung prefixed tĕ-~tə-, as described by Wolfenden (JRAS, 1936), is a separable element employed when the substantive is used independently, as in tĕrnā 'ear' (T rna-ba) but ŋo-ŋi rnā 'my ear', no-ni rnā 'thy ear', ni-ni rnā 'his ear'; təyāk <*tĕ-əyāk 'hand' but ŋo-ŋəyāk 'my hand', no-nəyāk 'thy hand', ni-nəyāk '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. tena-roŋ 'ear', tepok 'belly', toko 'chest', temeli 'tongue' < TB *m-lay.

The nominal prefix outlined above undoubtedly belongs to a relatively late morphological stratum, as suggested by Wolfenden (*Outlines*, p. 133), who attempts to connect it with T de 'that' < TB *day. To the earliest level, however,

321 See the discussion of Tibetan dental (d): Loloish k in Lahu and PLB, for 'sew', 'six', etc. Lahu ti, Akha ti? fit with T'drub-pa 'sew' (JAM). Burmese has khr-<*d-r-, khy-<*dr-, but these medials are unstable in Burmese and the distinction is not reliable. On the basis of the Lahu and Akha evidence, however, we must set up a distinction here for proto-BL, unless it can be shown that the root for 'sew', a possible loan-word, is phonologically irregular.

322 The Gyarung genitival suffix here is composed of -i preceded by the consonant of the pronoun. It appears to have been derived from TB *-ki or *-gi (see n. 275) through assimilation, e.g. $\eta o - \eta i < \eta o - gi < \text{TB } *\eta a - ki$ or * $\eta a - gi$.

must be assigned prefixed *d- in TB *d-ruk '6', *d-kuw '9' (above) and the following root:

(461) T dom <*dwam, Gyarung twöm, Kanauri and Thebor hom (apparently from *s-wam, with TB animal prefix *s- for *d-; cf. Lushei), Digaro təham ~ təhum (as above), Bahing wam, Miri si-tum <*-twam (with si- for the animal prefix) 'bear', Lepcha sətum 'wolf' (with analysis as for Miri), B wak-wam 'bear' (wak 'pig'), wam-pülwe 'wolf' (possibly related to pülwe 'flute'), Lahu yè-mi-tō, L sa-vom (Kuki-Naga *d-wam), Mikir (thok-) wam 'bear', perhaps also K ləwap (couplet form) 'bear' (TB *d-wam).

Kuki-Naga prefixed *d- appears in *d-key 'tiger', *d-yuk 'deer' and *d-ka \cdot y 'crab' as well as in *d-wam 'bear'; cf. the following table:

		TB	Khami	Mikir	Lakher	Khoirao	Poeron	Bete
411	six	*d-ru k	təru	the rok	tśəru	səruk	kəruk	iruk
13	nine	*d- kuw	təkə		tśəki	tśəku	k u k w a	ikok
461	bear	*d-wam	təwun	-vam	tśəveu	tśəwom	kəbom	ivom
462	tiger	*d-key	təkei	teke	tśəkei	_	_	ikei
386	deer	*d-yuk	təzuk	thidźok	tśəsu	_	_	
51	$crab^{323}$	*d-ka∙y	təai	tśehe	tśəia	tśəγai	ai	iai

(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-> tś-~ ś- shift, found in Lakher and Western Kuki (e.g. Khoirao), is paralleled by K dźəkhu, G sku '9' <*d-kuw; K dźərit, Nung dərit 'boundary'; cf. also Poeron *d->k- and K kru, B khrauk <*d-ruk '6'. Bete i- must be regarded as a replacement rather than a phonetic equivalent of *d-. Central Kuki (excluding Lakher) and Northern Kuki simply drop the prefix or replace it with sa- 'animal', e.g. L ruk '6', kua '9', sa-vom 'bear', sa-kei 'tiger', sa-zuk 'deer', ai 'crab'. Extra-Kuki support for prefixed *d- is supplied in K khyi~tśyəkhyi, Kuki-Naga *d-khi 'barking-deer'. Replacement by an 'animal prefix' is found in Miri si-ke 'civet cat' <*d-key, and G mattśok, 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 (tse-rather than te-) and in Poeron (dropped rather than replaced by $k\partial$ -); cf. also the distinctive treatment in Karen *shyai; prefixed *dź- 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 *kəy. Mikir teke 'tiger' contrasts with tsehe '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).

(463) Bahing *li*, Lepcha săli, Vayu li-wo, Tsangla li, K ləli ~ kuŋ-li (Assamese dialect kəli ndan), B lè 'bow', Mikir li 'fiddle-bow', Miju təli, Nung thəli, G tśri, Dimasa dźili 'bow' (TB *d-liy).³²⁵

§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', mya-ba 'to be, exist', mnal-ba 'to sleep', mtśhi-ba 'appear, show one-self', 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 pha-<*ba-:phasin 'liver' < TB *m-sin, phale '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~snom-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', mənam 'to smell; smell, scent' (mənam nam 'to smell offensively'); Nung phənam 'to smell' (use uncertain); 326 B nam 'smell offensively, stink' (intr.), nam 'smell, receive scent' (tr.), anam 'odor'; Bodo manam 'to smell' (intr.); Dimasa maram 'to stink' (n <*r through dissimilation); L nam, Ao Naga menem 'to smell' (intr.); Tangkhul nənam 'odor', khənənam 'to smell' (intr.); Mikir innim 'to smell, be odorous' (intr.), annim 'odor', nem-so 'slight smell, stink' (-so is diminutive), from TB *m-nam.

325 Prefixed *d- might also be reconstructed for T dbu, B \dot{u} , 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 $a \sim o \sim u$ alternation in this root (Tibetan) we must also recognize medial i; cf. L $hni \cdot m$ 'smell', from *s- $ni \cdot m$ (but Mikir $nim \sim nem$ - 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).

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

TB *m-nwi(y) 'laugh' (above): K məni, Bodo and Dimasa mini, Khami mənui, Lakher pəhnei, Poeron mənoi, Ao Naga mənə, Tangkhul khəmənə, Mikir iŋnek (for the final -k, see n. 289).

TB *m-tok 'spit' (above): Mikir inthok; cf. K matho.

TB *m-sow 'arise, awake' (above): Dimasa masau, Khami ənthau, Lakher pətheu, Ao Naga meso.

(465) K məsa? 'to be sharp, biting to the taste, causing an itching sensation', L thak <*sak, Lakher pətha, Ao Naga mesak, Mikir iŋthak 'to itch' (TB *m-sak); cf. also Lepcha jak 'to itch, tickle'.

(466) K pəsi 'comb, rake', məsit 'to comb, rake; rake' (the pə- form is highly exceptional for Kachin), Nung əsi 'comb; to comb' (TB *m- replaced by *a-), Ao Naga məsə 'to comb', Mikir iythi 'comb', from TB *m-si(y).

Tibetan-Kachin correspondences are found in TB *m-to 'high' and *m-dza. 'love' (above), the latter showing K n- for *m-.327,328 TB prefixed *m- alternates with *s- in the following:

TB *(m-)lyak (Kuki-Naga) and *(s-)lyak (Bodo-Garo) 'lick' (above): Sho mli, Lakher pəli <*pəliak (cf. Lakher hni, L hniak 'footprint'; Lakher bi, L biak 'speak'), Ao Naga məzak, Lhota myak (m-yak), Sema minya ~ minye, Tangkhul khəməlek, Mikir iŋlek, 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 Meithei, which has mo- 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. mopa 'father' or 'his father', moya-ma-gi san motsin-na 'by (-na) the mouth (tsin) of the cattle (san) of (-gi) his older brother (ya-ma)', na-ton mokhul 'nostril' ('nose its-hole'), mohei 'fruit', mona 'leaf', mosa 'branch', mora 'root', motu 'feather', momei 'teil', moko 'head', mohau 'fat', and ya 'tooth' but moya 'tusk', tsin 'mouth' but motsin

327 K prefixed $n \sim num \sim niy$ - 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. $m \ni buy \sim nbuy$ 'wind' < buy 'to blow'; $m \ni dzo \sim ndzo$ 'topknot' < dzo 'to be made into a topknot', yet the two types are often differentiated, as in ba 'to be big', $m \ni ba$ 'chief, ruler', but nba 'great, big, ferocious'; dup 'pound', $m \ni dup$ 'sledge', but ndup 'blacksmith'. K $n \sim niy$ - stands for *m- in $nkha \sim niykha$, Nung $m \ni kha$ 'chin, jaw'; niyda (Khauri dialect), T mda 'arrow'; $nduy \sim niyduy$ 'sword', T mduy 'lance, spear, pike'. Lhota Naga has n- for *m- before dentals, velars, and palatals (excluding y); cf. $nli \sim nni$ 'tongue', Ao temeli, Sema top mili; top mili 'liver', Ao top mezak.

328 K ndźał 'show love' may be unrelated (n. 89).

'beak', na-ton~na-tol 'nose' but məna-tol 'trunk'. In the light of this Meithei evidence, TB prefixed *m- is to be regarded as an old pronominal element, with TB *m-nam 'smell' < '(its) smelling' (as in Kachin) paralleling *m-kri-t 'bile' < '(its) sourness (*kri)'; cf. TB *m-sin 'liver', from an old root *sin still preserved in Meithei (əsin 'sour'), and Bodo-Garo kha 'bitter', bikha~bakha 'liver' (with the distinct pronominal prefix b-), Haka hni-t-ka 'bile' (hni-t 'gall bladder', ka 'bitter'). Prefixed *m- in this role is much in evidence in Tibetan (e.g. mgo 'head', mtśhi-ma 'tear', mtśhu 'lip'), and occasionally is susceptible of analysis, as in mtśhe-ba 'canine tooth' (tśhe-ba 'large'), mthe-bo 'thumb' < TB *tay 'large'. ³²⁹ In the Kuki-Naga nucleus, however, this prefix reaches the peak of development, being well attested in Sho, Khami (mə- in S. Khami, pə- in N. Khami), Lakher (pə-), Old Kuki (generally mə-, but bə- ~ pə- in Anal and Lamgang), Western Kuki (Khoirao mə- ~n-, Empeo bə-), Tangkhul and Maring (mə-), ³³⁰ the several Naga languages (mə-), and Mikir (iy-); cf. the following table:

		TB	S. Khami	Lakher	Tangkhul	Ao Naga	Mikir
191	laugh	*m-nwi(y)	mənui	pəhnei	khəmənə	тәпә	innek
281	tongue	*m-lay	əməlai	eglei	məle	temeli	de
234	liver	*m-sin	_	pəthi	əməthin	temesen	iŋthin
231	spittle	*m-ts(y)il	mətśe	pətśi		metsə	(in the)
397	twenty	*(m-)kul	kui		тәдә	metsə	$i\eta koi$

Notes: Standard Lakher əlei 'tongue' (replacement of *m- by *a-), but pəlei in the Tlongsai dialect. Mikir de 'tongue' is best explained as a contraction of *nle < *iŋle, yet Mikir has iŋlit 'leech' corresponding to Ao Naga melet. Mikir iŋthe 'spittle' is distinct from the Kuki-Naga root but shows the same prefix; cf. also K məyen 'spittle', perhaps from yet another root (but cf. No. 74). Mikir iŋkoi (early form iŋkol) '20' can be derived from koi 'all', i.e. 'all the fingers and toes'. S. Khami kui is frankly irregular. The connection of the Ao Naga form mətsə '20' is indicated by Sema Naga muku, with the initial stop preserved. For Tangkhul məgə < *m-kul, cf. phərə < *b-ru·l 'snake'.

329 Cf. S. N. Wolfenden, 'The Prefix m- with Certain Substantives in Tibetan', Language 4 (1928), 277-80; R. Shafer, 'Prefixed m- in Tibetan', Sino-Tibetica 3 (Berkeley, 1938). Wolfenden interprets T prefixed m- in this role as a nominalizing element, e.g. mgal 'jaw' < 'gal-ba 'to be in opposition', paralleling K məpyen 'wings' < pyen' to fly'. Shafer favors the view that *m- with words for parts of the body goes back to TB *mi(y) 'man (homo)', on the basis of compositions of this type in Magari and Empeo. The latter view must definitely be rejected, despite the parallelism presented by prefixed *s- (<*sya 'flesh').

330 Tangkhul occasionally has no- rather than mo- in verb forms; cf. khononam, Mikir innim < *m-nam 'smell'; khonorum, Mikir panrum < painrum 'add' (Mikir innum 'come together'); see Wolfenden, Outlines, p. 157. Nung has a curious nominalizing prefix on, which may even precede another prefix; cf. onsü 'stopper' < sü 'close up, cork'; onwam 'cover' < wam 'to cover'; onmothip 'fold' < mothip 'to

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 məyuŋ ~ məzuŋ, Lakher pəzau < *pəzuŋ, Ao Naga temeyoŋ.

TB *(m-)li·t 'leech': Ao Naga melet, Mikir inlit.

(467) TB *(m-)lon: B laùn 'canoe', L lon, Haka laun, S. Khami mlaun, N. Khami phlaun, Kyaw mlaun, Lakher bəleu 'boat'.

Where outside correspondences are available, the reconstruction is simply *m: TB *m-lay 'tongue': Kuki-Naga *m-lay (see above); also Nung phale < *b-lay (for *m-lay).

TB *m-(t)sin 'nail, claw': Khami msin~msen, Lakher pətan < *pətin, Siyin tśin, Khoirao mətin, Ao Naga temezən; also Digaro mśi, Miju msen 'claw'.

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

*m-ku·k '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 khug(s) 'corner, concave angle'.

*m-luŋ 'heart': S. Khami məluŋ, N. Khami pəlun, Sho mlüŋ, Lakher pəlau < *pəluŋ, Tangkhul məluŋ, Ao Naga temuluŋ, Haka and L luŋ.

*m-lyan 'shoulder': N. Khami pəlain, Sho əhmlen, Thado len, Haka lian, Meithei len-bal~len-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', tśyiŋkha 'door', Nung phəŋ-kha 'door, gate', B tam-khà, id. (perhaps from *ta-mkha), Haka and L ka, Banjogi məka, S. Khami əmkha, Lakher pəka, Mikir iŋho < *iŋkha 'mouth', from TB *m-ka.

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

fold'. This prefix, like Mikir iy- and Tangkhul ay-, is of secondary origin, and hardly furnishes support for reconstructing TB prefixed *y- or *n-. Shafer, 'Prefixed n-, ng- in Tibetan', Sino-Tibetica I (Berkeley, 1938), argues that T prefixed'- 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).

(470) K niŋkha~nkha, Nung məkha 'chin, jaw', Dimasa khu-sga 'chin' (khu 'mouth'), Bodo khu-ga 'mouth', L kha 'lower jaw', Thado kha 'chin', from TB *(m-)ka~*(s-)ka.^{332,333}

§28. Tibeto-Burman prefixed *a-

Prefixed *m- as a pronominal element can profitably be compared with TB *a-, of almost universal distribution in the family. This element occurs as an independent 3rd person pronoun in Kiranti and Kuki-Naga (a-ma, a-ni), and as a pronominal prefix (3-) in these same groups; 334 cf. Aimol rəmai 'tail', rul ərmai 'snake's tail'; Bahing biŋ əta-mi 'calf' ('cow its-child'), byar əpwaku '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 əwa 'father' (nwa 'thy father', kəwa 'his father'), mun ~ əmun 'body hair', myi ~ əmyi 'eye'; Nung əkhö 'uncle', əna 'ear'; B ābhá (āphá) 'father', āmi 'mother' (but mi-bá 'parents'), āsa 'flesh' (but nwà-sa 'beef' = 'cattle-flesh'); 335 G apa 'father', ama 'mother'; 336 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-loy 'boat' (this might also be reconstructed *b-loy), *m-tow 'fly' (S. Khami məthaut, N. Khami pəthau, Lakher mətheu-pa, L and Thado thou, Sema Naga əmuthu), *m-tsyi 'salt' (L and Thado tśi, Banjogi mitśi, Rangkhol midźi, Tangkhul mətsi, Ao Naga metsə, Sema əmti, Mikir iŋti); also Mikir iŋphat 'leech' < TB *r-pat, Lakher pəhmo 'eagle' < *muw, and Haka wi, Sho əmui, Yawdwin mwi, Tangkhul məhvü < *m-(h)wi, K məgwi (gwi in comp.) 'elephant', to be compared with Kuki *wi, K gwi < TB *kwiy '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).

334 Cf. the discussion in S. Konow, 'Pronominal Prefixes in the Lai Dialect', JRAS (1904), 365-6.

335 Lahu has three vowel-initial noun prefixes: (1) a-, vocative prefix for kinship terms: a-pa 'father', a-vi-a-ni 'brothers (older and younger)', a-pi 'grandmother' (vocative or not); (2) à-, the most common, used like Burmese ă-, from *ay-(Bisu ay-); (3) á-, not productive but frequent, probably from the stopped variant of No. 2 (*ak-), as in á-lè? 'salt', á-chè? 'goat', á-phè? 'pepper' (JAM).

336 The Bodo-Garo evidence is complicated by the presence of a 1st person pronominal prefix a-, as in Bodo ay-ni afa 'my father', nay-ni nayfa '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.

'hand', $aso \sim so$ 'child'; Lhota Naga okhe 'hand', eyu 'neck', oka 'daughter', $ey\ddot{u}$ 'wife' (* $a - > o - \sim e -$), Sho oho 'tooth', $ot\ddot{u}$ 'grandson'. Semantic specialization is sometimes encountered; cf. B $sw\dot{a}$ 'tooth', $oud{a}$ 'cutting edge'; $oud{a}$ 'house', $oud{a}$ 'sheath'; $oud{a}$ 'eye', $oud{a}$ 'knot in timber'; Lepcha $oud{a}$ 'water', $oud{a}$ 'water in which meat has been boiled'; $oud{a}$ 'blood', $oud{a}$ 'menses'; $oud{a}$ 'door', $oud{a}$ 'pass'; $oud{a}$ 'tree', $oud{a}$ 'bush'; $oud{a}$ 'flower', $oud{a}$ '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 ətok 'cut', ədep 'rap'; Nung əpha 'adhere' (intr.), contrasting with pha 'sew' (B pha 'patch') and dəpha 'adhere, patch, affix, transplant' (TB *pa); ətśuŋ 'sag', as opposed to tśuŋ 'hang, suspend' (intr.) and dətśuŋ (tr.); Ao əsam, Lhota eszan 'run'; Ao ənak, Lhota enak 'scratch'. The same prefix appears in a nominalizing role in Burmese and occasionally elsewhere; cf. B wak 'halve', āwak 'half'; thùm 'tie in a knot', āthùm 'knot'; Lepcha ŋan 'sit', āŋan 'dwelling'; kut 'rule a line', ākut 'strake'; Mikir āŋnim 'smell', aŋnim '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 āhrum 'hot', as opposed to āhrun 'heat' (hru 'to be hot'); K əthat 'thick', əkha 'bitter'; Mikir āthik 'just', ākēve 'green, unripe' (ā- preceding prefixed kē-); Thado əsa 'thick' (contrast Sho əso 'thickness' < so 'to be thick', as in Burmese); Lhota Naga ehme 'ripe' (hmen 'ripen'), Ao Naga təmen < te-əmen 'ripe'.

Wolfenden (Outlines, pp. 177 ff.) attempts to draw a line between 'pronominal' and 'non-pronominal' prefixed *a-, largely on the basis of the Tibetan evidence. Tibetan ?a- with kinship terms (?apha 'father', ?akhu 'uncle', ?aphyi 'grandmother') is described as 'non-pronominal', and prefixed a- in a similar role elsewhere is united with the Tibetan element, while the typical pronominal prefix of Kuki-Naga is said to be wholly distinct. Tibetan prefixed '-, on the other hand, is written a- and explained as a phonetic variant of prefixed b- <*ba-, and the Kachin and Ao Naga a- prefix with verbs is referred to this hypothetical element. T'- appears as an initial before vowels (see §8), and as a prefix before sonant or aspirated surd stops or affricates, the latter replacing sibilants in this position (see n. 90). 338 This prefix is commonly found with the 'present' roots of Tibetan

³³⁷ TB prefixed *a- in this role is curiously paralleled in two remote languages; cf. Navaho 'neutral prefix' a- in ana 'eye' (bina 'its eye'), agud 'knee' (bogud 'its knee'), ak'wos 'neck' (bok'wos 'its neck'), amá 'mother', bamá 'her mother' (bi is 3rd person pronoun) (see Fr Bernard Haile, A Manual of Navaho Grammar, St Michael's, Arizona, 1926); Abchas (Caucasic family) abla 'eye' (səbla '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', 'dźo-ba (<**'zo-ba)~bzo-ba 'to milk' (zo 'milk'). Prefixed '- with non-verbal roots is much less in evidence but does occur, as in 'gul' neck' (= mgul-pa), 'doms' pudenda' (sometimes mdoms), 'dre 'demon', 'dab-ma 'wing', 'bu 'insect', 'bron 'wild vak', '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 [2a] as opposed to [2].339 Gyarung, as recorded by Wolfenden (7RAS, 1936), makes a similar distinction between a-, as in atata 'father', ama 'mother' and $\partial - \sim \ddot{a} - \sim \ddot{o}$ -, as in əkesu 'goat', əphak 'half' (cf. B awak), alapo 'donkey', asia 'flesh', asnas 'lip. beak', öbörö '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 *nan (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 lətha? 'upper, above', kətha? 'above, overhead', Nung tha-kha~tha-lam 'up, above', B tak 'ascend', āthak 'upper part, space above', from TB *(l-)tak; cf. Garo dak '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 $\partial : /g'yas/$ 'right (hand)' = $g\partial yas$, contrasting with gyad 'champion' (see n. 318); (2) before stops/affricates, as glottalization or as $P\partial$ (optional), through rule that syllable-initial vowels are pre-glottalized: /'bu/ 'insect' = $P\partial u$ or $P\partial u$; (3) before vowels, as (zero): /'og/ 'below' = ∂u , contrasting with ∂u /-ma 'throat' = ∂u 0 (the latter, because of pre-glottalization rule).

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

PoPog = og, with parallels elsewhere in Lahu, where this rule: $P+P=\phi$ 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.

§29. Tibeto-Burman alternation (consonantal, vocalic)

Apart from prefixation and suffixation, only one general morphological process can be assigned to the parent TB speech, viz. alternation of root initial. This feature is present in a number of TB roots reconstructed above, viz. *bar~*par 'burn', *be~*pe 'broken, break', *bley~*pley 'straight, straighten', *bliy~*pliy '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.³⁴¹ In the following roots Tibetan has a verb of transitive form in the role of an intransitive:

340 For a view to the contrary, see R. A. Miller, 'The Tibeto-Burman Infix System', JAOS 78, 3 (1958) (JAM). The 'infixes' described by Miller appear to be the product either of chance similarities, e.g. TB *krow '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-<*yy-) for Tibetan (long ago noted in Benedict, 1939), the medial appearing even in Ch. yio/niwoa, 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

(471) T'pham-pa 'to be beaten, conquered', but Kanauri bam 'to be defeated, lose', pham 'defeat, win', G bam 'submit', also 'sit', bam-at 'subdue', bam-gop 'crouch, bow, stoop', bam-gipa 'obedient', Lepcha bam 'remain', Tangkhul pam, Meithei pham 'sit', from TB *bam~*pam.

T'don-pa, Pf. bton, Fut. gdon, Imp. thon 'cause to go out, go out', but Kanauri dön 'go or come out', tön 'put out', perhaps also Magari don 'pull' (= 'cause to come out'), from a root $*don \sim *ton$ (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.); bon 'burn' (intr.), pon (tr.); bön 'to be filled', pön 'to fill' (TB *blin ~ *plin); 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', ăkauk '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', xam '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 <*blen 'to be straight', phen <*phlen 'make straight'; Dimasa belen 'to be erect, straight', giblen 'erect, straight', siphlen 'straighten out (crease, knot, kink)', ga-phlin 'straighten out, go straight' (-phlen ~ -phlin is verbal auxiliary) < TB *blen ~ *plen. 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 práń 'full' <*bliη, as shown by Lahu, Lisu, Lolopho bi, Ahi dε, Nyi dlε, but B phráń 'fill' <*s-blin (corresponding to K dźophrin) or *plin. B hn-, hń-, hn-, hm-, hl-, and hr- (hy-) in transitive forms must be derived from prefixed *s- forms, but

terms of prefixes (real and unreal). A thoroughly modern linguistic approach to this problem is found in Li Fang-kuei, 'Certain Phonetic Influences of the Tibetan Prefixes upon the Root Initials', CYYY 4 (1933), 135-57, in which the weakness of Conrady's position is exposed.

342 B-L does not appear to have the sonant vs. surd alternation (JAM).

pairs such as tsut 'to be torn', tshut 'to tear' indicate initial alternation (tsut < *dzut, tshut < *tsut). Siyin (Northern Kuki) has an initial alternation identical with that found in Burmese; cf. kiem 'grow less', khiem '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 $\partial t \partial \bar{t}$ 'poisonous' (in comp.), Lisu to 'poisonous', Nyi tu 'to be poisoned', Lolopho tho 'to poison (fish)', but Moso ndu 'poisoned (arrow)' (Rock) (TB * duk ~ * tuk).

Vocalic alternation, although encountered in several TB languages, appears to have played no role in proto-TB morphology. Conditioning phonological factors, often of an obscure nature, are involved in most or all cases; cf. G tiha 'eating', antihi 'eat', antihe-oaya '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 $\sim bobs$ 'descend'.

T'gens-pa, Pf. bkan, Fut. dgan, Imp. khon 'fill'.

T'debs-pa, Pf. btab, Fut. gtab, Imp. thob 'throw'.

T gsod-pa, Pf. bsad, Fut. bsad~gsad, Imp. sod 'kill'.

T'dźog-pa, Pf. bźag, Fut. gźag, Imp. źog 'put, place'.

The e of the present stem is possibly to be interpreted as an effect of the prefixed element -<*a- [3-]. Similarly, the e 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/TB *a = T $a \sim a$ (no alternation, except in the imperative)

 $ST/TB *\hat{a} = T a \sim o$

 $ST/TB *_{\partial} = T a \sim e$

We can now, by way of illustration, reconstruct TB *g-sât (T gsod-pa, Pf. bsad), the back vowel serving to explain the seemingly irregular Garo form: solot (n. 85); also TB *səm 'breath, voice, spirit': T sem(s)-pa, Pf. sems ~ 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. $bih \sim bioh \sim biuh$ 'go!' < bi-mig 'to go'), Manchati and Tinan (-u), Gurung, Bhramu, Magari and Bahing (cf. Trombetti, *Elementi di Glottologia*, pp. 601-2). In at least two roots, however, the original TB vowel appears to have been o rather than a:

T skyon-ba, Pf. bskyans, Fut. bskyan, Imp. bskyon(s) 'to guard', B kyaùn < TB *kyon (above).

(473) T dkrog-pa~skrog-pa 'rouse, scare up', 'grog-tśe (Ladakhi) 'take fright' (Wolfenden, Outlines, p. 49, note 1), a doublet of skrag-pa 'to be terrified, afraid', B krauk 'to fear' <*grok (Lahu k3?, Lisu dzɔ, Ahi dźo~dźu, Lolopho dźo, Nyi gu), khrauk 'frighten', from TB *grok~*krok.

§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,³⁴⁵ who recognizes five groups: Mopwa (or Mogpha); Karenbyu (White Karen), Bwe (or Bghai), and Brek; Karenni (Red Karen); Padaung, Yinbaw, and Gheko; Zayein.

Our analysis of Karen must be based in large part on the data from Pwo and Sgaw, the only two languages which have been fully recorded.^{346,347} The sources on these literary languages, however, are far from satisfactory as linguistic tools,

345 L. F. Taylor, 'Indigenous Languages and Races', in *Census of India*, 1921, Vol. 10 (Burma), Appendix B.

346 C. H. Duffin, Manual of the Pwo-Karen Dialect, Rangoon, 1913; D. C. Gilmore, A Grammar of the Sgaw Karen, Rangoon, 1898; W. C. B. Purser and S. T. Aung, A Comparative Dictionary of the Pwo-Karen Dialect, Pt I (Pwo-Karen-English), Rangoon, 1922; Pt II (English-Pwo-Karen), Rangoon, 1920; J. Wade, A Dictionary of the Sgau Karen Language (recompiled and revised by E. B. Cross), Rangoon, 1896.

347 R. B. Jones' Karen Linguistic Studies (Univ. of California Publications in Linguistics Vol. 25 Univ. of California Press Berkeley, 1961) now provides us with

Linguistics, Vol. 25, Univ. of Calif. Press, Berkeley, 1961) now provides us with excellent descriptions of Sgaw, Pwo, Taungthu (Pa-o) and Palaychi (not previously described; most closely related to Sgaw) as well as an etymological glossary of 859

especially on the phonetic side, where the recording has been done in modified Burmese script rather than a phonetic alphabet. The non-literary languages have been too scantily recorded to be of much value, although Taylor has given us a phonetic record of most of them.³⁴⁸ On the comparative side, only the pioneer study by Mason and the more recent analysis by Gilmore can be cited.³⁴⁹

As has already been noted (§ r), 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 *hnia 'flesh, meat', while another pair of roots shows a strange alignment with Chinese and Bodo-Garo, viz. *tho 'bird' and *may 'rice' (Benedict, 1967 bis, note 7). Karen also has *mer? < *myak' eye' rather than *mik, in agreement with B-L and Nungish (possibly also Gyarung), and this appears to reflect the archaic ST form (n. 251). An alternative possibility is that Karen split off at an early date from the BL/Nungish division of TB and was subsequently altered as a result of Thai influence.

general readily distinguished, as are the occasional Thai and Mon-Khmer borrowings. Morphologically, Karen diverges from Tibeto-Burman almost as widely as does Chinese, especially as regards syntax. Phonetically, Karen has undergone reduction of finals comparable with that found in Lolo, and has preserved initials only in part.

§31. Karen morphology (categories) and syntax

Karen represents a relatively pure type of monosyllabic, isolating language. Categories of noun, pronoun, numeral, and verb-adjective can be distinguished, as in Tibeto-Burman. The object follows rather than precedes the verb, although in disjunction the object is placed at the head of the sentence. Modifying words follow verbs as well as nouns. Relating elements, some of which precede rather than follow, make for flexibility in word-order, e.g. the most important such element in Pwo is $l\ddot{o}$, as in ya le $l\ddot{o}$ wi takho 'I go to Rangoon (city)'; ya phe sabwa $l\ddot{o}$ li? la bi (or ya phe li? la bi $l\ddot{o}$ 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 bi 'book one flat-thing (bi)' = 'one book'; γi ni phlo 'house two round-things (phlo)' = 'two houses'; γi a phlo 'many houses'. Karen syntax in general, however, with the object placed at or near the end of the sentence and with relating elements preceding as well as following, stands close to Chinese and even closer to unrelated Thai, which has perhaps exerted some influence here.

§32. Karen pronouns

The Karen personal pronouns are ya (1st), na (2nd), and awe (3rd). Pwo has a special 1st person plural pronoun (pa), but ordinarily a plural suffix is employed with pronouns (Pwo $-\theta i$). Pwo also has special forms used in disjunction and after the verb mwai 'to be': $y\ddot{o}$ 'as for me', $n\ddot{o}$ 'as for thee'. 351 Karen ya is directly

³⁵¹ White Karen exhibits vocalic harmony in its personal pronouns; cf. ya la 'I fall', yo po 'I awake', yɔ ɔ 'I awake', yu pu 'I carry', yi śi-sa 'I fear', ye le 'I go', yä bä-bo 'I am carried'; see G. A. Grierson, 'Vocal Harmony in Karen', JRAS (1920), 347-8.

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 lö, e.g. γi lö sabwa θi we nau 'the (nau lit. 'that') house which Sabwa built'. The former is a pronominal prefix in constructions such as sabwa $a\gamma i$ 'Sabwa's house', γi ado 'big house', lit. 'house its-bigness'. ³⁵² Purser and Aung (Comparative Dictionary of the Pwo-Karen Dialect) cite numerous forms with this prefix, e.g. akho 'breadth', athau 'length, height', alai 'breadth, width', alau 'length'; aphi? 'skin, bark', ama 'spleen', ³⁵³ 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. ³⁵⁴ 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: 355

- 352 It is probable that prefixed a- is phonetically $[\mathfrak{d}$ -], and that \mathfrak{d} 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 $[y\mathfrak{d}]$ and $[n\mathfrak{d}]$, with weak stress, as opposed to the disjunctive forms $y\mathfrak{d}$ and $n\mathfrak{d}$, 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 ?ətśa, from Karen *(ā-)tsha (tone B); the tonal agreement with the TB verbal root *dza 'eat' indicates that this is not a loan from B ătsha '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 *hnət or *hnwi-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

	TB	Taungthu	Pwo	Sgaw
one		ta	ka	ta
two	*g-nis	ni	ni	khi
three	*g-sum	heta oum	$ heta\ddot{q}$	$ heta\ddot{o}$
four	*b-liy	lit	li	lwi
five	$*l$ - ηa	ŋat	yai	yε
six	*d-ruk	θu	χu	χü
seven	*s-nis	nöt	nwe	nwi
eight	*b-r-gyat	hetao t	χo P	χo P
nine	*d- kuw	kut	khwi	khwi
ten	*tsi(y)	tśi	shi	shi
hundred	*r-gya	rea	ya	ya

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 $*s > \theta$ - in '3' is standard, as are Pwo and Sgaw *p > y- in '5' and *ts > s(h)- in '10'. Pwo and Sgaw χ -, 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) $\sim ya$ (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 ye '5', and Pwo and Sgaw khwi '9', can be explained on the basis of vocalization of the final stop element: *ya- $t > *yai > yai \sim ye$; *k(h)u-t > *khui > khwi; also Sgaw 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. TB profixes. Wa '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) livi directly from *b-li (TB *b-ləy); cf. the parallel development in Taungtha (a transitional Central-Southern Kuki language) livi 'nephew/niece' < TB *b-ləy (Benedict, 1941).

Taungthu and Pwo ni (high tone) < *hni, Sgaw khi, Palaychi tshi '2'; cf. TB *g-ni.

*s-wa; Pwo and Sgaw $\theta wi < *swi$ 'blood', TB *s-hwiy; are isolated instances of agreement. Sgaw has a fairly extensive set of prefixes, sometimes alternating with initial consonant clusters, as in le 'exchange', $kale \sim kle$ 'change, mix, combine', Pwo lai 'exchange, mix' (in comp.), TB *lay; 357 Sgaw wo 'surround, encircle', kawo 'circle; surround; to be circular', kwo (k-wo) 'encircle, bend into a circle or curve; circle, curve', Pwo wa 'encompass; to be circular', khwa (kh-wa) 'to be circular', TB *hway. 358 Prefixed k- is especially common before l-, as shown by the following series:

wing	series.	TB	Pwo	\mathbf{Sgaw}
463	bow	*d-liy	khli	kh əli \sim $khli$
454	wind, n.	*g-liy	li	kəli
440	flea	*s-liy	khli	kli
448	grandchild	*b-liy	li	li
474	boat	*(m-)liy	khli	khli

(474) K li, B hle, Kuki-Naga *m-liy (or *b-liy) 'boat' < TB *(m-)liy. 359

It is probable that the correspondence in prefixes in TB*g-liy, Sgaw kəli 'wind' is coincidental, 360 but a possible parallel (with Kuki-Naga) is presented by the following root, which shows a puzzling variety of prefixed elements in TB: Sgaw kəla 'spirit, soul; reflected image' (cf. la 'beauty') and the following:

(475) T hla 'the gods', Burmese-Lolo *s-la 'soul' (Lahu à-ha-ku, Ahi i-hlo-zo, Lolopho vi-hyo-mo, Nyi i-śla) (cf. B hlá 'beautiful'), K minla~numla 'ghost, spirit', sumla 'picture, image, idol', Nung phəla <*b-la (probably for *m-la) 'demon; soul', L thla <*khla 'spirit, one's double', Tangkhul may-la 'life, ghost, soul, spirit', from TB *(m-)hla.361

Taungthu $t \ni wa?$, Pwo $wa? \sim \theta \ni wa?$, Sgaw $\theta u? < *\theta wo?$, Palaychi $l \ni ro < */rwa[?]$ 'land leech'; cf. TB *r-pat 'leech' (Garo ruat).

Taungthu $p \ge tho? < b-tho?$ '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 *klwa/kwa~glwâ/luâ,ª id. (n. 487).

- 357 The k- prefix in this root is matched in TB; cf. K gəlai 'change, exchange' (JAM).
- 358 Cf. also Karen *gwaŋ 'circle, ring': Taungthu kwaŋ, Pwo khwa, Sgaw and Palaychi kwa (all low tones), with secondary voicing of the prefixed element. Karen also has this prefix in *wa 'husband', *khwa 'male (human)'.
- 359 Taungthu has phri' boat', from p(h)i, indicating a possible correspondence with the prefix of the TB root.
- 360 Karen *khli 'bow' has a possible correspondence in TB; cf. K kuŋ-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-kla is to be preferred.

Karen also has discordant (with TB) prefixed k- in certain other roots:

Pwo and Sgaw kwa (k-wa) 'ax'; TB *r-wa.

Sgaw kəha? 'phlegm'; TB *ha·k 'hawk, gag, choke'.

Pwo kasha, Sgaw kasha 'elephant'; B tshan.362

Karen has prefixed p- for TB *b- and *m- in the following pair of roots:363 Pwo phla, Sgaw pəla~pla 'arrow'; TB *b-la.

Pwo phle, Taungthu pre, Padaung ble, Sgaw pale~ple 'tongue'; TB *m-lav~ *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 [kəwiy], with the initial interpreted as a prefix, whence *t-wiy>thwi through the typically Karen process of alternating prefixes, e.g. Sgaw $k \theta i \sim t \theta i$ '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, γ , γ , t, $d, s, \dot{s}, z, p, b, n, m, \dot{s}, \theta, \phi, r, l, y, w, h \text{ and } 2; i, e, \ddot{u}, \ddot{o}, \partial, a, u \text{ and } o.$ The consonant clusters, in initial position only, include kh, th, ph, sh (these might be regarded as unit phonemes); k or $p \sim b + y$, 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, 1967 bis); the prefix, which perhaps is related to the *k- 'animal prefix' of TB (n. 301), is not found in Palaychi (sh) 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, 1967 bis) that this is an old loan from AT.

365 Karen *tho? 'pig' has perhaps been derived from *thwak < *phwak (TB *pwak) through a process closely analogous to that proposed for the root for 'dog', with the initial *p- interpreted as a prefix: *p-wak.

and mw; tw, dw, nw, sw, χw , θw , 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.

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 \sim *(s-)ka.

Pwo and Sgaw kha 'bitter'; TB *ka.

Pwo khu, Sgaw khü 'smoke, vapor'; TB *kuw.

Pwo and Sgaw khe 'tiger'; TB *d-key.

Pwo and Sgaw khwi < *khu-t '9'; TB *d-kuw.

Pwo tha? tha, Sgaw tha tha 'weave'; TB *tak.

Pwo and Sgaw thi 'water'; TB *ti(y).

Pwo pha, Sgaw pa 'father'; TB *pa.

Pwo and Sgaw pha 'male' (gender suffix); TB *-pa.

Pwo and Sgaw phi 'grandmother'; TB *piy.

Pwo phu, Sgaw phü '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 dz '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 ε , σ and σ 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'iwo/b'iu² < *bwa) and in *bü '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·w '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 *?b- and *?d-, 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 *p-) and they appear also in loan-words; cf. Karen *?dwa? 'reckon', B twak; also *?do 'knife', Ch. tog/tâub.

a 交 b 刀

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 $b\ddot{u}$ 'rice (paddy)', Kuki *bu (L bu?, Thado bu). Karen has a number of important roots with these initials, e.g. di? 'wing', de 'frog', $d\ddot{u}$? 'fight', do 'large', do 'knife'; ba >bo 'yellow', bi? 'squeeze', be >khabe 'goat' (a Mon-Khmer loan-word), bv >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 kha? 'shoot', TB *ga.p; Pwo (Tennasserim dialect) and Sgaw $ph\ddot{u}$ 'carry (child on back)', TB *buw.

Initial affricates and sibilants: Karen closely resembles Modern Burmese in the developments *ts > s(h), $*s -> \theta$. Initial *dz- and *z- were unvoiced and fell together with their corresponding surd elements; cf. Pwo and Sgaw sha 'food', TB *dza 'eat' (B ătsa 'food'); Pwo and Sgaw pho-θa 'child', θa 'fruit', TB *za 'child'. Pwo has initial z- in loan-words, e.g. ze 'market', B zè < dzhè. Taungthu has ts-(tś-before i) corresponding to Pwo and Sgaw sh-; cf. tśi '10', Pwo and Sgaw shi, TB *tsi(y). The Karenni dialects (including Yintale and Manö) retain initial s-; cf. Yintale sun, Manö su '3'; Yintale sai, Manö si 'die'; also Yintale təsi, Manö Karen *?di '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 'birdwater'. The corresponding unaspirated velar stop (*k-) appears in Karen, as would be anticipated; cf. Karen *kau? 'to call out, be called out' (Taungthu kau?, Pwo ko?, Sgaw ko?), T'gug(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) < *phū-n: Pwo phūn~phən, Palaychi and Sgaw phū; Taungthu has bū (same tone) < *Pbū. The suffixed *-n here is strikingly similar to that found in TB (§20); cf. also Taungthu təkhun 'steal' (low tone A) < *gu-n; T *r-kəw, id. (T rku-ba 'steal', rkun-ma 'thief; theft'; Kanauri khun 'steal'); also Karen *kwan < *kwa-n 'put on (sarong), clothe (lower part of body)': Taungthu kən, Pwo kə, Palaychi fvu, Sgaw ku; TB *gwa-n ~ *kwa-n 'wear; dress'; also Karen *khon < *kho-n 'dig': Taungthu khu (with loss of -n after the mid vowel o, as described by Jones), Pwo khən, Palaychi fo < *kho, Sgaw khu; TB *r-go-t ~ *r-ko-t 'dig up, scoop out' (T rko-ba ~ rkod-pa, K ləgot ~ ləkhot; no suffixed -n forms known

from TB).

tisi 'horse', corresponding to Pwo $\theta e \sim k \partial \theta e$, Sgaw $k \partial \theta e$, Taungthu θe (an old Mon-Khmer loan; cf. Khmer seh). The regular Karen correspondences are illustrated below:

Pwo sha 'pain', Sgaw sha 'disease, pain, painful; hot'; TB *tsa.

Pwo and Sgaw shi '10'; TB *tsi(y).

Pwo and Sgaw shi 'urine'; TB *ts(y)i.

Pwo shq, Sgaw sha 'mortar'; TB *tsum.

Pwo and Sgaw θi 'die'; TB *siy.

Pwo θ_{ℓ} , Sgaw θ_{ℓ} '3'; TB *g-sum.

Pwo θi 'to comb' (comp.), Sgaw θi 'a comb'; TB *m-si(y).

Pwo and Sgaw θa ? 'itch'; TB *m-sak.

Pwo θi , Sgaw θe 'tree, wood'; TB *sin.

Pwo and Sgaw θo 'oil, fat'; TB *sa·w.

Initial nasals: Initial *n- and *m- are preserved in Karen: 369

Pwo na(-phu), Sgaw na(-de) 'nose'; TB *s-na.

Pwo and Sgaw na 'ear' (also 'hear' in Sgaw); TB *g-na.

Pwo and Sgaw ni 'petticoat, skirt'; cf. the following root:

(476) K $ni \sim \partial ni \sim b\partial ni$ 'drawers, menstruation cloth', Mikir pini 'petticoat, skirt, apron', from TB *b-ni(y).

Pwo nį, Sgaw ni 'year'; TB *nin.

Pwo and Sgaw ni 'day (24 hours)'; TB *niy 'sun, day'.

Pwo nu, Sgaw nü 'breasts'; TB *nuw.

Pwo and Sgaw ne 'get, obtain'; TB *ney.

Pwo and Sgaw ma? 'son-in-law'; TB *ma·k.

Pwo mį, Sgaw mi 'ripe, cooked'; TB *s-min.

369 Following Haudricourt (n. 347) we reconstruct aspirated nasals (Luce notes that these are preserved in some Karen speeches) where the tonal series is high: Karen *hna 'nose', *hni 'petticoat, skirt', *hney 'year', *hmin 'ripe/cooked', *hme 'fire' (see text for these); also *hni '2', *hmai 'mole (on skin)', *hna 'witch, spirit', *hna[m] 'sesame', *hma 'wife', *hmi 'sleep', *hnum 'smell', *hna 'fish' and 'flesh, meat' (see n. 494 for the tonal correspondences for these forms). These Karen clusters appear to have been derived from prefixed initials, especially *sprefix; cf. TB *s-na 'nose'; *s-niy 'year'; *s-min 'ripe/cooked'; *s-nam 'sesame'; also L sa-hya 'fish' (sa 'animal'), agreeing with Karen *hna < *hnya. Karen *hni 'petticoat, skirt' is perhaps from *s-ni; cf. B hni 'spread out, for purpose of supporting', āhni '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').

Pwo mi, Sgaw mi 'name'; TB *r-miy.

Pwo and Sgaw me 'fire'; TB *mey.

Pwo me, Sgaw me 'tail'; TB *r-may.

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

		TB	Taungthu	Zayein	Mopwa	Pwo	Sgaw
78	five	*l-ŋa	ηat	ŋä~nyä	zä	yai	$y\varepsilon$
406	I, me	*ŋa	_	$\eta a \sim nya$	za	ya	ya
477	plantain	*yak	ηa	_	_	yaP	<i>ya</i> ?

(477) TB *ŋak 'plantain', as represented by Kiranti *ŋak, K ŋa~ləŋa~ləŋu (cf. Khaling le-ŋak-si, Nachereng li-ŋak-si), B hŋak.

Sgaw has initial y- in ya 'borrow, hire, lend', a borrowing from B $hy\dot{a}$. Taungthu has retained initial *y- also in $t \ni ya$ 'tooth', Ch. $y\dot{a} > ya^a$ 'tooth', Thai *ya 'tusk, ivory'.

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

Pwo and Sgaw la 'moon, month'; TB *s- $la \sim *g-la$.

Pwo $l\varrho$, Sgaw $l\vartheta$ 'stone'; TB *r- $lu\eta$.

Pwo le, Sgaw le 'warm'; TB *lum.

Initial *r- in TB roots is represented by Pwo and Sgaw γ -:

Pwo and Sgaw tho-γi? 'pheasant' (tho 'bird'); TB *s-rik~*s-ryak.

Pwo γe , Sgaw $\gamma i \sim \gamma e$ 'rattan, cane'; cf. the following:

(478) Magari ri 'cane', K ri 'rattan, cane, cord, string, thread', sinri~sumri 'rope, cord', ginri 'fine thread, string, or cord', Nung thəri 'cane', ban-ri 'rope, string', səri 'thread', G re, Dimasa rai 'rattan, cane', from TB *rey.

Pwo γu , Sgaw $\gamma \ddot{u}$ 'snake'; TB *b-ru·l.

Pwo yai, Sgaw, ye 'row'; TB *ren.

Taungthu is distinctive in its retention of initial *r-, as in rea' 100' (TB *r-gya), rön 'silver' (a Mon-Khmer loan-word), and note pre 'tongue' for *ple. Pwo has initial r- in Mon, Burmese and English borrowings, e.g. rq 'courthouse' <B rum (Modern you), riphau? <English report.

370 Karen occasionally has initial l- in a high tonal series, from *hl-, paralleling the aspirated nasals (n. 369); the best examples are Karen *hla 'moon', TB *s-gla; Karen *hla 'leaf', TB *(s-)la.

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

Sgaw ha?, Pwo ya? 'walk'.

Sgaw ha, Pwo ya 'cry'.

Sgaw he, Pwo yai 'pungent', also 'come'.

Sgaw ho, Pwo yau 'gaping'.

The extra-Karen comparisons uncovered for this series do not suffice to clear up the problem:

Sgaw ha, Pwo ya 'evening'; TB *ya.

Sgaw hi, Pwo $\gamma i \sim yi$ 'house'; TB *kim.

Sgaw $h\ddot{u}~(zh\ddot{u}),$ Pwo $q\gamma u$ 'steal'; TB *kuw.

Sgaw h_2 , Pwo γq 'salty'; Ch. $g'am > \gamma am.^a$

The last three comparisons suggest that Tibeto-Karen *k- \sim *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).

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 $q \sim z$ 'eat'); cf. TB *mlyuw, id. (K məyu).

Initial *w- is preserved also in Pwo θwa 'tooth', TB *s-wa, and Pwo and Sgaw θwi 'blood', TB *s-hwiy. Initial w- would appear to be secondary in Pwo and Sgaw wa 'bamboo', TB *g-pa, and Pwo wa? ~ θawa ?, 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:

*g-ya 'evening' > *khya (unvoiced) > *hya

*kyim 'house'> *khyim (aspirated) > *hyi[m]

*r-kəw 'steal' > *khyəw (aspirated; palatalized by *r- prefix) > *hyü

*-gam 'salty' > *khyam (unvoiced; palatalized by prefix) > *hyam

Taungthu has tshom 'salty', apparently from *khyam.

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- $r \sim *ya$ r, as represented by K yan 'to be unrolled and spread out, be extended, drawn out in a line', ∂yan 'extended, continuous', L za-r 'hang up (cloth), spread (sail)', Tiddim za-r 'spread a blanket', but T g-yo-r-r0 'sail'.

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. $k\partial ha$? 'phlegm', TB * $ha\cdot k$. Pwo has h- in the loan-word hau (Sgaw $h\partial$) 'preach', B hau ($>h\partial$), 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 mya 'many'. Medial l is sometimes substituted for r, as in Pwo and Sgaw mloa '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 khli? 'fold up'; cf. L thlep < *khlep, id.

Pwo khlaį 'speak'; cf. T glen-ba, id.

Pwo khlü? 'put on (hat), shut down (lid)', khlü? bi? 'screen with a cover, hide from sight'; 376 cf. the following:

(479) T klub-pa 'cover (e.g. the body with ornaments)', K grup 'cover (as with

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 swi).

375 These roots have been reconstructed Karen *bla 'arrow' and *ble 'tongue' (n. 367). A true initial cluster is represented by Karen *p(h)le (Taungthu ple, Pwo phle) ~ *Pble (Sgaw ble, Palaychi bli) 'slippery, smooth, clean'; TB *ble 'slip, slippery'.

376 Jones cites Pwo khlau?/khlü?, Sgaw klə? (all on low tones) 'to cover', from *glü?; also the apparent doublet root: Pwo lau? ~ lü?, Sgaw lü? (note vowel distinction) (all on high tones) 'cover (e.g. with blanket)', from *[k]hlü?; perhaps an original *glup (intr.) yielded Karen *glü? while *klup (tr.) yielded Karen *hlü?, but both forms are now transitive in Karen.

a blanket), wrap (as a child in a blanket)', Bodo dźokhlop 'cover, shut', Dimasa phukhlub 'tuck in', sukhlub 'drown, immerse', phun-khlub 'wrap around' (phun 'wrap'), from TB *klup.

Karen also has initial clusters with $-\gamma$ -, best preserved in Sgaw (but with some alternation with -w-), but dropped or replaced by -w- in Pwo:

Sgaw $p\gamma a$, Pwo ϕa (pa or ha in some districts) 'man'.

Sgaw pyi, Pwo xwe 'how many'.

Sgaw pγε, Pwo χwe 'full', from *pγay (see below), a possible loan from B práń, phonemically /prain/, id. (TB *bliη).³⁷⁷

Sgaw also has the initial cluster $sh\gamma$ -, notably in the following pair of roots:

Sgaw shyo 'otter', from *shya (see below); cf. TB *s-ram.378

Sgaw shγε~shwε, 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 $sh\gamma$ -. 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 $(\gamma \bar{a}i)$.

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-thą \sim phu-thą, Sgaw tho '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.

377 This root must be reconstructed *byai because of the low tonal series, hence it probably is cognate with TB *blin 'full' via *bren although the loss of final nasal, is anomalous. Karen has the similar root *bye 'buy': Taungthu phre, Pwo χwe , Sgaw pye (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).

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.

Medial *y has simply been dropped in Pwo and Sgaw θe 'to be skilled, able' ('know' in comp.), TB *syey, but has exerted some effect in the following:³⁷⁹ Pwo ya, Sgaw nya 'fish'; TB *nya.

Pwo me?, Sgaw me? 'eye'; TB *myak.380,381

As suggested above, Pwo and Sgaw χ - appears to be the representative of stop + r clusters, as in $\chi u \sim \chi \ddot{u}$ '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 χi , Sgaw $sh\gamma i$ 'clean'; Pwo χe ?, Sgaw $sh\gamma e$? 'avoid, shun'; Pwo χa , Sgaw tra 'cage for fowls'; and Pwo χai alongside th rai 'deer', from B darai (d rai). The TB comparisons, however, are few in number and of uncertain significance: 382

379 This series also includes Karen *hlɛ[m] 'lick': Pwo lɛ, 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 $-\gamma i ? < *-rik$ 'pheasant' for TB *s-rik $\sim *s-ryak$.

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

382 Taungthu has su '6', sot '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:

	TB	Taungthu	Pwo	Palaychi	Sgaw
winnow	krap	_	<i>χα</i> ?	kra	χa
body dirt	krəy	-khri	χi	kri	χi
grind	krit	khrüt	{γai? {γε?	(l eg wi)	χi

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

Two of the above roots are in low tonal series, hence must be reconstructed with

Pwo χa ?, Sgaw χa 'winnow'; cf. T 'khrab-pa 'strike, beat; winnow, fan'.

Pwo xi '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. Several of the Taungthu words with final nasal are isolated in Karen; cf. prŏŋ 'mouth', hau poŋ 'good', lən 'come', lam 'house', kam 'gold' (a Thai loan-word). The regular correspondences for TB final nasals are illustrated below: Several below: Se

Pwo khą, Sgaw kha, Taungthu kan-ya 'foot, leg'; cf. T rkan-pa. Pwo kasha, Sgaw kasha 'elephant'; cf. B tshan.

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 χi (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 *-n and *-m but drops final *-n before a and the mid-high vowels, o, ∂ , e (see example in n. 368); cf. also Karen *men 'name': Taungthu and Sgaw mi, Pwo me (n. 442). Other Taungthu forms with final -an or -am are now available (Jones): tshan 'elephant', bin-man 'dream', tham 'bear'; cf. also Karen *lam 'place, track': Taungthu lam, Pwo la, Sgaw lo; TB *lam 'road; direction'. Taungthu (and Karen in general) does not distinguish between medial *a + nasal and medial *a + 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'; Rawang (Nungish): Mutwang dial. əm 'eat', also Lushei (and general Kuki) in 'drink' via *yəm (cf. L in 'house' < TB *kyim); also Karen *tha[y] 'up, go up': Pwo thq, Sgaw thz; TB: Bodish *s-tan 'upper part'. Taungthu also has ren'row' and min'ripe'; nen'year' and sen 'tree', confirming the reconstructed nasal finals in these roots. This Taungthu dialect (Jones) typically has medial o for *u before nasal finals: tshom 'mortar', som '3', lom 'warm', lon 'stone', non 'horn', but num 'smell' (possibly reflecting an original distinction in vowel length); add Taungthu Pom 'betel cud'; TB $*(m-)u\cdot m$ 'hold in the mouth; mouthful'.

Pwo mi ma, Sgaw mi mo 'dream' (in comp. with 'sleep'); cf. TB *man. Pwo wa, Sgaw wo 'surround; circular'; TB *hwan.

Pwo q, Sgaw 2, 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 γε, Sgaw γe 'row'; TB *ren.

Pwo khlε 'speak'; cf. T gleŋ-ba 'say, talk, converse'. 385
Pwo khε, Sgaw ki 'tie around, gird, bind'; cf. B khyań 'bind, fasten'. 386

Pwo no, Sgaw no, Taungthu nun 'horn'; cf. TB *run (K nrun). Pwo lo, Sgaw lo, Taungthu lun 'stone'; TB *r-lun.

Pwo sha, Sgaw sha 'mortar'; TB *tsum.

Pwo θ_{ℓ} , Sgaw θ_{ℓ} , Taungthu θ_{ℓ} oum '3'; TB *g-sum.

Pwo lq, Sgaw la 'warm', TB *lum.

Pwo nq, Sgaw na 'smell' (intr.); cf. T $snum-pa \sim snom-pa \sim snam-pa$ 'smell' (tr.) and TB *m-nam.

Pwo khq 'block on which meat etc. is chopped'; cf. the following root:

(482) Lepcha kam 'block', thyak-kam 'pillow' (thyak 'head'), also tăkám 'seat', kuŋ-kám 'block of wood used as a seat', K buŋ-khum 'pillow' (buŋ 'head'), ləkhum~puŋ-khum 'chair, stool, bench, cushion', Nung əgə məkhim 'pillow' (əgə 'head'), B khum 'block, bench, table', L khum 'bedstead' (TB *kum). 387

Pwo nį, Sgaw ni 'year'; TB *nin.

Pwo θ_i , Sgaw θ_e 'tree, wood'; TB *sin.

Pwo mį, 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 *nan.

Pwo mai, Sgaw mä 'mole'; TB *r-men 'wen, mole': B hmáń > hmé.

Pwo and Sgaw phi 'pus'; TB *pren: Lepcha fren~frăn < *phren 'boil, ulcer', B prań > pyi 'pus' (poss. direct influ. upon Karen).

385 Pwo khl ξ (low tone) < *gl $\epsilon[\eta]$, agreeing closely with T gle η -.

386 Pwo $kh\varepsilon$, Sgaw ki (both low tone) < $*g\varepsilon[v]$, probably a secondary voicing of the initial (B $khya\dot{n}$).

387 Lahu gê 'pillow', Lolomaa nk'v, from *məkhum (n. 123) (JAM).

Vocalic shifts before (original) final nasals are characteristic of Karen. Pwo retains q, but Sgaw shifts to \mathfrak{I} , whereas both retain *a as a final or before stop consonants (see below). The high-front vowel *i is maintained in most roots (Sgaw θe 'tree' <*sin is altogether exceptional), 388 but in one instance this vowel has been replaced by \ddot{u} before final -n:

Pwo $\theta \ddot{u}$, Sgaw θu 'liver'; TB *m-sin.

Pwo, which lacks nasalized u and e, has shifted *u to o before $*-\eta$, and to ϱ or \ddot{u} before *-n and *-m. Burmese loan-words, however, the original vowel is simply approximated, e.g. $p\varrho$ 'story', B pum (>pou), $p\ddot{\varrho}$ 'own, possess', B $pui\eta$ ($>pa\ddot{i}$). The vowels *o and *e have been diphthongized to $a\mu$ and $a\dot{i}$, 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? 'reckon', B twak (>twv?); lwa? 'saw', B hlwá. Replacement of final stop consonants by glottal stop is observed in the following:

Sgaw kəha? 'phlegm'; TB *ha·k 'hawk, gag, choke'.

Pwo tha? tha, Sgaw tha tha 'weave'; TB *tak.

Pwo and Sgaw ma? 'son-in-law'; TB *ma·k.

Pwo and Sgaw ya? 'plantain'; TB *ŋak.

Pwo and Sgaw θa ? 'itch'; TB *m-sak.

Pwo wa? ~ θəwa?, Sgaw wa? 'leech'; TB *r-pat.

Pwo and Sgaw kha? 'shoot'; TB *ga·p.

Pwo and Sgaw xo? '8'; TB *b-r-gyat.

Pwo and Sgaw no? 'mouth'; cf. B hnut.

Pwo and Sgaw nu? 'brain' (generally in comp. with kho 'head'); cf. TB *nuk (483), as represented by K $nu \sim \partial nu$, B \dot{u} -hnauk (\dot{u} 'head').

Pwo q γu ?, Sgaw ϑ $\gamma \ddot{u}$? 'rob'; cf. L $ru \cdot k$, Haka ruk, Lakher $p \vartheta ru$ (Kuki * $m - ru \cdot k$) 'steal'.

Pwo khlü? 'put on (hat), shut down (lid)'; TB *klup.390

Pwo khli? 'fold up'; cf. L thlep < *khlep.

Pwo and Sgaw khli? 'turtle'; cf. B lip.

Pwo and Sgaw tho-yi? 'pheasant'; cf. TB *s-rik~*s-ryak.

388 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).

389 Karenni, as recorded by Mason (JASB 27, 1858), distinguishes between $\theta\ddot{o}$ '3' and nau 'horn', lau 'stone'; cf. also Pwo thii, Sgaw and Karenni tö, Taungthu thun 'ant' < *tum (the Taungthu form is from Mason, who cites $\theta u\eta$ '3' for θoum).

390 This root has a doublet: *hlii? < *[k]hlut (n. 376).

Sgaw ki? (low tone) 'tie ligatures at intervals, gird the loins', ki? (high tone) 'constrict, compress by twisting, screwing';³⁹¹ cf. the following:

(484) T 'khyig-pa 'bind', B kyats 'twist hard and tight', Kuki *d-khik: Rangkhol kit, Kom, Aimol, Hallam khit 'bind', Lakher tśakhi 'tie, knot', from TB *kik; K kyit 'to gird, girdle', śiykyit 'girdle', gyit 'to tie, bind', Nung śiykit '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 -a? < *- $a\eta$.

Pwo -u? < *-uk but -q < *-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 maphik, 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 -u? (Sgaw alternates with -ə?) in two roots having TB cognates with final *-up or *-u·p:

TB	Taungthu	M. Pwo	B. Pwo	Sgaw
to cover (glup)	_	khlau?	khlü?	klə ?
klup		lau?	lü?	lü?
to enter nu.p	n#?	nau?	nii?	nü₹

For 'cover', see n. 376. For 'enter' Taungthu has $n \neq 2$ (high tone) < *hnü?, 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

Pwo tho phli?, Sgaw thu? ple? ~ thu? py ε 'to spit'; cf. TB *(m-)tuk. 396

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

(485) K sa? 'breathe', ninsa?~nsa? 'breath, life', Nung sa 'breath of life', B ăsak (sak in comp.) 'breath, life', Chang (Konyak) hak < *sak 'life, breath' (TB *sak).

The following roots show complete loss of final stop both in Pwo and Sgaw: Pwo χu , Sgaw $\chi \ddot{u}$ 'six'; cf. TB *d-ruk.

Pwo and Sgaw θəli 'leech' (cf. Pwo θəwa?, id.); 398 cf. TB *(m-)li·t.

Pwo and Sgaw e 'feces'; cf. Kuki-Naga * $e \cdot k$: L $e \cdot k$ 'excrement; defecate', Haka, Rangkhol, Sho ek, Lakher i < *ek 'dung, excrement'.

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 lă-phak, Limbu pella), Dhimal hla-ba, Mikir lo <*la (TB *la); cf. also B lak-phak ~ lăbhak '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 that tha 'weave' (as in the text); Taungthu also preserves the glottal stop: that 'weave'.

396 The Jones glossary cites Sgaw tho- 'spittle' (in comp.), indicating recent loss of the glottal stop (cf. n. 395 for similar recent loss in Pwo), since the older Sgaw dictionaries (Wade, 1896; Blackwell, 1937) give thu? (as in the text). Taungthu has pətho? (low tone, high tone) 'spittle', from *b-tho? < *m-thok, a rare example of preservation of a prefix in Karen (n. 356).

397 Taungthu follows the general Karen pattern here: sa 'breath; to breathe', sa? 'heart'.

398 Taungthu has lyo? 'leech', with final glottal stop preserved, but the vocalism appears to be irregular, possibly reflecting an archaic ST doublet: $*(m-)lyat \sim *(m-)li\cdot t \text{ (n. 251)}.$

399 Taungthu also shows apparent loss of the final stop here: Pe' dung'. The K-N root (* $e\cdot k$) is a possible derivative (with loss of initial velar) of a TB root represented by T $rkyag(-pa) \sim skyag(-pa)$ 'dirt, excrement', perhaps also B kyag '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 * $gri(p) \sim *kri(p)$; 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 *ya·r ~ *yâr (n. 372). There are two good examples of replace-

Pwo phau, Sgaw pha 'flower'; cf. TB *ba·r (the Karen forms point to an intermediate *bor~*por).

Pwo and Sgaw thu 'roll up (mat, cigar)'; cf. TB *(r-)tul 'roll up, wrap'.

Pwo γu, Sgaw γü 'snake'; cf. TB *b-ru·l.

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 - \ddot{u} for *-u, but -u appears in loan-words, e.g. Pwo and Sgaw tu 'hammer' < B tu. In Pwo, on the other hand, - \ddot{u} is relatively rare (cf. ph \ddot{u} 'carry', also 'younger brother', b \ddot{u} 'rice') and tends to alternate with -u, as in kh $\ddot{u} \sim khu$ 'trap'. The following pair of roots are exceptional:

Pwo and Sgaw lu 'pour'; cf. the following:

G ru, Dimasa lu 'pour', Mikir inlu 'bathe'; cf. TB *(m-)lu(w).

Pwo yü la 'swallow down' but a yu 'swallow' (a 'eat'), Sgaw yu 'swallow';

ment of final *-r by -n after short vowels, viz. Karen *san 'new'; TB *sar: T gsar-ba 'new, fresh', Nungish: Răwang aŋsar 'new', Trung aksal 'fresh'; Kuki: L thar 'new, anew', Thado ătha, Tiddim thak 'new'; Karen *sən 'louse'; TB *sar ~ *śar (n. 179); the Karen vocalism suggests influence from an initial ś-, indicating correspondence with TB *śar rather than *sar.

Final *-s is probably replaced by -t rather than dropped; cf. the Karen forms for 'bone': Taungthu tshut, Pwo xwi, Palaychi Pa-xi, Sgaw xi, suggesting an original *k(h)rut (see n. 382 for the initials), from *g-rus (TB *rus), the prefixed *g- also being represented in Chinese (n. 419). The Karen example cited in the text, viz. ni '2', is not applicable in this connection, since the TB root has now been reconstructed without the final *-s, which is a separable element (n. 61); Karen may have -t for *-s also in *hnət or *hnwi·t '7' (n. 355).

402 Palaychi resembles Pwo rather than Sgaw in this series, but with -ü only in mü 'sun' and -mü 'female (human)' (Pwo mü), perhaps conditioned by the initial *m-; it has an irregular -lɔ for 'pour'. Taungthu agrees with Pwo in general, with -u in most forms but bü- 'rice plant', mü 'sun', bü 'carry on back', təʔü 'rotten', and add yü 'cry (weep)', TB *yəw; Taungthu has phu 'younger sibling' (Pwo phü) and mu 'female (human)' (Pwo mü), also the irregular myɔ '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.

cf. TB *mlyuw (the Karen forms point to an intermediate *myu < *m-yu, with the initial interpreted as a prefix; cf. K məyu). 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 əmo (but wəma '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).

Pwo khu, Sgaw khü 'smoke, vapor'; cf. TB *kuw.

Pwo phu, Sgaw phü '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', ləmu (Khauri dial. məmu) 'sky', Nung mu 'sky' (mu ru 'to be struck by lightning'), B muì(gh) 'sky; clouds, rain' (the -gh is a product of etymologizing); cf. also B muì 'to cover, spread overhead (as an umbrella)', ămuì 'roof' (TB *r-muv).405,406

Pwo $\ddot{u} \sim o$, Sgaw \ddot{u} 'putrid, rotten'; cf. the following:

(489) K wu? '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 θi 'die'; cf. TB *siy.

Pwo li, Sgaw kəli '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 tha, Taungthu ato '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-yəw (*?am 'eat'), corresponding to Pwo q yu (text).

404 The semantic shift here is to be explained through teknonymy, i.e. the wife is addressed as 'mother' (as often in English).

405 For the semantics of this root, cf. T gnam 'heaven, sky', nam 'night' (nam-mkha 'sky'), Magari nam-khan ~nyam-khan 'sun', nam-sin ~nyam-sin 'day', nam-bik 'night', nam-məra 'evening', Chepang nyam 'sun', Vayu nomo < nama 'sun, sky', Bahing (and general Kiranti) nam 'sun' (also 'sky' in Balali), Nung nam 'sun' (dial. 'sky'), and perhaps Mikir arnam 'god' ('wind' in comp.).

406 The Kachin and Nung forms here belong with TB *r-mu·k (n. 236).

407 An excellent comparison is available for final *-e, viz. Karen * $p(h)le \sim *Pble$ 'slippery', TB *ble 'slip, slippery' (n. 375).

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

The combinations *-aw and *-ow, *-ay and *-ey have generally been levelled off in Karen. In the single TB comparison that has come to light for Pwo -au (Sgaw -2), the TB final is -o rather than -aw (see above). In four comparisons, furthermore, Pwo and Sgaw -o corresponds to TB *-aw \sim *-a·w and *-ow:

Pwo and Sgaw θo 'oil, fat'; TB *sa·w.

Pwo and Sgaw kho 'head'; cf. the following:

(490) T mgo, Digaro $ku-ru \sim mku-ra$, mkau, Nung $go \sim \partial go$, G sko, Dimasa sagau (in comp.), Meithei $m\partial ko$ 'head', from TB * $m-gaw \sim *(s-)gaw$.

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 θe 'to be skilled, able'; TB *syey 'know'.

Pwo γe, Sgaw γi~γe 'rattan, cane'; TB *rey.

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

TB *-ay ~ *-a·y are perhaps retained in Karen (Pwo -ai, Sgaw - ε) under certain circumstances, but in general tend to fall together with *-ey. 409 Both -ai and -e are found in Pwo loan-words from Burmese; cf. Pwo phai 'playing card' and 'satin' (B phai > phè), but Pwo pwe, Sgaw pwe 'festival' (B pwai > pwè). Pwo also shows -ai ~ -e interchange, as in shwai ~ shwe (Sgaw shye ~ shwe) 'crab'; cf. TB *d-ka·y. Sgaw sometimes preserves the distinction between *-ay (>- ε) and *-ey (>- ε) 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', γi 'rattan', ni ~ ne 'get, obtain'. For 'rice (cooked)', however, Palaychi has mo (cf. n. 409), indicating an original *may for Karen (and by ference also for TB); this root appears to be an early loan from AT (cf. IN *imay 'rice') and is represented also in Bodo-Garo (where the final could be either *-ey or *-ay) and in Chinese (n. 491); see discussion of terms for 'rice' in Benedict, 1967 bis.

409 Taungthu uniformly has final -e in this series: tshwe 'crab', me 'tail', nwe 'yam (white)', ?e 'to love', phre 'tongue', pəde 'navel', phe 'chaff, husks'. Palaychi has no fewer than four different reflexes here: shwe 'crab' and nwe 'yam'; mə 'tail' and ?ə '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 kwe, Pwo kwe 'bee', TB * $kwa\cdot y$, fits into the same pattern, but this root has perhaps been borrowed from Burmese (kwai > kwe). Pwo has -ai in lai, Sgaw le 'exchange', TB *lay; nai 'yam', Sgaw nwe; cf. K nai; also ai 'love', Sgaw e; cf. Ch. ad > ai. In three reliable comparisons, however, both Pwo and Sgaw have -e in the face of TB *-ay or * $-a\cdot y$, indicating that these finals had fallen together with *-ey in proto-Karen times:

Pwo phle, Sgaw pəle~ple '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 ($^{\text{V}}_{\text{X}}$) and mid (\times) tones, with Pwo having high tone for Sgaw mid and vice versa: Pwo $n\tilde{u}$?, Sgaw nu? 'brain'; Pwo no?, Sgaw $n\tilde{v}$? 'mouth'. Four tonemes are found with non-glottalized finals, as follows:

I Pwo $^{\wedge}_{x}$ (low level), Sgaw x (mid level).

II Pwo x (rising), Sgaw x (slightly high and level).

III Pwo \dot{x} (mid level in Delta, abruptly falling in Tennasserim), Sgaw \dot{x} (falling).

IV Pwo x (mid or low level), Sgaw x (low and falling).

The Karen tones show correlation with the Burmese-Lolo tonal system, with tonemes I and II correlating with Burmese level tone (including *auk-myit*), and III and IV with Burmese falling tone. As in Burmese-Lolo, it does not appear possible to interpret the distinction between I–II and III–IV in terms of lost

410 Tones are indicated in Karen script, but are poorly described in the standard Karen sources. The only adequate description of Karen tones is that found in Grierson, 1928, 'Introduction', pp. 14–18, based on the work of L. F. Taylor. This account is of especial value in giving separate descriptions of the tones in the Delta and Tennasserim dialects of Pwo Karen. For the tonal notation employed here, see n. 258.

411 See n. 494 for a full discussion of Karen tones in relation to those of TB and Chinese.

prefixes or the like, but the first member of each Karen pair (Tonemes I and III) usually corresponds to unvoiced initials in Burmese, while the second member (Tonemes II and IV) corresponds to voiced initials. One of the apparent exceptions: B hmrà 'arrow', Pwo phla, Sgaw pla, is readily explained by reference to the TB root *b-la, indicating a similar reconstruction for Karen. This would require reconstructions for other Karen roots, e.g. *hna- 'nose' (Toneme I) and even *hŋa 'fish' (Toneme 3); cf. L sa-hŋa, with a redundant sa- 'animal prefix' (hŋa <*sŋa), 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:

	Burmese	Pwo	Sgaw
boat	hle	khlî	khli
pain	tsha	shâ	sha
bear, n.	-wam	-thậ	tho
span	thwa	thâ	tha
nose	hna	nâ-	na-
smell (intr.)	nam	$n\hat{\hat{c}}$	nö
sleep	mwé	mî	mi
ripe	hmáń	$m\hat{\imath}$	mi
die	se	$ heta \hat{m{\imath}}$	heta i
elephant	tshaŋ	kəshq	kəshə
wind, n.	le	lí	kəlĭ
day	né	ni	nĭ
moon	lá	lá	(la)
name	mań	mį́	mĭ
warm	lum	lģ	$l oldsymbol{\check{o}}$
hundred	ăra	yá	уǎ
bow	lè	khlì	khlì
bitter	khà	khà	khà
smoke	ăkhuì	khù	khü
fish	ŋà	уà	nyà
dog	khwè	thwi	thwi
carry	риì	phữ	phù
fire	mi	mè	mè
bamboo	$w\grave{a}$	$w\dot{a}$	$w\dot{a}$
liver	asàń	$ heta\ddot{oldsymbol{u}}$	$ heta \dot{m u}$
blood	swè	hetawi	θwi

[cont. on p. 152

	Burmese	Pwo	Sgaw
arrow	$hmr\grave{a}$	phla	plâ
sun	mui(gh)	тü	mû
tail	ămrì	me	$m\hat{arepsilon}$
five	ŋà	yai	$y\hat{arepsilon}$
four	lè	li	$lw\hat{\imath}$
ear	nà	na	nâ

The tonally irregular Sgaw form la 'moon' is matched by Sgaw kwe 'bee' corresponding to Pwo kwé, but Burmese has kwai (with falling rather than level tone). The tonal correlation between Karen and Burmese is not perfect, i.e. a number of exceptions have been found, but it can safely be regarded as 'statistically valid'. The most significant exceptions are as follows: B kuì, Pwo khwî, Sgaw khwi '9'; B sùm, Pwo θô, Sgaw θö '3'; 412,413 B khwè-hlè, Pwo khlî, Sgaw kli 'flea'; B aphuì, Pwo phû, Sgaw phü 'grandfather'; B phwai, Pwo phê, Sgaw phe 'husks'; B mrè, Pwo li, Sgaw li, 'grandchild' (all with falling rather than level tone in Burmese); B tshum, Pwo shū, Sgaw shò 'mortar'; B im, Pwo γè~yì, Sgaw hì 'house'; B nui, Pwo nu, Sgaw nū 'breasts' (all with level rather than falling tone in Burmese); also B ŋa, 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 $s\grave{e}h$, Ahi $s\grave{o}$, Lolopho $s\grave{o}$, and Lisu sa, Nyi $s\~{o}$ '3' all point to B *sum rather than $s\grave{u}m$. Lahu $k\~{o}$ '9' agrees with B $ku\grave{e}$, but Ahi and Lolopho $k\~{o}$, Lisu $k\~{u}$ and Nyi $k\~{o}$ point rather to *kui. Note that the Karen tones of these numerals agree with Burmese-Lolo as a whole.

^{413 &#}x27;Three' is also irregular in Lahu: $\delta \bar{\epsilon}$ would be expected (it does occur before certain specific classifiers) but the usual form is $\delta \bar{\epsilon}$?, with final -?. This arose from metanalysis with an automatic [?-] before the vowel-initial in 'four' $/\delta/$ ([? δ]): i.e. in counting a [-?-] demarcated 'three' from 'four' to prevent the two vowels from fusing (JAM). Lahu $g\hat{\sigma}$ 'nine' is regular with respect to B kui (<*kuv Tone 2), 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, 414, 415 but we are indebted above all to the monumental studies by Karlgren. 416 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.

414 H. Maspéro, 'Le dialecte de Tch'ang-ngan sous les T'ang', BEFEO 20 (1920), 1–124; W. Simon, 'Zur Rekonstruktion der altchinesischen Endkonsonanten', MSOS 30 (1927), 147–67; 31 (1928), 175–204; 'The Reconstruction of Archaic Chinese', BSOS 9 (1938), 267–88; Li Fang-kuei,a 'Ch'ieh Yün â-ti lai-yüan'b ('Sources of Ch'ieh Yün â'), CYYY 3 (1931), 1–38; 'Ancient Chinese -ung, -uk, -uong, -uok etc. in Archaic Chinese', CYYY 3 (1932), 375–414; 'Archaic Chinese *-izvəng, *-izvək and *-izvəg', CYYY 5 (1935), 65–74.

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 sùm '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. 460 for one instance), which that scholar has recognized as the most uncertain area of his great work.

416 B. Karlgren, 'Études sur la Phonologie Chinoise', Archives d'Études Orientales 15, 1-4, Upsala, 1915-26; 'The reconstruction of Ancient Chinese', TP 21 (1922), 1-42 (a critique of Maspero, BEFEO 20, 1920); Analytic Dictionary of Chinese and Sino-Japanese, Paris, 1923; 'Problems in Archaic Chinese', JRAS (1928), 769-813; 'Shi King Researches', BMFEA 4 (1932), 117-85; 'Word Families in Chinese', BMFEA 5 (1934), 1-112 (reviewed in detail by S. Yoshitake in BSOS 7, 931-41); Grammata Serica, Script and Phonetics in Chinese and Sino-Japanese, BMFEA 12 (1940), 1-471.

a 李方桂 b 切韻â的來源

§40. Chinese morphology (prefixes, suffixes, alternation)

The relationship between Tibeto-Burman and Chinese, as noted above (§2), is a remote one. Indeed, on the basis of morphology alone, we should be quite unjustified in positing any direct genetic link between the two stocks. Chinese does, to be sure, resemble Tibeto-Burman in its use of monosyllabic roots, its system of tones, and its isolating characteristics, yet Thai, Kadai, Annamite, and Miao-Yao, all unrelated to Sino-Tibetan, also share in these features. Chinese actually approaches these languages rather than Tibeto-Burman in being a relatively 'pure' isolating language, lacking any but the most rudimentary system of affixes. As regards syntax, Chinese agrees with these languages and Karen in placing the object after rather than before the verb (there are occasional transpositions, as in Karen), in violation of the cardinal principle of Tibeto-Burman word-order.

Prefixes: Chinese has numerous initial consonantal groups, some of which can be interpreted in terms of prefixation, 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 *kəw~*gəw '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 löng

and regarded as phonetic inb 'confer a charge', reconstructed m-löng.

419 We have both indirect and direct evidence for prefixation in Chinese. Unaspirated surd stops/affricates point to an earlier prefixed form: $k_l u g/k_l j_s v v^c '9' < ST *d-k_s w; k n^d 'liver' < ST *b-k_a-n; t si_s g/t si_e' 'child' < ST *b-t_s a' (the prefixes cited are illustrative; the actual forms can only be inferred on the basis of TB models). This indirect evidence can be more subtle; note especially *b/liok/liukf'6', since graph is phonetic in mliok/miukg' concord' (n. 474); also si_s d/si^h'4', from *p-s_s y (n. 436), the prefix representing an inference required to explain the unvoicing of the initial; also xivet' blood', TB *s-hywsy (n. 441), but the graph is used as a phonetic or loan in forms with initial siw- and sw- (GSR-410), indicating a doublet *siwet which incorporates the *s- prefix in the root (cf. B swè). More direct evidence of prefixation is supplied by very early loans from Chinese, notably$

cited, e.g. $n \not i \not a r^a$ 'near', $sn \not i \not a r^b$ 'seal' ('something affixed'); $n \not i \not b k^c$ 'ashamed', $sn \not i \not b g^d$ 'ashamed; to shame' (cf. TB * s - rak); $m \not a k^e$ 'ink', $\chi m \not a k^f$ 'black' (cf. T nag - po 'black', sn ag 'ink', and $B man \sim hman$ 'ink'). Certainly no system of prefixes existed even in Ar. Ch., i.e. no general morphological role can be assigned to elements such as $s - and \chi - a$

in the numerals (n. 435). Prefixed *s- is not represented by the forms in the text, which are from initial *śr- clusters: TB *śrak 'shamed', *śrik 'louse', *śriŋ 'live' (nn. 304, 457), but it is represented in *sriôk/sjuk* '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 $(\chi m-)$ as indicated in the text; cf. also mwan/muən¹ 'sad, dull, stupid', mwən/muən ~ \chimmamwən/\chimmauən\text{m} 'blinded, confused', \chimmamwən/ xuənn 'dusk, evening, darkness; blinded', from ST *mun~*s-mun; T mun-pa 'dark', dmun-pa' darkened'; also *s-y- yielded *xy-; cf. < yano' goose', also *s-yan (phonetic is $x\hat{a}n^p < *\chi\eta\hat{a}n$ 'cliff', and Thai loan is *haan < *hyaan, with *s- 'animal prefix' (p. 107) (*s- $\eta \hat{a}$ -n; n. 428). Prefixed *b- is maintained before *r/l- (n. 474). Prefixed *g- is preserved in verbal roots before *r- in glippq 'stand' (text) = *g-lipp (n. 472) and t'ian < *kranr 'battle' (n. 461); it is also maintained as an old pronominal element with words for body parts (see §25) before *r/l- in three roots: $l_i \tilde{e}_{\eta}/l_i \tilde{a}\eta^s$ 'neck, collar', $k_i \tilde{e}_{\eta}/k_i \tilde{a}\eta \sim g' \tilde{i} \tilde{e}_{\eta}/g' \tilde{i} \tilde{a}\eta^t$ 'neck', from *g- $l_i \tilde{e}_{\eta}$; TB * $l_i \eta$ 'neck'; g'iaku 'tongue', from *g-liak, a doublet of d'iat/dź'iatv (n. 472), id.; TB *(m-)lyak ~ *(s-)lyak 'lick; tongue'; kwət/kuət* 'bone', from *g-rus (TB *rus) via *k-rwət (n. 479) with unvoicing of prefix (cf. n. 436); cf. Karen *k(h)rut < *g-rus; for other examples of retention of velar prefix, cf. 'right (hand)' (n. 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. $mi\check{e}\eta/mi\check{a}\eta^x$ 'name' < * $mi\eta$; also $mi\check{a}\eta/miw\check{a}\eta \sim mi\check{e}n^y$ 'order, command; name', from *mliĕŋ ~ *mliãŋ, as shown by the phonetic (and cognate) liĕŋ/liäŋz 'command', all from an original *mlin < *mrin (see n. 442 for alternation of finals); TB *r-min 'name' (also B min 'order, command'); Karen *men 'name'; cf. also the complicated development in 'tail' (n. 491).

420 Ch. glam < gram, 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 gram > glam 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, 1967 bis) as an early loan from AT (IN *tayum, Thai *throom), with gr- for γ -, a non-Chinese sound at that

a	邇	ь 🌉	c忸	d 羞	e 墨	f 黑	g 立	h 凡 虫	i 生
j	藍	k 宿	1 閲	m 死	n 昏	○鴈	р厂	d A	r戦
S	釬	t 感音	u me	v 🛨	w E	x Z	у 🚓	z 🚓	

The modern dialects of Chinese employ a true prefix (a-) with kinship terms and certain forms of address; cf. the following examples from Cantonese: \$\frac{422}{a} - ma^a\$ 'mother!', a-yib' 'aunt!', a-wongc' 'Wong!', a-yid' 'No. 2 (servant)!' (reference to servant's order of birth). Maspéro\$\frac{423}{a}\$ 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\$\frac{424}{a}\$ 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. Alternation between final stop and nasal is of fairly frequent occurrence, as first pointed out by Courant. 426

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sâte and sânt 'scatter'.

ngịat ~ ngịang 'deliver a judicial decision'.

gịwăth and gịwəni 'say, speak'.

·iwət ~ ·iwāni 'luxuriant'.

k'wâkk and k'wângi 'wide'.

glịak ~ glịangm 'plunder, rob'.

·ịap ~ ·iamn 'grasp'.
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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 *γraam as back-loans; Tibetan has rams, with added -s as in other AT loans (ltśags 'iron', zaŋs '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', BEFEO 14 (1914), 1-36.

424 B. Laufer, 'The Prefix a- in the Indo-Chinese Languages', JRAS (1915), 757-80.

425 Our present analysis of the tonal system (n. 494) provides excellent evidence for verbal and nominal suffixes, also sex modifiers of *-pa and *-ma type, yielding a general morphological picture very much like that of Tibetan.

426 M. Courant, 'Note sur l'existence, pour certains caractères chinois, de deux lectures distinguées par les finales k-n, t-n, p-m', Mém. Soc. Ling. de Paris 12 (1903), 67-72.

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<sup>a</sup> 阿媽 <sup>b</sup> 阿姨 <sup>c</sup> 阿黄 <sup>d</sup> 阿二 <sup>e</sup> 散 <sup>f</sup> 撒 <sup>g</sup> 撒 <sup>h</sup> 曰
<sup>i</sup> 云 j 菀 <sup>k</sup> 廓 l 廣 m 掠 n 壓
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with verb paradigms in Bahing and many other TB languages). Boodberg⁴²⁷ 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. $n_i \delta k^a$ and $sn_i \delta g^b$ 'ashamed' (see above); $\cdot \hat{a}k$ 'bad, evil' and $\cdot \hat{a}g$ 'hate', both written; $c \cdot g \cdot \hat{c}k^a$ 'learn' and $c \cdot g \cdot \hat{c}k^a$ 'teach'. The last example is most suggestive, allowing us to postulate the existence of a causative suffix $c \cdot g \cdot \hat{c}k^a \cdot k^a \cdot$

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{t'wât ~ d'wât' 'peel off, take off (as clothes)'.

t'wâd' 'exuviae of insects or reptiles'.

{kieth' 'to tie, knot'.

kied' 'hair-knot, chignon'.

{d'izk > dz'izk' 'eat'.

dzizg' 'food; feed'.

{nzp' 'bring in'.

nwzb' 'interior'; cf. g'zp' and g'wzb' 'join'; tzp' and twzb' 'answer'.
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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:

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k'iwən<sup>r</sup> 'dog'; TB *kwiy.

xiwet<sup>s</sup> 'blood'; TB *s-hwiy.

ńięt<sup>t</sup> 'sun, day'; TB *niy.

ts'iĕt<sup>u</sup> 'varnish'; TB *tsiy 'juice, paint'.<sup>428</sup>
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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 $-i\tilde{e}n \sim -ien$ (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 $-\hat{a}n$ (root final *-a preserved as long medial a·, yielding the anticipated vowel \hat{a} 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' (A) and χien ' (A) (not in GSR) 'heaven' (an oft-cited doublet), from *khien (n. 464), from *kha/n 'the heavens'; cf. T mkha 'heaven, the heavens' (cf. T nam-mkha 'heaven, sky', Magari nam-khan 'sun'); also the complex doublet g 'ian/g 'ian' 'heaven, heavenly', from *gen (n. 481) < *ga/n, showing voicing of the initial (after prefix) and intermediate palatalization of the vowel; also read kan,

```
i 磬
                                         f 脱
                                                        h 結
a 桕
        b 差
                C 葉
                        d 奥
                                e 數
                                                 g 🙀
                                                p 答
                                                        q 對
                                                                 r犬
                                n 合
                                        ○會
        k 食
                1 納
                        m 内
j 食
        t H
                u 漆
                        ν天
                                wi袄
                                        x 妨
s Mil.
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The most significant occurrence of suffixed -n, however, is in $k\hat{a}n^a$ 'liver' < (prefix) + *ka-n, TB *ka 'bitter', the root form being represented by k' o^b 'bitter' (with regular *-a>-o shift after velar initial). The unaspirated initial of $k\hat{a}n$ 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 $k\hat{a}n$ '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. śżenc 'body', TB *śa 'flesh' (K śan); mien~ mien/miend 'people', TB *r-mi(y) 'man (homo)'; tsiwən/tsiuen ~ ts'iwən/ts'iuene 'hare', TB *yəw 'rat, rabbit' (B yun 'rabbit'); dz'wən/dz'uənf 'grass, herb', T rtswa 'grass' (n. 455). Alternation between suffixed and unsuffixed forms is reflected in the following pair: b'iən/ b'iĕn~b'iər/b'yig'female of animals', TB *pwi(y) 'female' (see n. 463 for loss of medial *w); śiwər/świh 'water', t''iwən/tś'iwäni (irreg. for tś'iuĕn) 'stream, river', TB *twəv (see n. 452 for initials); cf. also $k'iw \partial n/k'iw \partial n' < k'(i)u-n$ and $ku/k\partial u^k$ (both tone B) 'dog', TB *kwəy (both forms show the *kwəy > *ku shift; the latter with unaspirated initial was prefixed); $\eta \hat{a}^1$ (tone A) 'domestic goose', $\eta a n^m$ (tone C) < *yâ-n (n. 488) 'wild goose' (= 'geese in flocks'), B yàn 'goose' with a similar suffixed -n (n. 284). Chinese also has two forms suggesting the function of a 'dual' (cf. K -phan 'palm, sole'), viz. siôg/siaun 'hand', ts'wan/ts'uano 'thumb' (but used for 'hand' in graphs), Karen tsu 'hand/arm; d'iwən/dź'iuenp 'lips', T mtshu, id. The appearance of suffixed *-n in kinship terms in TB is paralleled in Chinese; cf. swən/suənq 'grandchild'; TB *śu(w), id.: K śu, Mikir, Meithei, Anu (S. Kuki) su, Bodo sou, Dimasa su; kwən/kuən ~ *k'wən/k'uən (based on Mand. k'un) 'older brother, descendant'; ST *kəw ~ *gəw 'maternal uncle' (B -kui 'older brother'); ts'iĕns '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. kwo/kuot 'net', from *kwa; TB *kwan ~ *gwan 'casting net'; ST *kwa ~ *gwa; tsâu 'left (hand)'; T g-yon-pa, id., with suffixed -n, as shown also by T g-yo~yo 'craft, cunning, deceit' (cf. sinister); 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. ńįėt/ńźįėtv 'sun/day'; TB *noy, but B ne 'sun', né 'day', the latter with 'creaky voice' (glottalization), probably from *a-nəy = ?a-nəy; Chinese has an apparent doublet here with suffixed -n, viz. nienw 'sunlight'. Two kinship terms, however, appear to have suffixed -t paralleling the Tibetan usage (n. 284); cf. d'iet ~ d'iet/d''ietx 'nephew/niece'; TB *b-ley 'grandchild; nephew/niece' (see n. 458 for the initial); t'iwət/tś'iuĕty '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 $*tu \sim *du$ 'nephew'.

a 肝	b苦	^c 身	d 民	e 6発	f 荐	g H	h ak	i III
,大	K 狗	1 我鳥	m ME	n ≇ .	o 11	p 展	Q 33E	r EL
s 親	t 罛	u 左	v Ħ	w 現	× 姪	ун	DI	70

further appears in $n\hat{a}n^a$ 'difficulty, suffering', to be connected with TB *na 'ill'; cf. also $ts'\hat{a}n^b$ 'eat; food, meal', TB * $dza.^{429}$

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:

 $t'w\hat{a}t \sim d'w\hat{a}t^{c}$ 'peel off, take off'.

təngd 'rise, ascend', d'ənge '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. kwânf (A) 'cap'; (C) 'put on cap'; TB *gwa-n~*kwa-n 'wear; dress'; Karen *kwan 'put on (clothes)'; cf. also tâng 'red, vermilion; (KD) cinnabar' (= 'the red substance') and tsien, h also ts'ian/ts'ieni 'red', from *ta-n~ tya-n; TB *tya-n: B tya~ta 'very red, flaming red' (intensive), Tiddim Chin tshan < *th(y)an 'red'; twon/tuon' 'solid, thick; lie thick on', tiwon/t'iuen ~ d'won/ d'uank 'thick (sc. darkness)'; TB *tow~ *dow 'thick' (but Chepang dun); xiwan/ xiuən1 'to smoke' (intr.); TB *kəw 'smoke' (but Sunwar kun, Newari kin). In other roots, Chinese suffixed -n has no parallel elsewhere or corresponds to suffixed -t; cf. nan/nan 'blush'; Karen (Taungthu) na 'red'; d'wən/d'uənn 'accumulate; bring together (soldiers as a garrison)', also d'wan/d'uano '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'ivot/g'iuotp 'dig out (earth)', also k'wət/k'uətq 'dig in the ground; underground'; TB *r-go-t~ *r-ko-t (K ləgot ~ ləkhot, also śəgot, 'scoop up'); Karen *kho-n 'dig' (n. 368); cf. also 'laugh' (n. 458) and perhaps also dz'ijot/dz'iĕtr 'sickness, pain'; TB *tsa 'hot; pain'. ST suffixed *-s is probably represented by -t in Chinese (paralleling ST final *-s>-t); cf. siets 'all, completely; (AD) thoroughly know, perfectly understand' (probably the more basic meaning; graph has 'heart' as signific); 'TB *syey 'know' (T śes-pa).

430 The following root also shows an inconsistent pattern contrasting with that found in TB: $g'iuk/g'ivok^t$ 'compressed, bent, curved (body); curl, twist (hair)', $g'iuk/g'ivok^u$ 'bend the body', $k'iuk/k'ivok^v$ 'bend, bent; crooked, unjust'; TB *m-ku-k' angle; knee'; cf. also $ki0k/kiuk^w$ 'bow, bend' and $ki0k/kiuk^x$ '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. $glak/lak^v$ 'to fear' (not in GSR in this meaning), $k'lak/k'ak^z$ 'respect, reverent'='to inspire fear' (cf. $ki\delta y/kivy^a$ 'reverent, respectful; careful', $ki\delta y/kivy^b$ 'to be afraid; attentive; scare'), perhaps also $\chi iak/\chi ivk^c$ 'fear', from *khrāk (n. 472); TB *grâk~*krâk 'fear; frighten'; cf. also Karen *xa < *khra[k] 'scare, frighten with outcries, use violent language in order to terrify'.

a	鮏	b餐	c 脱	d 登	e 騰	f冠	g 丹	h xe	i精
j	敦	k 電	1 撫	m 赧	n nt	° 純			
s	悉			v 曲	w 鞠	x 鞫	у 維	z 恪	a 敬
b	悉驚	c 觑			• • •	•	,,,-	12	

ts'iĕnga 'clear, pure, bright', dz'iĕngb 'clean, cleanse', dz'iĕngc 'quiet, pure'. t'âdd 'great, excessive', d'âde 'great'.

t'iogf 'sell grain', d'iokg 'buy grain' (note the alternation in finals).

 $k\check{o}g^{\rm h}$ 'teach, instruct', $g^{\rm t}\check{o}g^{\rm i}$ 'imitate, follow'.

 $tsig^{j}$ 'son', $dz'ig^{k}$ 'beget'.

 $kian^1$ 'see', $g'ian^m$ 'appear, be visible'. Here the sonant form is intransitive, the surd transitive, as in Tibeto-Burman; cf. g'og 'imitate' and d'iok 'buy grain', above. 431

§41. Chinese pronouns

Chinese parallels Karen in having an exact cognate for TB *ŋa 'I', viz. ngon (with the regular *-a>-o shift after velar initial), but nioo (cf. Karen na) corresponding to TB *naŋ 'thou'. As pointed out by Karlgren, a type of pronominal inflection appears in certain early texts (Lun Yü, Mencius, Tso Chuan):

	1st person	2nd person
Subject position	ngo^{p}	njoq
Object position	$ng\hat{a}^{\mathrm{r}}$	nịas

Both $ng\hat{a}$ and $n\dot{a}a$ commonly appear also in subject (incl. genitive) position, whereas ngo and $n\dot{a}o$ are almost entirely restricted to this position, i.e. $ng\hat{a}$ and $n\dot{a}a$ tend to usurp the nominative roles of ngo and $n\dot{a}o$ (cf. French moi, English me). In the older Shu Ching text, however, this distinction is not observed, and $d\dot{a}o^{\dagger}$ or $d\dot{a}o^{\dagger}$ is the dominant 1st person pronoun, with ngo entirely lacking and $ng\hat{a}$ gradually

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.

432 The *na form for 'thou', found also in Nung, appears to be an unstressed form of ST *naŋ ~ *na·ŋ ~ *nəŋ. TB has *naŋ but a doublet *na·ŋ can be reconstructed on the basis of Ch. $\acute{n}\acute{l}\acute{o}\eta/\acute{n}\acute{z}\acute{l}\acute{u}\eta^{v}$ (n. 488); cf. also $nag/n\^{a}\acute{i} \sim *\acute{n}\acute{l}\acute{o}\eta/\acute{n}\acute{z}\acute{l}\acute{o}\eta^{w}$ 'thou', the latter set up on the basis of the general use of the graph as phonetic in -iəŋ forms, including $\acute{n}\acute{l}\acute{o}\eta/\acute{n}\acute{z}\acute{l}\acute{o}\eta^{x}$ 'repeat, as before; again and again; (AD) follow, imitate', TB *(s-)naŋ 'follow', from ST *(s-)nəŋ.

433 'Le proto-chinois, langue flexionelle', $\mathcal{J}A$ (1920), 205-32.

a 清	b 淨	c 静	d 嫯	e 大	f 表理	g 糴	h 粉	i Ar
,十	* 字	,見	^m 現	n 🌉	o Hr	р ж	q Hr	r #\$
s pp	^t 予	u 余	v 戏	w <i>7</i> 5	× Ø	~	121	**

increasing in usage. In the still earlier Shih Ching text, moreover, $ng\hat{a}$ is the dominant form (exclusively used in songs from some districts), with dio as secondary form. Karlgren concludes that these differences reflect dialectical divergences, which are closely related to styles, and that the dialect of Lu, a reflected especially in the Lun Yü, retained a true inflection of the pronoun as an archaic feature. The fact that ngo rather than $ng\hat{a}$ is the phonetically regular representative of TB * ηa 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', \$\mathcal{T}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 \$brgiad\$ and Chinese \$pwat^b\$ "eight"', \$TP 34 (1939), 165-73; Wang Ching-ju,c 'Chung t'ai tsang mien shu-ch'ieh-tzŭ chi jên-ch'êng tai-ming-tz'ŭ yü yüan shih ts'ai'd ('Comparative Study of the Numerals and Personal Pronouns in Chinese, Thai, Tibetan, and Burmese'), \$CYYY 3 (1931), 49-92. Wolfenden rightly keeps T \$brgyad\$ and \$Ch. \$pwat^b\$ '8' apart, but fails to see that the seemingly discrepant TB forms for '8' can be derived from a single root (*b-r-gyat). Wang, making no use of scientific methodology, arrives at roots such as *gret '1', *gruk '6', *bgrat '8', and *(g)kiap '10', while Przyluski and Luce surpass even these with *pargyak '100', a kind of 'synthesis' of T \$brgya\$ and \$Ch. \$päk.e The seeming parallelism presented by \$T\$ \$brgyad\$ and \$Ch. \$pwat '8', \$T\$ \$brgya\$ (<*r-gya) and \$Ch. \$pāk\$ '100' has proved irresistible to most writers on the subject of \$T\$ numerals.

435 It now appears that all the Ch. numerals, including '100', are cognate with the TB set. Three of the numerals had substituted *b- prefix (with unvoicing), on the basis of evidence from ancient loans in Thai and the related Ong-Be (Hainan island) language as well as from Chinese itself, paralleling a trend found also in

a 魯 b 八 c 王靜如 d 中台藏緬數目字及人稱代名詞語源試探 e 百

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'iėta' 1'; cf. Kanauri id.

niər > nźib' 2'; TB *g-nis.

səmc' 3'; TB *g-sum.

siəd > sid' 4'; TB *b-liy.

ngoe' 5'; TB *l-ŋa~*b-ŋa.

liók > liukf' 6'; TB *d-ruk.

kiŭg > kizug' 9'; TB *d-kuw.
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The phonetic shifts illustrated in the above comparisons are regular for the most part (see below). Ar. Ch. siəd '4' for TB*b-liy, however, requires explanation, since initial *l- should yield Ar. Ch. l-, while *bl- should yield Ar. Ch. bl- (T bźi < *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 məsum '3' < *g-sum through the influence exerted by məli '4' < *b-liy and məŋa '5' < *b-ŋa (see §16), we must suppose that Ar. Ch. siəd '4' has been influenced by səm '3', with s- replacing initial *l-.436

TB; cf. no/nuo^h '5', from *na (text), but Thai has *ha < *hna (Ong-Be na), borrowed from a pre-Ar. Ch. form *hya<*ph(-)ya<*b-ya; TB *l-ya \sim *b-ya; *b-liôk/liuki '6' (cf. n. 474), reconstructed on basis of use of graph as phonetic in mliôk (or *m-liôk)/miuki '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; pwatk '8', from *b-rvat (n. 148) < *b-ryât (n. 488); TB *(b-)g-ryat, with simplification to *bwăt rather than *byat, the latter also existing as a doublet which served as the basis for the early Min-chia (AT stock) loan: piat, probably also Thai and Kam-Sui *peet (= pe·t), Ong-be bet = pet. For further details on these early loans from the Ch. numeral system, see Benedict, 1967 bis; all these languages have *saam '3', agreeing with the irregular Anc. Ch. form sâm rather than with the regular Ar. Ch. form sam, TB *g-sum. The seemingly unrelated ts'iet1 '7' can be derived from ST *s-nis (n. 471). Finally, pak/pvkm '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: *păk(-rya) < *băgrya; cf. T brgyad '8', metathesized from TB *(b-)g-ryat (n. 148); also, for '10' see n. 464.

436 This numeral can be derived from ST (and TB) *b-ləy via *b-zəy or *b-zəy (cf. T bźi) and *p-səy (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 siət in Shensi), perhaps representing an old suffix (cf. Karen *lwi-t '4').

§43. Chinese phonology (history)

The richly varied phonological system of Archaic Chinese offers many difficulties of comparison with the relatively simple scheme found in Tibeto-Burman.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 Tibetan⁴³⁸ and Shafer's study of Sino-Tibetan vocalism (JAOS 60, 1940; 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 reconstitutions are less reliable than those of Karlgren. Shafer, on the other hand, has made valid TB reconstructions for the most part, but has compared these with Ancient Chinese rather than Archaic Chinese forms. Both writers make extensive use of questionable comparative material, including loan-words.⁴³⁹ The present study is the first to attempt a comparison of properly reconstructed TB roots with Archaic Chinese forms.

437 Karlgren's phonetic notation has been adopted for this discussion of Archaic Chinese with a view to facilitating reference to the *Grammata Serica*. The following points should be noted: ng is the velar nasal y; j is the palatal semivowel y; \cdot is the glottal stop?; \hat{t} and \hat{d} are palatal stops; \hat{s} , $t\hat{s}$, and $d\hat{s}$ are supradental (cerebral); \hat{a} is close (as opposed to open) a, and δ is close o; short vowels are indicated either by a micron or a subscribed dot, e.g. \check{a} is short a, δ is short δ ; \hat{a} is the low-back vowel a; ϵ is the low-front vowel a.

438 W. Simon, 'Tibetisch-Chinesische Wortgleichungen: ein Versuch', MSOS 32 (1929), 157–228. For a thoroughgoing critique of this study, see B. Karlgren,

'Tibetan and Chinese', TP 28 (1931), 25-70.

439 Many instances of this type can be cited from Shafer's paper, e.g. $d'a^a$ 'tea' and T $d\acute{z}a$; si^b 'lion' and B $khra\eta$ -sé; $d'ung^e$ 'copper' and T dontse (also dontshe) 'coin' (of Indic origin); $mi_{l}^{2}u^{l}$ and T $mi_{l}^{2}-gi$ mi_{l}^{2} 'pupil (of eye)', the latter to be analyzed (as in Jäschke) 'little man of the eye', with mi_{l}^{2} as diminutive of mi_{l}^{2} 'man', paralleling rdeu 'little stone' < rdo (cf. Ch. $d'ung^e$ 'pupil' and $d'ung^e$ 'boy').

a茶 b獅 c鍋 d眸 e瞳 f僮

§44. Chinese consonants (initials, finals)

The consonants of Archaic Chinese are as follows:440

Laryngeal: · (glottal stop)

Velar: k k' g g' ng χ Palatal: \hat{t} \hat{t}' \hat{d} \hat{d}' \hat{n} [v]

Dental: t t' d d' n l s z ts ts' dz dz'Cerebral: [r] s ts ts t

Labial: p p' [b] b' m [w]

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. $\chi iwet^a$ 'blood', TB *s-hwiy (the TB prefix does not appear in Chinese). 441 The seeming lack of the palatal semivowel i 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-hywoy 'blood', with *hywshowing unit-for-unit correspondence with Ch. xiw- (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. xiwən/xiuənb 'to smoke' (intr.), TB *kəw 'smoke' (see n. 429 for suffixed -n); g'iŭg/g'iouc (C) 'owl' (only KD in this meaning; signific is horned owl), also $\chi i \delta g / \chi i \delta u^d$ (A) 'owl' and $k i o g / k i e u^e$ (A) 'kind of bird (owl?)', TB * $g u \sim *k u$ 'owl' (add Gyarung p r a - k h u 'owl' to forms cited in text); the Ch. forms are, respectively, from *gow, *khow (unprefixed) and *kow (prefixed), all with vowel gradation; cf. also Anc. Ch. xquf 'nutmeg, cardamon' (not in GSR) but all dialects point to Anc. Ch. * $k'_{\partial u}$ (Karlgren); note that the phonetic remained unpalatalized: $k'u/k'_{\partial ug}$ 'rob', TB * $r-k_{\partial u}$ 'steal'; cf. also 'heaven' (n. 464). Chinese has some interchange of velar stop with \cdot (=?) in several phonetic series, and there is one ST comparison; cf. ienh 'smoke', from ?i·n < *?u·n (n. 429), a complex doublet of the verbal form cited above; Nungish (Rawang) məö shows similar irregular loss of the velar stop, apparently via *m- $P\ddot{o} < *m-k(h)\partial w$, and it is possible that the Chinese doublet ien similarly reflects an earlier prefix or preposed element (ST *mey 'fire').

be attributed to Karlgren's non-phonemic notation; actually, as shown below, Ar. Ch. had the semivowels j and w as distinct from the vowels i and u. The absence of \dot{z} (palatal) as well as \ddot{z} (cerebral) is noteworthy. Anc. Ch. had \dot{z} , but Karlgren has shown this to be the end-product of a development $\dot{d} > d\dot{z} > \dot{z}$. In the absence of \ddot{z} , the affricate $d\ddot{z}$ must be considered a unit phoneme rather than $d+\ddot{z}$, 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

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tsieta 'knot, joint'; TB *tsik.

nienb 'harvest, year'; TB *niy.

siĕnc 'firewood'; TB *siy 'tree, wood'.
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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. $k'o^d$ 'bitter', TB *ka (kha in most TB languages), but $k\hat{a}n^e$ 'liver', from a prefixed root such as *m-ka-n or *b-ka-n; cf. also $kiug^f$ '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 $pi\delta k^g$

442 Add *śrict/sicth 'louse', TB *śrik (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. *mliĕn ~ *mliĕn 'name; command' (from *r-min ~ *r-min (n. 419). A similar shift after medial *y apparently has occurred in one root, viz. d'iat/dźiät < *g'liati 'tongue', a doublet of g'iak < *g'liak, id. (n. 419), TB *(m-)lyak ~ *(s-)lyak 'lick; tongue'; Magari has let 'tongue' while Kachin has śiplet ~ śiplep, Maran dial. śipriat, id., from this root, showing parallel shift.

a節 b年 c薪 d苦 e肝 f九 g腹 h蝨 i舌 j腺

'belly', $p'i\hat{o}k$ (also $b'i\hat{o}k$)a 'cave' (TB * $pu\cdot k$), can readily be interpreted in terms of lost prefixes, pronominal or other, e.g. * $m-pu\cdot k>pi\hat{o}k$, * $pu\cdot k>p'i\hat{o}k$. Similarly, a lost prefix must be postulated for forms such as $ti\hat{o}k$ b '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:

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g woc 'fox'; TB *gwa.
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g'ogd 'call, cry out'; TB *gaw.

g'əme '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'iug' 'carry on the back'; TB *buw.

d'ôkg 'poison, poisonous'; TB *duk~*tuk.

Ar. Ch. has surd for TB sonant stop in $piod^h$ 'give', TB * biy^{443} (but note also Kuki *pe-k), while the inverse relationship obtains in $g'i\partial g^i$ 'uncle (mother's brother), father-in-law', TB *kuw. Morphology may sometimes play a role here, e.g. $g'o^j$ 'door, opening' has perhaps been derived from an intransitive root with voiced initial (*ga) corresponding to TB *ka and *m-ka. 445

*443 ST initial *b- apparently was well maintained in Chinese in the cluster *bw- (n. 463) but was often (perhaps usually) unvoiced elsewhere; cf. also piuk* 'bat' (not in GSR), T *ba·k (see n. 488 for the vocalism); pwən/puən¹ 'root, trunk', TB *bul~*pul: K phun 'tree, bush, stalk, wood', Moshang pu·l 'tree' (length probably secondary), G bol 'tree', L bul 'cause, beginning, the root, stump or foot (of tree), the lower end (as of stick, post, etc.)', Tiddim bul 'bottom, base, foot (of building)' (but this root used in compounds meaning 'tree' in Anal and other Kuki languages); p'ian/p'jānm' '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'u/d'aun 'head', TB *(d-)bu.

444 For this root Chinese also has a cognate with surd initial and suffixed -n, viz. $kw \partial n/ku \partial n \sim k' w \partial n/k' u \partial n'$ 'older brother' (n. 428). Chinese also has $g' \partial g/\gamma \partial n'$ 'crab', TB * $d-ka \partial n$, but note Karen * $ts \gamma \partial n'$ (a 'problem' root; see n. 323); cf. also $k \partial n'$ 'dry', $g' \partial n/\gamma \partial n'$ 'drought, dry' (text); TB *kan: K kan 'to be dried up (as a stream)', B $kh \partial n$, Atsi (Burling) $k \partial n$ (BL *kan) 'dry up'; also $g' \partial n' \partial n'$ 'ridge of house; the highest point; extreme limit, utmost', B-L * $kh \partial n'$ 'reaching its peak; (in price) expensive' (this reconstruction by JAM), from ST * $g \partial n' \partial n' \partial n'$ 'needle' (n. 464).

445 TB perhaps has a variant *ga here; cf. Trung (Nungish) san ga 'window' (='window-opening'), Rawang sərim san, id. (san possibly a loan from Ch. ch'uang).

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. The only substantial comparisons available support this view; cf. $giwo^a$ 'rain', TB *r-wa; $diang^b$ 'fly', and TB *yay (No. 492), as represented by West T bu-yay 'bumble-bee', Kanauri yay 'fly, bee', B yay 'fly, insect'. 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.

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. semi-vowels) of ST received a stop element in the course of their evolution in Chinese; this 'law' serves to explain the parallel *z->dz- and z->d'- shifts (found only in initial position). Phonemically, these unaspirated stops (d and g) remained allophones of the phonemes |y| and |w|, maintaining the contrast with the initial aspirated stops (d'- and g'-) but with some tendency to become transformed into the latter (n. 449).

447 Add (from Benedict, 1948) giwo/yiuc 'proceed, go to', TB *s-wa: Magari and Chepang hwa 'walk, move', Newari wa 'come', K wa 'to be in motion', B swà 'go', Kuki group *-wa (affix used with verbs of motion); cf. additional examples in n. 449.

448 This TB root has been reconstructed *(s-)brəŋ (n. 469). For ST *y-, cf. dian|iān^d (A) 'extend; continue; delay; stretch', dian|iān^e (A) 'mat' (='something spread out'), dian|iān^f (C) 'flow out, extend', perhaps also diēn|iēn^g (C) 'draw the bow; pull, draw; extend; prolong'; TB *ya·r~*yâr 'spread, extend; sail'; Karen *ya 'expand, hoist (sail); sail' (='something extended'), but note also Tiddim (Kuki) zan<*yan 'stretch'. It is possible that ST initial *y- yielded Ar. Ch. dionly in unprefixed roots, and that after (most or all) prefixes, this same initial yielded Ar. Ch. zi- (Benedict, 1948), with further evolution to dz- and even to ts/ts'-, the last with three excellent examples; cf. ziak/iākh 'armpit', TB *(g-)yak (text; cf. n. 108); ziāg/iai (C) 'night', dziak/ziākl 'evening, night', TB *ya' 'night', Karen *hya' evening' (see n. 487 for final); tsiôg/tsizuk 'spirits, wine' (note phonetic is ziôg/izul defined in KD as 'wine must'; see text), TB *yu(w) 'liquor'; tsiwən/tsiuěn~ts'iwən/ts'iuěn^m 'hare' (with 'collective' -n suffix; see n. 428), TB *b-yəw 'rat, rabbit' (B yun 'rabbit'); tsân 'left (hand)', T g-yon-pa, id. (with suffixed -n; see n. 428).

449 A direct comparison of this type is furnished by the following (Benedict, 1967 bis): gwia/jwie,o an obsolete root for 'elephant', the graph showing a hand at the head of an elephant (recognized by P. Boodberg, HJAS 2, 1937, 239-72, a 雨 b 蠅 c 干 d 近 e 筵 f 波 g 引 h 腋 i 夜 j 夕

k酒 l酉 m貌 n左 o爲

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 i, hence are phonemically as well as phonetically distinct. Palatal n- corresponds to TB *n- in nin^2 '2', TB *g-nis; nie^t 'sun, day', TB *niy. It may be that original *n- was palatalized before i in Ar. Ch. (cf. T gnyis '2', nyi-ma 'sun'), while Ar. Ch. dental n- belongs to a later level. No significant comparisons have been found for \hat{t} , \hat{d} , or \hat{s} .

note 68), TB *m-gwi(y) 'elephant': K gwi~məgwi, Răwang (Nungish) məgö< *məgwi, 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: diar/i (A) $\sim t'iar/t'iei^c$ (C) 'mucus from the nose' (note the tones), TB *(sna-)ti(y) (A) 'nose-water' (Dhimal hna-thi 'snot'), ST *təy 'water'; the aspirated (hence unprefixed) form has tone C, indicating an original suffix (n. 494). The phonetic in this series (GSR-551) is diar/id '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 * $t'i\sigma r$ (TB *tal), whence $si\sigma r/sie$ 'arrow' (n. 461); this series includes another close-juncture form of this type, viz. diar/if (A) 'the fat over the stomach', from t'iər/tśig (A) 'fat', TB *tsil (n. 461). Prefixed *g- is apparently represented by g- in giug/jiquh '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. gium/jiun~g'ium/yiuni (AD citation, based on irreg. Mand, hiung) 'bear', from *wum < *wam (n. 488), TB *d-wam; giwan/jiwani (A) 'circle, circumference; round; return', giwan/jiwank (A) 'round', giwan/jiwank (C) 'wall round a courtyard'; also (aspirated and palatalized) g'iwan/yiwenm (B) 'tie around, encircle', g'iwan/g'iwann (B) 'enclosure for pigs' (also read g'iwan/g'iwon); also (without palatalization) g'wan/ywano (A) 'turn round, return', g'wan/ywanp (A) 'ring; encircle'; also (with *wa> *u> wə shift) g'wən/yuənq (C) 'pig-sty', TB *wal 'round, circular'. It appears that in parallel fashion ST (and TB) *hw- yielded k(w)- in Chinese; cf. $k\hat{a}m^{r}$ 'dare', perhaps by dissimilation from * $kw\hat{a}m$ (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>*gwam) 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).

45^I It must be borne in mind that only a relatively small segment of the Chinese lexical material is of ST origin, and that Chinese may have been reoriented phonemically several times before attaining what we know as the 'Archaic' stage. Our task is not so much to identify all the phonetic elements of Ar. Ch. in terms of Sino-Tibetan, as to establish the course of development of ST elements in Ar. Ch.

452 The palatal series is not prominent in TB, but there are two significant correspondences with Ch. palatals, sufficient to establish this series as a feature of ST, viz. t''iāk/tṣʿiāks 'red', TB *tśak, id.; śiôg/śizut 'animal', TB *śa 'flesh, meat, animal' (see n. 487 for final), also the forms with 'collective' -n suffix (n. 428):

d 夷 ьΗ C 海 e 矢 f胰 g脂 h右 i 熊 1 院 m 繯 n圏 0 漫 k M p 環 q 瘃 r 敢 s 赤 な 点数

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 soma '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. niərb '2'. TB *g-nis. 454 TB initial *ts- is represented by ts- or ts'- in tsietc 'knot, joint'. TB *tsik: ts'iĕtd 'varnish', TB *tsiv: ts'unge 'onion', T btson, but simply by s- in samf 'hair', TB *tsam; cf. also dz'âg 'salt, salty', TB *tsa. 455 Initial z-, like initial śjenh 'body', K śan 'flesh, meat, deer'. The voiced stop in this series is represented only by d'ivon/dz'iueni 'lips' (with -n suffix), T mtshu, id. ST (and TB) initial *sbefore the high back vowel u yielded Ch. s- in swan/suan' 'grandchild' (with -n suffix; n. 428), TB *su(w), id.; perhaps also ST *ts-> Ch. ts- before u (n. 455). The rare initial clusters of dental stop or affricate +y in ST yielded palatal stop in Chinese; cf. *t'iak/tsiakk 'single, one', ST *tyak (n. 271); t'iu/tsiul 'red', ST *tyak (n. 487); t'io/tśiwom 'boil, cook', TB *tsyow. In the single comparison for the voiced stop in this series, however, Ar. Ch. has the dental +y (i) cluster, viz. d'iôn/d''iunn 'insect', Bodo-Garo *dyun (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'iər/tśio 'fat', TB *tsil; d'iək/dź'iəkp 'eat', TB *dza (but dental preserved in dziąg/ziq 'food, give food to' (probably from a prefixed form); t'iwət/ts'iuetr 'nephew' (with suffixed -t; n. 428), TB *tu~*du; śwor/świs 'water', also (with suffixed -n) t'won/tś want (irreg. for tś'iuen) 'stream, river', TB *twoy 'water'; śior/śiu 'arrow', TB *tal: Mikir thal (Old) > thai (Modern) 'arrow', L thal 'arrow, dart', but Tiddim thal 'bow', perhaps also Deori Chutiya (B-G group) thal 'bough' (Benedict, 1940, No. 72); also (with initial alternation) təyv 'rise', t''iəy/tś 'iəyw 'lift', TB *(s-)təy (n. 482). In one root, however, Chinese appears to have dental affricate corresponding to palatal in TB; cf. tsjap/tsjäpx 'connect, come in contact; close to', TB *tsap 'join, connect; adhere' (G tśap-tśap 'adjacent'), possibly from ST *tsyap.

453 ST (and TB) initial *z- is represented in Chinese by the anticipated dz-/z-initial in $dz_i g/z_i y$ 'child', a doublet of $ts_i g/ts_i$ (n. 86), TB *za ~ *tsa, id.; cf. also Ch. $dz'_i g/dz'_i z'$ 'beget', all pointing to a basic ST root *tsa ~ *dza, with *za 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 z_i - in the one Ar. Ch. comparison available, viz. $z_i \partial g/i_2 u^a$ 'rot, decay', TB *zya·w ~ *zyu(w) 'rot, decay; digest'. ST (and TB) initial *dz- is represented by d''/dz'-, 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. $diwan/iv\ddot{a}n^b$ 'hawk, kite', B-L *dzwan (n. 162).

454 Ch. niər/nisic '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. tsietd 'joint', TB *tsik (text, h 身 i唇 」 孫 d 漆 f // a 🚍 b <u>=</u> c 節 e 葱 g鹺 t Jil n 蟲 p食 q 飤 r出 s nk k 隻 1 朱 ∘ 脂 m者 d 節 b 鳶 c __ 2 字 a 庮 u 矢 v 登. w 垂 x 接 y 子

d-, appears only before semivocalic i. In the following comparisons, which are of dubious significance, it corresponds to TB *y-; cf. $ziak^a$ 'armpit', L zak < yak, id. (cf. n. 108); $zi\delta g^b$ 'wine-must' (graph is drawing of wine vessel), TB *yu(w) 'liquor'. 456

The cerebral series s, ts, ts, and ds 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. ts, of thorny trees, thorns', TB *tsow; and tio boil, cook', TB *tsyow. The comparative data gathered to date, however, are far too meagre to support this view, yet do not militate against it.

above); sįėte 'knee' (='leg-joint') (cf. G dźa-tśik 'leg-joint'='knee'); also ts'wən/ts'uənf 'thumb' (but used for 'hand' in graphs), from *tsu-n (n. 428) but śiôg/śiaug 'hand' (note the palatalization), Karen *tsü 'hand/arm'; here we might reconstruct ST *tśəw, with palatal shifting to dental affricate before the high vowel u, as in swon/suonh 'grandchild', TB *śu(w) (n. 452). Contrariwise, Chinese clearly has developed a secondary affricate in one root, viz. ts'am/ts'âmi '3, a triad', a doublet of səm/sâmj '3', TB *g-sum (possible effect of the prefix; cf. Nungish: Răwang ətsum '3') and at times has an affricate initial in the face of a spirant in TB; cf. ts'iəmk 'sweep', from *ts'im; TB *sim: Nungish: Rawang sim, Trung syam 'sweep', B sim 'strike with a motion towards one's self', Maru sam < *sim 'sweep' (Benedict, 1940, No. 45); ts'iom! 'to lie down to sleep', from *ts'im; T gzim-pa (perhaps from *g-dzim) 'to fall asleep, sleep' (ibid. No. 46); ts'ipp~ tsippm 'whisper', from *ts'ip/tsip; T sib-pa~sub-pa, id. (perhaps from *syip~ *syup) (ibid. No. 39); dz'iĕnn 'exhaust, entirely; (KD) use to the utmost; use up, finish', from *dz'in; T zin-pa (perhaps from prefix + *dzin) 'to draw near to an end, to be at an end, to be finished, exhausted, consumed'. TB and Chinese differ in voicing of the initial affricate in several instances; cf. dz'wən/dz'uəno 'grass, herb' (with 'collective' -n suffix; n. 428), T rtswa 'grass' (n. 161); dz'iet/dz'ietp 'sickness, pain' (with suffixed -t), TB tsa 'hot; pain', but ts'and 'eat; food, meal', from *ts'a-n, TB *dza' eat' (text and n. 487); possibly also tsiər/tsi 'older sister', TB *dzar 'sister (man sp.)'. It appears that initial affricates in general were highly unstable elements in ST, particularly so in Chinese.

456 See n. 448 for further analysis.

a 腋 b 西 d 煮 e 膝 f of g 丰 h 孫 j≡ k 浸 1 籐 m 虽 n 惠 0 荐 q 餐 p 疾 r 姊 S AL t 生 u色 v 皮 w 吏 x 森 y 林 z 涂 b 數 a 淋

Ar. Ch. has initial *l*- for both *r- and **l*-, as in *liók* '6', TB **d*-ruk. Early Chinese loan-words in Thai retain original *r-; cf. Thai *hrok '6', and *graam 'indigo', Ar. Ch. glâm, a T rams. 458 The fate of final *-r and *-l in Chinese is not so readily

(C) 'number' (cognate with TB *-tśrəy, below) has glįu/lįub 'drag' as phonetic; also $g^{\prime} 2/\gamma a^{\prime}$ 'summer' phonetic in *\$r2/sad 'side-room' and *\$r2/sae 'hoarse' (only in AD); * $srio/sivo^c$ '(place) where', with $g'o/\gamma uog$ 'door' as phonetic (JAM) suggests a comparison with K $ra \sim \dot{s}ara$ 'place'). Another strong argument for reconstructing *śr- (or *śl-) is provided by an early loan from AT, viz. *śren/spnh 'reed organ' (notei, above, as phonetic), from AT *klulin 'flute' (IN *t'ulin. Thai *khlui < *klurin) via *śu[r, l]in < *khlu[r, l]in (see n. 472 for ś- < *khl-). The initial cluster $*t\acute{sr}$ - (= $*\acute{cr}$ -) has been reconstructed for three TB roots (n. 95), one of which has a Ch. cognate with the anticipated cluster (voiced); cf. * dzr^{ij} 'spittle (of dragon)' (Ar. Ch. form not cited in GSR), TB *m-tśril 'spittle'; cf. also *\(\frac{sin}{v}\) iuk (B) 'count'; (C) 'number' (above), TB *\((r-)\) t\(\frac{sr}{v}\) 'count', via *\(\frac{sr}{v}\), with vowel shift after the retroflex initial similar to that found in 'foot' and 'sonin-law' (n. 472). Ar. Ch. apparently also had the initial cluster *sr- (>Anc. Ch. si-) corresponding to TB *sr-, since there are two comparisons in the above phonetic series¹ (GSR-812); cf. *sriĕn/siän^m 'clan, family, family name' (the original matrilineal lineage, as indicated also by the use of nio/niwon 'woman' as signific in the graph), TB *srin 'sister': T srin(-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 *min 'name'); cf. also *sriĕn/sjäno andp 'weasel', TB *sre[n] 'weasel, squirrel'. The initial cluster *sr- can also be inferred (and reconstructed) for the following: *sriu/siuq 'older sister', TB *sru(w) 'aunt' (T sru); cf. also 'bark' (n. 245). The prefixed combination ST *s-r- also yielded Anc. Ch. si-, probably from Ar. Ch. *sr-; cf. *sriôk/siukr 'pass the night', TB *s-ryak 'day (24 hours)' but Lahu há 'night; pass the night', L riak 'pass the night' (n. 154); also *sriam/siäms 'sharp' (graph has *d'iam < *liamt' 'tongue' as phonetic; n. 458), TB *(s-)ryam, id. The dental stop + r cluster is represented only by $t'i\partial k/t \sin ku$ 'weave', TB *trak. The corresponding voiced palatal or dental + r clusters are rare; cf. d'ian/zianv 'upwards; high, admirable; superior' (used as a title), TB *źran 'uncle' (see n. 155 for parallel Tibetan use of the term); ST *źr->d'i/źi- in Chinese, which lacks initial *z-; cf. also $d'ian/źi\ddot{a}n^{w}$ (B) 'earthworm', also diěn/iěnx (B) and dien/iěny (B), id. (note that all three triplet forms have the same tone), TB *zril 'worm' (B ti, Thado til 'earthworm'), showing ST *zr > *źr > d'i/źi, varying with *zr > *zy > *y > di/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 i or di/i; cf. 'neck' and 'tongue' (n. 419), 'eagle' (n. 225), also * $di\partial k/i\partial k^z$ 'wing' (GSR cites Ar. Ch. $gi\partial k$, but $di\partial k$ is indicated since the phonetic series includes $t'i\partial k/t''i\partial k$, a TB *g-lak 'arm' (this semantic interchange also appears in AT; cf. Formosa: Paiwan dials. valaya 'wing', valaya/laya/n 'arm'); $diap/liap^b$ '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 $t'i\dot{e}d/t\dot{s}i^c$); cf. $d'iet \sim d'i\dot{e}t/d''i\dot{e}t'^a$ 'nephew/niece' (with suffixed

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a 萨
                                                    h 煌
                                                            i #
                                                                    j 漦
       b患
               c 夏
                      d 盾
                             e 14
                                     f FFF
                                             g Ħ
       生生
                                                                    t 舌
k 數
              m 姓
                      n 女
                             0 牲
                                     p 胜
                                             q 嬃
                                                     r 宿
                                                            s 銛
                                                                   d 姪
       v 尚
              ₩ 城窟
                                     2 翼
                                            a 趩
                                                    b 葉
                                                            c ∓
u織
                      x 蚓
                             y ·螾
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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 $d'\hat{a}n \sim d'\hat{a}r^a$ 'alligator', $b'\hat{i}\partial n \sim b'\hat{i}\partial r^b$ '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 $p\hat{i}w\partial r^c$ 'to fly', TB * $pur\sim *pir$, in support of a direct Ar. Ch.—TB correspondence for this final. 459,460 As shown below, the final -r thus reconstructed

-t; n. 428), TB *b-lay 'grandchild; nephew/niece'; t'ičt/tśičtd 'leech' (not in GSR), TB *(m-)li·t 'water leech' (contra Benedict, 1967 bis, where an AT origin is suggested); possibly also uěd/t'ie (C) 'heavily weighted down', from *liěd < *liět (note tone), TB *(s-)loy 'heavy' (Bodo illit ~ gillit, L rit); cf. also the following: *t'iam/t'iemf 'lick, taste' (not in GSR), from *liam/*liem, as shown by the Cantonese reading lim (Karlgren calls this a 'synonymous word'), TB *(s-)lyam 'tongue; flame'; this root is also represented in Chinese by the 'hidden' word for 'tongue' (* $d'iam \sim *d'iam < *liam \sim *liam)$, explaining the use of h as phonetic in d'iam/d'iemi 'calm' and *sriam/siami 'sharp' (n. 457), also in *d'iam/d'iemk 'sweet' (not in GSR), cognate with TB: Kiranti *lem, id.: Waling, Nachereng, Chingtang, Rungchangbung lem, Rodong lam-, Limbu ke-lim-ba, Yakha lim (contrast Yakha lem 'tongue' < TB *lyam). Chinese initial zi-/i- definitely represents an earlier *r- in the cyclical term ziôg/jaul 'cock' (n. 487) and corresponds to TB (and ST) *ry- in ziak/jäkm 'fluid, moisture', TB *ryak 'grease, oil, juice'. ST (and TB) *rv- apparently shifted to *lv- (perhaps because of the prefix) in d'iok/d'iekn 'pheasant', possibly also d'iər/d'i,o id., from *l[i]yak; TB *s-rik~ *s-rvak, id. Both types of correspondences are indicated in the following: ziôg/iəup 'laugh' (graph is a loan in this sense), TB *rya-t, id. (see n. 488 for final), also d'iet, q id. (from the phonetic series singled out above), from *lyat < *ryat (with typical palatalization of the vowel; n. 488).

459 Ar. Ch. $\chi w \hat{a} r^r$ 'fire' might be compared with Nung hwarr 'burn, kindle', K wan, Moshang varr, G warl '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. tsiər/tsis 'older sister', TB *dzar 'sister (man sp.)'; piwər/pywəit (A) 'fly', piwən/piwənu (A) 'fly, soar', piwən/piwənu (C) 'spread wings, fly up', TB *pur ~ *pir 'fly'; \textit{xwâr}/\textit{xwâr} (A) 'fire', from *phwâr (n. 463), b'iwān/b'iwənx (B) 'burn, roast' (series includes final -r forms), TB *bwâr ~ *pwâr 'burn; fire'; siĕny (A) 'new, renew', sian/siānz (A) 'fresh (fish, meat); (KD) new, fine, clean', TB *sar 'new, fresh'; *siĕna 'louse' (phonetic is siĕnb; graph later applied to synonymous *śrict/siɛt; see n. 457), TB *sar ~ *śar, id.; sian/sienc 'sleet', T ser-ba 'hail'; swân/suând 'sour' (series includes final -r forms), TB *swar, id.; b'wâr/b'uâ ~ pwâr/puâe 'white', L var, id., from *pwar; Karen *P(b)wa, id., from *Pbwar < *pwar; pwâr/puâf (C) 'spread out, sow; distribute; banish, reject; winnow; shake' (Benedict, 1967 bis, considers an AT loan), also (with apparent loss of final *-r) pwâ/puâg (B ~ C) 'to winnow'; TB

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h 舌
a E
       b牝
              c 飛
                     d 蛭
                             e 輮
                                    f 舔
                                           g 舌
                                                          i 恬
                                                                 j 銛
k 甜
                                           q 🕰
                                                   r火
                                                          s 姊
                                                                 t 飛
       1 西
              m 液
                     n 翟
                            o 雉
                                   p 猶
                                                  JF d
              w 火
                            y 新
                                   z 鮮
                                           a AL
                                                          c 霰
                                                                 d 酸
u 粉
       v 舊
                     x 燔
e 旙
       f 播
              g 🗯
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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. $ngien^a$ 'silver', TB * ηul ; $mion^b$ 'close the eyes, sleep', TB *myel 'sleepy'. 461 The following comparison suggests that roots in final *-l sometimes gave rise to the final - $n \sim -r$ doublets noted above: $sion \sim sior^c$ 'wash', TB *(m-)s(y)il (493), as represented by T bsil-ba 'wash' (a' respectful' usage, apparently derived from a meaning 'to cool'), K $sin \sim kosin$ 'wash, bathe', L sil, Rangkhol gersil, Thado $sil \sim kisil$, Khami mose (cf. motsie 'spittle' < *m-ts(y)il), Lakher posi, Mikir $i\eta thi$ (Kuki-Naga *m-s(y)il) 'wash, bathe'. 462

*bwâr: T'bor-ba, pf. bor 'throw, cast, fling; leave, forsake', Bahing war 'throw away, squander, abandon', Chepang war 'sow', Mikir var 'throw, cast, fling', L vor? 'scatter, throw up, toss'; dian/iänd (A) 'extend; continue; stretch', dian/iäne (C) 'flow out, extend' (series includes final -r forms), TB *yar~*yâr 'spread, extend; sail' (but note Tiddim zan<*yan 'stretch'; n. 448); *b'ian/b'iänf (B) 'braid, plait' (not in GSR), pian/pien~pian/piäng (A) 'plait, weave', also read b'ian/b'ien (B) 'arrange in a series', TB *byâr~*pyâr 'affix; plait, sew' (but note Tiddim phan 'weave, plait'). It is probably significant that three of the above forms in -n are from phonetic series which include forms in final -r, suggesting that the *-r>-n shift was of late date, at least in some instances.

461 ST final *-l appears to have fallen together with final *-r in Chinese, with general replacement by -n but with occasional retention of -r; again, some of the phonetic series yielding these cognates contain forms with final -r, suggesting a late shift; in addition to the text examples note the following: t'iər/tśih 'fat', TB *tsil, id. (n. 452); miər/mjwi and miwər/mjwzii (this doublet form reflected in the loan use of the graph) 'eyebrow', from *mir~*mur (*mil~*mul), TB *(s-)mul~ *(s-)mil ~ *(r-)mul 'body hair' (T smin-ma 'eyebrow'; n. 56); $di = n/i e^{\pi i}$ (series includes final -r forms), also dien ien and d'ian zian (all on tone B) 'earthworm', TB *zril 'worm' (n. 457); siən/sienm 'base of tooth' (= 'gums') (phonetic of this series is śiar/śin 'arrow', below), TB *s-nil 'gums' (nn. 452, 471); mian/miano 'face', L hmel, id.; b'iən/b'iĕnp 'poor', from *b'il; T dbul, id.; d'iĕn/d''iĕnq 'dust', from *d'il; T rdul, id. (see n. 477 for the vocalism of these last two roots); pwən/ puənr 'root, trunk', TB *bul~*pul 'root, stump, tree' (n. 443); śjər/śis 'arrow', TB *tal 'arrow; bow' (n. 452); d'įėn/źįėn 'kidney', TB *m-kal (n. 463); t'anu 'coal, charcoal; lime' (=ashes); T thal-ba 'dust, ashes and similar substances'; t'ian/tsiänv 'battle; to fight' (series includes final -r forms), from *kran < *g-ran; TB *(g-)ra·l' fight, quarrel; war' (see n. 472 for initial); giwan/jiwanu'round', etc., TB *wal 'round, circular' (n. 449).

462 The Tibetan form is perhaps unrelated; the TB root has now been reconstructed *(m-)syil~*(m-)syal, the doublet being represented by T bśal-ba 'wash, wash out of, off, clean by washing, rise', Răwang (Nungish) thi zal 'bathe, wash' (thi 'water').

j 幀 i眉 e 溜 c 班 d 近 a 銀 t 暋 q 塵 r 本 p 督 n 矢 o 面 m 民矢 k 蚓 1 城 w 🖺 u 炭 v戰

§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

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k'iwəna 'dog'; TB *kwiy.

xiwetb 'blood'; TB *s-hwiy.
g'woc 'fox'; TB *gwa.

swând 'garlic'; cf. B krak-swan 'onion'.

ngioe 'fish'; TB *ŋya.

kiangf 'ginger'; cf. B khyàn, id. 464
g'iatg 'hero'; cf. T gyad(-pa) 'champion, athlete'. 464
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463 The ST labial stop +w cluster is especially well represented in Chinese; cf. piwo/piuh 'man; (KD) husband', TB *(p)wa 'man, person, husband', Karen *wa 'husband'; piwo/piui (A) and piwo/piui (B) 'ax', TB *r-pwa, id. (n. 78); piwo/piuk 'breadth of four fingers', TB *pwa 'palm (of hand)' (B phawa); b'iwo/ 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 abhwà~ ăphwà 'grandmother'; b'wâr/b'uâ~pwâr/puân 'white', L va·r < *pwa·r, Karen *P(b)wa < *pwar (n. 460); pwâr/puâo 'sow; winnow', pwâ/puâp 'winnow', TB *bwar 'throw, scatter, sow' (n. 460); note the regular palatalization of the initial stop before the front low vowel a but not before the back low vowel \hat{a} . The aspirated (=non-prefixed) surd stop + w yielded Ch. χw - (see n. 374 for the parallel shift in Karen); cf. $b'iwan/b'iwpnq < *bwan < *bwar burn, roast', <math>\chi war/\chi war < *phwar$ 'fire' (n. 460), with $\hat{a} > a$ shift in the former before the secondary -n (n. 488); χiwăŋ/χiwɒŋs < *phwăŋ 'elder brother', TB *bwaŋ 'uncle (usu. father's brother)'; cf. also pak/pvkt 'eldest brother, eldest' (later developed present meaning: 'father's elder brother'), perhaps from *pwan (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'iən/b'iĕn~b'iər/b'yiu 'female of animals', TB *pwi(y) 'female' (n. 428); mid/myi^v 'sleep, lie down to sleep', TB *(r-) $mwy \sim$ *(s-)mwəy 'sleep'; the latter word perhaps lost the medial *w at a relatively late stage, since the graph has the cyclical character miwod/myweiw as phonetic, and the phonetic series (GSR-531) has otherwise only initial miw- and mw- forms; cf. also miwər/myweix 'minute, small', B mwé, id., from *mwəy, with retention of the medial *w.

464 Initial velar stop +y clusters are rare in our comparative ST material generally, and the text examples are of limited significance (Benedict, 1967 bis, has identified 'ginger' as an old loan from AT). The best comparison for this cluster in TB shows a shift to dental initials before the mid-high front vowel *e, viz. y and

```
a 犬
      b ffL
             c 狐
                                  f 蠤
                           e At
                                                h 夫
                                                              戶戶
                                         g傑
k 扶
      1 父
             m 婆
                    n 皤
                           ○播
                                  p 簸
                                         q 燔
                                                 r /k
                                                       s兄
                                                              t 伯
u 妣
      v寐
             w 未
                    x 微
                           У 春曜
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In some cases it is difficult to determine whether medial *i* represents original medial *y or is simply an index of palatalization; ⁴⁶⁵ cf. gliəpa 'stand', TB *g-ryap (where *i* might be regarded as a representative of *y), but k'liəpb 'weep', TB *krap (where *i* stands for palatalization); cf. also *niəpc (based on Anc. Ch. niep) 'to pinch, nip with the fingers', TB *nyap 'pinch, squeeze'; niəmd and niəme 'think', T snyam-pa 'think, imagine; thought, mind', nyam(s) 'soul, mind; thought'; tiəkf 'mount, advance, promote', T theg-pa <*thyak (as shown by West T dialects) 'lift, raise'; also liĕtg 'fear', T źed-pa <*ryed 'fear, be afraid'. ⁴⁶⁶

t'iĕn/t'iänh (A) 'red', siĕn/siäni (A) 'red ox; red', from *khiĕn, TB *kyen. This shift explains the doublet: t'ien (A) and xien (A) 'heaven', from *khien (n. 428) (see n. 441 for the *kh-> χ - shift). The initial cluster appears to be preserved in kian/kien1 'see', g'ian/yienm 'appear' (text), TB *(m-)kyen 'know' (for the semantics, cf. PN *kite 'see, appear, know'), but the medial *y is perhaps secondary in the TB root, with the likely ST reconstruction being $*(m-)ke\cdot n \sim *(m-)ge\cdot n$ (contrast the equation in n. 481 for the short ST vowel: TB *e = Ar. Ch. ia). Other ST roots show similar shifts in Chinese to palatal or dental initial from velar stops before the front vowels *a (primary or secondary) and *a as well as *i; cf. d'iap/źi ∂p^n '10', from *g(y)ip, TB *gip, id.; $t'i\partial m/t'j\partial m^o$ 'needle' (phonetic is $g'\epsilon m/\gamma \check{a}m$), palso written (with above root as phonetic), from $*k(y) \ni m \sim *k(y) \ni p$, TB $k \ni p$, id. (n. 82); $d'i\tilde{e}n/zi\tilde{e}n^{r}$ 'kidney', from *g(y)al, TB *m-kal, id.; $ti\partial m/t'i\partial m^{s}$ (A) 'chopping-block' (phonetic series includes k'am/k'amt 'vanquish, kill'), also t'imn/ $t = m^{\perp} (B \sim C)$ 'pillow; to use as pillow', both from k(y)im (see n. 477 for vocalism), TB *kum 'block; pillow', Karen *khu[m] 'chopping-block'; note also $k' \partial m/k' \hat{a} m^{v}$ 'vanquish, kill' (same word as above), in a series (GSR-658) with kimw 'now' as phonetic but including also t'iəm/t'iəmx 'walk hesitatingly' and even t'əm/t'amy 'covet' (the last listed separately by Karlgren under GSR-645); cf. T 'gum-pa, pf. gum, 'gums 'die', pf. bkum 'kill, slaughter'; cf. also k'u/k'quz (C) 'rob', t'u/t'qua (A) 'steal', TB *r-kow (B) 'steal' but Karen *hyü, id., reveals an initial palatalizing element (n. 371), apparently leading to the dental shift in Chinese. The frequent interchange of velar and dental/palatal initials in the Chinese graphs points unmistakably to a relatively late date for the above shift, probably with much dialectical variation (note that Thai *sip '10', considered a very early loan-word from Chinese, has initial *s-, probably from *ź-, which is lacking in Thai).

465 This difficulty is accentuated by the present recognition of the vowel θ as a basic ST unit (n. 482), requiring reconstructions such as ST *g-ryəp 'stand', *krəp 'weep', *nəp 'pinch' (with doublet *nap; n. 471); nəm 'think', tək 'mount; raise'; note that Chinese tends to shift the palatal to a dental nasal in some cases (see n. 452 for the parallel *s->s- shift) but the palatal form is maintained in niəm/niziəmb 'soft', B nám, id. (L nem, id., appears to be indirectly cognate), ST *nəm. Inasmuch as palatalization occurs in Chinese before most vowels (notably excluding â), medial *y can be reconstructed for ST only in those roots for which it is attested in TB (*g-ryəp 'stand').

466 A better comparison is provided by T'dzigs-pa 'to be afraid; fear, dread; fearful', from *ă-lig (n. 104), ST *lik, with shift of final *-k to -t before *i (n. 442).

a 立	^b 泣	c 捻	d 念	°恁	f 陡	g 慓	n 赤貞	1 馬辛	,天
k 活	1 見	m 現	n	○鍼	p 咸	q 針	r腎	s 林	^t 戡
u 枕	v · · · · · · · · · · · · · · · · · · ·	w 🛧	x po	y 貪	z 牋	a 偷	b 荏		

Initial clusters can be reconstructed for Ar. Ch. on the basis of the use of phonetic elements in characters. ^{467, 468} Combinations of stop, nasal or sibilant + l are most in evidence, while sn-, sn-, sn- and perhaps t-n- and sng- also appear; cf. the following:

glį $\delta g > ligu^a$ 'whistling of the wind', $kli\delta g > kigu^b$ 'down-curving', $g'li\delta g > g'igu^c$ 'kind of precious stone', $t'li\delta g > t'igu\sim li\delta g > ligu^d$ 'to get cured', $mli\delta g > migu^e$ 'bind around'.

ts'iam' 'all', kliam > kiämg 'measure, control', g'liam > g'iäm' 'restrict, frugal', $\chi liam > \chi iäm^i$ 'precipitous', $ngliam > ngiäm^i$ 'verify', $gliam > liäm^k$ 'gather, accumulate'.

 $blw\hat{a}n > lu\hat{a}n^1$ 'phoenix', $plian > pi\ddot{a}n^m$ 'change', $mlwan > mwan^n$ 'southern barbarian', $slwan > swan^o$ 'twins'. 469

467 Karlgren has freely reconstructed initial clusters in his *Grammata Serica*, while Simon (BSOS 9, 1938) has paid especial attention to the sn-~śń- cluster. Boodberg has made extensive use of 'rhyming binoms' (tieh yün)^p in reconstructing complex clusters; see his KD Notes 1-4 (Berkeley, 1934-5), and 'Some Proleptical Remarks on the Evolution of Archaic Chinese', HJAS 2 (1937), 329-72.

468 The problem of initial clusters in Chinese has received much attention; note especially R. A. D. Forrest, 'A Reconsideration of the Initials of Karlgren's Archaic Chinese', TP 51 (1964), 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).

469 For plian/piänq 'change', cf. Thai *plian, id., from *pliyan (IN *liyan); this appears to be an old loan-word in Chinese. The early loan-word material further indicates *pl - > t'/t's and *p'l - > t''/t's shifts in Chinese; cf. $t'i\hat{o}g/t\hat{s}i\partial u^r$ ' boat', from *pliôg/plizu; cf. IN *parau (Gurung, in the Himalayas, has plava); *t'iôg/tśijus (GSR cites t'miôg for Ar. Ch.) 'ox' (calendrical term), from *p'liôg/p'lizu; cf. Thai *plaw; from this same (ultimate AT) source came T phyugs < *phlug- 'cattle', with the suffixed -s characteristic of these loans from AT (Benedict, 1967 bis). Prefixed *b-+r/l- gave rise to Ch. bl/l- (n. 474), while ST (and TB) *bl- and *br- (generally) merged in Chinese with loss of the stop element, yielding di/i-; cf. diak/iakt 'shoot with arrow with string attached; arrow [of this type]' (graph is picture of same), TB *bla 'arrow' (see n. 487 for the final), perhaps also *t'iak/tsiaku (Ar. Ch. form not cited in GSR) 'string attached to arrow', from *pliak (see discussion above); dien/ianv 'full, fill', TB *blin 'full' ~ *plin 'fill' (latter not represented in Ch.); dian/ianw 'fly', TB *(s-)bran 'fly, bee' (text *yan; add T sbran fly, bee', Lepcha sum-bryon 'fly'). ST *br- appears to parallel *y- (n. 448) in yielding an affricate rather than di/i- when prefixed; Mand. $ts^{\alpha}ay^{\alpha}$ 'housefly' (listed in AD, but no Anc. Ch. or Ar. Ch. reading) thus is to be considered a doublet of the above word for 'fly'; also (from the same phonetic series) $d''i \partial y/dz'i \partial y$ ' string, cord', from prefix + *blin, Nungish: Metu ambrin = *a(m)brin (typical Nungish nasalized *a- prefix) 'cord' (Desgodins, La Mission du Thibet, 1872); this character is also read dian/ian 'full (sc. of grain)', apparently a doublet of the form cited above.

а	翏	b	樛	c	璆	đ	瘳	e ş	經 1	一	g	檢	h	佡	i	脸	j	驗
	戏义		漂	111	變	n	鑾	O ¥	፼ P	學韻	q	絲	r	-Kit-	s	TA.	t	+
u	繖	v	盈	w	蠅	x	핲	у				-		73		л.		7

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slipg > si^a 'recorder, record', lipg > lji^b 'officer'.<sup>470</sup>
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sngiad > ngiäic 'cultivate, agriculture', siad > siäid 'force, influence'.

 $\dot{n}io > \dot{n}\dot{z}iwo^e$ 'like', $\dot{s}\dot{n}io > \dot{s}iwo^f$ 'indulgent', $\dot{s}nio > \dot{s}iwo$ 'coarse raw silk' and $t'nio > \hat{t}'iwo$ 'season, flavor', both writteng. 471

 $l\hat{a}t^{h}$ 'wicked', $t'l\hat{a}t > t'\hat{a}t^{i}$ 'otter'.

liar > liei 'ritual vase', t'liar > t'ieik 'body'.

 $m \partial k^1$ 'ink', $\chi m \partial k > \chi \partial k^m$ '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. $klan > kan^n$ 'select, distinguish', but $glan > lan^o$ 'barrier'. This generalization, which underlies the reconstructions made by Karlgren, is supported by $glam > lam^o$ '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. * $niap/ni\ddot{a}p^q$ 'pincers, tweezers; to pinch, a pinch' (not in GSR), a doublet of *niəp" (above), from ST *ńəp \sim *ńap, also (from same phonetic series) śńiap/śjäps 'pinch between'; njôk/njukt 'ashamed', snjôg/sj@uu 'shame' (loan use); perhaps we should reconstruct *s-niôk contrasting with sniôg. 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 sian/sienv 'base of tooth' (='gums'), TB *s-nil 'gums'. There is also evidence, however, that Chinese developed a stop element in this *s-ncombination under undetermined conditions, comparable to Kanauri st- (n. 117; Kanauri stil 'gums'); cf. the phonetic element *t'iôg/t''iðuw (cyclical character) (Karlgren cites Ar. Ch. t'niôg) for 'ashamed/shame' (above) and the text example (ήμο/ήχίνο 'like' phonetic in *t'μο/t' ίνου 'season'). There is also evidence for initial $n \sim ts$ - interchange in Chinese, including the classical Shuo Wên interpretation of the character nienz 'year' as including ts 'iena' 'thousand' as a phonetic (cf. the discussion in P. Boodberg, 'Some Proleptical Remarks on the Evolution of Archaic Chinese', HJAS 2, 1937), from ST *s-ni·y, 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'iĕtb '7', TB *s-nis; *dz'iəg/dz'ic (Ar. Ch. form not cited in GSR) 'self', but graph is drawing of nose, and it is used as a signific in b'iəd/b'yid 'nose', TB *s-na; these roots imply *st->ts'- and *sd-> *zd > dz'- (cf. N. Bodman, BIHP, Academia Sinica, 39, pt. 2, 1969).

472 Ar. Ch. apparently distinguished between gli/l_i , as in $gliam/liam^e$ 'salt' (Ar. Ch. form not cited in GSR, but phonetic is $klam/kam^i$ 'see'), TB *gryum, id. (see n. 479 for vocalism), and prefixed $g-li/l_i$, as in $g-lip/lipp^g$ 'stand', TB *g-ryap, paralleling a similar distinction between bli/l_i - and b-li/li- (n. 474). ST velar stop +r/l clusters also gave rise in Chinese to palatalized velars and palatal or dental stops/spirants under conditions which have not yet been determined. The Chinese correspondences for B-L *(k-)la 'tiger' (ultimately a loan from Austro-

```
a ph
       p 单
               c 熱
                      d 勢
                              e km
                                     f数
                                            g 黎
                                                    h 賴
                                                            i 顂
                                                                    う 書
                                                            s 抵
                                                                    t 忸
k 體
                      n 來
                                     p藍
                                             q 鑷
                                                    r 捻
       1 悪
              m 黑
                             ○闌
                                                                   d 👸
                                     z 年
                                                    bt
                                                            c 🛱
                      x An
                              у 黎
u 煮
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gliang > lianga 'cool'; TB *gran 'cold'.
glâk > lâkb 'kind of bird'; cf. T glag 'eagle, vulture'.
k'liəp > k'iəpc 'weep'; TB *krap.
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The first of the above comparisons parallels gli > li > 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)la; n. 83) are especially enlightening; cf. χo^e 'tiger', from $*\chi lo <$ *khlo (prefix treated as first member of cluster), phonetic in several phonetic series: $k'io \sim \chi io$, from *khlo \sim * χlo (medial i for *l); log (prefix dropped), phonetic in lio, h which again is phonetic in *t'io/t'iwoi (GSR cites Ar. Ch. t'lio), from *khlio; t''io/ts'iwo, j also from *khlio (possibly via *khrio). Before the final *-ay, ST *kl-(aspirated = non-prefixed) yielded Ch. s- via *ts'-; cf. siər/sik 'dung', TB *kləy 'excrement'. Chinese also has s- for initial *k(h)l- in early loans from AT; cf. 'reed organ/flute' (n. 457), also siun/siwon1 'to hull grain with a pestle' (graph shows two hands with a mortar and pestle), Sui tyun 'to hull (rice)', Thai *kloon: Ahom klon 'to husk paddy', Siam. khau klon 'rice (khau) partly shelled', IN lət'un < */klun 'mortar' (Benedict, 1967 bis). This article also presents loan-word (Thai) evidence that *gl-~gl- yielded Ch. dental stop on occasion; cf. *d'ag/d'âim' 'moss, lichen' (not in GSR), Thai *glay 'moss'; tien 'cauldron; (AD) sacrificial tripod', Thai *glian, Kam-Sui *glian 'tripod'; cf. also d'iat/dz'iato 'tongue', from *gliat < *g-lyak (n. 419). ST prefixed *g-+r- yielded Ch. $t'/t\dot{s}$ - (unvoiced) in $t'ian/t\dot{s}i\ddot{a}n^p$ '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. *\(\chi_i\eta r / \chi_i\eta^q\) 'vinegar; (AD) sour' (Ar. Ch. form not cited in GSR), TR *kri(y) 'acid, sour' (cf. also 'fear', n. 429), but *śrio/siwor 'foot', TB *krəy, id.; *srio/siwo ~ *sriər/sieis (a doublet, one known from Ar. Ch., the other from Anc. Ch.) 'son-in-law', TB *krwəy, id. (see n. 486 for the vocalism in this pair of roots). 473 Ar. Ch. plist>piet 'writing brush' has been compared with T 'bri-ba 'write', but the Tibetan form has been derived through prefixation from *riy 'write'; cf. also pliom > piomu 'receive from superiors' (also read bliom > liom 'grain allowance from public granaries'), bliom > liom v 'government granary', and T 'brim-pa' distribute, deal out, hand out', Nung ərim' cast away' (the Tibetan word is used in this meaning in the Ladakhi dialect).

```
a 凉
       b
維
              c at
                      d 立
                              e 虎
                                     f 席
                                             g 店
                                                    h 盧
                                                                    〕歳
k 屎
       1 春
                      n 鼎
              四苔
                              ○ 舌
                                     p 戰
                                             q 醯
                                                     r 疋
                                                            S 土皆
                                                                    t SE
       v 虞
u 🕸
              w e
                      x 聿
                              y 律
                                     z銋
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§46. Chinese vowels and diphthongs

The Arc. Ch. vowel system, as reconstructed by Karlgren, comprises some 10 vowel phonemes, half of which are distinguished quantitatively:

Front vowels: i; $\check{e} \sim e$; ε

Back vowels: $\check{u} \sim u$; $\hat{\rho} \sim \hat{\sigma}$; $\check{\sigma} \sim \sigma$; \mathring{a}

Central vowel: \hat{a} Low vowels: \hat{a} ; $\check{a} \sim a$

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, a, a, a, o, and a. Final a appears only as the first member of a diphthong, while a, a, a, and a appear only before final stop, nasal, or a. The dissimilarity of the two systems, then, extends even into the features of distribution.

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>- $i\ddot{e}$ -):⁴⁷⁶

characteristic unvoicing of the labial stop (n. 443) and substitution of medial i for u (n. 477); T pir '(writing) brush, pencil' shows the same vocalic shift and the unvoicing, but with the fore-stress (rather than end-stress) and the l>r shift which are typical features of these early AT loans in TB (Benedict, 1967 bis). The rare ST *ml- cluster possibly yielded Ch. ni-; cf. $ni ar/niei^a$ 'mud, mire', $niet^b$ 'black sediment in muddy water; (AD) clay, mud' (with suffixed -t; n. 428), TB *mlay 'earth, country'. ST initial *mr-, however, apparently yielded *mw- at an early stage in Chinese; cf. 'horse' (n. 487) and 'tail' (n. 491), perhaps also $mivap^c$ 'look from afar, look towards; admire; hope', TB *mrap 'see'; cf. also $pwat^d$ '8', from *b-ryat (possible effect of the vowel a).

475 Despite this dissimilarity, regular correspondences can now be demonstrated for these two vowel systems, as shown below.

476 ST (and TB) medial *i and *i are subject to various shifts in Chinese, as shown in the following table:

ST TB
$$-k/-\eta$$
 $-t/-n/-r$ $-p/-m$
 i i $i\check{e}$ $i\check{e} \sim ie \sim i\delta$ $i\delta$
 $i\cdot$ $i\cdot$ ie $i\check{e} \sim i\check{e} \sim ie$ []

The ST high vowel *i regularly shifts to $i\partial$ before final -p and final -p/-m (Ch. lacks medial $i\partial$ or ie in these positions) and shows alternation between $i\partial$ or ie and $i\partial$ before final -n, while $i\partial$ appears in one doublet from an original final *-l ('wash'; text and n. 462); before -k/-y, $i\partial$ or ie is the regular reflex, with one instance each of alternation with $i\partial$ ('full', n. 469) and $i\partial$ ('name'; n. 419); after initial *sr-, the

a泥 b涅 c望 d 八

siěna 'firewood'; TB *siŋ 'tree, wood' (Trung also 'firewood').

siĕnb 'bitter'; TB *m-sin 'liver' < *sin 'bitter, sour'.

miën^c 'order, command' (this earlier reading for miăng is revealed in several Shih Ching rimes); cf. B min, id.

·įĕta 'l'; cf. Kanauri id.

ńiete 'sun, day' (with suffixed -t); TB *niy.

miĕngf 'name'; TB *r-min.

liĕngg 'neck, collar'; TB *liŋ.

In the above examples i represents the semivowel j (in Karlgren's notation), e.g. $s_i \in n$ phonemically is $s_i \in n$. True diphthongs, with vocalic i, also appear in this position; cf. the following:

nienh 'year'; TB *nin.

tsieti 'joint'; TB *tsik.

tiengi 'top of the head, summit'; cf. K pundin 'zenith, top' (pun- is a preformative).

 $tiek^k$ 'drop; to drop, drip'; cf. T $gtig(s)-pa\sim btig-pa\sim$ 'thig-pa 'drop, drip', thigs-pa 'a drop'.

kiet1 'to tie, knot'; cf. K kyit 'to gird, girdle', gyit 'to tie, bind' (apparently distinct from TB *kik).

niekm 'sink, drown'; cf. B nats < *nik' sink into, be immersed', hnats < *s-nik' make to sink, immerse'.

·iegn '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 [ii]. Thus, we may write |sjwar| for sjwar 'water'; |g'uat| for g'iwat 'dig out'. Considered thus phonemically, Ar. Ch. has the diphthongal pairs |ia|

vowel is lowered to \check{e} ('live') or ie ('louse') (see n. 457). There is now some comparative support for the hypothesis (Benedict, 1948, note 6) that the Ch. medial $i\check{e}$ vs. ie distinction reflects an original ST length distinction (Mikir and Sgaw Karen show a similar lowering of the vowel when short):

	ST	Mikir	Sgaw	Chinese
tree/wood	*siŋ	theŋ	heta e	siĕn ^q
year	$*s-ni\cdot\eta$	niŋ	ni	$\hat{nien^r}$

ST long medial *i· also appears to be reflected in $\cdot ien^s$ 'smoke', from *?i·n < *?u-n (with suffixed -n; nn. 429, 441, 477); in the single comparison for TB final *-i-t, Ch. has $-i\check{e}t$ ('leech'; n. 458), but note $-iet \sim -i\check{e}t$ for *-i-t (suffixed *-t) ('nephew/niece'; n. 428).

and |ua|, |ie| and |ue|, |ii| and |ui|, all found in medial position only. In the following pair of roots medial vocalic u stands for TB medial *w:

k'iwən/k'uəna 'dog'; TB *kwiy.

xiwet /xiuet/b 'blood'; TB *s-hwiy.

The medial cluster iw (=jw) before ϑ corresponds to TB medial *u in the following:

piwər |pjwər/c 'fly'; TB *pur~*pir.

piwat /piwat/d 'knee-cover'; TB *put 'knee'.477

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 btson; khŭk > khůk 'shell, husk', TB *kok 'bark, rind, skin'; 478 perhaps also kuk^g 'grain', B kauk 'rice plant'. Lowering of medial *u to 6 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: piwat/piwath and piĕti 'knee-cover', from *put~*pit, with evidence of similar doublets in other roots: 'eyebrow' (n. 461), paralleling similar doublet in TB; 'writing brush' (n. 474); 'enter' (n. 479). At times Chinese has medial *u for TB *u~*i doublets ('to fly', n. 460; 'house', n. 479) but at other times it has medial *i for TB medial *u ('poor' and 'dust', n. 461; 'block/pillow', n. 464; 'smoke', n. 476); this alternation, which is more common in association with labial initials or finals (assimilation or dissimilation), must be assigned to ST itself.

478 The TB root has now been reconstructed *(r-) $kw\hat{a}k$ (n. 229) and has a Ch. correspondence in final - $w\hat{a}k$ (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 - $w\partial t/u\partial t < *-ut$ for TB *-ot (original suffixed *-t). A different correspondence is suggested by $b'\hat{a}k/b'vk^j$ white'; S. Kuki *bok, id. (Sho and Chinbok bok, Yawdwin pok); G $gibok \sim gipok$, Dimasa guphu < *g-phuk, id.; perhaps also Lepcha (\check{a} -) $b\acute{o}k$ '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:

ST	TB	$-k/-\eta$	-t/-n/-r	-p/-m
и	\boldsymbol{u}	$(i)\hat{o}$	$(i)w \partial$	ð
u.	u.	$(\underline{i})\breve{u} \sim (\underline{i})u$	wə	(w) θ

a 犬 b 血 c 飛 d 市 c 葱 f 殼 s 穀 h 市 i 鞸 j 白 k 唵 l 納 m 內 n 入 o 登 p 耴

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li\hat{o}k > liuk^a '6'; TB *d-ruk.

pi\hat{o}k > piuk^b 'belly', p'i\hat{o}k \sim b'i\hat{o}k^c 'cave'; TB *pu·k.

d'\hat{o}k > d'u\hat{o}k^d 'poison'; TB *duk ~ *tuk.
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 $mi\hat{o}k > miuk^e$ 'eye'; cf. TB *mik. The * $u \sim *i$ 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, $\Im AOS$, $\mathbf{6t}$, 1941, p. 26). Dissimilation of this vowel before the final labial -m is observed in $s \ni m^f$ '3', TB *g-sum (the later Anc. Ch. form $s \Im m$ is irregular), with *u replaced by the 'neutral' (mid-central) vowel ϑ . Yet Ar. Ch. does have final -um, dissimilated to -ung in Anc. Ch., e.g. $p \square ung^g$ 'wind', $g'ium > \gamma \square ung^g$ '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. mwən/ muəni 'gate, door', TB *mu·r 'gills, beak, mouth, face'; cf. also miwən/miuəni '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 δ (the palatalization = i is variable, probably influenced by lost prefixes); cf. *b-liôk/liuk* '6', TB *d-ruk; d'ôk/d'uok¹ 'poison', TB *duk~ *tuk; d'iôn/d''iunm 'insect', Bodo-Garo *dyun (note G dok '6', dźon 'insect'); kiôn/kiun 'dwellinghouse; palace; apartment; temple' (graph shows two rooms and a roof), from *kyum (cf. 'bear'; n. 449), TB *kyim~ *kyum 'house'; kiôn/kiuno 'body, person', TB *guy: Nungish: Răwang guy 'body, animal, self', Mutwang dial. goy 'body', B ăkaun 'body, animal body', Atsi kun, Lisu go- 'body' (B-L *gun or *gon); contrast kiŭn/kiunp 'bow (weapon)', TB *ku·n 'tree; branch; stem': B ăkhuin 'stalk, branch', also *ăkuìn* 'large branch, bough', apparently from *kuìn* 'hang over in a curve, bend downwards' (cf. Deori Chutiya thal 'bough', cognate with Tiddim thal 'bow' < TB *tal 'arrow; bow'); munq (A) 'darkened, blind' (this character also read mijim/mijim 'dream', below), mijim/mijim (A) ~ mimim (A) 'darkened; ashamed, despondent', TB *mu·n 'cloudy, dark; sullen'; \underwood mwəg/\underwood vais (C) 'last day of moon; dark, obscure, darkness', from prefix + mwək + suffix (note tone), TB *r-mu·k 'fog(gy); dark, dull' (an ST doublet of the foregoing root); k'ukt 'lament, weep', Lkuk' shriek'; k'juk/k'jwoku' bend, bend' (and related forms cited in n. 430), $\hat{T}B$ *m-ku·k 'angle; knee', related to an ST doublet with short vowel represented by $ki\hat{o}k/kiuk^w$ 'bow, bend', $ki\hat{o}k/kiuk^w$ 'convex side of river bend' (both characters loaned in these senses), TB *guk~*kuk 'bend; crooked'; cf. the similar ST doublet: $piôk/piuk^x$ 'belly', $p'iôk/p'iuk^y \sim b'iôk/b'iuk$ 'cave' (text), TB * $pu\cdot k \sim *buk$ 'cave; belly', from ST * $puk \sim *buk$ and * $pu\cdot k \sim *bu\cdot k$; vowel length is discrepant in tiôn/t'iunz 'middle; midway; interior, in', TB *tu·n 'inside; middle'. As indicated in two of the above comparisons, Ch. medial -wa- 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 pium/piuya 'wind', with phonetic b'iwām/b'iwomb 'every, all' but also used in meaning 'wind'.

```
d 毒
a 六
      b 腹
             c 癁
                           e 🗒
                                  fΞ
                                         g 風
                                                 h 能
                                                        i 🎮
                                                               j购
             m 蟲
                    n 宮
k 六
                           ∘ 躳
                                  p 📑
                                                 r 瞢
                                                        s 脏
                                                               t 哭
       l 盡
                                         g 夢
и Ш
      v 鞠
             w鮨
                    ×腹
                           y 窄
                                  z H
                                         a 風
                                                 b A.
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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 (1041. 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 miona '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:

481 See n. 478 for ST medial *o. The text example shows -ion for ST *-yel, but Ar. Ch. has -ian in the one comparison for ST *-yer ('to fly', n. 443) while -ian corresponds to ST *-er ('sleet/hail', n. 460). The regular correspondence for ST medial *e before dental or labial finals, however, is Ar. Ch. ia, which shows a similar lowering of the vowel, paralleling the medial $*i>i\check{e}\sim ie$ shift (n. 476); cf. 'sweet' (n. 458), 'face' (n. 461), also lian/lianb (A) 'connect; unite; in a row. consecutively', lian/lianc (A) 'join, bring together', TB *ren 'equal; place in a row; line, row'; also miat/miätd 'drown; extinguish, destroy', T med-pa 'to be not, to exist not' (not from mi yod-pa, as Jäschke believed, if this form is cognate), a doublet of the general TB root *mit' extinguish' (but Dimasa' destroy'), ST *met ~ *mit. The two examples of ST final *-en have Ch. -ien/jän ('weasel', n. 457; 'red', n. 464), suggesting that it fell together with ST *-in (short i).

482 The two TB roots cited have now been reconstructed *som 'breath, voice, spirit' and $*t \rightarrow p \sim *d \rightarrow p$ 'fold; repeat', on the basis of the medial $a \sim e$ alternation in Tibetan (n. 344). It is difficult to reconstruct medial *a (as distinct from medial *a) for TB roots lacking the Tibetan alternation, but we have done so (provisionally) in a few roots, and these all have Ch. cognates with the same medial vowel; cf. TB *(s-)brəŋ 'fly, bee' (to explain B yaŋ, from *ryaŋ < *ryəŋ < *bryəŋ, palatalized before a), Ch. dian/iane (n. 469); TB *am 'eat, drink' (to explain Kuki *in), Ch. ipmf (text); TB *kpp 'needle' (to explain B ap, from *kypp, with eventual loss of velar initial), Ch. t'iəm/tsiəmg and *t'iəp/tsiəph (n. 464); TB *gəm 'jaw (molar teeth)' (to explain B àm, from *gyəm, as in above root), Ch. $g' \partial m / \gamma \hat{a} m^i$ ' jaw'. The vowel is not palatalized in the latter, paralleling $g^{\prime} \partial m / \gamma \hat{q} m^{\dagger}$ (A) 'hold in the mouth'; (C) 'put in the mouth', TB *gam 'put into mouth, seize with mouth' (text), from ST *gom; also (with palatalized doublet) *k'om/k'amk (C) 'cliff, bank; steep' (not in GSR), k'iəm! (A) 'precipitous', TB *r-ka[·]m (L kam 'bank, shore, mouth', kha·m 'precipice'), from ST $*(r-)k\partial[\cdot]m$; cf. also 'cough' (below). Generally, however, the correspondence is Ch. medial in = 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), *gək~*kək 'ridge (of house); peak (highest point)' (n. 444), **srak 'color (face); shame' (n. 457); *(g-)lak 'arm; wing' (n. 458); *g- $lay \sim *g$ -lak 'eagle, falcon' (nn. 225, 458); *(s-) $tay \sim *day$: tay^m (A) 'rise, ascend; raise' (note lack of palatalization in this originally prefixed form), t'intity intity (A) 'lift, hold', $d''_{ij\eta}/dz'_{ij\eta^0}$ (A) 'mount, ascend; ride, drive; be on top, above', $d'_{ij\eta}/z_{ij\eta^0}$ (A) 'lift, hold' (note same tone A in all four forms); TB: Bodish *s-təŋ 'upper part'; Karen *tha[η]'up, go up'(n. 384); * $n \ni \eta \sim *n a \eta$ 'thou'(n. 432); * $(s-)n \ni \eta$ 'follow(ing)' (n. 432); cf. also *krap 'weep' (text); *nap ~ *nap 'pinch' (text and n. 471); *sam 'breath, spirit; heart' (text); *nom 'think' (text and n. 465); *nom 'soft' (n. 465); cf. also *t
i l 'arrow; bow' (n. 452) and * $dz
i r \sim *t s
i r$ 'sister' (n. 460). ST long medial h 針 f 飲 g 絨 e 蠅 c 璐 d 減 b 連

n 稱

m 啓

1 鉄

k 勘

० ऋ

p 派

 $sipm^a$ 'heart'; cf. T sem(s) 'soul, mind, spirit', sem(s)-pa 'think'; also bsams (a Pf. form of sem(s)-pa) and bsam-pa 'thought'.

d'ispb 'pile on; duplicate, repeat; fold'; cf. T ldeb-pa 'bend round or back, double down', lteb-pa 'turn down, turn in', thebs 'series, order, succession'; also TB *tap (No. 493), as represented by T ltab-pa 'fold or gather up, lay or put together', ltab-ma 'a fold', ldab-pa 'do again, repeat', K thap 'layer', kəthap 'add, place one upon another; again and again', B thap 'place one on another, add to; repeat, do again'.

Ar. Ch. has final -u, but this element is rare and only one good comparison has been found, viz. $k'u^c$ 'rob', TB *r-kuw 'steal'. 483 Final -i, as pointed out above, is altogether lacking in Ar. Ch. as reconstructed by Karlgren. 484 Ar. Ch. regularly has $-i\check{u}g$ or $-i\check{o}g$ for TB *-u~*-uw, and $-i\check{o}d$ or $-i\check{o}r$ for TB *-i~*-iv:

**\(\pi\) can be reconstructed for the following: $ki\pi\p^d$ 'draw (water)', TB **ka\(\pi\p), id., from ST **k\(\pi\p); cf. also $k'\partimeg/k'\hat{q}i^c$ (C) 'cough', from **k\(\pi\p)k-ma\) or the like (n. 494); TB **k\(\partimeg\p)k'\(\partimeg\p) cough', v/n. points to a TB doublet **k\(\partimeg\p)k.

483 The reconstruction of TB *-u as opposed to the more common *-əw 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/əu but the best comparisons are either with TB roots in final *-əw (=-uw in text) or in final *-u(w), which can be either *-u or *-əw (in absence of B-L or Nungish cognates); cf. $k'u/k'\partial u^f$ 'rob', TB *r-k\paw 'steal' (but Dimasa has khau) (for the semantics, cf. TK *-ru·k: K-N 'steal', Karen 'rob'); $k'iu^g$ 'body, person', TB *(s-)k\paw 'body': T sku, B kui(y) (the -y is a product of etymologizing); \(\tiu iu/n'ziu^h\) 'nipple; milk; suckle; (AD) breast', TB *n\paw 'breast; milk'; also *sriu/siu^i\) 'older sister', TB *sru(w) 'aunt' (n. 457); $k'u/k'\partial u^i$ 'mouth', Bodo-Garo *k(h)u, id.: G ku ~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 *-\paw w rather than *-\paw, paralleling the indicated distinction in ST between medial \(\pa\) and \(\pa\) (n. 482). In one comparison, however, final *-u can be reconstructed for ST on the basis of B-L data: $d'u/d'\partial u^k$ 'head', TB *(d-)bu (B \(\vartheta\)).

484 Chinese final -ia/ie, 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 *-əy 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'yiel 'ride (horse)', B tsi (but ki in inscriptions), from *gi (Lisu dzi, Ahi and Lolopho dze, 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/kyiem 'odd (number)', Thai (Siam.) *gi, id. There is one excellent comparison with TB, viz. gwia/ywien 'elephant' (obsolete), TB *m-gwi(y) (n. 449), but this TB root can be reconstructed in either *-i or *-əy (no B-L cognate). Other comparisons for Chinese final *-ia/ie are of doubtful significance; cf. pia/pyie0

a 心 b 疊 c 寇 d 泥 e 咳 f 寇 g 軀 h 乳 i 嬃 j t k 頭 l 騎 m 奋 n 爲 o 羆 kiŭga '9'; TB *d-kuw.

 $g'iug^b$ ' owl' (signific is picture of horned owl); TB*gu(No. 494), as represented by K u-khu (u 'bird'), B khu (Tavoyan dialect, as recorded by Tin, 1933), Lisu gu, 485 Lakher va-ku (va 'bird'), Mikir $i\eta hu < *i\eta khu$ 'owl', perhaps also Kanauri $kug \sim kuk$ through reduplication.

 sug^{c} 'cough'; TB *su(w). Note that the Ar. Ch. initial is not palatalized in this example.

b'iŭgd 'carry on the back'; TB *buw.

kiôge 'pigeon, turtle-dove'; TB *kuw (No. 495), as represented by Miri pəkü, B khui, Meithei khu-nu, Khami iŋməkhu 'pigeon' (contrast B khruì, Khami məkhru 'dove').

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gʻiógʻi ʻuncle, father-in-law'; TB *kuw.

siədʻi '4'; TB *b-liy.

piəd¹i 'give'; TB *biy.

siər¹i 'die'; TB *siy.
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The reconstruction of final -g, -d, and -r for Ar. Ch. in roots of this type will be questioned by many. Simon (MSOS, 30, 1927) showed the way here with his 'brown-and-white bear', Răwang (Nungish) śəwi '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', $\mathcal{J}BRS$ II (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, 1948 bis 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 nior/nzii (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. siad/sik (C) '4', TB *b-lay (text); piad/pyi1 (C) 'give', TB *bəy (text); miəd/myim (C) 'sleep', TB *(r-)mwəy ~ *(s-)mwəy (n. 463); contrast siər/sin (B) 'die', TB *səy (text); siər/sio (B) 'dung', TB *kləy (n. 472); b'iər/b'yip (B) 'female of animals', TB pwi(y) (n. 428); miwər/mywəiq (A) 'minute, small', TB *mwəy (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 piər/pyis (B ~ C) 'deceased mother or ancestress', TB *pəy 'grandmother', while both tonal and vocalic alternation are displayed by dirali (A) ~ t'irlt'ieit (C) reconstruction of final spirants $(-\gamma, -\delta)$, 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 $i\flat$ as well as $i\check{u}$ and $i\flat$. 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 $s_i\flat r^a$ 'die' represents a type of consonantal offglide, i.e. ST *-i> Ar. Ch. -iər, falling together with ST *-ir> Ar. Ch. -iər.

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TB final *-a after velars is represented by Ar. Ch. -o: k'o<sup>b</sup> 'bitter'; TB *ka.
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g'woc 'fox'; TB *gwa.
ngod 'I'; TB *na.

 ngo° 1; 1B * ηa . ngo° '5'; TB *l- $\eta a \sim$ *b- ηa .

ngiof 'fish'; TB *nya.

'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 *-2·y>-iər contrasting with ST *-əy>-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 \(\chiiar\)/\(\chiieig\) (A) 'sour', TB *kri(y) (n. 472); *sriər/siei\) (C) 'son-in-law', TB *krwəy, and it is possible that this final is the derivative of ST *-ə·y (but note that two of the -iər/iei forms are in tone C). For 'son-in-law' (above), Chinese has the doublet *srio/siwo, paralleling \(\frac{\siro}{\siro}i\sivo\sivo\sivo\) (foot', TB *krəy (n. 472) as well as \(\siroi\siro\siroi\s

ST (and TB) final *-əw is usually represented by Ch. $-iug/|_{i}u \sim -i0g/|_{i}u$, 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 *-ə·w>-iug contrasting with *-əw>-iôg; cf. the ST medial *u·~*u shifts described in n. 479. It has also been suggested (n. 483) that Ch. $-u/_{i}u$ and -iu might also be derivatives of ST *-ə·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 *-əy and *-əw (and corresponding long vowel forms), e.g. ST *-əw>-iôg (Ar. Ch.) >-i¾u (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 *-əw>-i¾u (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. sâmk '3' (irregular), from ST *-sum directly rather than via səm, the Ar. Ch. form (which should have yielded Anc. Ch.

a死 b苦 c狐 d吾 e五 f魚 g蔭 h婿 i疋 j敷k三

The fate of original *-a after other types of initials, however, cannot be determined with any assurance. 487 The available comparisons indicate that -a, - \hat{a} , or - \hat{a}

* $s\hat{q}m$); 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 *- \hat{a} must be reconstructed for a few ST roots (in TB and Karen it falls together with *-a); cf. * $ts\hat{a} \sim *dz\hat{a}$ 'salt' (text and n. 161; the Tibetan 'wa-zur' form: tswa is perhaps significant here); * $y\hat{a}$ 'goose' (nn. 428, 488); * $n\hat{a}$ 'red' (n. 429); * $bw\hat{a}$ 'old woman, grandmother' (n. 463); * $(g-)y\hat{a}$ 'left' (n. 428), contrasting with *g-ya 'right' (n. 449); also $k\hat{a}^a$ 'sing, song', TB *ka 'word, speech' (JAM notes meaning 'sing' in Lahu), from ST * $k\hat{a}$; $y\hat{a}$ 'I' has a special grammatical function (p. 160) and cannot be set up as an ST form distinct from *ya (text). The apparent alternation - $w\hat{a} \sim -o$ appears in $t^cw\hat{a}^b$ (C) 'spit', t^co/t^cuoc (B \sim C) 'eject from the mouth; (AD) vomit, spit out', TB * $(m-)twa \sim *(s-)twa$ 'spit; spittle' (also 'vomit' in Nungish and Kachin); cf. also * $klwa/kwa \sim glw\hat{a}/lu\hat{a}^d$ 'snail', * $glw\hat{a}/lu\hat{a}^e$ 'kuo-lo (a small wasp, a kind of mollusc)', Karen *khlo 'snail', B $kh\check{a}r\dot{u}$, id. The final -wa of 'snail' (above) is a rare instance of this final in Chinese, since it generally has shifted to -wo ('fox', text) or to -a/-a, especially after labial initials, as in the text citations (see n. 463 for an interpretation of these).

ST (and TB) final *-a is subject to several different shifts in Chinese, with final -o appearing not only after initial velars (text) but also after labials and (nonpalatalized) 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 'salty; (AD) rock-salt' (used in graphs as general signific for 'salt'), TB *la 'salt' (Miri əlo < *a-la), Karen *hla, id. (Pwo la, on high tone); miog 'thou', TB (Nungish) *na (n. 432); no/nuoh 'crossbow', corresponding to Thai *hna, Vn. na, Răwang (Nungish) thona, Moso (B-L) tăna '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/nuoi (A) 'wife and children' (cf. T ma-smad 'mother and children'), with the basic phonetic (and cognate) nio/niwoi (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', Miri a-na '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 < *hya, Ong-Be ya '5' (n. 435).

The normal shift after the palatals *s- and *y- was to -ivu in Anc. Ch., with correspondences in Ar. Ch. as described in n. 486; cf. \$i\hat{o}g/\$sizuk 'animal', TB *sa 'flesh, meat, animal' (n. 452); \$gi\vec{u}g/jizul 'right (hand)', TB *g-ya (n. 449); also \$zi\hat{o}g/izum 'laugh' (character borrowed in this meaning), TB *rya-t (see n. 458 for the -t suffixed form of this root); cf. also (from the same phonetic series) \$zi\hat{o}g/izum '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')

a歌 b 睡 c 吐 d 蝸 e 嬴 f 鹵 g 汝 h 弩 i 孥 j 女 k 獸 l 右 m 猶 n 酉

are the Ar. Ch. representatives of ST *-a; cf. sa^a 'sand', T sa 'earth'; $ng\hat{a}^b$ 'I', TB *ya; $dz'\hat{a}^c$ 'salt', TB *tsa; $p\hat{a}^d$ 'kind of bamboo', TB *g-pa 'bamboo'; $p\hat{a}^e$

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 'backloan') by Chinese, since Thai itself does not show the vocalic shift from *a; cf. Thai *kaw '9', a loan from Ch. kiug/kijuf (Benedict, 1967 bis, indicates *raw < *raga < *raka, a possible alternative explanation). A similar shift to the closely related final -iu is shown by t'iu/tsiug 'red', TB *tya (fi. 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. $\hat{n}_i \partial g / \hat{n} \hat{z}_i \hat{n}$ 'ear', TB *r-na (apparently palatalized early by the *r- prefix); * $dz'_i \partial g / dz'_i \hat{i}$ 'self' (=nose), TB *s-na (n. 471); $ts_i \partial g / ts_i \sim dz_i \partial g / z_i \hat{i}$ 'child', TB * $tsa \sim *za$ (n. 86); $d''_i \partial k / dz'_i \partial k k$ 'eat' (note the final -k) and $dz_i \partial g / z_i \hat{i}$ 'food, give food to', TB *dza (n. 452); perhaps also, with suffixed -t, $dz'_i \partial t / dz'_i \partial t / dz'_i \partial t \hat{i}$ 'sickness, pain', TB *tsa 'hot; pain' (n. 429) (we would anticipate * $dz'_i \partial t / dz'_i \partial t \hat{i}$ here; n. 488). The final -g of these forms is to be interpreted as a secondary development after the vowel ∂ , 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 $di\partial k / i\partial k^n$ '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. $\cdot \check{ag}/a^{\circ}$ 'dumb (mute)', TB *a=Pa; Burmese has \acute{a} with 'creaky voice' (glottal accent) and Karen has *-PaP; cf. also $z_i\check{ag}/ia^{\circ}$ 'evening', $dz_i\check{ak}/z_i\check{ak}^{\circ}$ 'evening, night', TB *ya; Burmese has $\acute{n}\acute{a}$ with 'creaky voice', from *né-ya < *ne- \check{aya} 'day-its (\check{a} -) evening', from *ney Pa-ya while Răwang (Nungish), Mutwang dial. has yaP; Karen *hya also points to an earlier prefixed element, perhaps P(a)- rather than k- (n. 371).

As indicated in the text, Ar. Ch. also has -a(=-2) appearing to correspond to TB final *-a in some roots, especially after labial initials. This final, recognized by Karlgren as distinct from Ar. Ch. final -a (Anc. Ch. has -a for both) on the basis of rhyme evidence, apparently had been developed in many if not most instances from an earlier *-wa (virtually absent in the Ar. Ch. system of finals); cf. *på/par 'father (vocative)' (not in GSR), from *pwa, a complex doublet of b'iwo/b'iws (n. 463), from ST *pwa~ *bwa; *på/pat (A) 'palm of hand' (not in GSR in this meaning), also *på/pau (B) 'grasp; handful', from *pwa, a complex doublet of b'iwo/b'iuv (n. 463), from ST *pwa~*bwa or *b-wa; *på/paw 'kind of bamboo' (not in GSR), from *pwa; ST *(g-)pwa; cf. also *må/max (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 *-wâ, 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 -a, with frequent doublet formation; cf. also kå/kay (A) 'male pig, boar', from *kwa, a doublet of g'iwag/g'iwoz (A ~ C) 'kind of boar', probably from *gwa-gwa (note tone C doublet), apparently related also to

	D 我								
^k 食	1 畝	m 疾	n 七	・嘘	p 夜	q 夕	r 爸	s 父	tШ
u 把	v 扶	w 笆	x 媽	y 豝	z 康				

'palm of the hand', TB *på; påa 'father' (Ar. Ch. form inferred), TB *pa; måb 'mother' (Ar. Ch. form inferred), TB *ma.

Medial *a is sometimes retained in the form a or \hat{a} , sometimes replaced by the palatalized combination ia. *488 No equation can be made for the short vs. long

 $g'w\hat{a}n/g'u\hat{a}n^c$ (A) 'kind of pig' (with 'collective' -n suffix). This last root is of unusual interest since it perhaps represents an archaic form of $p\hat{a}/pa^d$ 'sow, pig', from *pwa; cf. TB *pwak (both identified as loans from AT; n. 78). On the basis of this present interpretation of Chinese final $-\hat{a}/a$, we can reconstruct *mwa (rather than *mra, as suggested by Pulleyblank) for $m\hat{a}/ma^c$ 'horse', from an earlier *mra; cf. TB *s-ray ~ *m-ray (Gyarung has öbŏrŏ), but the finals do not correspond, hence there is presumptive evidence here of an early loan from a disyllabic (or longer) form: *m[]ray[] (source unknown), with Chinese and TB showing the same distinction in syllabic division as in other early loans; cf. the following:

	(Source)	TB	Chinese
cock/fowl	*raka	*rak	$z\dot{i}\partial g/\dot{i}\partial u^{\mathrm{f}} < *r(y)\partial w < *ra$
pig	* $mba(\gamma)$ -	*pwak	$p a/p a^{\mathrm{g}} < *pwa$
horse	*m[]ray[]	*m-raŋ	$m\mathring{a}/ma^{\rm h} < *mwa < *mra$

We can confidently reconstruct *mwa in the 'horse' phonetic series because of the following excellent comparison: ma/ma^i (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 $*\hat{a}$ for ST, along with medial *a (n. 482), but the correspondences are complex, as shown by the following set for ST (and TB) medial *a:

*-(r, y) $a\eta$ >- $ia\eta$: * $gra\eta$ 'cold' (text), * $kya\eta$ 'ginger' (text and n. 464); * $sra\eta$

'uncle; superior (title)' (n. 457).

*(palatal) + $-ak > -i\check{a}k$: * $t\acute{s}ak$ 'red' (n. 452); *(g-)tyak '1' (n. 271); *ryak 'grease, oil; juice, fluid' (n. 458); *(g-)yak 'armpit' (text and n. 448), but * $-yak > -iak \sim iat$ in $(m-)lyak \sim *(s-)lyak \sim *(g-)lyak$ 'lick; tongue' (n. 419).

*(y)ap > -iap: *tsyap (or * $tsap \sim *tsap$) 'join, connect; close/adjacent' (n. 452);

*lap 'leaf' (n. 458).

*-yam>-iam: *s-ryam 'sharp' (n. 457); cf. also $g' \epsilon m / \gamma \check{a}m^j$ 'salt; salty'; Karen *hyam 'salty' (n. 371), from ST *gyam (?).

*- $a(r, l) > -i\tilde{e}n$: *sar 'new, fresh' (n. 460) (note Ch. alternation: $s_i\tilde{e}n$ 'new' ~ $s_i\tilde{e}n$

'fresh'); sar~sar 'louse' (n. 460); *(m-)kal~*(m-)gal 'kidney' (n. 460).

*-a-n (suffixed -n)>-ien \sim ien: *sa-n 'flesh/body' (n. 428); *tsa-n 'child; relatives' (n. 428); *tya-n 'red' (n. 429); *ka-n 'heavens' (n. 428).

*a-t (suffixed -t) > -iet: *rya-t 'laugh' (n. 458).

*may> *măy; cf. TB *may: Trung (Nungish) dəmay 'big (of persons); (comp.) older (brother, uncle)', B \dot{u} -mày 'uncle' (mày 'ruler, governor, official'), Ch. măy/mvyk 'eldest (of brothers); great, principal'.

*-way > -wăy: *bway ~ *pway 'uncle/older brother' (n. 463).

*(w)am > -um: *(d-)wam 'bear' (n. 449).

a爸 b媽 c碩 d豝 e馬 f酉 g豝 h馬 i鳥 j鹹k孟

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

* $(w)al > -wan \sim -wan \sim -wan (<*-un): *wal 'round, circular; circle, enclosure; encircle' (n. 448).$

-wan>-wan \sim -wən (<-un): *dzwan 'hawk, kite' (p. 453); *(r-)tswa \sim *(r-)dzwa-n 'grass' (n. 161) (latter with $dz'i \ni n/dz'i \ni n$ doublet).

The corresponding long vowel, ST medial *a., shifted in Chinese before final velars to a mid or high back vowel: $o \sim \hat{o}$ or $\check{u} \sim u$ (usually palatalized; medial *va· regularly yields medial $i\hat{o}$), paralleling similar shifts of final *-a=-a· (n. 487); cf. *ba·k 'bat' (n. 443); *(s-)na $\eta \sim$ *(s-)na η ; cf. L hna η 'thick (fluid)', Ch. hian/ nzian (A)a 'heavy with dew', njan/nzianb (A~B) 'rich growth of grain', also nunc (A) $\sim niu\eta/niiu\eta$ (A) 'thick, rich (sc. dew)', $niu\eta/niiu\eta\eta^d$ (A) $\sim niu\eta/niiu\eta\eta$ 'thick covering, luxuriant growth' (note same tone throughout): also *dwan: cf. T dwan 'hole, cave, pit', Ch. d'une (C) 'hole, cave, ravine' (meanings not attested in Ar. Ch.), probably also $d'u\eta^f$ (A) 'tube' (the vocalism in this root could also be explained in terms of the medial *w). As in the root for 'thick' (above), an ST doublet is indicated for the following: $*(r-)ma\eta \sim *(r-)ma\eta'$ dream'; cf. TB $r-ma\eta$, Ch. miun/miung 'dream'; *nan~*nan (also nan) 'thou' (n. 432); *s-ryak~ *s-rya-k 'day (24 hours); pass the night' (n. 457). Vowel length is indeterminate in the following pair: $*ka[\cdot]\eta$; cf. TB $*ka\eta$ (= $*k[a, a\cdot]\eta$): Nungish: Trung a-kan, Rawang akhan 'grandfather'; B phá-khan 'father', mi-khan 'mother' (khan-pwàn 'spouse', khan-bhya 'sir, madam'), Ch. kunh 'father'> 'grandfather (vocative)' (honorific); *(s-) $\hat{n}a[\cdot]k$ 'meat/flesh'; cf. Karen * $\hat{n}a$ < * $\hat{n}\hat{n}a$ (loss of final -k perhaps conditioned by a long vowel), Ch. niôk/nziuk, Another pair of roots shows a final *-yak~*-ik doublet in TB, and here also length can only be reconstructed provisionally for ST; cf. *(s-)rya[\cdot]k 'pheasant' (n. 458); *mya[\cdot]k 'eye' (n. 251), Ch. $mi\hat{o}k/miuk^j$ (text); perhaps ST *(s-)rv $\partial \cdot k$ and * $mv\partial \cdot k$.

ST long medial *a· before dentals is represented by Ch. â, intrinsically a long vowel (in Anc. Ch. the short vowel 'gap' was filled by \hat{a} , derived from Ar. Ch. ∂). This shift is shown conclusively 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 -ien ~-ien (n. 428). The basic *-a-n>- $\hat{a}n$ 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', *ta-n 'vermilion (cinnabar)' (n. 429); *gwa~*kwa 'wear, put on (clothes)', $*gwa-n \sim *kwa-n$ 'clothes; cap' (n. 429) (note that Ch. $kw\hat{a}n/ku\hat{a}n^k$ 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 $-\hat{a}n$; cf. * $ga \cdot n \sim *ka \cdot n$ 'dry' (n. 444); * $swa \cdot r$ 'sour' (n. 460); *swan 'onion/garlic' (text) (this ST root is a possible loan from AT); cf. also ST *ta·n: TB *tan: T than-pa 'dry weather, heat, drought', B thánthán 'nearly dry', Ch. t'ân! (not t'nân, as in GSR) 'to dry up (as a river)' (GSgloss; GSR glosses 'foreshore'); ST *(m-)da·n: K ndan 'crossbow' (dial. kəli ndan 'bow'), from TB *m-dan, Ch. $d^{\prime}an^{m}$ 'shot pellets; pellet of crossbow; (AD) crossbow'. The distinction between medial *a and \hat{a} before final *-r cannot be established with any certainty for ST, and there is interchange here within TB itself

by Shafer ($\mathcal{J}AOS$, **61**, 1941, p. 28), yet he seems to conclude (p. 29) that a quantitative distinction can be established for Sino-Tibetan. Actually, we can simply point out that there are two types of correspondences in Ar. Ch. for TB medial a:

ngana 'goose (wild)'; cf. B ŋàn, T ŋaŋ.
g'ânb 'drought', kânc 'to dry; dry'; cf. B khàn 'dried up'.
swând 'garlic'; cf. B krak-swan 'onion'.
tâme 'carry on the shoulder'; cf. B thàm, id.
samf 'hair'; TB *tsam.
satg 'kill'; TB *g-sat.
t'izkh 'weave'; TB *tak.
sizki 'breathe'; TB *sak.
k'lizpi 'weep'; TB *krap.

If sonant stop finals are reconstructed for Sino-Tibetan, we should expect the following developments in Tibeto-Burman:⁴⁸⁹

ST *-ag (or -ab)>TB *-aw (length not considered). ST *-ad>TB *-ay.

('spread; sail', n. 448). In the best comparison for TB long medial *a· before labial final ('draw water', n. 482), Ch. has final -iəp, apparently from ST final *-ə·p.

ST medial $*\hat{a}$ is reflected in the medial $a \sim o$ alternation in Tibetan (n. 344). Several roots show a direct correspondence with Ch. \hat{a} before final velars, labials or *-r; cf. *grâk ~ *krâk 'fear; frighten' (n. 430); *(r-)kwâk 'bark, skin, leather' (n. 229); $*(g-)t\hat{a}m \sim *(g-)d\hat{a}m$ 'talk, speak' (Ch. also $d \ni m$) (n. 217); also $*bw\hat{a}r \sim$ *pwâr 'burn; fire' (n. 460); *bwâr ~ *pwâr 'toss, cast (away), sow, winnow' (n. 460), but *pwâr/bwâr ~ *pwa·r 'white' (n. 460). In other ST roots we can reconstruct medial $*\hat{a}$ on the basis of the Ch. cognate: $*hw\hat{a}m$ 'dare' (n. 448); *tâm 'carry on shoulder' (text). Before dental finals, however, ST medial *â was assimilated to the final, shifting to a, as shown conclusively by $n\hat{a}^k$ 'domestic goose', nan' 'wild goose', with 'collective' -n suffix (text and n. 428); cf. also satm 'kill', TB *g-sât (text and n. 344); $\chi w \hat{a} r / \chi w \hat{a}^n$ 'fire' but $b' i w \hat{a} n / b' i w \hat{a} n'$ 'burn' (above), with $*\hat{a} > \check{a}$ before the secondary final -n; $*n\hat{a}$ 'red' (n. 429); $*by\hat{a}r \sim$ *pyâr 'plait' (n. 460); *yâr (TB also *yar) 'spread, extend; sail, mat' (n. 448); ST *yâr yielded Ch. -ian in the last two roots; cf. also pwătp '8', indicating ST final *-ryât rather than *-ryat (this perhaps explains the anomalous *- $\mathfrak{I}[t]$ 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'iat/tśiätq 'break; bend; destroy', TB *tśât 'break, cut' is a possible exception here (note $t'i_- = *ts_-$); cf. also sam^{τ} 'hair' (non-palatalized), TB $*ts\hat{a}m \sim *s\hat{a}m$ 'head hair' (T'ag-tshom' beard'), indicating ST *tsâm ~ *sâm (with shift to a in Chinese perhaps conditioned by the initial); cf. also t'ian/tsiāns 'battle; to fight', TB *(g-)ra·l (n. 472), with indicated final -âl 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.

j泣 a 総 i 息、 e 擔 d 蒜 a 雁 b 基 c 乾 s 戦 p 八 q折 n 火 0 燔 1 施 m 森 k til

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ST *-og (or -ob) > TB *-ow.
ST *-od > TB *-oy.
ST *-eg (or -eb) > TB *-ew.
ST *-ed > TB *-ev.
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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. $\cdot \check{a}g > \cdot a$ 'dumb', a TB *(m-)a (note B \acute{a} in this root).

401 As presently reconstructed, ST lacks true diphthongs but numerous forms with final *-w or *-y are theoretically possible: ST *-aw and *-av, *-âw and *-âv, *-ow and *-oy, *-ew and *-ey, as well as *-ow and *-oy (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 *-a·w (these also are the most likely ST reconstructions), as shown in three text examples ('call/cry out', 'fry/roast', 'fat'); cf. also mog/mâub 'hair; fur, feathers', K nmun nmau 'beard' (couplet form), from TB *r-mul *r- $m[a, a\cdot]w$. In two comparisons involving isolated TB forms, however, Chinese has final -u/2u or -iu (palatalized), possibly from ST *-âw; cf. ·u/·¿uc 'vomit', B aú, id., from *[a, a·]w; niud 'monkey', K-N *naw 'ape/, monkey': Tiddim nau 'ape', L nau '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/maue 'mother', TB *mow 'woman' (text) (cf. Karen *mü 'female') and t'io/tsiwof 'boil, cook', TB *tsyow (n. 452); also the following pair, which show identical fronting (*o > e) after initial t-; cf. *tiog/tieug 'deep, profound' (not in GSR), TB *tow~*dow' thick' (also suffixed -n forms showing -wən/uən < *-un < *-o-n; n. 429); tiog/tieuh 'bird' (phonetic in above), Bodo-Garo *d[a, o]w, Karen $*to < ST *tow \sim *dow$ (cf. K-N *m-tow 'fly', n.). Support for the indicated *-ow>-io/iwo development after initial palatals ('boil/cook') is furnished by $\frac{\sin(\sin(x))}{\sin(x)}$ (rat', probably from $\frac{*\sin(y)}{\sin(x)}$ *śa-yəw; ST *yəw 'rat' + *śa 'animal' as prefixed element, precisely paralleling L sa-zu (see n. 428 for suffixed -n doublet from this root).

The material on final *-y forms is still skimpier, if anything, and in general is quite unsatisfactory. Chinese apparently retained distinctions among ST *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-məy>*mwəy>miwər/mywəi (see n. 486 for last shift); an identical metathesis should probably now be recognized also for Burmese and Bahing (n. 204). A similar *a>ə or *a>e shift appears in the following pair: $\cdot \frac{1}{2}$ (C) 'love', Karen ?ai (text, p. 150); $\frac{1}{2}$ (miər/miei'k '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'iər/d'iei'

a 啞 b 毛 c 嘔 d 禺 e 母 f 煮 g 瀉 h 息 i 鼠 j 愛 k 米 l 弗

```
γâu < g'og² 'cry out, call'; TB *gaw.

ngâu < ngog⁶ 'fry, roast'; TB *r-ŋaw.

sâu < sogீ 'fat (of animal)'; TB *sa·w.

mau < mag¹ 'mother'; TB *mow 'woman', Karen *mo 'mother, female'.

t'âi < t'âd, e d'âi < d'âd¹ 'great, big'; TB *tay.

γāi³ 'crab'; TB *d-ka·y.

miwei < miwərʰ 'tail'; TB *r-may.

miei < miər¹ 'rice (paddy)'; cf. Bodo-Garo *may or *mey (n. 206).

n'źię < ni̞ar¹ 'near'; TB *ney. Cf. also ni < ni̞arʰ 'near, close', ni̞at < ni̞at¹ 'close-
standing, familiar', ni̞ak < ni̞akʰ 'near, familiar', and Kiranti *ne ~ nek ~ neŋ '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
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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 ('x'), and falling ('x'), or p'ing shêng,n shang shêng,o and ch'ü shêng,p respectively. The so-called ju shêngo 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 $*doy \sim *toy$ 'younger (youngest) sibling' (cf. Anc. Ch. -ieu = TB *-ow, above); $mi\sigma/myi^r$ 'beautiful', TB *moy, id. (showing further palatalization of the vowel). The Ch. doublet for 'near' (text) shows typical replacement of *e by $i\ddot{a}$ (=ia before most finals; n. 481) or by $i\sigma$ ($>-i\sigma/i$; n. 486); cf. also $si\sigma/siei^s$ 'rhinoceros', T bse, id., probably from *b-sey (this isolated comparison suggests basic retention of *-ey in Chinese).

```
i 💥
                                           g 蟹
                                                  h 尾
              c 臊
                     d 母
a 號
       b數
                                                          r美
                                    。 上聲
                                           P去聲
                                                  q 入聲
                            n aps 🍇
                    m mili
              1 呢
j瀬
       k 尼
s 犀
```

tonemes. ^{492, 493} 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. 494 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); iòme 'drink', iòm (same character) 'give to drink', niòga 'ear', niòge 'cut off the ears'; giwán 'distant', giwàn (same character) 'keep away from, keep aloof from', but no constant function can be assigned any given toneme. 494

492 Simon has shown that the widespread shift from shang sheng to ch'ü sheng 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.

493 Certain Wu dialects have reduced to a pair of tonemes and apparently even to zero contrast (toneless language); cf. Benedict, 1948 bis.

404 A two-tone system has now been reconstructed for ST; see Benedict, 'The Sino-Tibetan Tonal System' (mimeographed), read at Second Conference on Sino-Tibetan, Columbia University, October, 1969 (to appear in revised form in the Haudricourt commemorative volume, Paris, 1972). The Chinese ch'ü shêng, a late development in that language (text), now appears to have been a sandhi tone, replacing either of the two basic tones in close juncture. Downer ('Derivation by tone-change in Classical Chinese', BSOAS 22, 1959, 258-90) has described eight different categories in which ch'ü shêng (C) is paired with either p'ing shêng (A) or shang sheng (B), with many different types of morphological relationships (hence no constant tonal function; see text). Category H (Derived Forms used as Compounds) yields the clue to the puzzle, e.g. g'yieAg' to ride' (citing only Anc. Ch. forms) $< *gi, g'yig^{C} - dz' \partial k^{h}$ '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'junAi 'middle' < *tuy, t'juyCj 'hit the middle' < *tuy-ba (or similar form); with nominalizing function: g'vieAk 'to ride' (above), g'vieC1 'rider' < *gi-bo (or similar form); b'iwon^{Bm} 'eat' < *bwan, b'iwon^{Cn} 'food' < *bwan-mo (or similar form). The kinship terminology furnishes further striking examples of the sandhi shift; cf. $d'iei^{B_0}$ 'younger brother' < *doy (n. 491), $d'iei^{C_p}$ 'to act as a y. bro.' < *doy-ba (or the like), also d'iei^B ~ d'iei^{Cq} 'younger secondary wife', the latter from *doy-ma (female suffix); g'iquBr 'mother's brother' < *gqw (n. 417), g'iqmCs 'mo.'s bro.'s wife' < *gow-ma (with female suffix) (this contraction recognized by H. Y. Fêng, 'The Chinese kinship system', HJAS 2, 1937, No. 2); also $sivo^{C} \sim siei^{C}t$ 'son-in-

§48. Résumé (Chinese)

In conclusion, the following points in re Chinese and Tibeto-Burman (or Tibeto-Karen) should be resumed: (a) Chinese shows almost no trace of the fairly elaborate TB morphology, (b) the two stocks have only a small segment of roots in

law' < *k(h)rwəy-pa (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 $ch'\bar{u}$ shêng and Ar. Ch. final -g and -d (text), since it would be anticipated that secondary voicing would occur in close juncture (note also the correlation described in n. 486). Final support for this hypothesis comes from early Chinese loans from AT, which show tone C in penultimate syllable positions comparable to those that obtain in the sandhi situations described above; cf. the following: $d'u/d'gu^{Ca}$ '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. *təp/tâpb 'a kind of pulse' (not in GSR), also read in Fang-yen as *d'-a-b/a-b

The remaining two (basic) tones of Chinese now appear to correlate with the twotone 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 Răwang (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

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common, (c) the phonological systems of the two stocks differ in many respects, and can scarcely be reconciled at all at some points, (d) the tonal systems of the two stocks appear not to be correlated. Our belief that the two stocks are genetically

there appears to be a complex relationship of the five Angami tones to the basic two-tone system of B-L and Karen, with the two mid tones ('resonant' and 'normal') showing a general correlation with our tone A (see below). The fragments of information available on other TB languages suggest that they also will eventually be shown to correlate with this basic two-tone system; cf. the following contrast from Taman (R. G. Brown, 1911), a language with closest affinity for Kachin: 'egg'='fowl (its-) water' (n. 149); separate roots for 'water': TB *ti(y)^A and *twəy^B; cf. Dhimal tui < *twəy 'egg' but tsi < *ti(y) 'water' (no tonal data for this language); probably tone-sandhi in both roots is involved (T Tiddim, S Siyin):

	Karen	Kachin	Taman	Kuki	Angami
∫water	$thi^{f A}$		thi (high)	*twi³	dźə (high)
\ wet egg	? di ^B	$m ightarrow di ext{ (mid)}$		$\begin{cases} *twi^4 \text{ (T)} \\ *-twi^1 \text{ (S)} \end{cases}$	$d\acute{z}$ (low)

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: piyaA '5' and thuoA '9' agreeing with Nungish as against Burmese, but hoB '3' agreeing with the divergent Burmese tone (n. 413); oA 'village' agreeing with Burmese as against Nungish; pliA 'grandchild' agreeing with Karen as against both Burmese and Nungish; note also sniB 'year' and laA 'moon', serving to establish the basic tones of those two roots in which B-L and/or Nungish forms have undergone special development or tone change. Pyu has two-tone contrast also in stopped syllables (only final -P), a point which eluded Shafer; contrast plaPA '4' with paPB 'give', both probably reflecting old suffixed forms (cf. Karen *lwi-t'4').

The basic two-tone correlation involving TB (Karen, B-L and Trung) and Chinese is as follows (see text for details of Karen and B-L tones):

	Karen	Burmese	Trung	Chinese
Tone *A	I (high)	level	mid-falling	p'ing ('level')
Tone *B	II (low) III (high)	(unmarked) falling	high-level	shang ('rising')
Tone B	IV (low)	(')	nigh-level	shang (listing)

The Mutwang dialect of Răwang (Nungish) appears to have low tone for *A and high tone for *B, while the mid tone has some correspondences with each (insufficient data for analysis). The so-called 'third tone' of B-L (Tone No. 3 in the Burling-Matisoff system) is clearly peripheral although apparently of some antiquity in this group; it appears to be the product of glottalization (nn. 260, 487). TB *be ~ *pe 'broken; break' is exceptional in showing widespread glottalization: B pai ~ phai, L pe? (text) and add Răwang (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 *be? 'chop (off)', yet one hesitates to reconstruct glottalization as a distinctive feature for TB or ST.

As might be anticipated, there are numerous exceptional forms, especially in the numerals, with Chinese perhaps having more than its share, yet the fact of the correlation itself seems clear enough. The writer had originally (1948) inclined to the view that no correlation between the TK and Chinese tonal systems could be established, partly because he had not hit upon the sandhi explanation for ch'ü shêng (above). He had also been led astray by irregular tones appearing in several basic roots, especially with p'ing tone rather than the anticipated shang tone; cf. the following: siěnAa 'firewood' but TK *sipB 'tree/wood'; siěnAb 'bitter' but TK *sinB, as reflected in *m-sinB 'liver'; śiěnAc 'body' but TK *śaB 'flesh/meat/animal', K śan (low tone) (Trung has śyaA); swân/suânAd sour' but TK *swar/surB (Trung sulB 'spoiled'); *sriu/siue 'older sister' but TK *sru(w)B (Pyu sruB 'kinsmen'); cf. also nienAf' year' but TK *s-ni·yB (Karen *hneyB); nio/niwoAg 'fish' but TK *(s-)nyaB (Karen *hnaB). 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. siər/siBh 'die' but TK *səyA.

a薪 b辛 c身 d酸 e 嬃 f年 g魚 h死



Tibeto-Burman roots

a-

a (3rd pers. prn.) 93, 121, 123, 130

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.

(m-)a dumb (mute) (105) 36, 188, 192 ak crack; mouth (106) 36 $am = \partial m$ eat, drink (481) 142, 143, 183, 194 a·w cry out (273) 63 bba thin (25) 10, 22, 90, 102 ba carry (26) 19 $ba = (l-)ba \sim (m-)ba$ goitre 96 ba·k bat (animal) (325) 71, 166, 190 bal tired (29) 15, 20 s-bal frog 15, 21, 107 $bam \sim pam$ be defeated, sit; defeat (471) (d-)ban strength 117 s-ban dung $bar \sim par = bw \acute{a}r \sim pw \acute{a}r$ burn; fire (220) 7, 23, 50, 124, 125, 172, 174, 191 ba·r bloom; flower (1) 15, 71, 147 bav = bwav left (hand) (47) **24–5**, 65, be peas, beans (253) 59 $be \sim pe$ broken; break (254) **59**, 196–7 $bip \sim pip$ conceal; bury (376) 80, 124 biv = bav give (427) 99, 112, 166, 185, тоб bla See b-la ble slip, slippery (141) 40, 59, 139, blen ~ 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 bov cowlick (308) 67 bra forked, scattered, divided (132) 40,

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d-

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dźuk vulva 53 dzywal = dzwal hang down, sag (242) e·k (K-N) feces 26, 146 ew (K-N) lean back 68 r-ga old (445) 110 s-ga·l back, loins, groin 18 $gam = g \ni m$ jaw (molar teeth) (50) 25, gam put into mouth, seize with mouth (491) **166**, 183 ga·p shoot (219) 50, 73, 112, 135, 144 gar leave, abandon (15) 19 ga·r dance, leap, stride (11) 18, 71 $gaw = gaw \sim kaw$ call (14) 19, 63, 66, 166, 192, 193 m-gaw \sim (s-)gaw head (490) 119, 149 gi (B-L) ride (horse) 184 gip ten (16) 19, 21, 94, 175 gla See kla s-gla See s-la \sim g-la glak See klak glan cold; freeze 39 gle·k (K-N) thunderbolt 41 glin ground, island (128) 34, 40, 78 glin tube; flute 41 gow cross over (318) 69 grâk See grok gram rough 51 gran cold (weather) (120) 39, 178, 189 s-graw bark; skin (121) 39 griy = gray copper (39) 22, 61 grok ravine (122) 39 $grok \sim krok = gr\hat{a}k \sim kr\hat{a}k$; $grok \sim krok$ fear; frighten (473) 76, 127, 159, groy crow, howl, screech, scream (310) 67 gryum See g-ryum $gu = gu \sim ku$ owl (494) 46, 164, 185 $guk \sim kuk$ bend; crooked 77, 125, 159,

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źəy See ziy źran See rvan źum (B-L) use

APPENDIX II

English-TB index

Note: Number references are to the series running through the text.

```
bake tsyow (275)
                                            bamboo g-pa=g-pwa (44)
abandon gar (15)
                                            bank r-ka[\cdot]m (329)
abdomen s-tav (200)
                                            bark, n. kok = (r-)kwa\cdot k
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                                                     s-graw (121)
acid kri(v) (413)
                                            bark, v. prin = b-rin (377)
    krok = k(h)rok (K-N)
                                                    u = (m-)u (261)
adhere tsvap = tsap (186)
                                            barter (r-)ley
affix byar \sim pyar = by\hat{a}r \sim py\hat{a}r (178)
                                            basket kaw (266)
after s-nun (354)
                                                   kuk (393)
alive s-rin \sim s-ran = srin (404)
                                            bat (animal) ba \cdot k (325)
all (m-)kul (397)
                                            bathe kruw = kr \partial w (117)
angle ki·l
                                                  (m-)lu(w) = (r-)lu(w) \sim (m-)lu(w)
      (m-)ku\cdot k
                                                  (m-)s(v)il = (m-)svil \sim (m-)sval
animal sva = śa (181)
                                                     (493)
announce haw
                                            be s-ri (264)
ant krep (347)
                                            beak mu·r (366)
    rwak = g - rwak (199)
                                            beans be (253)
antelope tsot (344)
                                            bear, n. d-wam (461)
aperture pop (345)
                                            bear, v. tyak = t \partial k (B)
arise m-sow (295)
                                            beat dup \sim dip, tup \sim tip (399)
arm lak = g-lak (86)
                                                 krap
arm (length) mu·k (394)
                                            beautiful moy (304)
armpit g-li = k(a)li (265)
                                                      ta·p
                                                            (337)
       (g-)yak
                                            bedstead kum (482)
arrow b-la = bla (449)
                                            bee bya = bya \sim bra (177)
      m-da
                                                kwa-y (159)
      tal
                                                was
ascend (l-)tak = l-tak
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ashamed g-yak (452)
                                            before s-na (B)
         kven (162)
                                            belly pu \cdot k = pu \cdot k \sim buk (358)
         s-rak = srak (431)
                                            below ok (110)
ashes pla (137)
                                            bench kum (482)
ask r-vu(w)
                                            bend guk \sim kuk
aunt ni(y) (316)
                                                  kov (307)
     sru(w)
                                            bespeak ha·w
awake m-sow (295)
                                            beyond hla(k)
ax r-wa=r-pwa \quad (441)
                                            big ma
                                                tay (298)
                   h-
                                            bile (m-)kri-t (412)
back s-ga·l
                                            bind kik (484)
     s-nun (354)
                                                 ki·l (373)
bag kuk (393)
```

Appendix II: English-TB index

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wa = (b)wa (99)	mu·m (364)
birth, give bran (135)	(r-)moy (304)
bite <i>hap</i> (89)	buffalo <i>bron</i> (136)
wa = wa - t (424)	lwa·y (208)
bitter ka (8)	bug $krep$ (347)
black nak	burn $bar \sim par = bw\hat{a}r \sim pw\hat{a}r$ (220)
s(y)im = syim (380)	ka·ŋ (330)
tyan (225)	plon (139)
block <i>kum</i> (482)	burrow (s-)rew (K-N)
blood s -hwiy = s -hywəy (222)	bury <i>bip</i> ~ <i>pip</i> (376)
bloom bar (1)	buy <i>b-rey</i> (293)
blossom $(r-)moy$ (304)	par
blow (mouth, wind) (s-)mut	(r-)ley
blue $s(y)im = syim$ (380)	ywar
boat $(m-)$ liy = $(m-)$ ləy (463)	c-
(m-)loy = (m-)loy = (403)	cage kru·n (389)
	calf of leg bop (30)
body $gu\eta$ $(s-)kuw = (s)k\partial w$	call $gaw = gaw \sim kaw$ (14)
boil, n. $pren = pren \sim bren$	cane (plant) rey (478)
boil, v. <i>pryo</i> (250)	ri·m
	rwi(y) = (s-)rwi(y) (201)
tsyow (275) boiled pryo (250)	s-m(y)ik (237)
	capable $ta \cdot p$ (337)
bone rus (6)	carcass $raw = (s-)raw$ (268)
bore lwan	carry ba (26)
born, to be kruy (383)	carry (on back or shoulders) $buw = b \partial w$
borrow kroy (312)	(28)
r - ηya (190)	carve <i>kut</i> (383)
$s - kiy = s - k \partial y \qquad (31)$	cast away (b-)rim
boundary $riy = r\partial y$ (429)	cat ron
bow, n. d - $liy = d$ - liy (463) tal	cattle ηwa (215)
	cave $dway = dwa \cdot y$ (169)
bowels pik (35)	kor (349)
brain s-nin (367)	$pu \cdot k = pu \cdot k \sim buk (358)$
nuk = (s-)nuk (483)	$\begin{array}{ccc} pu & -pu & v & vu & v & vu & vu & vu & vu & vu$
branch $ku \cdot y$ (359)	certain tyak
brandish $wa \cdot y $ (90)	
break $tsyat = t\acute{s}at$ (185)	change lay (283) chew $wa = wa-t$ (424)
$be \sim pe (254)$	
breast $nuw = n \partial w$ (419)	child (offspring) <i>tsa</i> za (59)
breath hu	
sam = sam	chin $(m-)ka \sim (s-)ka$ (470) choke $ha \cdot k$ (323)
sak (485)	chop $tsywar = tswar$ (240)
breathe sak (485)	cnop isywar = iswar (240)
bride mow (297)	circular hwan
bring out $pro = pro(k)$ (248)	wal (91)
broken $be \sim pe$ (254)	claw m-(t)sin = m-tsyen (74)
bronze kar	clean (t) sya $\eta = sya\eta$
broom $pyak = pywak$ (174)	clear sal
brother, older ik (112)	$(t)sya\eta = sya\eta$

-	
close, v. $ts(y)i \cdot p = t \dot{s} i \cdot p$ (370)	$\operatorname{cry} \eta u w = \eta \partial v (79)$
clothes wat	cry out $a \cdot w$ (273)
clouds $(r-)muw = (r-)m\partial w$ (488)	cubit $mu \cdot k$ (394)
cloudy $mu \cdot y$ (362)	$\operatorname{cut} da \cdot n (22)$
coerce $nyen = (s-)\acute{n}en$ (193)	kut (383)
cold glan	$mrak = mrak \sim brak (147)$
kyam (224)	ra = ra - t (458)
cold (dry) season pral = phral	$ri \cdot t$ (371)
(K-N)	$tsyat = t \le at (185)$
cold (weather) gray (120)	tsywar = tśwar (240)
comb $kwi(y)$ (480)	tuk (387)
m- $si(y)$ (466)	cut off $lep = (s-)lep$ (351)
come byon (179)	
s-wa	d-
come (out) hway (218)	dance $ga \cdot r$ (11)
come out $don \sim ton$	dare $hwam$ (216)
pro = pro(k) (248)	- dark <i>mu·ŋ</i> (362)
twak	$\eta ruw = \eta r \partial w (156)$
compress nip	r- mu · k (357)
concave $ku[\cdot]m$	rum ~ rim (401)
conceal $bip \sim pip$ (376)	s(y)im = syim (380)
ip = yip (114)	tyan (225)
kway (303)	dark, grow $(g-)rip \sim (s-)rip$
congeal, n. kal	daughter-in-law $krwiy = krway$ (244)
connect $tsyap = t\acute{s}ap$ (186)	(m-)na
contradict yray (155)	s-nam (103)
convalesce bran (133)	dawn pray (322)
convex $ku[\cdot]m$	$day \ niy = \eta \partial y (81)$
$\operatorname{cook} klak = \operatorname{glak} \sim klak (124)$	day (24 hours) $ryak = (s)ryak$ (203)
tsyow (275)	dead raw = (s-)raw (268)
cooked s-min (432)	debt kroy (312)
copper $griy = griy$ (39)	decay ri (263)
cork tsuw = ts = w (422)	$zya \cdot w \sim zyu(w)$
cotton b-la (K-N)	decayed $tswiy = tsway$ (183)
cough $su(w)$ (423)	deep $tu \cdot k$ (356)
cough up ka·k	deer (sambhur) d-yuk (386)
count r - $tsiy = (r$ - $)t\acute{s}r\partial y$ (76)	deer (barking-) d - $kiy = d$ - $k \Rightarrow y$ (54)
country $mliy = mlay$ (152)	defeat $bam \sim pam$ (471)
cousin wap	defeated, to be $bam \sim pam$ (471)
cover klup (479)	defy <i>daw</i> (267)
pun (385)	delight pro (130)
up (107)	demon $(m-)hla$ (475)
cowlick boy (308)	deny <i>ŋraŋ</i> (155)
crab d - ka - y (51)	descend yu (w)
crack ak (106)	zak (B-L)
pop (345)	devaricate ka (469)
crooked guk ~ kuk	die siy = say (232)
crow, n. ka	$\operatorname{dig} \operatorname{la\cdot y} (288)$
crow, v. groy (310)	$tu = du \sim tu (258)$
cross over gaw (318)	dig out d - $kew = d$ - $k(h)ew$ (K-N)
crush nip	klaw (269)
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dig up r-ko-t=r-go-t \sim r-ko-t (420) — emerge twak
                                               encircle hwan
digest zva \cdot w \sim zvu(w)
direction lam (87)
                                               enjoy pro (130)
                                               enmity with, be at daw (267)
dirt kriv = kray (460)
                                               enough luk (B-L)
    ri(v) (459)
                                               enter hwan (218)
disappear ma-t (425)
                                               equal ren (346)
distribute (b-)rim
                                          --- erect, v. dzu[\cdot]k (360)
dive lip (375)
                                               exceed lay (301)
divided bra (132)
                                         - excessive hla(k)
do mow (280)
dog \ kwiy = kwy \quad (159)
                                               exchange lay (283)
                                         excrement kliy = klay (125)
door m-ka (468)
                                                           n(y)ik = (s-)\acute{n}ik \sim (s-)\acute{n}ek
dove kruw = m - kr \partial w (118)
                                                              (235)
draw (picture) riy = r\partial y (429)
                                                           (r-)kyak \sim (s-)kyak
draw (water) ka \cdot p (336)
                                               exist s-ri (264)
drawers b-ni(y) (476)
                                               extend ya \cdot r = ya \cdot r \sim y\hat{a}r
dream man = r - man (82)
dress gwa-n \sim kwa-n (160)
                                               extinguish mit (374)
                                           --- eye mik \sim myak (402)
drink am = \partial m (481)
drip yuw = y \partial w (430)
drown lip (375)
                                                                    f-
drugs tsiy = (r-)ts\partial y (65)
                                               face mur (366)
dry raw = (s-)raw \quad (268)
                                               faded \eta ruw = \eta r \partial w (156)
                                               falcon lay (333)
dry up kan
                                               fall, v. kla = gla \sim kla (123)
        kaŋ
             (331)
                                               fan va·p (92)
dull r-mu \cdot k (357)
                                               far dzva \cdot l = dz'a \cdot l (229)
dumb (mute) (m-)a (105)
                                                   wiy = way (B-L)
dung s-ban
                                               fat, adj. tsow (277)
dusk rum \sim rim (401)
                                               fat, n. sa·w (272)
dust mu \cdot k (363)
dwell na (414)
                                                       tsil
                                               father pa = pwa (24)
                                                father-in-law kuw = k w \qquad (255)
                                                               sru(w)
eagle lan (333)
                                               fathom (arm-spread) la[\cdot]m
      muw = m \partial w (257)
                                               fear b-ray (450)
ear g-na = r-na \sim g-na \quad (453)
                                                    grok \sim krok = grâk \sim krâk; grok \sim
earth mliy = mliging (152)
                                                       krok (473)
      r-ka (97)
                                                    kri(y) (416)
east syar = sar
                                               feces e \cdot k (K-N)
easy lway (302)
                                                female pwi(y) (171)
eat am = \partial m (481)
                                                fence hwan
    dza (66)
                                                field low (K-N)
edge r-gu·\eta (395)
                                                fight ran = (g-)ra \cdot l
      r-ka[\cdot]m (329)
                                                fill blin \sim plin (142)
egg di
                                                   dyam \sim tyam (226)
     twiy = twy (168)
                                                filth kriy = kray (460)
eight b-r-gyat = (b)g-ryat (163)
                                                     n(y)ik = (s-)\acute{n}ik \sim (s-)\acute{n}ek \quad (235)
elbow du
elephant tsay = tshay (B-L)
                                                finger (m-)yun (355)
                                                finish o \cdot l (111)
elongate s-rin (433)
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fir (s-)row (320)	frighten $grok \sim krok = gr\hat{a}k \sim kr\hat{a}k$;
tan	$grok \sim krok$ (473)
fire $bar \sim par = bwar \sim pwar$	frog s-bal
(220)	fruit (b-)ras
mey (290)	sey (57)
fireplace rap (84)	fry <i>r-ŋaw</i> (270)
tap (18)	full $blin \sim plin$ (142)
fireplace shelf rap (84)	$dyam \sim tyam$ (226)
fish <i>ŋya</i> (189)	fungus g - $muw = g$ - $m \ni w$ (455)
fit $ta \cdot p$ (337)	
five $l-\eta a \sim b-\eta a$ (78)	g-
flame (s-)lyam	gag ha k (323)
flash $lyap = (s-)lyap$ (213)	gasp <i>haŋ</i>
flat <i>lyap</i> (212) <i>per</i> (340)	gentle noy (315)
pe·r (340)	get (r-)ney (249) 7.94
flat surface pley (138)	gills <i>mu·r</i> (366)
flea s - $liy = s$ - liy (440)	give $biy = b\partial y$ (427)
flee <i>plon</i> (140)	pe(k) (K-N)
flesh $sya = śa$ (181)	gleet ri (263)
flitter $lyap = (s-)lyap$ (213)	go byon (179)
flow lwi(y) (210)	s-wa
sywar = śwar (241)	go out don ~ ton
twiy = twy (167)	go at $ke \cdot l = kye \cdot l \sim kyi[\cdot]l$ (339)
flower $ba \cdot r$	tsit = tshit (B-L)
bwat	god (m)hla (475)
flute glin	
	goitre ba
fly, n. m -tow = m -thow (K-N)	- gold tsyak = tśak (184)
yan = (s-)bran (492)	good lyak-s (Bod.)
fly, v. byer	may (300)
$pur \sim pir$ (398)	pra (129)
pyam	goose ŋa-n
pyaw (176)	grain $mruw = mraw $ (150)
$\log (r-)muw = (r-)m \ni w (488)$	grandchild b - $liy = b$ - $l ag{9} $ (448)
$fog(gy) r-mu \cdot k$ (357)	$\acute{s}u(w)$
fold $tap = t \ni p \sim d \ni p$ (493)	tsa
follow $nay = (s-)nay$ (334)	grandfather $puw = p $
ywi (K-N)	grandmother bwa (B-L)
foot g-la	$piy = p \partial y (36)$
kriy = kr y (38)	- grass $mrak = mlyak$ (149)
$(r-)ka\eta$	grasshopper $kaw = khaw$ (K-N)
forest b - liy (378)	graze (almost hit) soy (306)
forget b - la · p (335)	(animals) $wul = vul$ (K-N)
fork <i>ka·k</i> (327)	grease ryak (204)
fork (of legs) kap (338)	$sa\cdot w$ (272)
forked bra (132)	green dzim
four b - $liy = b$ - liy (410)	kruŋ (383)
fowl rak	$\eta ow = (s-)\eta ow (296)$
fox gwa	$s-ri\eta \sim s-ra\eta = \dot{s}ri\eta (404)$
free, v. g-lwat (209)	grind krit (119)
freeze glan	groin <i>kap</i> (338)
fresh sar	s-ga·l
e e e e e e e e e e e e e e e e e e e	- 0

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i-
ground glin (128)
guard kyo\eta = ky\hat{a}\eta \sim kyo\eta (161)
                                             I ka
gums r-nil \sim r-ni(v) \sim s-nil (3)
                                               na (406)
                                               nay (285)
gush brup \sim prup (151)
                                             ice kyam (224)
                    h-
                                             ill na (80)
                                                 nyu\eta = (s-)\acute{n}u\eta \quad (194)
hail, n. ryal (K-N)
hair (body) mul = (s-)mul \sim (s-)mil \sim (r-)
                                             impale ta \cdot r (326)
                                              inferior ryut (206)
  mul (2)
                                              in-law nwap
hair (head) ney = (r-)ney (292)
                                              insect buw = b w (27)
            (s-)kra (115)
                                                    dyun (B-G)
            tsam = ts\hat{a}m \sim s\hat{a}m (73)
                                              inside tsyu \cdot \eta = tu \cdot \eta (390)
half pwak
                                              interfere daw (267)
hammer tow = tow \sim dow (317)
                                              iron syam = śam (228)
hand lak = g - lak (86)
                                                   s(y)i \cdot r = syi \cdot r \sim sya \cdot l (372)
hang byan (175)
                                              island glin (128)
      ta·r (326)
                                             itch g-ya (451)
hang down dzywal = dzwal (242)
                                                   kut (383)
hawk, n. dzwan (B-L)
                                                   m-sak (465)
          lan (333)
          muw = m \partial w (257)
hawk, v. ha·k (323)
                                              jaw (m-)ka \sim (s-)ka \quad (470)
head (d-)bu
                                              jaw (molar teeth) gam = g \partial m
      m-gaw \sim (s-)gaw (490)
                                              join du-t \sim tu-t (421)
hear g-na = r-na \sim g-na (453)
                                                   tsyap = tsap (186)
     ta-s=t\hat{a}-s \quad (415)
                                         - joint tsik (64)
heart m-lun (K-N)
                                          __ juice ryak (204)
      s-nin (367)
                                                    tsiv = (r-)tsay (65)
heavy s-liy = (s-)ly (95)
heddles s-nat (436)
                                                                  k-
hide, v. kway (303)
                                              kidney m-kal (12)
         pak = pwak (46)
                                              kill\ g-sat = g\ sat
high m-ran
                                              kiss dzo·p (69)
      m-to (247)
                                              kite dzwan (B-L)
hit tsvuk = tsuk
                                                   lan (333)
hoe lav (288)
                                              knead navy (286)
hold in the mouth um = (m)u \cdot m (108)
                                              knee du
hole dwa\eta = dwa \cdot \eta (169)
                                                    (m-)ku\cdot k
      kwar (350)
                                                    put (7)
 honey was
                                              knife s-ta
 horn kruw = kr > w  (37)
                                          knock tuk (387)
      ru\eta = rwa\eta (85)
                                              knock against tsyuk = tsuk
      rwa-t
                                              knot du-t \sim tu-t (421)
 horse s-ray \sim m-ray (145)
                                              know (m-)kyen (223)
 hot tsa (62)
                                                     svev (182)
 howl groy (310)
                                                                   l-
      u = (m-)u (261)
                                              lac krep (347)
 house kim = kyim \sim kyum (53)
                                              laugh m-nwi(y) (191)
 hundred r-gya (164)
                                                     rya-t (202)
 husband wa = (p)wa (100)
                                              lead, n. kar
 husks pwa·y (170)
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1		
 leaf $la = (s-)la$ (486)		meet ηra (154)
lap (321)		middle $tsyu \cdot \eta = tu \cdot \eta$ (390)
pak = pwak (40)		milk $nuw = n \partial w$ (419)
leak $yuw = y = w$ (430)		mind, n. s-nin (367)
lean back ew (K-N)		minute, adj. $ziy = \dot{z}\partial y$ (60)
leap ga·r (11)		mix ryaw (207)
leave gar (15)		moderate noy (315)
leech r-pat (45)		moisture hus
leech (water) $(m-)li \cdot t$ (396)		mole (on skin) r-men (104)
left (hand) $bay = bway$ (47)		monkey mruk
leg bop (30)		woy = (b)woy (314)
(r-)kaŋ		moon s - $la \sim g$ - $la = s$ - gla (144)
lend kroy (312)		more $hla(k)$
length $du\eta = du\eta \sim tu \cdot \eta$		morning pray (322)
 leopard zik (61)		mortar tsum = t srum (75)
lick $(m-)lyak \sim (s-)lyak$ (211)		mosquito kray (322)
(s-)lya·w		mother ma (487)
life sak (485)		(m-)na
 lift ku		mother-in-law $ni(y)$ (316)
$tyak = t \ni k$ (B)		motion, be in s - wa
light hwa-t (221)		mouth ak (106)
light (weight) r -ya· η (328)		ku(w) (G-B)
lightning $lyap = (s-)lyap$ (213)		m- ka (468)
line ren (346)		mv (366)
lineage $mruw = mraw$ (150)		$r-ka[\cdot]m (329)$
lip s-nes		mouthful hap (89)
lips r - $ka[\cdot]m$ (329)		$um = (m-)u \cdot m$
liquor $yu(w)$ (94)		m = (m-)u move mow (280)
live krun (383)		much <i>mra</i> (148)
$s-riy \sim s-ray = \dot{s}riy (404)$		mushroom g - $muw = g$ - $m = w$ (455)
liver m -sin (234)		$\frac{1}{2} \frac{1}{2} \frac{1}$
lizard r -say (70)		n-
loins s-ga·l		nail (finger-, toe-) m - (t) sin = m - t syen
$\log du y = du y \sim t u \cdot y$		(74)
low (279)		name rm -iy (83)
s-riy (433)		s-bray
long for d -rum (457)		nauseated on (343)
lose ma-t (425)		navel $la \cdot y$ (287)
 louse $sar \sim sar$		s-tay (299)
s-rik = śrik (439)		near ney (291)
love m - dza (67)		neck $liy = (m-)liy$ (96)
$low nem \sim nyam = \acute{n}am (348)$. —	tuk = twak (393)
lungs $tsywap = tśwap$ (239)		neck(-shaped) $ke = (s-)ke(k)$ (251)
$tangs \ isymap - ismap (239)$		needle $kap = k \neq p$ (52)
m-		nephew $tu = tu \sim du$ (259)
man (homo) r - $mi(y)$		nephew/niece b - liy = b - liy (448)
man wa = (p)wa		tsa
many mra (148)		nest $(r-)bu$ (K-N)
mark $riy = r\partial y$ (429)		net, casting $kwan = kwan \sim gwan$ (158)
marrow $kli\eta = (r-)kli\eta$ (126)		nettle r - ma - t See r - ma (446)
meat $sya = sa$ (181)		new sar
meat sya — sa (101)		IIO 11 OOF

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pig pak = pwak \quad (43)
niece/nephew b-liv = b-liv (448)
                                             pigeon kuw = (m-)k\partial w (495)
                                             pillow kum (482)
night ya (417)
                                             pinch nyap = \hat{n}ap (192)
nine d-kuw = d-k w \sim d-gaw (13)
                                             pine, n. (s-)row (320)
nit (s-)row (278)
nod n(y)it = nit (236)
                                             pine, v. d-rum (457)
noisy ut (109)
nose s-na \sim s-na \cdot r (101)
                                             pit dwa\eta = dwa\cdot\eta (169)
                                                 kor (349)
                                             place, v. ta (19)
                                             plait byar \sim pyar = by\hat{a}r \sim py\hat{a}r (178)
obtain (r-)ney (249)
                                             plank plen (138)
odor ri(y) (459)
                                             plant, v. dzu[\cdot]k (360)
oil ryak (204)
                                             plantain \eta ak = (s-)\eta ak (477)
   sa·w (272)
                                             play, v. tsya\cdot y = (r-)tsya\cdot y (289)
old raw = (s-)raw (268)
                                             plug tsuw = ts \partial w (422)
    r-ga (445)
                                             plump bwam = (s-)bwam (172)
older (brother, uncle) may
                                             poison duk \sim tuk (472)
older sister (m-)na
                                             poisoned duk \sim tuk (472)
one it
                                             poisonous duk \sim tuk (472)
    kat
                                             poker yok
    t(v)ik = (g-)tvik
                                              potato s-ra = \dot{s}ra (434)
open bu \sim pu (260)
                                             pound, v. tuk (387)
      ka (469)
                                              pour (m-)lu(w) = (r-)lu(w) \sim (m-)lu(w)
open(ing) m-ka (468)
                                                    sywar = śwar (241)
oppress nyen = (s-)\acute{n}en (193)
                                              pour out (g-)tśo
otter s-ram = sram (438)
                                              precipice r-ka[\cdot]m (329)
overflow brup \sim prup (151)
                                              press(ed) nyen = (s-)\acute{n}en (193)
owl gu = gu \sim ku
                                              price puw = p \partial w (41)
                                              prick tsow (276)
                                              pull don \sim ton
paddle, v. ya·p (92)
                                              punish nye = \acute{n}e (252)
paddy may (B-G)
                                              pure (t)sya\eta = sya\eta
pain na (80)
     tsa (62)
                                              pus pren = pren \sim bren
                                                  tswiy = tsway (183)
paint tsiy = (r-)tsay (65)
                                              put ta (19)
palm (of hand) pa = pwa (418)
panji tsow (276)
                                              put into mouth gam
                                              putrefy u (489)
pant han
pare ku \cdot k (388)
     lep = (s-)lep \quad (351)
                                              quarrel ran = (g-)ra \cdot l
pass, v. lay (301)
                                              quiet noy (315)
path pa
peacock do\eta = (m-)do\eta (341)
peas be (253)
                                              rabbit b-yuw = b-y = w (93)
penis li = li \sim (m-)ley (262)
                                              rain r-wa (443)
person wa = (p)wa (100)
                                         \_ rat b-yuw = b-y = w (93)
petticoat b-ni(y) (476)
                                                 rwak
pheasant s-rik \sim s-ryak (403)
                                              rat, bamboo bwiy = bwy (173)
phlegm ka·k
pick, v. d-kew = d-k(h)ew (K-N)
                                              rattan rey (478)
                                                     ri \cdot m
pierce lwan
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	ravine $grok$ (122) raw $dzim$ $s-riy \sim s-ray = s-riy$ (404)	sad $nyu\eta = (s-)\hat{n}u\eta$ (194) sag $dzywal = d\hat{z}wal$ (242) sail $ya\cdot r = ya\cdot r \sim y\hat{a}r$
	real tyak	
	reap $n \cdot t$ (371)	salt g -ryu $m = g$ ryu m (245)
	receptacle kuk (393)	tsa (214)
	red kyen (162)	sambhur tsot (344)
	(r-)ni	scattered bra (132)
	$ta \sim tya - n$ tsyak = tsak (184)	scent sun (405)
		scoop out $r-ko-t=r-go-t\sim r-ko-t$ (420)
	refuse, n. <i>mu k</i> (363) related <i>do</i> (249)	scorpion (s-) $di \cdot k$ (56)
	relative $sru(w)$	scrape kut (383)
	relax $o \cdot l$ (111)	$ri \cdot t (371)$
	release g-lwat (209)	$s(y)wiy = syw \partial y (180)$
	repay tsap (63)	scratch d - $kew = d$ - $k(h)ew$ (K-N)
	repeat $tap = t \partial p \sim d \partial p$ (493)	hyak (230)
	request $r-yu(w)$	kut (383)
	rest, v. na (414)	pruk (391)
	rice (b-)ras	scream groy (310)
	moy (B-G)	screech groy (310)
	rice paddy $*bu(w)$ (K-N)	see mran (146)
	ride $dzyon = dzon$ (72)	seed $mruw = mraw$ (150)
	ride (horse) gi (B-L)	seize (with mouth) gam
	right (hand) g -ya $\sim g$ -ra (98)	self <i>nay</i> (285)
-	rind $kok = (r-)kw\hat{a}k$	tay (284)
	ripe s-min (432)	sell par
	rise $syar = sar$	ywar
	river klu·ŋ (127)	sesame s-nam (435)
	road lam (87)	set teeth on edge krim (379)
	roast $ka \cdot y$ (330)	seven s-nis (5)
	r-ŋaw (270)	sew $byar \sim pyar = by\hat{a}r \sim py\hat{a}r$ (178)
	rock brak (134)	d-rup = drup (456)
	roll, v. $ki \cdot l$ (373)	krwi(y) = khrwi(y) (K-N)
	roll up $(r-)tul = r-tul$	pa
	root bul~pul	shade $(g-)rip \sim (s-)rip$
	r-sa (442)	shadow $(g-)rip \sim (s-)rip$
	$rot zya \cdot w \sim zyu(w)$	sharp $(s-)ryam$ (K-N) tak = thak (B-L)
	rotten ri (263)	shave $ri \cdot t$ (371)
	rough gram round $s-lum=zlum$ (143)	s(y)wiy = syw y (180)
	wal (91)	shavings $pwa\cdot y$ (170)
	row, place in a row ren (346)	shear $ku \cdot k$ (388)
	rub $nu \cdot l$ (365)	shell(-fish) kroy (311)
	$s(y)wiy = syw \partial y (180)$	shield d - $po = d$ - pho (K-N)
	rub against $nu \cdot l$ (365)	shin r -g u : η (395)
	rubbish $mu \cdot k$ (363)	shine hwa-t (221)
	rule (line) <i>kut</i> (383)	$tsyar = t\acute{s}ar (187)$
	run <i>plon</i> (140)	shoot, v. ga·p (219)
	rustle krwap (243)	shoulder m-lyan (K-N)
		shrink twan

shun <i>kway</i> (303)	sour $su \cdot r = swa \cdot r$ (42)
shut $ts(y)i \cdot p = t \circ i \cdot p$ (370)	span $twa = (m-)twa$ (165)
shy <i>g-yak</i> (452)	speak $br(w)ak \sim (s-)br(w)a\eta$
s- $rak = śrak$ (431)	spear m-duŋ
sibling, younger na·w (271)	speech ka (9)
side r - gu - η (395)	spindle $pay = pway$ (48)
silver $\eta ul = (d-)\eta ul$	$(s-)mwiy = (s-)mw\partial y (195)$
sinew r -sa (442)	spirit $sam = s n$
single r - $kyan$ (34)	spit $(m-)tuk \sim (s-)tu \cdot k \sim (s-)du \cdot k$
sink, v. <i>lip</i> (375)	$(m-)twa \sim (s-)twa$
$nup \sim nip = nu \cdot p \sim ni[\cdot]p (400)$	spittle m - $ts(y)il = m$ - $tsril$ (231)
sip s-rup (384)	$(m-)tuk \sim (s-)tu \cdot k \sim (s-)du \cdot k$
sister srin	$(m-)twa \sim (s-)twa$
s-nam (103)	twiy = twyy (168)
sister (of man) dzar (68)	spoiled m -hew (K-N)
sit $bam \sim pam$ (471)	spread <i>ka</i> (469)
$tu \cdot y = tu \cdot y \sim du \cdot y (361)$	$ya \cdot r = ya \cdot r \sim y\hat{a}r$
six d-ruk (411)	sprout, n. $s-m(y)ik$ (237)
skin s-graw (121)	squeeze $nyap = \hat{n}ap$ (192)
$kok = (r-)kw\hat{a}k$	$tsyur = t\acute{s}ur (188)$
sky <i>nam</i>	squirrel $sre[y]$
$(r-)muw = (r-)m = v \qquad (488)$	squirt $brup \sim prup$ (151)
slab plen (138)	stale u (489)
slant $rwiy = (s-)rw\partial y$ (200)	stand g -ryap (246)
sleep $ip = yip$ (114)	star s-kar = s-k r (49)
$mwiy = (r-)mw \partial y \sim (s-)mw \partial y (196)$	
$n(y)it = \acute{n}it (236)$	$r-kuw = r-k \partial w (33)$
sleepy <i>myel</i> (197)	steep, adj. $tsyuk = t\acute{s}uk$ (353)
slice, v. $lep = (s-)lep$ (351)	stem $ku \cdot y$ (359)
slip ble (141)	stick (pudding-) yok
slippery ble (141)	stiff <i>rwat</i> (198)
slope $rwiy = (s-)rw\partial y$ (200)	stink u (489)
small $ziy = z \partial y$ (60)	stone r -luy (88)
smell m -nam (464)	stop up $tsuw = tsaw$ (422)
sun (405)	straight $bley \sim pley$ (352)
smoke $kuw = k \partial w$ (256)	dyam (227)
snake b - ru · l (447)	straighten $blen \sim plen$ (352)
	strangle ik (113)
snap at hap (89)	stream, n. $lwi(y)$ (210)
snow kyam (224)	strength (d-)ban
snot s -nap (102)	stride ga·r (11)
· _ · _ · ·	strip, v. <i>ku·k</i> (388)
soft now (274)	stump $bul \sim pul$
pryo (250)	suck dzo·p (69)
sole (of foot) $pa = pwa$ (418)	sullen $mu \cdot y$ (362)
son-in-law $krwiy = krway$ (244)	sun nam
$ma \cdot k$ (324)	$niy = n\partial y (81)$
soul $(m-)hla$ (475)	tsyar = tsar (187)
sour $kri(y)$ (413)	suppurate $twiy = twy$ (167)
krok = k(h)rok (K-N)	surround kroy (313)
s-kyur = s-kywar (42)	swaggering ut (109)

	*	
	swallow, v. $mlyuw = mly \partial w$ (153)	tooth s-wa (437)
	sweat $krwiy = khrway$ (B-L)	tough rwat (198)
	sweep $pyak = pywak$ (174)	trade par
	sim	tree bul ~ pul
	sweet $dz(y)im = dzim$ (71)	$ku \cdot \eta$ (359)
	klum	sin (233)
	kyuw = khyow (B-L)	tube glin
	twi(y) (166)	twenty (m-)kul (397)
	swim pyaw (176)	twilight $rum \sim rim$ (401)
	swollen $bwam = (s-)bwam$ (172)	twirl $(s-)mwiy = (s-)mway$ (195)
	sword m-dun	twist kik (484)
	<i>t</i> -	$ki \cdot l$ (373)
	tail r -may (282)	na·y (286)
	take yu (B-L)	two g - $nis = g$ - ni - s (4)
	take up ku	<i>u</i> -
	tall <i>low</i> (279)	uncle bwaŋ
	tear, v. $mrak = mrak \sim brak$ (147)	$rya\eta = \acute{z}ra\eta (205)$
	ten <i>gip</i> (16)	uncle (maternal) $kuw = k \partial w$ (255)
	ts(y)i(y) = tsyay (404)	
	tend (cattle) $kyo\eta = ky\hat{a}\eta \sim kyo\eta$ (161)	upper part s -tya η = s -tə η (Bod.)
	tender now (274)	urinate $ts(y)i = t \dot{s} i$ (77)
	that day (21)	urine $ziy = \dot{z}\partial y$ (B-L)
	thick r - ta - t = r - tas (426)	v-
	$tow = tow \sim dow (319)$	valley klu·ŋ (127)
	$tu\cdot k$ (356)	kor (349)
	thin ba (25)	valuable $puw = p \partial w$ (41)
	lyap (212)	value $puw = p w$ (41)
	pe·r (340)	vein r-sa (442)
		very tyak
	thorn tsow (276)	vessel s-not
	thou <i>na</i> (407)	village $dyal \sim tyal$
	thousand s-ton (32)	r - $wa \sim g$ - wa (444)
		voice $sam = som$
	threaten krim (379)	
		vomit $(m-)tuk \sim (s-)tu \cdot k \sim (s-)du \cdot k$
	thresh krap	on (343)
	thunderbolt gle·k (K-N)	vulture <i>laŋ</i> (333) vulva <i>dźuk</i>
	tickle g - $li = k(a)li$ (265)	
	tie du - $t \sim tu$ - t (421)	<i>w</i> -
	kik (484)	war $ran = (g-)ra \cdot l$
	tiger k -key = d -key $\sim d$ -kəy (462)	warm <i>lum</i> (381)
	(k-)la (B-L)	wash $kruw = kr \partial w$ (117)
	ron	$(m-)s(y)il = (m-)syil \sim (m-)syal$
	tired bal (29)	(493)
	$nyu\eta = (s-)\eta u\eta (194)$	waste m-hew (K-N)
	toad u - $prok = phrok$ (K-N)	water $ti(y)$ (55)
	toast, v. ka·ŋ (330)	twiy = twy (168)
	toe $(m-)yu\eta$ (355)	wave, v. wa·y (90)
-	tongue m -lay $\sim s$ -lay (281)	wear (clothes) $bu(w)$ (428)
	$(m-)lyak \sim (s-)lyak$ (211)	$gwa-n \sim kwa-n$ (160)
	(s-)lyam	pun (385)
	$(s-)lya\cdot w$	wat
	• • •	

	weasel $sre[y]$	womb s-not
	weave $tak = trak$ (17)	wood sin (233)
	weed, v. klaw (269)	word ka (9)
	weeds $mu \cdot k$ (363)	work <i>mow</i> (280)
	weep krap (116)	worm <i>zril</i>
	$ \eta uw = \eta \partial w (79) $	worse, grow ryut (206)
	weigh $ki \cdot n$ (369)	wound r -ma (446)
	wen r-men (104)	wrap <i>klup</i> (479)
	wet hus	pun (385)
	(m-)ti-s	(r-)tul = r-tul
	whine $u = (m-)u$ (261)	wring $tsyur = tsur$ (188)
	whirl wa·v (90)	wrinkle twan
_	white bok	
	$\eta ow = (s-)\eta ow (296)$	y-
	plu	yak, wild bron (136)
	wife s-nam (103)	yam kywiy = kywyy (238)
	wind, n. $g-liy = g-liy$ (454)	$s-ra=\dot{s}ra (434)$
	winnow krap	year nin = s-nin (368)
	$ya \cdot p$ (92)	yellow $yow = (s-)yow$ (296)
	withered $\eta ruw = \eta r \partial w$ (156)	younger (youngest) sibling toy = doy ~
	woman mow (297)	toy (309)
	• •	

APPENDIX III

Primary Tibeto-Burman sources

Abbreviations		
AM	Asia Major	
AO	Acta Orientalia	
BEFEO	Bulletin de l'École Française d'Extrême-Orient	
BMFEA	Bulletin of the Museum of Far Eastern Antiquities (Östasiatiska	
	Samlingarna)	
BSLP	Bulletin de la Société Linguistique de Paris	
BSOS	Bulletin of the School of Oriental Studies	
CYYY	Academia Sinicia, Bulletin of the Institute of History and Philology	
$H\mathcal{J}AS$	Harvard Journal of Asiatic Studies	
IJAL	International Journal of American Linguistics	
$\mathcal{J}AS$	Journal of Asian Studies	
$\mathcal{J}ASB$	Journal of the Asiatic Society of Bengal	
$\mathcal{J}BRS$	Journal of the Burma Research Society	
JNChBRAS	Journal of the North-China Branch of the Royal Asiatic Society	
$\mathcal{J}RASB$	Journal of the Royal Asiatic Society of Bengal	
MSOS	Mitteilungen des Seminars für Orientalische Sprachen	
OLZ	Orientalische Literaturzeitung	

POLA Project on Linguistic Analysis (reports of the Phonology Laboratory of the Department of Linguistics, University of California at Berkeley)

TAK Toonan Azia Kenkvuu (Southeast Asian Research), Kyoto

TP T'oung Pao

WZKM Wiener Zeitschrift für Kunde des Morgenlandes

ZDMG Zeitschrift der Deutschen Morgenländischen Gesellschaft

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