A study of the Bai (Minjia) language along historical lines

Wiersma, Grace Claire, Ph.D.
University of California, Berkeley, 1990

Copyright ©1990 by Wiersma, Grace Claire. All rights reserved.
A Study of the Bai (Minjia) Language Along Historical Lines

By

Grace Claire Wiersma

A.B. (University of California) 1967
M.A. (University of California) 1977

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

ORIENTAL LANGUAGES

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA at BERKELEY

Approved:

[Signatures of Committee Members]

[Date: May 22, 1990]
A Study of the Bai (Minjia) Language Along Historical Lines

Copyright (c) 1990

Grace Claire Wiersma
To the memory of

J. Gijsbert Wiersma
Contents

Acknowledgments / xi
Introduction / xii
Abbreviations and Symbols / xv

Chapter 1 Defining the Bai Speech Community

1.1.00 Topics in the history of the recognized Bai nationality of China / 1
1.1.01 Previous works / 1
1.1.02 Political boundaries and population / 5
1.1.03 Official recognition: A few questions / 6
1.1.04 Ethnicity as language or as custom? / 8
1.1.05 Tibeto-Burman patronymic linking and Han surnames / 9
1.1.06 Ethnic designations in traditional sources / 11
1.1.07 The modern ethnonym / 12
1.1.08 Population movements in history / 14
1.1.09 Literacy: The Baiwen debate and the "schriftlos" kingdom / 15
1.1.10 Stratigraphy of popular religion / 17
1.1.11 Direct cultural transmission from the west / 18
1.2.00 Dialect regions and Bai/Chinese contact / 19
1.2.01 Two regions as established by the Bai Language Workgroup / 19
1.2.02 Importance of standardization in the 1950s surveys / 20
1.2.03 Schooling in the Dali region / 21
1.2.04 Schooling in the Jianchuan region / 24
Chapter 2  Tone and Phonation in Bai Speech:

Toward a Historical Interpretation

2.1.00 Outline of the Bai tones and initials / 51
2.1.01 The tones of Bai and their representation / 51
2.1.02 Comparison of Dell’s Dali tones and Jianchuan tones / 52
2.1.03 Speculations on the origins of {+/-constriction} in Bai: A

theory of reconstruction from Benedict / 56
2.1.04 Lexical frequency of (+constriction) and internal tonal correspondences for the Bai dialects / 58
2.1.05 Inventory of consonant initials for the dialects / 62
2.1.06 Light on (+constriction) from the consultant / 65
2.1.07 Benedict’s glottalized ru4sheng1 theory / 66
2.1.08 A cover term broader than {+/constriction} / 69
2.1.09 Summary of internal correspondences for Bai initials and tonal environments / 71
2.1.10 Directions for further thought / 83
2.2.00 Studies of contrastive phonation in Tibeto-Burman languages and Chinese / 88
2.2.01 Tone and phonation types: A tonogenetic problem / 88
2.2.02 An areal approach to tonogenesis involving phonation types / 89
2.2.03 Opposite historical processes involving a single feature / 91
2.2.04 Egerod’s relative chronology of tonogenesis / 92
2.2.05 Mixed origins for the tense/lax contrast within Tibeto-Burman / 94
2.2.06 The role of Tibetan in reconstructing opposite historical processes / 96
2.2.07 Does failure to correspond exactly rule out grouping Bai with Loloish? / 97
2.2.08 Experimental study of what is "marked phonation" in any given language / 98
2.2.09 Applications to the study of (+P) in Bai / 99
2.3.00 Functions of marked phonation \(+P\) in Loloish and other BL languages / 100

2.3.01 Derivation and phonation type in BL languages / 100

2.3.02 Doublets and phonation type in Bai / 102

2.4.00 Bai tones and historical tonal categories of Chinese through an inscriptive source / 105

2.4.01 Review of the cover term \(+P\) / 105

2.4.02 Syllables and tones in Bai and Mandarin / 105

2.4.03 Lexical context and choice of tone reading / 109

2.4.04 Special developments among the Bai initials: Benedict's reconstruction theory bis / 110

2.4.05 Direct comparison of Bai data and written Chinese transcriptions / 114

2.4.06 Is there a literary/colloquial dichotomy in Bai? / 114

2.4.07 Inscriptive text facsimile and data analysis from Chinese character readings / 116

2.4.08 Discussion of Chinese character readings / 127

2.4.09 Study of the literary/colloquial dichotomy in Chinese dialects / 129

2.5.00 Bai tones and TB comparative data / 133

2.5.01 Tonal individuation of TB subgroups and mock correspondences / 133

2.5.02 Strata of historical change and subgrouping evidence / 134

2.5.03 Maximal contrasts in minimal syllables and possible converging changes / 135

2.5.04 Arrangement of comparative data / 137
2.5.05 TB comparisons for Bai syllables: front initial, [+P] and falling contour / 138
2.5.06 TB comparisons for Bai syllables: front initial, [+P] and level contour / 140
2.5.07 TB comparisons for Bai syllables: mid initial, [+P] and falling contour / 141
2.5.08 TB comparisons for Bai syllables: mid initial, [+P] and level contour / 143
2.5.09 TB comparisons for Bai syllables: back initial, [+P] and falling contour / 145
2.5.10 TB comparisons for Bai syllables: back initial, [+P] and level contour / 146
2.5.11 TB comparisons for Bai syllables: [-P] and level contour / 146
2.5.12 TB comparisons for Bai syllables: zero initial and [+P] / 146
2.6.00 Discussion of the Bai tones and phonation types in terms of Loloish developments / 147
2.6.01 Relevance of TB comparisons to a creolization hypothesis / 147
2.6.02 Bai correspondences for the BL checked tone class / 148
2.6.03 Bai correspondences for the BL non-checked tone classes / 149
2.6.04 Tentative tonal scheme for Bai, Lahu, and BL / 151

Chapter 3 Analysis of Bai Spoken Text Materials

3.1.00 Elements of Bai grammar in a discourse environment / 157
3.1.01 Possible interference from Mandarin / 157
3.1.02 Twofold utility of the Mandarin model / 159
3.1.03 Segmenting utterances and focusing the discourse / 161
3.1.04 Number, category, and case in pronouns / 165
3.1.05 Noun determiners and quantifiers: Type & order / 173
3.1.06 Types of negation, uses of negation / 173
3.1.07 Verbal functors: Types, ordering / 175
3.1.08 Locatives, patients, noun phrases and other objects / 183
3.1.09 Expression of sequence in temporal phrases and subordinate clauses / 186
3.1.10 Elaborate expressions / 187
3.2.00 Toward a dialect grammar for Bai / 188
3.2.01 Recent study of syntactic dialect markers / 188
3.2.02 Xi Zhi's explanation for dialectal differences / 190
3.2.03 Dialect evidence from pronouns / 191
3.2.04 Deictics and other lexical form types / 192
3.2.05 Summary of Dali/Jianchuan syntactic contrasts / 193
3.2.06 Dialect markers in Xi's data / 194
3.2.07 Syntactic homogeneity of Jianchuan and Dali Bai / 196
3.2.08 Grammatical contrasts of Jianchuan and Dali Bai / 198
3.2.09 Summary of Xi's dialect contrasts / 200
3.2.10 Jianchuan dialect markers in recorded text data / 201
3.2.11 Desideratum / 206

References / 209
Appendices

Summary of Contents / 238

Appendix 1  Texts and Translations / 242

Appendix 2  Rhyming Glossary of Jianchuan Bai Syllables with English Translations / 283

Appendix 3  Co-occurrences in Standard Jianchuan Bai (Distribution of Consonant Initials, Vowel Rhymes, and Tones) / 373

Appendix 4  Illustrations / 396
Acknowledgments

I am grateful to the United States Committee for Scholarly Communication with the People’s Republic of China for financial support between September 1987 and August 1989, administered under its program for graduate study in China. The support of the CSC made possible my study of Bai in a material sense, and facilitated my interactions with Chinese scholars and teachers in a significant way.

I would like also to register thanks to my mother, Roberta B. Wiersma, for her continued moral support during a lengthy graduate career.

Several friends have helped me conclude this study through their generous hospitality: in particular I would like to thank Joseph Engbeck, Sondra Reid, and Dianne Walker.

My husband, Stuart Kiang, has played an indispensable role in the design of a phonetic font and the realisation of the final manuscript. I cannot thank him enough.
Introduction

This work combines two complementary studies that are based on different materials: (1) application of the comparative method to a dialect glossary of Bai that was recently published in China (Zhao and Xu 1984, Baiyu Jianzhi, hereafter Jianzhi), and (2) preliminary analysis of spoken Bai text materials that I collected during two years of research and study with a native-speaking Bai language consultant (LSN) at the Central Institute of Nationalities in Beijing.

While the nature and genetic status of Bai remain controversial until now, with some scholars exploiting unusual Bai/Chinese correspondences to reconstruct an ancestral stage of Sinitic, what the comparative study of Bai dialects shows is that internal correspondence patterns that are clearly regular and inherent to the dialects involve lexical morphemes of different proveniences, Chinese as well as Tibeto-Burman. That being the case, it is not clear whether such patterns are more appropriately viewed in the context of historical developments well established for parts of Chinese, or alternatively, linked with developments now generally acknowledged as diagnostic for the Loloish grouping of Tibeto-Burman. Although there is still room for differences and speculation on the relative weighting of Chinese versus Tibeto-Burman resemblances in Bai, I believe the comparative approach to the Bai tonal system adopted in Chapter 2 will show the basically heterogeneous nature of the language, both lexical and structural.
This mixture of resemblances is not inconsistent with the picture we get from looking at the Bai grammar, as may be demonstrated by the analysis in Chapter 3 of text materials that were provided by my consultant in Beijing over a twelve-month period from June 1988 to June 1989. The grammar that emerges from study of his speech reveals among other things a significant literary influence from Chinese. A pronoun system that is inflected for case in genitive functions shows extended applications to nominalization (in combination and competition with a true nominalizing particle), and a system of verbal functors operating in ordered serial constructions allows comparison to well-established analyses of similar paradigms in Chinese and Tibeto-Burman languages. The consultant's language is also considered in Chapter 3 in the light of published statements about contrasts that distinguish the surface grammars of the Bai dialects, and his speech is found to represent the standard dialect of Jianchuan on syntactic grounds, despite some systematic departures in his realization of predicted vowel qualities (or rhymes). Some of these departures are the subject of another paper I plan to write in the near future, and I do not treat them here.

Unusual phonation-type features characterising the consultant's speech are described, however, in Chapter 2 and drawn into my comparative study, where they figure in tonogenetic speculations leading to a tentative proposal for convergence of different historical sound changes from two source languages at an earlier stage.
Considered study of the linguistic data naturally raises questions about the historical background of the Bai speech community, and I attempt to add some new information in this regard in an introductory chapter that is based mainly on scholarly materials I obtained while studying in China. Some data from personal interviews is also reported there in a preliminary way.
Abbreviations and Symbols

Abbreviations and styles of representing data in this work fall into a number of categories.

I. Phonetic characters

The following phonetic character set is used to represent Bai data and data from other languages that has appeared in a number of different sources. As far as possible I follow the representation of the source.

β is a voiced bilabial fricative as in Bai (LSN) ‘anger’: tu42+
    [ βu42+ ]
θ is a voiceless interdental fricative as in Burmese ‘meat’:
    a11.t0a53
r indicates a rhotic vowel or r-colored vowel quality as in Bai
    (Dali) ‘white’: pe42+
ʃ is a voiceless retroflex stop as in Bai (Bijiang) ‘just before now’
    to33tw21+
ʂ is a voiced retroflex stop as in Bai (Bijiang) CLF-‘tree’ ʂw42+
ʂ is a voiceless retroflex fricative as in Bai (Bijiang) ‘body louse’
    ş144+
ʐ is a voiced retroflex fricative as in Bai (Bijiang) ‘lamplight’
    şe42+
ʃ is a voiceless alveolar fricative as in Jingpo ‘eat’ ja55
ʒ is a voiced alveolar fricative as in Jingpo 'white' phʒo31
isión is a voiceless cerebral or palatal fricative in reconstructed forms of Proto-Tibeto-Burman such as PTB: MEAT *ša
ș is a voiced cerebral or palatal fricative in reconstructed forms of Proto-Tibeto-Burman such as PTB: USE *žum
ŋ is a palatal nasal as in Bai (Dali) CLF-person ŋi21+
ʎ is a voiced dorsopalatal fricative as in Bai (LSN) CLF-person ĩi21+
ʂ is a voiceless palatal fricative as in Bai (Jianchuan) 'day' ʂɛ44+
ʐ is a voiced palatal fricative as in Yi (Xide) 'weep' ʐi33ŋo34
ŋ is a velar nasal as in Bai (Jianchuan) PRON (1st S.) ŋo31
γ is a voiced velar fricative as in Bai (Jianchuan) 'come' ꙰w35
.HORIZONTAL_RULE
Fi is a laryngeal fricative as represented by Written Tibetan
'crooked' ꙰g
ʔ is a glottal stop or interruption of voicing as in Zaiwa 'sharp'
 thʔ55
ɨ is a voiceless lateral continuant as in Burmese 'boat' ɨe11
ɨ is a voiceless bilabial nasal as in Yi 'teach' ꙰o55
ɨ is a voiceless alveolar nasal as in Burmese 'nose' ꙰a11kh₃53
ɲ is a voiceless velar nasal as in Burmese 'borrow' ꙰a53
ş is aspirated voiceless alveolar fricative as in Bai (Jianchuan vernacular) 'hand' [ ꙰w33 ]
ɨ is an apical vowel as in the Bai (LSN) COPULA ɨsǐ; with some inconsistency it also appears in reconstructed forms of Chinese as medial -i-
γ is a labiodental vowel typical of Bai dialects as in Jianchuan
'six' ꙰y44+
\( i \) is "barred i" in Lahu data but also appears as Middle Chinese medial -i- with brev

\( u \) is a high or mid-high back unrounded vowel as in Bai (Jianchuan) 'eat' jw44+

\( e \) spells Tibetan e ablaut as in 'yellow' sēepo

\( e \) describes an open or low front vowel in some Chinese publications

\( ö \) is umlaut o as in Malmö

\( ø \) is schwa or the central vowel of Middle Chinese rhymes in \(*-iøŋ\)

\( ø \) is a mid back unrounded vowel in some Chinese publications as in Yi 'nine' ky33

\( e \) is the open and low front vowel of Bai (Jianchuan) 'white' pɛ42+

\( ø \) is the high front rounded of Dell's Bai (Dali) 'ask' piæ2

\( o \) is a low back unrounded vowel or "open o" as in Lahu 'drink' do31

\( æ \) is an open and low front vowel in some Chinese publications, as for example in Yi (Kunming) 'write' væ33+

\( æ \) is the low back or darkened vowel of Middle Chinese rhymes in \(*-iæŋ\)

\( a \) is the "open a" of Middle Chinese rhymes in \(*-a\)

\( ù \) is the "o-colored a" of Middle Chinese rhymes in \(*-um\)

\( è \) is an unstressed vowel in Jingpo prefixed syllables but "short e"

or e with brev in certain Middle Chinese rhymes \(*-iên, *-iêêt\)

II. Tones and phonation types

For the representation of tones in Bai I use two different systems depending on the source of the data and the context. When citing
lexical forms in tables and charts I generally use an adaptation of
the system of tone letters credited to Y.R. Chao: instead of writing
Chao's vertical bar with pitch and contour indicated along the
horizontal axis to one side (\(\uparrow, \downarrow, \swarrow, \searrow\) and so on) I translate
the pitch and contour values this system conveys into double digits
ranging from 11 (lowest level) to 55 (highest level). Data cited in
this way is generally from a published source viz. Jianzhi or other
Chinese publication. For my own transcription of Bai speech data I
have found it convenient to assign a single digit to each lexical
tone as a mnemonic device and to facilitate the writing of compounds
and long utterances. The equivalences between the two systems are
shown by a table on page 52. Although my tone numbers make it appear
that there are nine tonal reflexes, the fact is that "tone number 3"
is an empty category. After it was created I found it not to be
useful, but I have retained the same system of number assignments in
order to avoid confusion in interpreting my own transcriptions.
Ideally a new system of numbers would be assigned. In representing
the tones of Mandarin I use single digits that correspond to the well
known four diacritical marks of the pin2yin1 spelling system. My use
of a "plus" (+) following tone representations to indicate
{+constriction} or tenseness of vocalism in the syllable corresponds
to two systems in use by Chinese scholars. The more generally
familiar convention in Chinese publications is to represent tense
vowels or special phonation with underlining. The publications from
which I draw Bai comparative dialect data, on the other hand, have
used a modified version of the Zhao tone letters to represent similar
phomena: for tones pronounced with \(+\text{constriction}\) they show pitch
and contour values to the right of the vertical bar, a convention
more generally used to represent sandhi tones in Chinese studies. For
a number of reasons that are explained in Chapter 2, I find the
"plus" a convenient translation for both of these conventions.

III. Style of representation for different languages

Bai data from my text transcriptions is enclosed in square brackets
[ ], a convention that doubles as a segmenting device. Infrequently,
square brackets may also be used to indicate "close transcription" in
citing dialect reflexes of particular lexical items but there are
very few such instances in the present work. Explanatory translations
and parsing of grammatical constituents are generally enclosed in
curly brackets { }. In transcribing Bai speech data I have begun to
introduce certain minimal analytical markings: a hyphen "-" joins a
suffix to its head and (inconsistently) a CLF (noun classifier) to
its noun or quantifier; a period "." joins other syllabic
collocations. My analysis has not yet been refined and there is much
room for improvement in my application of such conventions.

IV. Language names

Language names appearing in the text are generally straightforward,
but in citing Bai dialect data I often abbreviate Dali as DL,
Jianchuan as JC, Bjiang as BJ. Where reference is to the speech of
my Bai consultant in China I abbreviate his name: LSN. In assembling the comparative data that appears in 2.5.00 languages are cited as follows:

LQ is Luquan Yi
HN is Hani
ZW is Zaiwa
WT is written Tibetan (or WTib)
LS is Lisu
LH is Lahu
NX is Naxi
JP is Jingpo
Bse is Burmese
WS is Weishan Yi
WN is Woni
KM is Kunming Yi
Chapter 1

Defining the Bai Speech Community

1.1.00 Topics in the history of
the recognized Bai nationality of China

1.1.01 Previous works

Anyone familiar with the sources for Yunnan ethnohistory will
recognize the chapter that follows here as the result of drastic
oversimplification, a cursory review of a diverse body of materials
drawn together (sometimes unwillingly) under the single theme of the
quest for a possible history of cultural and linguistic
differentiation for the contemporary Bai people of northwest Yunnan
province in China. The sources that find themselves juxtaposed here
range from the well-known canonical histories of Chinese dynasties
beginning with the History of the Later Han (composed during the
fifth century but commemorating the later Han revival after the Wang
Mang interregnum, a period covering roughly the first to third
centuries A.D.), and some contemporary text-critical scholarship on
them, to personal histories recorded by myself on magnetic tape from
Bai-speaking acquaintances in China, with a great many other
exemplary works of scholarship from varied disciplines filling out the continuum of formality that lies between these extremes. The main body of the present work is devoted to study of the language of the Bai people—which they call [pɛŋ+.ŋy2́+.tsu3́]—and it is therefore not possible to do real justice here to the sources on which I rely. Likewise I cannot claim to solve either philological or factual problems that still attach to the problem of identity and differentiation among Yunnanese clans and ethnic groups. Yet there is ample reason for a linguistic study to provide background that will define the speech community whose common behavior provides its primary data. In the present case, the Yunnan Bai people or Minjia, as they were previously known, have already been the subject of two book-length ethnographic accounts published in the West, and one linguistic account devoted to the phonology of the Dali Bai dialect has also recently appeared outside China. ¹ Aside from these works, a western-language secondary literature on the relatively well-documented period of Dali and Yunnan history has long been established, and this corpus was recently enlarged by a detailed historical monograph in English that is a welcome or even essential aid to approaching the traditional primary sources on one's own, including Chinese historical and quasi-historical works as well as the Tibetan chronicles. ² Against this background, I have felt it desirable here to seek ways of clarifying what remains a puzzling picture despite the excellence of previous works. A unique ethnic identity and diagnostic cultural traits for the contemporary Bai speech community remain problematic not only because of
historiographic and philological problems but because of the nature of the ethnographic material itself. Within the just-completed decade a flood of new Chinese publications has provided empirical data from survey research and other studies concerning the Bai history and culture, conducted on a level of detail that was perhaps never possible before government-sponsored survey teams collected information on Chinese minority nationalities during the 1950s. (As is generally acknowledged, political and other problems have intervened since then, slowing down publication of most of their results until the 1980s.) To adequately account for all the relevant printed materials now available would require a proper study of its own, and would amount to a comprehensive survey of the evidence for a Bai cultural and social history. Such an enterprise exceeds the scope of an introductory chapter to a linguistic study. Nonetheless, to begin such a survey may make a small contribution to general knowledge, and it will be a project worth returning to in future work. Meanwhile, problems of language genesis and typological resemblance that are raised by the Bai linguistic data at our disposal suggest a hypothesis about the language that may find support in such new information as I am able to present here. The mixed resemblances, both diachronic and synchronic, presented by the various forms of linguistic data we now have in hand would suggest that the study of Bai is a study of early creolization, and possibly of later "decreolization" (or we may need some other term that can account for sociolinguistic stratification affecting types of performance within a speech community) in certain varieties or
speakers. Recent anthropological fieldwork among the Bai people of the Dali Bai Autonomous Prefecture apparently leads to a complementary hypothesis about their contemporary culture. So the following (admittedly superficial) treatment of a recently acquired stock of ethnohistorical materials is perhaps justified by the striking impression of heterogeneity that is left by study of the linguistic data, and by the fact that earlier western sources have failed to provide a convincing scenario that would explain the ethnic and linguistic differentiation of the Bai people from their neighbors. (I do not mean to suggest that ethnic and linguistic identity are necessarily contiguous—rather, that heterogeneity in the linguistic domain may eventually be explained by the facts of a complex social history.) The strategy I will follow in this chapter will be to examine categories of evidence that could, in my view, support a creolization hypothesis for Bai, using information and arguments drawn from the works of other scholars in various disciplines, as well as my own field notes. A general accounting of the disciplines that must, in my view, be consulted to achieve an informative survey would include traditional historiography and philology as well as epigraphy and archaeology, local history, folklore, oral history, and education. Although time and space do not permit the treatment these disciplines and materials warrant, we can at least make a start.
1.1.02 Political boundaries and population

A basic problem in defining the Bai speech community is to decide how or to what extent the historical situation corresponds with current political boundaries. Given the existence of a local geopolitical and administrative entity in northwest Yunnan Province that implicitly recognizes the Bai people as a discrete ethnic and linguistic community of China, we may well ask how far backward beyond the establishment of the Autonomous Prefecture in 1956 the same community can be projected. Here Fitzgerald, Hsu, and earlier colonial reports are helpful in documenting the community well back to the early nineteenth-century, which was to all accounts a difficult period marked by epidemic and pogroms for the population of the Erhai region, a population that was apparently chiefly composed of Minjia and Muslim communities who were by mid-century locked in mutual intrigue and desperate conflict over local power relations vis-a-vis fiscal and political loyalty to the Qing government. But our sources are consistently vague if we try to assess how different is the contemporary geographic distribution of Bai speakers from what may have been true in the past. This vagueness is no doubt partly to do with the physical difficulty of travel and trekking in Yunnan, where even today travel is often by traditional means or on unpaved roads. Perhaps it should come as no surprise if we learn that contemporary political boundaries cover a multitude of ambiguities. Perhaps it is in these ambiguities that we may find help to correct for the perceptible drift toward a reified ethnic mythology that is now a
feature of local political autonomy and aspirations in the Autonomous Prefecture. But population statistics greeting the visitor to the Dali Prefectural Museum in Xiaguan are surprising: of the total population within the borders of the Dali Bai Autonomous Prefecture, just under one third is identified as ethnically Bai (899,936 of a total population of 2,812,300 or 31.82 percent). Other sectors of the population are said to be comprised of Han (Chinese), Yi, Hui (Muslim), Lisu, Miao, Naxi, Tibetan, Bulang, Dai, Lahu, and Yao elements, probably in that order. We must conclude that there are indeed half again as many Bai speakers living elsewhere—as the reports of Dell on d'Ollone and Jianzhi have led us to think, to whom we should like to pay some attention. Jianzhi cites the population of Bai speakers as just less than two million, of whom the "majority" are supposed to live within the Autonomous Prefecture. Yet the earlier language survey report of 1957 indicates twice as many Bai speakers; so in fact modern attempts to locate and quantify the speech community are also imprecise, and we may be permitted to wonder whether this has something to do with a population that is itself linguistically difficult to distinguish—perhaps because of large-scale bilingualism, or because monolinguals are not always visible to survey research conducted in Chinese.

1.1.03 Official recognition: A few questions

We know that recognition of entities such as the Dali Bai Autonomous Prefecture and the Bai national minority in New China, during the
decade following the Liberation of 1949, was based on the then most up-to-date information about the actual geographic distribution and ethnic identification of particular populations, from data that was collected under often difficult physical circumstances by the research "brigades" dispatched by the Chinese Academy of Sciences. The 1957 report of the Bai Language Workgroup suggests, however, that deep divisions on the question of recognizing an official Bai orthography made their work difficult in another way, possibly reflecting a situation of mixed cultural identities or language loyalties within the speech community. Such background may amplify our speculation that contemporary attempts in the Dali Bai Autonomous Prefecture to reclaim an ethnic heritage from the obscurity of what remains an only partly-documented history may represent a degree of overinterpretation or simplification of the evidence. To the outsider it may seem that the most vital questions remain difficult to answer with certainty, invoking a vast complex of ethnohistorical problems that in themselves demand careful investigation: What historically distinguished the Bai people from their Yi (Lolo) and Naxi (Moso) neighbors, aside from penetration of their language by Chinese vocabulary? At what historical point did the Bai acquire their separate identity from these peoples—are these contemporary ethnic groups in fact descended from a single historical community at all? The answers to these questions, if we knew them, would go a long way toward helping us with the basic problem that is addressed (but not answered) by the present work, namely: Is the contemporary Bai language a product of imperfect language shift to Chinese or
creolization of Chinese, or alternatively, perhaps the outcome of a historical process sometimes termed language maintenance? And, would there be a discernible difference in the language states created by these different processes given the linguistic sources on which any one of them must have drawn? Perhaps linguistic investigation in a vacuum cannot answer questions of sociohistorical fact. On the other hand, to postpone linguistic proposals until the historical facts can be finally established would perhaps mean consigning to the unknown a treasury of evidence that is in some danger of disappearing within a few generations.

1.1.04 Ethnicity as language or as custom?

If we start from the political facts of recognized nationality and language policy, we can characterise the community of Bai speakers superficially as: that group centered around the Erhai lake sharing a borrowed core vocabulary of (often) archaic Chinese pronunciations, a complex idiom of dress styles that features black and blue (and red) head-wrapping and apron skirts, and a diffused tradition of local ancestor and spirit worship mixed with eclectic elements from the "three doctrines" of Chinese tradition. They are the people who speak of themselves as [pɛ42+.xo44+] (a syllabic collocation composed of their autonym and a collective plural suffix that is restricted to (+human) nouns), who pursue a mixed agricultural economy based on wet rice cultivation in the lower plateaus and dry-field cultivation at upper altitudes, who build lofted courtyard dwellings of cut stone
masonry foundations and wood beam upper stories generally surrounding
the Erhai region and into the mountainous regions to the north of it,
but who also encompass a subgroup of boat-dwellers and fisher-folk
that maintains a unique local tradition of shipbuilding. And they are
the people who have been "united in controversy" by ongoing
disagreement over the need for literacy-based primary education using
an alphabetic orthography to represent their mother tongue. This
disagreement probably reflects a long-standing situation of social
stratification that may have been created historically by high levels
of bilingualism and literary achievement in Chinese on the part of
certain individuals and families, many of whom can claim to be
descended by virtue of their surnames and genealogical traditions
from the eight-century Nanzhao state's bureaucratic, clerical
(religious), and military guilds of local landholders.

1.1.05 Tibeto-Burman patronymic linking and Han surnames

If we start from the study of naming practices, we come up with a
controversy over styles of patronymic linking that might be used to
define the contemporary ethnic community. But the fact remains that
in pursuing approaches of this kind through Chinese sources we are
also obliged to sort out to what extent such debates may have been
perpetuated by the continuing need to rationalize particular ethnic
and administrative policies first put in place during the 1950s. In
part, this is a "chicken and egg" problem, because the
state-supported fieldwork of the 50s also relied upon a background of
pre-Liberation research that had been influenced almost equally by
traditional Qing styles of scholarship and twentieth-century Western
social sciences, especially by anthropological and descriptive
linguistics. We may be reminded of the impetus that was provided
during the previous century by nation-building goals to the
scientific investigation of American kinship relations, expressed in
the fieldwork of Lewis Henry Morgan. Looking at the genealogies
reported by Lo Changpei and survey results of more recent Chinese
articles, we may wonder whether it is really possible to distinguish
between, for example, Yi and Bai systems of patronymic linking. Still
we may note with interest a subtle difference between the style
typical of the historical Mengshe princes (who later became the
ruling house of Nanzhao) and their more northerly congeners
(especially those princes e.g. Langshe, and so on whose territory in
the 7th and 8th centuries verged on present-day Jianchuan).
Northerners typically are found to pass down the names of the
succeeding fathers in a regular progression, whereas the Meng clan
records from modern studies show only imperfect transmission of
patronymics, a similarity in one syllable from generation to
generation, but not following the classical Tibeto-Burman pattern of
linking the ultimate syllable of the father to the son through his
initial name. We can find evidence that Han (Chinese) surnames were
superimposed on this system beginning with the Han campaigns in
Yunnan, creating an elite group of clans who were specialized finally
by social pressures organized under the Nanzhao state, serving for
example as hereditary guilds of religious practitioners (the Dong family or clan) and financial administrators (the Yangs). 8

1.1.06 Ethnic designations in traditional sources

No doubt one of the most notable scholarly debates to accompany the creation (in 1956) of the Dali Bai Autonomous Prefecture and official recognition of the autonym Bai to designate the ethnic group that had, up to that time, been known in popular and scholarly literature as Minjia, the controversy involving the historical ethnic designations bai2man2 (白蛮 "white barbarian") and wu1man2 (乌蛮 "black barbarian") offers one convenient focal point for our discussion. It is instructive because the arguments turn on philological decisionmaking with regard to traditions of ethnic terminology found in the medieval and later Yunnan documentary sources written in Chinese. Backus, following Ma Changshou, basically accepts that ethnic or clan distinctions separating the Nanzhao rulers from their aristocratic military and clerical class reflected the same difference between "black" and "white" that is enshrined in the traditional Chinese terminology. And he concedes that because different Chinese documentary sources record native Yunnanese vocabulary with varying graphs, we cannot achieve greater precision where ethnic names appearing in Chinese documents are concerned. Still, the Yunnan polymath Fang Guoyu did push further with several articles on this topic, concluding that the vague terms bai2man2 and wu1man2 probably refer to different groups in different texts and
periods. Also relevant here is Ma Yao's article pushing the Bai ethnic identity backward to Han sources through other traditional ethnic terms: dian1 演, sou3 寓, and cuan4 蕃. But we may note with interest here that Ma includes both Bai and Yi ethnic origins in his discussion. Finally, the process of ethnic shift from wu1man2 identity to bai2man2 identity described by Yang Kun gives us firm clues as to the fluidity of self-identification that has probably marked the ethnic differentiation of Bai-speaking clans from their local peers.

1.1.07 The modern ethnonym

An important corollary to Fang's doctrine concerning the inherent looseness of the bai2man2 and wu2man2 terminology is spelled out by him in defense of promoting Bai as the official ethnonym and discarding Minjia. Fang and other writers have long been at pains to show how the (mistaken) identification of Nanzhao as the historical antecedent of the Thai people could have been supported for so long, a circumstance they blame on the Wanli (Ming) compilation of the Yunnan gazetteer. As Chinese writers have shown, this text shifts graphic usages, applying written terms that formerly denoted the ethnic group resident in the Erhai region (bo2 洮, bai2 白) to a more dispersed and southerly group of Thai people then called bai2yi2 白夷 or bo2yi2 洮夷. The same terms that in Yuan and early Ming compilations are understood to represent the Nanzhao-period bai2man2 (which also may be read bo2man2) and therefore to refer to the
historical antecedents of the present-day Bai people, were
arbitrarily applied to a Thai group or groups later, after circa
1400, at the same time as the new term "Minjia" came into application
referring to the Bai precursors. The terminological knot that
resulted from this textual and graphological repartition demonstrates
the extent to which philological problems have complicated our
understanding of ethnographic information recorded by Chinese
documentary sources. Yet the unraveling of the philological
controversy shows that used with some care the Chinese texts can
provide an accurate picture. We may be especially grateful to the
publication of reference materials collected by the Yunnan
Ethnohistory Editorial Group for organizing in one place all the
textual evidence that demonstrates the Ming repartition of the terms
"Baiyi" and "Boren" at the time "Minjia" came into use, as well as
for text citations and supporting elaboration for the two possible
meanings of "Minjia": 1) a Chinese term for local villages in Yunnan
that were composed of non-militia households—"local commoners' 
households" (as opposed to military settlements of imported or
northern origin that were called jun4jia1 军家 —"garrisoned
soldiers' households"; and 2) a reduced form of the Chinese term
ming2jia1 明家 that had earlier been applied to the Nanzhao
bai2man2 in the sense of "illustrious families": they were the local
aristocratic families best known to the Tang imperial representatives
sojourning in Yunnan, and we may assume that they were so because of
their bilingual skills in use of the Han language.⁹
1.1.08 Population movements in history

Here time prevents me from going into detail, but I would like to report in passing on some interesting examples of locally published scholarship from Dali that give authoritative information on the arrival of branches of the historical Bai population in areas not now encompassed by the boundaries of today's Bai autonomous prefecture. Notable among these is the paper of Zhan which documents the movement of a Bai-speaking population from the mountainous areas around Lijiang, Heqing, and Jianchuan to the western Bijiang district, located along the banks of the Lancang (Mekong) river, where they remain today as the Lemo people. Zhan cautions that although they must have carried with them a language and culture that was typical of the Jianchuan area some 500 years before the present time, they were not originally urban or basin dwellers in their former homeland, but rather from the backward mountains. Unfortunately the current physical and geopolitical realities make it difficult for a visiting scholar to collect linguistic data on the speech of this group at the present time, but armed with the information that is supplied by studies like Zhan it seems we may hope for a better understanding of the relationship that may obtain between the rarer Bai vernaculars such as Lemo and the better-documented varieties of Dali and Jianchuan.
1.1.09 Literacy: The Baiwen debate and the "schriftlos" kingdom

Another apparently acrimonious debate that accompanied the recognition of the Bai people as a national minority in 1956 concerns the problem of why no autochthonous written documents in any non-"Chinese" script appear to record the history and culture of the Bai or their precursors, identified by most scholars with certain bai2man2 clans who functioned as an aristocratic subclass ruled by the Nanzhao kings.\textsuperscript{10} Perhaps the most controversial aspect of this debate, with implications for the development of a nationality language policy at the time, saw scholars either pursuing or ridiculing a hypothesis that certain "later" Chinese texts of local Dali history and folklore are in fact the only remains of a previously existing written tradition based on the early Bai language that was obliterated as a matter of policy during the Ming period.\textsuperscript{11} On this difficult question it may be important to observe that well-documented archeological reports attest findings in the Erhai region consisting of Nanzhao period pottery shards with some unknown graphs either incised or drawn on the surface—alongside other shards with Chinese-based graphs and some that show what resemble Indic letters.\textsuperscript{12} Along with this evidence for competing traditions of literacy in the Erhai region we have the articles of Dong identifying the titles of many Buddhist manuscript texts dating from the Dali period and later that were found in 1956 at Fengyi in the Dong family temple. Among these manuscripts is at least one reflecting an early local adaptation of Chinese graphs as a native language syllabary for
exegetical use in glossing religious texts. Next in the chronological order of this orthographic puzzle are sources such as the recent Xizhou gazetteer that claim books or documents reflecting a Bai written tradition were destroyed as a matter of policy after the pacification of Dali by Ming militia, at the same time as their content was mined and transformed into Chinese-language versions for preservation in Ming archives. From this it would appear that local scholars of the Erhai region currently believe that Ming pacification policies were in fact designed to wipe out their ancestral culture. As an example of the Chinese quasi-historical texts these scholars cite, we may point to the interesting Bai2guo3 yin1you2 白国由由, a text we have only from Qing preservation of an earlier Dali recension that recounts the mythology of the Duan aristocrats who ruled the Dali state for three hundred years before the Mongol conquest of Yunnan. Local scholars are anxious to point out passages in this text that reveal its earlier identity as a Bai language witness. Although we will include a more detailed description of text materials encoded in Chinese graphs in 1.3.00 below, it may be useful here to sum up the categories and approximate dates of inscriptive and manuscript evidence that may be relevant to the problem of literacy in Bai ethnic history. We can identify the following types and rough dates of local written materials for future consideration:

1. Chinese inscriptions in Chinese script: c. 400–800
2. Sanskrit inscriptions in Siddham script: c. 600–800
(3) mixed inscriptions based on local language and Chinese script: c. 900-1400

(4) Chinese religious manuscripts in Chinese script: c. 900-1300+

(5) Chinese religious manuscript in Chinese with interlinear syllabic reading marks: c. 1100

(6) inscriptions in Yi syllabic script: c. 1500-1800

1.1.10 Stratigraphy of popular religion

An overwhelming impression is created by published first-hand observations of the remarkable penetration of Bai social life by a variety of popular Mahayana Buddhism venerating Guanyin or Avalokiteśvara, especially as reflected in the ritual practices and financial contributions of middle-aged and older Bai women. But most sources are quick to point out that this Buddhism is "corrupted" by outcroppings from a lower stratum of indigenous popular religion involving the worship and propitiation of ancestors and local deities as well as animistic practices that sometimes cohabit the same sacred structures or events with material from Buddhism.13 During a brief fieldtrip to Dali I was not able to observe temple meetings or private rituals, but several personal communications, from two outside Han Chinese visitors, one ethnic Bai acquaintance, and several professionals--Bai and Han--working in the local cultural bureaucracy within the Autonomous Prefecture attest that public practices such as sutra chanting and ritual observances of tutelary gods are not extinct. If anything the reform policies of "openness"
(kai/fang₄) generally pursued by the PRC government during the 1980s has had the effect of increasing disposable income in Dali, permitting voluntary revival of religious practices that may have become moribund during the Cultural Revolution.¹⁴ I have heard a recent tape-recording purporting to be sutra chanting as practiced by a group of elderly Bai women, and the impression to my ear was of a habitual four-beat metrical performance, with allegro syllables in half-time at some points on a falling, rising, and falling chant melody of four- and five-step intervals, sung in high register. It is certainly worth further investigation to find out the relationship of chanted texts in current use in the Erhai region to texts identified with popular traditions elsewhere, and in any case their existence tempts further study from a linguistic perspective, since they surely must form an occult part of the acknowledged tradition of oral literature in Bai.

1.1.11 Direct cultural transmissions from the west

As a look at the map that accompanies the Tin/Luce translation of Fan Cho’s treatise on the peoples of Yunnan will show, the premodern geography of conquest, trade, and religious transmission linking the Erhai region with the west provided opportunities for cultural transmission from northeast India by way of the Kamarupa-Pyu-Annam route, and from Tibet by way of the Lhasa-Batang-WeiXi-Jianchuan-Xiaguan route. Time and space limitations prevent adequate treatment of a possible Tibetan and north Indian cultural horizon around the
Erhai region of the Nanzhao period, but I may mention in closing this survey of ethnohistorical sources that Yang Kun in an important paper has placed the social catalysis of certain clan groups of the Erhai basin into a coherent ethnic grouping historically approximately 1150 years before the present, or in other words circa 700, the period of Nanzhao consolidation against competing intrusions from Han and Tibetan colonial campaigns. We know that the Jianchuan region was a hotly-contested territory between the Nanzhao kings and Tibet, and we have textual reasons for believing that Nanzhao was represented in religious and state councils held at Lhasa during the same period.

1.2.00 Dialect regions and Bai/Chinese contact

1.2.01 Two regions as established by the Bai Language Workgroup

Reporting the results of their survey to the provincial and national government in 1957, members of the Bai Language Workgroup defined only two main dialect areas for Bai, a northern area typefied by the speech of the old Jinhua Commandery, now the county administrative center for Jianchuan county, and a southern area typefied by the speech of Dali city and its suburbs closer to the Erhai lake. During the survey period, the government-sponsored teams of academics continued a tradition of linguistic and ethnographic fieldwork in frontier areas that actually
had begun years earlier when the Academia Sinica had retreated to the southwest during the war with Japan. The post-Liberation teams were dispatched to the same areas where scholars had previously worked, with the mission of identifying unrecognized national ethnic minorities so as to bring them within reach of government policies, and especially to provide input for the development of appropriate language and communications policies. One area where the teams might act in an advisory capacity to the government was in the matter of how best to implement progress in education, especially whether to establish an orthography for use in education and publishing to bridge the gap between the local or native language and standard or written Chinese.

1.2.02 Importance of standardization in the 1950s surveys

We know that the language surveys of this important period in China were conducted under the guidance of Soviet linguistic advisors, whose published works in Chinese testify to the primary role assigned to language standardization in all the linguistic fieldwork conducted at this time. Speaking about the work of the early survey teams now in the 1980s, Chinese scholars are quick to point out that without standardization, very little could have been done to implement governmental language policies giving minority nationalities the right to publish and conduct official business in their own languages if they chose. Seen in this light we can appreciate that the linguistic descriptions of that period probably functioned to unite
certain speech communities that enjoyed little cohesion through a native written tradition, speaking related dialects but with a possibly bewildering array of localisms. What we find in our 1957 report is that the Bai Language Workgroup was unable to recommend on the question of establishing an official orthography for Bai: we may find this a telling fact today, since there is apparent disagreement within the Autonomous Prefecture and in the wider speech community on the need for literacy education using a mother-tongue orthography at beginning levels. The history of this debate is of more than passing interest here because it throws light on the special identification of Bai-speaking people with the Han culture as represented by its writing system.18

1.2.03 Schooling in the Dali region

My early speculations about the role of education in perpetuating bilingualism and/or diglossia among Bai speakers were encouraged by the descriptions of Fitzgerald—who spent the years 1937-1940 in and around the old city of Dali. Since I have relatively less first-hand material on the contemporary situation in the Dali city region, it may be useful to look back at some of Fitzgerald's observations. In fact he speculated that the increasing modernisation of teaching methods he could observe in village schools near Dali might one day make the Bai language obsolete. He claimed that since traditional learning among the Bai had involved mainly rote memorization of Chinese classical texts, committed to memory but perhaps not fully
understood, it was natural that up to the time of his observations Bai speakers should not have adopted their language of literacy as a medium of thought and communication for everyday use. But Fitzgerald reasoned further that the relatively closer approximation of the new written Chinese (baihua4wen2 白话文) to standard spoken Chinese (as compared with the relatively distant correspondence of literary Chinese) could soon influence newly educated young Bai speakers away from using their mother tongue, once they had learned to speak and write the prestige language as monoliterate bilinguals. Still, the situation he observed in 1937–38 was that educated Bai speakers who commanded a high degree of proficiency in both spoken and written Chinese did not abandon their use of Bai in conversation with their peers. But persistence of the mother tongue notwithstanding, Fitzgerald did claim that the Bai of that period as spoken in Dali Xian had been "corrupted" by Chinese such that, for example, the system of counting in common use was "now completely mixed, [Bai] and Chinese numerals being used in turn in the most confusing way."

Fitzgerald went on to report that "many Chinese words are also used even when Min Chia [Bai] equivalents exist, and there is no general rule for their usage. It largely depends which word occurs to the speaker first." Fitzgerald also observed that some aspects of Bai social and kinship organization, especially the practice of endogamy, had retained currency and acceptance even among upper-class Bai in the city of Dali, people also related to local Chinese families by marriage. The picture conveyed by Fitzgerald’s report, made just ten years prior to Liberation, suggests that a pattern of well-
established family ties between Bai speakers and Chinese in-laws was
the norm at least in the relatively urban centers of the region.\textsuperscript{20} Of
course, political developments during the intervening years may have
changed this picture somewhat; yet Fitzgerald's report would lead us
to expect that a relatively old mix of native and Chinese material
still complicates the Bai vocabulary of kinship, grooming, and
householding, the very vocabulary that might be inspected for
purposes of classification based on core vocabulary. In this
connection we may mention the more recent fieldwork of Yokoyama, who
reports data from local statistical sources and from personal
interviews on the contemporary survival of matrilocal marriages
among the Bai people of the Dali region.\textsuperscript{21} If such marriages
represented, at one time, a form for the integration and assimilation
of a surplus of Han males by the local population, there is reason to
suppose that the type of diglossia Fitzgerald bewailed has been
caused in part by mixed marriages at least back to the (fourteenth
century) Ming takeover. As for possible scenarios for local
acquisition of Chinese among the Bai outside the mixed-ethnicity
family, Fitzgerald described options for schooling in the Dali area
that were current in his time. He reports that a combined enrollment
of one thousand students was shared by two urban middle schools at
Dali in 1937-38, claiming that only children of relatively wealthy
Bai families would find their way to this educational level.
Fitzgerald does not report on the actual ethnic composition of the
middle school population at the time, or on the nature of the
curriculum, but he does claim that successful completion of this
middle school curriculum in Dali was the only route to matriculation at Yunnan University in Kunming for an educated Bai.\textsuperscript{22} We can infer from this description that a program of Chinese-medium instruction in a curriculum similar to that found elsewhere in Republican China was an option for well-to-do Bai speakers fifty years ago. On the other hand, Fitzgerald also describes a type of education available to non-gentry or peasant children in local village schools at the same time. He characterizes such schools as traditionally organized institutions that met in local ancestral temples and taught the basic skills of Chinese literacy and practical calculation in addition to principles of hygiene and civic awareness.\textsuperscript{23} Although Fitzgerald does not comment on the language of instruction in the village schools, his description and his claim that 70\% of village boys (and 30\% of the girls) were in commonly in attendance make it appear likely that alongside the Chinese-medium schooling that was presumably the standard in urban schools of Dali, a tradition of elementary mother-tongue pedagogy must have remained in practice at least until the revolutionary government could put new policies in place after 1949.

1.2.04 Schooling in the Jianchuan region

During 1989 I was fortunate to pay a personal visit to the UNICEF-sponsored experimental Bai language primary education and literacy program using the Jianchuan orthography described in Jianzhi (but not yet officially adopted at the prefectural level). The program is currently in its third year of operation in Xizhong 西中 village
outside of the Jianchuan county seat. Several articles in recent issues of *Yunnan Minzu Yuwen* discuss and promote this mother-tongue education project at Shizhong Primary School, pointing out that the population of Jianchuan county is overwhelmingly Bai-speaking (over 90 percent) and that the rates of educational attrition or failure, as well as outright illiteracy, in this area is higher than average for all of China and compared to certain particular regions. Especially in the article of Zhang Wenbo, we can see that problems of illiteracy and low cultural achievement are currently being linked to mistakes in the application of Chinese-only education policies in the past. Comparing the Jianchuan region with Dali it is easy to imagine that divergence between the home language and language of school has created very different educational situations in the two areas named because of demographic factors that are linked in part to economics. Jianchuan county is consistently behind Dali (and even Heging county) in economic and agricultural output in local statistical reporting. On visiting the school in Xizhong village I learned that teachers in the program have the additional burden of translating primary textbooks into mother-tongue orthography for inclusion in the experimental curriculum, and that the program is financially depressed. On the other hand, school officials exhibit obvious pride in the success of the Bai-medium instruction based on testing and comparison.
1.3.00 Bai language texts

encoded in Chinese graphs, past and present

1.3.01 What kind of evidence in Chinese-based texts?

Comparison of Bai with Chinese through written texts encoded in Chinese graphs is a messy business in part because of the mixed method of graph-to-sound decoding that renders the texts readable in Bai. Xu has recently described the mixture of encoding found in Bai texts written in Chinese, which includes straightforward use of the graphs as phonograms but also two types of "borrowing" from the Chinese graph, semantic borrowing that encodes a Bai lexeme of similar meaning, and outright borrowing that involves Bai reading pronunciation of a Chinese graph that must be understood as itself in the text. These ways of decoding orthodox graphic forms account for most textual material and do require special knowledge of the reader; depending on the type of text, heterodox graphs that are unknown in Chinese also sometimes appear and require of the reader yet another type of special knowledge. To be sure, this use of the Chinese writing system makes for an unusual type of linguistic evidence, but there should be nothing to prevent our use of it to explore different strata of Chinese character readings as a covert element or subsystem coexisting with native elements in Bai. In Chapter 2 below we shall examine correspondences between the readings for a medieval inscriptive text and the traditional tonal categories of Chinese,
on the theory that this type of material can contribute to a possible history for the Bai tonal system. But that is only a first step toward full exploitation of a category of Bai linguistic materials that have not been widely described or understood, toward understanding the full dimensions of the role Chinese has played in the historical development of the language. Probably one reason Bai materials recorded in this way have not been much exploited is that they represent an ambiguous or problematic type of linguistic evidence, not quite Chinese but not easily identifiable as Bai. But this also explains why they invite attention here.

1.3.02 A taxonomy of sources

The rough taxonomy of Bai or putatively Bai text materials given below may be useful if we can establish the existence of a type of linguistic evidence for the historical Bai language that has not, to my knowledge, been generally reported in western-language sources. The types of material are arranged in chronological order as an heuristic device, although it will soon be apparent that differences in linguistic character separate these types at least as much as the chronological periods they represent. The list does not pretend to exhaust all possible sources, but rather describes what are the main types of written and inscriptive material that may be exploited in future studies. Some materials of the type described under the rubric of "early scribal witnesses" have been studied by Chapin (1944) and Li Lin-ts‘an (1967), but their linguistic properties as Chinese or
quasi-Chinese texts did not come under examination. A fairly large number of such scribal witnesses is extant, but they will probably remain difficult to study for the immediate future, having been stored and jealously protected in the provincial library of Yunnan since their discovery.

1.3.03 Incipient witnesses in literary Chinese

Some linguistic remains of the Nanzhao and Dali kingdoms are still extant and preserved in Chinese documentary sources and literary collections that record fragmentary vocabularies of the local inhabitants of the region transcribed in Chinese graphs, or preserve the poetic compositions of particular rulers or their literate functionaries, written in Chinese. The early inscriptional witnesses in literary Chinese (including the Dehua stele commemorating the Nanzhao defeat of the Tang militia) have been preserved in local gazetteers and in two large reference collections of Yunnan historical documents and inscriptional reliefs. These reflect the empirical text researches (kao3zheng1, a traditional category of Chinese philological scholarship) of competent text scholars, whose opinions as to the import or of particular inscriptions are sometimes supported by quotations from the traditional documentary sources that serve as a rhetorical device. Texts and inscriptions purporting to be literary Chinese records from the early period of Erhai regional history should ideally be studied in terms of their
degree of approximation to contemporary Chinese norms. I have not seen any detailed study of this type in recent Chinese publications.

1.3.04 Early scribal witnesses

We are on firmer ground as regards the linguistic identity of texts in Chinese orthography where religious and exegetical writings come into the picture, on which we have a certain amount of information from the discovery in 1956 of a cache of religious documents in the Dong family temple at Fengyi. These manuscripts are held to document a well-developed local tradition of sutra copying and exegetical writings using Chinese as the medium, a tradition that apparently flourished among the Buddhist teachers and monks who formed a kind of clerical guild in service to the Nanzhao and Dali (Duan clan) rulers. The special significance of this tradition is that it includes manuscript and printed copies of Buddhist scriptures dating from the 10th through 13th centuries, written or copied in Chinese but some of them provided with interlinear glosses or commentary written in another shorthand script, based on Chinese graphs but reflecting local usage and possibly adaptation as a syllabary. According to expert opinion, the manuscripts in this group show features of fluency and systematic character that point to a scribal tradition shared among the members of a local monastic community, as opposed to a notation system that remained the unique or private invention of a particular monk. I have personally seen photographs of one such manuscript and can agree at least in the matter of fluency, or in
other words, that the writer of the particular glosses had a practiced hand in writing what are apparently adaptations of Chinese graphs in a cursive style, something like the style of *hiragana* readings alongside Japanese text in *kanji*. It remains to be seen whether analysis of these manuscript writings will be possible in the near future, since they have been stored in the Yunnan Provincial Library and protected even from expert linguists in China.

1.3.05 Medieval inscriptional witnesses

At what remains an uncertain point in the history of the Erhai region, local commemorative inscriptions reflecting text composition in the borrowed literary language of the Tang people (literary Chinese or *wen2yan2* 𒄻𒄾 ) gave way to a variety of inscriptions that are encoded by Chinese graphs, but reflect texts that were composed in the local vernacular and committed to writing by speakers of that language who were literate in Chinese. A group of such inscriptions was collected from stone monuments north of Dali city in the environs of Xizhou and edited for private circulation in China as early as 1942, and it was apparently this collection that became the focus of controversy during the post-Liberation debate over whether the newly-established Bai national minority should be considered "scriptless" or not.27 Because the linguistic fieldwork and ethnic research of the 1950s was officially sponsored to solve practical problems of ethnic identification and political administration, what may seem to outsiders essentially a semantic dispute (whether to call
the Chinese-character transcription of Bai a "script" or historical orthography) was fraught with implications for language policy and literacy education. It was a standoff among scholars active during that period whether exploitation of the Chinese writing system as a tool for recording texts that only make sense if read by speakers of Bai using their native language, should be taken to represent a native written tradition or not. According to my present knowledge, native scholars and local governmental authorities alike are still not unanimous either in their view of bai2wen2 writings or in their recognition of a need for an established Bai orthography, but there is a discernible trend in currently published works on the subject toward accepting that a continuous linguistic identity does link certain of the extant Nanzhao inscriptions with some later Buddhist manuscripts of the Dali Kingdom, and these in turn with the still later local inscriptions on stone. It may not be possible, yet, to pinpoint exactly a locus ad quem for the scribal tradition based on Chinese orthography that is linguistically identifiable with modern Bai. But it seems clear enough that the most widely-accepted inscriptionsal witnesses date from the early Ming period (A.D. 1368-1644). Although recent scholarship has situated them in a context that encompasses earlier and later text genres, they still appear to represent a discrete class of linguistic artifacts, reflecting private memorials on the lives of deceased local aristocrats, and poetic encomiums on the natural environment typical of the Erhai region and Dali plain.
1.3.06 Modern witnesses from the oral tradition

Although such texts may reflect an oral tradition of some antiquity in Bai, currently circulating works of popular oral literature that are encoded or transcribed in Chinese graphs must be considered for our purpose here as modern texts. These are works intended for oral performance that are preserved in the form of handcopied prompt-books (shouchao ben) and have been passed down from one performer to another for an undetermined length of time. They represent a kind of living tradition in that different versions may be available from various performers and local scholars, showing some improvisational unsystematic features in the exploitation of Chinese graphs as phonograms. Clearly they cannot be considered together with commemorative writings inscribed on stone or other non-perishable media, and at the same time they offer a different type of linguistic material from what is preserved in modern ethnographic texts recorded phonetically from spoken or sung performances, some examples of which have now begun to appear in Chinese publications. According to our best authority, exploitation of Chinese graphs to record popular literature of the Bai language is a widespread phenomenon that is traditional in its origins. It is perhaps important to observe that like the inscriptions of an earlier period, such oral literary materials from the popular tradition would not necessarily be readable today for even an educated Bai speaker who is literate in Chinese. Literacy in Chinese implies ability to read Chinese texts as such, and not necessarily the skill of decoding vernacular texts that
appear in Chinese transcription. Of the Bai speakers to whom folk texts recorded in Chinese graphs are intelligible (they are likely to be folk performers themselves), we may say that the variety of literacy they use for this probably represents a traditional skill. One exemplary text of this type is a long dramatic poem entitled "The Huang Family Woman and the Vajracchedika," a critical edition of which has recently appeared in print. The text is of considerable length (1,075 lines composed mainly in quatrains of which alternate lines are rhymed), comprising upwards of 5,500 tone-bearing Bai syllables, each one recorded by a Chinese graph.\footnote{30} Compared to other such handcopied literary texts, the manuscript on which the critical text is based is relatively free of innovative or non-canonical graphs, and it would be recited, according to our authority, mainly as a mixed set of phonograms and rebuses that would refer the performer to the original language of the Bai verse text.\footnote{31} It seems likely that the decision to read a graph either phonetically, or as the semantic representation of a Bai lexeme entirely unlike the Chinese lexeme in form, will depend only partly on the performer's level of Chinese literacy, and probably as much on his/her previous knowledge of the text. Here is an area of interest for future study, which should be approached through the recitation practice of a knowledgeable performer.
1.4.00 Biographical profiles: Case histories

of Bai speakers

1.4.01 Collecting educational histories

The three Bai speakers whose educational experiences are partially reflected here were polled for autobiographical material that would shed light especially on their education and acquisition of literacy and performance skills in Chinese. All three individuals were familiar with my research interest, having come to know me through regular informal personal contacts over a period ranging from sixteen (at the most) to five months, and they agreed to speak in Bai about their educational backgrounds and experiences for the sake of enriching my study and understanding. Differences in the level and type of detail characterising the three accounts partly reflect differences in my relationships with each informant, differences that to some extent affected the collection of the data. Unfortunately time constraints contribute to the fact that my report of the resulting material remains incomplete for each speaker. I include these accounts in spite of their incompleteness because of the important role I sense has been played by educational aspirations and outcomes in the natural history of Bai language performance skills among the speakers I have come to know. Each case history is based on tape-recorded remarks made by the individual concerned, speaking in Bai, in response to my queries. LSN provided extemporaneous and
lengthy remarks that were aimed toward my general concerns (as these had been perceived during a lengthy acquaintance) over a period of several weeks in a number of recording sessions, ZLQ’s remarks amount to no more than a twenty-minute planned monologue that was collected in a single session, followed by an account of the substantive contents given in pu3 tong1 hua4. Qualitatively different from both of these accounts, DSY’s remarks represent prepared responses elicited during an hour-long interview that was conducted for me by an assistant, following an outline of questions in written Chinese provided to both of them in advance. Thus, for DSY the raw material on which I base the case history is relatively more considered and analytical, in contrast to that provided by both LSN and ZLQ, which is chiefly anecdotal material.

1.4.02 LSN

LSN was born in 1937 at Qiaohou, a well-known salt-producing site (although Qiaohou is referred to as the site of a "salt mine" the actual resemblance to a mine remains uncertain, since the salt produced there is processed by boiling—see Appendix 1, text 6.2) situated west of Eryuan but separated from it by the Eryuan Xishan (West Mountain) range. The settlement at Qiaohou historically owes its existence to salt production. The town and production sites are situated on the two banks of the Yangbi River, which flows southward from there along the western side of the Cangshan range to join the Xi’erhe River, the waterway flowing into the southern mouth of the
Erhai lake that Man3shul identifies with a distinct clan of man3 (barbarians). LSN has one elder brother five years senior and one sister. At age three or four (circa 1940–41) he was taken by his mother to live at Madeng, now situated on the extreme northwest frontier of the Dali Bai Autonomous Prefecture and in a "transitional" zone between the modern Jianchuan dialect area and that of Bjiang Bai (that is, a zone where so-called "mixed" dialect phenomena would be expected). According to LSN's account, daily life at Madeng was made difficult by relatively high elevation, but the family residence there was spacious compared to the situation at Qiaohou where LSN's father was at work. The father would pay occasional visits to the family at Madeng, but remained a relatively unfamiliar figure to LSN during this period. Between 1940 and 1943, LSN's mother travelled periodically away from the family home to find employment or sell merchandise, sometimes crossing the Lancang and Nu Rivers (Mekong and Salween, respectively) to work on the other side of the Burma border. When LSN had reached age six, it was determined that he should enter school at Madeng. Both LSN's father and mother were illiterate. His father, however, had literate friends and associates through his employment and underground (communist) political work at the Qiaohou salt mine. The family's aspiration to educate their son was apparently endorsed by LSN himself, and he entered a traditional primary school at Madeng in 1944.
1.4.03 A traditional curriculum

The curriculum at this school consisted chiefly of memorizing passages from the Four Books, beginning with the Great Learning (Daxue) of Confucius. The actual material would be held only by the schoolmaster, who would first intone part of the text and then write out some of it on a slate. As he intoned, the schoolmaster would interpolate sentences of explication in Bai vernacular between text sentences, explaining the meanings of the passage in this way. Pupils would then repeat text phrases in chorus after the master, and would finally be called upon singly to recite bits of text aloud after memorizing them as homework. Discipline was sternly meted out with a bamboo switch to pupils whose recitation fell below par. Aside from reciting Confucian texts, pupils also were trained to compose simple letters in written Chinese, distinguishing between an honorific style—appropriate for addressing teachers in writing—and an informal style suitable for ordinary correspondence with friends.32

1.4.04 DSY

DSY is the eldest of the three informants polled, born in 1922. Her educational experiences include early childhood literacy education in a traditional primary school at old Jinhua Commandery (Jianchuan city), uncompleted post-secondary studies at Central Union College in Xizhou during the anti-Japanese war period, and a career of primary school teaching that began in the new Republican schools and private
tutorial academies of Kunming before the Liberation of 1949 (which actually was realised only after the fact in Yunnan, where notorious local ethnic chieftains tuǐsil remained loyal to the Republican government until negotiations with the new head of state assured them of continuing privilege and legal status under the Communists.

1.4.05 ZLQ

ZLQ was born circa 1964 at Fengyu, a village situated immediately south of Eryuan, into a formerly landed family with pre-Liberation ties to the Republican government. Her grandfather had been a tax and finance official posted at Baoshan before the communist victory, and ZLQ has early childhood memories of standing beside him during sessions of criticism related to his earlier status and activities. Judging from ZLQ's report, he was the instrumental figure in decisionmaking that began and fostered her early education. At age four (circa 1968) ZLQ began primary school studies at Taihe village, but on what was only her second day of school she lost the bag that contained her books, writing brushes, and ink when she ran outside the building (we may assume, along with a crowd of others) to appreciate the spectacle of an approaching truck, leaving the bag inside the classroom unattended. The loss of her books and writing equipment effectively kept her out of school for an entire year, but she reentered at the start of the following school year.
1.5.00 Implications for placing Bai in a genetic schema

1.5.01 Social facts and types of language change

Summarizing the possible implications of language contact and creolization for genetic linguistics, Thomason and Kaufman have stressed that "the major determinants of contact-induced language change are the social facts of particular contact situations." They draw a distinction between "normal" and "imperfect" transmission of a language, in order to allow theoretically for the existence of language states that have integrated features of more than a single source language while subject to interruption in the normal course of intergenerational transmission. What I have tried to show in this chapter is that the social facts placing contemporary Bai speakers in situations of contact with Chinese through early literacy education and assimilation of immigrating spouses are suggestive in a retrospective way. The situations we can describe from observation, personal histories, and local statistics today are not just the product of communist Chinese language policies and their implementation in minority ethnic regions after 1949. On the contrary, the biographical accounts and educational situations we report here are the contemporary outcome of a protracted history of language contact that must have involved some speakers of a substrate language or languages continuously in the acquisition of Chinese literacy beginning at least from the eighth century, when the Dehua
stele was erected at Taihe City near the Erhai lake. This is a conservative estimate, however, since we have commemorative verses of unidentified Tibeto-Burman speakers transcribed in Chinese orthography as early as the fourth-century History of the Later Han, and since the Han expedition in western Yunnan is supposed to have marked the introduction of Han surnames among members of select local clans. What we may be increasingly allowed to see as the evidence for a Bai ethnohistory accumulates is a remarkable historical situation, in which ethnic differentiation has been closely related to the linguistic specialization of certain local clans, who served the local political elite as a "buffer" caste or hereditary class of diplomats, compradors, and religious practitioners. The protracted influence of such linguistic and social factors upon the development of the Bai language, spanning possibly two millennia of local history, has no doubt been crosscut by sweeping changes in the modern social situation resulting from the anti-Japanese and civil war struggles, the eventual success of the Revolutionary movement against Republican loyalists in Yunnan, and new social and language policies implemented after 1949. But the difficulty of situting Bai within the classical schema of a genetic family tree (one that would assume an early binary split between the Tibeto-Burman and the Sinitic branches of Sino-Tibetan, and would require us to place Bai finally under one or the other branch) is one sign that a long-lived historical situation of contact between Tibeto-Burman dialects and Chinese has probably contributed to the genesis and development of the language state we now encounter in the various geographical and social dialects of Bai.
The fact that we can document three generations of Bai-speaking bilinguials (we may be tempted to coin a term "Bainingual" to refer to them) whose repertoire of performance skills in pu3tong1hua4, written Chinese, and other local dialects of Chinese is the end product of schooling that generally begins with traditional literacy education in village schools, demonstrates in part that the recent intrusion of modern standard Chinese through political change has been a relatively minor factor in creating a language that encompasses what is by all accounts a hybrid vocabulary and grammar. What we need to consider in deciding about the relevance of genetic affiliation in the case of Bai is the extent to which the speech community has historically been split by Chinese literacy, and we need to study the effects of this historical situation in the speech of many individuals of different backgrounds.

1.5.02 A typological view of influence from a literary language

In a recent survey of what he calls "the great prestige languages of the West," Kahane illustrates some useful scenarios of influence and interaction between a dominant language and a vernacular with case-history examples, notably, from 17th-century Venetian literary sources that document "the pidginization of Italian by Greeks." The scope of Kahane's paper is comprehensive and we cannot pursue all its implications fully here, but the categories of linguistic contact and change he illustrates point to what I believe is the most useful way to think about the linguistic situation of Bai in relation to Chinese
and the protracted period of mutual interaction between them that has resulted in the modern Bai dialects we can study today. Briefly, Kahane’s paper adumbrates a type of study that acknowledges the linking of a ‘native’ vernacular language to a dominant language largely through the instrument of literacy and education, a process that finds expression in linguistic forms we can describe in terms of "nativization." Either of two possible scenarios of influence may be uncovered by such study: if the dominant language has been creolized, it will "integrate features of the native language ... as substratum influence"; if it has developed, instead, the function of a superstratum, its influence will be shown in changes it has "inflicted" on the native language. Actually these general scenarios express what are probably the limits of a continuum of variation along which a particular corpus of Bai speech data may be located according to internal criteria that we can develop in the near future, based on materials from printed sources and from fieldwork that we now have in hand. Some of our treatment of the Bai sentence grammar in Chapter 4 is influenced by the desire to establish a hierarchy of features that can be diagnostic for one or the other characterisation (creolized Chinese with influence from a substratum, or Bai vernacular with degrees of approximation to a norm identified with the superstratum) when applied to the study of Bai data from particular speakers. Looking at the background of Bai social and cultural history that is suggested by this chapter, it is clear that there has been ample opportunity for each of these outcomes to be realized at different times and in the speech of different sectors of
the population. If we can acknowledge this, perhaps the notion of finding the correct "genetic solution" can be set aside in favor of studies that can illuminate the actual features and history of the language. It is my hope that the present study will be a step in the direction of finding evidence in Bai data for what Kahane calls the process of nativization, which, he says, "can be analyzed synchronically in terms of creolization, and diachronically in terms of stratigraphy.... Nativization may be overt--as lexemic, morphosyntactic, or phonological borrowing--or it may be covert, expressing itself in style, calques, and metaphors." The data studied here in Chapter 4 provide many examples that can be fruitfully explored in these terms. Characterising the larger linguistic situation that is implied by study of nativization phenomena, Kahane summarizes: "the lasting impact of the prestige language consists in standardization, the creation of a sprachbund, and a relatively stable culture of bilingualism." We may easily, and without stretching the information already at our disposal, think of the demise of inscriptive Bai (and the survival of folk traditions of Chinese transcription) as evidence of standardization, and our study of the dialect vocabulary and grammar from published sources (Chapter 4) suggests a continuum of variation from Chinese norms that could have resulted from coalescence around a prestige language (Chinese) among members of two speech communities that were essentially separate. From the tradition of Chinese scholarship and literacy that is almost emblematic of the Bai people and their historical precursors, and from the data on life histories from three
generations we have assembled here, it seems reasonable to assume that a type of Chinese-oriented bilingualism (an obvious feature of the Bai data we examine in Chapter 4, although it is not the main focus of this study) has been typical of one sector of the local speech community since the time when the earliest inscriptive witnesses to Chinese literacy can be identified. For all these reasons I believe that we may look forward to productive scholarship on Bai synchronic features as well as plausible reconstruction of its historical developments only if these are framed in terms of a relationship such as the one described by Kahane, between a local vernacular in contact with a (at least one) non-native prestige language that has been historically transmitted through a literary tradition.
Notes

1. I refer to the engaging reports of fieldwork by Fitzgerald (1941) and Hsu (1949), and to the study of the Dali dialect and its correspondences with Middle Chinese phonological categories published by Dell in 1981.

2. The literature includes Blackmore 1960 and 1967 and the monograph of Backus (1981), which draws on both Chinese and Japanese scholarship, especially that of Fujisawa Yoshimi, in addition to primary sources. It is worth remarking that this study, like those of Fitzgerald and Hsu, have not gone unnoticed in the Dali Bai Autonomous Prefecture, where lengthy translated excerpts from all of them have appeared in the locally published serial publication Dali Wenhua. One of the early Chinese sources (thought to be based on first-hand information, but perhaps not collected personally by the author, as Backus points out)—the treatise on Nanzhao written by the Tang military attaché Sun Cho and later preserved through its incorporation into the Song compilation of Xin Tang Shu 新唐书 (found at XTS 22.1)—was available in English translation as early as 1908 (by E.H. Parker, in the China Journal), but this translation went out of its way to foster a conception of the Nanzhao kingdom at Dali as the ethnic antecedent to the contemporary Siamese people, through copious philological annotations that drew direct comparisons of Nanzhao terms, recorded in the ninth century by the Chinese text, with Thai lexical items. An unbiased English translation was later made available through the work of Tin and Luce, a work that paves
the way for further interpretations combining empirical data with
textual insights based on Sun Cho’s early work. This worthy project
is, however, beyond the scope of my present study.

3. Still it must be acknowledged that Fitzgerald does describe a
distinctive complex of Minjia daily life, ritual practices, and
folklore in and around the old Dali city in some detail, based on a
degree of unsupervised personal experience that is difficult to
duplicate today, and taking pains to point out differences and
similarities to elements of Chinese culture. But in Fitzgerald’s
work, too, the Minjia people and their culture were identified with
the historical Shan (Thai) people. What is perhaps strange is that
Fitzgerald on one hand denies the identification of the Minjia people
as direct descendants of the Nanzhao kings, while on the other he
claims Shan identities for both the ancient kingdom and the modern
Minjia. The Shan hypothesis for Nanzhao can be traced to western
interpretations of the Chinese historical documents that had not yet
been discredited when Fitzgerald wrote (see note 2).

4. Hiroko Yokoyama’s recent paper (1990) on the multifarious
character of the contemporary Bai culture, when available, should
lend support to my view. I regret that I have not yet had access to
the publication, but eagerly await her insights when it reaches me.

5. For the rise and careers of the Muslim warlords who ruled at
Dali see especially Rocher vol. 2, and note also that some of this
history figures in one text transcribed here in Appendix 1 (Text 6).

7. Parallel concerns, as expressed for example in scholarly emphasis on genetic classification of native languages, may be extrapolated from the interesting work of Trautmann (1987).

8. For the specialization of the Dong as Buddhist tantric facilitators see the articles of Dong (1986, 1988); for the Yangs, see Xu 1984.

9. See Yunnan Ethnology Editorial Group 1977: 304 and Fang Guoyu 1956a: 13-16. According to Fang Guoyu the Wanli recension was compiled in 1575 and was basically a revamping of the material contained in the gazetteer compiled some fifty years earlier during the Zhengde period. Fang does not offer any theory to explain the compiler’s motivation in shifting terms by editorial fiat.

10. See Yang Kun 1957 and Ma Yao 1957 on the process of ethnic differentiation that probably took place under Nanzhao rule because of social pressures to function as a buffer between the Meng clan rulers and northern powers, e.g. Tibet and Tang.


13. Both Fitzgerald (1941) and Hsu (1949) stress the heterogeneity of local ritual practice.


15. Yang Kun 1957:2. Ma Yao (1957: 75-60) also claims that the formation of an identifiable ethnic grouping was based on commonalities shared by certain bai2man2 and wu1man2 clans during the time of early Nanzhao’s resistance against Tang domination and
colonization, and their simultaneous struggle to claim or reclaim the
Jianchuan region from Tibetan administration (circa 750).

16. A good account of the early tradition of fieldwork in China,
and its development into a form of empirical study consistent with
socialist political and practical concerns, is found in Wong 1979:
80-92 and passim. Meanwhile a lively impression of the style of
collaboration practised by scholars of the Academia Sinica
interacting with local native informants during the years before
Liberation can be had from Li, Chang, and Ho 1967. Accounts like
these make clear that the 1950s surveys built on an established
tradition of ethnolinguistic fieldwork, and we know that some
members of the Bai Language Workgroup had been trained by the
architects of that tradition (Zhao Yansun, personal communication,
December 1988).

17. Dai Qingxia, personal communication, December 1987. I am
grateful to Prof. Ma Xueliang for lending me materials from his
personal collection that make clear the role of Soviet advisors in
establishing the direction of linguistic description during this
period.

I am especially indebted to the Nationalities Language Work Executive
Committee of Yunnan Province for allowing me access to the
Workgroup’s report, which was never published in other than
mimeograph form.

19. These observations are from Fitzgerald 1941: 84-85 and
passim.
20. Fitzgerald 1941: 86.

21. Yokoyama 1989 gives statistics for families living under the roof of the wife’s family in two communes of the Erhai region. Her interview data suggest that the institution of "taking in a son" (tsou2mei2) has served a practical function to solve problems of labor shortage in the family. It has been described by my linguistic consultant as a local solution to the social problem that was historically created by a significant influx of Han military personnel from the north in Yunnan after the Ming government established its power in the region. But we can imagine on the other hand that this pattern might represent the survival of an ancestral social arrangement that was promoted by historical circumstances.


23. Fitzgerald 1941: 84.


26. For a summary see Zhao 1987, or more detailed descriptions in the Dong 1986 and 1988 articles that trace the rise and fall of the Acarya teachings of north Indian Buddhist tantra in the Erhai region under the protection of a hereditary guild of non-celibate priests, many of whom belonged to the lineage of the still well-known Dong family at Fengyi. For a photographic view of the manuscript containing interlinear glosses I am indebted to Zhao Yansun.


28. Several spoken texts in modern phonetic transcription have been published in Xu 1988.
29. Xu 1988: 41 and 44.


32. Some of this material is from biographical text data partially transcribed in Appendix 1. Details of classroom procedure are from an elicited performance emulating the reading of literary Chinese texts by the consultant's primary teacher.


34. Kahane 1986: 502, and other material summarized here, passim.
Chapter 2  Tone and Phonation in Bai Speech:
Toward a Historical Interpretation

2.1.00 Outline of the Bai tones and initials

2.1.01 The tones of Bai and their representation

According to published sources a general outline of the Bai tones must encompass a system that varies between six and eight reflexes, depending on the dialect. The descriptions of Bai in print at that time were Xu and Zhao 1964, Dell 1981, and Zhao 1982, sources that present a consistent picture as to the general shape of the Bai tonal system, but which differ in formal representation and in their treatment of co-articulated features associated with individual tones. A two-way contrast, apparently involving laryngeal constriction, had been incorporated into the system of tonal notation by the Chinese authors, such that the whole tonal system appeared to be symmetrically split by the realization of a single coarticulated feature (Xu and Zhao 1964:322). This symmetry, moreover, extended to the segmental system in that there appeared to be no restrictions governing the co-occurrence of particular rhymes (treated as vowels in this description) with either type of tone. Dell, on the other
hand, described particular auditory effects characterizing each tone encompassed by his data corpus, treating the individual tone value as a perceptually unique bundle of "subtonemic" entities distinctively realized: pitch, length, contour salience, presence/absence of glottal interruption (Dell 1981:30-34). The difference in approach partly reflected the fact that Xu and Zhao 1964 had described an ideal system, based on survey data, that was intended to represent the speech of numbers of individuals, while Dell, twenty years later, presented a case study based on data from a single speaker.

2.1.02 Comparison of Dell's Dali tones and Jianchuan tones

The two descriptions could, therefore, be understood as entirely complementary, especially since Dell's historical discussion was illustrated by correspondences linking his Dali data to the Jinhua data of the earlier description. Lacking further information and access to multiple speakers for comparison, however, Dell thought that the "laryngealized tones" described by the notation of Xu and Zhao represented only a conservative feature in the speech of older Bai individuals. He therefore proposed that in the speech of his youthful Dali informant (circa 1967, e.g. roughly contemporaneous with the description published by Xu and Zhao) the corresponding tones had "lost" their mark of phonological distinction (Dell:90, 103). Only one of the corresponding tones in his data corpus was described as audibly glottalized, his tone 8, which equals tone 42+ in the Jianzhi data. By implication, the speaker who provided Dell's
data illustrated an innovative tendency among youthful speakers
toward the same "relaxation" of tense larynx that had been pointed
out by Dai 1980 (see 2.2 below).

**Table 2.1 A**

The Jianchuan tones represented by number and by value
in Zhao's tone letters

<table>
<thead>
<tr>
<th>Tone</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(55+)</td>
</tr>
<tr>
<td>2</td>
<td>(44+)</td>
</tr>
<tr>
<td>3</td>
<td>(--)</td>
</tr>
<tr>
<td>4</td>
<td>(42+)</td>
</tr>
<tr>
<td>5</td>
<td>(21+)</td>
</tr>
<tr>
<td>6</td>
<td>(55)</td>
</tr>
<tr>
<td>7</td>
<td>(33)</td>
</tr>
<tr>
<td>8</td>
<td>(35)</td>
</tr>
<tr>
<td>9</td>
<td>(31)</td>
</tr>
</tbody>
</table>

The following table illustrates Dell's tonal schema for Dali Bai and
his description of auditory impressions, alongside corresponding
reflexes as represented in the dialect corpus published as Xu and
Zhao 1984 (hereafter *Jianzhi*). Dialect forms drawn from that source
here and elsewhere in this paper are cited as DL: (Dali), JC:
(Jianchuan), and BJ: (Bijiang), and Jianchuan Bai is assumed to
reflect the same variety of speech that was earlier identified as
Jinhua vernacular by the same authors. Examples from Dell's Dali data
corpus are cited as GKC, and the impressions described for each tone reflect my understanding of Dell’s text.

<table>
<thead>
<tr>
<th>Gloss</th>
<th>GKC</th>
<th>Dell’s Auditory Impressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>to listen</td>
<td>ts’ioe 1</td>
<td>Spread out, medium length, distinct vocal offset, 44 contour</td>
</tr>
<tr>
<td>DL: tçe’55</td>
<td>JC: tché55</td>
<td>BJ: tché55</td>
</tr>
<tr>
<td>to weigh</td>
<td>ts’y 1</td>
<td></td>
</tr>
<tr>
<td>to curse</td>
<td>w 2</td>
<td>Spread out, medium length, distinct vocal offset, 33 contour</td>
</tr>
<tr>
<td>DL: wuu44+</td>
<td>JC: w44+</td>
<td>BJ: xa44+</td>
</tr>
<tr>
<td>to ask</td>
<td>pie 2</td>
<td></td>
</tr>
<tr>
<td>DL: pie’44+</td>
<td>JC: pie44+</td>
<td>BJ: tqua44+</td>
</tr>
<tr>
<td>two</td>
<td>ko 3</td>
<td>Spread out, medium length, distinct vocal offset, 22 contour</td>
</tr>
<tr>
<td>DL: kou33</td>
<td>JC: kō33</td>
<td>BJ: k33</td>
</tr>
<tr>
<td>to lick</td>
<td>tsw 3</td>
<td></td>
</tr>
<tr>
<td>DL: tsi33</td>
<td>JC: tsi33</td>
<td>BJ: dz’és’33</td>
</tr>
</tbody>
</table>
to bask, expose to sun  xo 4  
Short, rapid descent, 21 contour, vocal offset with "voiceless breath"

DL: xo31  JC: xo31  
BJ: xo42+

to large  to 4  

DL: to31  JC: to42+  
BJ: do42+

egg  se 5  
Rapid descent, 41 contour, easily confused with T 2 especially following syllable in T 8

DL: se42+  JC: se42+  
BJ: se42+

to mince  tuo 5  

DL: tuo32  JC: tuo42+  
BJ: to42+

fine  

DL: mo32  JC: mo42+  
BJ: mo42+

many  tsi 6  
Easy ascending, 23 contour, long, gradual loss of vocal resonance, mixed spectrographic results (both rising & falling contours, in different tokens)

DL: tgi35  JC: tgi55  
BJ: ti55

chicken  ke 6  

DL: ke35  JC: ke55  
BJ: qė55

sea  ko 7  
Long, low, & falling in final position, 211 or 212 contour, destressed in other contexts
As these equations demonstrate, Dell’s descriptive comments provide useful benchmarks against which the tonal notations (+ constriction) of Xu and Zhao may be evaluated, especially for readers lacking access to native-speaking consultants, even though “laryngealization” as such does not enter into his phonological analysis as a structurally significant feature.

2.1.03 Speculations on the origins of {+/-constriction} in Bai:

A theory of reconstruction from Benedict

Dell’s Bai/Chinese comparisons showed regular correspondences with Middle Chinese tone categories, but also showed that the same correspondences are sometimes illustrated by both modern loan vocabulary and what look like cognates or archaic loans. Benedict
1982 proposed reconstructions for some proto-Bai etyma based on Dell and the earlier Chinese sources, viewing laryngeal constriction or glottal events ("glottalized rusheng" in his terminology) as the reflex of PST *-ptk, *-s or a PST prefix (either *?- or *s-) (Benedict 1982:2, 4-6). This treatment, it should be remarked, represented a proposal to push the Bai proto-language to a considerable level of antiquity, such that sporadic retention of similarities to Old Chinese, Middle Chinese, and conservative modern Chinese dialects, as well as parts of Tibeto-Burman, could be regarded as a single gestalt, evidence of an early period of common development shared with a minimally differentiated ST or Sinitic ancestral language. Indeed, Benedict even suggested that in some cases aberrant or variant forms in Chinese might actually reflect Bai proveniences.¹ Dell observed an apparent tendency toward convergence shared by the segmental systems of local Chinese vernaculars and Bai, and contrasted this with what he suggested was an inherent coherence and imperviousness to pressure from Chinese contact characterising the Bai tonal system (Dell 1981:96-97). This observation holds out the hope that a systemic hypothesis incorporating the tones and coarticulated features associated with them, worked out in relation to segmental correspondences obtaining for Bai dialects, and considering the correlations with traditional Chinese phonological categories, could lead to internal reconstruction of what is truly ancient in the language whether illustrated by borrowed vocabulary or not.
2.1.04 Lexical frequency of (+constriction) and internal tonal correspondences for the Bai dialects

After the appearance of the Jianzhi material, it became possible to study the lexical frequency and internal correspondences in a relatively large corpus of dialect material as recorded by a single team of investigators. Study of this material without access to a native-speaking consultant.

Table 2.1 C

Inventory of tonal reflexes in the Bai dialects

<table>
<thead>
<tr>
<th>Bijiang Tones</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Rising</td>
<td>Falling</td>
</tr>
<tr>
<td>Tense</td>
<td>44</td>
<td>42</td>
</tr>
<tr>
<td>Lax</td>
<td>55</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jianchuan Tones</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Rising</td>
<td>Falling</td>
</tr>
<tr>
<td>Tense</td>
<td>55 44</td>
<td>42 21</td>
</tr>
<tr>
<td>Lax</td>
<td>55 33</td>
<td>35 31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dali Tones</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Rising</td>
<td>Falling</td>
</tr>
<tr>
<td>Tense</td>
<td>44</td>
<td>42 21</td>
</tr>
<tr>
<td>Lax</td>
<td>55 33</td>
<td>35 32</td>
</tr>
</tbody>
</table>
The above summary of tonal reflexes for the three recognized varieties of Bai is based on actual inspection of the dialect materials published at the back of Jianzhi. Some cross-dialectal equivalences are inventoried in the phonological statement for "standard" or Jianchuan Bai, but the tacit assumption is that like reflexes otherwise correspond across the dialects. The "conditioned variants" are given as follows:


(2) Bijiang 33 : Jianchuan 31 : Dali 31, in the case of modern borrowings from Mandarin shangsheng.

(3) Bijiang 21+ : Jianchuan 31 : Dali 31, in the case of modern borrowings from Mandarin shangsheng (no statement appears regarding the distinction between this and the preceding correspondence).


(5) Bijiang 21+ : Jianchuan 35 : Dali 35, in the case of modern borrowings from Chinese rusheng.²

These equivalences show that the high level {+ tense} tone of Jianchuan Bai is probably a recent innovation associated with newly borrowed Chinese words that historically would have had rhyme endings in either -ś or -s. In addition, we can see that Bijiang's low falling tone has contacts with both the historical shang3sheng\textsuperscript{1} and rusheng\textsuperscript{1} categories of Chinese, categories we may think of as having
shared a feature (+ glottalized rhyme ending) at one stage of the
tonogenetic scenario, or possibly as having assumed this feature
sequentially (shang3sheng1 gradually losing it as ru4sheng1 gradually
assumed it) over a period of time. on the other hand, Jianzhi does
not explain what corresponds to the Dali 32 reflex in other dialects:
this is a rare tonal reflex even in Dali, judging from the Jianzhi
dialect materials, but the most frequently encountered correspondence
involves the Bijiang and Jianchuan 42+ reflexes. If we overlook what
are apparently the two recent or "secondary" tones (Jianchuan 55+ and
Dali 32), the pandialectal tone system can be reduced to three basic
reflexes in tense phonation and four in lax. The one tonal reflex in
rising contour may have a special status in Jianchuan, in that it
mainly represents recent contact with MC ru4sheng1. Yet, the same 35
contour has broader distribution in the Dali dialect (unaspirated
stops), while its function is assumed by the low falling tone (21+)
in Bijiang speech. Elsewhere in Jianzhi and from other sources
(Jianzhi p.12 & Primer p. 18-19) we learn that the tonal "subsystem"
used in pronunciation of recent loans from Mandarin (which may
include borrowed local vocabulary i.e. from Southwestern Mandarin or
character readings from written Chinese--bendi hanhua--as well as
readings transparently from putonghua, but perhaps via the Yunnan
form of Mandarin) includes the 33 and 42+ "tonemes," as well as 31,
55, and 35, apparently leaving aside 55+, 44+, and 21+. Since 33 is
thus twice used by Bijiang, to accommodate some shangsheng as well as
yinping loans, while the two (+tense) falling reflexes accommodate
the rest of Bijiang's shangsheng loans and all yangping loans, we may
find some encouragement for a hypothesis that the rather symmetrical appearance of {+tense} phonation in Bai bears witness to a historical process involving loss of a voicing contrast in an earlier system of consonant initials. Another way of describing the same situation would be to say that well-attested patterns of initial correspondence among the Bai dialects are marked by what appear as symmetrical "tonal splits," although there are sometimes more instances of one etymological tone reflex than the other for a given correspondence pattern. Adopting this rubric, one could then reconcile most tonal "irregularities" by assuming that a difference between {+tense} and {-tense} notation represents the criterial (i.e. historically relevant) distinction in correspondence sets that also show "irregular" contour notations such as 31:21:21 or 42:21:33, or 55:44:31. The actual correspondences found are summarized in the following table.

<table>
<thead>
<tr>
<th>Table 2.1 D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonal correspondences from comparison of the dialects</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bijiang</th>
<th>Jianchuan</th>
<th>Dali</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>55</td>
<td>55</td>
<td>35</td>
</tr>
<tr>
<td>33</td>
<td>32</td>
<td>33</td>
</tr>
<tr>
<td>44+</td>
<td>44+</td>
<td>44+</td>
</tr>
<tr>
<td>42+</td>
<td>42+</td>
<td>42+</td>
</tr>
<tr>
<td>42+</td>
<td>42+</td>
<td>32</td>
</tr>
<tr>
<td>42+</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>21+</td>
<td>21+</td>
<td>21+</td>
</tr>
</tbody>
</table>
2.1.05 Inventory of consonant initials for the dialects

Once we begin to speculate about the developments that have produced the tonal system found in the modern Bai dialects, we are obliged to expand our perspective to include the system of consonant initials. We have seen that at least one internal tonal variation across the dialects is linked by co-occurrence with a synchronic manner contrast (aspirated/unaspirated) in stops and affricates. In addition, published sources as well as our consultant point to certain Bai tones as reflecting an internal subsystem of "literary" tones through which a recent stratum of Chinese borrowings is nativized, or through which Chinese written texts may be "read in Bai tones" (han4zi4 bai2du2). We shall say more about this subsystem in 2.4.00 below, where it will become a tool for distinguishing the literary from the colloquial stratum of Chinese character readings in a Bai inscription. Here we may simply observe that this is a complex subsystem fully integrated with the native tonal system, and not merely a borrowing device or system of tones reserved for lexical borrowings. Before saying more about what these Chinese/Bai tonal contacts may show in regard to tonogenetic (or phonogenetic) developments in Bai, then, we need to examine the corresponding inventories of consonant initials for the three Bai dialects already named.
### Table 2.1 E

**Inventory of consonant initials for the Bai dialects**

**Bijiang**

<table>
<thead>
<tr>
<th>Labial</th>
<th>Palatal</th>
<th>Alveopalatal</th>
<th>Retroflex</th>
<th>Velar</th>
<th>Postvelar</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>dz</td>
<td>d</td>
<td>d̛</td>
<td>d̛̊</td>
<td>g</td>
</tr>
<tr>
<td>p</td>
<td>tɕ</td>
<td>t</td>
<td>ts̛</td>
<td>tr̚</td>
<td>k</td>
</tr>
<tr>
<td>ph</td>
<td>tɕʰ</td>
<td>th</td>
<td>tʃ̛</td>
<td>tr̛h</td>
<td>kh</td>
</tr>
<tr>
<td>v</td>
<td>j</td>
<td>(z)</td>
<td>z̛̊</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>ɕ</td>
<td>s</td>
<td>s̛̊</td>
<td>x</td>
<td>h</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td>g</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>l</td>
<td>(0)</td>
</tr>
</tbody>
</table>

**Jianchuan**

<table>
<thead>
<tr>
<th>Labial</th>
<th>Palatal</th>
<th>Alveopalatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>tɕ</td>
<td>t</td>
<td>k</td>
</tr>
<tr>
<td>ph</td>
<td>tɕʰ</td>
<td>th</td>
<td>kh</td>
</tr>
<tr>
<td>v</td>
<td>j</td>
<td>(z)</td>
<td>y</td>
</tr>
<tr>
<td>f</td>
<td>ɕ</td>
<td>s</td>
<td>x</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>n</td>
<td>g</td>
</tr>
<tr>
<td></td>
<td></td>
<td>l</td>
<td>(0)</td>
</tr>
<tr>
<td>Labial</td>
<td>Palatal</td>
<td>Alveopalatal</td>
<td>Velar</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>p</td>
<td>tɕ</td>
<td>t</td>
<td>s</td>
</tr>
<tr>
<td>ph</td>
<td>tʂʰ</td>
<td>th</td>
<td>tʂʰ</td>
</tr>
<tr>
<td>v</td>
<td>j</td>
<td>z</td>
<td>y</td>
</tr>
<tr>
<td>f</td>
<td>ç</td>
<td>s</td>
<td>x</td>
</tr>
<tr>
<td>m</td>
<td>n</td>
<td>n</td>
<td>ŋ</td>
</tr>
</tbody>
</table>

1  ( 0  )

Study of the Jianshi dialect materials showed that the most regular-looking patterns of phonetic correspondence for consonant initials across the dialects gave the appearance of being split almost equally between instances in (+tense) phonation and instances lacking this notation. Close inspection of the patterns in fact leads to the observation that for some correspondences instances in (+tense) phonation actually outnumber their (-tense) counterparts. One question that motivates the present chapter is to ask whether this slightly asymmetrical distribution of (+tense) phonation among instances of correspondence can be interpreted as the witness of a historical shift in Bai, or is rather a function of gaps in the (still rather limited) data, or yet again, is actually an effect that correlates with one or another loan stratum. The corpus upon which these observations rest is itself a reduced version of the actual amount of dialect material made available for study, because it was only possible to establish instances of consonant initial correspondence for about 690 of the original 1016 lexical entries in
the Jianzhi list. Still, even though this characterization of a "topheavy" distribution of [+tense] phonation in the data is impressionistic and based on occurrences in a selected corpus, the selection was itself neutral to phonation type. That is, the "split" in the data appeared as a byproduct of having sorted it to find the phonetic correspondences for consonant initials, treating the record of [+tense] phonation as relevant to those correspondences, but not discarding any instance of correspondence because of its failure to show [+tense] phonation (or its absence) consistently in each dialect. In other words, instances of consonant initial correspondence were considered [+tense] even if only one reflex (of the three available) was affected, but the majority of instances still presented a consistent picture, such that sets involving mixed [+tense] and [-tense] morphemes often invited explanation as illustrating a "regular" tonal correspondence.

2.1.06 Light on [+constriction] from the consultant

Below is a summary of tonal data provided by the consultant LSN, a self-identified Jianchuan speaker who in practice affirms a clear distinction between morphemes in four different types of phonation. The tonal reflexes are represented as in Jianzhi, but terminology is that used by the consultant to describe his own pronunciations.
Table 2.1 F

The Jianchuan tones as phonation types

1) "tense" (jinghuì 紧喉) [55+, 44+, 42+]
2) "pressed" or "creaky" (jihua 挤化) [21+]
3) "breathy" (qihua 气化) [31]
4) "non-tense" (fei jinhou 非紧喉) [55, 33, 35]

2.1.07 Benedict’s glottalized ruìshēng theory

The following table summarizes Benedict’s proposals for special or unpredicted development of the {+constriction} tones, a theory that attempts to show what, apart from etymological membership of the etymon in the traditional Chinese ruìshēng tone class, can make the feature {+constriction} show up in modern Bai lexical items. This amounts to accounting for apparent irregularities of correspondence, that is, Bai morphemes in {+constriction} not attributable to the Chinese “entering tone” or ruìshēng. Benedict derives the feature {+constriction} by means of a PST *s- prefix, a *glottalized consonant initial, or a *-s suffix, all supposedly preserved in the "unexpected" Bai reflexes. In the following table I first list the predicted development based on the register split in the Middle Chinese ruìshēng category, and this list is followed by Benedict’s proposals for unexpected development due to assimilation of phonetic elements originally not belonging to the syllable, but attached to it.
Table 2.1 G

Syllable-external ST influences on Bai rhyme and tone reflexes
as proposed in Benedict 1982

<table>
<thead>
<tr>
<th>Provenience</th>
<th>Proto-Bai</th>
<th>Modern Reflex</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ST/PC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p, t, k</td>
<td>-t/-k &gt; -?</td>
<td>{glottalized rusheng}</td>
<td></td>
</tr>
<tr>
<td>&gt; MC D1</td>
<td></td>
<td>tone 44+</td>
<td></td>
</tr>
<tr>
<td>&gt; MC D2</td>
<td></td>
<td>tone 42+</td>
<td>'white' pɛ42+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'stone' l tso42+.khui55</td>
</tr>
<tr>
<td>s-</td>
<td>s-</td>
<td>unexpected {glottalized rusheng} &amp;/or contour shift</td>
<td></td>
</tr>
<tr>
<td>if MC D2</td>
<td></td>
<td>tone 44+</td>
<td>'moon' mi55̃ua44+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'leaf' se44+</td>
</tr>
<tr>
<td>if MC C1/2</td>
<td></td>
<td>tone 44+</td>
<td>'four' ɔi44+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'year' sua44+</td>
</tr>
<tr>
<td>?-</td>
<td>?c-</td>
<td>unexpected {glottalized rusheng} &amp;/or contour shift</td>
<td></td>
</tr>
<tr>
<td>if MC D2</td>
<td></td>
<td>tone 44+</td>
<td>'forehead' ɔ̃ɛ44+te44+</td>
</tr>
<tr>
<td>if MC A2</td>
<td></td>
<td>tone 21+</td>
<td>'shoe' ɔe21+</td>
</tr>
<tr>
<td>if MC qusheng</td>
<td></td>
<td>tone 44+</td>
<td>'outside' ɔua44+no33</td>
</tr>
<tr>
<td>if MC A1</td>
<td></td>
<td>tone 42+</td>
<td>'to swallow' ɔ̃e42+</td>
</tr>
</tbody>
</table>
-----
-ts -t > -ʔ  unexpected {glottalized rusheng}

    if MC gusheng  tone 44+  'two' ne44+

-----
-a + GEN SUF  -ai > -aə  -w  PRON 1st, 2d, 3d GEN

-----
-n (NOM SUF)  -n > -ŋ  unexpected nasalization

 'trousers' kuā55
 'tea' tsō21+
 'hoe' tsɤ21+

The table above also includes Benedict's proposals to account for "sporadic nasalization" in Bai (viz. nasalization in non-nasal-final syllables of Chinese provenience) and residual case morphology in the Bai pronouns, because it was originally designed to summarize all changes to the syllable that were proposed by that author to have origins "external" to the changed syllable itself. So, although the table is not limited to explanations for unexpected tonal phenomena, it is worth remarking that the genitive pronoun morphology here described in terms of vowel ablaut is always accompanied by tonal shift. I have not determined whether unexpected nasalization in Chinese cognate/loans is also accompanied by shift or irregularity in tonal correspondences, but that is a topic worth exploring.
2.1.08 A cover term broader than {+/-constriction}

Suffice it to say at this point that my original doubts about the system of tonal notation in use by the Jianzhi authors combined with personal observations of native pronunciations of the Jianchuan Bai tones in consultation with LSN led me to suspect that the terms "tense" or "glottalized" might be better replaced by a rough cover term to represent varied phonation-type phenomena probably reflecting a more complicated history of developments than the *rusheng* explanation (regressive assimilation of articulatory features associated with historical checked-final rhymes followed by a register split) will account for. Given that the object of studying the tone system in isolation here is to explore its possible links with the mutually unrelated tonal systems of separate language groupings within the Sino-Tibetan super-family (Chinese, Tibeto-Burman, Burmese-Lolo), it will be as well in any case to avoid assumptions about the system that might be implied by adopting Benedict's use of the term *rusheng* in reference to tones 55+, 44+, 42+, and 21+. Reference to these tones in terms of "marked phonation" or {+P} has the virtue of allowing for the same historical interpretation of relevant data (e.g. data that fits the << *-ptk theory) without requiring that we assign Chinese "tonal etymologies" to all reflexes involved, whether they are clearly of Chinese provenience or not, and if so whether they are *rusheng* etyma in Chinese or not. And, the use of a cover term allows for other explanations to be added where the data do not fit, so that a
combination of historical developments may be shown to have contributed to what is a coherent synchronic system. In the rest of this work I have adopted the usage "marked phonation" or (+P) as a cover term to include all the combinations of phonation type and tone in Bai whose acoustic properties are perceptually salient. In citing linguistic forms from the works of other scholars who treat {+/-constriction} as the salient feature (whether belonging to the tone or to the vowel), however, I represent morphemes in {+constriction} by means of a "plus" (+) following the tone letters pitch and contour. This amounts to alternating between two notation systems that cut across the system differently, and underscores the fact that there are really two synchronic analyses of the Bai tones at stake. Without going into this at great length, I can say that the {+/-P} analysis (including all perceptually salient phonation types) seems to fit the requirements of diachronic study best because it allows for a higher degree of abstraction. In my system of transcription, the single numerals assigned to tones provide specificity as to phonation type, whereas in correspondence sets involving data from printed sources that use the {+/-constriction} feature, use of the cover term {+/-P} makes complex hypotheses possible. Lacking a term that includes all the salient phonation types, it would only be possible to think in terms of tonogenetic developments along binary lines. We should perhaps have to propose that morphemes in {-constriction} that correspond with morphemes in {+constriction} had somehow lost their earlier glottal quality--but that is far too neat.
2.1.09 Summary of internal correspondences for Bai initials and tonal environments

Table 2.1 H

Summary of initial correspondences in the Bai dialects

(488 sets, cited in order BJ:JC:DL)

(1) 0 : 0 : 0 (+P) <11 sets> hawk (42+:42+:42+); bury (-JC)
    (42+:42+); pit (42+:42+:42+); duck (44+:44+:44+); irrigate (-DL)
    (44+:44+); goose (21+:21+:21+); frog (21+:21+:21+); swallow (v.)
    (42+:42+:32); feed (55:42+:32); NEG PRT (-DL) (42+:31); one
    (42+:31:31)

(2) 0 : 0 : 0 (-P) <4 sets> saddle (55:55:35); PRON INTERROG.1
    (55:55:55); KIN PREF (55:31:31); warm (33:55:35)

(3) p : p : p (+P) <20 sets> breast (42+:42+:42+); thin (paper)
    (42+:42+:42+); white (42+:42+:42+); lazy (-DL) (42+:42+); magpie
    (-DL) (42+:42+); lock (n.) (-DL) (42+:42+); insert
    (42+:42+:42+); clap (hands) (44+:44+:44+); hundred
    (44+:44+:44+); hoof (21+:21+:21+); harrow (v.) (21+:21+:21+);
    flat (21+:21+:42+); float (21+:42+:21+); move (-DL) (21+:42+);
    stool (21+:42+:42+); leopard (42+:42+:32); change (v.)
    (42+:42+:32); braid (n.) (42+:55:35); collapse (55:44+:44+);
    beside (55:21+:55)
(4) tc : p : p (+P) <5 sets> chaff (21+;21+;21+); ant (21+;21+;21+); eight (44+;44+;44+); ask (44+;44+;44+); skin (33;21+;21+)

(5) p : p : p (-P) <9 sets> axe (33;33;33); mend (33;33;33); winnow (55;33;33); shoulder (33;33;33); plank (33;33;33); get sick (-BJ) (31;31); split open (intrs.) (55;55;35); wrap (55;55;35); CLF (dry litre) (55;55;[35])

(6) b : p : p (-P) <3 sets> pond (33;33;33); full (stomach) (33;33;33); embrace (v.) (33;33;55)

(7) tc : p : p (-P) <3 sets> wind (55;55;35); plait (v.) (55;55;35); left side (55;55;35)

(8) ph : ph : ph (+P) <5 sets> split (wood).A (42+;31;[55]); lid (42+;31;31); artillery (44+;44+;44+); cucumber (44+;44+;44+); forget (-BJ) (44+;44+)

(9) ph : ph : ph (-P) <3 sets> shop (55;31;31); blow (w/ mouth) (55;55;55); rice gruel (55;55;55)

(10) tph : ph : ph (-P) <3 sets> tear (paper) (55;55;55); cheap (55;55;55); steep (-DL) (55;55)
(11) m : m : m (P) <18 sets> tomorrow (21+:55:55); coal 
    (42+:42+:42+); fine (42+:42+:32+); crawl (44+:44+:44+);
    mosquito (44+:44+:44+); wheat (44+:44+:44+); crow (v.)
    (21+:21+:21+); sharpen (21+:21+:21+); door (21+:21+:21+); fog
    (-DL) (21+:21+); hair (fur) (21+:21+:21+); flee (21+:21+:31+);
    grave (42+:31:53); dream (n.) (42+:31:32); ink (stick)
    (42+:44+:44+); root (42+:44+:44+); bamboo hat (44+:31:31); buy
    (33:42+:32)

(12) m : m : m (P) <7 sets> horse (33:33:33); full (33:33:33);
    late (33:33:33); uncooked rice (33:33:33); think over
    (33:33:33); NEG EXIST (33:33:33); close eyes (55:55:35)

(13) f : f : f (P) <3 sets> malaria (44+:44+:44+); saw
    (42+:42+:42+); six (44+:44+:44+)

(14) v : v : v (P) <3 sets> crow (n.) (55:55:35); owe (-DL)
    (33:33); KIN CMW (33:33:33)

(15) t : t : t (P) <18 sets> talk (n.) (21+:21+:21+); CLF
    (drop/water) (55:44+:44+); choose (33:42+:42+); help (v.)
    (42+:42+:32); answer (v.) (21+:55:35); strike.B (-BJ)
    (44+:44+); PRON REFLEX (-DL) (44+:42+); wear (hat)
    (42+:42+:32); chop (mince) (42+:42+:32); trample (42+:42+:42+);
    rice huller (42+:42+:32); front (21+:21+:21+); hair (head)

(16) t^r : t : t {+P} <3 sets> year before last (21+:21+:21+); head (33:21+:21+); CLF (chicken) (21+:21+:21+)

(17) d : t : t {+P} <8 sets> KIN WM/WF (-DL) (42+:31); large (42+:42+:31); steal (42+:31:31); win (-DL) (44+:44+); back (body) (42+:42+:31); boy (-JC) (42+:31); beans (42+:31:31); KIN FEBW (42+:55:55)

(18) t : t : t {-P} <5 sets> KIN FEB (55:55:55); distant (33:33:33); vertical (-JC) (55:35); lamp (55:55:35); gallbladder (33:33:33)

(19) t^r : t : t {-P} <3 sets> basket (55:55:35); stupid (33:35:33); NUM ORD PREF (33:31:31)

(20) d : t : t {-P} <3 sets> plain (33:31:31); courage (33:33:33); top (33:33:33)

(21) th : th : th {+P} <3 sets> bucket (42+:31:31); CLF (handspan) (42+:31:31); untie (-DL) (55:44+)

(22) n : n : n {+P} <4 sets> pus (21+:21+:21+); difficult (21+:21+:21+); CLF (ounce) (42+:42+:42+); mud (21+:21+:21+)
(23)  n : n : n  {¬P}  <3 sets>  PRON 2d-S (55:31:31); PRON 2d-P (55:55:55); brains (33:33:33)

(24)  l : l : l  {+P}  <6 sets>  tiger (21+:21+:21+); roll (-DL) (33:42+); retreat (21+:31); chili (21+:35:35); quilt (n.) (42+:31:31); sieve (21+:21+:21+)

(25)  l : l : l  {¬P}  <3 sets>  take off (55:55:35); tear off (55:55:35); ADV also (55:55:55)

(26)  ts : ts : ts  {+P}  <5 sets>  bird (44+:44+:44+); soak (21+:21+:21+); plough (v.) (44+:44+:44+); say (-DL) (42+:42+); bell (42+:55:35)

(27)  ts' : ts : ts  {+P}  <4 sets>  ten (42+:42+:42+); narrow (?) (44+:44+:44+); break off (intras.) (55:42+:33); pick up (42+:42+:42+)

(28)  dz : ts : ts  {+P}  <3 sets>  sparrow (42+:44+:44+); chew (42+:42+:42+); written word (42+:31:31)

(29)  tr' : ts : ts  {+P}  <17 sets>  tongue (42+:42+:42+); narrow (?) (44+:44+:44+); long (21+:21+:21+); bear fruit (21+:42+:42+); ADV again (42+:44+:44+); shoot at (42+:42+:42+); stone (42+:42+:42+); right side (33:42+:32); intestine (21+:42+:21+);
broom (44+:44+;44+); weave (42+:55:44+); house (-DL) (21+:21+);
city wall (21+:21+:21+); bed (-DL) (21+:21+); key
(42+:42+:42+); tea (21+:21+:21+); remember (44+:44+:[44+])(42+)

(30) tϕ : ts : ts {+P} <7 sets> plant (v.) (42+:42+:32);
chopsticks (42+:31:31); hoe (21+:21+:21+); bug (21+:21+:21+);
bamboo (44+:44+:44+); saliva (42+:44+:44+); release (-BJ)
(42+:42+)

(31) ts : ts : ts {-P} <6 sets> CLF (knife) (33:33:33); make/do
(55:55:55); liquor (33:33:33); peasant (55:55:55); KIN CM
(33:33:33); early (33:33:33)

(32) tsϕ : ts : ts {-P} <7 sets> finger (33:33:33); true
(55:55:55); ADV surely (-DL) (55:55); oil (55:55:35); needle
(55:55:35); paper (33:33:33); pillow (33:33:33)

(33) dzϕ : ts : ts {-P} <4 sets> lick (33:33:33); kidney
(33:33:44+); market (33:33:33); persimmon (33:31:31)

(34) tϕ : ts : ts {-P} <5 sets> ear (grain) (33:33:33); steam
(v.) (55:55:55); host (33:33:33); table (55:55:35); pass new
year (55:55:35)

(35) tϕ : ts : ts {-P} <5 sets> teeth (33:33:33); pack into
(33:55:35); seed (33:33:33); boil (33:33:33); cup (55:55:35)
(36)  dž : ts : ts  {−P}  <4 sets>  be at / in (33:33:33); exist
        (33:33:33); cop (33:33:33); heavy (33:33:33)

(37)  tsh : tsh : tsh  {+P}  <6 sets>  radish (42:+31:31); salty
        (42:+31:31); vegetable (42:+31:31); kitchen knife (42:+31:31);
        twist (55:44:+44+); inspect 2 (21:+42:+42+)

(38)  tⁿh : tsh : tsh  {+P}  <5 sets>  sniff (42:+55:55); foul-smelling (42:+31:31);
        thin (person) {−DL} (44:+44+); sweep {−DL} (44:+44+); red (44:+44:+44+)

(39)  tsh : tsh : tsh  {−P}  <4 sets>  scallion (55:55:55); window (55:55:55);
        extend (31:31:31); cut (33:33:33)

(40)  tⁿh : tsh : tsh  {−P}  <3 sets>  transport (35:55:55); swell (55:55:55);
        CLF (foot) (33:33:33)

(41)  tⁿh : tsh : tsh  {−P}  <5 sets>  husks (55:55:55); sound
        (55:55:55); pot {−DL} (55:55); light (55:55:55); ADV
        immediately {−DL} (55:33)

(42)  tsh : tsh : tsh  {−P}  <6 sets>  grass (33:33:33); coarse
        (55:55:55); short (55:55:55); obstruct (55:55:55); body
        (55:55:55); rub {−DL} (55:55)
(43)  s : s : s  {+P}  <12 sets>  painful (42+:31:31); cloth (-DL) 
        (44+:44+); small (42+:31:31); lay (egg) (42+:42+:32); laugh 
        (42+:31:31); rope (44+:44+:44+); year (44+:44+:44+); blood 
        (44+:44+:44+); egg (cf. lay) (42+:42+:42+); garlic (42+:31:31); 
        snow (44+:44+:44+); teacher (55:55:44+)

(44)  s^r : s : s  {+P}  <9 sets>  urine (42+:31:33); mushroom 
        (33:33:42+); produce (44+:33:44+); mountain (55:42+:32); leaf 
        (44+:44+:44+); run (55:44+:44+); throw (-DL) (55:21+); kerchief 
        (33:44+:33); palm bark cape (44+:44+:44+)

(45)  s : s : s  {−P}  <7 sets>  three (55:55:55); assist (mutual) 
        (55:55:55); fight (v.) (-DL) (55:55); ramie (33:33:33); KIN GCM 
        (55:55:55); written word (55:55:35); loose (-DL) (55:55)

(46)  s^r : s : s  {−P}  <8 sets>  rat (33:33:33); deep (55:55:55); 
        harvest (v.) (55:55:35); comb (v.) (31:31:31); comb (n.) 
        (55:55:35); excrement (33:33:33); hand (33:33:33); ash (plant) 
        (cf. group 47 below) (55:55:55)

(47)  ø : s : s  {−P}  <10 sets>  wash (33:33:33); send off 
        (33:33:33); ice (-DL) (33:55); frost (55:55:55); bear (child).B 
        (-DL) (33:33); lose (-DL) (33:33); sugar (55:55:35); ash 
        (plant) (doublet in BJ) (55:55:55); sand (55:55:55); count 
        (55:55:55)
(48) \text{t} : \text{t} : \text{t} \quad \{+P\} \quad \langle 6 \text{ sets} \rangle \quad \text{KIN} \quad \text{BCM} \quad (42+:42+:42+); \quad \text{false}
(42+:31:31); \quad \text{bear.A} \quad \{-B\} \quad (42+:42+); \quad \text{borrow/lend} \quad (44+:44+:44+);
\text{join} \quad \{\text{trs.}\} \quad (44+:44+:44+); \quad \text{KIN MB} \quad \{-B\} \quad (55+:55)

(49) \text{ts} : \text{t} : \text{t} \quad \{+P\} \quad \langle 3 \text{ sets} \rangle \quad \text{ADV} \quad \text{fast} \quad (42+:42+:31); \quad \text{leech}
(44+:44+:44+); \quad \text{arrow} \quad (42+:42+:32)

(50) \text{t} : \text{t} : \text{t} \quad \{+P\} \quad \langle 5 \text{ sets} \rangle \quad \text{bracelet} \quad (21+:21+:21+); \quad \text{elect}
(42+:31:31); \quad \text{leap ahead} \quad (21+:31:55); \quad \text{nail to} \quad (44+:42+:42+);
\text{chase} \quad (33:42+:42+)

(51) \text{t} : \text{t} : \text{t} \quad \{-P\} \quad \langle 11 \text{ sets} \rangle \quad \text{tendon} \quad (55:55:35); \quad \text{nine}
(33:33:33); \quad \text{hungry} \quad (55:55:55); \quad \text{inspect} \quad (55:31:31); \quad \text{establish}
(55:55:55); \quad \text{CLF} \quad \text{catty} \quad (55:55:35); \quad \text{pull} \quad (55:55:33); \quad \text{gold}
(55:55:35); \quad \text{pigeon} \quad (55:55:55); \quad \text{mouth A.1} \quad (33:33:33); \quad \text{plough}
\{\text{n.}\} \quad (55:55:35)

(52) \text{t} : \text{tch} : \text{tch} \quad \{+P\} \quad \langle 3 \text{ sets} \rangle \quad \text{autumn} \quad (44+:55:44+); \quad \text{laquer}
(55:44+:44+); \quad \text{rob} \quad (21+:31:31)

(53) \text{tch} : \text{tch} : \text{tch} \quad \{-P\} \quad \langle 3 \text{ sets} \rangle \quad \text{listen} \quad (55:55:55); \quad \text{blue}
\{-\text{DL}\} \quad (55:55); \quad \text{manure} \quad (55:55:55)

(54) \text{tsh} : \text{tch} : \text{tch} \quad \{-P\} \quad \langle 5 \text{ sets} \rangle \quad \text{thorn} \quad (31:31:31); \quad \text{hot (pepper)}
(55:55:55); \quad \text{CLF} \quad \text{inch} \quad (55:31:31); \quad \text{thousand} \quad (55:55:55); \quad \text{weigh}
(55:55:55)
(55) $\mathcal{C} : \mathcal{C} : \mathcal{C} \text{ (-P)} <6 \text{ sets}> \text{ water (33:33:33); fragrant}
    \text{(55:55:31); die (33:33:33); star (55:55:55); school (55:55:35); rest (55:55:35)}$

(56) $s \cdot \mathcal{C} : \mathcal{C} \text{ (-P)} <4 \text{ sets}> \text{ heart (55:55:35); new (55:55:35); firewood (55:55:35); chest (bodypart) (55:55:55)}$

(57) $s^r : \mathcal{C} : \mathcal{C} \text{ (-P)} <3 \text{ sets}> \text{ trunk (55:55:35); fortunate (55:55:55); few (33:33:33)}$

(58) $j : j : j \text{ (+P)} <9 \text{ sets}> \text{ eat (55:44+:44+); potato.1 (42+:42+:42+); potato.2 (55:44+:55); medicine (42+:42+:42+); stockade village (33:42+:42+); armpit (42+:21+:55); tremble (-BJ) (21+:21+); return (-DL) (44+:44+); sharp (42+:31:31)}$

(59) $n_4 : j : j \text{ (+P)} <5 \text{ sets}> \text{ sheep (21+:21+:21+); boat (21+:21+:21+); sickle (21+:21+:21+); first day (of month) (44+:44+:44+); itchy (33:33:44+)}$

(60) $n_4 : j : n_4 \text{ (+P)} <11 \text{ sets}> \text{ sun (44+:44+:44+); person (21+:21+:21+); zero (55:55:42+); want (42+:44+:44+); NEG IMP (44+:44+:44+); enter (44+:44+:44+); PRON 1st-P (incl.) (21+:55:55+); day (44+:44+:44+); noon (44+:33:44+); KIN H.A (-BJ) (21+:21+); silver (21+:21+:21+)
(61)  k : k : k  (+P)  <15 sets> horizontal (21:+21:+21+); rich
(21:+21:+21+); love (v.)  (-DL) (21:+21+); cross over  (-BJ)
(42:+42+); rescue (42:+42+:32); flow (33:21:+21+); reside
(42:+42:+32); sit (42:+42+:32); ride (horse) (33:21:+21+);
seize (44:+44:+44+); song (33:33:44+); bridge (21:+21:+21+);
dew (42:+42:+31); foot (44:+44:+44+); tie (44:+44:+44+);

(62)  q : k : k  (+P)  <23 sets> waist (44:+44:+44+); strike.A  (-DL)
(42:+42+); hang up (44:+44:+44+); bright (33:33:44+); expensive
(42:+42+:53); thick (42:+33:33); CLF (stick) (44:+44:+44+);
trim (42:+42:+42+); revise (42:+31:31); sell (21:+21:+21+);
drum (21:+33:33); price (42:+42:+32); bowl (42:+42:+42+); stick
(44:+42:+42+); meat (21:+21:+21+); bone (44:+44:+44+);
butterfly (44:+55:55); horn (44:+44:+44+); neck (42:+42:+44+);
rice (21:+21:+21+); stem (55:44:+44+); throat (21:+21:+21+);
lake  (-BJ) (21:+21+)

(63)  k : k : k  (-P)  <11 sets> branch (tree) (55:55:55); old
(person) (33:33:33); ginger (55:55:35); fear (v.) (55:55:35);
two (33:33:33); cold (weather) (55:55:35); clean (55:55:35);
grow up (55:55:35); kneel (55:31:31); bow (55:55:35); deaf
person (55:55:35)

(64)  g : k : k  (-P)  <3 sets> story (33:31:31); old (food)
(33:33:33); dance (v.)  (-DL) (33:33)

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
(65) q : k : k  {-P}  <20 sets>  dry (55:55:35); shadow (33:33:33); 
copper (33:33:33); high (55:55:35); chicken (55:55:35); scale 
(fish) (55:55:35); dry (v. intrs.) (55:55:35); ladle out 
(55:55:35); teach (55:55:35); ring (finger) (55:55:35); 
earthworm (-DL) (55:55); liver (55:55:35); official (55:55:35); 
today (55:55:55); this year (55:55:55); KIN FS (55:55:35); dry 
field (55:55:35); tell (-DL) (55:31); mouth A.2 (55:55:35); 
plough.2 (n.) (55:55:31)

(66) qh : kh : kh  {+P}  <8 sets>  thigh (42+:31:31); thirsty 
(44+:44+:44+); wide (44+:44+:44+); weep (44+:44+:44+); nose 
(-DL) (42+:44+); guest (44+:44+:44+); lame person (-DL) 
(44+:44+); hungry.2 (44+:44+:44+)

(67) kh : kh : kh  {-P}  <5 sets>  PRON other (-DL) (55:55); CLF 
clothing) (55:55:55); lack (v.) (55:55:55); make bed 
(55:55:55); begin (33:33:33)

(68) qh : kh : kh  {-P}  <8 sets>  bitter (33:33:33); CLF (money) 
(55:55:31); CLF (kernel) (33:33:33); be good at (33:33:33); 
open (v.) (55:55:55); lead by nose (55:55:55); dog (33:33:33); 
bear fruit (33:33:33)

(69) Ë : Ë : Ë  {+P}  <7 sets>  sweat (21+:21+:21+); bite 
(44+:44+:44+); sprout (n.) (21+:21+:21+); ox (21+:21+:21+);
forehead (44+:44+:44+); yellow (21+:21+:21+); PRON 1st-S
(42+:31:31)

(70) x : x : x {+P} <7 sets> night-time (42+:55:31); boil
(intrs.) (44+:44+:44+); shine on (42+:31:31); Chinese
(42+:42+:42+); household (42+:31:31); peace (33:42+:42+); black
(44+:44+:44+)

(71) x : x : x {-P} <5 sets> sky (55:55:55); raw (55:55:55);

(72) Υ : Υ : Υ {+P} <4 sets> strength (-DL) (42+:42+); wages
(42+:42+:42+); leak (v.) (42+:31:32); to read aloud
(42+:42+:42+)

2.1.10 Directions for further thought

The type of initial and tone-plus-phonation patterns illustrated by
the above table leads to the following speculations: (1) Roughly
equal splitting of the data between morphemes in {+tense} or
constricted (i.e. "marked") phonation and those lacking it might
suggest a recent development in Bai, in which case the conditioning
should still be apparent in some redundant traces of another earlier
and widespread contrast, that is, in some asymmetrical pattern of
complementary distribution elsewhere in the system—among the
initials and/or rhymes. Against this view, however, we have the claim
in Egerod 1971 that "already tonal" languages have resisted
development of register contrasts from segmental shifts involving
phonation types, but instead reflect such systemic changes in tonal
splits and/or mergers. Following this principle, we would expect a
tonal system marked by greater dialectal variation than what we see
recorded in the Jianzhi material. (2) On the other hand, since
previous studies have already shown a systematic correlation between
Bai constriction or marked phonation and an early stratum of Chinese
rusheng, there must be a close and longstanding relationship internal
to Bai between (+tense) phonation or its antecedent and final stops
or their reflex (possibly —?), involving at least two of Jianzhi’s
four (+tense) tones.³ It is surely significant, however, that
correlation has also been established for one (+tense) tone
(Jianzhi’s 21+ tone) and the Chinese A2 tone class or in other words,
initial consonant voicing.⁴ Benedict, while reconstructing a few
proto-Bai etyma from reflexes in tone 21+ (for examples, see the
summary table of Benedict’s reconstructions above), did not single
out this tone for special attention apart from the hypothesis that
derived "glottalized rusheng" from *-ptk, *s-, and *?--. Following
Egerod just a bit further, it might be reasonable to wonder, then,
whether evidence can be adduced to show that marked phonation (<
register distinction < loss of consonant initial contrast) actually
antedates the process of regressive assimilation resulting in
(+tense) phonation from etymological {-ptk}. In any case, the lexical
frequency and wide distribution in text data of {+P} or marked
phonation as I have defined it here, both in published materials and
in the data I collected, gives a different impression from what we
would expect if (+P) reflected only a historical (* -ptk) tone class.
Granted that the Chinese *rusheng* correlations do show that for some
Bai morphemes at least, the etymology of (+P) tonal reflexes is to be
sought in earlier checked syllables (whether borrowed or inherited
from Chinese), it is still inviting to ask whether putative retention
of *ST affixes (as summarized in the tables above) can account for
all the rest. The so-called glottalized *rusheng* of Benedict 1982 was
a device for reconstructing proto-Bai as an early congener of
Chinese. Although Benedict assumed Chinese etymologies, by
implication, in assigning the term "glottalized *rusheng*" to the
constricted or "tense" tonal reflexes characterising much of the
modern Bai vocabulary (that is, to tones 44+, 42+, and 21+), it is
precisely this view of Bai (as a daughter language of proto-Chinese)
that is still the subject of some doubt. As will be seen in 2.4.0.0
below, although there are clear correspondences linking these tones
with the Chinese "entering tone," the Bai tones represented by
(+constriction) notations in *Jianzhi* also have links with traditional
Chinese tonal categories other than D1 and D2. The question whether
this fact represents different chronological strata or accretions in
a genetically inherited lexical stock, or a complicated and
protracted contact situation involving repeated borrowings from
Chinese by a non-Sinitic language, cannot be answered exclusively
through study of the Chinese lexical material in Bai unless we can
link the correspondences shown by this material to principles of
development that are arguably internal to Bai. From there it may be
possible to propose a scenario of linguistic developments that is consistent with the historical record. Notwithstanding the fact that some reflexes in tones 44+, 42+ and 21+ have clear contacts with Chinese rūshēng through borrowing, we may still ask whether the unusual phonation types including tone 31 in the group of {+P} morphemes in modern Bai may not have more to tell us about the history of the language? The point of the present chapter is to explore this question, and to show that the implications of contrasts in phonation type for the reconstruction of Bai diachrony are far from trivial. The thrust of the present chapter, aside from providing this introduction to the Bai tones, is to pursue the conviction that the phonation-type contrasts so carefully recorded by the Jianzhi authors—and vigorously affirmed by my native-speaker consultant LSN—may provide useful evidence toward a relative chronology of linguistic developments for Bai, and that these internal developments will shed welcome light on the genetic question with regard to Bai. But this will be possible only if fuller account is made in one place of the way "marked phonation" {+P} in Bai corresponds (or fails to do so) with diachronically significant features of Chinese and other languages spoken in Yunnan—especially those sharing common ancestry with written Tibetan. The recent genetic proposals, placing Bai by implication at different taxonomic levels within the Sino-Tibetan super-family (Benedict 1982 for Sinitic, Zhao 1982 for the Yi or Loloish branch of Tibeto-Burman) are based on lexical correspondences derived from essentially different segments (or strata) of the Bai vocabulary, each without reference to the other proposal and without
examining the other body of "lexical evidence." Earlier accounts of the Bai language have long since made the heterogeneity of the Bai lexicon notorious.\(^5\) Perhaps it will be legitimate, then, in the rest of this and the following chapters to explore the various aspects of this language as if heterogeneity had been a significant factor in its development. The present chapter aims at uncovering tonogenetic implications inherent in the dialectal distributions of tones and initial consonants, and at evaluating whether historical comparative evidence from one side or the other of the Sino-Tibetan "tree" can possibly be more convincing. Throughout this chapter special concern is directed to possible explanations for contrasts involving other than "clear" phonation. Since laryngeal constriction with contrastive function has been shown to have developed independently (from different historical processes) in a number of different Tibeto-Burman languages, we have at our disposal a variety of scenarios that could explain the development of the Bai system if it could be linked uniquely and exclusively to one or another of the known patterns of development elsewhere. What I believe the heterogeneity principle (that is, the principle that evidence resides in all parts of the lexicon) will show in this case is that no single explanation for the development of \(+P\) can exclude the others, just as no one stratum of the vocabulary can prove the linguistic heritage of Bai.
2.2.00 Studies of contrastive phonation
in Tibeto-Burman languages and Chinese

2.2.01 Tone and phonation types: a tonogenetic problem

As we have seen above, phonation-type contrasts enjoy a remarkable
lexical frequency in the dialect materials made accessible through
Jianzhi, and they are (partially) represented in that and other
recent Chinese sources by an exceptional notational convention that
foregrounds their relationship to the tonal system of Bai. The
pedagogical approach to these phonation types adopted by my native-
speaking consultant suggested that their place in the psychology of
Bai-speaking individuals is important: among other functions they
allow for modification or nativization of new vocabulary from
pǔtōng/huá4, while also discriminating archaic Chinese borrowings
from recent ones for educated speakers, who after all are intensely
interested in the relationship of their unwritten vernacular to the
language of literacy through which their cultural and social
achievements are mainly accomplished. Because of their salience,
which is not only notational but also perceptual and social, the
phonation-type phenomena of Bai invite further study and comment in
the context of a diachronic study of tonal developments in the
language. Although we now know that regular tonal correspondence with
Chinese does not spell genetic affiliation with Chinese (indeed, that
regularity of tonal correspondence between any two languages is
probably a sign of recent borrowing), it is possible that tonogenetic correspondences, if they are unique and systematic, might be useful for placing Bai within a diachronic scenario that can answer the genetic question. Dell's study already established the outlines of tonogenetic implications for two strata of Chinese material in Bai, but without examining either the coexisting Tibeto-Burman lexical material or TB tonogenetic scenarios. It is my purpose in the remainder of this chapter to cast the net somewhat wider by considering the Tibeto-Burman side in relation to Chinese evidence, and by adding to the stock of Chinese evidence through study of an inscriptive source. These practical comparisons will be considered, however, in the light of some recent scholarship relating tonogenetic changes to phonation types, work from which I draw inspiration to speculate about the history of the Bai tones.

2.2.02 An areal approach to tonogenesis involving phonation types

Contrasts in phonation type have been associated with different but comparable historical developments (splitting of vowel systems, development of tones, and appearance of register distinctions) that significantly affect the synchronic vocalism of many languages and dialects distributed all over mainland Southeast Asia, and descended from various language stocks of differing mutual relationships (Chinese, Tibeto-Burman, Austroasiatic, Tai). Some systemic resemblances linking these types of historical development in an overall pattern of areal features were brought together with a review
of the literature that deals with them by Egerod 1971.\textsuperscript{6} The resulting areal view of phonation-type tonogenetic phenomena suggested that languages around the southern periphery of the Sinosphere (alternatively dubbed Cis-Yangtzeana, both terms coined by Matisoff)\textsuperscript{7} had been subject, each in separate ways, to drastic internal phonological realignments as they "struggled" to maintain structural coherence under the influence of an apparently contagious tendency toward disappearing segmental or syllabic contrasts. Although such scenarios have run their course independently in the various affected languages, and although the resulting language states have been differently described, Egerod's treatment did signal a growing consensus with regard to the important hypothesis that loss of phonation contrast(s) inherent to consonants has led to proliferation of suprasegmentals and/or vowel qualities in languages affected by this areal trend. Naturally there remains disagreement over the specific course of events involved in tonogenesis for any single language.\textsuperscript{8} The importance of Egerod's paper (it would be difficult to overemphasize this) was not just in linking the tonogenetics of Chinese with that of Southeast Asian languages (this had already been done by Haudricourt), and in comparing well-known cases of vowel splitting (notably as reflected in the deng\textsuperscript{3}yun\textsuperscript{4} system of the Chinese rhyme tables) with splitting of tonal systems, but also in demonstrating that two types of assimilation (regressive and progressive) are involved--each with its own implications for historical reconstruction but having similar (comparable, not identical) historical results in synchronically observable languages.
(in some cases, forming different chronological strata of change in the same language). These seminal observations were later picked up for elaboration by Weidert in a wildly confessional polemic aimed at restructuring Tibeto-Burman tonogenetics around a laryngeal theory involving syllable-final, as opposed to syllable-initial, proveniences.\(^9\)

2.2.03 Opposite historical processes involving a single feature

It will be useful to recall that in all the languages Egerod discussed it was the presence of one feature that involves a peripheral gesture of the throat (an aspect of "manner"), termed in this context "laryngeal coarticulation," that was supposed to have given the historical consonantal contrasts their structural reality, rather than a differentiated group of "place-specific" oral gestures connected with particular consonant articulations, and that such different effects as vowel splitting (in Chinese, Thai, Mon, Khmer, and Burmese) and tonalization—splits in an existing system of tones—(in Chinese and Thai, partly in Burmese) were explained as representing structural retentions of the historical contrast between\(^+\) laryngeal and\(^-\) laryngeal in newly salient phonetic forms. The process had been richly documented for already tonal languages by Haudricourt, who extended the insights of Prague Circle phonology relative to Chinese correlations of voicing and register to a vast array of Southeast Asian languages and created, thereby, a large body of tonal evidence for transphonologization.\(^10\) Egerod, for his part,
also extended an observation from Chinese data to the status of general hypothesis that historical contrasts involving laryngeal coarticulation (phonation type) have first been exploited by processes of morphophonemic alternation (grammatical or semi-lexical derivation) among semantically related word forms (simplex/causative, basic verb/verbal noun), and that the emergence of a split tonal or vocalic system serving a purely lexical function is generally a later development that can be linked to the breakdown of the historical derivation paradigm.¹¹

2.2.04 Egerod's relative chronology of tonogenesis

Although his stated purpose was to extend the laryngeal scenario backward for Chinese from the Ancient (Middle Chinese) to the Archaic (Old Chinese) stage drawing analogies to changes in other languages,¹² the weight of Egerod's achievement was in elaborating all the above principles toward a generally applicable relative chronology for the operation of a trend toward transphonologization of dichotomies involving phonation types, and in tracing the actual sequence and substance of historical changes in many different languages to demonstrate that they amount to an areal complex of typologically similar changes. For Chinese, what might otherwise be seen as (1) anomalous splitting of historical vowels and (2) complicated tone sandhi phenomena, each typical of some modern Chinese dialects, were similarly explained in terms of a relatively (relative to the rest of Chinese) early clash in affected dialect
groups (Yue and Wu) between regressive assimilation of syllable-final phonation contrasts and progressive assimilation of syllable-initial phonation contrasts that ideally "should have" occurred later, after the syllable-final change had run its course. For Thai, a fully developed tonal system from early regressive assimilation of syllable-final phonation contrasts was said to have actually prevented the development of a register system with split vowels, a change that could have resulted from the later loss of a contrast in phonation type among the consonant initials, so that the existing tone system was in a sense "forced" to undergo secondary (tonal) splits at this point. Khmer, on the other hand, lacking any tonal system, was shown to have developed a fully split vowel system in connection with the unimpeded emergence of two distinct voice registers, arising from the "same" loss of syllable-initial phonation contrast(s) that created split tonemes in Thai. Other historical scenarios could no doubt be adduced from data encompassing still more languages, but these cases are sufficient to establish the areal distribution and basic character of an important type of phonological change, one that is almost certain to have played a role in the genesis and development of the Bai tones as we know them. The critical point here is that while a single areal feature (laryngeal coartication) was shown by Egerod to have effected quite different changes in the various languages he discussed, general principles of systemic resemblance and chronological evolution still link all these changes typologically, regardless of the genetic relationship (or lack of it) that happens to obtain among the languages involved. In
general, Egerod showed that structural realignments from regressive assimilation have usually preceded those due to progressive assimilation, in languages where both developments have occurred.

2.2.05 Mixed origins for the tense/lax contrast within Tibeto-Burman

In a similar vein, different historical origins for synchronic contrasts in phonation type that have been subject to nearly identical description for a restricted group of Tibeto-Burman languages (various dialects of Yi, Lisu, Hani, Lahu, Kucong, Jingpo, and Zaiwa) were studied comparatively by Dai, in a paper that showed differential correspondences for tense- and lax-vowel phonemes conditioned by their proveniences, even though the synchronic phonation-type contrasts might be thought of as a phonological trait that is shared by all these languages. Following the lines of comparative demonstration established in an earlier paper on the tense and lax vowels of Hani only, this paper demonstrated that the contrast between tense and lax vowels found in the group of languages named above has developed from different systemic origins, or in other words from a syllable-initial feature in some languages, and from a syllable-final one in others. That the apparent phonetic similarity shared by these languages is heterogeneous in its origins was shown by demonstrating comparatively the pattern of asymmetrical but interlocking lexical correspondences that obtains among them. Treating the tense vowels of all these languages as perceptually "marked," Dai showed that in one group (Yi, Hani, Lisu, Lahu, etc.) a
historical contrast between checked and unchecked syllables has been transphono- 

gologized and preserved in the tense/lax vowel contrast, while in the remaining 
group (Jingpo and Zaiwa) the same contrast preserves an earlier correlation 
between a voiced and voiceless series of consonant initials. We shall see below 
that the situation is more complex than this description would make it appear, 
however, since in the first group it is tense vowels that reflect a 
(presumably) laryngeal feature, while in the second group the lax 
vowels are the reflex of historical voicedness. According to Dai the 
synchronic situation is characterised by either complete or partial 
phonological opposition between a certain number of vowels that 
require laryngeal constriction for perceptual recognition (the tense 
vowels), and a sometimes larger set of unconstricted vowel sounds 
(the lax vowels). Tense articulation is treated as a property of the 
vowel by this author even though it correlates systematically 
(sometimes in a pattern of complimentary distribution) with tones in 
the languages concerned. The fact that in most of these languages the 
tense vowel sounds constitute a restricted set compared to the lax 
was generally attributed to a continuing historical trend toward 
gradual disappearance of laryngeal coarticulation altogether, but Dai 
also pointed to conditioning factors involving a possible clash 
between a historically predicted tense- or lax-vowel sound and 
synchronic requirements brought to bear in the exploitation of the 
tense/lax contrast for grammatical derivation. The general situation 
of asymmetrical distribution—a usually larger set of lax vowels in 
relation to tense—was also described in terms of tone types (high
level, low falling, and so on) in the various languages. In Lisu, for example, of four recognized tone types only two can co-occur with tense vowels; in Hani, only two of three can do so; in Xinpeng Yi two tone types occur only with lax vowels, one with tense vowels, and one tone type admits full opposition between tense and lax.15

2.2.06 The role of Tibetan in reconstructing opposite historical processes

It is important to point out here that the mixed-origin hypothesis as outlined by Dai assumed a single origin for the two-way phonation contrast found in any given language, but that both types of historical development (e.g. from regressive assimilation and from progressive assimilation) were illustrated by evidence from Written Tibetan. In other words, the writing system of Tibetan furnished indirect evidence that the two different historical processes invoked to explain the development of synchronic tense/lax vowel contrasts in Burmese-Lolo (Burmese-Yipho) languages may both have occurred later than the seventh century A.D. The synchronic correspondences on which Dai’s theory of tense/lax vowel development in Burmese-Lolo is based are summarized in the following table, which shows that the historical voicing contrast is still preserved as such in the consonant initial systems of some languages and dialects of Loloish/Yipho (Yi, etc.), while the contrast of rhyme-endings has been preserved in Burmish (Zaiwa, etc.) vowel qualities and tones.
Table 2.2 A

Asymmetrical Correspondences of Tense/Lax Contrast in BL

Yi, etc. : Zaiwa, etc. : Written Tibetan

(+tense) rhyme : (+ptk?) rhyme : checked rhyme

(-voice) initial : (+tense) rhyme : {P-} initial

(+voice) initial : (+lax) rhyme : {B-} initial

Now, if we are permitted to extrapolate from the findings of Egerod above, it may also be possible to suggest here that the tense/lax contrast found in the Loloish/Yipho group is historically older, if indeed it can be attributed to the breakdown and regressive assimilation of Tibeto-Burman final consonants.

2.2.07 Does failure to correspond exactly rule out grouping Bai with Loloish?

Having reviewed this background, we may further observe that in the same article Dai explicitly declined to treat the contrast of tense and lax vowels that has been described for Bai, although this language has often been grouped with Loloish/Yipho by Chinese scholars. Dai claimed that clear patterns of correspondence linking the actual "tense" and "lax" vowels of Bai with those of the various Loloish/Yipho languages explained by his theory were difficult to establish. He also cited some unusual phonetic features described for the laryngeal coarticulation found in some Bai tones, as well as a
unique pattern of distribution in relation to the tones, commenting that all these conditions might well be used as criteria for grouping Bai separately from Loloish/Yipho. Dai further implied that these conditions might call for a unique type of explanation, to account historically for the phonation type contrast(s) found in modern forms of Bai.

2.2.08 Experimental study of what is "marked phonation" in any given language

In light of the historical situation illustrated by the above two papers, the study reported in Ladefoged and Maddieson 1986 has encouraged me to consider the Bai tones, and the various articulatory phenomena associated with them, in terms of a basic structural (phonological) contrast between marked and unmarked phonation. This study described a series of experimental recordings that were made to demonstrate what the authors termed "the wide range of phonetic properties that have been called tense as opposed to lax" in a number of non-Chinese languages spoken in south China. The languages they studied fell into two separate groups that showed some measurable differences in their realization of a contrast between tense and lax syllables, a pattern that correlated with a difference in the historical origin of the phonation type contrast in each group. Hani and Yi, where "tense" vowel articulation preserves an earlier contrast that was maintained by stopped rhyme-endings, had relatively shorter vowels in affected syllables, while Jingpo and Wa, where
"lax" vowel articulation is the reflex of an earlier contrastive phonation type associated with voiced consonant initials, did not show such a difference in vowel quantity. More important for my thinking here, these authors found relatively longer voice onset time for stop initials in the tense syllables of Hani and Yi, while they found the same effect characterised stop initials in lax syllables of Jingpo and Wa. This difference led them to suggest that for languages where the modern phonation type contrast is due to a historical contrast of rhyme-endings, the normal or "modal" (unmarked) phonation type is lax, whereas for languages where the modern contrast is attributable to an earlier state of the consonant initials, the normal, unmarked phonation type may be tense. So in effect, the same phonation type ("tense vowel") was shown to have a different structural (phonological) status in different languages, according to whether it represented the historical laryngeal feature or not: in Hani and Yi, tense vowels might be treated as phonologically marked, but in Jingpo and Wa on the other hand, they were to be treated as unmarked.

2.2.09 Applications to the study of \(+P\) in Bai

These findings, which link difference in type of development to difference in phonological status, have inspired me to wonder if the complex variety of coarticulated features associated with the tones in Bai speech might not be the result of conflict and readjustment among shifting phonation contrasts of different provenience (from
rhyme-endings and from initials—leaving aside for the moment the
question of different source languages), possibly brought into
competition in a synchronic language state by a sudden shift in the
intensity of a contact situation. Whether or not such a hypothesis
can be supported, I believe the distinction drawn by these authors
between (1) normal or modal phonation and (2) marked phonation is an
important one for my purpose here, because it allows for a degree of
abstraction in thinking about empirical data that present quite
remarkable differences to perception. Though time does not allow it
here, the above instrumental findings invite some discussion of
Thurgood’s work on Tibeto-Burman subgrouping criteria: ideally we
should consider the question of shared phonetic features as against
innovations in subgrouping.

2.3.00 Functions of marked phonation (+P)
in Loloish and other BL languages

2.3.01 Derivation and phonation type in BL languages

In a recent survey of the tense/lax situation among the Tibeto-Burman
languages spoken in Yunnan Province, a language grouping somewhat
broader than Loloish or Yi (the approximate equivalent in
contemporary Chinese sources), Dai distinguishes two functions for
the contrasts in phonation type described for these languages. Among
the languages studied, traces of “causative derivation by phonation
type" are said to be still in evidence though in an eroded state, while the lexical function of distinguishing word meanings is said to be pervasive in affected languages.\textsuperscript{16} Derived verb forms in what we may call \{+P\} (although this author treats marked phonation type in terms of a tense/lax vowel contrast) with causative meanings are described for a restricted cluster of related dialects in this group (Zaiwa and Jingpo). The remaining languages (Yi, Hani, Lisu, Lahu, and Kucong) form a contrastive grouping, also affected by contrasts in phonation type but generally not exploiting such contrasts for the expression of grammatical meaning. Rather, languages of this group devoice the consonant initial of certain verbs to express the causative. Despite this difference, the simplex/causative paradigm appears to yield only what amounts to a group of listable items in all the languages under discussion. How large this group may be in any given language is still a matter of some debate. For Lahu, disagreement turns on the question of whether simplex and causative pairs defined by alternations in consonant initial and in vowel quality may be admitted to the list, or whether only pairs distinguished by phonation contrast are admissible.\textsuperscript{17} Although this debate at points threatens to degenerate to the level of reductio ad absurdum or semantic quibbling, the general situation that emerges for this group of languages does not seem essentially different from the more familiar situation in modern standard Chinese, where suprasegmentals (tones) are principally exploited to distinguish word meanings (lexical tones), leaving a listable group of tonally alternating homophones (representing the fossilized retention or...
residue of a historically productive morphophonemic system) that
belong to different word classes (verb/noun, adjective/verb) or
sometimes express semantically different shades of meaning. Despite
this general similarity, we may still draw a tentative conclusion
that exploitation of suprasegmental contrasts in the domain of
simplex/causative meanings is more typical of Tibeto-Burman, while
word class derivation is more typical of modern Chinese, so long as
we admit exceptions to the rule on both sides.

2.3.02 Doublets and phonation type in Bai

In the remainder of this chapter we will be pursuing some
implications of Dai's historical findings on the tense/lax situation
among the TB languages of Yunnan for a historical interpretation of
the tones and (+P) in Bai. Here it may be interesting to take a
preliminary look at some semantically related word sets or doublets
from Bai that could be interpreted synchronically as representing a
type of lexical derivation. The mechanism of causative/simplex
alternation is not illustrated by these sets, (indeed, the only
causative that emerges from my recorded data is a paraphrastic
construction that resembles a translation from modern standard
Chinese). Rather, the sets illustrate a type of variant or
alternation in Bai that was studied earlier by Wen as a problem of
Bai "synonyms."18 Yet we may note with interest how the repertoire of
phonation types in Bai often functions to distinguish doublets, and
this perspective may help us to evaluate the historical significance of Bai (+P) in the light of Dai’s study.

<table>
<thead>
<tr>
<th></th>
<th>Bijiang</th>
<th>Jianchuan</th>
<th>Dali</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) to be split open</td>
<td>pō55</td>
<td>pē55</td>
<td>pe’re35x055</td>
</tr>
<tr>
<td>to split (wood)</td>
<td>pho42+</td>
<td>pho31</td>
<td>(phi55)</td>
</tr>
<tr>
<td>(2) to get dry</td>
<td>gō55</td>
<td>kā55</td>
<td>ka35</td>
</tr>
<tr>
<td>to dry (clothes)</td>
<td>gō42+</td>
<td>kō31</td>
<td>khou3</td>
</tr>
<tr>
<td>(3) plank</td>
<td>pō33pho55</td>
<td>pē33</td>
<td>pe’re33</td>
</tr>
<tr>
<td>flat; plain</td>
<td>pa21+</td>
<td>pē21+</td>
<td>pe’re42+</td>
</tr>
<tr>
<td>(4) price</td>
<td>qa42+</td>
<td>ké42+</td>
<td>ke’re32</td>
</tr>
<tr>
<td>to sell</td>
<td>qu21+</td>
<td>ku21+</td>
<td>ku21+</td>
</tr>
<tr>
<td>meat</td>
<td>qa21+</td>
<td>ké21+</td>
<td>ke’re21+</td>
</tr>
<tr>
<td>(5) seed</td>
<td>po55tō33</td>
<td>tsī33</td>
<td>tsī33</td>
</tr>
<tr>
<td>to plant</td>
<td>tō42+</td>
<td>tsī42+</td>
<td>tsī32</td>
</tr>
<tr>
<td>(6) to lick</td>
<td>dzō’re33</td>
<td>tsi33</td>
<td>tsi33</td>
</tr>
<tr>
<td>tongue</td>
<td>t’fe’re42+</td>
<td>tse42+</td>
<td>tse42+</td>
</tr>
<tr>
<td>(7) to sweep</td>
<td>t’ho44+</td>
<td>tsho44+</td>
<td>(su33)</td>
</tr>
</tbody>
</table>
broom  true44+gy21+  tsui44+ku31  tsui44+ky31

(8) to sniff  trhy42+  tshu55  tshu55
foul-smelling  xa55t rh42+  tshu31  tshu31

(9) chopsticks  tgy42+  tsy31  tsy31
hoe  tgy21+  tsy21+  tsy21+

(10) to revolve  dzuē42+  tsui42+  fe44+ju132
to wring out  jii42+  tsui44+  je42+

(11) to comb (hair)  sry31  sy31  sy31
comb  sry55tū21+  sy55  kho55sy35

(12) to trim  qa42+  ke42+  ke'r42+
to revise  qa42+  ke31  ke31

(13) stick  qua44+  kua42+  kua42+
CLF (stick)  qua44+  kua44+  kua44+
bone  qua44+  kua44+tu21+  kua44+tu21+

(14) horn  qō44+  ky44+  ky44+
neck  qō42+te44+me'r42+  ky42+ly42+mi42+  po35tsi33ku44+
2.4.00 Bai tones and historical tonal categories of Chinese through an inscriptive source

2.4.01 Review of the cover term \{+P\}

As the internal tone correspondences across the dialects show, the class of morphemes that is defined by the feature \{+P\} must include some etyma that are represented by "lax" vowels in one or more dialects according to the transcription of native scholars, so that the \{+P\} class is broader than either class that might be defined by a feature \{+/-constriction\}. Once we look at the Bai phonological system in this way, we may decide that the apparent structural symmetry created by dividing the vowel system into an equally distributed number of tense and lax phonemes is slightly misleading. In any case, here I would like to examine contacts between the four tonal categories of Middle Chinese and Bai morphemes having \{+P\} rhymes, for the moment disregarding the question of whether the Bai phonation types are better treated as a part of the tonal system or analysed as a structural division in the system of vowels (e.g. rhymes).

2.4.02 Syllables and tones in Bai and Mandarin

Although the aim of this chapter is to examine historical comparative evidence from Chinese and Tibeto-Burman languages that together may
shed light on diachronic developments in the Bai tones and initials, we should not ignore the possibility that direct comparisons (synchronic contrasts) may form part of the available evidence. Indeed, the argument mounted in favor of grouping Bai with the Yi or Loloish language group was based primarily on direct comparison of lexical items and other linguistic elements. It may be useful to briefly examine a set of contrasts involving direct comparison of Bai data and data from Mandarin or "pu3tong1hua4", which will expand on the basic description previously presented in our outline of the Bai tones and initials above.

Table 2.4 A

The syllable canon for Jianchuan Bai and Mandarin

<table>
<thead>
<tr>
<th>Bai</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>T [+/−P]</td>
<td>T</td>
</tr>
<tr>
<td>(C) (V) V (V) [+−N]</td>
<td>(C) (V) V (V) (C)</td>
</tr>
</tbody>
</table>

Starting from the four tonal categories traditionally recognized in historical studies of Chinese (A = ping2, B = shang3, C = qu4, and D = ru4), it may be useful to summarize the correspondences that link the traditional categories with present-day tonal reflexes of Mandarin or "pu3tong1hua4", as contrasted with the equivalences generally cited for the Bai "loan tones" or in other words the Chinese traditional categories as expressed through the literary or reading pronunciations of recent Chinese loans in Bai. The consultant labels these pronunciations "Han characters read in Bai"
and for convenience I refer to the subsystem of tones that are used in such pronunciations as the HZBD system below. This system (or a variant of it) may be consciously invoked by literate Bai speakers as a system of native reading pronunciations for Chinese texts, as attested by a sample of intoned reading data including both a wen2yan2 text sample and one from a People's Daily editorial, taken from the consultant LSN in June of 1988. Time and space do not permit analysis of those readings here, but I can report that the consultant uses a system similar to the one described by Jianzhi for reading Chinese text "in the Bai way," a fact that is most evident in his use of the [35] tone to read graphs belonging to the traditional entering tone ru4sheng1 category. This performance differs perceptibly from that of, for example, standard broadcast pronunciation as heard on the Beijing broadcast media. It is tempting to think of the HZBD system as a learned repertoire of mutations that has traditionally been used by literate Bai speakers to "naturalize" material from written Chinese text voluntarily. The tables below outline this subsystem in two ways. The first table gives the numbers of Jianchuan tones that I have assigned for convenience in transcription, alongside their standardized values (that is, the values recorded for the equivalent tones by Jianzhi), with the traditional Chinese tonal category for literary readings (the HZBD system) appearing to the right of the Jianchuan tonal value that is used for that category. By way of comparison, a simplified schema shows the historical tonal splits and mergers for Mandarin, that is, the standard contemporary Chinese language based on the
speech of Beijing and not the "Mandarin" or *guan3hua4* of southwest China. The following table shows the outcome of historical "splits and mergers" in a different way, starting from the traditional categories (MC) and superimposing a grid over these to show which categories are represented by a single reflex in the modern system.

<table>
<thead>
<tr>
<th>GW #</th>
<th>JC value</th>
<th>HZBD</th>
<th>Mandarin #</th>
<th>Value</th>
<th>MC category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(55+)</td>
<td></td>
<td>1</td>
<td>(55)</td>
<td>[A1]</td>
</tr>
<tr>
<td>2</td>
<td>(44+)</td>
<td></td>
<td>2</td>
<td>(35)</td>
<td>[A2]</td>
</tr>
<tr>
<td>3</td>
<td>(not assigned)</td>
<td></td>
<td>3</td>
<td>(214)</td>
<td>[B1/2]</td>
</tr>
<tr>
<td>4</td>
<td>(42+)</td>
<td>[A2]</td>
<td>4</td>
<td>(51)</td>
<td>[C1/2, B2]</td>
</tr>
<tr>
<td>5</td>
<td>(21+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>(55)</td>
<td>[C1/2]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>(33)</td>
<td>[A1]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>(35)</td>
<td>[D1/2]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>(31)</td>
<td>[B1/2]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2.4 C
Contacts with historical Chinese tonal categories
in HZBD system and Mandarin

<table>
<thead>
<tr>
<th>HZBD system</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC</td>
<td>A1  B1  C1  D1</td>
</tr>
<tr>
<td>MC</td>
<td>A2  B2  C2  D2</td>
</tr>
</tbody>
</table>

2.4.03 Lexical context and choice of tone reading

When quizzed about his use of a literary (HZBD) pronunciation instead of another available pronunciation (implicitly, when there are two choices for pronouncing the same Chinese etymon in speech), the consultant gives examples that show his preference for a literary (HZBD) reading in syllabic collocations involving a modern concept. Lacking reference materials for their language, speakers may of course vary in this, and we have then an interesting area for further exploration and study when elicitation from a number of speakers becomes possible.
2.4.04 Special developments among the Bai initials: Benedict's reconstruction theory bis

We have touched on the theories of Benedict in relation to the Bai "glottalized ru4sheng7" in 2.1.03, 2.1.07, and 2.1.10 above. Actually his treatment of the tones in \{+constriction\} fits into a larger scheme that encompasses the effects of ST prefixes and suffixes on the consonant initials and the syllables of Bai.

Table 2.4 D

Syllable-external ST influences on the Bai initials

proposed in Benedict 1982

<table>
<thead>
<tr>
<th>ST Provenience</th>
<th>Proto-Bai</th>
<th>Development</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>s- prefix</td>
<td>s- cluster</td>
<td>&gt; {spirant}</td>
<td>'pen' fy44+</td>
</tr>
<tr>
<td></td>
<td>cluster</td>
<td></td>
<td>'six' fy44+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'saw' fy42+tshe44+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'house' tsu21+xo31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'look at' xâ55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>'sky' xe55</td>
</tr>
</tbody>
</table>

if: \{back\} > \{front\} 'five' (Dali) mu33

if: \{glottal\} > 0 'swallow' (v.) ê42+
The data and explanations supporting the above claims may be summarized from Benedict's paper as follows (MC and pre-MC spellings are cited as given in this source, except that Benedict's i with superscript brev is spelled with "barred i" as І):

(1) 'pen' (writing brush)...фv2 (Dell); JC: фy44+; MC: пиет (D1) 笔 < *пiєт < *сблиєт. This and the following two lexical items constitute a trio of Bai homophones for which PKB reconstructs proto-Bai forms that either compare with or antedate their Middle Chinese counterparts, showing complex s- clusters at the pre-MC level that have yielded (by various routes) proto-Bai plain bilabial stops with medial І-, later undergoing "dentilabialization" similar to that in Chinese, but as an independent development in Bai "caused" by the lingering effect in this language of the Sinitic or ST s- prefix. That this is a secondary development unique to Bai which nevertheless may link it with earlier forms of Chinese than MC (viz. proto-Min) is in part attested by the MC initial 笔 of the corresponding Chinese form 笔, which is the plain bilabial surd stop rather than the one marked for later dentilabialization in Chinese. For this etymon, Benedict spells OC and MC the same as Karlgren (GSR 502d), and the proto-form in *сблиw- must therefore be understood to refer to Sinitic, yielding a Proto-Bai initial *(s)piw-. Why the Sinitic reconstruction must involve a sonant stop is not clear from the context.
(2) 'six'...fv2 (Dell); JC: fy44+; MC: liuk (D2) < *gliok, but
Proto-Min *hluk < *sluk. Here Benedict's MC and OC spellings both
depart from Karlgren, reflecting evidence drawn from the MC
homophone meaning 'early ripening grain' from an earlier form
in velar cluster *gl- (GSR 1069x). This method allows his OC
'six' to parallel evidence from Tibeto-Burman: PTB SIX *k-ruk;
Pa-o Karen: su' and Pwo Karen: xu' both < a Proto-Karen doublet
alternating in *s-kr- / *skr-. On this basis Benedict suggests an
evolution from ST *skriok (emphasising that for this scenario to
work, the s- must already be incorporated into a cluster at the
ST level) to Sinitic *skiwok, fronting to *(s)piwok in Proto-Bai
giving a form eligible to undergo the same unique
dentilabialization as described above for 'pen'.

(3) 'saw'(1)...fv2 ts'ε2 (Dell); JC: fy42+tshe44+; MC: kiwo (C1)
< *kıo. In this case again Benedict follows Karlgren's
spellings for OC and MC, reconstructing a Proto-Bai form again in
*(s)piw- by way of a cluster *skiw-. Whether the earlier cluster
refers to Sinitic or Proto-Bai is not explicit, but we can observe
that the fronting to Proto-Bai labial seems to foreshadow the
later palatalization of the MC plain surd stop initial ṝ to
[ tɕ- ] (a post-MC development) in Chinese, and that the
development of medial -w- might therefore also represent a
parallel secondary development in both Proto-Bai and MC.
(4) 'house'...xo3/4 (Dell); JC: tsəu21+xo31; MC: ka (A1). The prefixed form necessary for deriving this Bai reflex (as well as the related 'household, family' JC: xa31ty55) is unrepresented in both MC and OC *ko (GSR 32a), contrasting with 'six' above where Benedict cites a Proto-Min (i.e. pre-MC) remnant of the ST *s-. For Proto-Bai he suggests *xa < Sinitic or ST *s-kha, the same form to yield the OC form in plain surd stop initial _NULL_. Although this is far from explicit, Benedict seems to prefer a prefixed form in *s-kh- over a cluster *skh- at the Sinitic level to explain why Proto-Bai does not have a form in "fronted" labial cluster *(s)ph-. The 'partial shift from velar to labial' shown by 'five' below perhaps does not operate here because of a differential effect in Bai of the ST *s- prefix upon surd and sonant initials.

(5) 'look at'...xa1 (Dell); JC: (A) xa55; (B) ă33; MC:  NULL.

(6) 'sky'...xe1 ? (Dell); JC: xə55; MC:  NULL.

(7) 'five'...mu3 (Dell); JC: ȵy33 but DL: mu33; MC:  NULL.

(8) 'swallow'...e8 (Dell); JC: ę42+; DL: e32; MC: ?ien (A1). That Benedict proposes an ST *s-ki- provenience for Proto-Bai *(s)?ien suggests that the MC glottal initial _NULL_ represents preemption in both Chinese and Bai of a Sinitic postvelar plain surd by prefixed ST *s-.19
2.4.05 Direct comparison of Bai data and written Chinese transcriptions

Some comparisons of Bai vocabulary and early transcriptions of man words using Chinese characters as phonetic symbols were undertaken some years ago by Ma Changshou, based on local pronunciations in the northern Erhai lake region for lexical items that were recorded by Han observers and preserved in the Manshu account of Fan Cho. But Ma's data, drawn from several modern Bai vernaculars, could not be described as systematic: very little analysis was offered beyond placing comparative data from Bai next to the Chinese graph that recorded a lexical item of similar meaning in Manshu, yet this was an interesting attempt to examine modern Bai linguistic data with the traditional historical sources in mind. Some preliminary results of comparison involving text materials catalogued in the preceding section will come under analysis here. As I have said, the category of "early" materials has been included in the above taxonomy mainly for reasons of documentary completeness. My own comparisons represent only a beginning, and are limited here to examining the Bai readings for the first 102 graphs of an inscriptive text (see 2.4.07 below).

2.4.06 Is there a literary/colloquial dichotomy in Bai?

Studying the phonetic correspondences across the Bai dialects as revealed by an inventory of the Jianzhi vocabulary material forced me to consider a multifarious complex of methodological problems, the
thorniest of which is probably the problem of how to distinguish and
deal with the various strata of Chinese that are clearly involved in
Bai diachronic developments. My purpose in this paper is to explore
the history of Bai especially as it may be discovered through study
of the tones and associated phonation type phenomena, unimpeded by
these problems, and I focus below only on the tonal "contacts" with
traditional Chinese phonological categories as revealed by reading
pronunciations for Bai text material in Chinese graphs, in hopes of
establishing that one set of correspondences may be regarded as
"literary" and another set "colloquial." I am not sure to what
extent the same (literary/colloquial) dichotomy can be used to
distinguish chronological layers among the Bai readings of Chinese
initials and rhymes in text—this line of inquiry seems promising
however, and I will explore the question elsewhere. In any case, the
tradition of literary readings that is acknowledged by native Bai
scholars is described in the sources authored by them purely in terms
of tonal correspondences with Chinese. This tradition is the
so-called hanzi baidu system, whereby Chinese characters may be "read
in Bai tones." The following tables illustrate the system very well,
but in addition they show that a literate Bai speaker will almost
surely depart from the system of literary readings, probably
depending on the semantic requirements of the surrounding context,
and perhaps also on some other factors involving sandhi rules for
literary readings that have not yet been adequately investigated.
2.4.07 Inscriptional text facsimile and data analysis from Chinese character readings

Before comparing the readings for a sample of text (graphs 1-102) from the "Funerary inscription of elder worthy Yang Zong" in Bai script with the traditional tonal categories of the Chinese graphs encoding them, it will be useful to give the same 102 graphs of the text in their proper order. These appear in the following table with Dali readings and punctuation provided by the critical annotator of the text, Xu Lin. Pitch and contour notations for the tones of these readings differ only slightly from the system outlined in 2.1.04 above: in this corpus there are two [-P] mid level tones, [44] and [33], and there is one aberrant [34] reading. These pronunciations are identified by Xu as reflecting the local speech of Xizhou, and we may assume that this level of specificity accounts for the differences from the standardized Dali system of Jianzhi.

Table 2.4 E

Partial facsimile of a 15th-century Bai inscriptionsal text in Chinese characters with Bai readings

(1) 故 (2) 善 (3) 士 (4) 杨 (5) 宗
ku55 se55 si55 ja53+ tsu44

(6) 墓 (7) 志・ (8) 弟 (9) 杨 (10) 安
道 (12)书 (13)白 (14)之 (15)你

(16)侣 (17)玉 (18)叶 (19)杨 (20)家.

(21)多 (22)宗 (23)生 (24)在 (25)蒙

(26)城 (27)喜 (28)脸 (29)城 (30)南

(31)仙 (32)村 (33)丘 (34)袅 (35)袅

(36)波 (37)知 (38)杨 (39)样 (40)通.

mu55  tsi55  the44  ja53+  a44

to55  ve53+  pe53+  si35  lu31

ri21+  ju35  je35  ja35  ke35

mie35  tsi55  tci53+ ke55  tsw55  mu31

xuo44+ xw33  tce44  tsi21+  na35

ge35  ju44+ xw31  ji31  ci55

po35  mie35  ja53+  tc53a53+  thu33
(41) 息 (42) 夜 (43) 知 (44) 药 (45) 师
qi55 jo53+ mie35 jo35 si33

(46) 王 (47) 波 (48) 知 (49) 杨 (50) 通
ju35 po35 mie35 ja53+ thu33

(51) 知 (52) 夜 (53) 名 (54) 杨 (55) 满
mia53+ jo53+ mie35 ja53+ ma31

(56) 珠 (57) 父 (58) 难 (59) 知 (60) 杨
tsy44 tie44 na31 mie35 ja53+

(61) 观 (62) 音 (63) 庆 (64) 母 (65) 难
kua33 ju44+ tchew55 mo33 na31

(66) 加 (67) 夜 (68) 息 (69) 生 (70) 二
mie35 je55 qi35 suw44 e55

(71) 子 (72) 大 (73) 难 (74) 加 (75) 应
小多宗，敬是

波扬兹年初

聪明秀气迎

市上村老人

王秋小女观

言宝。
Inspection of the readings for this text shows that the Bai speaker interprets the graphs sometimes phonetically, sometimes semantically, exploiting one of the interesting features of the Chinese writing system. At this writing I do not know how widespread the skill of reading texts in this way is among Bai speakers, but as we have seen (in 1.3.00) above there is reason to expect some performers of Bai oral literature to be practised in it. The data from this trial study do show us something, but we need a larger sample and especially a sample that includes actual oral performances from skilled readers to really explore this kind of material further. Of course study of such performances will furnish data on many more aspects of the Bai language than its tonal system, but one question to start with might be to see whether recitation of folkloric texts from contemporary prompt-books in Chinese transcription depart from the HzBD literary reading system to the same extent as the readings of this inscriptive text. A more difficult problem would be to evaluate why or why not--the variables make this a tricky question: for example, degree of literacy on the part of the performer, as against lexical or discourse features of the text.
Table 2.4 F

Chinese character readings from a 15th-century Bai inscription
compared with Chinese tonal category and MC spelling

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>86</td>
<td>A 1</td>
<td>ts'ug</td>
<td>tshu 55</td>
</tr>
<tr>
<td>5</td>
<td>A 1</td>
<td>tsuog</td>
<td>tsu 44</td>
</tr>
<tr>
<td>10</td>
<td>A 1</td>
<td>an</td>
<td>a 44</td>
</tr>
<tr>
<td>56</td>
<td>A 1</td>
<td>ts'iu</td>
<td>tsy 44</td>
</tr>
<tr>
<td>69</td>
<td>A 1</td>
<td>su</td>
<td>su 44</td>
</tr>
<tr>
<td>97</td>
<td>A 1</td>
<td>ts'ieu</td>
<td>ts'hu 44</td>
</tr>
<tr>
<td>100</td>
<td>A 1</td>
<td>kuon</td>
<td>kua 44</td>
</tr>
<tr>
<td>101</td>
<td>A 1</td>
<td>i'm</td>
<td>ju 44</td>
</tr>
<tr>
<td>32</td>
<td>A 1</td>
<td>ts'u'en</td>
<td>ju 44+</td>
</tr>
<tr>
<td>62</td>
<td>A 1</td>
<td>i'm</td>
<td>ju 44+</td>
</tr>
<tr>
<td>93</td>
<td>A 1</td>
<td>ts'u'en</td>
<td>ju 44+</td>
</tr>
<tr>
<td>40</td>
<td>A 1</td>
<td>t'ung</td>
<td>thu 33</td>
</tr>
<tr>
<td>45</td>
<td>A 1</td>
<td>ji</td>
<td>si 33</td>
</tr>
<tr>
<td>50</td>
<td>A 1</td>
<td>t'ung</td>
<td>thu 33</td>
</tr>
<tr>
<td>6i</td>
<td>A 1</td>
<td>kuon</td>
<td>kua 33</td>
</tr>
<tr>
<td>Tone Class A 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>Tone Class</td>
<td>Guangyun</td>
<td>Reading</td>
</tr>
<tr>
<td>----------------</td>
<td>------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>4</td>
<td>A 2</td>
<td>jiān</td>
<td>ja 54+</td>
</tr>
<tr>
<td>9</td>
<td>A 2</td>
<td>jiān</td>
<td>ja 54+</td>
</tr>
<tr>
<td>38</td>
<td>A 2</td>
<td>jiān</td>
<td>ja 54+</td>
</tr>
<tr>
<td>39</td>
<td>A 2</td>
<td>zìān</td>
<td>tōha 54+</td>
</tr>
<tr>
<td>49</td>
<td>A 2</td>
<td>jiān</td>
<td>ja 54+</td>
</tr>
<tr>
<td>51</td>
<td>A 2</td>
<td>mīēn</td>
<td>mīw 54+</td>
</tr>
</tbody>
</table>
54  A 2  jiao  ja 54+
60  A 2  jiao  ja 54+
96  A 2  jiwang  ua 54+

29  A 2  zai  tsu 21+
82  A 2  jiao  jo 21+
90  A 2  ni  nef 21+
95  A 2  nie  ni 21+

25  A 2  mu  mu 31
58  A 2  jian  na 31
65  A 2  nan  na 31
73  A 2  nan  na 31

26  A 2  zai  xu 44+
14  A 2  mu  su 35
19  A 2  jiao  ja 35
21  A 2  mieg  mie 35
30  A 2  num  na 35
37  A 2  mieg  mie 35
43  A 2  mieg  mie 35
48  A 2  mieg  mie 35
53  A 2  mieg  mie 35
59  A 2  mieg  mie 35
66  A 2  mieg  mie 35
74  A 2  mieg  mie 35
<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>A 2</td>
<td>miəŋ</td>
<td>miɛr 35</td>
</tr>
<tr>
<td>87</td>
<td>A 2</td>
<td>miəŋ</td>
<td>miw 35</td>
</tr>
<tr>
<td>84</td>
<td>A 2</td>
<td>nien</td>
<td>ni 44+ su 44+</td>
</tr>
</tbody>
</table>

**Tone Class B 1**

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>B 1</td>
<td>tsıə</td>
<td>tsi 31</td>
</tr>
<tr>
<td>76</td>
<td>B 1</td>
<td>sı̂ əu</td>
<td>se 31</td>
</tr>
<tr>
<td>98</td>
<td>B 1</td>
<td>sı̂ əu</td>
<td>se 31</td>
</tr>
<tr>
<td>102</td>
<td>B 1</td>
<td>pau</td>
<td>po 31</td>
</tr>
<tr>
<td>28</td>
<td>B 1</td>
<td>kɨm</td>
<td>tɕe 44</td>
</tr>
<tr>
<td>27</td>
<td>B 1</td>
<td>xıə</td>
<td>xu 33</td>
</tr>
</tbody>
</table>

**Tone Class B 2**

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 *</td>
<td>B 2</td>
<td>nıə</td>
<td>lu 31</td>
</tr>
<tr>
<td>34</td>
<td>B 2</td>
<td>jıə</td>
<td>ji 31</td>
</tr>
<tr>
<td>55</td>
<td>B 2</td>
<td>muən</td>
<td>ma 31</td>
</tr>
<tr>
<td>83</td>
<td>B 2</td>
<td>jıə</td>
<td>ji 31</td>
</tr>
<tr>
<td>B 2</td>
<td>16</td>
<td>B 2</td>
<td>110</td>
</tr>
<tr>
<td>B 2</td>
<td>2</td>
<td>ṣi ọnwụ</td>
<td>se 55</td>
</tr>
<tr>
<td>B 2</td>
<td>3</td>
<td>ọọgịọ</td>
<td>si 55</td>
</tr>
<tr>
<td>B 2</td>
<td>11</td>
<td>daọ</td>
<td>to 55</td>
</tr>
<tr>
<td>B 2</td>
<td>8</td>
<td>diei</td>
<td>the 44</td>
</tr>
<tr>
<td>B 2</td>
<td>57</td>
<td>biu</td>
<td>tie 44</td>
</tr>
<tr>
<td>B 2</td>
<td>99</td>
<td>nọ</td>
<td>ny 44</td>
</tr>
<tr>
<td>B 2</td>
<td>64</td>
<td>mọọ</td>
<td>mo 33</td>
</tr>
<tr>
<td>B 2</td>
<td>80</td>
<td>ọọ</td>
<td>tsw 33</td>
</tr>
<tr>
<td>B 2</td>
<td>94</td>
<td>laọ</td>
<td>ku 33</td>
</tr>
<tr>
<td>B 2</td>
<td>24</td>
<td>dzụi</td>
<td>tsw 35</td>
</tr>
<tr>
<td>B 2</td>
<td>92</td>
<td>ọọ</td>
<td>to 34</td>
</tr>
<tr>
<td>B 2</td>
<td>91</td>
<td>zọọ</td>
<td>tsi 33 pe 21+</td>
</tr>
</tbody>
</table>
### Tone Class C 1

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C 1</td>
<td>ku</td>
<td>ku 55</td>
</tr>
<tr>
<td>7</td>
<td>C 1</td>
<td>tɕiə</td>
<td>tɕi 55</td>
</tr>
<tr>
<td>63</td>
<td>C 1</td>
<td>kʰiəŋ</td>
<td>tɕhu 55</td>
</tr>
<tr>
<td>75</td>
<td>C 1</td>
<td>ɾəŋ</td>
<td>ju 55</td>
</tr>
<tr>
<td>88</td>
<td>C 1</td>
<td>sɨəu</td>
<td>ɕo 55</td>
</tr>
<tr>
<td>89</td>
<td>C 1</td>
<td>kʰiəi</td>
<td>tɕhi 55</td>
</tr>
</tbody>
</table>

### Tone Class C 2

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>C 2</td>
<td>mu</td>
<td>mu 55</td>
</tr>
<tr>
<td>67</td>
<td>C 2</td>
<td>jia</td>
<td>je 55</td>
</tr>
<tr>
<td>70</td>
<td>C 2</td>
<td>nʑi</td>
<td>ɕɾ 55</td>
</tr>
<tr>
<td>79</td>
<td>C 2</td>
<td>bɨei</td>
<td>pi 55</td>
</tr>
<tr>
<td>42</td>
<td>C 2</td>
<td>jia</td>
<td>jo 54+</td>
</tr>
<tr>
<td>52</td>
<td>C 2</td>
<td>jia</td>
<td>jo 54+</td>
</tr>
<tr>
<td>72</td>
<td>C 2</td>
<td>da</td>
<td>to 31</td>
</tr>
</tbody>
</table>
### Tone Class D 1

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>D 1</td>
<td>si²k</td>
<td>ɡi 35</td>
</tr>
<tr>
<td>35</td>
<td>D 1</td>
<td>si²k</td>
<td>ɡi 55</td>
</tr>
<tr>
<td>41</td>
<td>D 1</td>
<td>si²k</td>
<td>ɡi 55</td>
</tr>
</tbody>
</table>

### Tone Class D 2

<table>
<thead>
<tr>
<th>Position</th>
<th>Tone Class</th>
<th>Guangyun</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>D 2</td>
<td>ɲi²k</td>
<td>ju 35</td>
</tr>
<tr>
<td>18</td>
<td>D 2</td>
<td>jìɛp</td>
<td>je⁹ 35</td>
</tr>
<tr>
<td>44</td>
<td>D 2</td>
<td>jìak</td>
<td>jo 35</td>
</tr>
<tr>
<td>46</td>
<td>D 2</td>
<td>ɲi²k</td>
<td>ju 35</td>
</tr>
<tr>
<td>13</td>
<td>D 2</td>
<td>btsk</td>
<td>pe⁷ 54+</td>
</tr>
</tbody>
</table>

#### 2.4.08 Discussion of Chinese character readings

Analysis of the graphs according to their tonal category and initial consonant type in the traditional Chinese phonological schema (i.e., the Middle Chinese system) shows that the readings often depart from the HZBD system of literary pronunciations.²¹ Although the text offers us the fewest examples from MC tones C1/2 and D1/2, graphs in
these categories are most consistently read in the literary way, with
the [ 55 ] and [ 35 ] tones, respectively. The most voluminously
represented category is MC tone A1/2 (which is, we may observe, also
the largest class of words in Guangyun, the rhyme book traceable to
the Middle Chinese period that encompasses the traditional
phonological system of Chinese). The A1/2 graphs, and also those from
tone class B2, show the greatest degree of inconsistency or
divergence from HZBD in their Xizhou Bai readings. Those readings
that do reflect HZBD literary pronunciations are marked as such in
the table. Graphs belonging to the D1/2 class of Chinese almost
always receive HZBD readings—a fact we may think of as related to
the salience of this class in the phonological tradition itself. In
Guangyun this class of syllables is perceptibly smaller than all
other classes, reflecting the relatively low lexical frequency of the
checked syllable type in the Chinese language at the time the system
was codified. Whether these syllables were actually pronounced with
final stops or not, to the pupil in a traditional curriculum this
class of syllables (represented by a small subset of the total number
of graphs to be learned) would be memorable if teaching were based on
the Guangyun system, as opposed to the later ping2ze2 平仄 rhyme
system that distinguishes only two syllable types. Since the literary
reading pronunciations of Bai treat A1 and A2 graphs differently
(readings in tone [ 33 ] and tone [ 42+ ], respectively) but do not
distinguish subcategories (1 and 2) in the tonal treatment of graphs
belonging to the other tone classes, it is not unreasonable to
speculate that the HZBD system has resulted from pedagogy influenced
by Guangyun. Dell, discussing the supposedly recent stratum of Chinese loans (whose correspondences with Middle Chinese are exactly those of HZBD), pointed out the resemblance of this tonal subsystem to the five-tone system of Southwestern Mandarin, where the historical ruisheng class (tone class D) is still distinguished as a separate tone. The supposition there was that such pronunciations represent lexical borrowing from the local Mandarin dialect. Perhaps these explanations are not mutually exclusive.

2.4.09 Study of literary/colloquial dichotomy in Chinese dialects

Some thorny methodological problems connected with the study of literary versus colloquial character readings in the conservative Min dialect of Chinese have been outlined by Chang. These problems are similar to the ones we face in studying Bai readings of text encoded in Chinese graphs. But the implications hold for all comparisons we may draw between Bai lexical items and putative Chinese loans or cognates, and it is useful to consider some of Chang's remarks.

The problem of difference between colloquial and literary readings is extremely complicated. Literary readings are "foreign," while colloquial readings are native. Literary readings are relatively late, and colloquial readings are earlier. There is no direct historical relationship between the two traditions, and certainly there is no question of the one having developed from the other.... If we study the
vocabulary, we find that in many cases a literary reading has replaced a colloquial counterpart. Literary readings are quite likely to appear in the speech of educated or literate persons. If we make use of a dialect survey chart [i.e. a list of Chinese graphs arranged according to traditional sound categories] in our investigation, the literary readings will be quickly elicited, while the colloquial readings will often remain hidden in the background, or be difficult to elicit.... Moreover, in different dialects, a literary reading will have replaced a colloquial one in different lexical items, masking the appearance of the literary/colloquial distinction. A minority of lexical items will have preserved colloquial readings at the expense of literary ones, so that there will be no literary counterpart for these items. So, in cases where there is only a single reading, we must compare it with cases where both a literary and colloquial reading coexist, to decide upon its position vis a vis the two strata.

The effect of the competition between literary and colloquial readings has differed in each dialect because of lexical variation among the different dialects. Because the strata of literary and colloquial readings each have a number of different layers, a single lexical item may have a number of variant readings in different dialects. If we want to pursue historical comparative research in phonology, we must know the contrastive relationships obtaining between the
different layers for each dialect. Because the dialects have generally not been exhaustively recorded, we probably will not find all the possible literary and colloquial readings, or all the possible layers, within a given dialect. The same lexical item may be represented by one literary/colloquial distinction in dialect A, another distinction in dialect B, and still another in dialect C—and these three distinctions, belonging to different layers, may not be directly related in terms of phonological correspondence. This is an important methodological problem in the comparative study of the Min dialects.

Zhang Shengyu (1979) in his article on literary and colloquial readings in the dialect of Chaoyang pointed out that while the general distinction between the two strata is easy to draw, within each one it is not so easy to distinguish layers. The colloquial readings are used widely, while literary readings are used in a limited domain. And, the colloquial readings differ significantly from northern guanhua, whereas the literary readings come very close to it. In the same article, this author also claimed that the literary readings cannot be equated with a system of "recitation sounds," since some of them are also frequently used in speech. Likewise, the colloquial readings cannot be equated with a purely "vernacular pronunciation," since some of them appear in highly literary or elevated expressions (such colloquial readings are probably lacking a literary
counterpart). Zhang also gave several examples to show that
in discussing literary and colloquial readings, the initials,
finals, and tones must sometimes be considered separately:
the reading [ti] for the character \( \text{\textcircled{3}} \) shows that the initial
is colloquial, while the rhyme is literary; conversely, the
alternative reading [tsai] shows a literary initial combined
with a colloquial rhyme.\(^{22}\)

We may consider briefly how these remarks (pessimistic though they
be) are applicable to the study of Bai, where we have a similar
distinction between groups of relatively more "native" and literary
character readings, and sets of semantically related or "synonymous"
forms distinguished by a contrast in initial, rhyme, or tone.\(^{23}\) Chang
aptly describes the possible complications, in that initials, rhymes,
and tonal reflexes may need to be considered separately as elements
of contamination from another stratum. By implication, it is the
Chinese graphs that provide the link between forms that might
otherwise seem unrelated: yet elicitation based on Chinese character
readings may obscure the colloquial layer. On the positive side,
however, if we can establish enough cases of multiple or variant
readings for the same graph (or multiple pronunciations related to a
single Chinese comparand), we may then be in a position to set up
separate patterns of correspondence against which to evaluate the
relative antiquity represented by isolated forms. Clearly we need
more detailed material than what is provided by a wordlist, but when
we have that, the occult literary pronunciations of the HZBD system
give us a way to sort out the meaning of variant forms.

2.5.00 Bai tones and TB comparative data

2.5.01 Tonal individuation of TB subgroups and mock correspondences

In this section we are interested in establishing a relationship
between the facts presented by the Bai tone system and the larger
picture presented by the collectivity of Tibeto-Burman languages
(which happen to be either true Loloish languages e.g. the various
dialects of Yi, Hani, Akha, and Lahu or "transitional" BL languages
e.g. Jingpo and Zaiwa, closer to Burmese, and Naxi, closer to
Tibetan) spoken in the Yunnan area. We have seen that in this group
of languages two different historical processes (a merger of
historically voiced and voiceless consonant initials, and loss or
assimilation of historical final consonants, e.g. a merger of
syllable types) have both resulted in structurally relevant contrasts
in phonation types. Although phonation-type contrasts are recorded
for many languages of this group, they do not represent a shared
historical development among them, but rather must be regarded as
secondary, an "areal feature" that has developed independently in a
group of cognate languages (and also in non-cognate languages), as
conflicting or opposite historical changes have run their course. We
may observe that the independent synchronic status of this type of
contrast within each language parallels the independent development that has been proposed for tones throughout Tibeto-Burman in general. Although Benedict (1972 and in later works) argues that a basic two-way tonal distinction can be pushed back to Sino-Tibetan, comparisons of tonal systems within the BL group and beyond have shown 1: individuation of developments in Proto-BL tones and consonant initials among closely related languages e.g. Burmese, Lahu, and Lisu, and 2: apparent tonal correspondences in languages recognized as only distantly related e.g. Karen and Lahu via Proto-BL, or the same correspondence partially shown among the stopped-final syllables of Jingpo.24

2.5.02 Strata of conflicting historical processes and possible subgrouping evidence

Within a language state undergoing sound change (register split) due to consonantal mergers causing the progressive (i.e. forward into the syllable) assimilation of a syllable-initial voicing contrast, it is usually assumed that we should not find a simultaneous trend of regressive (i.e. backward into the syllable) assimilation of syllable-final contrasts, that is, a merger of syllable types, in progress at the same time. This principle can be stated more generally in terms of an overall phonological coherence or consistency at the level of the "articulatory base" that may be assumed to obtain within a given language state at any point in time.25 This is one part of the explanation why the "same" phonetic
trait in various TB and non-TB languages (tense/lax vowel contrasts) that are related chiefly by their geographic proximity can be shown to have different historical proveniences. Although not of primary concern here, it is worth remembering in this connection that while etymological equivalence of the so-called tense/lax vowel contrast in any two of these languages does not necessarily provide positive evidence for closer subgrouping (of, for example, Liangshan Yi with Akha, currently recognized as belonging in separate groups of Loloish or Yipho) at the BL level (since analogous retentions of a historical contrast can occur in distantly related languages), the reverse case of establishing heterogeneous origins does add support to the exclusion of Jingpo and Zaiwa from the same lower grouping of BL, since by implication the merger of syllable types (loss of final consonants) did not run its course in these languages before intrusion of syllable-initial devoicing. The situation is similar to the case of the Yue dialects of Chinese, where the tonal splits in cantonese caused by mergers of consonant initials interrupted an incomplete merger of syllable types.  

2.5.03 Maximal contrasts in minimal syllables and possible converging changes

In the comparative tables that follow, lexical morphemes from Bai are paired with putative TB cognates involving the historically different tense/lax contrasts of Yi (etc.) and Zaiwa. Although our emphasis in this chapter is on the Bai tones and consonant initials, at the
practical level we cannot avoid taking both initials and finals into
account at once. We have already seen that a mixed pattern of
contacts for Bai (+P) morphemes, with the historically oblique tonal
categories of Chinese and with the historically voiced initials of
Chinese, implies the structural relevance at some historical stage in
Bai developments of both (1) syllable-type contrasts that had still
been expressed by consonantal rhyme-endings in Middle Chinese
(generally placed historically at A.D. 600, but actually codified by
native literati earlier circa 450) and (2) a syllable-initial voicing
contrast that may have been preserved in some varieties of Chinese
until after the period of the Mongol conquest in Yunnan (circa
1253). If it turns out that the perceptually salient phonation-type
phenomena (+P) of modern Bai can also be linked to the two opposite
types of consonantal change attested by tense/lax vowel contrasts in
Tibeto-Burman, we may have some basis for a claim that the Bai tone
system and its related gestures of coarticulation are actually the
meeting ground for conflicting or stratified historical processes
from two sources, converging in a language that has been affected by
intense contact between the two. A contact situation involving
languages undergoing different permutations of a typologically
identical structural change affecting the form of the canonical
syllable could, plausibly, result in a borrowing language that
preserved historically heterogeneous syllable-type contrasts in the
form of maximal phonation-type contrasts, expressed in the synchronic
forms of a drastically reduced syllable canon. If such were the case
in Bai, our ability to reconstruct a prior language state would
depend on establishing a relative chronology of developmental stages for the most probable set of historical source languages and on case-by-case analysis of putative donor morpheme proveniences. Morpheme identification in a comparative context will involve a good deal of trial and error especially since the Bai syllable is so minimal an entity, and this is precisely why the category of marked phonation (+P) is useful in assembling the data.

2.5.04 Arrangement of comparative data

In the following table Bai (+P) syllables are placed within a TB context so that we may look especially for a pattern of correspondences linking the unusual repertoire of Bai phonation types to particular developments recognized for BL. Data from Jianzhi are paired with TB and BL data from other sources that are individually identified. Rather than group the data according to hypothetically diagnostic correspondences for BL, however, I have preferred to arrange it according to the tonal contour found in Jianchuan Bai. If we began by grouping the comparative data according to well-studied aspects of BL development, we could end up with unmeaningful sets of Bai data in comparison with BL data whose internal regularity remained irrelevant.
2.5.05 TB comparisons for Bai syllables: front initial, (+P) and falling contour

(1) PBL: GIVE *be (T2)

'pay for' BJ: pa21+   JC: pê21+   DL: phe42+ta32ju35


Lahu: peʔ21 (JAM 1988)

(2) PBL: PULL UP *c-mruk (L)

'pull up' BJ: tqua42+   JC: ma21+   DL: ma21+


(3) PTB: WHITE *bok   PBL: WHITE *plu (T1)

'white' BJ: pa42+   JC: pê42+   DL: pê42+


Lahu: phu33 / pho33 (JAM 1980)

(4) PBL: THIN *ba (T2)

'thin' BJ: po42+   JC: po42+   DL: po42+


(5) PBL: INSECT *bi / *bo (T2)

'ant'.2 BJ: tçi21+pu21+   JC: pi21+pu21+   DL: pi21+pu21+

ZW: pau21, WT: fibu (Dai 1980)
(6) PBL: ANT *p-rwak (H)

'ant'.1 BJ: tɔi21+pu21+ JC: pi21+pu21+ DL: pi21+pu21+

Lahu: pu45-yo54 (JAM 1988)

(7) PTB: GOITRE *(l~)ba/(m~)ba PBL: CHEEKS *ba (T2)

'breast; milk' BJ: pa42+ JC: pa42+ DL: pa42+

'cheek' JC: tçui33pa42+ (Zhao 1989)

WS: a55pa52+ ('milk'), WN: pa55pa55mo31, NX: v55po31, Mawo
Qiang: papa (Zhao 1982)
WTib: lba-ba ('goitre') (Benedict 1972)

(8) PBL: FLATULATE *(p)yəw (T2)

'break wind' JC: fy31 (Zhao 1982)

Bse: hpəw; Mpi: (joŋ2)kho2 (Bradley 1979)

(9) PTB: SPEAK *(b)r(w)ak/(s~)br(w)aŋ PBL: WRITE *m-bup (L)

'write' BJ: uə42+ JC: və42+ DL: ve"42+

Bse: re:, Lisu: baw3 (Bradley 1979)

(10) PTB: EYE *mik/myak PBL: EYE *(C)-myak (H)

'tears'.1 BJ: vĩi33çui33 JC: mi42+çi21+ DL: mi42+ji42+

NH: mi33+çi33, LS: mi33ji33, NX: mi31çi31 (Zhao 1982)
2.5.06 TB comparisons for Bai syllables: front initial, {+\text{P}} and level contour

(11) PTB: EIGHT *(b)g-ryat  PBL: EIGHT *C-yat (L)
    'eight'  BJ: tɕua44+  JC: pia44+  DL: pia44+
    Yi: xi31+, LS: he31+, HN: çe31+, LH: xi35, LQ: hi55+,
    ZW: jît55, Jingpo: mȁ31tsat55+, Bse: fiʔ55, WT: brgjad (Dai 1980)

(12) PTB: SIX *d-ruk  PBL: SIX *C-krok (L)
    'six'  BJ: fɤ44+  JC: fɤ44+  DL: fɤ44+

(13) PTB: CANE, SPROUT *s-m(y)ik  PBL: ROOT.A *ml̥ik/g-lik (L)
    ROOT.B *m-je(T1)/m-ge(T3)
    'root'  BJ: mɛʔ42+  JC: mi44+  DL: mi44+
    Bse: ?aʔ mrac, Lisu: yiʰchyε3 (Bradley 1979)

(14) PTB: BAT *ba:k  PBL: BAT.A *bo (T1) BAT.B *no(T3)/na(T2)
    'bat'.2  BJ: ua42+la42+  JC: po55po44+tsi33
    DL: se55mɯ44+tsi44+lo21+
    Bse: laj: nuiʔ, Lisu: wa6la6, Akha: boe(HF)ha(LF)

(15) PTB: TOOTH *s-wa  PBL: TEETH *swa (T2) PBL: TUSK *ʔ-\text{cway}
    'tooth'.2  BJ: tɕo33pa44+  JC: tsi33pa44+  DL: tsi33pa44+
    Bse: swa:, Lisu: si5hchi3, Bisu: sc(F)phjɛ(F) (Bradley 1979)
2.5.07 TB comparisons for Bai syllables: mid initial, (+F) and falling contour

(16) PBL: SPEECH *daŋ (T2)
'speech' BJ: tō21+ JC: tō21+ DL: to21+
LC: do31 (Dai 1980)
Lahu: tơ54 (JAM 1988)

(17) PBL: PINCH *tsit (H)
'pick up' BJ: tsʰe′42+tsʰe′42+ JC: tse42+ DL: tsi42+
Yi: dzʰi31 (‘gather’), ZW: tsiŋ21 (Dai 1980)
Akha: tsui(LF)-eu (‘pinch’), WBse: hcit (Bradley 1979)

(18) PBL: DAWN *C-nak (L), DAY *(?)ne (T3)
'last year'.1 BJ: nɐi21+tsu33 JC: na21+tsi55 DL: na31+tsi55

(19) PBL: EAT *dza (T2)
'chew' BJ: nə44+dzā42+ JC: tso42+ DL: tso42+
HN: dza31 (‘eat’), LS: dza31, JP: ja55, ZW: tso21,
Yi: dzo21, NX: ndz1, WT: za (Dai 1980)

(20) PBL: ROLL *(C)-lim (T3)
'roll' BJ: lo33 JC: lui42+ DL: kui31
Yi: lɐ33, ZW: lenŋ21 (Dai 1980)
CL: lo (LF), Mpi: loŋ3, joŋ3, WB: lim, hlim? (Bradley 1979)
(21) PTB: FILTH, EXCREMENT *(s-)[ŋ]îk/(s-)[ŋ]ek  PLB: MUCUS *s-nap

‘nasal mucus’.2  BJ: Ñy42+se42+ē55  JC: pi21+ci21

DL: pi31ci31

NH: mi33+zi33 (‘tears’), LS: mi33ji33, NX: mi31dzi31 (Zhao 1982)

(22) PTB: FILTH, EXCREMENT *(s-)[ŋ]îk/(s-)[ŋ]ek

‘mud’.1  BJ: ne21+pha55  JC: ni21+ue55  DL: ne21+

(23) PTB: WINNOW, PADDLE *ya:p


(for ‘boat’.2 see PTB: BE IN NOTION, COME, GO *s-wal)

(24) PTB: POISONED *duk/tuk  PBL: ANGRY ?-(d)zu$p (H)

‘get angry’  BJ: ñé55tsē55  JC: ty42+  DL: tshuo35tchi55

Bse: cit hcui:, Lisu: ni2dzaw3, Phuoni: tsi (F) (Bradley 1979)

(25) PTB: CONCEAL *yi$p

‘wear’  BJ: pē42+  JC: ji42+  DL: ji32

(26) PTB: NAIL, CLAW *m-tsyen

‘claw’  BJ: tçi42+  JC: tçiui21+  DL: tso31tsi44+

(27) PTB: KNOW *syey

‘look for’  BJ: (tça44+)sē42+  JC: či21+; ji21+  DL: ji21+
2.5.08 TB comparisons for Bai syllables: mid initial, (+P) and level contour

(28) PL: HIT (a) *m-tok (H), (b) m-di (T2)
'strike' A    BJ: --    JC: tě44+, tu33    DL: te⁴⁴+
    Lahu: doʔ54 (JAM 1988)

(29) PL: SUN *(?)-ne (T1)
'sun'    BJ: nǐ44+    JC: jǐ44+phi31    DL: ně44+phi31
    HN: no33, LS: nǐ33, JP: ni55, ZW: nji55, NX: nǐ33 ('day'),
    WT: nǐ (Dai 1980)
    Lahu: ni (JAM 1988)

(30) PL: JOIN *(?)-tsak (L)
'join together'    BJ: so55tsa44+    JC: tsə44+    DL: tsə44+xw44+

(31) PL: SLAUGHTER *(C)-sat (L)
'slaughter'    BJ: cǎ44+    JC: cǎ44+    DL: cǎ44+
    Yi: xo31, LS: se31+, HN: se31+, LQ: si55+, BH: cə31,
(32) PL: DRIP *Ntsak (H)

'drip' BJ: tɕa44+ JC: to44+ DL: tie32


(33) PTB: THUNDERBOLT *gle:k (based on Kuki-Naga reflexes in th-, note especially Lushei)

'thunder'.2 (v.) BJ: xᴇ55ma21+ JC: xᴇ55thᴇ44+

DL: lui21+me421+

(34) PBL: TWO *s-ni(k)

'two' BJ: -- JC: ne44+ DL: ne44+

(35) PBL: TREE *sik (H)

'lumber' JC: sɪ44+ɻy44+; sɤ44+ɻy44+

(36) PTB: ONE *(g-)tyik

'one' BJ: e44+ JC: ji44+; ji35 DL: ji44+; ji35

(37) PTB: FLITTER, FLASH *(s-)lyap

'butterfly'.2 BJ: qe44+ɻe44+tsɿ33 JC: ko55lɪ44+ DL: ko55lɛ44+

(for butterfly.1 see PTB: DIVARICATE, SPREAD *ka)

(38) PTB: DAY (24 hr.) *s-ryak

'day'.B BJ: qɪ44+ JC: qɛ44+; jɪ44+ DL: se44+; qɪ44+
(39) PTB: RED, GOLD *tʃak

'red'  BJ:  thā44+  JC:  tshē44+  DL:  tshe'r44+

(40) PTB: THAT, THIS *day

PRON 'here'.2  BJ:  --  JC:  a55ta44+  DL:  tu31lui33

PRON 'there'.2  BJ:  --  JC:  mm55ta44+  DL:  pu55ta44+

2.5.09 TB comparisons for Bai syllables: back initial, {+F} and falling contour

(41) PTB: BASKET, RECEPTACLE *kuk

'bowl'  BJ:  qe42+  JC:  ke42+  DL:  ke42+

'wooden bowl'.2  JC:  si44+ke42+

(42) PTB: SHINE, LIGHT *hwa-t

'shine on'  BJ:  xo42+  JC:  xo31  DL:  xo31

(43) PTB: HOLD IN MOUTH *gam

'hold in mouth'  BJ:  tɔw33  JC:  ka21+  DL:  ka21+

(44) PL: STAB *m-gya / *gay (T2)

'stike'.B  BJ:  qā42+  JC:  kā42+
2.5.10 TB comparisons for Bai syllables: back initial, (+P) and level contour

(45) PL: CROOKED *gok (L)
‘crooked’ BJ: jo21+kho55ti42+kho55 JC: khy44+ DL: khy44+

(46) PTB: WEEP *krap
‘weep’ BJ: qho44+ JC: kho44+ DL: kho4+

2.5.11 TB comparisons for Bai syllables: (-P) and level contour

(47) PL: ABLE TO *?brek (L), CAN *(k)ra T]
‘good at’ BJ: qhy33 JC: khu33 DL: khu33

(48) PTB: WINNOW, PADDLE *ya:p
‘boat’ 1 BJ: rəa21+ JC: jɨ21+su55 DL: je21+su55
(for ‘boat’.2 see PTB: BE IN MOTION, COME, GO *s-wa)

2.5.12 TB comparisons for Bai syllables: zero initial and (+P)

(49) PTB: SCOOP OUT *r-go-t/r-ko-t
‘scoop up’ JC: y21+
(50) PTB: COVER *up
‘cure in salt; press together’ JC: £44+

2.6.00 Discussion of the Bai tones and phonation types
in terms of Loloish developments

2.6.01 Relevance of TB comparisons to a creolization hypothesis

The perceptual salience of phonation types associated with the tones of Jianshuai Bai, as well as their lexical frequency and distribution, their correspondences with the literary system of traditional Chinese tonal categories, and their relevance to comparisons of lexical morphemes on the Tibeto-Burman side all support speculation that the Bai phonation-type contrasts represent a clash between sound change processes that were already in progress in two contact languages at the time the Bai language became distinct from its ancestral language state or coalesced around these two source languages. I have stressed at several points in this chapter the need to consider comparative data on both the Sinitic and Tibeto-Burman fronts in systemic or tonogmatic terms, and to hold in mind the potential implications of stratified literary and colloquial contacts with traditional Chinese tonal categories. Of course a creolization or substratum hypothesis for Bai would provide a basis for studying other aspects of Bai apart from its tonal system. From explaining irregular or bizarre internal correspondences in the
comparative dialect data, to arbitrating in the matter of genetic relationship, to interpreting what may be described as typologically mixed expression of grammatical functions in Bai speech data, problems abound that invite further study in terms of early contact between two ancestral languages of the Sinitic and Tibeto-Burman stocks, with a crescendo of pressure from Chinese literacy beginning probably around A.D. 400, when the earliest inscripational witnesses of Chinese begin to show up in Yunnan at locations of historical contact between Han administrative and military representatives and local clans. The interesting possibility is that a language showing the results of maximum contraction in the syllable canon and significant lexical replacement through loans may offer us a tool for comparative reconstruction in phonation types that are associated with tone.

2.6.02 Bai correspondences for the BL checked tone class

Here we should review what we know in particular about development of the tonal system of Lahu from the BL tone classes, since among other factors that language provides some of the comparative evidence for the origins of Yi tense vowels in TB final consonants. It has been proposed that the modern Lahu tones reflect a history of secondary developments undergone by historical BL checked syllables after their separation from the proto-stock, as represented by two synchronous Lahu checked tones, high and low, with proveniences in BL voiceless and voiced initials, and a high rising tone from certain BL checked
syllables where glottal effects in the historical initial suppressed the final stop, creating an asymmetrical (three-way, as opposed to two-way) split in this proto-tone or tone class. The situation is comparable to the distribution of early Bai borrowings from the Chinese ru4sheng1 class (historically checked at the time of borrowing) in Jianchuan Bai between tones 44+ and 42+, depending on the feature of voicing that we may assume for the borrowed initial, while the lexically rare tone 35 reflects later rusheng (lacking glottal endings, but still a separate tone in Southwest Mandarin) loans in a systematic way.

2.6.03 Bai correspondences for BL non-checked tone classes

Next we can look at developments of PLB tones *1, *2 and *3, perhaps a marginal tone but reconstructible for PLB on the basis of the Burmese "creaky" tone. A four-way contrast in PLB initial stop consonants (plain, aspirated, glottalized, and voiced) is said to have collaborated with spirant initials to split PLB tones *1 and *2 symmetrically, but according to asymmetrical criteria: the plain and voiced stops are said to have merged, creating one side of the bipartition in each of the two well-attested PLB unchecked tones. This side of the split gives modern falling-tone reflexes, one high and one low (but undergoing a "flip-flop" along the way, reflexes from tone *2 assuming the high end of the pitch continuum). The other side of the split in both proto-tones is said to have been created by a three-way merger of the aspirated and glottalized stops with
spirants in tone *1 (the proto-HIGH tone), and of the glottalized and spirant initials in tone *2 (the proto-LOW tone). The aspirates in tone *2 merged with the plain and voiced stops in that tone, probably one reason the reflexes end up as "unexpectedly" higher than their counterparts in tone *1. Finally, the marginal proto-tone *3 is said to have merged with the tone *1 aspirated side, resulting in a high-frequency category of reflexes. This situation is comparable to what we find in Bai, where aside from the tones with contacts to historical Chinese ru4sheng1 there are still four basic tonemes to account for, two with relatively low reflexes and two with relatively high ones. It looks as if Bai tone 21+ corresponds most often to Lahu low level tone and Bai tone 31 to Lahu low falling tone, while Bai tone 55 corresponds to Lahu high falling tone from historical plain, aspirated and voiced (prenasalized) initials. That leaves Bai tone 33 which appears to correspond with Lahu mid tone from historical aspirates, spirants, and glottalized initials. The fact that the Lahu low level and low falling tones are easily confused may also correspond to the frequent auditory confusion between Jianshan Bai tones 21+ (tone 5) and 31 (tone 9) in LSN's speech. Given enough time and rich enough data we may find numerous heretofore unrecognized Bai and Lahu cognates with corresponding tones according to this scheme: Lahu: no 'you' in low falling tone (from BL tone *1) looks much like JC: no9 'you'in tone 31, and so on. Although we need much more comparative data to support this scheme, the prospects for establishing convincing Bai/TB correspondences based on well-supported Loloish developments are encouraging.
### 2.6.04 Tentative tonal scheme for Bai, Lahu, and BL

#### Table 2.6 A

Tentative correspondences for Lahu, PBL, and Bai tones

(including HZBD and colloquial contacts with Chinese)

<table>
<thead>
<tr>
<th></th>
<th>Lahu:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Mid</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>checked</td>
<td></td>
<td>checked</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>falling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>BL:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>*2</td>
<td>*2</td>
<td>*1</td>
<td>*?-</td>
<td>*1</td>
</tr>
<tr>
<td>*p,t,k</td>
<td></td>
<td>*p,t,k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Bai:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>____</td>
<td>____</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>____</td>
<td>____</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>JC:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[44+]</td>
<td>[42+]</td>
<td>[21+]</td>
<td>[55]</td>
<td>[33]</td>
<td>[35]</td>
<td>[31]</td>
</tr>
<tr>
<td></td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td></td>
<td>[42+]</td>
<td>[42+]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>HZBD:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A2</td>
<td>C1/2</td>
<td>A1</td>
<td>D1/2</td>
<td>B1/2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Notes

1. Benedict 1982, p. 3 cites a Chinese variant for ‘sky’ 天 in spirant initial rather than stop (tian1), pointing to a proto-alternation between an s-prefixed and s-cluster initial at the Sinitic level that would yield variants in spirant and aspirated stop initials, respectively, at the OC stage. This claim made possible identification of the Bai etymon ‘sky’ represented by Jianchuan [ xĕ55 ] as a true cognate of modern Chinese tian1, and allowed Benedict to suggest “a Bai provenience for the variant” form in Chinese. This is an intriguing proposal, and there is indeed an etymon glossed by Karlgren as ‘heavenly’ (GSR 140c qian2) from an old voiced velar fricative initial. It is difficult to decide with certainty that this is a “variant” however, since it bears no graphic resemblance to tian1, and since the variant Benedict actually cites is not this but another graph 天 (xian1) that is apparently not of the same antiquity (i.e. not given in GSR). I have not pursued the problem further.


7. For this term see the handout from Matisoff 1988.
8. For example, Ting Pang-hsin in a recent article expresses reserve with regard to Chinese tonogenesis from syllable-final segments.


10. Haudricourt 1961, repr. 1979: 284-85 makes explicit reference to Prague Circle statements that were based on data made accessible through Karlsgren's work. The rest of the article is concerned with schematic representation of data showing the different possible types of tonal splitting attested by numerous languages and dialects of Southeast Asia.


14. Dai 1980. The earlier paper, Hu and Dai 1964, had showed that in the Hani language under study, tense vowels are evidence of historical syllable-final consonants.


18. Wen 1940.

19. For 'pen', 'six', 'saw', and 'five' see pp. 10-11 of Benedict 1982; for 'house', 'look at', and 'sky', p. 3; for 'swallow'(v.), p. 4.

20. A rubbing of the text was first collected by Shi Zhongjian during the 1940s and published by him at Central Institute of Nationalities in Beijing (along with four other Bai inscriptions he
had collected at the same time) in *Problems and Research on Chinese Nationalities* in January of 1957. Shi’s article did not present Bai readings for the inscriptive texts, studying them rather in terms of their epigraphical properties. My facsimile of the text and Bai readings for the graphs are from Xu 1984, which may represent the first published attempt of any scholar in China to document native Bai readings for texts encoded in Chinese graphs.

21. A gloss on “tonal category and initial consonant type” may be in order here: briefly, Middle Chinese phonology is thought to have encompassed four types of syllable distinguished by their syllable endings. Class A should have been composed of open syllables or syllables in nasal endings (other resonants, i.e. stops, having been lost at an earlier stage). Class B is thought to have been distinguished at this period by final glottal stop, class C by a laryngeal ending that may have already become -s. Class D is the checked tone class of Chinese, composed of syllables in final voiceless stop, some of which are preserved in conservative dialects today. The distinction between 1 and 2 cuts across all these categories and reflects a manner contrast in syllable-initial consonants that later was lost, causing splits and realignments among the original four tonal categories. In general, syllables in historically voiceless initials fall into category 1, those in voiced initials into category 2 (but complications may be introduced by certain initial types, i.e. nasals, laterals, and voiceless fricatives). To speak of "tone class A1," and so on, is to
encapsulate a series of potential diachronic changes in a single model, a kind of mental shorthand.


23. A number of such forms in Bai were studied by Wen You during the 1940s and found to be relatable to different stages in the development of Chinese.

24. Matisoff 1973: 81-82 and 88-89 summarizes the situation, represented by systematic correspondence linking the four Karen tones and Proto BL Tones *1 and *2, in contrast to lack of correspondence (or difficulty of establishing it) between the Jingpo tones and those of proto BL in unstopped syllables. This work also cites the well-known contrast between Lhasa Tibetan (highly tonal) and certain other Tibetan dialects, notably Khams, in support of the same view. See also Matisoff 1979: 19-23.

25. The concept of "articulatory base" is used by Haudricourt and Hagege (1978: 16-22) to explain that one phonetic tendency (for example, palatalisation of historical ki --> [tɕi] in Chinese) is unlikely to be opposed by a contrary tendency in a given language at the same time (for example, as illustrated by retention of historical ki in Japanese, while historical ti is palatalised --> [tɕi] in Japanese, but not Chinese). The same concept can explain that we should not find both progressive assimilation (initial voicing contrast --> phonation contrast) and regressive assimilation (checked/unchecked final contrast --> phonation contrast) in progress at once in Bai.

27. Although scholars remain in disagreement on the relative chronology of these changes for the various dialect groups of Chinese, Pulleyblank has argued convincingly that a glottalized vowel feature historically from syllable-final segments "remained an essential feature of ... [Chinese tonal categories after A.D. 901] if one is to account for later developments" in most dialects. But Pulleyblank believes that glottal stop, laryngealisation or its relic in final -s, and oral occlusion must have been present as actual syllable-final segments at the MC stage, which must therefore be the latest chronological time-depth for the early stratum of Chinese pronunciations in Bai, since the more regular or literary stratum can be pushed back to early Mandarin. The intrusion of the devoicing change among the Chinese initial consonants varies with the dialect and is incomplete in some conservative dialects of the south, but is assumed to have been completed for the northern group before 1253 (see Pulleyblank 1984b: 7, 9–11, and 13).
Chapter 3

Analysis of Bai Spoken Text Materials

3.1.00 Elements of Bai grammar in a discourse environment

3.1.01 Possible interference from Mandarin

Beginning with this section our attention shifts from identifying the dialect of the consultant to the preliminary analysis of a portion of the recorded text data that was provided by him on a series of occasions over a period of nine months between June 1988 and March 1989. At points in the presentation below comparative reference will be made to some well-known grammatical features of Mandarin (especially to the types and ordering of verbal functors such as complements, aspectual particles, prepositions and coverbs), sometimes with additional mention of possible comparisons to analogous paradigms in Tibeto-Burman languages. Although these comparisons are still far from well worked-out, it may be useful to acknowledge here that my general approach to the data has been influenced mainly by the demands of contrastive analysis, in part for simple reasons of temperament and interest but also for certain linguistic and practical reasons. Some of these latter considerations
may be appropriately summarized here. Although the ideal situation for learning about Bai might have been realized by working with a Bai speaker with a certain command of English, the fact is that the one consultant with whom I was able to work on a long-term basis (as well as the several other Bai-speaking individuals who became my acquaintances in China and graciously provided biographical data and shorter samples of their speech for my study) simply lacked a functional command of English. This being the case, Mandarin or pu3.tong1.hua4 provided from the outset both an implicit baseline of comparison and contrast (a substantive part of the linguistic and historical situation under study) and my sole medium of communication (an aspect of the social and practical situation surrounding my study) with an otherwise linguistically sophisticated consultant who showed various types of bilingualism combining his native Bai and several different local forms of Chinese along with the standard pu3.tong1.hua4 or Mandarin in one repertoire. This profile also constitutes a part of the problem I considered relevant to my study of Bai, so that the project of data collection was not easy to contain inside elicitation events: often the most telling answers to my questions came indirectly from observation of linguistic events occurring between individuals around me. In any case, for practical purposes of data analysis I have consistently found useful access to the meaning of given Bai utterances through their transparency or intertranslatability with Chinese, or where this was not possible, in contrastive differences from an analogous utterance in pu3.tong1.hua4. Although at many points along the way I would have
benefitted from the opportunity to pose questions in English or to elicit from English models, the fact remains that much of my understanding and explanation of the data is informed by knowledge of and assumptions made in terms of Mandarin grammar. There may be hazards in this type of situation, as was illustrated by my recent experience in a field methods class at Berkeley, where varying insights on the grammar of Hmong were often differentially distributed between one group of Chinese-speaking graduate students and another group untainted by knowledge of Chinese. In such a situation it is also important to correct or think around possible reanalyses or rationalizations based only on knowledge of Chinese and not on the intrinsic features of the language under study. In other words, in studying non-Chinese languages of China with a known history of Chinese contact, Chinese-speaking investigators may jump to conclusions ["insights"] that others fail to see. The problem remains, however, that in studying Bai (and probably other languages similarly situated) our best analytic tool is probably Chinese grammar, not only because of the access provided by frequent cases of intertranslatability but also because spoken Mandarin grammar is voluminously documented.

3.1.02 Twofold utility of the Mandarin model

The classical model of the discovery process involving a bilingual informant that typifies the methodology of anthropological linguistics probably does not assume elicitation through a third
language that is not the investigator's native language, or indeed, a
game in which the informant is actually stronger than the
investigator. Nonetheless linguistic descriptions may often be
facilitated by reference to a third or "transitional" language. In
the present case, far from the anthropologist's paradise, I found my
consultant--apart from his lack of skills in English--linguistically
sophisticated not only in his fluent bilingual deployment of Bai and
Chinese skills, the latter variable along a continuum from standard
pu3tong1hua4 to local Southwest Mandarin, but also in his inclination
to perceive and analyze his own Bai grammar through the Mandarin
model. One illustration of the pervasiveness of Mandarin in his
thought may be shown by his explanation of the genitive/possessive
construction in { N mu6 N }. This form { mu6 } would always be
explained as equivalent to Mandarin tā1.de by the consultant whether
used possessively or in a nominalizing or partitive function. I was
made critically aware by his gloss that the "Mandarin factor" could
cut two ways, providing important insights but also possibly
obscuring some important aspects of the Bai grammar. Thus although I
have felt it important to evaluate the data against a Mandarin model
at many points, I have also tried to avoid allowing that model to
conceal facts of the language. For the present I will simply point
out that the usefulness of the Mandarin model is twofold, as
illustrated by frequent cases of intertranslatability (putative
elements of loan translation) between Bai utterances and pu3tong1hua4
and by certain structural/functional contrasts that distinguish some
examples of the Bai grammar from their Mandarin analogues.
3.1.03 Segmenting utterances and focusing the discourse

In this and following sections of Chapter 3 examples will be drawn from the transcribed texts that appear as samples of the consultant’s speech in Appendix 1. Reference numbers to the text where a given example is found are placed at the end of the translation for that example in angle brackets < >. The first problem of analysis was to dislodge or segment individual utterances from the rest of the recorded narration. The first text, for example, has been roughly segmented into 90 utterances, relying in part upon arbitrary criteria of length and content bundling, but in part upon an inherent segmenting function that is apparently served for the speaker by certain recurring particles and compound expressions, some of which I treat below as utterance-initial discourse advancing operators. The rest follow thereafter and are treated as utterance-final comment particles having mainly backward thrust, adding emotive value or a degree of certitude (positive or negative) to the preceding utterance. Because these operators are useful not only to the analyst but also to the speaker himself, they may easily be thought of under the rubric of “speaker-centered” segmenting devices. In translations of text data and in interlinear glosses, I have adopted analytic cover terms to indicate their presence: in these contexts, SPRT (sentence particle) means either utterance-initial or utterance-final operator; QPRT (question particle) is transparently a variant of the same term; DISC (discourse particle) glosses only the operator
[tsu6] and requires further comment, which is given along with the examples below.

(I) Sentence-initial discourse-advancing particles and compounds include the following forms. Of the forms identified here, there are 32 instances in text 1, the source of all the examples in this section.

(a) la8/le8 And so...

[mu6] ti7.mo7.xo7 li6 qi9.xuা6 k66 mo9 ge5 3d-GEN parents-PL also like force 3d-S go

yu4.s16] [la8 mo9 yu4.tw2.s16 ka8 ts19]
study SPRT 3d-S study-able several written-word

His parents also wanted to make him go and study. And so he was able to learn a few written words. <1:6-7>

(b) yu7.fy7.no7 After that...; Later on...

[yu7.fy7.no7 mo9 kha09 ts5i61.s11 li6 ts19.tso7] rear-place-LOC 3d-S take-exam jin4shi4 also SPRT

Later on, it's a fact that he even [succeeded in] the jin4shi4 exam. <1:8>
(c) รก7 But... ; Nevertheless...

[ ๋ว6 ขำ.ตอ6 ปี9.ต cáo1 งิ6.กุ5 ] [ รก7 งิ9.เข6-งิ9
3d-GEN home rather poor SPRT person-CLF

โม9 ติุ9 ตชū6.มิū6 ]
DIST most clever

His home was rather poor. But that character was nevertheless
terribly clever. <1:4-5>

(d) ตี16 That being the case... ; That is to say... ;

As for...

This operator invites analysis more in terms of channeling the focus
of the surrounding context than of segmenting utterances, because it
also occurs mid-utterance as a topic marker, and because it may have
either forward or backward reference whether its relative position is
utterance-initial or -medial. In fact its function is similar to that
of the "empty word" ze2 ฉ่ง of Chinese wen2yan2 texts, tempting me
to identify it as one example of literary influence from Chinese in
Bai speech. The consultant in fact identifies this operator with the
Chinese graph ze2 in glossing text, and its functions in his speech
data match fairly well with Chou Fa-kao’s description of the Chinese
literary particle.¹
"A bit squinty"—in the Bai language one says that his eyes [had a property of] being a bit squinty. That is to say, as for distant places, he could not see far. <1:25-26>

(e) ya8.mw7.ts16Otherwise... ; If not... ; Why not...

"I'd better grab [steal] and eat it quick! Otherwise [I] won't get to eat it at all!" <1:54-55>
(II) Final or backward-referencing comment particles and compounds are as follows. In the same 90-segment text there are about 19 instances.

(a) ts19.tso7 ...[attributive] and that's a fact.
(b) la4 ...[inchoative] how about that; ...that's what.
(c) lwm7 ...[concessive] true enough.
(d) lē4 ...[disapprobative] can you imagine.
(e) se7 ...[prescriptive] at least you would think so.
(f) ni6 ...[interrogative] what do you suppose?
(g) ne5 ...[aversive] and that's all it amounts to.
(h) gā7.la4 ...[comitative] as you will surely agree.

3.1.04 Number, category, and case in pronouns

One of the most immediately accessible contrasts with Mandarin presented by the Bai grammar is in the system of personal pronouns, which in the Jianchuan vernacular are as follows:
Table 3.1 A

Pronouns in Jianchuan Bai

<table>
<thead>
<tr>
<th>1st</th>
<th>2d</th>
<th>3d</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ṣọ31</td>
<td>no31</td>
</tr>
<tr>
<td>ACCUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ṣʉ55</td>
<td>nw55</td>
</tr>
<tr>
<td>DAT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| NOM | | |
| | | |
| ACCUS | ṣa55 (Excl.) | na55 | ma55 |
| | | | Plural |
| GEN | jā55 (Incl.) | |
| DAT | |

Looking at what distinguishes the Jianchuan pronoun system from its counterpart in Mandarin or ṣu3tong1hua4 gets us to one essential difference between the two grammars, namely, that in Jianchuan Bai a residual system of obligatory morphophonemic alternations...
characterizes the operation of number and case paradigms upon the pronouns, whereas Mandarin achieves similar grammatical results through suffixing and morphosyntactic constructions. The basic contrast is shown in (1), where the change from 1st singular to 1st plural in each language is given (MSC abbreviates Mandarin in examples).

(1)


1st Sg. / 1st Pl.  1st Sg. / 1st Sg. + Pl. Suf.

I       We (excl.)  I       We (excl.)

We will see below that plural suffixation of [+human] nouns is common in Jianchuan Bai, but that the suffixed morpheme never occurs in place of the plural PRON allomorph. For the record, however, we should also remark here that the Bijiang data shows mixture of the two types of number paradigm within the pronoun system. The same type of contrast is shown in the change from 1st plural exclusive to 1st plural inclusive category, with the difference that in this case Mandarin also reverts to an allomorph for the categorical shift.

Making this contrast more interesting is the fact that both languages share the 1st plural category (Inclusive/Exclusive) paradigm, an unusual feature in terms of the world’s languages but possibly a relic in Mandarin of Altaic contact with an early ancestor of the northern Chinese dialects.²
(2)  
1stP-EXC / 1stP-INC  

(3)  
1st.S-NOM / 1st.S-GEN  

(4)  
3ds-NOM / 3ds-GEN / {REL / LOC / SUB / NOM}  
MSC: ta1 / ta1 de / de  

(5)  
2d. Sg. NOM / DX PRO / DX DIS  
JC: [no9] / [lw9], [no9] / [mu9], [mo9]  
MSC: ni2 / zhe4.(ge) / nei4.(ge)  

(6)  
[ε1.jui] no9 nü5 tsun7 miw4.tja4 mo9 ts5.ke2 no7  
Pn this CLF be Ming.dynasty that time REL  
nü5.ke6  

person  
This person ε1.jui was a man who [lived during] the Ming period.
That guy Old Wang is a man who doesn’t care about anything.

Today I’m going to tell [you] two stories about ɛ1.jui1.

Today I’m going to say a few words about my inner feelings.

We have now observed a number of utterances where the Jianchuan 3rd singular genitive form precedes an object marking particle [no7], the two syllables together sometimes suggesting a dative pronoun functioning as indirect object, but sometimes seeming to behave like a lexicalized compound meaning ‘some’ or ‘some of’ [what follows]. In some utterances what we might want to translate as a dative pronoun (‘from him’) is actually represented by the reduplicated 3rd.S-GEN pronoun form: thus, ‘his-his’. Elsewhere the 3rd.S-GEN form is repeated n times while the speaker thinks of what to say, assuming a
function similar to that of *zhēnge* in Mandarin. However we may interpret this phenomenon, it is at least possible to say that no such usage appears in Xi Zhi’s illustrations from Dali speech (see 4.4.00 below), and to recall that in "double object" constructions illustrated by Xi with variant Jianchuan renderings of ‘I’ve given him a pair of shoes,’ Dali speakers were said to produce only the 3rd singular nominative pronoun form [ po31 ] followed by a locative particle, one that has been identified elsewhere as a suffix meaning ‘internal space’ in Dali speech. To explore what may be involved in the Jianchuan usage we can observe in the consultant’s speech, let us look at some examples of the canonical occurrences of each syllable separately, with their possible translations.

### Table 3.1 B

**Canonical subordinating [ no7 ] and DAT object marker [ no7 ]**

<table>
<thead>
<tr>
<th>(a)</th>
<th>... no7 ȵi5.kê6</th>
<th>SUB a person of (the Ming Dynasty)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SUB person</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>... no7 ku2.s1l</td>
<td>SUB the story of (ɕɿ jui7 beating the chicken)</td>
</tr>
<tr>
<td></td>
<td>SUB story</td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>... no ȵi5.kê6</td>
<td>SUB a person belonging to the (landlord category)</td>
</tr>
<tr>
<td></td>
<td>SUB person</td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td>pă6.ko6.xo7 no7</td>
<td>DAT (paid out) to [his] servants servant-PL DAT</td>
</tr>
</tbody>
</table>
Table 3.1 C

Canonical 3rd.S-GEN in possessive function

(a) mu6 xa9.tō6 POSS his family
   POSS family
(b) mu6 ti7.mo7-xo7 POSS his father and mother
   POSS father,mother-PL
(c) mu6 꼟ui7.pho2 POSS his eyes
   POSS eyes
(d) ko6 mu6 ti7 POSS with his father
   with POSS father
(e) se2 mu6 ke5 POSS cutting off his flesh
   cut POSS meat

Finally, let us look at a few examples where the above functions seem to blend or be confused.

(a) mu6 꼟ui7.pho no7? his eyes [having a property of]
   being (a bit squinty) < = the
   [squintiness] of his eyes >

(b) tō9 mu6.no7 ku2.s12? tell her/some stories

(c) pe4.gō4.ts17 sua2 w6.mu6.no7? speaking in Bai language it’s
called
(d) ʦʊ6.tɔ6 ʍʊ6.ʍʊ6 kə9?  embarrass (him) for once

The reduplication of the genitive 3rd pronoun at numerous points in the speaker’s narration (d) suggests a hesitation marker of the same type provided by Chinese ʐhe4ge, which also occurs frequently in the same narration. At the same time, however, [ʍʊ6] occurs often in two different environments that both include the object marker [ȵo7], suggesting that the pronoun morphology of Jianchuan speech is residual rather than borrowed, or at least that it was present well before Bai speakers began code-switching in a "modern Chinese" way using ʐhe4ge. The fact that the genitive pronoun is interacting with another element of the grammar (an element that closely resembles a dative marker and nominalizer) in two types of construction, one that translates as a syntactic collocation (a) and one that more closely resembles a lexicalized or idiomatic compound (b and c) offers support for the view that the grammar of Bai harbors microsyntactic retentions from a Tibeto-Burman prehistory, and suggests that the semantic functions of genitive, dative, and nominalization have progressively overlapped under pressure from a system that does not mark the distinction overtly (Mandarin). Meanwhile, since these constructions are both lacking in the contrastive samples of Dali dialect grammar presented by Xi Zhi (4.4.00), there is additional support for identifying the speaker’s grammar with the Jianchuan dialect of Bai. We shall see below that in the texts we consider here examples of NEG following the verbal nucleus have not materialized as in the Dali vernacular.
3.1.05 Noun determiners and quantifiers: Type & order

(1)

  book / book one-CLF
MSC: shu1 / yil.ben3 shu1
  book / one-CLF book

(2)

[ tshë2 ke6 kō7-twû ] / [ ng5.kê6 kō7-fê4 ]
  red chicken two-CLF / ( person two-CLF )
  two red chickens / two fat people

3.1.06 Types of negation, uses of negation

(1)

  EXIST / NEG.EXIST  EXIST / NEG.EXIST
  there is / there isn’t  there is / there isn’t

(2)

  COP / NEG.COP  COP / NEG.COP
  it is / it isn’t  it is / it isn’t
(3)

JC: [ tsw7 ] / [ ja8.tsw7 ], [ ya8.mo7 ]
    LOC-v. / NEG.LOC-v.

MSC: zai4 / bu2.zai4
    LOC-v. NEG.LOC-v.

just right master-CLF home NEG.LOC-v. time

Just then when the master was not at home...

MSC: lao3.shi1 zheng1.hao3 bu2.zao4 jia1 de shi2.hou4
teacher just.right NEG.LOC-v. home REL time

(5)

(know) / (doesn’t know) (can) / (can’t) / (don’t)

(6)

[kè2 lì6 sū6.tsw6 kè2 lì6 tsw6 tso4 khù7 tua4 ]
sandals also extend.to sandals also DISC wear COMP can’t

[I] couldn’t even wear sandals.

MSC: lian2 shuí3 do1 hué2 bu liào3
include water also drink NEG finish

[I] can’t even manage to drink water.
We didn’t harrow paddy today.

MSC: wo3.men jin1.tian1 mei2.you3 mai3 dong1.xi

We didn’t buy anything today.

otherwise, maybe, why not otherwise

3.1.07 Verbal functors: Types, ordering

Under the general rubric of verbal functors I will illustrate a number of monosyllables and one disyllabic construction that can be assumed (some exceptions) to derive from Bai verbs of related meaning and identical form, but which occur frequently in syntactic environments involving another principle verb. Among these, we probably need to distinguish five types: a) verbal complements that convey a directional or potential/resultative meaning (as in English ‘fix up’, ‘send off’, ‘manage to hear’); b) aspectual particles (comparable to Mandarin perfective/change of state le); c) modal auxiliaries that convey the feeling or state of an agent (as in
English 'want to beat up', 'unable to speak'); d) prepositions that convey the force or import of an action in relation to a patient or location (comparable to Mandarin zai4 'at', 'in' and cong2 'from', 'through'), and a coverb that topicalizes an object (comparable to the Mandarin coverb ba3 'take ... and V'). In the data there are possible cases of overlapping in these functions, which may indicate either that our distinctions are overly fine for this data or that some of the functions themselves may be semantically similar. For the present we will assume the validity of the named categories as an heuristic device and because the text data under study apparently can be described by them. They are familiar categories within the context of Mandarin grammar, allowing us also to make Mandarin comparisons at points where our data suggest either direct borrowing or loan translation of a Chinese term or construction, or conversely, show significant contrast with a Chinese model. Where the ungrammaticized source of the form is an available word choice as a principle verb in Bai, we give the lexical meaning of that verb first, showing the more abstract meaning of the related verbal functor in upper case letters.

(1) Directional and potential/resultative complements

(a) [ thu6 ] 'descend' >> [ thu6 ] DIMINUENDO

earth-place-DAT pacify DOWN can-NEG

In the territory [the trouble] could not be put down.
Comparison with Mandarin in this case suggests the directional complement xia4, as in:

MSC: ta1 bu2.shu4.fu4 de chi1 bu xia4 fan4
s/he unwell SUB eat NEG DOWN rice
He’s so ill he can’t eat.

(b) [ khu7 ] ‘rise’ >> [ khu7 ] CRESCENDO

[ tsu7 sua2 ku4 ku5.8.miu4.ta7 tse2.ku7 se4.kx4-xu9 ku1
just say AT KMT this world-inside grow.up
to4 khu7 no7 si6.tsi7.qi5-xo2 tsu6 xan9.tsi7.xo9.tsi7
big CRESCENDO SUB child-PL DISC everybody
tci6.pu9.san6 tsi7 lia4.si7.si7 no7 tphi9.khu6 la4 ]
basically EXIST like.that SUB condition SPRT

We may simply say that as for kids that grew up in the KMT world,
every one of them had basically that kind of condition. <9:10>

(c) [ yu8 ] ‘come’ >> [ yu8 ] PROXIMAL ACT
These are arguably not true verbal complements, since they occur in front of the principle verb, but in each case their force is less verbal and more directional, only an adjunct to the meaning of the predicate (as in English ‘come and eat’, ‘go and buy’. So we will treat them for the present as complements, and recognize this category as occurring in variable environments, both $*$V and V$, subject to lexical conditioning by the ungrammaticized source of the complement. But a more appropriate subcategory might be set up for them, something like adverbal complements, different from true adverbs in their ‘force’ or semantics but similar in their function.
(d) [ tchi2 ] 'expel, emerge' >> PRODUCTIVE ACTION

[ la8 ts17.a9.pü6 ts16 mo9 pe2 tchi2 ] <1:67>

[ tsu6 # tshw6 # a6.ta2 tse2.kw7 e1.jui1 ne5 ne5 xā6 tchi7 mu6 # xā6 tchi7 ke4.tsw6 li9 lao9 tsh[e4.tsu4 mu6 çā9 pā6 mu7 ne5 la4 ] <2:37>

(e) [ tche6 ] 'clear' >> COMPLETED ACTION

[ mo9 tshw7 no4 mu6 # mu6 ny7 mu6 tshw7 mu7 ti9 çi7 tiw2 lu7 ju2 tsu6 ju2 mu6 gu65 kā6.tçi9 tche6 ] <2:59>


(f) [ tw2 ] 'get, obtain' >> SUCCESSFUL ACTION


[ la8 ké4 tw2 ts16 mo9 pi8.chy7 tž2 ma6 ke6.tw5 ] <1:77>
Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
3) Modal particles

(a) [ tay ] 'able to, permitted to'

[ le8.lo7.mo7 n92 tsu6 mw6 p66.k66 ts16 ta4 lw7 ] <1:16>

[ mo9 thiw9 a7 tsw2 ta4 tci7.tshu9 ne5 ] <1:27>

(b) [ tua4 ] 'unable to, unsuitable to'

[ e1.jy1 t62 a9.pio7 s17 tsu6 e1.jy1 mw6 tse9 tsu6.tse5 tua4 ] <1:89>

(c) [ pi4 ] 'must'

[ tci4.tsua4.tce2 tch9 jw2 s16 mo9 pi4 ] <1:54>
(d) [ŋo2] ‘want’ \> WANT TO
[ jw7 ] WANT TO

[ lɛ8.1o7.mo7 ŋo2 tsu6 mw6 pā6.ko6 ts16 ta4 luw7 ] <1:16>

[ ke6.čɛ2 ŋo9 jw2 tfu9.pe6 tɔa9 e1.jui1 mw6 ku4.s17 ko7.tuɛ2 ] <2:3>

(4) Prepositions and coverbs

a) [sa8] ‘from, since’

[a6.ta2 tshe4.tsu9 li6 ts17 sa8 ke2.pie2 s12.ɬu9 tshu7 mo9 pho7
ja2.ku6 ] <1:79>

[ tsu7 a9.pu6 mw6 ŋo9 tsu7 tse2 mw7 sua2 tsu7 ŋo9 sa8 ɬy6.thā6
fa4.čɛ2 pia2 xo7 phia2 ku4 ɬu8 ] <9:51>

[ sua2 ts16 sua2 se9 mo9 tse5.ke2 nw7 s19.ɬy7 ŋo9 pi8.ɬy8 ŋo4 sa8

(b) [ke4.tsu7] ‘on, touching’

[ŋo9 tshu7 ŋo4 ke4.ts16 phao1.xu4 no9.kho6 s12 ke4.ts16 mw6
3.1.08 Locatives, patients, noun phrases and other objects

As for the pain in my leg, it was terrible. <T 9.1>
As for what it tasted like, it was putrid. <T 1.1>
We can distinguish different grammatical functions for a single syllable [no7], in somewhat the same manner as was done for Mandarin *de* by Zhu. 4

(1) Locative marker: [no7] LOC

[ma6 tsê6.tsê7 tsô6 no7 pe9 tu2 ke4.tsê7
they-GEN table top LOC place.on SUCCEED AFFECT
tchôm6.yû6 a9-kho7 a9] <1:31>

snail one-CLF SPRT

A snail had been placed upon their table.

(2) Dative marker: [no7] DAT

[le8 lu7.pû6 no7 no9.pû6 tsê6 mo9 ke4 tu2 tsê6 mo9 tshû7 kw4.xa2
tshê6 ma6 ke6 no9.tu5 no7 la4]

(3) Relative complementizer: [no7] REL

[ku4 kau6.tsê6 tsê5.ke2 tsw8.tu8 no9 tsê6.ko7
AT upper.middle.school time CAUSE.TO me this

kau6.qiû7 tsw8.tu8 no9 qi9.xuû6 nà4.si7.si7 no7 si9.vu7
happy CAUSE TO me happy that way SUB matter
What do you think it was that made me happy, something like that, when I was in upper middle school?

(4) Nominal complementizer: [ no7 ] NOM 'instance of'
[ å7 khw7 ts16 mo9 tshu7 å7.tsɔ4 khw7
look at BEGIN DISC he just consider as BEGIN

tchu6.yuɛ6-ko07 no7 ] <1:57>

snail-CLF NOM

Looking at it, he was just considering that it was a snail.

[ ts16 tʃhɛ4.tsu9.po6 no9 tw5.mu6.no7 sɔ2.tə2 no7 ke4.ts16 ma6
kt2.piɛ2.xo7 ma6 ke6 no9.tw5 mu6 ji7 si16 mu6 si7 no9.ti6 no7
cɔ7.la4 ] <1:75>
DISC Master-M this before-DAT tricked INSTANCE INVOLVE
tey-GEN neighbor-PL they-GEN chicken this-CLF it-GEN
let out STATE it-GEN shit this-CLF INSTANCE / SPRT

(5) Possessive subordinator: [ no7 ] POSS

(6) ñv7/ke4.tsu6: "lexical" and "lexicosyntactic" locative
This might be originally a {+/human} paradigm, with the {+human} lexical form giving way to the {-human} lexicosyntactic form in most environments under pressure from a grammar that does not make the distinction, or in other words, lacks the paradigm.

In the following examples we consider the frequently appearing 3d Sg. GEN in a nominalizing function with apparently existential or predicative force, that is, in emphatic declarative utterances where the predicate consists only of a noun or noun phrase.

(7) 3d Sg. GEN >> Pronominalized existential: [ mu6 ]


3.1.09 Expression of sequence in temporal phrases and subordinate clauses

(1) Subordination by parataxis with [ts16] and [la4]

[ la8 ke4 tw2 ts16 mo9 pi8.qy7 te2 ma6 ke6-tw5 ] <1:77>

ISP see succeed.in DISC he must strike they chicken-CLF

So, when he saw it, he had to beat their chicken.
Having let out a pile of dung the chicken flew away. <1:46>

(2) Last time
Last time (before this) I already told you about my schooldays. <9:1>

As for ... I can only tell about it clearly {by = just after} talking from the {early-top} downward. <6:3>

That time was when the opium war had started all over the nation. <6:24>

After the Opium War had started... <6:25>

3.1.10 Elaborate expressions

These can be lumped together in a treatment of syntactic and grammatical elements because they share a property of expressing an idiomatic meaning through a sequence of morphemes, some obligatory, some changeable according to the lexical situation, but in a fixed or frozen order.

Below is a list of some elaborate expressions found in the consultant’s speech:

(mix together / much / mix together / return)

'inseparable'

(2) [ça2.tɕi6.ça2.tā4] <6:38>

(slaughter / much / slaughter / return)\(^5\)

'engaged in mutual violence'

(3) [tɕⁱ6.ɕi6.kə4.tuə4] <2:10>

(tendons / knowledge / pass through / unable)\(^6\)

'unbearably'

(4) [tɕə6.tɕə6.xə6.xə6] <1:68>

(join / join / correct / correct)

'just right', 'bull's eye'

(5) [xa9.ts17.ji2.ts17]

(? / COP / day / COP)

'every day'

3.2.00 Toward a dialect grammar for Bai

3.2.01 Recent study of syntactic dialect markers

Having collected some samples of Bai data from speakers other than the consultant, I began to ask whether it could be phonetic equivalences alone that made this data opaque to my interpretation. Not much information could be found in Jianzhi, and experience showed consistently that the consultant could himself communicate with all the speakers whom I recorded. I first found the courage to try to
identify features of dialect grammar in text data I had collected after reading a brief article that appeared in *Yunnan Minzu Yuwen*, a little-known publication of the Yunnan Province Nationality Languages Executive Working Committee. This is an administrative unit under the provincial Nationalities Committee that is charged with overseeing local applications of national language policies everywhere in Yunnan. Because their publication does not have international distribution rights (a type of permission from the central Chinese government that is required of publishers before they may supply copies of periodical literature to subscribers abroad), it is unlikely for material published there to reach an international audience. This article, however, is probably the first discussion in print to document significant grammatical differences that can be used to define the geographical varieties of Bai. An outline of the examples presented there will make possible evaluation of the consultant’s speech in terms of dialect markers, and this material is therefore examined in extenso in sections 4.5.2.0—4.5.2.4 below.

Phonetic equivalences among the dialects have been examined in relation to the consultant’s pronunciations in 4.2.0.0 above, and some evidence for lexical divergence among the dialects has been evaluated in relation to his text vocabulary in 4.3.0.0. In these discussions we have already seen that the consultant’s speech is easily described as approximating Jianchuan norms, despite some differences that may be systemic in character, and that show a degree of affinity in his speech with the northern or Bjiang variety of Bai. Since variation in the grammar and syntax of Bai is not
explicitly treated in *Jianzhi* or other Chinese publications I have collected, Xi Zhi's comparisons and contrasts showing typical ordering in equivalent Jianchuan and Dali constructions marks an important departure for all future work in this area.

3.2.02 Xi Zhi's explanation for dialectal differences

It will be useful to consider the argument made by this author regarding the origin of syntactic dialect markers before seeking illustrations from his data to compare with material from the consultant's text data under analysis in this chapter. Xi points out that while *Jianzhi* draws dialectal distinctions mainly based on equivalences in phonetics and phonology, significant dialectal variation involving other "essential linguistic elements" (outside the domain of pronunciation) can also be identified. According to Xi, such variation is to be attributed to differences in "linguistic environment" or to linguistic phenomena he terms "uneven developments" (*fa1zhan3 bu4ping2deng3*). Some difficulty of interpretation is presented by these statements, because the author's argument is couched in rather general (not to say vague) terminology that is not further defined in the context. Because knowledge of dialect markers for Bai is generally limited, and because such differences as we can discover may constitute significant evidence for the history and development of the language, it is important to consider what may really be meant by such usages as "linguistic environment" and "uneven developments." Taking the language of Xi's
explanation at face value I have drawn the following inferences. It would appear that Xi is claiming to identify two contributing causes for the differentiation of Bai dialects at the level of syntax and grammar: 1) dissimilar contact situations involving separate configurations of donor or substrate languages, and 2) secondary developments involving elements inherent to an earlier or proto-language state, but which have taken separate courses of development toward contrasting surface structures in the dialects after geographical or social isolation came between sectors of an "original" or homogeneous speech community. It is worth remarking here that two different methodologies would be appropriate to recover evidence for diachronic change and differentiation attributed to these separate causes, namely, contrastive analysis (in the case of a contact and diffusion theory) and internal reconstruction (if the theory proposes secondary developments among native linguistic elements).

3.2.03 Dialect evidence from pronouns

Although syntax is certainly a separate subsystem that is in some sense independent of morphology, the two systems probably overlap differently in the dialects. The pronoun data given in Jianzhi invites historical interpretation especially if supporting evidence for dialectal differences is available as suggested by Xi, and we can find other evidence in lexical formations available in the Jianzhi dialect materials. The general contrast presented by this material
is case marking in pronoun morphology for Jianchuan and Dali, and suffixing, synthetic formations, and paratactic lexical constructions for Biji ang. Whereas in Jianchuan and Dali, all personal pronouns exhibit tonal and vocalic shifts in plural forms, the supposedly conservative Biji ang creates a simpler or more "analytic" picture with uniform singular and plural stems taking a pluralizing suffix in second and third person forms. First person plural in Biji ang is more complex, showing morphological change to both the stem and the suffix, and the plural inclusive form is innovative in relation to the system as a whole. It is unfortunate that we lack data on Biji ang equivalences for the Jianchuan morphological genitive, a feature that is well-attested by our data and would offer an interesting area for dialect investigation.

3.2.04 Deictics and other lexical form types

If we are allowed to interpret this data as indicating a difference in dialectal "drift" or "genius" between the northern Biji ang speech and other varieties of Bai, we may find such a difference corroborated in other forms, as for example in the deictics where Jianchuan and Dali have monosyllabic forms in contrast to Biji ang's suffixed forms. If such a dialectal difference in grammar is real, we may rely on it in part to explain some lexical differences as well, where Biji ang shows multisyllabic forms in contrast with monosyllabic or disyllabic forms in the other two dialects (see 4.3 below).
3.2.05 Summary of Dali/Jianchuan syntactic contrasts

Below is a summary of the seven types of construction considered by Xi, one group revealing uniform arrangements of sentence constituents in both dialects while another shows significant dialect markers involving the negative marker, interrogative marker, and ordering of grammatical objects in relation to a transitive verb.

(a)
Simple constructions of the type \{S + V\}, for example 'The wind is blowing,' 'I don't want to.'

(b)
Simple constructions of the type \{S + V + ADV\}, for example 'My little brother's getting married this year.'

(c)
Simple constructions of the type \{S + V + COMP\}, where COMP is similar in function to the adverbial resultative complement of Mandarin or pu3tong1hu44, for example 'Sweep [the place] very clean [lit: a little clean].'

(d)
Simple constructions of the type: S + V + OBJ, where OBJ is an inanimate patient or direct object of a transitive verb, for example 'We are writing [Chinese] characters,' 'He's harrowing paddy.'
(e) Simple constructions of the type: \( S + V + \text{OBJ} \), where \( \text{OBJ} \) is a human patient that may be understood as a dative noun, for example 'I cannot wait for Grandpa,' 'The teacher loves [has love for] the students,' 'Father-in-law has told [told it to] Mother-in-law.'

(f) Simple and complex constructions of the type \( S + V + \text{OBJ} + \text{INTERROG/NEG} \), where \( \text{OBJ} \) is again an inanimate patient, for example 'Did you harrow paddy today?' 'We didn’t harrow paddy today,' 'What shall we do if Little Brother doesn’t take the medicine?' 'It won’t do for Little Brother not to take the medicine.'

(g) Simple constructions of the type \( S + V + \text{OBJ}.1 + \text{OBJ}.2 \), where \( \text{OBJ}.2 \) is inanimate and \( \text{OBJ}.1 \) is a human patient and dative noun, for example 'I’ve given him a pair of shoes.'

3.2.06 Dialect markers in Xi’s data

Perhaps it is not very surprising to find that in (e), (f), and (g) significant dialectal differences appear in the ordering of constituents and in the functional load assigned to word order (relative to object-marking particles and morphology). Although Xi’s comparisons are essentially unexplained except for glosses on
sentence constituents, we may be reminded by (e) and (g) of the syntactic ambiguity in double-object constructions of literary Chinese involving so-called "lexical datives" as studied by Peyraube.\(^9\) In (f) where syntactic differences emerge in the environment of an interrogative or negative, it is less clear which of the two dialects compared invites closer comparison with a literary Chinese model, because while the typical characteristic of Jianchuan grammar is SOV ordering, the marked characteristic of the contrasting Dali examples is actually their unique ordering of the negative marker with respect to the verb (V + NEG). The matter of comparative grammar is an important question for future research, but at this stage it would appear that the contrast in ordering of negatives is equally salient (if not more so) to the contrast in ordering of objects as a marker of internal dialect differences in Bai. We may observe, in this connection, that object "preposing" occurs even in Xi's Dali data, although not sentence-medially between subject and verb. Whatever external comparisons may eventually be offered in support of Xi's "linguistic environment" theory, the differences illustrated by his data in fact constitute dialect markers that may help to identify the grammar of the text data analyzed in this chapter with one or the other (southern or central) recognized varieties of Bai. This problem is addressed below by comparisons drawn from the consultant's data in the final paragraph of this section. As a preliminary step it will be useful to consider the actual data presented by Xi, and to move from his data to a more
abstract level of analysis that will give a basis for comparison with
the consultant's speech data.

3.2.07 Syntactic homogeneity of Jianchuan and Dali Bai

The following examples are cited by Xi to illustrate the homogeneous
aspect (SVO ordering) that is shared under certain circumstances by
Jianchuan and Dali Bai. This is perhaps the aspect of Bai sentence
grammar that most resembles the grammar of modern standard Chinese, a
similarity that is foregrounded by Xi's obvious conviction that "verb
medial" syntax is in some sense the "basic" or unmarked ordering in
Bai. We may observe, however, that his illustrations are examples of
"simple" sentence construction, that is, sentences lacking
subordination of any kind, and that he does not discuss even those
instances of divergent verbal functors that occur in his data.
Although this comparison appears to provide support for a view of the
Bai dialect grammars as "versions" of the same linguistic system, it
is interesting that one significant difference in ordering occurs
even among these examples: simple negation is expressed by a
pre-verbal particle in Jianchuan, but a post-verbal particle in Dali

(a:I) 'The wind is blowing.'

JC: [ pi55 si55 phu55 ]

wind blow
DL: [ pi35 si35 phu55 ]
   wind blow

(a:II) 'I don’t want to' (lit: I’m not thinking).
JC: [ no31 a35 mi33 la42+ ]
   3d.S NEG think SPRT
DL: [ no31 mi33 mu33 lo32 ]
   3d.S think NEG SPRT

(b) 'My Little Brother’s getting married this year.'
JC: [ nu55 thi33 tsi33 ke55.tsi55 u55.vu33 ]
   3d.S-GEN ygr.bro COP this.year marry
DL: [ nu55 the33+ tsm53 ke’55.tsi55.sua33+ thu55.vu33 ]
   3d.S-GEN ygr.bro COP this.year marry

(c) 'Sweep <the place> very clean!'
JC: [ no31 tsho44+ ka55.ta5u42+ tc444+ ]
   2d.S sweep clean little
DL: [ no31 su33 ka35.ta5u53 tie33+ ]
   2d.S sweep clean little

(d) 'He’s harrowing paddy.'
JC: [ no31 pe521+ gui33.ta31 ]
   3d.S harrow paddy
DL: [ po31 pe53 tci31 ]

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
3d.s  harrow  paddy

3.2.08 Grammatical contrasts of Jianchuan and Dali Bai

Contrasting with the homogeneous picture presented by the simple sentences above is the group of examples I have represented earlier as (e), (f), and (g), through which Xi illustrates differences in syntax and the deployment of grammatical functors in sentences with double objects or with only a "second object" or dative noun present, as well as in simple sentences that involve the negative or interrogative marker.

(e:I) 'I cannot wait for Grandpa.'

JC: [ y031  £1.ji42+ no33 tw33 mi42+ tua53+ ]
1st.S  Grandpa  DAT  wait  NEG  MOD=NEG
DL: [ y031  tw33 tw33+ a31.lo31 tuo33 lo32 ]
1st.S  wait  COMP  Grandpa  MOD=NEG  SPRT
DL: [ a31.lo31 no33 y031 tw33 tw33+ tuo33 lo32 ]

(e:II) 'The teacher loves the students.'

JC: [ sy55.po55 yw42+.sy55.tsi33-xo44+ no33 li55 ko21+ lw33 ]
teacher  student-PL  DAT  also  love  SPRT
DL: [ lo32.sii33+ tsi55+ e33+ rw42+.si35.tsi33 lw33 ]
teacher  DISC  love  student(s)  SPRT

(e:III) 'Father-in-law has told Mother-in-law.'
JC: [ to31.mw33-puw33 to31.mw33-mu33 ɲy55 sua44+ la42+ tā31 ]
in.law-Ma in.law-Fe DAT=H say SPRT? CLF(act)
DL: [ jo35.fy55 ta33+ jo35.mw31 sua33+ kuo42+ a31-tɕa21+ lo32 ]
in.law-Ma PREP in.law-Fe say ASP one-CLF(act) SPRT

(f:I) 'Did you=PL harrow paddy today?'
JC: [ na55 kə55.jǐ44+ ɕui33.tɕi31 pə21+ mo33 ]
2d.PL today paddy harrow QFRT
DL: [ na55 ke55.ȵi33+ pə21+ tɕi31 ni55.mw31 ]
2d.PL today harrow paddy QFRT

(f:II) 'We didn’t harrow paddy today.'
JC: [ ɡa55 kə55.jǐ44+ ɕui33.tɕi31 ja55 pə42+ la42+ ]
1st=PL today paddy NEG harrow SPRT
DL: [ ɡa55 ke55.ȵi33+ pə21+ tɕi31 mu31 ]
1st=PL today harrow paddy NEG

(f:III) 'What do we do if Little Brother doesn’t take the medicine?'

JC: [ a31.thi33 jo44+ a31 juw44+ jʊ44+ tsi55.kə21+ to21+ ]
L.Bro medicine NEG eat CV Q.how do
DL: [ a31.the33+ ŋu33 jo33+ mu33 tsi55.mw55 to21+ ]
L.Bro eat medicine NEG Q.how do
(f:IV) 'It won’t do for Little Brother not to take the medicine (lit:
can’t not take).'

JC: [ a31.thi33 jo44+ a35 jw44+ tua42+ ]
L.Bro medicine NEG eat MOD=NEG

DL: [ (a31.the33+) yw33 jo33+ mu33 tsi55.mu55 ter33 ]
L.Bro eat medicine NEG Q.how MOD?

(g) 'I’ve given him a pair of shoes.'

JC: (1) [ mu55 no33 jo31 si31 la42+ je21+ a31-tci33 ]
3d.S=GEN DAT 1st.S give SPRT? shoe one-CLF(pair)

b) [ jo31 mu55 no33 si31 la42+ je21+ a31-tci33 ]
1st.S 3d.S=GEN DAT give SPRT? shoe one-CLF(pair)

c) [ jo31 si31 la42+ mu55 no33 je21+ a31-tci33 ]
1st.S give SPRT? 3d.S=GEN DAT shoe one-CLF(pair)

DL: [ jo31 sw31 xw33 po31 xw42+ je21+ a31-tci33 ]
1st.S give ASP 3d.S DAT? shoe one-CLF(pair)

3.2.09 Summary of Xi’s dialect contrasts

Looking back at just those examples that reveal criterial differences
in ordering and grammatical texture distinguishing Dali and Jianchuan
speech, we may describe them abstractly under four sentence types as
follows:

Type 1: { S + NEG + V } (as in 4.5.2.a: II)
Type 2: \( \{ S + \text{HPAT} + \text{DAT} + \text{V.INT} \} \) (as in 4.5.2.e: I, II, & III)

Type 3: \( \{ S + \text{DO} + \text{V.TRS} + \text{INTERROG} \} \) (as in 4.5.2.f: I)

\( \{ S + \text{DO} + \text{NEG} + \text{V.TRS} \} \) (as in 4.5.2.f: II)

Type 4: (a) \( \{ \text{HPAT} + \text{DAT} + S + \text{V.TRS} + \text{DO} \} \) (as in 4.5.2.g)

(b) \( \{ S + \text{HPAT} + \text{DAT} + \text{V.TRS} + \text{DO} \} \)

(c) \( \{ S + \text{V.TRS} + \text{HPAT} + \text{DAT} + \text{DO} \} \) (Dali order)

3.2.10 Jianchuan dialect markers in recorded text data

Based on the contrasts shown by Xi Zhi and summarized above, I find ample illustrations from the consultant's text data to support identification of his language as Jianchuan Bai. What is perhaps equally significant is that I have so far found no instances of the contrasting Dali marker \( \{ \text{V} + \text{NEG} \} \). The following examples may serve to illustrate the consistency of the text data analyzed in this chapter with Jianchuan norms.

Type 1:

(a) 'Otherwise, he would not be able to eat [it].'

\[
\begin{align*}
\text{ya8} & \text{ mu7.ts16 mo9} \quad \text{ju2} & \text{ ja8} & \text{tw2} & \text{la4} \\
\text{SPRT} & \quad \text{3d.S} & \text{eat} & \text{NEG} & \text{COMP} & \text{SPRT}
\end{align*}
\]
(b) 'As for him [ε1ju1], the reason he could come up with a scheme was that, since [Master Li’s] eyes were squinty, he could not see.'

\[
\begin{align*}
\text{mo9} & \quad \text{ts16} & \quad \text{mo9} & \quad \text{ça9.p’ê1.fa8} & \quad \text{ni7.wel} & \quad \text{ts17} & \quad \text{mu6} \\
3\text{d.S} & \quad \text{DISC} & \quad 3\text{d.S} & \quad \text{scheme} & \quad \text{reason} & \quad \text{COP} & \quad 3\text{d.S}=\text{GEN} \\
\text{ŋui7.pho2} & \quad \text{ti6.tu6} & \quad \text{mo9} & \quad \text{ã7} & \quad \text{ja8} & \quad \text{tu2} & \quad \text{la4} \\
\text{eye(s) squinty 3d.S see NEG COMP SPRT}
\end{align*}
\]

(c) 'And so then, since he had eaten up the shit, he certainly preferred not to tell [about it].'

\[
\begin{align*}
\text{la8} & \quad \text{ts16} & \quad \text{ju2} & \quad \text{s16} & \quad \text{se7} & \quad \text{la4} & \quad \text{ts16} & \quad \text{mo9} & \quad \text{tça9} & \quad \text{ja8} \\
\text{SPRT} & \quad \text{DISC} & \quad \text{eat} & \quad \text{ASP} & \quad \text{shit} & \quad \text{SPRT} & \quad \text{DISC} & \quad 3\text{d.S} & \quad \text{tell NEG} \\
\text{ço9} & \quad \text{ça4.la4} \\
\text{good SPRT}
\end{align*}
\]

(d) 'The chicken doesn’t cry out!'

\[
\begin{align*}
\text{ke6-tw5} & \quad \text{ya8} & \quad \text{x66.mê5} \\
\text{chicken-CLF} & \quad \text{NEG cry.out}
\end{align*}
\]

(e) 'So since he’d been fooled in vain by ε1ju1’s [intentions] this time, he preferred not to tell [about it] even more.'

\[
\begin{align*}
\text{pe8} & \quad \text{saa2} & \quad \text{tsh16} & \quad \text{ke4.ts16} & \quad \text{e1.jyl} & \quad \text{mu6} & \quad \text{tâ2} \\
vain & \quad \text{be.fooled ASP PREP PN} & \quad 3\text{d.S}=\text{GEN PROX} \\
\text{thê6} & \quad \text{ts16} & \quad \text{mo9} & \quad \text{le9} & \quad \text{tça9} & \quad \text{ja8} & \quad \text{ço9} \\
\text{CLF(act) DISC 3d.S again tell NEG good}
\end{align*}
\]
Type 2:
I find only one example in text 1 that semantically suggests the type of utterance analyzed above as Type 2, but the fit is not precise because the object or patient ('this chicken of theirs') is not human. Interestingly, in this example the order of constituents is also not distinctively Jianchuan, but even though the patient follows the verb, the speaker marks it with the same particle that has elsewhere marked "dative" nouns or indirect objects.

(a) 'And so ... on this occasion, when [he] saw [it], he just despised this chicken of theirs.

\[ le8 \text{ lw7.pu6 no7 no9.pu6 ts16 mo9 ke4 tw2 ts16} \]
\[ \text{SPRT this.time DAT this.time DISC 3d.S see COMP DISC} \]
\[ \text{mo9 tshu7 kw4 xa2 tsh16 ma6 ke6} \]
\[ \text{3d.S just hate COMP ASP 3d.P=GEN chicken} \]
\[ \text{no9-tw5 no7 la4 } \]
\[ \text{PROX-CLF DAT SPRT} \]

Type 3:
Four examples in text 1 illustrate Type 3, as follows:

(a) 'But, this person did not like to serve as an official.'

\[ \text{ng7 no9-qi9 ma8 qi9.xua6 taa6.kua6} \]
\[ \text{SPRT PROX-CLF(person) NEG like hold.office} \]
(b) 'But [he] didn't get any money for a long, long time.'

\[
\begin{array}{llllllll}
\text{sprt} & \text{money} & \text{dat} & \text{always} & \text{always} & \text{neg} & \text{get} \\
\text{ng7} & \text{tse5} & \text{nu7} & \text{thu9} & \text{thi9} & \text{ja8} & \text{tu2} \\
\end{array}
\]

(c) 'That is to say, as for distant places, he could not see far.'

\[
\begin{array}{llllllllll}
\text{dis} & \text{distant.place} & \text{3d.s} & \text{see} & \text{neg} & \text{distant} \\
\text{ts16} & \text{tu17.tshu9} & \text{mo9} & \text{a7} & \text{ja8} & \text{tu17} \\
\end{array}
\]

(d) 'And so, since his eyes were squinty, of course it's a fact that he could not see very far.'

\[
\begin{array}{llllllllllll}
\text{sprt} & \text{3d.s=gen.dat} & \text{eye(s)} & \text{squinty} & \text{dis} & \text{3d.s} & \text{cop} \\
\text{vu7.t4} & \text{no7} & \text{a7} & \text{ja8} & \text{toshi1.tshu9} & \text{ca71a4} \\
\text{thing(s)} & \text{dat} & \text{see} & \text{neg} & \text{clear} & \text{sprt} \\
\text{la8} & \text{mu6.no7} & \text{gui7.pho2} & \text{ti6.tu6} & \text{ts16} & \text{mo9} & \text{ts17} \\
\end{array}
\]

Type 4:

I find two or three examples (depending on which translation is correct for [a]—see comment below) in text 1 to illustrate the double object construction, or Type 4:

(a) 'Today I'm going to use Bai language to tell her one or two stories.' But alternatively, the sentence may be taken to mean 'Today I'm going to use Bai language to tell some stories—one or two [of them].' The first translation makes literal sense based on the syntactic collocation of the genitive 3rd pronoun [ mu6 ] and object-marking particle [ no7 ] (DAT) following the verb
[ tçã9 ] 'tell', and makes the sentence resemble a double object construction. But frequent occurrences of the same collocation elsewhere in the data make the second translation seem almost more plausible, despite the fact that it requires an idiomatic understanding of [ mw6.no7 ]. That the translation 'some' may be assigned to [ mw6.no7 ] based on its other occurrences figures in the discussion of nominalization and noun objects above.


story one-CLF two-CLF

(b) 'But, as for wages, not even one farthing would be paid out to that person's servants.'

[ ɲɛ7 kɔ6.tse5 ts16 a9-li6 li6 mo9 ɲi9.kɛ6 no7 SPRT wages DISC one-CLF(cash) also PROX person DAT pũ6.kɔ6-xo7 no7 ja8 khɛ6 zi9 ]

servant-PL DAT NEG open COMP

(c) 'If you wanted a few farthings of wages from him it was something like cutting off [a piece of] his flesh.'

[ no9 ɲo2 mw6 mw6 kɔ7.tçhɛ4 ka8-pe2 2d.S want 3d.S=GEN 3d.S=GEN wages few-CLF(cash)
The above comparisons enlarge on Xi's published illustrations with further examples drawn from recent text data collected from a self-identified speaker of Jianchuan Bai. The apparent consistency of this data with the few Jianchuan markers described by Xi suggests the importance of further research on the distribution and degree of variational phenomena in the Bai dialects, at the same time as it allows us to provisionally accept the speaker's data as typical of the Jianchuan variety. The importance of Xi's article for my study is in providing outside confirmation for the consultant's self-identification, confirmation I could not provide myself because I had limited access to the speech community in Beijing. Although Xi's comparisons are quite limited in scope, perhaps they are enough to show that further comparative study of Bai text data from a variety of speakers of different genders, ages, and dialect backgrounds can shed light on the considerable problems of analysis that have no doubt been created by intimate and prolonged contact of these dialects with Chinese, problems that offer a "linguistic minefield" to the would-be investigator of Bai linguistic history.
Notes


According to Norman 1988:20 the 1st plural category paradigm is found in both Mongolian and Manchu of the Yuan period, a significant chronological watershed in the history of the Dali region because it was this period that saw the definitive conquest of the autochthonous rulers by the "Chinese"—under Kubilai Khan—from the north.


5. For the gloss on the fourth syllable, in structural terms syllable C (the whole phrase could be represented as ABAC), our authority is Xu 1988:88. This word is not given in Jianzhi.

6. For the gloss on syllable two (the B syllable if we analyze the phrase as ABCD) we depend on two Bijiang forms given in Jianzhi, ‘heart/mind’ and ‘forget’. The first of these is BJ:sé6, JC: ɕi6, while the second is BJ: qho6.ma5.sé6, JC: phé2.mi4.ɕi6. We may also note here the probable etymology of Bijiang ‘forget’ in two common Tibetan verbs meaning ‘know’ (see Goldstein and Nornang 1978:358).

7. This is the 1988 article published under the pseudonym Xi Zhi, authored by a self-identified native speaker of the Dali dialect. He is employed as a language specialist working in the Executive Committee that sponsors this publication.

8. Xi 1988: 69. It is perhaps important to also point out that the language of these statements, particularly the phrase “uneven
developments," is very commonly found in other contemporary Chinese academic writing from many disciplines, and probably forms part of a repertoire of acceptable Marxist explanation for a variety of social phenomena. Since this article is the only one of its kind I have found to date, I am grateful for even these general statements, and hope that my interpretation fits within the range of the author's true intentions.

9. Peyraube 1987. My summary of Xi's sentence types is influenced by this comparison. Xi's discussion of these sentences is cast purely in terms of the distinction between SVO and SOV ordering, although he does claim that in Jianchuan grammar it is a \{ + human \} object that "triggers" the SOV order. He does not treat the grammatical status (or "case") of the object at all, and claims that in the double-object construction of (g) the criterial difference between the two objects is that the "preposed" object is \{ + human \} as opposed to \{ + inanimate \}. I have introduced the term "dative" because of the possible comparisons with the historical Chinese situation and with the Tibetan case system.

References


-------. 1983. *This* and *that* in TB/ST. *LTBA* 7.2: 75-98.


DeFrancis, John. 1950. *Nationalism and language reform in China.*


Ecole des Hautes Etudes en Sciences Sociales.

Deng Yanru. 1957. Cong2 Bai2yu2 de yan2jiu4 zhong1 shi2 w03men
kan4dao4 shen2me (What does research on the Bai language show
us?) In Yang Kun et al. 1957, 111-14.

Diffloth, Gérard. 1984. Proto-Mon registers: Two, three, four...? *BLS*
8: 148-57.

Ding Shengshu and Li Rong, comp. 1981. *Gujin ziyin duizhao shouci*
(Handbook of ancient and modern character readings). Beijing:
Xinhua Shuju.

Dong Guosheng. 1986. Bei3tang1 Tian1fa3zang4 Si4 de jing1zang4 (The
repository of scriptures [found] in Tianfazang Temple at

------. 1988. Cong2 Dong3shi4 wen2wu4 kan4 mi4zong1 zai4 da4li3 de
xing1shua1 (Evidence from Dong clan inscriptions on the rise and
fall of tantra in Dali). In *Dali Wenhua* 50: 45-50.

Drake, F. S., ed. 1967. *Historical, archaeological, and linguistic studies of South East Asia.* Hong Kong: University of Hong Kong Press.


Du Yijian. 1957. "Bai2wen2" zhi4yi2 (Queries on the "Bai script"). In Yang Kun et al. 1957, 83-86.


--------. 1986. Min2zu2 yu3yan2 diao4cha2 yan2jiu1 jiang3hua4, pts. 26 & 27 (Talks on nationality language fieldwork and research [Comparative sentence grammar of Naxi, Lisu, Bai, and other Loloish languages]). Minzu yuwen 1987.5 and 6.


Hansell, Mark. 1986. Lexical borrowing. Special field exam written for the Department of Linguistics, University of California, Berkeley.


He Jiren. 1988. Lùe4lun4 Yi2yu2 bei3bu4 fang4yan2 ji1shu4ci2 fy55 de you2lai2 (Brief discussion on the origin of the basic numeral 'six' in northern Yi). Yunnan Minzu Yuwen 8: 57-60.


Advantages of bilingual teaching from the view of practice.
Mimeograph.
Minzu Yuwen 51.
Kahane, Henry. 1986. A typology of the prestige language. Language 
62.3: 495-508.
Berkeley: University of California Press.
In Proceedings of the Ninth International Congress of Linguists, 
9-36.
Language 57.2: 267-308.
Ladefoged, Peter, and Ian Maddieson. 1986. "Tense" and "lax" in four 
minority languages of China. Paper presented to the 19th STC, 
Columbus, Ohio.
Pidgin and creole linguistics, edited by Albert Valdman, 222-55. 
Bloomington: Indiana University Press.
-------. 1987. The need for a multidimensional model. In Gilbert 1987, 
113-29.
Li, Charles N. 1983. Languages in contact in western China. Papers in 
East Asian Languages 1: 31-51.


Paper presented to the 15th STC, Beijing.

Ma Yao. 1957. Shi4lun4 Bai2tzu2 yuan2chu1 yu2 Han4dai4 Er2hai3qu1 de Kun1ming2ren2 (Preliminary discussion: The Bai people are descended from the Han period Kunming people of the Erhai region). In Yang Kun et al. 1957, 62-77.


Madrolle, Cl. 1908. Quelques peuplades Lo-lo. T'oung Pao ser. 2, vol. 9, 528-76.


Mazaudon, Martine. 1977. Tibeto-Burman tonogenesis. Published as LTBA 3.2.


Norman, Jerry, and Tsu-lin Mei. 1976. The Austroasiatics in ancient 


Stanford University Press.


Pelliot, Paul. 1904. Deux itinéraires de Chine en Inde a la fin du 

vieu siècle. *BEFE 4*: 131-413.

Peyraube, Alain. 1977. La linguistique en Chine après la révolution 


-------. 1986. History of the comparative construction in Chinese from 

the 5th century B.C. to the 14th century A.D. Paper presented to 

the 2d International Conference on Sinology, Taipei.

-------. 1987. The double-object construction in Lunyu and Mengzi. In 

*Wang Li Memorial Volumes*, English volume, edited by the Chinese 

Language Society of Hong Kong, 331-58. Hong Kong: Joint 

Publishing Co.


Sanders, Robert M. 1987. The four languages of "Mandarin." Published as Sino-Platonic Papers, no. 4.


Sun Taichu. 1957. Tan2 "Bai2wen2" (On "Bai script"). In Yang Kun et al. 1957, 120-22.


(Translation and explication of the Ming "Funerary inscription of Elder Worthy Yang Zong" in Bai script). In Essays in Memory of Lo Changpei, edited by Fu Maoji et al. Beijing: Commercial Press.
Yang Kun. 1957. Shi2lun4 Yun2nan2 Bai2zu2 de xing2cheng2 he2 fa1zhan3 guo4cheng2 (Preliminary discussion on the process of ethnic differentiation and development of the Bai nationality). In Yang Kun et al. 1957, 1-11.


Yang Yongxin and Zhao Yansong. 1986. Shi4lun4 Nan2zha04 wang2shi4 de zu2shu3 wen4ti2 (Preliminary discussion on the problem of the ethnic affiliation of the Nanzhao ruling house). In Nanzhao Historical Society 1986, 1-17.


--------. 1987. A cognitive approach to the genesis of nominal classifiers as observed in archaic Chinese. Unpublished manuscript.


Zhang Xu. 1986. Bo2ren2 shi4 Bai2zu2 de xian1min2 zhi4yi2 (Doubts on [the proposition that] the Bo men are the precursors of the Bai nationality). In Nanzhao Historical Society 1986, 50-63.

------. 1986b. Nan2zhao4 he2man2 da4 xing4 ji2 qi2 zi4sun1 (The great families of the Nanzhao heman and their descendants). In Nanzhao Historical Society 1986, 64-84.

------. 1986c. Po2jiao4 mi4zong1 zai4 Bai2zu2 di4qu4 de xing4qi3 he2 shuai1luo4 (The rise and decline of Buddhist tantra in the Bai region). In Nanzhao Historical Society 1986, 177-85.


Zhao Shiming et al. 1949. Xin1zuan4 Yun2nan2 tong4zhi4 (New recension of the Yunnan gazetteer).


-------. 1987. Baiwen (Bai writing). In Zhongguo minzu gu wenzi.
    Tianjin: Codex Press.
-------. 1988. Bai2yu2 de ci2hui4 (The vocabulary of the Bai
    language). Yunnan Minzu Yuwen 8: 61-68.
-------. 1989. Bai bodyparts. Unpublished list collected for the Sino-
    Tibetan Etymological Dictionary and Thesaurus Project at the
    University of California, Berkeley, James A. Matisoff, principal
    investigator.
Zhao Yansun. A Bai/English dictionary and historical appendix,
    dictionary of Chinese folklore). Hong Kong: Commercial Press.
    Dexi, Xian4dai4 Han4yu2 yu2fa3 yan2jiu4 (Research on modern
Zou Qimeng and Li Zhucyun (Qing), comp. 1983. Kangxi Hepingfu zhi
    (Gazetteer of the Heping administrative territory compiled in the
    Kangxi period). Xiaguan: Bureau of Culture of the Dali Bai
    Autonomous Prefecture.
Appendices

Summary of Contents

Appendix 1 is comprised of transcribed excerpts from a corpus of recorded spoken texts from a Jianchuan speaker, the main source of Bai materials on which Chapter 3 is based. The total corpus amounts to some eight hours of continuous free monologue speech data. The transcribed portion amounts to about 5 percent of the whole. Texts 1, 2, 6, and 9 are included here and figure in the analysis of Chapter 3. Texts 3, 4, and 5 also exist in transcription but time constraints prevent their inclusion here. Variant spellings and tones appear with some regularity in the transcribed data and are discussed in terms of speaker variation from published Jianchuan norms in another paper elsewhere. Frequent instances of Chinese lexical substitution or possible instances of code-switching may be observed. This is a phenomenon that has probably increased opportunities for mutual intelligibility among speakers of divergent varieties of Bai in the past, and deserves fuller treatment. The texts that make up the entire corpus are listed below.

1.1 ɛ1.juil beats the duck (Recorded 15 January 1988)

1.2 Translation

2.1 ɛ1.juil pushes the millstone (Recorded 22 June 1988)

2.2 Translation
Appendix 2 contains a rhyming glossary of Jianchuan syllables with English translation for lexical items in which syllables occur.

Appendix 3 gives the distributions of consonant initials, tones, and rhymes for Jianchuan Bai in the form of a tabular chart. The speech of the consultant and the dialect summarized here from the published account (Jianzhi) are essentially the same language, a fact that may be confirmed by comparison of this distribution chart with sets of lexical tokens elicited from the consultant and described in another
paper elsewhere. This chart may also be compared to the one provided for Dali phonology by Dell 1981.

Appendix 4 contains illustrations consisting of photographs taken by the author in Jianchuan and Heqing Counties during May and June 1989. Plate 1 is a photograph taken at Jianchuan (old Jinhua Commandery) on May 14, 1989 and illustrating a portion of stone inscription using mainly a Siddham script, with Chinese graphs appearing at three points interspersed continuously with the inscribed nagari text. This fragment is now located in a courtyard adjacent to the Jianchuan county bureau of culture, along with a number of other fragmentary and whole tombstone and stele inscriptions, some using the script illustrated here, some bilingual with separate faces of nagari and Chinese text, some using Chinese graphs exclusively. Plate 2 is a photograph of the old Confucian hall at Heqing Middle School taken on May 31, 1989. This school is the alma mater of the consultant (LSN) who provided the linguistic data appearing in Appendix 1 and analyzed in Chapter 4 of the present study, and he stands in front of the building in the photograph. Plate 3 is a photograph taken at the Beiya Lead Mine (Heqing County) compound on May 20, 1989. In it, the consultant (LSN) is seen explaining the principle of using a romanized system of orthography to represent the Bai language to a small impromptu audience of mineworkers and managers, all native speakers of Bai. Plate 4 is the photograph of a blackboard at the Xizhong Primary School (Jianchuan County) showing bilingual couplets of congratulatory verses, each line of verse represented alphabetically in romanised Bai with Chinese graphs of translation.
appearing below each syllable. The photograph was taken on May 15, 1989 while classes were in session in the adjoining building. Plate 5 is a photograph taken on the same day illustrating celebratory couplets (dui4lian2) hung in the main reception room at the home of the principal of Xizhong Primary School. Below each Chinese graph appearing in the couplets is its Bai translation or reading represented alphabetically. Plate 6 is a group photograph taken again on the same day inside the Xizhong Primary School compound. The author (3rd right) is seated between the school principal (2nd right) and members of the school teaching staff. The consultant (LSN) appears at right. Plate 7 is a map of the Erhai region showing the relative proximity of locations mentioned in the text.
Appendix 1

Texts and Translations

Text 1.1 (ε1.jui1 hits the duck)

(1) [ ke1.ɕɛ2 ɲo9 ɲo4 Ɇɛ4.ɲo4.ts17 no7 tɕa9 mu6.no7 ku2.si2 ɿ9.tuε7
kʊ7.tuε7 ] (2) [ ti9.ji2.tuε7 tɕa9 ɲa6 Ɇɛ4.xo2 tiu9 ɕi9.xuɛ6 no7
ɛ1.jy1 mu6 ku2.si2 ɿ9.tuε7 ] (3) [ tɕy1.su8 xuɛ8.tsε9 su2 ts17
ɲi9.kɛ6 tɕa9 no7 mo9.liɛ4 ɛ1.jy1 no9.ɲi9 ts17 miu4.tsʰao4 mo9
tsɛ5.kɛ2 no7 ɲi9.kɛ6 ] (4) [ mu6 xa9.to6 pi9.tsʰao1 ɲi6.ku5 ]

(5) [ ɲɛ7 ɲi9.kɛ6 ɲi9 mo9 tiu9 tsʰo6.miu6 ] (6) [ mu6 ti7.mo7.xo7
li6 ɕi9.xuɛ6 kʊ8 mo9 ɲɛ5 xu4.sɛ16 ] (7) [ la8 mo9 xu4.tsʰu2.sɛ16 ka8
tsɛ9 ] (8) [ xu7.yɛ7.no7 mo9 xʰa9 tiɕiɛ1.si1 li6 ts19.tsʰo7 ]

(9) [ ɲɛ7 no9.ɲi9 ma8 ɕi9.xuɛ6 tɛ6.kuɛ6 ] (10) [ mo9 ts8 ɲi2.ts17
sɛ9.yɛ7 kʊ8 mo9 tsɛ5.kɛ2 no7 xu8.sɛ11 li8 ɛɛ9.tɔ1.sɛ11 li8 ti1.tsɛ9
la9.tsʰɛ4 no9.xo7 to1.tsʰu7 thi9 Ɇɛ2.xɛ4.xo7 tsʰy2.tsʰi2 ]

(12) [ ke1.ɲi2 ɲo9 ɕi6 tɕa9 mu6.no7 a9.thɛ6 ts17 mo9 tɛ2 ke6 ɛ1.jy1
tɛ2 ke6 no7 ku2.si2 ] (13) [ ɛ1.jy1 ma6 xa9.to6 ɕa7.tɛ7 ɲi6.ku5 ]

(14) [ mo9 kʊ6 mu6 ti7 kʊ7.ɲi9 kʊ7.ts19.po7 ta9.kʊ6 tɛ8 ke4.tsɛ16
no9.ɲi9 ts17 sui6.zɛ6 mo9 ts17 tsʰɛ4.tsɛ9 xo7 no7 jɪ9.kɛ6 ɲɛ7 mo9]
ts16 tē2 thu6 la4 yu7. fy7. no7 ts16 tchē6 tw2 mu6 thē6. tphi7 ts16 tshu7 sua2 tchi6. li6. khy6. thā6 [83] [ o9 ] [84] [ ke6. tw5 ya8 xe6. me5 ] [85] [ ke6 ts16 mo9 tshu7 ky8. ky8. ky8 s17 xe6. me5 s17 ] [86] [ tchi6. li6. khy6. thā6 mo9 ka2 mi7 ts16 le8. lo4 no4 mu6 phao1. xu4. kho7 tē2 pho9 tē2 mo4. qu4 s16 la4 ] [87] [ pe8 sā2 tshi6 ke4. ts16 e1. jy1 mu6 tā2 the6 ts16 mo9 le9 tçā9 ja8 ço9 ] [88] [ tē2 ts16 no9 no4 mu6 ts12. tçi9 no7 phao1. xu4. kho7 tē2 kui4 s16 ] [89] [ e1. jy1 tē2 a9. pio7 s17 tsu6 e1. jy1 mu6 tse9 tsu6. te5 tua4 ] [90] [ le8 no9. me5 tshu7 sua2 ja9. pa7 tshi8 xuā4. ni4 ]
Text 1.2 (Translation)

[] is interpolation, {} is free translation

(1) Today I’m telling some stories—one or two—in Bai words. (2) The first one [I’m] telling [is] one of the stories about _DOCUMENT_ jui, [stories] that we Bai-pl. like most. (3) As [we] know, or [we might] say that people tell it that way, this .getDocument jui was a person of the Ming Dynasty time. (4) His home [was] rather poor. (5) Nevertheless, that person was most clever. (6) His father-and-mother-pl. also liked to press him to go and study. 7) And so he did study a few written words. (8) Afterwards, it’s a fact that he even took the jinshi exam. (9) But, this person did not like to serve as an official. (10) He [would be] mingling back and forth among the common-folk-pl. all day. (11) He [would] do things for the common-folk-pl., struggle with those evil and reactionary landlord masters of that time, {extend sound/strength} for the common-folk-pl. (12) The one that I’ll tell first today is him beating the chicken—the story about .getDocument jui beating the chicken. (13) The ones in .getDocument jui’s family [were] rather poor. (14) He and his father—the two men together--served for the sake of the-ones-pl. {who belonged to} a landlord master--{he/they} is/are called Master Li or Grandpa Li--as their helpers. (15) Now then, this Grandpa Li, although he was a person {who belonged to} the masters-pl., nevertheless [instances of his being] extremely stingy [were] many-intens. $\text{SPRT.}$ (16) $\text{EXPL.}$ if [you] wanted to act as his helper, [it’s] all right $\text{SPRT.}$ (17) But, as for wages, not even one {bit} [would be] paid out to that person’s
helpers-pl.  (18) [If] you wanted a few {sous/CLF} of wages from him it would be] something like the same as cutting off his flesh, just like that SPRT.  (19) And so, as for ε jui’s poverty, [it was such that he] should have been able to use a few {sous/CLF} anyway SPRT.  

(20) But [he] didn’t get any money for a long, long time.  (21) Thus, this ε jui said: "On this day [I] really must think of a way to make it embarrassing for him once SPRT."  (22) And so, as for [what follows] here, how did he do it QPRT?  (23) Here [then], this Master Li had--his eyes were--he-obj. [was] quite near-sighted.  (24) What his eyes [could] see [was] a bit {near}.  (25) "A bit squinty"--[if you] say it in Bai words, it’s called "his eyes [having a property of being] a bit squinty."  (26) As for distant places, he [could] not see far.  (27) All he was able to see [was] near places SPRT!  

(28) And so, since his eyes [were] squinty, of course it’s a fact that he didn’t see things clearly SPRT-2.  (29) Actually [it was a matter of] exploiting the situation about his not seeing clearly, to think of a way in order to fix him once.  (30) And so, one time, [that] one Master Li was at home.  (31) [What had been] put down there upon the top of their table [was] a snail SPRT.  (32) Since [someone had] put down a snail, he--here [I should say that] [this] one Master Li was...he [was] greedy, and so of course he most loved to eat snails SPRT-2.  (33) And so, as for [what he did] after having eaten it, he left.  (34) As for [what happened] after he’d left, on the top of their table was--the neighbors-pl., their chicken came flying over onto the top of his table.  (35) And so, there on the top of their table [it] had been able to let out a pile of shit.
(36) Having let out a pile of shit, this pile—as for the shit of chickens, it [is] certainly whitish SPRT-2. (37) And so, it was—the pile [that had been] let out, it [was] all coiled up, rather.
(38) And so, if [one should] look at it from a great distance, [it] most resembled a snail-like [thing] from inside a lake. (39) When this—one & jui saw it, he just [said]: (40) "EXPL! (41) Well, doesn't this pile—the shape of this snail—[doesn't] this one most resemble a snail QPRT? (42) Good SPRT! (43) As for this time, I'll just have to think of a way [so] I [can] just make it embarrassing for him SPRT." (44) And so, [what happened] after this {is/fits} just right here: (one time, a time when the Master was not at home, the white chicken of the neighbors—pl. flew and landed on the top of the table. (45) And so, [while] sitting there [it] let out a pile.
(46) Having let out a pile, so then this chicken {of theirs} flew [away]. (47) As for [what happened] after [it] had flown [away], the Master came [along]. (48) After [he] had arrived, [he] sat down there to eat a meal. (49) Well, just as he was eating the meal, at this point & jui pronounced the following: (50) "EXPL. this snail [that's] on top of the table—{how} good to eat {it looks}!" (51) As for what followed, he had this to say: (52) "Master Li, Master Li! (This snail that's here on top of the table—whose-GEN. [is it] QPRT?" (53) So then, as soon as Master Li heard [this] he just said: (54) "[I] must {steal the opportunity to} eat it all up quick SPRT!"
(55) Otherwise, he [would] not be able to eat [it] SPRT. (56) As for him [& jui], the reason he [could] think of a way was that: his [Master Li's] eyes [having the property of being] squinty, he could
not see SPRT. (57) As for looking at [it], he [Master Li] just fixed
[his] eyes on [it] {as an instance of} a snail. (58) [He] feared his
friends-pl. [would] take it [and] {steal the opportunity to} eat [it]
all up SPRT. (59) And so, {at one go} he just took it [by] pinching
fingers {and} ate [it] all up. (60) As for [what happened] after
eating [it] up, [he] ate {to the point where}, as for the inside of
his mouth, as for his tasting [it], it's a fact that he [made a
noise] "th' th' th'" just like that SPRT {and what then?} (61) EXPL.
[how strong was] its-obj. chicken-shit [or] duck-shit likeness! (62)
The stench was [such that] not even anyone [could] know.
(63) And so then, as for having eaten up the shit SPRT, he [would]
certainly {prefer not to} tell [about it] SPRT. (64) The reason [we
could] say [was that] a person said [that] this {thing} was a snail.
(65) And so, he [was] just {sick at heart}, he [was] just most vexed.
66) [Being] most vexed, he just thought of a way in order to [work]
upon--in order to avenge [himself] upon ē jui once. (67) And so,
there was one occasion [when] he went out. (68) As for [what
happened] later after he went out, just right [then] this chicken of
those near-residing neighbors of his came flying over again to the
top of {they/their} table. (69) And so, he [ē jui] just thought a
little. (70) ē jui said: "This matter again {is such that still}
once more [I] might think of a way." (71) And so, as for [what
happened] on the time [that] was after this chicken {of theirs} had
flown away, [and] as for [what he] looked at a little [when] he
raised up [his] head, [and] as for [what he thought] afterward, [it
was that] {they/their} master had, in {their} home, a large,
porcelain teapot. (72) "I'll just take hold of this teapot [and] set it down upon the top of his table--the top of the table that's [used] for dining." (73) And so, as for [what he did then], he just began to shout: (74) "Master Li, Master Li! They--the neighbors-pl.--(they/their) chicken [has] come flying over to the top of your table SPRT!" (75) Well now, the fact [is] that this Master-m. [had] just before [been] fooled, [and it was] certainly an instance [attributable] to {they/their} neighbors-pl. [and] this chicken of {theirs}, [and] its having let out this pile of its shit SPRT-2. (76) And so, as for this time, on this occasion, as for [what happened when] he saw [it], he just despised this chicken {of theirs} DAT SPRT. (77) And so, when [he] saw [it], he just had to beat {their} chicken. (78) At this point & jui spoke too, because of this emotional {situation}, and so {what he} shouted [was] just: (79) At this point, the Master also was [in a condition created by the fact that] he [was] just running back over from the near-residing neighbors. (80) [He] seized upon a {sturdy-implement-mother} of his OBJ. (81) [In view of the fact that he] saw [that] this thing that was white all over was there, [he] just thought that [it] was that chicken {of theirs} [and] just {using every bit of strength} he just beat down on [it using] just one blow. (82) As for the result, as for [what happened] after he had beaten down on [it] SPRT, [and] as for its sound [which he] heard, [it] just said "tọ́hí ń khụ́ thā." (83) "Oh! (84) The chicken doesn't cry out! (85) As for the chicken, it {actually} cries out like 'kụ́ kụ́ kụ́', like so." (86) As for [what] he thought [hearing] "tọ́hí ń khụ́ thā," (EXPL. [he had]
taken his teapot [and] broken [it] by beating, broken [it] entirely to bits SFRTI (87) As for having {been} fooled in vain {by} & jui’s-GEN [intention this] time, he {preferred not to tell about it} even more. (88) "As for [who did the] beating, you took your own teapot [and] broke [it] completely by beating." (89) It was certainly not a case of & jui beating [it], [and he] could not {pretend that} [it was] & jui’s-GEN fault [that] {caused it to happen}. (90) And so, [about] this matter [we may] just say [it’s a case of] "the mute eating {bitter drugs/yellow lotus}"
Text 2.1 (ε1.jui1 pushes the millstone)

(1) [ ke6.ŋi2 tsw7 kō6.jui9 i8 tco9 pa8 pa8 ŋe9 lu8 ye8 e6 s17 tci7 tu5 # e6 s17 e6 # ts04.pi07 ] (2) [ a4 # lu8 ye8 e6 s17 e6 ]

(3) [ ke6.ŋe2 ŋo9 ju2 tsu9.pi6 tcə9 e1.jui1 mu6 ku4.s17 kō7.tuə2 ] (4) [ a9 tuə2 tsw7 e1.jui1 tse7.kw7 # e7 # ŋe5 e7 thui6 ŋe5 mu7 se9.y7 ] (5) [ a9.tuə7 tsw7 # e7 # tçhui6 â6.nl6 tu5 mu7 mu6 ku4.s16 # lia4.s17.s17 mu7 kō7 thê7 ] (6) [ tci6 tcâ9 ke4.tsw7 # mo9 e9 # thui6 ŋe9 no7 ku4.s17 ] (7) [ tse2.kw7 tsu6 a9 ŋi2 e1.jui1 mu6 khe6.tu5 fe7.kwu7 ] (8) [ tsu6 mu6 fy2 a7 ça2.tâ7 so5 ] (9) [ mu6 fy2 a6 sō9 tsw6 mo9 ju2 mu6 s19 kō7 phu7 tsw7 yu05 kwh7 mu6 fy2 kwh7 no7 ] (10) [ le8.lo7.mo7 tsw7 a8.jō5 a8.jō5 lia4.s17.s17 sŷ5 lm7 tci6.çi2.ko4.tu4 ] (11) [ su1.jê1 su1.jê1 mo9 sō9 mu7 tci6.çi2.ko4.tu4 ŋe7 ŋi2 mu6 su2 mo9 tsw7 ua4.tsy.ŋi5 # xâ4.y4.tsw7 w6.mu6.no7 su2 nu9.li6.nu9.pho7 # ga6 pe4.xo7 tsw7 w6.mu6.no7 su2 ne9 tsw7 ua4.ts12 ja4 ] (12) [ la8 mo9 tsw7 ua4.ts17.ŋî5 tsw7 # mo9 pi8.çi17 ŋo2 fe9.kwu7 ji2 tsw7 zo4 sw7 ]

(13) [ mu9 tshu7 mu7 tsh6.kw9 ne5 tse2 sŷ4 tçê2 ni6 pi8.çy7 ji2 fe6.kwu7 ji2 tsw6.zo9.s17 ] (14) [ la8 li9 lao9 tshê8.tsu6 ni2 w6.mu6.no7 su2 << e1.jui1 # ke6.ŋi2 khe6.ts5 no9 pi8.çy7 ŋo4 jy8 mu6 tsw7 mu6 çi2 # ści ti6 no7 ts16.ke2.li6 ŋo4 ŋui5 ɕi2 mo6 pi8 ]

(15) [ e1.jui1 su2 ŋu6 fy2 a6 sŷ9 ] (16) [ fy2 a2 sŷ5 li6 ji2 ŋu5 tchi7 mo6 pi8 ] (17) [ la7 e1.jui1 tshu7 lia4.s17.mu7 tçhê5 tu2 ja4 mu7 tshê6 tsw7 e1.jui1 tsw7 ça9.pi6.fa8 la4 ] (18) [ tsw7 su2 ŋi8 su2 tsw7 mu7 tâ6 mo9 pâ6 kō6 a9 tsw7 no7 ... mu7 kō7 tse5 yâ8.mo7 se7 # kō7 tse5 yâ8.mo7 s17 mu7 fy5 kwh7 tsw7 ŋō5 kwh7 la4 ja4 ]
(19) [ la8 mo9 tshu7 mi2.či6 ŋuo5 khu7 mu6 fy5 kha7 no7 mi2.či6 a9
tshe4 ŋuo5 # e7 # ŋuo5 xe7 la4 # ŋuo5 mo9 ju6 mo6 tsu7 ] (20) [ tsu6
mo9 mo9 ti8 kha7 ke4.tsu6 ŋuo5 kha7 nu7 mu6 mu6 kua2 kua2 no7 # ja4 ]
(21) [ ti8 kha7 mu6 no7 tsu6 mo9 tshu7 lia4.si7.nu7 mi2 lu7 me5 ...
ji2 tsu6 mo9 tshu7 su22 si7 mu6 fy2 ā6 ne5 ne5 tshu6 sē7 # sē7 # sī4
nu7 ne5 tshu7 tshe6 # tshe6 tshe7 tshu6 tca2.tsu7 # tshe6 se7 tshu6
tca2.tsu7 ] (22) [ la8 mo9 tshu7 či6.kha7 a9 ke2 tsu6 mo9 tsu7 tse6
thui6 kha7 thui6 kha7 ke2 tsu6 tso4.kua2 nu7 ji2 sua2 tsu7 # a6.ta2
ŋuo5.kho7 no7 nu7 mu6 pao9 kua2 nu7 kā2 kha7 mu6 # kā2 kha7 mu6 fy5
khu9 no7 ] (23) [ tsu6 fy5 kho7 nu7 mu6 tiū4 kha7 tiū4 la8 mo8
tfā1.si7 nu7 tsu7 se6.ji2 mo9 mu6 sī5 ne5 tu2 sī5 gy8 nu7 tse2.tsu7 ]
(24) [ la8 mo9 mi2.či6 tsu14 tsu7 mo9 tsu17 sē4 fy2 kho7 nu7 mu6 sī5
ne5 tu17 # tshe6 se9 tshu7 tce2.tsu7 ] (25) [ su1.zei ŋuo5 kha7 ŋuo5
khu7 tsu7 a6.ta2 li8 lao9 tshe4.tsu9 li6 mo9 li6 tca9 mu6 fy2 a6 sī5
# mo9 li6 tca9 mu6 fy2 a6 sī5 ] (26) [ e8 # li9 lao9 tshe8.tsu7 su2a
<< e8 jo2 e8 jo2 ŋuo6 fy2 ŋuo6 fu2.kho7 li16 sō5 kha7 la4 >> ]
(27) [ la8 e1.jui1 tche6 tu2 lu7 e1.jui1 nī5 tsu7 či6.kha7 mo9 tshu7
ta5 tsu9 ji8 la4 ] (28) [ e7 nu7 su2a << ke6.če2 nī2 to5 sī7 mo9 the6
pi8 ] (29) [ mu6 nu7 a6.ta2 xa9 tu2 tshy6 (ne5 (ŋuo9 (sā7.tā7 (la4
ja4 >> ] (30) [ la8 e1.jui1 nu7 nī5 tshu7 # e1.jui1 nī5 tsu7 su2a
tsu7 << a7.ja7 li9 lao9 tshe4.tsu4 gy6 fy2 a6 sō4 tčē6.či2.ko4.tsu4
ne5 ne5 tca6.sī7 no9 ŋuo5 tshu7 ne5 ti6 e2 ne5 ŋuo9 tshā6 ju2 w6 tshu7
ji2 mo9 tshu7 ŋuo5 mu7 tshu6 la4 ] (31) [ kā7 či6.yo4 nu7 kā7
nā6.ŋui6 no9 nā6.ŋui6 no9 ] (32) [ no9 w6 nu7 a6.sē7 ŋuo5 tsu7 nu6
fy2 a6 sī5 ne5 ne5 tsu7 sē9 z17 to9 a4 >> ] (33) [ tsu6 li9 lao9
tshe4.tsu4 tche6 tu2 mu6 no7 tshe6 ] (34) [ la8 mo9 mo9 a8 sua2 tsu7
(50) [ tshu7 

tsa8 tsw7 mo9 kō7 mo9 tchā9 mw6 gué5.kho7 mw6 kua5 kua7 ] (51) [ <<

a7 ja7 li9 lao9 tshē4.tsu7 no9 no9 no9 jw2 ṅo9 gué5 lw7 a6.ta2 ṅw6

fy2 ā7 tse2 ya8.mo7 tse2 tse2 sō4 mw7 ne6 tsw7 ya8.mo7 # xū9 kā6.tći7

a4 ] (52) [ no9 s17 ṅo9 ıyw8 # no9 s17 ṅo9 ıyw8 mw6 ṅuē5 ke4 ]

(53) [ tsw7 mo9 tča9 pa7 ji6.s17 mw7 ıyw8 tchā9 mo9 mw6 ṅuē5.kho7 mw6

kua5 kua7 no7 ] (54) [ la8 tsw6 li9 lao9 tshē4.tsu4 suā2 ō:::54+

tsw6 s17 no9 xw7 tsw6 tao4 pu4 tī9 ṅo9 tše2 xū8 ] (55) [ la8 # li9

lao9 tshē4.tsu4 ṅī5 tshu7 suā2 tsw7 # << ē4 # tsw6 no9 xw7 tsw6 tao4

pu9 tsw7 mw6 fy2 a6 li6 tse2 sỹ4 (la4 ) (56) [ tsw6 mw6 fy2 a6 tsw6

jw2 a6 xū7 ] (57) [ tsw6 ṅo9 li6 pi8.cy7 ji2 ṅo9 tse2 ṅuē5 pi2 >> ]

(58) [ la8 li9 lao9 tshē4.tsu4 ṅī5 tshu7 tsw7 no2 le9 ti6 khw7 kua4

kua7 tsw7 yī6 tsw7 ji2 khuā6.khuā6.či6.či6 ṅuē5 ṅuē5 ṅuē8 ]

(59) [ mo9 tshu7 ṅo4 mw6 # mw6 ıy7 mw6 tshu7 mw7 ti9 či7 tii2 lw7 jw2

tsw6 jw2 mw6 ṅuē5 kā6.tći9 tchē6 ] (60) [ tsw6 ē1.jui1 ṅī5 tshu7 tsw7

la8 tsw4 yī4 tshu7 tsw7 ē4 khw7 ] (61) [ khuē4 khw7 ke4.tsu6 a6.ta2

mw6 # xo9 ke7 mw6 mw6 mw6 mw6 fy2 ıy8 mw6 khuē6 # tshē7 ti6 khuē7 mw7

ne7 tsw7 mo9 ko4 mw6 tu2 # ā6 thīu7 ā6 no9 mw7 # ço2.či8 la4 ]

(62) [ tshu7 ṅā5 pe7 a6 ] (63) [ ē7 no9 ṅī5 tsw7 suā2 tshu7 ku4.s14

tshu7 no9 tshē6 tshu7 lia4.s17.s17 mw7 tčā9 la4 ]
Text 2.2 (Translation)

(1) Today is western calendar 1988, sixth month, twenty- how many? twenty-second, right? (2) Sixth month, twenty-second. (3) Today I want to get ready to tell two stories about ɛ1. ju1. (4) One is [about] ɛ1. ju1, the {affair = story} of [his] pushing the millstone. (5) One is the story of [his] weighing the cat, two stories like that. (6) First [I will] tell {about} the story of [when] he pushed the millstone. (7) As for this [one], one day ɛ1. ju1 got up in the morning. (8) As for [what happened then], his stomach hurt a lot. (9) His stomach, as for [the way it] hurt, he wanted his two hemp mats, {in order to} enclose his stomach. (10) Boy-oh-boy, [it] was itchy-itchy, hurting unbearably like that. (11) Although the way it hurt was unbearable, what [we] should say is that he was a "wadze"—the Chinese call it a slave— we Bai-PLSUF say he was a wadze. (12) Well, so the fact that he was a wadze [meant that] he must get up and go in to do work. (13) What this [means] is that {even if} [his] body hurt a little bit QFRT, [he] must go in and get up, go in and do work. (14) Well then Old Master Li called [to] him saying, "ɛ1. ju1, this morning you must grind the corn very fine, no matter what." (15) ɛ1. ju1 said: "My stomach hurts." (16) "Even if [your] stomach does hurt, [you] have to grind it up fine. (17) Well so [when] ɛ1. ju1 heard those sounds like that, ɛ1. ju1 just started to think of a way. (18) What [we] should say [here] is that {while} serving as his servant ... there was no pay. Being without pay made him get crazy, get yellow. (19) Well so on one hand he just enclosed
his stomach, [while] on the other hand he {pushed on} the millstone, ground the rice, [while] the millstone {ate it up}. (20) As for [what he was doing it was] that he lifted up on the millstone’s {stick = axle}. (21) As for lifting up on it, he just thought like this ... all the way along he just said [that] his stomach knew: [what was] hurting had just swollen up a little. (22) Well so having just suffered awhile he {really = firmly} grasped [the millstone and] started pushing at it awhile, and having [done that], I daresay he was--here, against the millstone’s handle [he] {propped up ?} his stomach. (23) As for the stomach, {its = it was} starting to push up, and so I daresay he was really in a lot of pain. (24) Well then {while} he was turning round [the millstone] he was {knowing = feeling} the pain of his stomach--it had swelled up a little bit. (25) He ground wholeheartedly, and here Old Master Li also said that his stomach hurt. (26) Yes, Old Master Li said, "Aiya, aiya my stomach, my stomach is starting to hurt too!" (27) Well then, as €1.jui1 heard this his suffering [was such that he] made a decision. (28) So [he] said "Today [I] ought to {bribe = cheat} him one time! (29) His [usual way] here is always to {take = make} me get the worst of it, like that." (30) Well then €1.jui1 just--what €1.jui1 said was, "Aiya, Old Master Li, my stomach hurts unbearably, and just now what I ground up, what I lifted and put together, I’ve {succeeded in = been able to} eat and drink, that is, {entering it = doing it} has ground [my stomach pain] all better! (31) [I should] say {words = something}, say {thank you, thank you}. (32) What do you call it, grinding is what’s fixed my stomach pain!" (33) As for [what
happened next), Old Master Li heard these sounds.  (34) Well then, he said, "Hey! As for his stomach hurting, what he used was grinding to make it—the pain—to make it go ahead and get all better.

(35) As for me, now my stomach hurts too.  (36) As for my stomach, it hurts too, I wonder with a good grind, just maybe I would cure my stomach's pain too—grind it all better!"  (37) As for this—here now ε1.jui1 detected that Old Master Li was about to get to work.

(38) Well so he just said, "This time I'll fool around." Fooling around, he started to push and said, "Ai, Old Master Li, don't grind for awhile yet.  (39) Here—my stomach is—you said now I {should} still push it this time, [so I want to] push it {to the point that} the swelling is all better."  (40) Well then Old Master Li heard {what he said here} and said, "So he wants [to heal] his stomach, does he? [He's] already ground it {a lot} and what about the fact that my stomach hurts—[he's going to] {bribe = cheat} me good! 

(41) Old Master Li {went ahead and} grabbed up the stick from his millstone.  (42) Well it's like this: "You want your stomach to get better, and so I just have to make my stomach get better too."

(43) Well so he just took away the stick and he just stayed there and ground, like that.  (44) As for [what he] ground—here—the stuff—his stomach was deep [in it]—it really looked like a pile, all joined together.  (45) Well so [with all] this grinding [he] {dream inhale = dreamt of} grinding and grinding [so that when] he wanted to {exchange = change places with ε1.jui1} [he had already ground] two {turns}—[he] wanted to get it all ground up.

(46) {But?}, ε1.jui1 ground up one {turn}, and Old Master Li would
grind up two \{turns\} himself. (47) As for \[how they did it], here one \{turn\}, and again as for \[what happened then], here \$1.\text{jul1} would take it. (48) [I'm] afraid to say that he had already ground up two \{turns\}. (49) Well so \[they would] break off \[at\] one turn--breaking off \[at\] one turn \[would make\] \{a lot here??\}. (50) It was only that he stole away the stick of the millstone. (51) "Aiya, Old Master Li, you wanted me to grind, and here my stomach has no more--there's no more pain: quite finished! (52) You made me come and I ground one time." (53) In fact he was fooling around and came to take away the stick of the millstone. (54) Well then Old Master Li said, "Oooh, so I made you come and therefore \{there's no way for\} me to pile up a cure!" (55) Well, Old Master Li just said, "Ha! You came and then \{there was no\}--my stomach still hurts! (56) That is, as for my stomach, I want it to get better. (57) That is, I too must go ahead and grind some more." (58) Well then Old Master Li just took up the stick again, inhaled, and went on slowly grinding, grinding, grinding. (59) Having \{ground\} what was near him, going on for four \{turns\}, as for what he wanted, it was to grind \{everything\} all up. (60) As for \$1.\text{jul1}, he just got to \{exchange = turn over\} \{the work\} and thus he kept quiet. (61) He leaned \{idly\} on--here, in his room--his side, \{he\} came and collapsed--leaning \{naked as a babe\} he got over it and only then could he look down and rest. (62) So he just recuperated. (63) Well this person, we might say, this story is just told like that.
Text 6.1 (From LSN Bio:1)

(1) [ ɳo9 ts17 pe4.xo7 ] (2) [ ke6.ɕɛ2 çä7 ju2 s16 ɳo9 tɕä9 ɳo9 se9 mo9 tɕɛ5.ke2 nw7 s19.γ7 ] (3) [ sua2 ts16 sua2 se9 mo9 tɕɛ5.ke2 nw7 s19.γ7 ɳo9 pi8.ɕy8 ɳo4 sa8 tsu9.tsɔ6 no7 tɕä9 tɯw7 ts16 nw6.tu2 ɳo4 mo9 tɕä9 tʃi6.tʃu9 ] (4) [ ɳo9 tsu9.tɕi18 tsui1 tʃu7 tsu7 a6.na2.xo7 ni6 ] (5) [ ɳo9 tɕɛ6 ts2 nw6 ti7 tɕä9 ] (6) [ ɳỳ4.le4 tsui1 tsu7 no7 tsu9.tɕi18 tʃe2 w6 << nä9.tɕi7 ni1 thie7 fy5 li9 su6 ɳuɛ8 tål s14 tɕhiao4 >> no9 ni5.kɛ6 ] (7) [ ɣu7.fy7.no7 nw7 sue4 ke4.tsu6 mɬ4.tʃa4 no7 pu1.tui1 ] (8) [ ɣu8 phia2 ke4.tsu6 ju4.na4 ] (9) [ ku4 ke4.ts16 ju4.na4 ma7 se9.γ7 ] (10) [ tsu6 xu9 kho9.nu7 tsu7 na6 pu1 # tsu9.pu1 no7 ni5.kɛ6 no7 xo7 tsu7 nä4.tɕi6 ni6 ji6 thie7 fy5 li9 su6 ɳuɛ5 no7 tɕui6.tui6 no7 ji5.kɛ6 ] (11) [ na8 ɣu8 phia2 no7 ju4.na5 tʃe2.ku2 s18 tɕi2 nɛ4 xuɛ2.tsu7 e1 s12 tɕi2 nɛ4 no7 ɣu7.fy7.no7 tsu7 lo8 tɕi6 ke4.tsu6 ɳo9 nɔy5 la4 ] (12) [ lo8 tɕi6 ke4.ts16 ɳo9 nɔy5 la4 ɣu7.fy7.no7 tsu6 pi5.na5 ts17 ta2.li9 tʃy9.fy5 no7 ku6 pe4.xo7 ku4 sᵃ6 tɕi7 no7 tʃe2.ke2 lo8 ɣuɛ7 no7 ni5.kɛ6 ] (13) [ tsu6 ma6 tsu6 ni2 # nɬ2 pie2 vu2 ni2 tʃuɯ4.tɕɛ2 li8 nɛ8 ] (14) [ la8 ɣu7.fy7.no7 xu9 kho9.nu9 tʃu7 tsu7 pie2 ke4.ts16 pe4.xo7 ɣu8 tsu6 fy5 ] (15) [ la8 tʃu7 ku4 ju4.na5 tʃu7 tʃuɯ4.tɕɛ2 la4 ] (16) [ ts16 phia2 ke4.tsu6 pe4.xo7 ɣu8 tsu6 gy5 ɣu7.fy7.nw7 tsu6 kхаu6.khуu6.ɕi6.ɕi6 ts2 ma6 tʃu7 a9 ɬɛ6 phia2 ɬɛ6 no7 ɣu8.fy7.no7 tsu6 lu8 ke4.ts16 pe4.xo7 ma6 tɕi9.fy5 a9 no7 ] (17) [ pe4.ko7 ma6 tɕi9.fy5 no7 tsu7 lu6 ke4 a6.na2 ni6 ] (18) [ tsui1 tʃu9 tsu7 ke4.ts16 lu8 ke4.ts16 ke4.tsu6 tɕi4.tɕu12 no7 me7.tɯ6 # tɕi4.tɕu12 nw7 me7.tɯ6 ] (19) [ la8 ke4.tsu6 phia2
ke4. tsw6 a6. na2 tse5. ke2 ne6 ] (20) [ phia2 ke4. tsw6 ji8 pa8 yu9 tci9 ne4 ] (21) [ jia8 pa8 yu9 tci9 ne4 tsw6 tshu7 tsw7 tu9. ju1. ji2 no4 tse5. ke2 ja8 sua2 kwh4 tsw6 tshu7 tsw7 ji8 tci7 a16 tci9 # ja4 ]

(22) [ yu1. e8. tse7 tshu7 ne6 ne6 ne6 # ne6 kwh2 tse5. ke2 nu7 nu9 ji4 ]

(23) [ tsw7 ji8 pa8 yu9 tci9 ne4 mo9 tse5. ke2 tsw6 tse7. kwh7 ji1. fu1. na5 nu7 se7. yu1. tsh1. ji6 cy2 # me5 a7. ti1. nu6 mo9 ne9 kwh7 tse2 a8. mo7 ]


(32) [ la8 tsw7 t6 # tci1. fy7 yu9 tsw7 yu9 mo9 tshu7 jo9. si1. xo6 tsw6 mo9 ts1. xo6. xui7. ts1. xo7 fa4 ko4 yu8 mo9 tse5. ke2 tsw6 xai4. gy4. tsw7 w6 # w6. nu6. no7 sua2 tshu7 tsw7 xui4 xai6 gai7 tsw7 # xui4 xai6 gai7 tsw7 ] (33) [ ji1. tci6. ja6 nu6 pu9 tsw7 ja6 nu7 tsw7 xui4 pe8 gai7 tji1 ] (34) [ tshu7 s... tsw7 pe4. xo6 ne4 ts1. ji7 a6 tse2 tsw6 # ts1. ji7 tsw6 xai4. xo7 # ja4 ] (35) [ la8 pe4. xo7 tsw2. kwh7 tsw2. kwh7 nu6 tji1. tsw6 nu6 ti1. pe5 nu7 # ti1. pe5 nu7 tca2 # tsw6 xai4 #

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
xā4.xo7 nu6 mo9 te1.pi7 sū6 jī7 xā4.xo7 sū6 sw7 ko4 nu6.tw2 ji2
lo6.tči6 ke4 nu6.tw2 ji2 sū6.tahē5 # ja4 fa8.tjā7 sū6.tahē5 ko9
sū6.tahē5 xu8.tō6 ] (36) [ la8 tsw6 la8 nu6 ke6 nu6 ne4 tshu7
pu6.tui4 nu7 ne4 mo9 tsw7 pi9.tčao7 tsw8.s12.tčē2 ] (37) [ jo9.s12.xo1
tsw6 pe4.xo7 tshā6.tča6 no7 pu6.tui6 tshu7 tu9.jy7 sua2 tsw7 tʃh14
tʃa04 nu7 nu6 pu1.tui1 le5 te8.s12.tché2 ] (38) [ la8 fe7.tsw6 sua2
tsw7 ca2.tči6.ca2.tā4 # ca2.tči6.ca2.tā4 ] (39) [ la7 tsw7 mo9
tse5.ke2 tsw6 u6.nu6.no7 saw2 tsw7 piu7 xuā6 ma5 lu4 no7 me5 # piw7
xuā6 ma5 lu4 ] (40) [ la8 tshu7 sua2 tsw7 tsw7 a6.tiū9 thu6 tua4 ]
(tči9.fy7.nu7 a6.tiū9 thu6 tua4 ] (42) [ la8 tsw7 a9.pū6 tsw6
nā6 # nā6 ku4 no7 nā6 jw2 mo9 jw2 tsw7 se9 me7.tū6 nu7 ke4.tsw6 se9
ttō6 a6 ] (43) [ jw2 nu6 jw2 ca2.tči6.ca2.tā4 ] (44) [ la8 tshu7
tča8 jw2 tshu7 nu2 tsw6 khu6 kā6 tči9 tčē6 la4 ] (45) [ la8 tsw6
ku4 ke4 nu6.ta2 nu7 pe4 çē2 nu7 xo6 tshu7 tsw7 tus9.jo7 tsw7 pe4.xo7
ttā4 nu6.tčuē5 nu7 pe4.xo7 ] (46) [ la8 tshu7 nu5 nu5 sā4 tshu6
la4 ] (47) [ la8 tčh14 tjō7 nu6.fy7.yu9 tshu7 tsw7 nā6 nā6 tsw9 mo6
nu7 xo7 ja4 ] (48) [ tsw7 ue6 nu7 ke4.ts16 hao4 pil ke4.tsw6
ke4.tsw6 tsw7.kw7 tsw7.kw7 ca4 tʃā7 ] (49) [ la8 tshu7 a9.pū6 tsw7
ma5 thu6 phia2 ke4.tsw6 no9 tse5.ke2 nā6 xa9.ty6 tsw7 ku4 yw8 ]
(tshu7 tsw7 tči4.tčuē6 no7 ke4.tsw6 ku5 yw8 ] (51) [ tsw6 nu5
nu6 pia2 ku5 yw8 tčē2 no9 nu7 ke4.tsw6 mo9 tshu7 lu9 ne1 a6.xē2 nu7
nu5 ne2 pia2 tsw7 ku5 yw8 ni6 ] (52) [ ko5 yw8 tsw6 nu6 nu7 tsw7
ji8.ko6 nē4.khuā6 ] (53) [ tshu7 tsw7 tsw7 pi6 nu7 nē4.khuā6 me5 ]
(tsw6 tsw7 pi6 nu7 nē4.khuā6 no7 ne5 tsw7 nu6 tči8 tʃh14
tʃw1.fy9 mo9 tse5.ke2 mo9 to9 tsw2 ji2.ko2 me1.ku2 nu7 ji2.ko2

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
thio4.jo8 ] (55) [ su2 tsu7 ṇo4 tsu7 pī6 nu7 ɲɛ4.khuә6 nu7 nɨ9 nu6
su4 zo8 nu7 nu6 tse5 nu7 tse2 tɕiaŋ6 ts17 ke4.tsw6 ɲiũ9.kuɛ2.xo7 tsw6
# tā4 tsw7 ji9.kw7 tse2 tse2.kw2 ma6 # tɛ5 ma6 tse5 # a4 ]
(56) [ jw2 nu6 tse5 nu7 ne5 sɨ6 kw7 ] (57) [ la8 tsw6 ɲiũ2 pe4
ke4.tsw6 ɲiũ9.kuɛ2.xo7 tsw7 phe4 khuә5 ] (58) [ la8 ɲiũ9.kuɛ2.xo7
ku4 nu6.ta2 thỹ4 sɨ8 yw8 ku4 ta1.li9 tʃo7 no7 se8 tsw2 ji2.ko2 # kɔ7
su6 # ja4 ] (59) [ la8 ji2 tʃo6 li9 ke4.tsw6 tɕhio9.xo6 ɲɛ5.khuә6 ]
(60) [ ṇo4 kuã4 tɕhio9.xo6 ɲɛ5.khuә6 nu7 mo9 suɨ4 so4 ] (61) [ la8
kuε8.ml4.ta4 mo9 ku6 nu7 tʃuũ6.fy5 ku6 # su6 ts17 su6.tsw7 ji2
tɕh4.tʃhao4 mo9 tse5.kɛ2 nu7 tsuũ6.fy5 tʃhu7 ji9.tɕi7 ku6.tiũ6 thu6
la4 ] (62) [ tɕhio9.xo6 ɲɛ5.khuә6 pu8.nu7 tsu2 pĩ7 tsua2 tiũ7 #
(64) [ ʒũ1.xo7 ti1.fã7 no7 pɔ9.tʃã9 tʃa8 tʃa8 tʃã7 no9 xo7 # pu8.nu9
ku4 nu6.ta2 jw2 ke4.fy2 # ke4 me7 ] (65) [ tsw7.kw7 ke4 kuɛ7 #
pu6.tʃuũ9 ke4 ] (66) [ pu6.tʃuũ9 ke4 la8 tsw7 ku4 nu6.ta2 nu7
fã2.suũ6 tã7 kɔ7 no9 xo7 tsw7 pi9.tɕaŋ6 â7.tiũ6 tɛ2 ] (67) [ a4 nu6
tsu7 nu9 tu2 phia2 ke4.tsw6 nu6.ta2 tsw6 tʃhu7 mo9 tʃhu7 çã7 tu16 no7
tʃhu7 nu6 suũ9.xuo8 tsw7 pi9.tɕaŋ7 â9.tiũ7 tɛ2 ] (69) [ le8 tʃhu7
kuɛ6.s17 tsw7 ke4.tsw6 lu6 tɕi6 ke4.tsw6 # ɲa4 # ke4.ts16 ke4.ts16
tsw7.kw7 ku9 yw8 no7 tse2.ku2 ɲa6 w2.ru6.no7 tɕi6.ts17 no7 # ɲa4
ku9 yw8 nu7 tɕi6 ts17 no7 ] (70) [ la8 ɲu6 ti7 tɕã9 s17 ɲo9 tsw6
-su2 tsw7 ɲa6 tsw1 tsw7 no7 sa8 ksw9 ta5 yw8 thu6 pia2 ke4.tsw6 ku5
yu8 nu7 ɲa6 tsw9 pu7 no5 u2 ru6 miɛ4 tsw7 w6 li9 thie6 fy8 # li9
thie6 fy8 ] (71) [ tʃhu7 s18 pa8 ts17 li9 lu7 li9 mo9 tsw5 ]
(72) [ xe6 tʃhu7 nu7 thie6 mo9 tsw5 ] (73) [ ɲiũ1 fy7 nu7 fy7 mo9
Text 6.2 (Translation)

(1) I am [one of the] Bai-PLSUF. (2) Today maybe [you'd] like to have me tell about things {from} the time when I was young. (3) As for {what it means to say} "things {from} the time when I was young," I must {start to} tell from the early [times] {just after that = in order to} tell it correctly. (4) Who-PLSUF were {my} earliest ancestors QPRT? (5) I heard my father tell about [this]. (6) [My] original earliest ancestor is still called the person {from} the Four Great Dynasties, the Heavenly Domain of Liu, Song, and Wang at Nanjing. (7) Later, [he] {followed after = joined} a brigade of the Ming Dynasty. (8) [He] came to Yunnan. (9) [He] {served officially = managed} in the affairs of Yunnan. (10) That is to say, it is quite possible that our ancestors were people [who had belonged to] the militia of the Nanjing Heavenly Domain of Liu, Song, and Wang. (11) Well then, ten or twenty-odd years after [having] come to Yunnan, [he] {dropped plow = settled down} {for the benefit of} my [family]. (12) Having {settled down} {for the benefit of} my [family], after that [he] was {very close to = the same as} the bamboo hat people who live in the Dali territory alongside the Bai-PLSUF. (13) That is to say, as for them, [they] even sought matchmakers [and] sought to {establish families = get married}. (14) Well then, afterwards very possibly [they] were {set upright = established} {in the position of = as} the grandfathers of the Bai-PLSUF. (15) And so they stayed in Yunnan and {established families = got married}. (16) As for [what happened] after they
became the {grandfathers} of the Bai-PLSUF, after they very slowly [they] got their surnames, [first] one surname, [then] eight surnames, [they] {settled} in the {territory} of the Bai-PLSUF. (17) Where was the {territory} of the Bai-PLSUF {settled} QFR? (18) The very earliest was {settled} at Madeng, in Jianchuan [county]. (19) Well then, at what time [have we] arrived QFR? (20) [It] had gotten to be about 1850. (21) As for the year 1850 {or thereabouts}, in other words [if] we don’t speak of the time [as] the tenth plus seven-odd centuries [we’ll be wrong]. (22) Or perhaps it was [at] that time, like that. (23) That is, as for the time {around} 1850, the social situation in Yunnan was not yet very stable. (24) That time was [when] all over the nation the Opium War was occurring. (25) After the Opium War had occurred, [we] may say in passing, well [there was] a Muslim person in Dali prefecture whose name was Du Wenxiu [and] who led a peasant uprising. (26) [He] resisted against the rulers of the Qing dynasty. (27) That is, [he] didn’t [just] {lift up} the peasants a little and turn against the rulers [or] resist against the officials. (28) What this was, really, [if we] start to tell about that time, was the {mouth + cave = opening} of a revolution. (29) But, [I should] say, that uprising {was intended to} strike at the Qing dynasty. (30) As for {what he did}, [he] got together with a person {who belonged to} the Bai-PLSUF, the person [whose name was] Hou Xiaohou ((?)). (31) In other words, that whole [affair] was [directed] against the Qing dynasty, and so [they] attacked the territory. (32) Well, [they] would hold the territory [they] attacked, [and] as for [what
happened while] holding it, sometimes they--the Moslems--came and
killed [people who] at that time {were considered} Chinese-PLSUF,
[and it] was called the Moslem-Chinese struggle. (33) Actually the
real nature of it was a Moslem-Bai struggle. (34) That is to say,
the Bai-PLSUF {saw falsely = considered} themselves to be in fact
Chinese-PLSUF, like that. (35) Well then, the earliest {position} of
the Bai-PLSUF was [in] {representing business = doing business for}
the Han-PLSUF--[having acted as] the {hands and feet} of the
Han-PLSUF, [and having] sought to {settle down}, [they] sought to
develop [their own] productive [capacities] and to pursue the
activities of production. (36) Well, as for [what they] {took},
[I'm] afraid sometimes the troops in revolt would {take}--the Moslem
troops would {take} a considerable {advantage}. (37) As for [what
happened] sometimes, the brigades to which the Bai people {belonged},
[which] were in fact the brigades of the Ming dynasty, would also
{get the advantage}. (38) Well anyway [we may] say that [they were]
killing [each other] back and forth. (39) Well then, as for that
time, it is known as the military faction {stirring up disorder}.
(40) Well then, [we might] say [it] was impossible to put [it] down.
(41) In the {territory} [it] could not be put down. (42) Well then,
as for one time [it was happening at] {the place where} we lived,
{where} we used to [be], that is, at Xizhong {near} Madeng.
(43) What [they] got used to [was] killing each other back and forth.
(44) Well then, as for [what they could] eat it was extremely
lacking! (45) So, as for those who lived there, the {common people}
were mainly Bai-PLSUF, completely Bai-PLSUF. (46) Well then, [they]
had rubbed each other [the wrong way]. (47) Well then, among them (inside their ranks) were a few of my--our grandmother's [people]-PLSUF. (48) [They] gathered in defeat at (we may say) at this village. (49) Well then, at a certain time [they] pulled up [their crops] at the [place where] our home was at this time in Qiaohou. (50) That is, at Qiaohou in Jianchuan [county]. (51) That is, [it] {dawned upon} [their] coming to {borrow = take up} residence, this [was] at--where was it that {he = they} {settled down}, that [it] {dawned upon} [their] coming to live? (52) As for Qiaohou, it was a salt mine. (53) That is, [it was] just a mine that [specialized in] boiling salt. (54) As for this salt-boiling mine, it had {gotten = signed} an American treaty through bribery during the time of the Qing dynasty government. (55) [It was] said that [they] would take the income of the salt boiling people, their money, [after] giving it to the salt miners-PLSUF, [they would] collect this money of theirs. (56) [They] wanted their money [in order to] join it all up together. (58) Well then the English-PLSUF, at the same time as living there, came to live at a company [place] in [the village of] st8.tu2 in Dali Prefecture. (59) Well so [they] {disposed of = treated} this place {as being located in} the salt mine at Qiao4.hou4. (60) [They] {intended to} manage the tax payments of the Qiao4.hou4 salt mine. (61) Well so the KMT government of that time, although [they] had already {disposed of = treated} the government of Qing times for good... (62) The salt mine at Qiaohou was unable to {mine steadily}. (63) [They] {intended to} guarantee the production of the Qiao4.hou4 salt mine. (64) [People]-PLSUF of
any place [who want to] safeguard the whole [place] cannot [just] stay there and {try to} seize nourishment and seize horses.

(65) This [kind of] seizure [they are] not permitted to {do}.
(66) Well then, the revolutionized officials--PLSUF who lived there {enjoyed} relative {peace}. (67) PRT their living and production were rather {peaceful}. (68) Well then, our ancestor--PLSUF dreamed {to the point = that} as for that place, it was appropriate, that life [there] would be rather peaceful. (69) Well, and so at first [they] {settled down} at Qiao4.hou4, this [place] that we call "Gold"--like that, at Gold in Qiao4.hou4. (70) Well then, what my father has told me is that our earliest ancestor who came secretly from the inside to Qiao4.hou4 was called Li Tianfu. (71) That is, the "Li" character with {4 plus 8}. (72) The "Tian" character [meaning] blue skies.

(73) The "Fu" character [meaning] happiness. (74) The earliest {ancestor} [was] just ... like that. (75) Well so he lived at Qiao4.hou4, on a hillside {near} our Gold. (76) On the hillside [they] lived for two or three generations--three generations.

(77) [By the time of] the fourth generation, [we] reach my fathers generation, like that. (78) Having reached my father's generation, my father's name was Li Chengbao. (79) The "Li" is still the "Li" with 4 and 8 ... like that. (80) This "Cheng" is the "Cheng" {that means} "succeed." (81) "Bao" is the "Bao" {that means} (82) What [we've] gone to is my father's name... (83) Well then my father also asked about the chicken's crow--this Bai girl who was [named] Yang.

(84) You see, [she was] surnamed Yang. (85) But what my mother's given name really was QPRT, even I didn't know (laughter). (86) In
the past, when I {met up with} a woman, it would be difficult [if I] didn’t call her name, that’s for sure, and so [I’l]l call her Miss Yang. (87) Who Yang Yanyi (??) was QPRT, even I am unable to say at this time. (88) Anyway, as for my mother’s surname, [it was] Yang. (89) My father was surnamed Li. (90) Well, so as for [all the above], I heard my father tell about [it], my father himself [would] say [it] in passing, at that time.
Text 9.1 (From LSN Bio: 4)


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
xuo8.tō4 ] (40) [ mw9 sua2 ts17 pe4 a9.pio2 ne2 tsu7 tsa8.ts17 ko7
no7 mw9 sō4 kw7 mo9 tse5.ke2 tsu6 kw6.tsua2 kw6.tsua2 ] (41) [ tsu6
mo9 tse5.ke2 kw6.tā7.tā7 ] (42) [ tsu6 mo9 tse5.ke2 tso4.kua2
tso4.kua2 gā7.tā7 nā5.ko2 ] (43) [ le8 ji9.tchie8 no7 sua2 w6 mie4
tsu7 w6 a6.xē9 pe9 li6 ] (44) [ mw6 pe9 mw6 mie4 ni6 sua2 w6 thu7
tua4 ] [ ja4 ] (45) [ la8 tsu7 tsū7 ni6.tsō7 mao9.pi6 ji8.ts1 tač7
ts17.ko7 xe8.si6 se7 jī2 fā6.tač2 lo7 yu4.si6 liā4.tsu7 ja8 fy6 tsu7
pe2 phia2 thu9 thu7 no7 ni6 ] [ pe2 phia2 tči6.pū9.sā6 pe2 tshu6 pā4
thu7 thu2 ni6 no9 pu6 kā9 ku4 thu6 go9.pī8 ] (47) [ tsu7 jao1 ku4
thu6 go9.pī8 tsu7 pā6.ko7 tsō7.tho7 ji8.ko7 tsō7.tho7 ts4 ku7 tshu6
tā4 kw7 tshu6 tsu7 ko4 kw7 tsu7 tsu7 tshu4 kw7 thu7 tua4 lā4 ]
(48) [ ya8 thu7 ku4 tsu7 tē2 kue6 ] [ ja8.mō7.tsu7 a6.ta2
kue6.ti7.ka6-ne5 ] [ ja4 ] (49) [ ya8.mō7.tsu7 a6.ta2 kue6.pi6-pho
no7 mw6 mw6 mw6 # mw6 mw6 kw6 kua4 tse2 tse2 ya8 tsu7 # le8.lo7.mo7
sō4 tčiū1.či2.ko4.tua4 ] (50) [ tsu7 li6 tsu7 kw7 thu6 tua4 ]
(51) [ tsu7 a9.pū6 mw6 no9 tsu7 tse2 mw7 sua2 tsu7 no9 sa8 cy6.thā6
fā4.tač2 pia2 xo7 phia2 ku4 yu8 ] (52) [ la8 no9 thu2 thu2 mw6 tsu7
no9 čā6 xu6 pe9 tsu7 tsu6 ku4 ke4.ts16 pe9 thu7 ts6 mw7 čā6 xu6 pe9
tsu7 # čā6 tsu6 pe9 tsu7 ] (53) [ no9 mo9 tse5.ke2 tse6 no9 xe8 jī6
tsu6 se9 tče2 či9.xuā6 tse2 phu6 kho4 tčhī4 no7 mo9 ja4 ] (54) [ la8
no9 ku4 tshu7 ku4 sē4 nī5.ke2 a9.nī5 kō7.nī5 thō9.cy8 ne6 no9 tse2
khu9 tiu9 tče2 tā6 čiū7 tshu7 nē9 tshu7 phu6 tshu6 kā7 tshē6 tshu7
nī5.ke2 tshu7 čā6 sī6 ta4 ] (55) [ sī8 le4 fy7 tsō6 tsu7 sua2 tsu7
w2 mw6.no7 xā8 ju2 xua6 tsu7 ko2 no9 mw6 tse5.ke2 lia4.sī7 ke4 ts17 ]
(56) [ a9 ke4 tsu6 ne4 ni6 ] (57) [ a9 tsu8 tsu7 khu6 mw7 ti7 mo9
ni6 ] (74) [ kɔ6.tsɔ6 mo9 tsɛ5.kɛ2 tsw6 tshɛ6.kw7 ne5 gã6.tã6 go9 ja4 ] (75) [ ço9 nw7 mu6 ue4 a6.xẽ9 nw7 ço9 ni6 ] (76) [ tsu9.jo6 tsw7 lia4.s17.nw7 go9 go9 tsw6 tw2 lia4.s17.nw7 kõ7 the6 ] (77) [ a9 the6 tsw7 go9 phiũ4.tshã4 tse2.kw7 tçĭ6.tshã7 tçĭ6.s17 tua1.liẽ1 ] (78) [ a6.ta2 yɔ4.khẽ5 tṣu7 nхо8.tɕhĩũ6 tṣo7.qye8 lw7 yɔ4.khẽ5 tse5 tse5 mo9 jã4 ] (79) [ tsw7 kw6 fã7 juĩ4 kẽ6 tsw7 s16 kõ7 li9 ] (80) [ tsw7 mu6 mu6 mu6 mu6 # mu6 tsɔ4 tshu7 lw9 mo9 jã4 ] (81) [ yɔ4.khẽ6 nw7 tse5 tse5 tsw7 mu6 mo9 nw6 tsw7 tse5.tçhũ6.tçhũ6 ja4 ] (82) [ mu6 mu7 tse5.tçhũ6.tçhũ6 lw7 tsw7 mu6 nʰu2.fy2.nw7 tsw6 mu6 thu9 jo9 pi9.tɕo6 pe9 ] (83) [ la8 go9 xã6 tsw7 jì2 khe6.tw2 tshu6.la4 qy6.thã6 sã6 tshu8 tsho7 tçhỹ8 lw7 qy6.thã6 tçĭ8.thi9 tshu8 tsho7 ji9.uai7 tse2 tsw7 pã6 kõ7 tsɔ7 tho7 nw7 s16.tçĭ8 ] (84) [ fẽ7.tswũ6 go9 tsw7 ue4.ʒao4 kw7 tsw7 tshu6.tsõ6 go9 jì8.ne4 # go9 tshu7 ue4.ʒao4 kw7 pu6 tse5 tçuũi6 nw7 tçuũi6 nw7 tçuũi6 ] (85) [ xa7.ts16.ji6.tś16 ji7 pho6 a6 tçuũi6 # a4 ] (86) [ la8 nw7 ne6 go9 tshu7 tçĭ6.tshã7 tçĭ6 tshu7 tua1.liẽ1 ] (87) [ la8 tsw7.kw7 tsw7.kw7 ne7 nw7 tsw7 ji8 tsõ9 fã7.s16 ] (88) [ tǐ9 ê1 tsõ7 fã7.s16 tsw6 go9 tshã6.tçĭ6 ke4.ts16 nã5.tçhio7 tue1 ]
Text 9.2 (Translation)

(1) Today I still [want to] add [something about] the events {during} the time [I was in] upper middle school. (2) {Last time} [I] basically {finished} telling everything about my own life, my own ideals and struggles {during} [my] three years of upper middle school {for you}, all the way up to the {time when} [I] took the university entrance exam. (3) But, {why don’t} I introduce [some] things about other aspects [of that time]? (4) As for this evening, I’ve just thought of [some] events {surrounding} one other aspect of that time [in] upper middle school, events whose meaning is rather nice. (5) [So] I’ll narrate a few more scenes of that. (6) What one thing [do you think] it was that made me happy, {something like that} when I was in upper middle school? (7) As for my body, I’ve managed to improve [on it] in every respect. (8) One [thing I haven’t] mentioned is [that] when [I] was young my home was poor. (9) That is, [what we] ate and drank was somewhat deficient. (10) That is to say, children growing up in that world of the Guomindang ... everyone [of them] had basically that kind of conditions. (11) Well then our home was, let’s say, at the salt-boiling {mine.} (12) [We] dug ore, and so it was rather damp, rather damp. (13) Well then the small-fry, you could say, as for arthritis, that kind like the old folks, the big folks [get], those who got it were quite numerous. (14) Although I was [only in my] childhood, I often {went over} into the mines. (15) Digging ore and carrying ore, however, I still did not really know [much] about. (16) [If I would] do a job [I’d get] a few {lit.
one or three hundred, like that, [but] to earn [regular] money, I never did it that way. (17) But [during] ordinary holidays, vacations and such [I would] go into the mines. (18) [But] I didn’t dig and carry ore with my parents. (19) Still, as for {participating in} manual labor, I often {did that}. (20) [So] as for before, [I] was in continual contact {lit. running back and forth in} with the life outside [of school]. (21) As for [how I] went around, because when [I was] young [I was] poor, [I] {went around like a} "bare footed earth treader." (22) Like [that], the whole day long [I went around as a] bare footed earth treader. (23) Well then, what [sort of thing] is a bare footed earth treader? (24) It’s just [someone who] can’t put on shoes. (25) [It’s] like that. (26) And as for straw sandals, even those I couldn’t put on. (27) Well, it was just like "treading on red feet." (28) Well [I was a] bare footed earth treader. (29) [But] that kind of conditions, for every person, the health of [a person’s] body must suffer a lot of interference like that. (30) Well, [and also my] clothing was very poor. (31) [So that was] how things were in my childhood. (32) Well, so when [I was] probably about in primary school, I said to my father: (33) "Here, my leg, around my ankle, [around] its bone—I {remember saying}—around there, it hurts just like it was pinched freezing cold, deep down." (34) In one month [it] still [might] {start} hurting like that once or twice. (35) Within one year, then, I’m afraid it {would therefore} hurt seven or eight times. (36) But, as for when I was young, since in [our] family [there were] difficulties and there wasn’t any money, [if you wanted to] {see a doctor about}
an illness [you] wouldn't be able to {see about} it. (37) But, I
should say [that] illness certainly didn't interfere with [my]
studies. (38) [It] didn't interfere with me going around here and
there, like that. (39) [It] didn't interfere with [my] activities.
(40) {If I say it} wasn't an illness, then as for when it started to
hurt [as if my] foot were being pinched, it [would be] pinched
freezing cold. (41) That is, at that time I felt deep, deep cold.
(42) That is, at that time it was really very hard for me to bear.
(43) Well then, to talk about all of this, give it a name, what was
the illness called then? (44) That illness, its name--[I] couldn't
pronounce it. (45) It's like that. (46) Well then [I] (bore up
under) this kind of problem all the way up to [when I was] in lower
middle school. (47) So then as for [being in] lower middle school,
[I] still {would go back and forth between} holidays and study, like
that, {running} back to, getting as far [on] the road as, basically
having gotten halfway [along] the road {then what?} I didn't dare to
sit down and rest. (48) That is, {if I} wanted to sit down and rest
it would be half an hour [or] one hour {before I'd} start trembling,
and having done that [I] couldn't stand up again. (49) Maybe through
[my] achilles tendon, or maybe here [in my] crotch, or maybe here [in
my] leg, {the/its} bone {would} still--or else maybe--wow, {it would}
hurt unbearably. (50) [I] couldn't even stand up. (51) There was one
time [when] I had--[you might] say--returned home on a holiday from
school. (52) So then, along the {way}, I took a rest, that is, I sat
down on a stool to take a rest. (53) [Since] at that time I was still
rather young, [I] still loved the harmonica and such. (54) So then,
I just sat and played [for] one or two classmates, [but] [since] I was still a little bit [shy] (worried) [I] would only have blown a few sounds [while] people took it easy. (55) [You could] say [it was] about {five} minutes, that is, {as the saying goes} [at] one time [I would play] {about as long as it takes to} {have a smoke}. (56) As for one time, {what do you think} [happened] QRPT? (57) As soon as I stood up, {my} head was whirling around like that [and I was] soaked [with so much sweat that I] didn't know anything [that was happening]. (58) Well {the reason was that} [I] got up {so} fast {that} [I] swayed back and forth. (59) Yes, and as for [my] foot, you might ask {what happened} [when I] stood up--{this time} it hurt like {SOMPHON} [so that I] fell down by the right side of the road. (60) So then, my body was defective [to the extent that] {things like this} [would happen], you see. (61) What [I was] doing (or what I did), you might say [I] have already told all about [my] studies. (62) The important thing is [that] in three or four months [my] foot would have hurt {maybe around} two times. (63) [I] have told [you] everything, you see, {already/before} [I] told [it to you]. (64) So we could say that this kind of condition, all the time [I was] studying up until the time of lower middle school graduation, {what do you think?} [it was] actually improved a little bit over the time [when I was in] primary school. (65) As for [the reason], at that time when [I] graduated from lower middle school, [my] training in {bodybuilding} and such was really [due to] the goodness of [my] wrestling teachers. (66) [There were] many [opportunities to] participate in other activities [than study]. (67) In the morning
[when I] got up [I] (still had to) eat breakfast and chop [wood].

(68) My own opportunities for training were relatively many. (69) So then, compared to [my] first year of lower middle school, [my] (hand to hand wrestling) in second year and third year was very good indeed. (70) But, to tell the real truth, [my] wrestling was still not as much improved as [my] (weightlifting). (71) As for later on, as for [how it was after I] studied on to upper middle school, [by the time I] had gotten up to second and third year, there was a very great improvement. (72) So, as for [what happened] later on, I think [it was] something like that. (73) [But] why is it that my body [turned out] so well? (74) As for when [I was in] upper middle school, [my] body was really excellent. (75) [If it was] excellent, then why was it excellent? (76) The important [reason] is like this: I did two things like this. (77) One thing was [that] I always (usually) practiced "fighting hand." (78) Here [I should say something about] the Heging middle school, the Heging city wall, (what that was like). (79) [It] was, maybe, four miles all the way around. (80) The top of it came down like that. (81) The city wall of Heging was, it was {symmetrical}, like so. (82) [Although] it was {symmetrical} the land [lying] outside it was quite flat. (83) Well then, what I {recall} is that in the morning, outside of horsing around at school, horsing around together, there was still about half an hour of {stuff to do}. (84) Anyway, I would go up around it, go up to the top, I would {procrastinate} and go up around [on] that wall, balancing [myself]. (85) Everybody [would] go in [and] run around balancing [on it], you see. (86) Well, so the second [thing
is that] I usually practiced "fighting hand." (87) Well, this second 
[thing] is one aspect [of it]. (88) As for the second aspect, I 
participated in the basketball team.
Appendix 2

Rhyming Glossary of Jianchuan Bai Syllables

with English Translations

Rhyme: -i

ant
   pi21+po21+
dragonfly 5
   tɕi55ko55lo55yo21+pi21+ɕo21+
taro
   pi21+thypi55
bedbug
   pi55si55tsi33
blow (wind)
   pi55si55tsʰo44+
left side
   pi55fy33
wind
   pi55si55
thigh 2
   khue31pi55
low
   pi33
fountain pen 2
   sui31pi35
pencil 2
   tɕʰe33pi35
palmbark cape
   pi31se44+

Rhyme: ph-

cheap
   phi55ji44+
malaria 2
   fe44+phi55vu31
slow
   phi55

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
criticize

root

forget 2

neck 3

noodles 2

mirror 2

square 2

wheat flour 2

tears

cotton

moon

think over

economics 2

plan

technique

secretary 2

autumn 2

leech

spring 2

summer 2

winter 2
bear (v.)

fast

chase

expel

ADV quickly

KIN BCF 2

hunt

KIN BCM

earthworm

bracelet

flag

yesterday

sing

BP back 3

dragonfly

PRON how much

pumpkin

melon

plough

kerchief 2

many

pigeon

hungry

winnowing fan 3

armpit 3

aircraft 2

tći42+xē55

tći42+tsua42+

tći42+

tći42+tći44+

tći42+tći42+tsua42+tsua42+

jỳ33tći42+

tći42+sy42+

tći42+tsi33

tći21+ke55tsỳ21+

tći21+

tći21+

tći21+jǐ44+

tći21+khy44+

to42+ko42+tći55

tći55ko55lo55yo21+pi21+ço21+

tći55çu33

tći55kua55

tći55kua55

tći55kw55

sw44+tći55

tći55

tći55kw55

po33mo33tći55

jō21+mo33tći33kā42+

fe33tći33
pull B
machine
tractor 3
chest 3
economize
positive
working class 4
earth
clear sky 2
dry field 2
overcast 2
scissors

automobile
highway
machine 2
exit 2
expel 2
lacquer
NUM seven
seventh month
sound 2
strength
fertilizer

tçi33
tçi33tçhi55+
tho33la33tçi33
tçi55kho55tçi33
tçi35jo35
tçi35tçi35
kô33swû42+kê33tçi35
tçi31
xe55tçi31xu33
kâ55tçi31
xe55tçi31tsha33

tçi31ta55

tçhi55+tshe33
tçhi55+tshe33lu55+
tçi33tçhi55+
ŋe21+tçhi44+
tçi42+tçhi44+
tçhi44+
tçhi44+
tçhi44+
tçhi44+ŋua44+
tshē55tçhi44+
tçhi44+yw42+
tçhi55tsha33

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
eggplant
ash (plant)
manure
maggot
thorn

communism 4
NUM 100 million
idea
socialism 4
first day 3
cheap 2
eleventh day 2
NUM eleven 2
NUM twenty one 2
NUM one
KIN FF 2
wear
CLF-armspan
look for B
garment
knife
kitchen knife 3
waist
sleeve

kō55+tsəšə31tsə31ji55+
ji55+
ji55+tcə55+
se55+xui55+tsə31ji55+
ŋua44+xe55ji44+
phi55ji44+
tsə42+ji44+
tsə42+ji44+
ni31ji44+
ji44+
ɛ55ji42+
ji42+
ji21+
ji21+
ji55
ji55ta55
tshuã33tshu31ji55ta55
ji55kua44+
ji55tw21+
wing  ji33kh55
NUM one  ji35
chair  ji31tsi33
sharp  ji31

fourth month  gi44+ŋua44+
flea 2  khu33gi44+
NUM four  gi44+
lice (body)  gi44+
square  gi44+mi42+gi44+ky44+
forget 3  phɛ44+mi42+gi55
tin  gi55
die  gi33
chairman 2  tɛγ31gi35
NUM twenty 2  ni31gi31
like  gi31xuā55

peanut  ti55+ɡō33tsi31
before now  tw21+ɡy55
hawk  ti55lu33ua42+
horn (woodwind)  ti55tɛ44+
KIN F 2  a31ti33
enemy  ti35su42+
NUM ordinal eight  ti31pia44+
NUM ordinal five  ti31ny33
NUM ordinal one  ti31ji44+

th-
develop  thi42+kao33
improve  thi42+kao33
ladder 2  tsu21+thi55
KIN YS 2  jy33thi33
KIN YB 2  a31thi33

n-
mud  ni21+ue55
cat 2  da55ni55
grasp  ni55
NUM twenty  ni31gi31

l-
triumph 2  su55+li55+
butterfly 2  ko55li44+
also  li55
fruit 2  gui55li55ta21+se44+wu33
ADV surely 3  tsi55ke21+li55
manage 2  ku31li31
prime minister 2  ts631li31
repair 2  go55li31

freedom  tsi55+jo42+
comrade 2  thō42+tsi55+
politics 2  tsū55tsi55+
first month  tsi55jua44+
oil  tsi55
loom  tsi55se44+tsça44+
celebrate new year 2  ko42+tsi55jua44+
weave  tsi55
table  tsi55tsi33
last year 2  na21+tsi55
struggle 2  to55tsw55
ADV surely  tsi55ke21+li55
sugarcane 2  ka55tsi55
cart 2  tshē55tsi33
day after tomorrow  tsi33jī44+
girl 3  jī33na42+tsi33
chili 2  la35tsi33
arm 3  sw33pā31tsi33
finger 3  sw33tw21+tsi33
bedbug 3  pi55si55tsi33
chair 2  ji31tsi33
all 3  tsa35ke21+tsi33
hail 3
brush 2
bat 3
eggplant 2
boy 3
CLF-knife
insane person 2
lightning flash (v.) 2
platter 2
KIN CM
man  
market
KIN BCM 2
kidney 2
lick
paper
mosquito 2
teeth
throat 2
swallow 3
whip 3
window 2
table 2
student 3
sparrow 2
stockings 2

sui44+ua42+tsi33
sua55tsi33
po55po44+tsi33
tɔhi55tsi33
cao31xo31tsi33
tsi33
vu21+tsi33
se21+tsi33phiw44+
pə21+tsi33
si33jî21+
tsλ33jî21+
tsλ33
tc;i42+tsi33
jao55tsi33
tsλ33
mo44+tsi33
tsi33pa44+
kû21+tsi33te44+
xɔ55ge33tsi33
mz33piao55tsi33
tshuə55tsi33
tsλ55tsi33
yw42+aγ55tsi33
tso44+tsi33
va55tsi33
<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>shop 2</td>
<td>phu31tsi33</td>
</tr>
<tr>
<td>sand 2</td>
<td>so55tsi33</td>
</tr>
<tr>
<td>hat 2</td>
<td>mao44tsi31</td>
</tr>
<tr>
<td>bullet</td>
<td>tsi31tā55</td>
</tr>
<tr>
<td>mosquito net 2</td>
<td>tsā44+tsi31</td>
</tr>
<tr>
<td>peanut 3</td>
<td>ti55+ɡō33tsi31</td>
</tr>
<tr>
<td>persimmon 2</td>
<td>tha44+tsi31</td>
</tr>
<tr>
<td>silk cloth 2</td>
<td>tsho55tsi31</td>
</tr>
<tr>
<td>lose B</td>
<td>tshi55</td>
</tr>
<tr>
<td>spit</td>
<td>tshi55</td>
</tr>
<tr>
<td>transport</td>
<td>tshi55</td>
</tr>
<tr>
<td>CLF-foot</td>
<td>tshi33</td>
</tr>
<tr>
<td>bedbug 2</td>
<td>pi55si55tsi33</td>
</tr>
<tr>
<td>blow (wind) 2</td>
<td>pi55si55tsho44+</td>
</tr>
<tr>
<td>ADV INTENS 2</td>
<td>tsa35si55</td>
</tr>
<tr>
<td>KIN MS 3</td>
<td>a31ɡy33si55</td>
</tr>
<tr>
<td>wind 2</td>
<td>pi55si55</td>
</tr>
<tr>
<td>excrement</td>
<td>si33</td>
</tr>
<tr>
<td>land (dry) 2</td>
<td>thu33si33</td>
</tr>
<tr>
<td>ramie</td>
<td>si33</td>
</tr>
<tr>
<td>thought</td>
<td>si33çā31</td>
</tr>
</tbody>
</table>
suffer defeat
begin 2
cooked rice 2
second month

Rhyme: -ɨ

change
mucus
braid 3
plait
salt
roll up

overflow B
sun 2

overflow B
sun 2

arrow
CLF-catty
bear
gold
pointed
tendon

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
CLF-pair  tci33
near  tci33

NUM thousand  tchf55
hot (pepper)  tchf55
shallow  tchf33

tch-

enter 2  yw35ji44+
day  ji44+
hot (weather) 2  wi31ji44+
young  ji44+sua44+se31
yesterday 2  tci21+ji44+
sun  ji44+phi31
today 2  ke55ji44+
CLF-person  ji21+
boat  ji21+su55
elderly person 2  ku33ji21+
guest 2  khe44+ji21+
KIN H 2  po55ji21+
PRON EGO 3  tw42+tai55ji21+
man 2  tsi33ji21+
KIN W 2  vu33ji21+
person  ji21+ke55
<table>
<thead>
<tr>
<th>English</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>rich 2</td>
<td>ko21+jǐ21+po55</td>
</tr>
<tr>
<td>KIN CM 2</td>
<td>tsi33jǐ21+</td>
</tr>
<tr>
<td>KIN CF 2</td>
<td>jǐ̄33jǐ21+</td>
</tr>
<tr>
<td>woman 2</td>
<td>jǐ̄33jǐ21+</td>
</tr>
<tr>
<td>silver</td>
<td>jǐ̄21+</td>
</tr>
<tr>
<td>sickle</td>
<td>jǐ̄21+</td>
</tr>
<tr>
<td>poor</td>
<td>jī55ku21+</td>
</tr>
<tr>
<td>NUM zero</td>
<td>jǐ̄55</td>
</tr>
<tr>
<td>tobacco (cured)</td>
<td>jǐ̄33</td>
</tr>
<tr>
<td></td>
<td>ç-</td>
</tr>
<tr>
<td>tears 2</td>
<td>mi42+çǐ42+</td>
</tr>
<tr>
<td>look for</td>
<td>çǐ21+</td>
</tr>
<tr>
<td>mucus 2</td>
<td>pǐ21+çǐ21+</td>
</tr>
<tr>
<td>firewood</td>
<td>çǐ̄55</td>
</tr>
<tr>
<td>KIN FJBW 2</td>
<td>a31çǐ̄55su31</td>
</tr>
<tr>
<td>new</td>
<td>çǐ̄55</td>
</tr>
<tr>
<td>heart</td>
<td>çǐ̄55</td>
</tr>
<tr>
<td>ADV slowly 3</td>
<td>khuā55khuā55çǐ̄55çǐ̄55</td>
</tr>
<tr>
<td>chest</td>
<td>çǐ̄55kho55çǐ33</td>
</tr>
<tr>
<td>saliva</td>
<td>çǐ̄55ny44+tse44+</td>
</tr>
<tr>
<td>believe in</td>
<td>çǐ31</td>
</tr>
<tr>
<td></td>
<td>t-</td>
</tr>
<tr>
<td>cinema</td>
<td>tǐ̄55+jǔ̄31</td>
</tr>
</tbody>
</table>
electric lite  tī55+tǔ33
telephone  tī55+xua55+

Rhyme:  -ē

suffer defeat 2  si35pē44+
NUM hundred  pē44+
daytime  pē42+tshy42+jī44+
cabbage  pē42+tshu31
lock 2  tso42+pē42+
lazy  pē42+j33kw33
white  pē42+
draw harrows  pē21+
pay for  pē21+

forget  pē44+mi42+çi55
bladder  pē55u33
rice gruel  pē55vu42+
soft  pē55

write  vz42+
fat (meat)  fέ44+
malaria  fέ44+φι55υu31
pay (wages)  fέ44+
marry (give)  tέ44+fέ44+jγ33

crawl  mέ44+
buy  mέ42+
crow (v.)  mέ21+
light  mέ21+
thunder  xo55mέ21+
frog  ṭ21+mέ55
horse  mέ33
whip  mέ33piao55tsi33

borrow/lend  tγέ44+
beautiful  xά55tγέ42+

kick  tγhé44+
vomit  tγhé44+
day B
henceforth 2
representative
marry (give)
blind person 2
attitude
thunder (v.) 2
let fall
fodder 2
narrow
milk 2
saliva 3
eleventh day
fifteenth day
pick up
<table>
<thead>
<tr>
<th>Term</th>
<th>Tsx-</th>
</tr>
</thead>
<tbody>
<tr>
<td>right side</td>
<td>tsx42+f33</td>
</tr>
<tr>
<td>NUM eleven</td>
<td>tsx42+ji44+</td>
</tr>
<tr>
<td>NUM ten</td>
<td>tsx42+</td>
</tr>
<tr>
<td>thirtieth day 2</td>
<td>s5tsx42+</td>
</tr>
<tr>
<td>tenth day 3</td>
<td>xua44+x5tsx42+</td>
</tr>
<tr>
<td>tenth month</td>
<td>tsx42+xua44+</td>
</tr>
<tr>
<td>sixteenth day</td>
<td>tsx42+f44+</td>
</tr>
<tr>
<td>time (span/point)</td>
<td>tsx21+ke44+</td>
</tr>
<tr>
<td>stupid</td>
<td>tsx35to35</td>
</tr>
<tr>
<td></td>
<td>tsh-</td>
</tr>
<tr>
<td>red</td>
<td>tshe44+</td>
</tr>
<tr>
<td>cart</td>
<td>tshe55tsi33</td>
</tr>
<tr>
<td>automobile 2</td>
<td>tchi55+tshe33</td>
</tr>
<tr>
<td>highway 2</td>
<td>tchi55+tshe33lu55+</td>
</tr>
<tr>
<td>train 2</td>
<td>xo31tshe33</td>
</tr>
<tr>
<td>policy 2</td>
<td>tsu55tshe35</td>
</tr>
<tr>
<td></td>
<td>s-</td>
</tr>
<tr>
<td>commune head</td>
<td>se55+tsa31</td>
</tr>
<tr>
<td>commune 2</td>
<td>k535se55+</td>
</tr>
<tr>
<td>socialism</td>
<td>se55+xui55+tsy31ji55+</td>
</tr>
<tr>
<td>cut crop</td>
<td>se44+</td>
</tr>
<tr>
<td>fruit 4</td>
<td>gui55li55ta21+se44+xu33</td>
</tr>
<tr>
<td>establish 2</td>
<td>tge55se35</td>
</tr>
</tbody>
</table>
easy 2  
affair  

fingernail 3  
good  
husks 2  
seize  
time (span/point) 2  
expensive  
price  
trim  
wages 2  
all 2  
meat  
ADV surely 2  
earthworm 2  
mouth 2  
stem  
this year  
working class 3  
liberate  
revise  
reform (land tenure) 2  

\(y\text{ou2}\text{+se31}\)  
\(se31\text{vu33}\)  
\(sw33\text{tu21+k}\varepsilon44+\)  
\(k\varepsilon44+\)  
\(tsh\text{bo55k}\varepsilon44+\)  
\(k\varepsilon44+\)  
\(ts\varepsilon21+k\varepsilon44+\)  
\(k\varepsilon42+\text{to42+}\)  
\(k\varepsilon42+\)  
\(k\varepsilon42+\)  
\(yw42+k\varepsilon42+\)  
\(tsa35k\varepsilon21+tsi33\)  
\(k\varepsilon21+\)  
\(tsi55k\varepsilon21+li55\)  
\(t\varepsilon21+k\varepsilon55ts\text{\-}\varepsilon21+\)  
\(t\varepsilon31s\varepsilon33k\varepsilon55\)  
\(k\varepsilon55\text{kua44+}\)  
\(k\varepsilon55\text{tsi55}\)  
\(k\varepsilon33\text{su242+k}\varepsilon33t\varepsilonci35\)  
\(k\varepsilon31f\varepsilon55+\)  
\(k\varepsilon31\)  
\(thu31k\varepsilon31\)
guest  
host  
saddle 2  
morning  
begin  
hold meeting  

bottom  

cooked rice  

skirt  

forehead  
yoke  
hard  
exit  
go  
sprout  
swallow 2
KIN FF  ε55ji42+
mute person  ε33po55

Rhyme: -ε  p-

method  pē55+fa35
magpie  pē42+tchá44+vu55
flat  pē21+
plain  pē21+tā31
split open  pē55
plank  pē33
take B  pē33
cure 2  xā55pe31
get sick  pē31s y31

f-

turn over (reform)  fē33mū33
oppose  fē31tui55+
reactionary  fē31tō55+

tc-

idea 2  ji55+tcē55+
in advance  tcē42+tu21+
after B  tcē42+yu33
nail to (v.)
establish
nail
pull
well
inspect
shave (head)

blue
listen
thin (liquid)
pencil

experience 2

county head
line (polit.) 3
surname
fishy (smell)
awaken
smoke 2
star
<table>
<thead>
<tr>
<th>Advanced</th>
<th>( )³3t( )55⁺</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forge (iron)</td>
<td>( t)⁴4⁺( t)44⁺</td>
</tr>
<tr>
<td>Fight 2</td>
<td>( s)₅5( t)⁴4⁺</td>
</tr>
<tr>
<td>Dig</td>
<td>( t)⁴4⁺</td>
</tr>
<tr>
<td>Horn (woodwind) 2</td>
<td>( t)₅5( t)⁴4⁺</td>
</tr>
<tr>
<td>Strike B</td>
<td>( t)⁴4⁺</td>
</tr>
<tr>
<td>ADV Often 2</td>
<td>( t)₂₁⁺ ( t)⁴₂⁺</td>
</tr>
<tr>
<td>City (wall)</td>
<td>( t)₂⁺</td>
</tr>
<tr>
<td>Needle</td>
<td>( t)₅5</td>
</tr>
<tr>
<td>True</td>
<td>( t)₅5</td>
</tr>
<tr>
<td>Pillow</td>
<td>( t)₃₃( t)₂₁⁺</td>
</tr>
<tr>
<td>Body</td>
<td>( t)₅5( k)₃₁</td>
</tr>
<tr>
<td>Pot</td>
<td>( t)₅5</td>
</tr>
<tr>
<td>Light (weight)</td>
<td>( t)₅5</td>
</tr>
<tr>
<td>Sound</td>
<td>( t)₅5( t)⁺₄⁴⁺</td>
</tr>
<tr>
<td>Shadow 2</td>
<td>( k)₃₃( t)₅5</td>
</tr>
<tr>
<td>Swell</td>
<td>( t)₅5</td>
</tr>
<tr>
<td>Sleep</td>
<td>( t)₃₃</td>
</tr>
</tbody>
</table>
communism 2  
produce 2

sē21+
sē21+tsi33phiw44+
sē21+
jō44+sē55
sē55
sē33
a55sē31

mirror
fear (v.)
person 2
copper
shadow

kē42+mi42+
kē55
jī21+kē55
kē33
kē33tshē55

first day 2
fifth day 2
bear (v.)2
noodles 3
raw

ŋua44+xē55ji44+
ŋua44+xē55ŋy33
tči42+xē55
mo44+mi42+xē55
xē55

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Term</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>radish</td>
<td>xǐ55tshu31</td>
</tr>
<tr>
<td>third day 2</td>
<td>ŋua44+xǐ55sā55</td>
</tr>
<tr>
<td>tenth day 2</td>
<td>ŋua44+xǐ55tsē42+</td>
</tr>
<tr>
<td>wet</td>
<td>xǐ55</td>
</tr>
<tr>
<td>second day 2</td>
<td>ŋua44+xǐ55ne44+</td>
</tr>
<tr>
<td>soup</td>
<td>xǐ55</td>
</tr>
</tbody>
</table>

**Rhyme:** -γ  

<table>
<thead>
<tr>
<th>Term</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>belly</td>
<td>fý44+</td>
</tr>
<tr>
<td>NUM six</td>
<td>fý44+</td>
</tr>
<tr>
<td>sixth month</td>
<td>fý44+ŋua44+</td>
</tr>
<tr>
<td>sixteenth day 2</td>
<td>tsē42+fý44+</td>
</tr>
<tr>
<td>saw</td>
<td>fý42+tshe44+</td>
</tr>
<tr>
<td>bee</td>
<td>fý55</td>
</tr>
<tr>
<td>fly (v.)</td>
<td>fý55</td>
</tr>
<tr>
<td>smallpox</td>
<td>fý55</td>
</tr>
<tr>
<td>bottom 2</td>
<td>ŋě33fý33no33</td>
</tr>
<tr>
<td>right side 2</td>
<td>tsē42+fý33</td>
</tr>
<tr>
<td>left side 2</td>
<td>pi55fý33</td>
</tr>
<tr>
<td>top 2</td>
<td>tō533fý33no33</td>
</tr>
<tr>
<td>fortunate 2</td>
<td>ʂū55fý35</td>
</tr>
<tr>
<td>government 2</td>
<td>tʂwǔ55+fý31</td>
</tr>
</tbody>
</table>

**Rhyme:** t-  

<table>
<thead>
<tr>
<th>Term</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>get angry</td>
<td>tý42+</td>
</tr>
</tbody>
</table>
th-

sprout (v.) thy31ŋɛ21+

n-
dragon nγ21+
pus nγ21+

l-
green lγ44+
neck 2 kγ42+lγ42+mi42+

ts-
candle 2 la44+tγ44+
bamboo tγ44+
bamboo shoot tγ44+ɡuǐ33
daytime 2 pɛ42+tγ42+jɯ44+
cooked tγ42+
bug tγ21+
child 2 sγ55tγ33jɨ33
boil (trs.) tγ33
democracy 2 miw42+tγ31
chopsticks tγ31
communism 3 kɔ55+tshɛ31tγ31jɪ55+
chairman tγ31ɕi35
socialism 3  \( se55+xiu55+sy\bar{y}31ji55+ \)

rub  \( tshy55 \)
extend  \( tshy31 \)
sweet potato 2  \( xu\ddot{a}42+tshy31 \)

hunt 2  \( tc\ddot{g}i42+sy42+ \)
mountain  \( sy42+ \)
child  \( sy55tsy33\bar{y}33 \)
book  \( sy55tshue44+ \)
comb  \( sy55 \)
letter  \( sy55f\ddot{y}55 \)
teacher  \( sy55po55 \)
written word  \( sy55ts\ddot{u}31 \)
student 2  \( yu42+sy55tsi33 \)
rat  \( sy33 \)
secretary  \( sy33tc\ddot{i}55+ \)
comb (v.)  \( sy31 \)

square 4  \( ci44+mi42+ci44+ky44+ \)
reside  \( ky42+ \)
<table>
<thead>
<tr>
<th>English</th>
<th>Yieder Orthography</th>
</tr>
</thead>
<tbody>
<tr>
<td>neck</td>
<td>Ky42+Ly42+Mi42+</td>
</tr>
<tr>
<td>horn (antler)</td>
<td>Ky44+</td>
</tr>
<tr>
<td>sit</td>
<td>Ky42+</td>
</tr>
<tr>
<td>shout</td>
<td>Ky55</td>
</tr>
<tr>
<td>ghost</td>
<td>Ky33</td>
</tr>
<tr>
<td>mantis</td>
<td>Ky33Su33Ma33Ke55</td>
</tr>
<tr>
<td>kneel</td>
<td>Ky31</td>
</tr>
<tr>
<td></td>
<td><strong>kh-</strong></td>
</tr>
<tr>
<td>folk song</td>
<td>Ky44+</td>
</tr>
<tr>
<td>crooked</td>
<td>Ky44+</td>
</tr>
<tr>
<td>nose 2</td>
<td>ηy21+Ky44+Tw21+</td>
</tr>
<tr>
<td>sing 2</td>
<td>Ts21+Ky44+</td>
</tr>
<tr>
<td>wing 2</td>
<td>Ji33Ky55</td>
</tr>
<tr>
<td>snake</td>
<td>Ky33</td>
</tr>
<tr>
<td>nest</td>
<td>Ky31</td>
</tr>
<tr>
<td></td>
<td><strong>η-</strong></td>
</tr>
<tr>
<td>carpenter</td>
<td>ηy44+TsO42+</td>
</tr>
<tr>
<td>saliva 2</td>
<td>Gi55ηy44+tSe44+</td>
</tr>
<tr>
<td>dream 2</td>
<td>Mu31ηy42+</td>
</tr>
<tr>
<td>NUM ten thousand</td>
<td>ηy42+</td>
</tr>
<tr>
<td>cloud</td>
<td>ηy21+</td>
</tr>
<tr>
<td>nose</td>
<td>ηy21+Ky44+Tw21+</td>
</tr>
<tr>
<td>yellow</td>
<td>ηy21+</td>
</tr>
</tbody>
</table>
before now 2  
fish  
front 2  
fifth day 3  
fifteenth day 2  
fifth month  
KIN MS 2  
NUM five  
sweet 2  
tail  
things

Rhyme: -\u037f   

fat (person)  
distribute  
letter 2

cild 3  
girl  
marry (give) 3  
KIN CF  
KIN YS  
KIN BCF  
woman

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Word</th>
<th>Syllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>elephant</td>
<td>ɣ'y21+</td>
</tr>
<tr>
<td>cave</td>
<td>t'y44+</td>
</tr>
<tr>
<td>copper B</td>
<td>t'y21+</td>
</tr>
<tr>
<td>eleventh month</td>
<td>t'y55gua44+</td>
</tr>
<tr>
<td>east</td>
<td>t'y55</td>
</tr>
<tr>
<td>household (home) 2</td>
<td>xa31t'y55</td>
</tr>
<tr>
<td>tail 2</td>
<td>ɣ'y33t'y55</td>
</tr>
<tr>
<td>winter</td>
<td>t'y55t'si44+</td>
</tr>
<tr>
<td>taro 2</td>
<td>pi21+th'y55</td>
</tr>
<tr>
<td>bucket</td>
<td>th'y31</td>
</tr>
<tr>
<td>plant (v.)</td>
<td>ts'y42+</td>
</tr>
<tr>
<td>release</td>
<td>ts'y42+</td>
</tr>
<tr>
<td>earthworm 3</td>
<td>t'ci21+ke55ts'y21+</td>
</tr>
<tr>
<td>maggot 2</td>
<td>t'chi55ts'y21+</td>
</tr>
<tr>
<td>hoe</td>
<td>ts'y21+</td>
</tr>
<tr>
<td>bell</td>
<td>ts'y55</td>
</tr>
<tr>
<td>cup</td>
<td>ts'y55</td>
</tr>
</tbody>
</table>
liquor  tsy33
heavy  tsy33
seed  tsy33

spring  tshy55tɕi44+
scallion  tshy55

painful  sy31
get sick 2  pɛ31sɿ31

centipede 2  vu55kɿ55
defaf person  kɿ55tw21+po21+
river  kɿ55
soldier  kɿ55

Rhyme: -e

walk  pe44+
insert  pe42+
bathe 2  se33pe21+
CLF-bowl  pe21+
exploit  pe21+khuə4+
<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>chaff 2</td>
<td>tshō55pe21+</td>
</tr>
<tr>
<td>mouth B 2</td>
<td>tçiui33pe21+</td>
</tr>
<tr>
<td>skin</td>
<td>pe21+</td>
</tr>
<tr>
<td>ph-</td>
<td></td>
</tr>
<tr>
<td>tear</td>
<td>phe55</td>
</tr>
<tr>
<td>f-</td>
<td></td>
</tr>
<tr>
<td>aircraft</td>
<td>fe33tçi33</td>
</tr>
<tr>
<td>m-</td>
<td></td>
</tr>
<tr>
<td>coal</td>
<td>me42+</td>
</tr>
<tr>
<td>door</td>
<td>me21+</td>
</tr>
<tr>
<td>close eyes</td>
<td>me55</td>
</tr>
<tr>
<td>eyebrow 2</td>
<td>ȵui33me55</td>
</tr>
<tr>
<td>tomorrow</td>
<td>me55jī44+</td>
</tr>
<tr>
<td>late</td>
<td>me33</td>
</tr>
<tr>
<td>uncooked rice</td>
<td>me33</td>
</tr>
<tr>
<td>tc-</td>
<td></td>
</tr>
<tr>
<td>unite 2</td>
<td>thuē42+tce35</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>forehead 2</td>
<td>ñε44+te44+</td>
</tr>
<tr>
<td>throat 3</td>
<td>ku21+tsi33te44+</td>
</tr>
<tr>
<td>root B</td>
<td>te44+</td>
</tr>
<tr>
<td>fodder</td>
<td>te42+tsε44+</td>
</tr>
<tr>
<td>boar (wild) 2</td>
<td>tsο42+te42+</td>
</tr>
<tr>
<td>pig</td>
<td>te42+</td>
</tr>
<tr>
<td>forge (iron) 2</td>
<td>tε44+the44+</td>
</tr>
<tr>
<td>iron</td>
<td>the44+</td>
</tr>
<tr>
<td>untie</td>
<td>the44+</td>
</tr>
<tr>
<td>NUM twelve 2</td>
<td>tsε42+ne44+</td>
</tr>
<tr>
<td>NUM two B</td>
<td>ne44+</td>
</tr>
<tr>
<td>KIN FM 2</td>
<td>a31ne44+</td>
</tr>
<tr>
<td>second day 3</td>
<td>ηua44+xε55ne44+</td>
</tr>
<tr>
<td>take</td>
<td>ne44+</td>
</tr>
<tr>
<td>dirty 2</td>
<td>tsha55+ne42+</td>
</tr>
<tr>
<td>smelt (steel)</td>
<td>ne42+kå55</td>
</tr>
<tr>
<td>basket 2</td>
<td>tわ55ne21+</td>
</tr>
<tr>
<td>yoke 2</td>
<td>ñε44+ne21+</td>
</tr>
</tbody>
</table>
again
break off
tongue
money
ts-
tsc\text{44+}
tse\text{42+tshw55}
tse\text{42+}
tse\text{21+}
tsh-
saw 2
fy\text{42+tshe44}+
s-
cloth
palmbark cape 2
leaf
loom 2
bathe
wash
small
young 3
se\text{44+}
pi\text{31se44+}
se\text{44+}
tsi55se\text{44+tça44+}
se\text{33pe21+}
se\text{33}
se\text{31}
jf\text{44+sua44+se31}
k-
bowl
chicken
grasshopper 3
mantis 4
ke\text{42+}
ke\text{55}
suā31ma31ke\text{55}
ky33suā33ma33ke\text{55}
hen  ke55mo33
ulcer  ke55jo33
rooster  ke55po55
today  ke55ji44+

lame person  khe44+ko44+

shoes  je21+

Rhyme:  -ō  ts-
pile up  tsē33

egg  seō42+
play 2  ua42+sē42+
lay (eggs)  seō42+
temple  sē55
west  sē55
dye  sē33
know  sē33
understand B  sē33
see B2 \(\text{xā55kē42+}\)
light (v.) \(\text{kē31}\)

lead by nose \(\text{khō55}\)

clear sky \(\text{xē55tɕi31xu33}\)
overcast \(\text{xē55tɕi31tʂu33}\)
nighttime \(\text{xē55mie42+}\)
swallow \(\text{xē55tɕi33tɕi33}\)
sky \(\text{xē55}\)
thunder \(\text{xē55mē21+}\)

swallow (v.) \(\text{ē42+}\)

Rhyme: \(-a\)
collapse \(\text{pa44+}\)
teeth 2 \(\text{tsi33pa44+}\)
breast \(\text{pa42+}\)
milk \(\text{pa42+tɕe44+}\)
stool \(\text{pa42+tw55}\)
<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>harrows</td>
<td>pha55</td>
</tr>
<tr>
<td>stockings</td>
<td>va55tsi33</td>
</tr>
<tr>
<td>method 2</td>
<td>p̂55+fa35</td>
</tr>
<tr>
<td>hair (fur)</td>
<td>ma21+</td>
</tr>
<tr>
<td>pull up</td>
<td>ma21+</td>
</tr>
<tr>
<td>hair (head) 2</td>
<td>tu21+ma55</td>
</tr>
<tr>
<td>braid 2</td>
<td>tu21+ma55p̂55</td>
</tr>
<tr>
<td>push</td>
<td>ma55</td>
</tr>
<tr>
<td>PRON 3d p.</td>
<td>ma55</td>
</tr>
<tr>
<td>full</td>
<td>ma33</td>
</tr>
<tr>
<td>mantis 3</td>
<td>k̄y33suā33ma33ke55</td>
</tr>
<tr>
<td>grasshopper 2</td>
<td>suā31ma31ke55</td>
</tr>
<tr>
<td>bamboo hat</td>
<td>ma31ka44+l̄a44+</td>
</tr>
<tr>
<td>turn the back B</td>
<td>ma31</td>
</tr>
<tr>
<td>join together</td>
<td>t̄ća44+</td>
</tr>
</tbody>
</table>
loom 3  
tsi55ae44+tča44+

friend 2  
[mw55]tča42+[mw55]gw21+

peasant 3  
tsu55tsuā55tča55xo44+

nation 2  
kua35tča33

false  
tča31

tčh-

add to (punctuate)  
tčha44+

otter 2  
qu33tčha44+

magpie 2  
pē42+tčha44+vu55

j-

return  
ja44+kw55

NEG PRT C  
ja35

č-

slaughter  
ča44+

t-

mighty 2  
ui31ta55+

KIN ES 2  
a31ta55+

PRON there B2  
mw55ta44+

PRON here B2  
a55ta44+

dance (v.)  
ta42+ko33
<table>
<thead>
<tr>
<th>English</th>
<th>Vietnamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>help</td>
<td>ta42+vw42+</td>
</tr>
<tr>
<td>trample</td>
<td>ta42+</td>
</tr>
<tr>
<td>bow</td>
<td>ta21+la21+k055</td>
</tr>
<tr>
<td>fruit 3</td>
<td>guii55li55ta21+se44+uxw33</td>
</tr>
<tr>
<td>peach</td>
<td>ta21+</td>
</tr>
<tr>
<td>tremble 2</td>
<td>ju21+ta21+khu33</td>
</tr>
<tr>
<td>answer</td>
<td>ta55jwu44+</td>
</tr>
<tr>
<td>KIN FEB 2</td>
<td>a31ta55ta55</td>
</tr>
<tr>
<td>kitchen knife 4</td>
<td>tshua33tshu31ji55t955</td>
</tr>
<tr>
<td>scissors 2</td>
<td>tci31ta55</td>
</tr>
<tr>
<td>steal</td>
<td>ta31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Vietnamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>persimmon</td>
<td>tha44+tsi31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Vietnamese</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRON which 2</td>
<td>a55na44+</td>
</tr>
<tr>
<td>PRON where 2</td>
<td>a55na44+yw42+</td>
</tr>
<tr>
<td>girl 2</td>
<td>jy33na42+tsi33</td>
</tr>
<tr>
<td>difficult</td>
<td>na21+</td>
</tr>
<tr>
<td>last year</td>
<td>na21+tsi55</td>
</tr>
<tr>
<td>PRON 2d p.</td>
<td>na55</td>
</tr>
<tr>
<td>English</td>
<td>Tonal Representation</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>bamboo hat 3</td>
<td>ma31ka44+la44+</td>
</tr>
<tr>
<td>candle</td>
<td>la44+tsy44+</td>
</tr>
<tr>
<td>bow 2</td>
<td>ta21+la21+kō55</td>
</tr>
<tr>
<td>tear off</td>
<td>la55</td>
</tr>
<tr>
<td>tractor 2</td>
<td>tho33la33tpi33</td>
</tr>
<tr>
<td>chili</td>
<td>la35tsi33</td>
</tr>
<tr>
<td>all</td>
<td>tsä35ke21+tsi33</td>
</tr>
<tr>
<td>ADV INTENS</td>
<td>tsä35si55</td>
</tr>
<tr>
<td>dirty</td>
<td>tsha55+ne42+</td>
</tr>
<tr>
<td>thin (person)</td>
<td>tsha44+jō31</td>
</tr>
<tr>
<td>inspect 2</td>
<td>tō31tsha42+</td>
</tr>
<tr>
<td>run</td>
<td>sa44+</td>
</tr>
<tr>
<td>span across</td>
<td>sa42+</td>
</tr>
<tr>
<td>granary</td>
<td>ka44+</td>
</tr>
<tr>
<td>bamboo hat 2</td>
<td>ma31ka44+la44+</td>
</tr>
<tr>
<td>English</td>
<td>Mandarin</td>
</tr>
<tr>
<td>------------------</td>
<td>------------</td>
</tr>
<tr>
<td>hold in mouth</td>
<td>ka21+</td>
</tr>
<tr>
<td>tell</td>
<td>ka31</td>
</tr>
<tr>
<td>hungry 2</td>
<td>tɕi55kha44+</td>
</tr>
<tr>
<td>thirsty</td>
<td>kha44+</td>
</tr>
<tr>
<td>household (home)</td>
<td>xa31tɔ55</td>
</tr>
<tr>
<td>bite</td>
<td>ŋa44+</td>
</tr>
<tr>
<td>gnaw</td>
<td>ŋa44+</td>
</tr>
<tr>
<td>sweat</td>
<td>ŋa21+</td>
</tr>
<tr>
<td>PRON 1st p. EX</td>
<td>ŋa55</td>
</tr>
<tr>
<td>duck</td>
<td>a44+</td>
</tr>
<tr>
<td>PRON here B</td>
<td>a55ta44+</td>
</tr>
<tr>
<td>PRON what</td>
<td>a55se531</td>
</tr>
<tr>
<td>NEG EXIST.</td>
<td>a35mo33</td>
</tr>
<tr>
<td>NEG PRT (b)</td>
<td>a35</td>
</tr>
<tr>
<td>CLF-half</td>
<td>a31po21+</td>
</tr>
<tr>
<td>KIN ES</td>
<td>a31ta55+</td>
</tr>
</tbody>
</table>
PRON who
NUM one B
NEG PRT
NEG COPULA

Rhyme: -ā

leopard
hoof
platter
move
washbasin 4
CLF-dry litre
arm 2
puttees

liberate 2
model 2

rob

praise 2

a31to21+
a31
a31
a31pio33

pā42+
pā21+
pā21+tsi33
pā21+
se33tɕui33gui33pā21+
pā55
sw33pā31tsi33
pā31thui31

kɛ31fā55+
mo42+fā55+

tʂh-

pia31jā42+

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>English</th>
<th>Tonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>potato</td>
<td>jā42+jui44+</td>
</tr>
<tr>
<td>kindling</td>
<td>jā42+x031</td>
</tr>
<tr>
<td>twelfth month</td>
<td>jā42+ŋua44+</td>
</tr>
<tr>
<td>PRON 1st p. INCL</td>
<td>jā55</td>
</tr>
<tr>
<td>rest</td>
<td>çā55</td>
</tr>
<tr>
<td>thought 2</td>
<td>si33çā31</td>
</tr>
<tr>
<td>thing 2</td>
<td>jy33tā42+</td>
</tr>
<tr>
<td>phlegm</td>
<td>tā21+</td>
</tr>
<tr>
<td>bullet 2</td>
<td>tsā31tā55</td>
</tr>
<tr>
<td>PRON EGO 2</td>
<td>tm42+tā55jī21+</td>
</tr>
<tr>
<td>KIN FEBW 2</td>
<td>a31tā55mo33</td>
</tr>
<tr>
<td>lift up</td>
<td>tā55</td>
</tr>
<tr>
<td>knife 2</td>
<td>ji55tā55</td>
</tr>
<tr>
<td>courage</td>
<td>tā33to42+</td>
</tr>
<tr>
<td>gall bladder</td>
<td>tā33</td>
</tr>
<tr>
<td>communist party 3</td>
<td>kō55+tshē31tā31</td>
</tr>
<tr>
<td>plain 2</td>
<td>pē21+tā31</td>
</tr>
<tr>
<td>party member</td>
<td>tā31jue42+</td>
</tr>
</tbody>
</table>
school 2  cu55thā55

south  na21+

mosquito net  tsā44+tsi31
county head 2  çē55+tsā31
commune head 2  se55+tsā31
minister 2  pu55+tsā31

factory 2  kō33tshā31

fight  sā55tē44+
assist (mutual)  sā55uī42+
NUM thirteen 2  tsē42+sā55
NUM three  sā55
meet up with  sā55to55
third month  sā55ŋua44+
third day 3  ŋua44+xe55sā55
<table>
<thead>
<tr>
<th>Word</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>cadre</td>
<td>kā55+pu55+</td>
</tr>
<tr>
<td>armpit 4</td>
<td>jō21+mo33tɕi33kā42+</td>
</tr>
<tr>
<td>strike</td>
<td>kā42+</td>
</tr>
<tr>
<td>dry field</td>
<td>kā55tɕi31</td>
</tr>
<tr>
<td>clean</td>
<td>kā55tɕu42+</td>
</tr>
<tr>
<td>dry</td>
<td>kā55</td>
</tr>
<tr>
<td>liver</td>
<td>kā55</td>
</tr>
<tr>
<td>high</td>
<td>kā55</td>
</tr>
<tr>
<td>teach</td>
<td>kā55</td>
</tr>
<tr>
<td>smelt (steel) 2</td>
<td>ne42+kā55</td>
</tr>
<tr>
<td>sweet</td>
<td>kā55gy33</td>
</tr>
<tr>
<td>sugarcane</td>
<td>kā55tsi55</td>
</tr>
<tr>
<td>steel</td>
<td>kā55</td>
</tr>
<tr>
<td>dare</td>
<td>kā31</td>
</tr>
<tr>
<td>heroic 2</td>
<td>jō31kā31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>hump (v.)</td>
<td>khā42+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>xā42+xə44+</td>
</tr>
<tr>
<td>bank 2</td>
<td>jʊ42+xā42+</td>
</tr>
<tr>
<td>beautiful</td>
<td>xā55tɕɛ42+</td>
</tr>
<tr>
<td>cure</td>
<td>xā55pɛ31</td>
</tr>
</tbody>
</table>
graze (trns.)
look at
see B

0-
cat
saddle
look at B
see

Rhyme: -u

north
float
interest (money) 2
axe
KIN WF 3
pond

p-

blow (mouth)
lid

ph-

ink
wheat
fog
friend
PRON there B
maize 2
ADV just before now
interest (money)
year after next
KIN WM 3
KIN FSH 3
dream
grave
PRON there
PRON that

NUM nine
ninth month
leap ahead 2

autumn
<table>
<thead>
<tr>
<th>English Word</th>
<th>Jw44+</th>
<th>T-</th>
</tr>
</thead>
<tbody>
<tr>
<td>eat</td>
<td>jw44+</td>
<td></td>
</tr>
<tr>
<td>stockade village</td>
<td>jw44+u31</td>
<td></td>
</tr>
<tr>
<td>get (obtain)</td>
<td>tw44+</td>
<td></td>
</tr>
<tr>
<td>remember 2</td>
<td>tsu44+tw44+</td>
<td></td>
</tr>
<tr>
<td>win</td>
<td>tw44+</td>
<td></td>
</tr>
<tr>
<td>see 2</td>
<td>a33tw44+</td>
<td></td>
</tr>
<tr>
<td>PRON EGO</td>
<td>tw42+tā55jī21+</td>
<td></td>
</tr>
<tr>
<td>finger 2</td>
<td>su33tw21+tsi33</td>
<td></td>
</tr>
<tr>
<td>CLF-chicken</td>
<td>tw21+</td>
<td></td>
</tr>
<tr>
<td>hair (head)</td>
<td>tw21+ma55</td>
<td></td>
</tr>
<tr>
<td>ear 2</td>
<td>jw33tw21+kuā55</td>
<td></td>
</tr>
<tr>
<td>deaf person 2</td>
<td>ky55tw21+po21+</td>
<td></td>
</tr>
<tr>
<td>day bfr yesterday</td>
<td>tw21+[zoǒ33]jī44+</td>
<td></td>
</tr>
<tr>
<td>braid</td>
<td>tw21+ma55pī55</td>
<td></td>
</tr>
<tr>
<td>in advance 2</td>
<td>tɕtɕ2+tw21+</td>
<td></td>
</tr>
<tr>
<td>bone 2</td>
<td>kua44+tw21+</td>
<td></td>
</tr>
<tr>
<td>front</td>
<td>tw21+ŋy55</td>
<td></td>
</tr>
<tr>
<td>pillow 2</td>
<td>tɕtɕ33tw21+</td>
<td></td>
</tr>
<tr>
<td>head</td>
<td>tw21+po21+</td>
<td></td>
</tr>
<tr>
<td>nose 3</td>
<td>ŋy21+khy44+tw21+</td>
<td></td>
</tr>
<tr>
<td>morning 2</td>
<td>khɛ55tw21+</td>
<td></td>
</tr>
<tr>
<td>sleeve 2</td>
<td>ji55tw21+</td>
<td></td>
</tr>
</tbody>
</table>
year before last  tw21+sua44+
sieve 2  lo21+tw21+
shoulder 2  po33tw21+
basket  tw55ne21+
stool 2  pa42+tw55
CLF-dry decalitre  tw33
wait for  tw33
ADV just before now 2  nw55tw35
beans  tw31

descend  thu55
let fall 2  nse42+thw55

collapse B  nw33

PRON this  luw31
PRON here  lw31yw42+
ADV now  luw31kw55

remember  tsuw44+tw44+
<table>
<thead>
<tr>
<th>English</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>ladder</td>
<td>tsw21+thi55</td>
</tr>
<tr>
<td>wolf</td>
<td>tsw21+</td>
</tr>
<tr>
<td>house</td>
<td>tsw21+xо31</td>
</tr>
<tr>
<td>soak</td>
<td>tsw21+</td>
</tr>
<tr>
<td>EXISTENTIAL V</td>
<td>tsw33</td>
</tr>
<tr>
<td>be in/at</td>
<td>tsw33</td>
</tr>
<tr>
<td>COPULA</td>
<td>tsw33</td>
</tr>
<tr>
<td>pillar</td>
<td>tsw33</td>
</tr>
<tr>
<td>host 2</td>
<td>kхе44+tsw33po55</td>
</tr>
<tr>
<td>china fir tree 2</td>
<td>so44+tsw31</td>
</tr>
<tr>
<td>branch</td>
<td>tsw31ku55</td>
</tr>
<tr>
<td>CLF-tree</td>
<td>tsw31</td>
</tr>
<tr>
<td>pine tree 2</td>
<td>qо21+tsw31</td>
</tr>
<tr>
<td>rectification</td>
<td>tsw31fо33</td>
</tr>
<tr>
<td>written word 2</td>
<td>sy55tsw31</td>
</tr>
<tr>
<td>stand on foot</td>
<td>tsw31</td>
</tr>
<tr>
<td>willow tree 2</td>
<td>yу33tsw31</td>
</tr>
<tr>
<td>tree</td>
<td>tsw31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>tie B</td>
<td>tshw44+</td>
</tr>
<tr>
<td>break off 2</td>
<td>tse42+tshw55</td>
</tr>
<tr>
<td>obstruct</td>
<td>tshw55</td>
</tr>
<tr>
<td>smash 2</td>
<td>phо31tshw55</td>
</tr>
<tr>
<td>short</td>
<td>tshw55</td>
</tr>
<tr>
<td>overcast 3</td>
<td>xо55тги31tshw33</td>
</tr>
</tbody>
</table>
ugly

cabbage 2

dish (cuisine)

garden

kitchen knife 2

radish 2

vegetables

rest B

erchief

set aside

understand

count

harvest/receive

repay

finger

arm

hand

KIN WM 2

ring

tie

rescue
hate (v.)
flow
ride (horse)
sell
cold (weather)
plough 2
pigeon 2
key 2
ADV now 2
ladle out
return 2
lazy 3
revolution
body 2
old (former)

bloom
open
surround 2
tremble 3
inside

PRON where 3
KIN H (b) 2
PRON there 2
PRON here 2
learn
help 2
read aloud
KIN CFH 3
student
strength 2
wages
back
after
henceforth
next year
year after next 2
willow tree
enter
come
leak

black
crow
stand on foot B
fruit 5
thread 2
<table>
<thead>
<tr>
<th>Term</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>friend 4</td>
<td>[mu55]tça42+[mu55]ŋw21+</td>
</tr>
<tr>
<td>yellow ox</td>
<td>ŋw21+</td>
</tr>
<tr>
<td>ox</td>
<td>ŋw21+</td>
</tr>
<tr>
<td>water buffalo 2</td>
<td>çuí33ŋw21+</td>
</tr>
<tr>
<td>curse</td>
<td>w44+</td>
</tr>
<tr>
<td>marry (take)</td>
<td>w55vu33</td>
</tr>
<tr>
<td>in advance B</td>
<td>tsw21+</td>
</tr>
<tr>
<td>culture</td>
<td>vu42+xua55</td>
</tr>
<tr>
<td>workpoints 2</td>
<td>kō33fū33</td>
</tr>
<tr>
<td>advanced 2</td>
<td>çê33tçuw55+</td>
</tr>
<tr>
<td>clean 2</td>
<td>kā55tçuw42+</td>
</tr>
<tr>
<td>experience</td>
<td>tçuw33jê55+</td>
</tr>
<tr>
<td>Word</td>
<td>Pinyin</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>economics</td>
<td>tɕu³³tɕi⁵⁵+</td>
</tr>
<tr>
<td>invade</td>
<td>tɕu³³nio³⁵</td>
</tr>
<tr>
<td>tight</td>
<td>tɕu³¹</td>
</tr>
<tr>
<td>diligent 2</td>
<td>tɕʰu⁵⁵tɕʰu³¹</td>
</tr>
<tr>
<td>diligent</td>
<td>tɕʰu⁵⁵tɕʰu³¹</td>
</tr>
<tr>
<td>cool</td>
<td>tɕʰu⁵⁵liɑ⁵⁵</td>
</tr>
<tr>
<td>comm. youth league 2</td>
<td>kɔ⁵⁵+tɕʰu³³thu⁴²+</td>
</tr>
<tr>
<td>answer 2</td>
<td>ta⁵⁵jʊ⁴⁴+</td>
</tr>
<tr>
<td>CLF-rope</td>
<td>jʊ⁴²+</td>
</tr>
<tr>
<td>bank</td>
<td>jʊ⁴²+xɑ⁴²+</td>
</tr>
<tr>
<td>tender</td>
<td>jʊ⁵²+</td>
</tr>
<tr>
<td>ear</td>
<td>jʊ³³tw²¹+ku⁵⁵</td>
</tr>
<tr>
<td>noon</td>
<td>jʊ³³tʊ³¹</td>
</tr>
<tr>
<td>hero</td>
<td>jʊ³³ɕʊ⁴²+</td>
</tr>
<tr>
<td>cinema 2</td>
<td>tǐ⁵⁵+jʊ³¹</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>happy 2</td>
<td>kau⁵⁵ɕʊ⁴⁴+</td>
</tr>
<tr>
<td>fortunate</td>
<td>ɕʊ⁵⁵fɤ³⁵</td>
</tr>
</tbody>
</table>
bore into B  tǔ42+
wear (on head)  tǔ42+
lamp  tǔ55
electric light 2  tǐ55+tǔ33
equality 2  phiū42+tǔ31
noon 2  jǔ33+tǔ31

correct  tsū55+tʂʰo35
government  tsū55+fɣ31
guess  tsū42+
politics  tsū55+ʦi55+
policy  tsū55+tʂʰɛ35
steam (v.)  tsū55

responsibility  sū55+vʊ55+
triumph  sū55+li55+
enemy 2  tǐ35+sǔ42+
people  sǔ42+miw42+
worker 2  kɕ33+sǔ42+
fly (n.)  sǔ21+
produce  sǔ33+tʂʰɛ31
hygiene 2  ui55+sǔ33
<table>
<thead>
<tr>
<th>turn over (reform) 2</th>
<th>fē33sū33</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIN FYBW 3</td>
<td>a31ci55sū31</td>
</tr>
<tr>
<td>k-</td>
<td></td>
</tr>
<tr>
<td>thick</td>
<td>kū33</td>
</tr>
<tr>
<td>x-</td>
<td></td>
</tr>
<tr>
<td>socialism 2</td>
<td>sē55+xui55+ts’31ji55+</td>
</tr>
<tr>
<td>0-</td>
<td></td>
</tr>
<tr>
<td>drink</td>
<td>ŭ33</td>
</tr>
<tr>
<td>hot (weather)</td>
<td>ŭ31ji44+</td>
</tr>
<tr>
<td>Rhyme: -u</td>
<td></td>
</tr>
<tr>
<td>p-</td>
<td></td>
</tr>
<tr>
<td>cadre 2</td>
<td>kā55+pu55+</td>
</tr>
<tr>
<td>minister</td>
<td>pu55+tsā31</td>
</tr>
<tr>
<td>embrace</td>
<td>pu33</td>
</tr>
<tr>
<td>full stomach</td>
<td>pu33</td>
</tr>
<tr>
<td>mend</td>
<td>pu33</td>
</tr>
<tr>
<td>KIN FYB 2</td>
<td>a31pu35</td>
</tr>
<tr>
<td>ph-</td>
<td></td>
</tr>
<tr>
<td>grape</td>
<td>phu55thao55</td>
</tr>
</tbody>
</table>
mat
shop

responsibility 2
hatch
warm 2
bore into
rice gruel 2
stomach
insane person
bird
centipede
crow 2
magpie 3
prick
affair 2
marry (take) 2
owe
KIN CMW 2
rain
KIN W
turn the back
malaria 3

phu31
phu31tsi33

smǔ55+vu55+
vu44+
uī55vu44+
vu42+
phē55vu42+
vu42+
lu21+tsi33
vu55tsō44+
vu55kʔ55
xm44+vu55
pē42+tɕha44+vu55
vu55
stɕ1vu33
w55vu33
vu33
tsi33vu33
vu33ɕui33
vu33jǐ21+

vr

fe44+phi55vu31
tremble
education 2

sprout B
school
few
PRON how much 2

attitude 2
strike C

land (dry)
road
reform (land tenure)

line (polit.) 2
highway 3
railroad 2
hawk 2
assist (mutual) 52 xu55+tsu44+
peasant tsu55tsu55tɕa55xo44+
make/do tsu55
early tsu33

coarse tʂu55
sniff tʂu55
fertilizer 2 tʂʰi55tʂu33
grass tʂu33
fry tʂu33
immediately tʂu33
nationality 2 mǐw42+tʂu35
foul-smelling tʂu31

boat 2 jǐ21+su55
ash (plant) 2 tʂʰi55su55
lose su33
technique 2 tsɿ55+su35

bridge ku21+
poor 2: jì55 ku21+

throat: ku21+tšt33 te44+

branch 2: tsw31 ku55

KIN FS 2: a31 ku55

ring 2: smu33 ku55

thick (liquid): ku55

elderly person: ku33 ji21+

drum: ku33

old (person): ku33

old (food): ku33

broom 2: tsui44+ ku31

skirt 2: xe31 ku31

story: ku31 xua44+

kh-

lack: khu55

bitter: khu33

be able: khu33

tired 2: so55 khu33

wither: khu31

γ-

beard: yu21+
<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>endorse 2</td>
<td>jō31xu55+</td>
</tr>
<tr>
<td>assist (mutual) B</td>
<td>xu55+tso44+</td>
</tr>
<tr>
<td>protect 2</td>
<td>pao31xu55+</td>
</tr>
<tr>
<td>clear sky 3</td>
<td>xē55tɕi31xu33</td>
</tr>
<tr>
<td>good</td>
<td>xu33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>consciousness 2</td>
<td>tɕo35u55+</td>
</tr>
<tr>
<td>mistake 2</td>
<td>tsho55+u55+</td>
</tr>
<tr>
<td>bladder 2</td>
<td>phē55u33</td>
</tr>
<tr>
<td>cattle pen</td>
<td>u31</td>
</tr>
<tr>
<td>stockade village 2</td>
<td>jw44+u31</td>
</tr>
</tbody>
</table>

Rhyme: -o

<table>
<thead>
<tr>
<th>English</th>
<th>Mandarin</th>
</tr>
</thead>
<tbody>
<tr>
<td>clap hands</td>
<td>po44+</td>
</tr>
<tr>
<td>bat 2</td>
<td>po55po44+tsi33</td>
</tr>
<tr>
<td>KIN MSH 2</td>
<td>a31po44+</td>
</tr>
<tr>
<td>thin</td>
<td>po42+</td>
</tr>
<tr>
<td>CLF-half 2</td>
<td>a31po21+</td>
</tr>
<tr>
<td>ant 2</td>
<td>pi21+po21+</td>
</tr>
<tr>
<td>deaf person 3</td>
<td>kŋ55tw21+po21+</td>
</tr>
<tr>
<td>head 2</td>
<td>tw21+po21+</td>
</tr>
<tr>
<td>beside</td>
<td>po21+no33</td>
</tr>
<tr>
<td>bat</td>
<td>po55po44+tsi33</td>
</tr>
</tbody>
</table>
KIN H

host 3
mute person 2
rich 3
teacher 2
rooster 2
winnow
shoulder
quilt 2

cucumber
smash
split (wood)

noodles
mosquito
wheat flour
fine
model
flee
sharpen
armpit 2
KIN FEBW 3

po55jī21+
khē44+tsu33po55
e33po55
ko21+jī21+po55
sy55po55
ke55po55
po33
po33tu21+
lo31po31

ph-

pho44+
pho31tshu55
pho31

m-

mo44+mi42+xyē55
mo44+tsi33
mo44+mi42+
mo42+
mo42+fā55+
mo21+
mo21+
jō21+mo33tɕi33kā42+
a31tā55mo33
KIN MBW 3
hen 2
KIN M 2
NEGEXIST. 2
winnowing fan 2
PRON 3d s.
NEGIMP. PRT 2

a31tço55mo33
ke55mo33
a31mo33
a35mo33
po33mo33tçij5b
mo31
j044+mo31

tç-

KIN MB 2
KIN MBW 2
consciousness
tç03u55+

a31tço55+
a31tço55mo33
tç03u55+

tçh-

ball
correct 2
tçh042+
tsw55+tçh035

t-

doctor
medicine
freedom 2
lazy 2
strong point
ulcer 2

jo44+sè55
jo44+
tsi55+jo42+
pè42+jo33kw33
jo33tie31
ke55jo33
<table>
<thead>
<tr>
<th>Term</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>economize 2</td>
<td>tɕi35jo35</td>
</tr>
<tr>
<td>thin (person) 2</td>
<td>tsha44+jo31</td>
</tr>
<tr>
<td>rot</td>
<td>ço42+</td>
</tr>
<tr>
<td>dragonfly 6</td>
<td>tɕi55ko55lo55yo21+pi21+ço21+</td>
</tr>
<tr>
<td>repair</td>
<td>ço55li31</td>
</tr>
<tr>
<td>drip (v.)</td>
<td>to44+</td>
</tr>
<tr>
<td>CLF-drops</td>
<td>to44+</td>
</tr>
<tr>
<td>expensive 2</td>
<td>kês42+to42+</td>
</tr>
<tr>
<td>back</td>
<td>to42+ko42+tɕi55</td>
</tr>
<tr>
<td>courage 2</td>
<td>tā33to42+</td>
</tr>
<tr>
<td>large</td>
<td>to42+</td>
</tr>
<tr>
<td>PRON who 2</td>
<td>a31to21+</td>
</tr>
<tr>
<td>sugar 2</td>
<td>so55to21+</td>
</tr>
<tr>
<td>hit target 2</td>
<td>tsō42+to55</td>
</tr>
<tr>
<td>meet up with 2</td>
<td>sā55to55</td>
</tr>
<tr>
<td>struggle</td>
<td>to55tsw55</td>
</tr>
<tr>
<td>stupid 2</td>
<td>tsę35to35</td>
</tr>
<tr>
<td>KIN WM</td>
<td>to31sw33sw33</td>
</tr>
<tr>
<td>gong</td>
<td>tho55lo55</td>
</tr>
</tbody>
</table>
rabbit
tractor
CLF-handspan

CLF-"ounce"
agriculture
floss sheep
back 2
brains
bottom 3
outside 2
inside 2
top 3
beside 2
PRON 2d s.

ice 2
rabbit 2
sieve
tiger
dragonfly 3
gong 2
backward
<table>
<thead>
<tr>
<th>English</th>
<th>Tibetan</th>
</tr>
</thead>
<tbody>
<tr>
<td>retreat</td>
<td>lo31</td>
</tr>
<tr>
<td>quilt</td>
<td>lo31po31</td>
</tr>
<tr>
<td>bird 2</td>
<td>vu55tso44+</td>
</tr>
<tr>
<td>plough (v.)</td>
<td>tso44+</td>
</tr>
<tr>
<td>sparrow</td>
<td>tso44+tsi33</td>
</tr>
<tr>
<td>boar (wild)</td>
<td>tso42+te42+</td>
</tr>
<tr>
<td>chop off</td>
<td>tso44+</td>
</tr>
<tr>
<td>chew</td>
<td>tso42+</td>
</tr>
<tr>
<td>fruit (v.)</td>
<td>tso42+kho33</td>
</tr>
<tr>
<td>lock</td>
<td>tso42+pe42+</td>
</tr>
<tr>
<td>key</td>
<td>tso42+km55</td>
</tr>
<tr>
<td>say</td>
<td>tso42+</td>
</tr>
<tr>
<td>stone</td>
<td>tso42+khui55</td>
</tr>
<tr>
<td>tea</td>
<td>tso21+</td>
</tr>
<tr>
<td>lean (meat)</td>
<td>tso33</td>
</tr>
<tr>
<td>cooperate 2</td>
<td>xo35tso35</td>
</tr>
<tr>
<td>mistake</td>
<td>tsho55+u55+</td>
</tr>
<tr>
<td>blow (wind) 3</td>
<td>pi55si55tsho44+</td>
</tr>
<tr>
<td>sweep</td>
<td>tsho44+</td>
</tr>
<tr>
<td>twist (thread)</td>
<td>tsho44+</td>
</tr>
<tr>
<td>silk cloth</td>
<td>tsho55tsi31</td>
</tr>
</tbody>
</table>
china fir tree  so44+tsw31
rope  so44+
KIN H (l)  so42+γw42+
KIN CFH 2  jy33so42+γw42+
ic  so55lo44+
sand  so55tsi33
sugar  so55to21+
tired  so55khu33
laugh  so31
wristwatch  so31piao31
urine  so31

foot  ko44+
CLF="acre"  ko44+
broadcast  ko44+
lame person 2  khe44+ko44+
BPback 2  to42+ko42+tsi55
bury  ko42+
cross over  ko42+
pass through  ko42+
celebrate new year  ko42+tsi55jua44+
goat  ko42+jö21+
earrings 2  jű33ko21+
love  ko21+
lake  ko21+
rice  ko21+
rich  ko21+jì21+po55
sea  ko21+
dragonfly 2  tɕi55ko55lo55yo21+pi21+ɕo21+
butterfly  ko55li44+
grow up  ko55
dance (v.) 2  ta42+ko33
KIN EB 2  a31ko33
song  ko33

weep  kho44+
CLF-money  kho55
ditch  kho55
rice huller 2  tui42+kho55
mill 2  ɲui42+kho55
chest 2  ɕi55kho55tɕi33
CLF-kernel  kho33
fruit (v.) 2  tɕo42+kho33

easy  yo42+ɕe31
hole  yo42+ɲui33
<table>
<thead>
<tr>
<th>English</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>rain (v.) 2</td>
<td>vu33yo42+</td>
</tr>
<tr>
<td>dragonfly 4</td>
<td>tɕi55ko55l055yo21+pi21+ɕo21+</td>
</tr>
<tr>
<td>monkey</td>
<td>yo21+suā55</td>
</tr>
<tr>
<td>summer</td>
<td>yo21+tɕi44+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>backward 2</td>
<td>lo35xo55+</td>
</tr>
<tr>
<td>Chinese 2</td>
<td>xā42+xo44+</td>
</tr>
<tr>
<td>peasant 4</td>
<td>tsu55tsuā55tɕa55xo44+</td>
</tr>
<tr>
<td>peace</td>
<td>xo42+phiū42+</td>
</tr>
<tr>
<td>flower</td>
<td>xo55</td>
</tr>
<tr>
<td>bloom 2</td>
<td>kho55xo55</td>
</tr>
<tr>
<td>patterned</td>
<td>xo55</td>
</tr>
<tr>
<td>thread</td>
<td>xo55xw33</td>
</tr>
<tr>
<td>cooperate</td>
<td>xo35tsɔ35</td>
</tr>
<tr>
<td>boy 2</td>
<td>ɕao31xo31tsi33</td>
</tr>
<tr>
<td>kindling 2</td>
<td>jā42+xo31</td>
</tr>
<tr>
<td>shine on</td>
<td>xo31</td>
</tr>
<tr>
<td>train</td>
<td>xo31tʃe33</td>
</tr>
<tr>
<td>house 2</td>
<td>tsw21+xo31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRON 1st s.</td>
<td>ɕo31</td>
</tr>
</tbody>
</table>
irrigate

Rhyme: -o

run B

phō33

rectification 2
tsuo31fō33

carpenter 2
ŋy44+tcō42+
good B
tčhō55

NEG IMP. PRT
jō44+mo31

want
jō44+

glorious 2
kuā33jō42+

use
jō42+

armpit
jō21+mo33tɕi33kā42+
sheep
jō21+

KIN EB (B)
jō55
itchy
endorse
heroic

hero 2
pine tree
fragrant
trunk
peanut 2

movement (polit.) 2
labor 2
mobilize
reactionary 2
chop up
choose
talk
top

comrade
<table>
<thead>
<tr>
<th>ts-</th>
<th>tsh-</th>
<th>z-</th>
</tr>
</thead>
<tbody>
<tr>
<td>masses 2</td>
<td>gun</td>
<td>day bfr</td>
</tr>
<tr>
<td>jump</td>
<td>clever</td>
<td>yesterday 2</td>
</tr>
<tr>
<td>hit target</td>
<td>chaff</td>
<td>2</td>
</tr>
<tr>
<td>intestine</td>
<td>husks</td>
<td></td>
</tr>
<tr>
<td>shoot at</td>
<td>salty</td>
<td></td>
</tr>
<tr>
<td>bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>long</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADV often</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hide (trns.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pack into</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ascend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>prime minister</td>
<td></td>
<td></td>
</tr>
<tr>
<td>line (polit.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
s-

frost           sō55
loose          sō55
bear (v.) B    sō33
send off       sō33

k-

communism    kō55+tshē31tay31ji55+
fog 2        mu21+kō42+
dew           kō42+çui33
bow B         kō55
bow 3         ta21+la21+kō55
ginger        kō55
factory       kō33tshā31
commune       kō33se55+
industry      kō33niē35
NUM two       kō33
worker        kō33su42+
workpoints    kō33fū33
dry (v. trns.) kō31
roast         kō31

kh-

CLF-clothing  khō55
make bed      khō55
pheasant

frog

goose

Rhyme: -ie

ask

wall

discard

overflow

steep

dark

nighttime 2

ciastrate

name

perish 2

\( \bar{o}21+me55 \)

\( \bar{o}21+ \)

\( \text{Pie}44+ \)

\( \text{Pie}55 \)

\( \text{Pie}44+ \)

\( \text{Pie}55 \)

\( \text{Mie}42+ \)

\( \bar{e}55\text{Mie}42+ \)

\( \text{Mie}55 \)

\( \text{Mie}55 \)

\( \text{Gao}33\text{Mie}35 \)
railroad

agriculture 2
industry 2

Rhyme: -ie

move B
bottle

strong point 2
shortcoming 2

Rhyme: -ia

eighth month
NUM eight
bark

arrive
lungs
<table>
<thead>
<tr>
<th>Term</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEG IMP. PRT (b)</td>
<td>mia44+</td>
</tr>
<tr>
<td>soak B</td>
<td>mia44+</td>
</tr>
<tr>
<td>sorghum 2</td>
<td>kao55nia55</td>
</tr>
<tr>
<td>cool 2</td>
<td>tɕʰwū55liā55</td>
</tr>
<tr>
<td>measure (cloth)</td>
<td>liā55</td>
</tr>
<tr>
<td>lightning flash (v.) 3</td>
<td>se21+tsi33phiw44+</td>
</tr>
<tr>
<td>revolution 2</td>
<td>kw35miw55+</td>
</tr>
<tr>
<td>democracy</td>
<td>miw42+tsy31</td>
</tr>
<tr>
<td>clever 2</td>
<td>tshō55miw55</td>
</tr>
<tr>
<td>equality</td>
<td>phiw42+tu31</td>
</tr>
<tr>
<td>criticize 2</td>
<td>phi33phiw42+</td>
</tr>
<tr>
<td>peace 2</td>
<td>xo42+phiw42+</td>
</tr>
</tbody>
</table>
bright 2  kuā33miw42+
people 2  sū42+miw42+
nationality  miw42+tshu35

ADV most  tiū31

lead (v.)  liū31tao55+

Rhyme: -ui
tç-

claw  tçui21+
hammer  tçui21+
face  tçui33gui33
mouth  tçui33ke55
washbasin 2  se33tçui33gui33pá21+
elect 2  çue31tçui31
tçh-

cricket  tçhui33tçhui33
shortcoming  tçhui35tiē31
potato 2
   jâ42+jui44+
maize
   jui55mm55

fruit
   qu55li55ta21+ne44+xu33
paddy field
   qu53tg531
dew 2
   kô42+qu533
ink (liquid) 2
   mm44+qu533
otter
   qu53tșa44+
rain 2
   vu33qu533
water
   qu533

oppose 2
   fe31tui55+
rice huller
   tui42+kho55

puttees 2
   pâ31thui31

roll
   lui42+
take off
   lui55
broom  tsui44+ku31
wring out  tsui44+

twist B  tshui31

hail  sui44+ua42+tsi33
snow  sui44+

fountn pen  sui31pi35

spider  kui33

stone 2  tso42+khui55

hold meeting 2  khê33xui55+
lime  xui55
fire  xui33

smoke  xui33ɕɛ55
mill  \(\text{gui}42+\text{kho}55\)
round  \(\text{gui}21+\)
blind person  \(\text{gui}33\text{tc}55\)
eye  \(\text{gui}33\)
hole 2  \(\text{yo}42+\text{gui}33\)
washbasin 3  \(\text{se}33\text{tc\text{ui}33}\text{gui}33\text{p}21+\)

hygiene  \(\text{ui}55+\text{s}u33\)
feed (suckle)  \(\text{ui}42+\)
surround  \(\text{ui}55\text{khw}33\)
mighty  \(\text{ui}3\text{ita}55+\)

Rhyme: 
-\(\text{ui}\)  
t\(\text{ch}\)

masses  \(\text{t\text{chui}42}\text{ts}055+\)
weigh  \(\text{t\text{chui}55}\)
CLF-inch  \(\text{t\text{chui}31}\)

movement (polit.)  \(\text{ju}55+\text{t}055+\)

bamboo shoot 2  \(\text{tsy}44+\text{gui}33\)
straight  tuf55
aright  tuf55
distant  tuf33

discuss 2  thao31uf55+

revolve  tsui42+
bricks  tsui55

assist (mutual) 2  sa55uf42+
grind (rice)  ui42+
warm  ui55vu44+

Rhyme: -ue  ts-

fall  tsue44+

book 2  sy55shue44+
<table>
<thead>
<tr>
<th>English</th>
<th>Pinyin</th>
</tr>
</thead>
<tbody>
<tr>
<td>bad</td>
<td>kue42+</td>
</tr>
<tr>
<td>nation</td>
<td>kue35tga33</td>
</tr>
<tr>
<td>lean against</td>
<td>khue55</td>
</tr>
<tr>
<td>thigh</td>
<td>khue31pi55</td>
</tr>
<tr>
<td>tile</td>
<td>iue42+</td>
</tr>
<tr>
<td>roof beam</td>
<td>iue21+</td>
</tr>
<tr>
<td>askew</td>
<td>uie55</td>
</tr>
<tr>
<td>mud 2</td>
<td>ni21+uie55</td>
</tr>
<tr>
<td>commune member 2</td>
<td>se55+juie42+</td>
</tr>
<tr>
<td>party member 2</td>
<td>ta31juie42+</td>
</tr>
<tr>
<td>mobilize 2</td>
<td>to55+juie42+</td>
</tr>
<tr>
<td>team member 2</td>
<td>thuie42+juie42+</td>
</tr>
</tbody>
</table>
publicize  

cuε33tshuε42+

elect  

cuε31tçui31

comm. youth league 3  
kο55+tchų33thuε42+

team member  
thuε42+juε42+

unite  
thuε42+tçε35

gulp  
thuε55

ear (grain)  
tsuε33

publicize 2  
cuε33tshuε42+

horizontal  
kuç21+

manage  
kuç31li31

Rhyme: -ua  

dull  
tua31

---
roll up B  lua44+

fast 2  tɕi42+tsua42+
ADV quickly 3  tɕi42+tɕi42+tsua42+tsua42+

blood  sua44+
age  sua44+
say B  sua44+
year  sua44+
brush  sua55tsi33
cheat  sua31

bone  kua44+tu21+
CLF-stick  kua44+
hang up (suspend)  kua44+
waist 2  ji55kua44+
stem 2  kʑ55kua44+
stick  kua42+
melon 2  tɕi55kua55
pumpkin 2  tɕi55kua55
<table>
<thead>
<tr>
<th>English</th>
<th>Tone3</th>
</tr>
</thead>
<tbody>
<tr>
<td>scrape (scale fish)</td>
<td>kua55</td>
</tr>
<tr>
<td>exploit 2</td>
<td>pe21+khua44+</td>
</tr>
<tr>
<td>pick</td>
<td>khua44+</td>
</tr>
<tr>
<td>wide</td>
<td>khua44+</td>
</tr>
<tr>
<td>plan 2</td>
<td>tɕi55+xua55+</td>
</tr>
<tr>
<td>telephone 2</td>
<td>tī55+xua55+</td>
</tr>
<tr>
<td>boil (intrs.)</td>
<td>xua44+</td>
</tr>
<tr>
<td>story 2</td>
<td>ku31xua44+</td>
</tr>
<tr>
<td>culture 2</td>
<td>wu42+xua55</td>
</tr>
<tr>
<td>cotton 2</td>
<td>mi55xua55</td>
</tr>
<tr>
<td>eighth month 2</td>
<td>pia44+ŋua33+</td>
</tr>
<tr>
<td>fourth month 2</td>
<td>çi44+ŋua44+</td>
</tr>
<tr>
<td>first day</td>
<td>ŋua44+xē55ji44+</td>
</tr>
<tr>
<td>fifth day</td>
<td>ŋua44+xē55ŋy33</td>
</tr>
<tr>
<td>outside</td>
<td>ŋua44+no33</td>
</tr>
<tr>
<td>celebrate new year 3</td>
<td>ko42+tsi55ŋua44+</td>
</tr>
<tr>
<td>month</td>
<td>ŋua44+</td>
</tr>
<tr>
<td>second day</td>
<td>ŋua44+xē55ne44+</td>
</tr>
<tr>
<td>eleventh month 2</td>
<td>tɕi55ŋua44+</td>
</tr>
</tbody>
</table>
hail 2  suɪ44+uɑ42+tʃi33
play  uɑ42+sə42+
pit  uɑ42+
hawk 3  ti55lu33uɑ42+

Rhyme: -uɑ

peasant 2  tsu55tsuɑ55tʃɑ55xo44+

kitchen knife  tʃuɑ33tʃuɑ31ji55tɑ55
window  tʃuɑ55tʃi33
cut  tʃuɑ33

calculate  suɑ42+
garden 2  tʃuɑ31suɑ55
monkey 2  yɔ21+suɑ55
KIN GCM  suɑ55
KIN GCF 2  jy33suɑ55
sour  suɑ55
mantis 2  ky33suɑ33ma33ke55
grasshopper  suɑ31ma31ke55
garlic  suɑ31
ear 3  jw33tw21+kuā55
official  kuā55
trousers  kuā55
bright  kuā33miw42+
glorious  kuā33jō42+

ADV slowly  khuā55khuā55çi55çi55
flea  khuā33çi44+
dog  khuā33

sweet potato xuā42+tshy31
like 2  qi31xuā55

Rhyme: -ao

report pao55+kao55+
wrap pao55
protect pao31xu55+

artillery phao44+
hat mao44+tsi31 2
tɕ-
education tɕ̂ao55+ju35
j-

kidney jao55tsi33
leap ahead jao31tɕ̂u31
g-

perish čao33mi35
boy čao31xo31tsi33
t-

lead (v.) liw31tao55+

grape 2 phu55thao55
discuss thao31lu355+
th-
labor lao42+to55+
l-
appeal to 2  xao55+tsao55+

soap  tshao31piao55

report 2  pao55+kao55+
happy  kao55qū44+
sorghum  kao55nia55
develop 2  thi42+kao33
improve 2  thi42+kao33

appeal to  xao55+tsao55+

Rhyme: -io

NEG COPULA 2  a31pio33
representative 2  ts55+pio31

vertical  mio42+
<table>
<thead>
<tr>
<th>Word</th>
<th>Pinyin</th>
<th>Rhyme:</th>
</tr>
</thead>
<tbody>
<tr>
<td>invade 2</td>
<td>tɕʊ̄33nɪo35</td>
<td>-iaο</td>
</tr>
<tr>
<td>soap 2</td>
<td>tʂʰɑo31piaο55</td>
<td></td>
</tr>
<tr>
<td>whip 2</td>
<td>mɛ33piaο55tsi33</td>
<td></td>
</tr>
<tr>
<td>praise</td>
<td>piaο31jɑ42+</td>
<td></td>
</tr>
<tr>
<td>wristwatch 2</td>
<td>so31piaο31</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3

Table A3.1: Co-occurrences in standard Jìanchuàn Bāi (distribution of consonant initials, simple-vowel rhymes, and tones)

<table>
<thead>
<tr>
<th>i</th>
<th>i</th>
<th>e</th>
<th>ɨ</th>
<th>ɣ</th>
<th>ñ</th>
<th>ē</th>
<th>a</th>
<th>ā</th>
<th>w</th>
<th>ŋ</th>
<th>u</th>
<th>ŋ</th>
<th>ō</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-1</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>i</th>
<th>i</th>
<th>e</th>
<th>ɨ</th>
<th>ɣ</th>
<th>ñ</th>
<th>ē</th>
<th>a</th>
<th>ā</th>
<th>w</th>
<th>ŋ</th>
<th>u</th>
<th>ŋ</th>
<th>ō</th>
</tr>
</thead>
<tbody>
<tr>
<td>ph-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>C</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
### m-

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### tc-

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>C</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>C</td>
<td>✓</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>C</td>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>C?</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

.
Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th></th>
<th></th>
<th>C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>√</td>
<td></td>
<td></td>
<td>√</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
<td>C</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>C</th>
<th></th>
<th>C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>√</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>C</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>C</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>C</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>tsh-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>7</td>
<td>v</td>
<td>c</td>
</tr>
<tr>
<td>8</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>9</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>z-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i</td>
<td>i</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>s-</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>i</th>
<th>e</th>
<th>e</th>
<th>γ</th>
<th>γ</th>
<th>e</th>
<th>e</th>
<th>a</th>
<th>a</th>
<th>w</th>
<th>w</th>
<th>u</th>
<th>o</th>
<th>o</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-</td>
<td></td>
<td>C</td>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>C</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>kh-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>γ-</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table A3.2: Co-occurrences in standard Jianchuan Bai (distribution of consonant initials, complex-vowel rhymes, and tones)

<table>
<thead>
<tr>
<th></th>
<th>i</th>
<th>ì</th>
<th>e</th>
<th>ì</th>
<th>y</th>
<th>ŕ</th>
<th>e</th>
<th>ŕ</th>
<th>a</th>
<th>ā</th>
<th>w</th>
<th>ŕ</th>
<th>u</th>
<th>o</th>
<th>ŕ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ui</th>
<th>uĩ</th>
<th>ue</th>
<th>uẽ</th>
<th>ua</th>
<th>uã</th>
<th>iw</th>
<th>iũ</th>
<th>io</th>
<th>ia</th>
<th>iã</th>
<th>ie</th>
<th>iẽ</th>
<th>lao</th>
<th>ao</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
ui ui ue ue ua uā iu iū io ia iā ie iē iaō ao

j-
1  c
2 ✓
4  c
6 ✓ ✓
9  c

ui ui ue ue ua uā iu iū io ia iā ie iē iaō ao
c-
1
2
4
5
6 ✓
7 ✓ ✓ c
8
9 c ✓
ui ui ue uɛ uɑ uɑ iu iu io ia iɑ ie iɛ iao ao
ts-
1
2 ✓ ✓
4 ✓ ✓
5
6 ✓
7 ✓
8
9

ui ui ue uɛ uɑ uɑ iu iu io ia iɑ ie iɛ iao ao
tsh-
1
2 ✓
4 ✓
5
6
7
8
9 ✓ ✓
ui ui ue ue ua ua iu iu io ia ia ie ie iao ao

z-
1
2
4
5
6
7
8
9

ui ui ue ue ua ua iu iu io ia ia ie ie iao ao

s-
1
2 ✓ ✓
4
5
6 ✓
7
8
9  C  C

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
PLATE 1: Nagari inscription at Jianchuan city (old Jinhua Commandery), Jianchuan County (May 14, 1989)
PLATE 2: Confucian hall at Heqing Middle School, alma mater of the consultant (LSN), who appears at right (May 31, 1989)
PLATE 3: Beiya Lead Mine, LSN explaining Bai romanisation to Bai-speaking workers and managers
(May 20, 1989)
PLATE 4: Blackboard at Xizhong Primary School, Jianchuan County, showing bilingual verse couplets for teaching romanised Bai script (May 15, 1989)
PLATE 5: Ceremonial couplets at the home of Xizhong Primary School principal, showing romanised Bai readings below Chinese graphs (May 15, 1989)
PLATE 6: Principal (2nd right) and teaching staff of Xizhong Primary School, with LSN (extreme right) and author (3rd right) (May 15, 1989)