DYNAMICS OF LANGUAGE CONTACT IN CHINA:
ETHNOLINGUISTIC DIVERSITY AND VARIATION IN YUNNAN

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献给纾含和她的家人

For Shuhan and her family

Acknowledgments

Abstract

The study of language contact epitomizes the dynamics of language as a system of human communication. The competing linguistic forces at work when speakers of different language varieties come into contact can be narrowed down to two basic concepts—convergence and divergence. Looking at linguistic areas using a macro approach, languages in contact tend to show convergence across all structural levels through diffusion and borrowing, but nevertheless, linguistic diversity persists in regions of high interethnic language contact. Ethnicity often plays a significant role in constructing identity, therefore a speaker's linguistic choices can reflect ethnic identity and intergroup relations. Because these processes occur in and as a result of complex societies, "studies of interethnic language contact must begin by understanding the context in which speakers in a community construct their own ethnicity, as well as the ideologies that affect how they view other groups" (Fought 2013: 395). Southwest China is a particularly interesting region for language contact research because high levels of ethnolinguistic diversity in remote areas perpetuates traditional interethnic contact relations while these same groups are also currently under social and economic pressure to assimilate to mainstream Chinese society.

This dissertation describes the social context of language contact in Yunnan Province's Wuding County, an under-researched mountainous county with more than half of the population classified as non-Han ethnic minorities. Speakers of at least eight Ngwi varieties (Lolo-Burmese, Tibeto-Burman), two Hmong varieties, and one Tai variety are represented in villages across the county, although speaker numbers are diminishing due to widespread shift to Mandarin Chinese. This dissertation presents original ethnolinguistic maps of the distribution of ethnic minority villages in the county followed by two localized studies of interethnic contact scenarios in a Yi village area. A demographic survey of reported language proficiency in Miqie and Geipo households illustrates the role of access and geographic location in the rate of language shift to Mandarin; while the second study discusses the role of ethnic identity in persisting Miqie and Geipo language variation in intermarried households in the same village area. These studies highlight the dynamic social context in which language is used and changes for constructing identity and improving social mobility for speakers of languages facing endangerment in a rapidly changing society.

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Language and ethnicity in China

1.1 Introduction

The study of language contact epitomizes the dynamics of language as a system of human communication.[1] The competing linguistic forces at work when speakers of different language varieties come into contact can be narrowed down to two basic concepts: convergence and divergence, in other words, the conscious and subconscious decisions to become more similar or to differentiate oneself in a linguistic exchange. Ethnicity often plays a significant role in constructing identity, therefore a speaker's linguistic choices can reflect ethnic identity and intergroup relations. Because these processes occur in and as a result of complex societies, "studies of interethnic language contact must begin by understanding the context in which speakers in a community construct their own ethnicity, as well as the ideologies that affect how they view other groups" (Fought 2013: 395). Yunnan Province, a highly diverse region of Southwest China, is a particularly interesting region for language contact research because high levels of ethnolinguistic diversity in remote areas perpetuates traditional interethnic contact relations while these same groups are also currently under social and economic pressure to assimilate to mainstream Chinese society.

The diversity that exists at the present time in Yunnan is certainly diminishing, and without descriptive information about these languages—who speaks them, where, and in what contexts—the ethnic minority cultures and knowledge will fade away along with the languages. This region is of particular interest to the fields of language contact, typology, historical linguistics, and sociolinguistics, but the lack of data available is hindering research progress (Chirkova 2015). Therefore this dissertation is a first step toward the description of social contexts of language contact in Wuding County, a rural region in north-central Yunnan with speakers of at least 12 language varieties in the Sinitic, Tibeto-Burman, Hmong-Mien, and Tai-Kadai language families.

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[1] The title of my dissertation was inspired by the interdisciplinary approach to linguistics of Michael Clyne (1939-2010), especially his book *Dynamics of Language Contact: English and Immigrant Languages.*

1.2   China's Ethnolinguistic Diversity

Composing nearly one fifth of the world's population, China's 1.3 billion population (2010 census) exhibits a staggering amount of cultural and linguistic diversity—far from a common view that China is a homogeneous nation of Chinese-speaking Chinese people. The borders of Mainland China stretch more than 4000 kilometers from the eastern port metropolis of Shanghai, one of the most populous cities in the world, to the Silk Road oasis city of Kashgar, bordering the modern countries of Tajikistan and Kyrgyzstan. The lowland plains and valleys of the Yangtze and Yellow Rivers in the east gradually rise across the landmass to an average elevation of 5000 meters in the Tibetan Plateau. The topography of China has played a central role in the histories of empires, dynasties, feudal societies and governments over the past several thousand years. This diverse geography is also a fundamental determinant of contemporary ethnic diversity observed today, not only in China, but in other ethnolinguistically diverse regions of the world (Michalopoulos 2012). Linguistic diversity is connected, though not inseparably linked, to this ethnic diversity. While geographic separation of ethnic groups over time led to the divergence of linguistic traits to form language groups (i.e. what linguists classify as families and subgroups), the convergence of structural traits across languages through areal diffusion is also telling of longstanding language contact in different regions (Matisoff 2006, Enfield 2005). Although geographic factors remain a key factor in the persistence of cultural diversity observed today in the People's Republic of China (PRC), modern political and economic influences on the people and infrastructures of these ethnoliguistically diverse areas, especially over the past half century, have led to an unprecedented amount of contact among different ethnic groups.

The Han Chinese,[2] the largest and most homogeneous ethnic group in China, constitute 92 percent of the nation's population. The Han are primarily speakers of Sinitic languages, which are popularly referred to as "Chinese dialects." Linguistically, these dialects of Chinese are categorized into mutually unintelligible subgroups that can be reconstructed to Proto-Sinitic. Mandarin is the most widespread, as Standard Mandarin *Putonghua* 普通话 is the official language of the PRC (including national media and education) and serves as the prestigious lingua franca nationwide. Regional Mandarin varieties called *fangyan*[3] 方言 are spoken from the northeast to the southwest corners of the Mainland. Cantonese, the standardized language variety of the Yue subgroup of Sinitic, is the official language in Hong Kong and Macau, while regional Yue *fangyan* are spoken throughout the

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[2]   This dissertation will use Han, Han Chinese, and Chinese interchangeably as description of China's majority group ethnic identity. This is not to be confused with the use of "Chinese" as a identity of citizenship of the People's Republic of China (not discussed).

[3]   *Fangyan* is often translated in English is 'dialect'; however, a more accurate translation is perhaps 'topolect', referring to the particular speech variety of a particular place. Colloquially, *fangyan* usually refers to a non-Standard variety of Chinese.

Figure 1.1: Map of Sinitic languages.

southern provinces. The languages of the remaining Sinitic subgroups (e.g. Hakka, Gan, Wu, Min) are regional languages, though speakers are increasing shifting to Mandarin, in the Han-populated southeastern provinces of the Mainland (Figure 1.1).[4]

Despite the extensive internal diversity of the Sinitic languages, this Chinese variation does not exemplify the amount of linguistic diversity in the remaining 8 percent of China's population—the 114 million people who are classified into 55 official ethnic minority groups. Ethnologue lists 298 living languages spoken in China, of which 13 are included under the macro-language Chinese [ISO 639-3: zho] (Lewis, Simons, and Fennig 2016). This means that 96 percent of the languages in China are spoken by only 8 percent of the national population. These ethnic minority groups demonstrate a vast amount of linguistic and cultural diversity—from the Tibeto-Burman speaking groups of the Himalayas, to the hill tribes of Southeast Asia's river valleys, and Turkic-speaking groups of the desert-like Northwest, to Mongolian descendants of a once-dominating empire, and the Manchu and Evenki groups bordering Siberia (Figure 1.2). Before beginning the discussion on contact between different ethnolinguistic groups, the following two sections will look at the modern classification of ethnic groups, from a socio-political perspective, and the classification and status of languages from a linguistic perspective.

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[4]   All maps in this dissertation are original.

Non-Chinese Language Diversity

Language families
and major subgroups

- Tibetan
- Ngwi (Lolo-Burmese)
- Tai-Kadai
- Hmong-Mien
- Mongolic
- Turkic
- Indo-European
- Korean
- Austroasiatic
- Austronesian

Figure 1.2: Map of Non-Chinese (non-Sinitic) language families and major subgroups in China.

1.2.1 Classification of ethnic groups

While ethnolinguistic diversity—and the internal and external identification of ethnic groups—has certainly played a role in regional power relations for centuries, the current model of ethnic group classification in China is a direct result of the ideological policies of the Chinese Communist Party (CCP), which became the national ruling power after founding the People's Republic of China in 1949. A foundational principle of the CCP is that China is a 'unified, multi-ethnic country' 统一的多民族国家, which differs from the traditional views of Confucianism and of Chiang Kai-Shek's China Nationalist Party which included all ethnic divisions as varieties of a common Chinese people. The CCP's understanding of *minzu* 民族, translated as 'ethnic group' or 'nationality', is based on the Stalinist definition of a nationality having a common language, territory, economic life, and psychological makeup (Stalin 1913), which was the beginning criteria in the government's taxonomic efforts (Mullaney 2011).

The current 56-minzu paradigm in China today is a direct result of the 1954 'Ethnic Classification Project' *minzu shibie* 民族识别, a series of government-sponsored ethnological and linguistic expeditions in addition to an extensive application process to which ethnic groups could apply for official minority group status. The promotion of a unified "Han" majority *minzu* was just as much of national concern as the social and linguistic characteristics used in the classification of "non-Han" minority groups *shaoshu minzu* 少数民族 by the social scientists carrying out the Clas-

sification Project research (Gladney 2004). By 1955, more than 400 groups had registered with the government with the hope of gaining government recognition; 260 of these were located in Yunnan Province alone. In the first national census of 1954, 39 minorities groups were recognized by the government. Ten years later, in the second national census, 51 groups were recognized, with the last, Jinuo, being recognized in 1979.

The process of condensing the number of group applicants was daunting for several reasons, but primarily because the Stalinist definition of nationality could not accurately separate one group from another, particularly in the mountainous Yunnan-Guizhou Plateau region where extreme diversity is a result of "historical splintering, migration, and political antagonism". Instead of defaulting to the self-identification of the group applicants themselves, the government turned to a team of social scientists—ethnologists and linguists—to make expert decisions in the taxonomic process (Schein 2000).

Language proved to be the defining, though not foolproof, characteristic the experts used for determining how to combine or split the various groups. In Yunnan, this classification method was based on the work of Henry Rudolph Davies, a young British officer who traveled through Southwest China at the turn of the century collecting Swadesh wordlists and noting similarities and differences among the seemingly hundreds of ethnic groups scattered throughout the rugged landscape (Mullaney 2011).

It is important to emphasize that the relationship between language and ethnic group in China is far from one-to-one. If a group's autonym[5] is the determinant of what is considered a language, then there are hundreds in Yunnan alone. Because of the process of identifying 'macro' groups by their historically related languages (using methods like lexicostatistics and comparative reconstruction), the 55 minority ethnic groups recognized by the government today roughly corresponds to large language families and subgroups. Widespread migrations at different time periods, contentious economic and religious relationships between ethnic groups, varying degrees of assimilation with Han and other minorities, and societies with longstanding feudal systems and nomadic lifestyles were historical considerations that were addressed in the decisions to recognize the 55 minority groups. The result of this drastic condensing of groups was the creation of large higher-level "ethnic groups" with often newly created government-specified group names— a process which has had a significant impact on the self-identification of minority group members today, more than 50 years after the Classification Project was implemented.

Mullany (2011:5), who provides an excellent historical account of the Ethnic Classification Project from multiple perspectives, stresses the importance of a "bifocal view" when considering the dif-

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[5]   *Autonym*: the name a group/community calls itself; the self-given ethnonym

ferent histories of *diversification* and *categorization* with respect to ethnolinguistic group identity in China. To understand the changes to existing diversity and current contact situations of China's ethnic minorities, both small-scale (individual and community levels) and large scale (regional and governmental) perspectives are necessary.

1.2.2   Ethnic minority languages in China

China's constitution affords ethnic minorities the right to use and develop their languages. The Soviet-based model of a multilingual nation, emphasized in the reform years from the 1970s-1990s, encouraged minority language development in the education system, the legal system, and in other aspects of business and public life. New national legislation in 2001 adapted this policy to emphasize the use of spoken and written *Putonghua* in minority-populated areas (Zhou 2008). In practice, however, the process of supporting the development of minority languages in addition to the use of Standard Chinese is complicated for both logistical and social reasons. Logistically, because the number of mutually unintelligible language varieties spoken in heavily concentrated minority areas is still relatively unknown, and remote areas are still relatively inaccessible, the government's ability to implement an idealistic language policy that promotes a 'unified, multiethnic country' is hindered. The historical relations of the government (central, provincial, and local) with different minority group communities varies depending on the region, which also definitely affects how policy is implemented.

China's government acknowledges that many, though not all, people recognized as ethnic minorities may speak a non-Chinese language. According to the government's most recent policy publication, more than 60 million people regularly use their ethnic language (a little more than half of the total minority population), while 30 million regularly use an ethnic script ("China's Ethnic Policy" 2009). Although the government does not recognize a specific number of official languages, most references to a minority group's language refers the standardized variety of one of the more widely spoken language varieties of that group. At a national level, the government has put a great deal of attention into the development of standardized writing systems based on traditional and newly-modified scripts. Bilingual education in Chinese and standardized minority languages has also been supported in heavily minority-populated areas; however, these standardized varieties are only one selected out of dozens of local varieties, many of which are mutually unintelligible with the new "standard."

Linguistically, the languages spoken by the non-Chinese minorities in China can be classified into 10 language families (see Table 1.1).[6] Despite more than 100 years of systematic ethnology and

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[6]   This list is not meant to be a definitive representation of the corresponding ethnic group and language group classification, but rather show the breadth of linguistic diversity the ethnic minorities encompass. The labels are

Table 1.1: Language families and the recognized ethnic minority groups of China

Language Family	Language Group	Ethnic Group
Sino-Tibetan	Sinitic	Han Chinese 汉族, Hui (Chinese Muslims) 回族
	Tibeto-Burman (TB)	Bai 白族, Tujia 土家族, Qiang 羌族, Pumi 普米族
	TB > Bodish	Tibetan 藏族, Lhoba 珞巴族, Monba 门巴族
	TB > Ngwi (Lolo-Burmese)	Yi 彝族, Lisu 傈僳族, Lahu 拉祜族, Hani 哈尼族, Jino, 基诺族, Naxi 纳西族, Achang 阿昌族
	TB > Jingpo-Nungish-Luish	Jingpo 景颇族, Derung 独龙族, Nu 怒族
Tai-Kadai	Kam-Sui	Dong 侗族, Sui 水族, Maonan 毛南族, Mulao 仫佬族
	Kra	Gelao 仡佬族
	Hlai	Li 黎族
	Tai	Zhuang 壮族, Bouyei 布依族, Dai 傣族
Hmong-Mien	Hmongic	Hmong/Miao 苗子
	Mienic	Yao/Mien 瑶族
	She	She 畲族
Austroasiatic	Palaung-Wa	Blang 布朗族, De'ang 德昂族, Wa 瓦族
	Vietnamese	Gin 京族
Austronesian	Formosan languages	Taiwan Aboriginals (Gaoshan) 高山族
	Chamic > Tsat	Utsat (Hui) 回族
Turkic	Karluk	Uyghur 维吾尔族, Uzbek 乌兹别克族
	Kipchak	Kazakh 哈萨克族, Kyrgyz 柯尔克孜族, Tartar 塔塔尔族
	Oghuz	Salar 撒拉族
	Siberian	Yugur (Western) 裕固族, Tuvan 图瓦族, Kyrgyz (Fuyu) 柯尔克孜族 (扶余)
Mongolic	Mongolian, Oriat, Buryat	Mongolian 蒙古族
	Southeastern	Mongour (Tu) 土族, Yugur (Eastern) 裕固族, Dongxiang 东乡族, Bonan 包囊族
Tungusic	Southern	Manchu 满族, Xibe 锡伯族, Nanai 赫哲族
	Northern	Evenki 鄂温克族, Oroqen 鄂伦春族
Korean	Korean	Korean 朝鲜族
Indo-European	Slavic	Russian 俄罗斯族
	Iranian	Pamiri (Tajik) 塔吉克族

linguistic field research, new languages and dialect varieties are still reported every year, leading to greater understanding of the historical contact relationships, and hence language subgrouping, in diverse regions. China remains "one of the last places on earth where there are large numbers of unreported and undescribed languages" (Bradley 2005a:11).

1.3 Dynamics of language contact in Southwest China

Language contact refers to interactions among speakers of different languages and language varieties, and these social interactions in multilingual contexts are known catalysts for language change. The research field of language contact seeks to answer questions such as *what* in language changes, *how* it undergoes these changes, and *why* these changes occur. It is generally accepted that all levels of linguistic structure can be subject to contact-induced change, motivated

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largely simplified and the group names are not necessarily the autonyms of many ethnic divisions within these groups. Some ethnic classifications are "catch all", for example, 'Gaoshan' includes all the indigenous groups of Taiwan who speak languages classified in nine primary branches of the Austronesian family, and "Mongolian" includes different self-identified ethnic groups like the Oriat and Buryat people. There are other outlier situations too, like the Kazhuo language in Sichuan Province, a language related to the Yi Ngwi languages but whose official ethnicity is Mongolian because of the group's centuries-old history as a Mongol army post.

by both external (social) and internal (structural) factors (Thomason and Kaufman 1988). While typological distance between different varieties is a general linguistic predictor of contact-induced change, general social predictors of change include the intensity of contact, speakers' attitudes, and presence/absence of imperfect learning (Thomason 2010). The varying social circumstances are what "lead groups of individuals involved to differentially deploy their linguistic resources, and thus in turn affect developments at the level of linguistic structure" (Sankoff 2003:663). The importance of studying the social context alongside typological and structural factors in a contact situation cannot be understated.

Any type of descriptive ethnolinguistic research in Southwest China must take intergroup contact into consideration, because despite the relative geographic isolation of some language communities, contact with surrounding ethnic groups has taken place. There are two ways to approach language contact—a macro top-down approach looking at regional typological similarities, and a micro bottom-up approach looking at individuals and specific linguistic variables. This dissertation includes both approaches: Chapter 2 with the macro approach and Chapters 3-4 with a more micro approach.

1.3.1 Mainland Southeast Asia as a linguistic area

A common typological approach is the study of linguistic areas, of which Southwest China is included in the well-known Mainland Southeast Asia linguistic area. A linguistically diverse geographic region with long-term contact and widespread multilingualism may result in a "linguistic area" (or *Sprachbund*)—a region that exhibits a cluster of shared structural traits across genetically unrelated languages. Some more well-known examples of linguistic areas include the Balkans, Meso-America, the Indian subcontinent, and Mainland Southeast Asia (Aikhenvald and Dixon 2006). Linguistic areas should not be considered a result of the physical geography itself, but rather a culmination of localized borrowing and diffusion through social networks over long periods of time (Campbell 2006). Understanding how a linguistic area is formed is not only a historical linguist's endeavor, but also relevant for sociolinguists researching synchronic contact situations. While a linguistic area's shared structural traits is only the macro-perspective, more focused studies can reveal how innovation spreads throughout a community at the ground level (for example, see Enfield 2003).

The Mainland Southeast Asia (MSEA) linguistic area broadly includes the modern Southeast Asian countries of Vietnam, Laos, Cambodia, Thailand, Myanmar, peninsular Malaysia, China south of the Yangtze, and northeastern India (Enfield and Comrie 2015). MSEA's history of migration of "small 'percolations' and 'filtrations' of small groups of people" makes the traditional genetic classification of languages challenging as the family-tree model of classification does not adequately describe the "impenetrable maze of intertwined branches" produced by centuries of contact (Ma-

tisoff 2006: 292). Nearly 600 languages are spoken in MSEA from five large language families: Sino-Tibetan (49%), Austroasiatic (24%), Tai-Kadai (16%), Hmong-Mien (7%), and Austronesian (4%). Enfield and Comrie (2015) note that this diversity is persisting in geographically isolated areas, however, lowland groups are quickly assimilating to majority culture and language due to political and social pressures.

The languages of MSEA, Yunnan's languages included, share a number of structural traits that characterize this region as a linguistic area. The languages are monosyllabic (or sesquisyllabic) with a phonotactic structure of onset (initial) and a rhyme (final) plus a syllabic tone or phonation type. The vowel phoneme systems are typically quite large and vary among speakers and language varieties. Compounding is prevalent as other morphosyntactic processes are virtually nonexistent, besides some archaic prefixing. MSEA languages typically have three major form classes—nouns, verbs, and particles—and prevalent nominal classifier systems. Major constituents of a clause or sentence have relatively flexible word order, with many MSEA languages being described as "topic prominent." Additional areal characteristics and more details can be found in Enfield and Comrie (2015), Matisoff (1992, 2006), Enfield (2005), and LaPolla (2001).

1.3.2 Contact scenarios and language shift

Muysken (2010) proposes a scenario-based approach to researching language contact in order to bring the fields of historical linguistics and contemporary synchronic studies to a mutually beneficial field of study. A scenario, defined by Muysken, is an "organized fashion in which multilingual speakers in certain social settings, deal with the various languages in their repertoire" (2010: 268). Contact scenarios in Southwest China vary greatly because of the number of languages and groups represented and the many levels of sociohistorical relationships. Widespread borrowing which has led to phonological and grammatical convergence in the languages of this linguistic area is largely a result of prolonged stable bilingualism and multilingualism at local levels. However, language shift is also a common contact scenario, when speakers shift from using one language to using a more socially prestigious language. The most common assimilation situation, especially since the founding of the PRC, is that of minority ethnic groups shifting to Chinese amidst the growing Han Chinese populations in traditionally minority-populated regions in addition to mass media and education in Chinese. Shift scenarios also may involve two ethnic minority languages—such as Northern Lisu replacing Anong (Bradley 2011). The direction and speed of shift is dependent on additional community-specific social factors such as identity and attitudes.[7] Huang (2000) presents an overview of the most common shift situations in China, concluding that the shift to

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[7] See Chirkova (2007) for a case study of two groups classified in the Tibetan ethnicity but reside in different cultural spheres.

Table 1.2: Language shift situations in ethnic minority areas in China (adapted from Huang 2000)

Ethnic minority area language situation	SHIFT	New language situation
monolingual in minority language	→	bilingual with minority language as dominant, adding Chinese
multilingual in minority languages	→	multilingual in minority languages, adding Chinese
bilingual with Chinese as second language	→	bilingual with minority language as less dominant language
bilingual with Chinese as dominant language	→	monolingual in Chinese

Mandarin Chinese is a nationwide phenomenon, albeit communities are shifting at different rates depending on the degree of multilingualism and exposure to Chinese (see Table 1.2).

Language shift, if not reversed, leads to language endangerment and eventual language death (Fishman 1991). In Ethnologue's vitality assessment of the nearly 300 languages spoken in China, 42 percent are considered "in trouble"—endangered or at risk of becoming endangered—while 10 percent are already considered "dying" languages (Lewis, Simons, and Fennig 2016). Bradley (2007) and the Endangered Languages Project (2015) cite a similar number of endangered languages in China, 145, and provide information resources for each of the languages listed.

1.4 Language and ethnic identity

The study of the relationship between language and ethnicity is the pursuit of modern ethnolinguistic research, which can be traced to 19th century philology, dialectology and anthropology traditions. Riley (2007) defines the various approaches to ethnolinguistics as "the study of a group's experience of life as it is organized and expressed through language, and as a science whose aim is to examine the relationships between language on the one hand and society and culture on the other." Ethnicity as a linguistic variable came to the forefront of sociolinguistics in Labov's early work (Labov 1966, 1972) and has continued to be a focus of variationist research, with particular attention on interethnic relations in the United States (Fought 2010, 2013).

The construction of ethnic identity takes place as a result of intergroup contact—where there is a perceived need to define one's group as different from another. Language has been shown to play an important function in ethnic identity construction, particularly in areas with diverse populations. In this role, language expresses and perpetuates cultural heritage and signals ingroup solidarity (Giles, Bourhis, and Taylor 1977; Giles and Johnson 1981). Although language serves as an exclusive marker of ethnic identity in some contexts, language does not necessarily play a fundamental role in the construction of ethnicity (Haarman 1986).

Ethnicity in China has two connotations: (1) an externally defined (macro) identity for the purpose of political and economic organization, and (2) an internally defined group identity of a community with a shared culture and descent. An additional dimension of identity comes with the mixing of self-defined ethnic groups through intermarriage (see Chapter 4). These two under-

standings of an ethnic group are not mutually exclusive, but rather are working simultaneously in the current sociopolitical climate. The government's ethnic classification system of the 1950s imposed a top-down system of identification that has had mostly assimilating effects on ethnic identity at the local level as widespread cultural and linguistic shift is ongoing. Chirkova (2007) describes the situation as such: "A more or less universal pattern in present-day China is that the official state ethnic distinctions tend to gradually shape and partly solidify people's ethnic consciousness so that they become strongly invested in the categories originally imposed upon them from outside" (p.407).

One example of this in Southwest China is the complex ethnic identities within the Yi minority group, a macro identity that was created during the Classification Project to unify dozens of linguistically related groups, mostly scattered throughout Yunnan and Sichuan. Previous to the 1950s, there was not a group consciousness that encompassed the millions of people who now identify as "Yi", not to mention the also linguistically closely related groups of Lisu and Lahu who received separate group recognition by the government (Harrell 1995, Bradley 2001a). While convergence of ethnic groups in this region has happened for centuries, assimilation processes observed in the past half century often have involved communities shifting over several generations from a local self-designated ethnic identity with a viable language to a village that identifies only as their government-recognized macro group where only Chinese is spoken. For example, the Miqie (Yi) of central Yunnan speak an endangered Central-Ngwi language still in use in many village areas (Chapter 3); however in some villages where the language has completely been replaced with Mandarin, the village no longer identifies as Miqie, but only as "Yi" (Gao 2015). Some Yi groups retain traditional cultural markers—such as clothing articles, ancestral shrines, or marriage patterns—but have completely shifted to Mandarin language use with vague knowledge of a past-used "ethnic language," while other groups retain a linguistic identity but not other cultural markers of identity (Harrell 1990). This is the broader social context of the research presented in this dissertation. Ethnic identity at the political level has a complex relationship with ethnic identity at the individual level—something that minority language speakers navigate on a daily basis.

1.5   About this dissertation

1.5.1   Motivations and goals

My initial motivation to pursue linguistics research in Southwest China stemmed from my first trip to Yunnan and Guizhou in 2009, when I learned of the sheer scope of ethnic and linguistic diversity in China. While originally planning to write a description of an undocumented language in the region, my lack of understanding concerning the complex sociohistorical and linguistic

relationships quickly refocused my efforts to an investigation of language usage in various social contexts of interethnic contact. Every year when I have returned to Yunnan, visiting new and familiar places and people, and my understanding of language and ethnicity in China has grown more nuanced. My motivation to write this non-conventional linguistics dissertation is a result of wanting to help future researchers and other interested stakeholders build a base for understanding some of these nuances and help inform the design of variationist studies in the future.

This dissertation has three overall goals:

(1) To contribute to theoretical and methodological approaches of regionally focused studies of language contact, language variation, and ethnolinguistic diversity

(2) To demonstrate the important role of geographic considerations in language contact research through the production of original maps

(3) To provide descriptive social context and original survey data of languages spoken in an understudied region of Yunnan, China

1.5.2 Chapter overview

This dissertation consists of five parts:

Chapter 1: Language and ethnicity in China
Chapter 2: Mapping ethnolinguistic diversity in Wuding
Chapter 3: Geographic location as a factor of language shift
Chapter 4: Language variation and ethnic identity in Miqie-Geipo marriages
Chapter 5: Concluding remarks on challenges and contributions

In this chapter, I have provided a backdrop for my dissertation by discussing the current language contact dynamics in China. Section 1.2 on China's ethnolinguistic diversity is an overview of the sociopolitical context for the ethnic classification model used in China today and the current status of ethnic minority languages. Section 1.3 introduces the study of language contact relevant to Southwest China as a part of the Mainland Southeast Asia linguistic area. Finally, Section 1.4 introduces language and ethnic identity in Yunnan as the focus of this dissertation.

Chapter 2 presents the results of a regional survey of Wuding County using a demolinguistic mapping approach. Because Wuding is an especially rural, understudied region of Yunnan, the main research goal of this survey project was to develop an overview of which ethnic groups reside in Wuding, which language varieties they speak, and the geographic distribution of the ethnic groups in the county. This chapter includes original thematic maps, illustrating the county's

ethnolinguistic diversity and contact environment, while demonstrating the value of geographic visualization for linguistic and ethnographic surveys.

Chapter 3 takes Wuding's geographic factors into consideration in a study about the social context that affects the varying degrees of language shift observed across several villages. In Wuding, Mandarin is the official language of the local government as well as the regional lingua franca, and an increasingly common result of this language contact scenario involves generational language shift from a village's traditional minority language to monolingualism in Mandarin. The results of a household language vitality survey in the five Micha (Miqie and Geipo) villages of Gubai Village Administration show that a village's geographic location and relative access to town are the primary factors that influence other social variables more commonly discussed in the language shift literature (e.g. Fishman 1991).

A final contact scenario is presented in Chapter 4, which focuses on the linguistic choices of 17 in-married and intermarried individuals in the Miqie-Geipo multilingual village area of Gubai. This study analyzes phonological and lexical variables unique to these two mutually intelligible language varieties, and asks the research questions: do intermarried women use their birth village's ethnolect or their husband's village's ethnolect, and what are the social factors affecting their language use decisions. The results of this study show that ethnic identity and family heritage are strong factors that affect language loyalty among Miqie-Geipo families. In high-contact situations where intrapersonal language variation may be expected, this study shows that societal norms of group loyalty preserves linguistic and ethnic boundaries amidst the same widespread social change and economic reform triggering generational language shift to Mandarin.

Chapter 5 concludes with a discussion about the overall challenges faced during the course of research for this dissertation as well as the broader contributions it brings to the field. I particularly highlight the impact my role as the researcher had on doing fieldwork in Yunnan. This dissertation contributes to the field of linguistics as an example of a social contextual study of language contact scenarios from a macro and micro approach, connecting concepts of linguistic diversity and variation in a given region.

Chapter 2

Mapping ethnolinguistic diversity in Wuding

2.1   Introduction

The historical demography of Southeast Asia indicates that the vast amount of ethnolinguistic diversity observed today—meaning the number of ethnolinguistic groups in a given region—is related historically to the spread of rice cultivation and distribution of flooded lowlands and mountainous terrain (Blench 2005). As foraging groups of people transitioned to agriculturalist societies, subsistence strategies and complex social organizations arose, affecting intergroup relations and therefore ethnic and linguistic distinctions (Currie and Mace 2012). Although the now-homogeneous Han Chinese ethnic group constitutes the overwhelming majority of China's population, peripheral regions and mountainous areas still exhibit ethnolinguistic diversity that was once a more prevalent feature of the equally diverse topography.

This chapter presents a summary of the ethnolinguistic groups currently residing in Wuding County of Yunnan Province, the most ethnolinguistically diverse region in China. Using GIS software to visualize field survey and public population data, I mapped the distribution of these ethnic groups at the village level, displaying the geographic concentration and dispersion of these groups in the mountainous county. This demolinguistic approach (Vries 1990; Extra 2010) introduces an overall picture of Wuding, which is important for understanding the role of contact relations in language use patterns at the regional level before focusing on specific language communities and linguistic variables.

2.2   Wuding background

2.2.1   Geography

The areal focus of this dissertation is Wuding County, a small rural county in Yunnan Province's Chuxiong Yi Autonomous Prefecture (Figure 2.1). Approximately the size of the state of Rhode Island or twice the size of the island of O'ahu, Wuding County's 3,322 km^2 (1,283 mi^2) region is situated in the mountainous transition between the Qinghai-Tibet and Yunnan-Guizhou plateaus. The rugged terrain is divided up by an abundance of small rivers and streams—eventually flow-

Figure 2.1: Location of Wuding County in Chuxiong Yi Autonomous Prefecture, Yunnan Province

ing into the Jinsha River 金沙江, the upper course of the Yangtze—that keep the small valleys fertile for farming at both the relatively low and mid-level elevations. The Jinsha River forms the northwest border of the county, and its tributary, the Mengguo River 勐果河, vertically divides the county. Heights above sea level range from 862 meters to nearly 3,000 meters, with a county-wide average elevation of 1910 meters (6,266 feet). The largest "city" is the county seat by the same name, Wuding, in the southeastern corner of the county. Each of the 11 townships also have a town center which serves as the seat for the local township governments and local marketplace (see Figure 2.2).[8]

One of the striking topographic features of the Yunnan Plateau is the deep river gorges. The Jiyi Great Rift Valley 己衣大裂谷 in northern Wuding is a natural geographic boundary between Sichuan and Yunnan and has been recently renovated to include stone path and stairways, making the gorge accessible as a tourist attraction, though it remains relatively unvisited compared to other well-known tourist sites in Yunnan (see Figure 2.3). The winding cliff roads (paved and unpaved) throughout the county attest to the extreme mountain-valley topography. Wuding's hot

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[8]   In Yunnan, the jurisdiction breakdown from the provincial level is as follows (from largest to smallest unit): province 省, prefecture 州, county 县, township 乡镇, village administration 村委会, natural village 自然村.

Figure 2.2: Map of Wuding township administration

rainy summers and cold dry winters are a result of the interaction of several circulation systems, namely the monsoons from the east and south and continental cold air masses from the north (Fan et al. 2011). While temperatures are considered mild, both flooding and drought are issues for farmers throughout the year, as well as intense solar radiation due to the low latitude and pronounced topography of the region.

Figure 2.3: The stark cliffs of the Jiyi Great Rift Valley, through which the Jinsha River runs, is a natural geographic boundary that separates Yunnan from Sichuan.

Wuding County is located in the Southwest Tectonic Zone, which includes the Qinghai-Tibet Plateau and the western Sichuan-Yunnan Plateau, one of the most active regions for earthquakes in the world (Wang, Xiao, and Hartmann 2014). While many small earthquakes are often felt, the most recent one to cause significant damage in Wuding was in October 1995, a 6.5-magnitude earthquake with an epicenter in Fawo Township. Fewer than 50 people were killed, but many more were injured and hundreds of farmers lost homes and agricultural structures, particularily in Fawo and Bailu townships (Parker 1995). Rescue efforts were inhibited because road access in the mountainous areas was blocked by boulders and mudslides from the ongoing rain when the earthquake hit.

2.2.2   History

Located along a prominent trade route between Sichuan and Yunnan, the town of Wuding was once a bustling trade post through the mid-1800s. However, the town was destroyed in the events marking the end of the Panthay Rebellion in Yunnan (1856-1873), a multi-ethnic separatist

movement led by Yunnan Hui Muslims against the Qing Dynasty. This led George Litton, then the acting British Consul of Tengyueh (Tengchong 腾冲), to describe the town of Wuding in 1902 as "a tumble-down city of about 400 families in a treeless barren country," since the trade routes had been rerouted and were no longer a contributor to Wuding's economy. In his travels outside of the town, Litton described the mountainous country as "well-watered, and therefore well-peopled" (Litton 1903).

Through the early 1900s until the formation of the Communist Government in 1949, local ethnic uprisings of poor and suppressed groups against the wealthier class were not uncommon, as reported in the Wuding Gazetteer (1990). In the first half of the 20th century, Wuding was under control of the local Kuomingtang government. In April 1935, the Chinese Red Army 中国工农红军, the armed forces of the Communist Party of China, passed through Wuding during their retreat from the KMT in the east. The KMT leaders in Wuding could not overtake the Red Army, who set free prisoners of the KMT and distributed money from the wealthy to poor farmers in the town after the skirmish (1990). This event happened at the halfway point in the now-historical Long March 长征 (1934-1935), which was a catalyst for Mao Zedong's rise to power. Another battle between the two armies took place in Wuding town in 1949, and after the new government was established, Wuding has been slowly developing as new infrastructures and educational policies have been implemented. Figure 2.4 is a 2014 photo of Wuding (Shishan), the county seat, taken from a vantage point of a hike toward Lion Mountain to the west of the town center.

Figure 2.4: Photo of Wuding, the county seat, from a view looking east.

2.2.3   Economy

Most residents of Wuding County are subsistence and commercial farmers, with 74 percent of the county's population dependent on agriculture for their livelihood (Wuding 2014). There is a

substantial difference between the per capita net income of "urban" residents who live and work in Wuding town or outside cities and the rural residents dependent on farming. In 2014, the average annual per capita income reached an all time high of 25,375 RMB ($4,092 USD) and 6,356 yuan ($1,025) for urban and rural residents respectively.[9] This income advantage to finding a job in a city is one reason that many villages in rural Wuding sit half empty throughout the year while most families have one or more members pursue migrant work.

In recent years, Wuding has also been making efforts to boost its tourist attractions. The most famous, Lion Mountain 狮子山, restored as a tourist destination in the 1980s, is a temple complex originally constructed by a Ming Dynasty emperor more than 700 years ago as a reclusive site to retreat from society. The temple's gardens boast more than 10,000 peony plants which begin to bloom in January culminating to a Peony Festival in April and May.

As the government continues to focus on alleviating poverty in rural areas across the country, a large part of this is building a road system that allows residents of remote areas access to market towns and larger cities for trade and work. The two largest roads that run through Wuding are National Highway G108 国道, an older paved road with two lanes, and the newly opened Jingkun Expressway 京昆高速, which runs through Wuding's southern counties Shishan and Maojie. The multi-year construction of the expressway in Wuding provided many jobs for then-remote village residents (including many ethnic minorities), and now provides easy access to Kunming, where many farmers go to work or to catch trains to other provinces for work.

The remaining roads throughout the county are primarily for local transportation. There is a county-wide bus system that provides transportation between the township seats, and around Wuding town there are local buses to village areas not far outside of the city.[10] Each township seat holds a market day on different days of the week, so traveling between townships on particular days of the week can take considerably longer because of local traffic from farmers making the trip to town from the mountains. The main roads between townships are narrow, yet paved, and often hug the cliff's edge, while the vast majority of roads that lead to villages further away from the township centers are unpaved dirt roads, leading to dangerous and impassible road conditions during the rainy seasons. Many roads, paved and unpaved, are under considerable stress due to overweight freight trucks that haul stone or lumber from the mountains where natural products (such as sandstone) are being mined.

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[9]   This 2014 report was summarized on the Wuding County government website: www.wuding.gov.cn

[10]   In the 2014 survey described in this chapter, we utilized the county buses to travel between townships. The 120-km (75-mile) bus ride from Wuding to Jiyi took five hours and cost 30 RMB ($4.80 USD).

2.3   Wuding survey methods

2.3.1   Data collection

The data presented in this chapter is a compilation of information from several sources: (1) the 1990 Wuding County Gazetteer, (2) field interviews with local government officials, community leaders, and villagers, (3) the Yunnan Digital Village site 云南数字乡村, and (4) a 1984 place names map of Wuding County.

The field research for this project was completed over five weeks in July-August 2014. Using contacts made through previous research trips and a list of village administrative units from the Yunnan Digital Village project (see below), we[11] reached out to meet with local village leaders, school teachers, and township officials living in the 11 townships of the county. Without direct formal or informal introductions, it can be extremely difficult to carry out any kind of research, especially in rural areas; therefore, we did not follow a schedule or order of interviews, but rather worked to "fill in the blanks" of the big picture as we traveled around the county. The interviews we conducted were informal and not recorded; the topic focused mainly on the consultant's knowledge of ethnic demographics and language use/vitality of their familiar area. We interviewed villagers and leaders on location in their townships except for Fawo and Wande, for which we spoke to individuals living in Wuding town who were from those areas. We also collected a short wordlist of around 300 lexical items with willing individuals who reported to speak a minority language. In all, we collected 23 wordlists from 11 language varieties: Tibeto-Burman (16), Hmong-Mien (5), and Tai-Kadai (2). The Hani wordlist included is from Bradley (2001), collected during his 1990 survey of north-central Yunnan. Table 2.1 is a summary of the wordlist data collected in this survey, including the participants' birth villages and self-identified ethnolects; Figure 2.5 shows this on map of Wuding. Transcriptions of 11 wordlists, one of each language variety, are available in Appendix A, and all wordlists collected during the survey are archived in Kaipuleohone (Katie Gao Collection 2017).

The Yunnan Digital Village project[12] is an innovative initiative launched by the provincial government in 2007 to build an information network of rural farming enterprises and village conditions across the province. The Digital Village public website relies heavily on local township leadership to gather specific information about the villages in the area—especially economic and infrastructure conditions, including pictures of buildings, people, fields, animals, vehicles, etc. (see Figure 2.6). With the idea to promote transparency and information access for both villagers and govern-

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[11]   Myself and research partner Xuan Guan 管璇, then an MA student at the University of Hawaiʻi at Mānoa

[12]   http://www.ynszxc.gov.cn/

Table 2.1: Wordlists collected in Wuding

Language Variety	Language Classification	Township	Village Committee	Village	Sex	Age	
Nasu	Ngwi, Northern	Fawo	Zhaji	Zhajixincun	M	23	发窝乡乍基村委会新村
Nasu	Ngwi, Northern	Fawo	Shanpin	Dayongxicun	M	58	发窝乡山品村委会大用西
Nasu	Ngwi, Northern	Bailu	Pingdi	Jiuguanyi	F	42	白路镇平地村委会旧管驿
Nasu	Ngwi, Northern	Bailu	Bailu	Zhangjia	M	21	白路镇白路村委会张家村
Aluo	Ngwi, Northern	Dongpo	Dongpo	Lujiga	M	30	东坡傣族乡东坡村委会路基嘎
Aluo	Ngwi, Northern	Jiyi	Xinmin	Lubugu	F	44	己农乡新民村委会鲁布谷
Naisu	Ngwi, Northern	Maojie	Maojie	Aweie	M	34	猫街镇猫街村委会阿未饿
Lipo	Ngwi, Central	Huanzhou	Tazhen	Tazhencun	M	45	环州乡他贞村委会他贞村
Lipo	Ngwi, Central	Tianxin	Limi	Dacun	F	42	田心乡利米村委会大村
Lipo	Ngwi, Central	Dongpo	Zhuangfang	Shatumi	M	47	东坡傣族乡庄房村委会沙吐咪
Lipo	Ngwi, Central	Fawo	Fenduo	Yongchangshangcun	M	23	发窝乡分多村委会永厂上村
Miqie	Ngwi, Central	Shishan	Puxi	Yangliuhe	M	45	狮山镇铺西村委会杨柳河
Miqie	Ngwi, Central	Shishan	Gubai	Luomiancun	M	44	狮山镇古柏村委会罗免村
Lolopo	Ngwi, Central	Maojie	Maojie	Misanzan	M	47	猫街镇猫街村委会咪三咱
Geipo	Ngwi, Central	Shishan	Gubai	Shanjuxiacun	F	65	狮山镇古柏村委会山居下村
Hani	Ngwi, Southern	Gaoqiao	Dacun	Azhemi	F	20s	高桥镇大村村委会阿者咪
Ahmao	Hmong, Chuanqiandian	Jiyi	Jiyi	Dacipeng	M	48	己农乡己农村委会大刺棚
Ahmao	Hmong, Chuanqiandian	Shishan	Gubai	Dadi	M	48	狮山镇古柏村委会大地
Ahmao	Hmong, Chuanqiandian	Tianxin	Jijiezi	Jiejiezi	F	17	田心乡鸡街子村委会鸡街子
Ahmao	Hmong, Chuanqiandian	Shishan	Huapo	Huapo	F	28	狮山镇滑坡村委会滑坡
Hmong	Hmong, Chuanqiandian	Maojie	Yongquan	Saozhapo	F	31	猫街镇永泉村委会扫渣破
Tai	Tai, Hongjin	Tianxin	Luqi	Aduoka	F	48	田心乡鲁期村委会啊多卡
Tai	Tai, Hongjin	Dongpo	Suosuoka	Mengguo	M	35	东坡傣族乡所所卡村委会勐果

ment officials, the site provides an incredible amount of public data; however, as the site grows, privacy concerns are sure to arise.

The available information for a particular village (e.g. variables like income, or number of house-holds) is inconsistent throughout the site and the information is typically presented in sentence-style rather than a table. The site is also not too user friendly and often has technical issues, but it still is a source of information unavailable anywhere else and an excellent starting point for research at the village-level. When we accessed the site in 2014, no text-file data was available for download, therefore we manually entered the names of village committees and villages as well as any available income and elevation data into a spreadsheet.[13] In total, the spreadsheet we used in the survey included 1143 villages in 131 village committees. This number is different from the 1400 villages reported on the Wuding County website in 2014. This could be because the definition of a "natural village" is not always clear. Sometimes once separate villages grow and join as a single village, or a large village is divided into several different areas—a difference between administrative and colloquial purposes. This spreadsheet was compiled prior to traveling to the different townships so that we could use it to ask our interviewees about the ethnic makeup of specific villages we had listed.

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[13]   When I mapped the income and elevation data, it did not show any consistent patterns because this data was neither uniformly nor completely collected for whole townships.
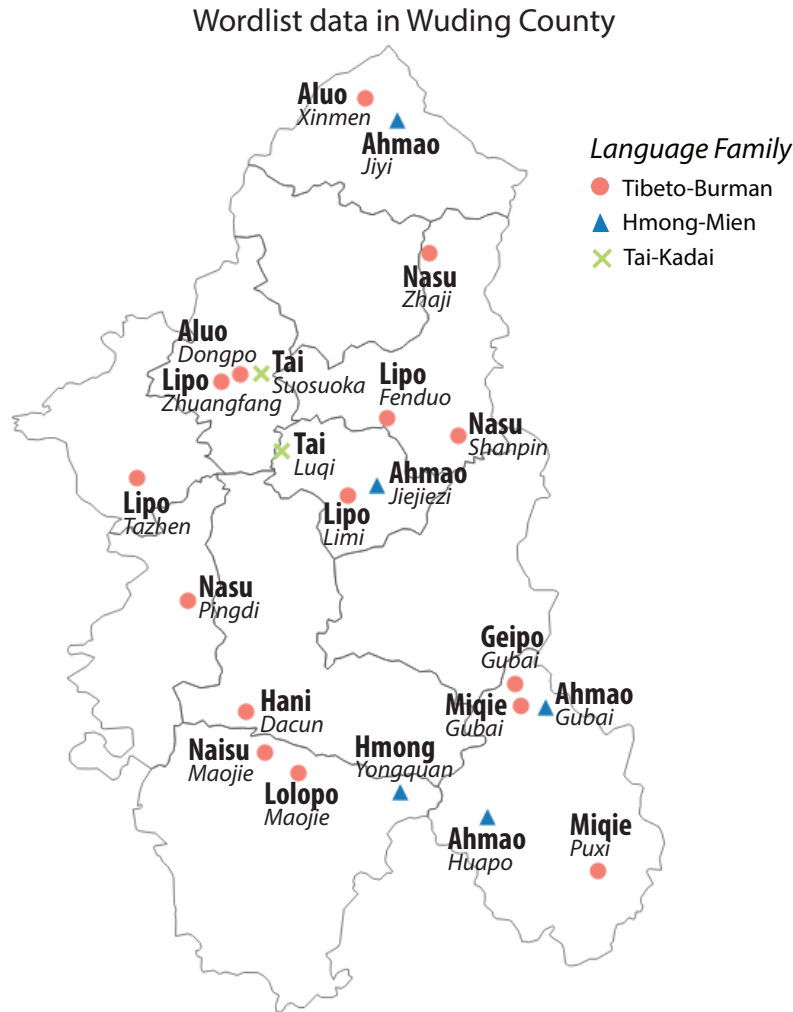
Figure 2.5: Map of wordlist data collected in Wuding County

In 2012, during a visit with a government official in Chuxiong Prefecture offices, we were shown and allowed to photocopy a large printed map of Wuding County that contained place names of villages and the road system throughout the county. The map was published in 1984 by the People's Liberation Army Press for internal use and therefore is not publicly available. Although the map was 30 years old at the time of our survey in 2014, most villages remain in the same locations, while some names and administrative boundaries have changed. This map is an important connection in order to visualize the data collected in the interviews and the Yunnan Digital Village site.

2.3.2 Maps creation

The ethnolinguistic maps in this chapter were created using QGIS (2017), an open-source Geographic Information System, and Adobe Illustrator. First, I compiled the village names and popu-

Figure 2.6: Example webpage from the Yunnan Digital Village site.

lations from the publicly available Yunnan Digital Village site and the ethnolinguistic information collected during the 2014 survey into a spreadsheet. I then georeferenced a scan of the 1984 place names map by matching coordinate points in Google Earth to points on the scanned map (e.g. a sharp curve in a road, a bend in a river, etc.). In the spreadsheet, I assigned the village names unique identification numbers and manually plotted 1100 villages on a blank map of Wuding (see Figure 2.7). Using the QGIS calculator, I generated latitude and longitude points in the WGS84 datum[14] for the village locations, which was then linked with the other attributes in the spreadsheet allowing for categorical data visualization of the data. The categorical data was styled in QGIS and the text and legends were added in Adobe Illustrator.

Figure 2.7: Plotting village points in QGIS in georeferenced 1984 map

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[14] The World Geodetic System (latest revision 1984) is the reference coordinate system of longitude and latitude used by the Global Positioning System (GPS).

Table 2.2: Wuding ethnic group population (Wuding 1990; 2012; 2014)

Ethnic group 民族	1953	% of pop.	1985	% of pop.	2000	% of pop.	2014	% of pop.
Han 汉族	63,339	51.55	114,729	50.98	129,060	48.53	124,523	44.78
Yi 彝族	35,063	28.53	63,208	28.09	78,286	29.44	87,683	31.5
Lisu 傈僳族	13,403	10.91	23,310	10.36	28,803	10.83	31,892	11.47
Miao 苗族	7,180	5.80	16,460	7.30	21,027	7.91	23,694	8.52
Dai 傣族	3,081	2.50	5,730	2.50	6,903	2.60	7,717	2.77
Hui 回族	487	0.39	769	0.34	930	0.35	1,079	0.39
Hani 哈尼族	273	0.22	764	0.34	740	0.28	853	0.31
Other 其他	43	0.10	77	0.09	194	0.06	659	0.24
Total	122,869		225,047		265,943		278,100	

2.4 Ethnolinguistic diversity in Wuding

Since the first official census of the PRC in 1953, Wuding County's population has more than doubled to 278,100, and the ethnic minority (non-Han) population has grown from from 48% of the county's population in 1953 to 55% in 2014 (see Table 2.2). Wuding County itself has a larger percentage of ethnic minorities at the county level population than in Chuxiong Prefecture (33%), which is designated as a "Yi autonomous prefecture", and Yunnan Province as a whole (34%).

The non-Han people in Wuding are classified in six different official minority groups, with less than 0.25% classified as 'other' (e.g. non-native Bai or Naxi): the Yi, Lisu, Miao, Dai, Hui, and Hani. Besides Han, there are Yi and Miao villages in each of the 11 townships (see Figure 2.8). However, the macro-level descriptions are not necessarily useful when wanting to understand the language contact dynamics. Table (2.3) shows the group autonyms and population estimates—not speaker number estimates—for the self-defined ethnic groups in Wuding. The following sections will present summaries of each of these ethnolinguistic groups followed by a brief discussion on contact contexts.

2.4.1 Han and Hui (Mandarin)

The first large wave of Han arrived in Wuding in the mid-1500s after the Ming Dynasty's conquest of Yunnan. The 1,000 Han who were sent to Wuding were military men, who settled with and had children with the local Yi. More Han arrived in waves for the next several centuries, mostly in the southern and central parts of Wuding. At the beginning of the 20th century, Wuding had a greater influx of Han from Sichuan who were escaping famine or looking for land to resettle and start new farms and businesses, particularly in today's Huanzhou, Fawo, and Wande townships (Wuding 1990). The Han have had significant long-term contact and integration with the Yi in Wuding for more then 500 years, resulting in the mixing of customs and language.
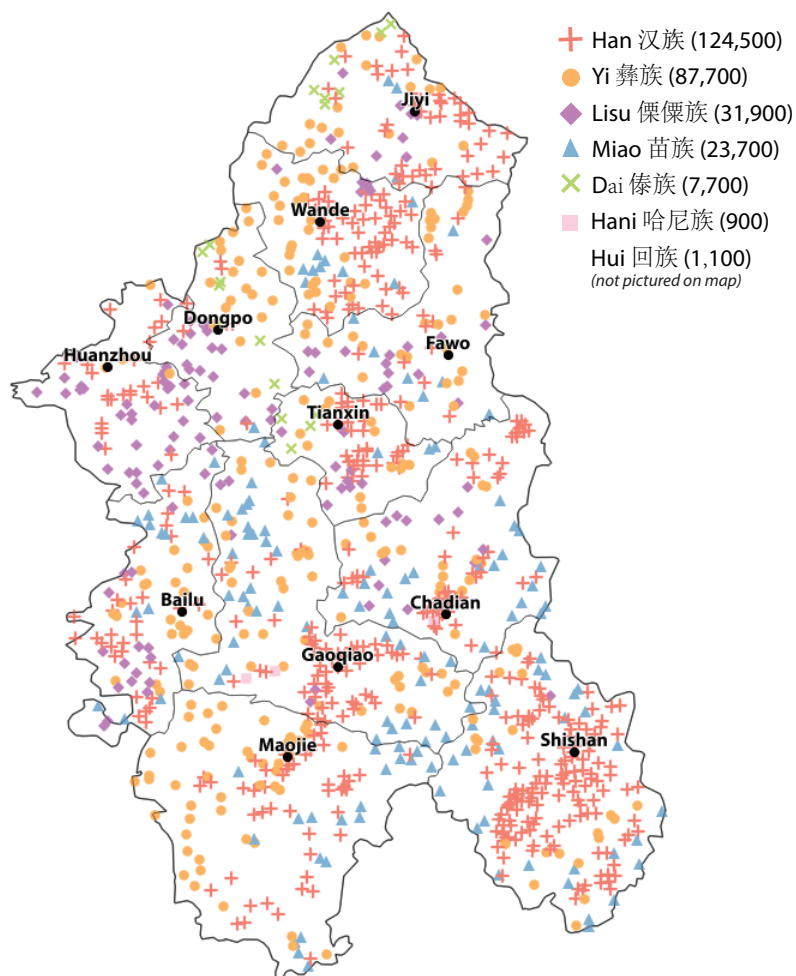
Figure 2.8: Map of government-classified minority groups in Wuding

Table 2.3: Wuding ethnic subgroup population estimates based on survey data

Group	Autonym	Language Classification	Ethnic population estimate
Nasu	na^{33}su^{33}p^{h}o^{33}	Ngwi, Northern	28,000
Aluo	a^{55}lu^{33}p^{h}u^{55}	Ngwi, Northern	13,500
Naisu	ne^{55}su^{33}p^{h}o^{55}	Ngwi, Northern	6,000
Lipo	li^{33}p^{h}o^{21}	Ngwi, Central	31,000
Miqie	mi^{55}tɕ^{h}i^{31}p^{h}o^{31}	Ngwi, Central	9,000
Lolo	lo^{33}lo^{33}p^{h}o^{21}	Ngwi, Central	8,500
Geipo	ke^{55}p^{h}o^{31}	Ngwi, Central	350
Hani	xo^{21}ȵi^{21}p^{h}ɑ^{21}	Ngwi, Southern	800
Ahmao	a^{35}hmo^{33}kləu^{31}	Hmong, Chuanqiandian Dongdianbei	21,000
Hmong	mɛŋ^{44}kləu^{53}	Hmong, Chuanqiandian proper	3,000
Tai	tai^{55}	Tai Hongjin, Yongwu	8,000

The result of the ethnolinguistic survey shows that Han Chinese villages are mostly concentrated around the township centers (see Figure 2.9), with the highest concentration in Shishan township around the city of Wuding (Shishan). Besides Shishan, the township seats are relatively small towns with one main road and bus stop and a handful of mom-and-pop convenient stores and restaurants, many of which are run by Han businessmen.

The other ethnic group in Wuding whose native language is Mandarin are the Hui. Known as the "Chinese Muslims," the Hui are classified a *minzu* more so from a religious aspect than ethnic or linguistic reasons, unlike the classification of other ethnic minority groups. There are around 1,000 Hui living in Wuding, less than 1 percent of the county's population. The Wuding Gazetteer 1990 lists a few locations in Shishan and Maojie where majority Hui villages are located, but mixed Hui-Han villages also exist. Though not shown on the map, two majority Hui villages were identified in Xihe, Shishan, as well as one mixed Hui-Han-Lolopo village in Maojie.

Many Hui in Wuding were killed in the government retaliation of the Panthay Rebellion in the 1860s-70s, so the Hui population in Wuding is smaller now, or at least more assimilated, than 150 years ago. Outside of some religious-specific terms, the Hui do not have an "ethnic language", and other markers of ethnic identity may include wearing a head scarf for women or eating halal 清真, but for the most part the Hui are completed assimilated with local Han.

Today, the Han and Hui in Wuding are typically monolingual speakers of regional varieties 方言 of Southwest Mandarin, the lingua franca of Yunnan and greater Southwest China. Some salient phonological features of Southwest Mandarin include the loss of final stop consonants, the loss of retroflex onsets (which merged with dentals), variation in the *n-l* initial, *x* initial before *u* pronounced as *f*, final velar nasal *eŋ-iŋ* merged with *en-in* (Ho 2003). While much academic re-searched has focused on the historical development and contact involving the Chinese languages

Han Chinese villages in Wuding
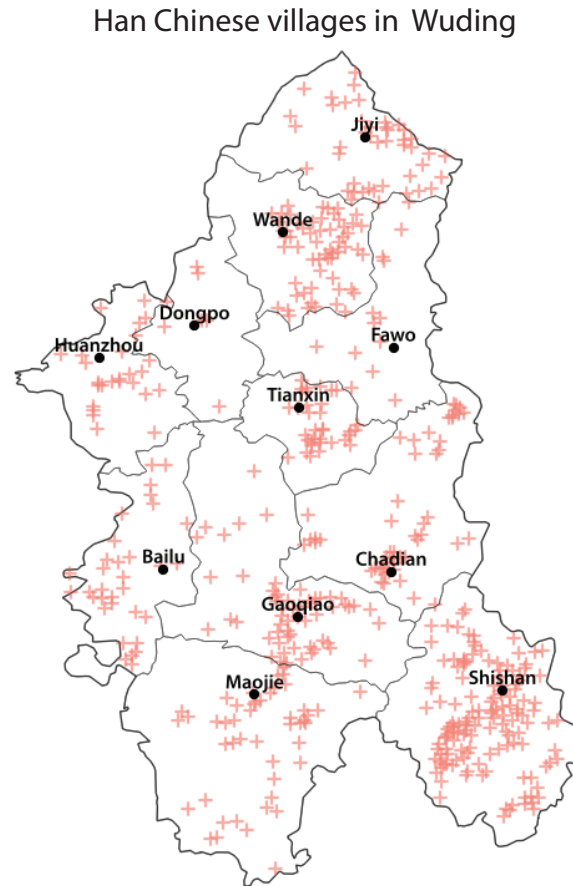
Figure 2.9: Map of Han Chinese villages in Wuding

(e.g. LaPolla 2001), there is a relatively unexplored field of study on the effects of ongoing language contact between regional varieties of Chinese and non-Chinese languages (see Stanford and Evans 2012 for an example of Southwest Mandarin tone influence on Sui and Qiang).

2.4.2 Ngwi languages in Wuding (Yi, Lisu, and Hani)

According to the 1990 Wuding Gazetteer, there are six branches of the Yi ethnic group living in villages in Wuding: Nasu, Naluo, Naisu, Miqie, Luoluo, and Sani. Population estimates were not given, but the general regions where the groups live is listed in Table 2.4. We collected wordlists from each of these groups, except Sanie.

Additionally, the Lisu (Lipo) and Hani (Honi), who are not classified in the Yi nationality, also speak Yi languages, which will also be discussed below. The findings of this survey were for the most part consistent with the Gazetteer reports of ethnic distribution (see Figure 2.10). Naisu and Lolopo are primarily concentrated in the southwestern township, Maojie, while Miqie are mostly found in southeastern Wuding. Lipo and Nasu, the two largest Ngwi-speaking groups, are found

Table 2.4: List of Yi branches in Wuding in the 1990 Gazetteer

Autonym 自称	Chinese name 汉称	Location of Villages
Nasu 纳苏	Hei Yi 'Black Yi' 黑彝	Living in all townships except Shishan area
Naluo 纳罗	Gan Yi 甘彝	Jiyi, Dongpo, Tianxin, and Bailu
Naisu 乃苏	Hong Yi 'Red Yi' 红彝	Maojie and Bailu at elevation of 2,200 meters
Miqie 密切	Micha 密岔	Shishan and Chadian
Luoluo 罗罗	Bai Yi 'White Yi' 白彝	Maojie valley and Gaoqiao
Sani 撒尼	Minglang 明朗	Chadian Lemei village and Gaoqiao Tianxin village

throughout the central and northern townships, while Aluo (a related group to Naluo) mainly are located in the northwest bordering Sichuan. Three mixed Hani (Honi) villages were identified in Chadian and Gaoqiao, and one previously unreported Geipo village was located in the northern part of Shishan township.

The Ngwi languages—also known as Loloish, Yi, and Nisoic—are a family of languages in the Lolo-Burmese branch of Tibeto-Burman. Although the Ngwi language subgroup is well accepted as a group, the internal classification and relationships between language varieties is not always clear. One reason for this is the terminology and methods of subgrouping. In the Chinese literature, the Yi languages include six branches: Northern, Eastern, Southern, Southeastern, Western, and Central (see Chen 2010). These groupings are based on the presence of traditional writing systems in the first four (not Western and Central) and by relative geographic location of the large population concentrations across Southwest China. Bradley's subgrouping (Bradley 2002,2007) is based on phonological developments and lexical innovations from Proto-Ngwi (Bradley 1979). Bradley's subgrouping is also named for the general geographic location of the concentration of speakers of these language groups—Northern, Central, Southern, and Southeastern. A final classification method uses a compuational anlalysis methods of shared phonological innovations. Lama (Lama 2012) uses the *-ish* suffix to name clusters of languages and show the relative linguistic relation to each other. This dissertation uses Bradley's subgrouping in reference to the languages spoken in Wuding.

The main reasons that family-internal classifications are disputed is because of (1) researcher vs. politically imposed definitions of languages and dialects (i.e. what varieties should be lumped or split), and (2) the difficulty of identifying how varieties are related because scattered group populations may share similar ethnonyms but long-term contact with other language groups has resulted in diverging or converging language change over time. The linguistic and cultural diversity found in the Yi-related people across Yunnan, Sichuan, and Guizhou can be attributed in a broad sense to several centuries of waves of Han migration and the transition of slave-feudal societies to civil administrations (Harrell 2001).
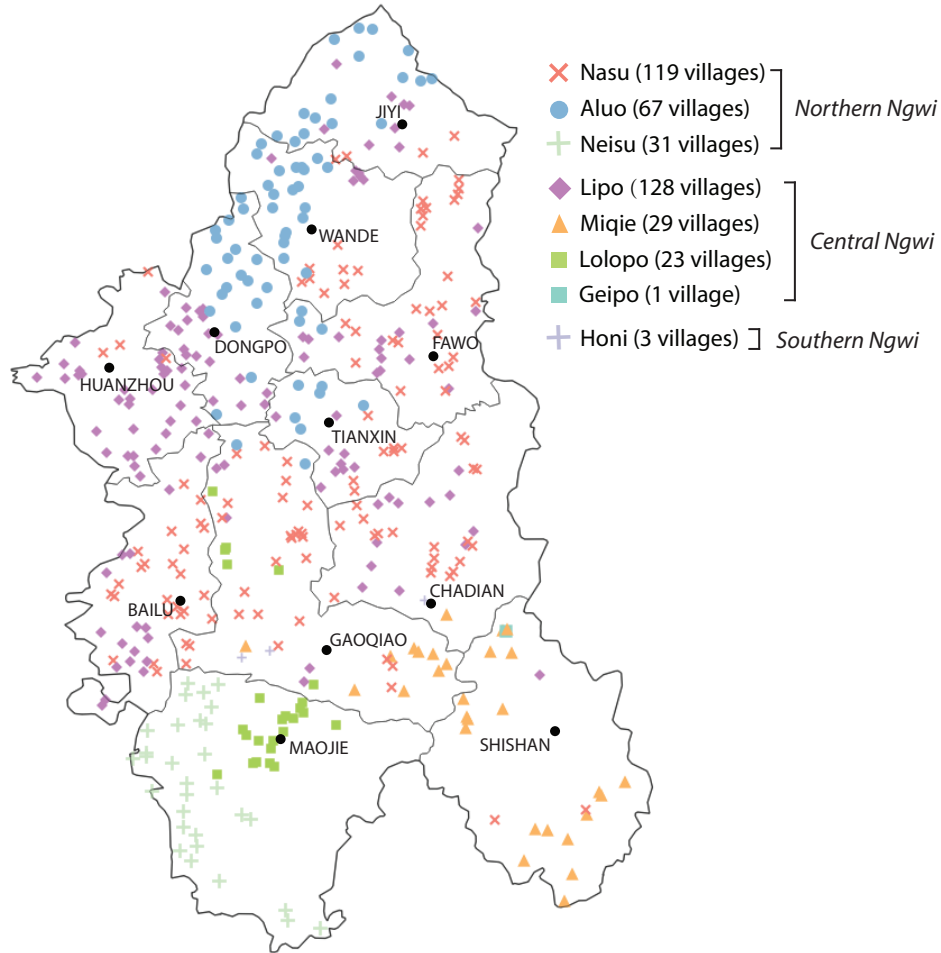
Figure 2.10: Map of Ngwi-speaking groups in Wuding County

2.4.2.1 Northern Ngwi (Nasu, Naisu, Aluo, and Sanie)

Four varieties of Northern Ngwi are spoken in Wuding County: Nasu, Naisu, and Aluo. Nasu is the largest of these in Wuding and is spoken by the Yi known locally in Chinese as *Hei Yi* 'Black Yi'. Nasu [ISO 639-3:ywq] is spoken widely through north-central Yunnan, Guizhou, and southwestern Sichuan, and is one of four Yi groups in Southwest China that have a literary tradition (see Figure 2.11). Scholars and officials have made many efforts in the past few decades to implement the Yunnan Reformed Yi Script, a logographic script based on the four Yi writing systems in Yunnan. However, literacy in the new system has not caught on in Wuding or Chuxiong Prefecture because of the diversity of the non-Nasu Yi groups that do not have a traditional writing system (Bradley 2009).

Nasu is being actively learned by children in heavily Nasu-populated areas of Wuding, like Fawo and Bailu; however, children who grow up in intermarried families or who go to school outside of the county do not necessarily learn Nasu. Even though Nasu is the most prestigious variety of Yi in Wuding, identifying as Hei Yi without the Nasu language still holds some social weight among the Yi. Several Wuding education officials we interviewed for this survey were eager to share their cultural pride as a member of the Nasu group, but not all of these people had a strong command of the language—many said they spoke Nasu when they were young, but there are not many opportunities to speak it when working in an official capacity in the county government. The opposite was the case for Yu Xueguan, a registered *chuanchengren* 传承人 'one who passes on a [cultural] inheritance' in the provincial government. Born and raised in Fawo's Shanpin village area, Yu studied traditional Nasu instruments, songs, and chants at an early age and now is considered a local expert of Nasu cultural traditions. Among all wordlist participants, Yu was able to produce lexical items that other wordlist participants could not recall (e.g. endangered animals, such as pangolin, muntjac barking deer, etc.).

While the Nuosu in Liangshan Sichuan were the only group now classified as Yi to have an active caste system at the time of the PRCs Classification Project in the 1950s, remnants of this caste system for the Nasu can be seen in some of the interethnic relations with other Yi (Harrell 2001). Several Nasu officials, including Yu, we spoke with were adamant about the distinction between the Hei Yi and other kinds of Yi. In Yu's interview with us about Yi culture in Wuding, Yu said that Nasu have a higher status and greater influence in today's society because they were the *guizu* 贵族 'nobles, aristocrats' in the past. Subordinate to the Nasu were the Naisu and Aluo, and the lowest status were the Lolo, Lipo, and Miqie. *Bai Yi* 'White Yi', while in Wuding refers specifically to the Lolo ethnolinguistic group, sometimes is used in a broader sense to distinguish between the Hei Yi and other kinds of Yi. In general, the Nasu, Naisu, and Aluo in Wuding tend to marry within their own groups or with Han before intermarrying with the other Ngwi-speaking groups, sometimes following traditional bilateral-cross-cousin marriage patterns (Hui 2001). With the influx of technology into the villages and better road access to easily travel to different cities, young people are less restricted to stay in their families' traditional villages and follow particular marriage customs, therefore the rate of intermarriage with other ethnic groups, especially Han, is increasing.

Naisu, spoken by the *ne⁵⁵su³³pʰo⁵⁵* Hong Yi 'Red Yi' in Maojie township in southwestern Wuding, is considered a dialect of Nasu proper (Lewis, Simons, and Fennig 2016). Naisu and Nasu villages are in different regions of Wuding, so there is little daily contact at the village-level. The Naisu participant in our wordlist said that even though he has daily contact with the Lolopo in Maojie and can understand about 60 percent, while the Nasu language is very similar to Naisu. The Naisu
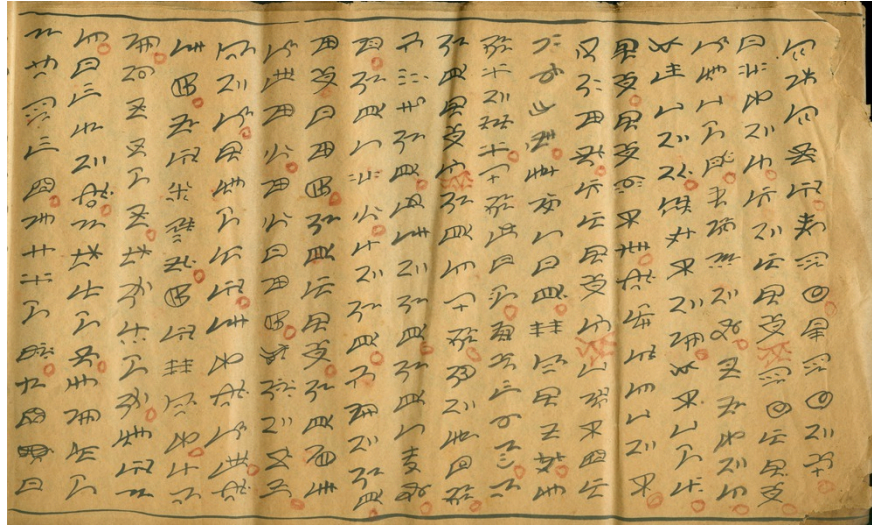
Figure 2.11: A document written in in the Wuding Nasu dialect Yi script. This is a page from a sutra on rewarding animals, dated to the late 19th to early 20th century from the Huanzhou-Wande region. (*Chou sheng jing* 2007).

tend to live in clustered villages and marry within their group or with Han, but not as often with other Yi.

Aluo [ISO 639-3: yna] is is spoken by the $a^{55}lu^{33}p^hu^{55}$, known as the Gan Yi, in northwestern Wuding County and across the Jinsha river in Sichuan. The Aluo language is being learned by children in the remote village areas where there are mostly Aluo villages, but Aluo speakers are outnumbered in townships with more contact among Nasu, Lipo, and Han—where Nasu is the prestigious Yi variety and Mandarin is the lingua franca.[15] The Wuding Gazetteer (1990) specifies that *Naluo* is the group/language in northern Wuding; however, in our survey we did not come across anyone who reported this ethnonym with the *n-* initial. Naluo, which receives separate entries in Ethnologue [ISO 639-3: ylo] and the Endangered Languages Project from Aluo, is reported to be spoken in southern Sichuan as well as several counties west of Wuding. These groups are no doubt related, and the loss of an initial nasal is a common sound change in Ngwi languages; however further field surveys are necessary to learn more about the varieties and identities distinctions between these two.

The Gazetteer (1990) lists two villages with Sanie/Minglang, however, whether these were majority Sanie villages was not confirmed in our survey. Our consultants reported that Lemei village area in Chadian is a mix of Miqie and Hani and Gaoqiao Tianxin village is majority Nasu. But

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[15] During our trip to Jiyi, several Aluo women sang 10 *jiu ge* 酒歌 'drinking songs' for us to record, which are now archived in Kaipuleohone in the Katie Gao Collection (KG2-004 to KG2-014) at https://scholarspace.manoa.hawaii.edu/handle/10125/33422

because we asked consultants for the ethnic majority of the villages, and also the ethnic groups of mixed villages if they knew, it is possible that our consultants did not know about the Sanie's existence in the village. Yang (2009) describes the ethnically mixed village cluster Shedian in Gaoqiao as being mostly Nasu and Miqie, but with intermarried Lipo, Sanie, and Hani families, who speak their languages primarily in their homes. Another possibility is that the Sanie language is shifting out of usage and people do not identify as Sanie anymore, which unfortunately is the case reported for many Sanie villages in counties south of Wuding (Bradley 2005b).

2.4.2.2 Central Ngwi (Lipo, Miqie, Lolo, and Geipo)

Eastern Lipo [ISO 639-3: lpo] is the variety spoken by the Lipo $li^{33}p^hu^{33}/li^{33}p^ho^{21}$ in Wuding, who are known locally in Chinese as Lisu. The Lipo are classified in the Lisu minority group, although their language is more similar to the Western Lipo (Yi) in Yongren to the west of Wuding and the local Wuding Miqie (Yi) than to the Lisu varieties spoken by the Lisu groups who live further west and south. The Lipo in Wuding were actually originally classified as Yi in 1958, but some local Lipo organized and petitioned the government to not be included in Yi because they do not have a traditional writing system and have different customs from the Nasu, who were the largest Yi group identified in the area. Therefore the group was then switched to the Lisu nationality. With 30,000-40,000 ethnic Lipo in Wuding, Lipo is the most widely spoken Ngwi language in the county, followed closely by Nasu. Lipo and Nasu also have a similar geographic distribution and are often in contact; either Nasu or Mandarin are used when these individuals come into contact with each other. Lipo often intermarry with other Central Ngwi speaking groups in the area, and with Miqie in particular.

The Miqie, known in Chinese as Micha, have a considerably smaller group population in Wuding (8,500-10,000), nearly one-third the size of the Lipo, and live primarily in the southeast corner of the county and across the borders into Luquan, Lufeng, and Fumin. Miqie [ISO 639-3: yiq] is reportedly mutually intelligible with Lipo, to the extent that speakers use their own languages when talking to each other. The Miqie language is endangered in villages with high rates of inter-marriage with Han, and because of the Miqie villages' location in areas with large concentrations of Han, this language is quickly shifting to Mandarin and the Miqie identity within the Yi group is being lost (see Chapter 3, Gao 2015). The group name *Miqie* could be a derivative of the autonym *Misha-pa* for Central-Ngwi-speaking Lalo groups in Dali Prefecture, where the traditional Lalo homeland of Misha (called Mengshe 蒙舍 in Mandarin) has held important cultural and historical significance since the Tang Dynasty (Yang 2010, Bai 2002). The Mandarin autonym for Miqie, *Micha,* also is likely derived from Lalo's *Misha.*

Lolo [IS0 639-3: lpo] is a Central Ngwi variety spoken by fewer than 8,000 people in 20-30 Bai Yi villages in Maojie and Gaoqiao. The Lolo $lo^{33}lo^{33}p^ho^{21}$ live in village clusters alongside Han

villages in the river valleys between Maojie and Gaoqiao towns. Lolo and Naisu are the only two Ngwi languages spoken in Maojie, and the groups are in contact, but intermarry with Han more than with each other. Our consultants reported that most children who grow up in Lolo-dominant villages will speak the language, but families who have intermarried with Han usually speak Mandarin at home. Lolo is the most widely spoken minority language in central Yunnan, with a large concentration in Chuxiong; however, the vitality status of the language in Wuding is less vigorous than that of other counties where there is a larger speaker population. According to Yang and Flaming's (2012) survey report on Lolo and Western Lipo, the Eastern Lolo dialect cluster is spoken primarily in Mouding, Lufeng, and Shuangbai counties, which are south and east of Wuding in Chuxiong Prefecture. The Lolo in Wuding are therefore northernmost speakers of the Eastern Lolo varieties in the prefecture.

The final Central Ngwi variety identified in this survey is Geipo $ke^{55}p^ho^{21}$, spoken by approximately 250 people in a Geipo village in Shishan's Gubai Village Administration and 30 people in a small mixed Miqie-Geipo village in Yaoying Administration. The Geipo in Gubai call themselves *Micha* in Mandarin, a testament to their close connection with the Miqie in this area. Some Geipo and Miqie noted that the Geipo may also be known as their folk ethnonym *xingxiuzu* 兴修族 'star people.' The Geipo are said to have moved to Gubai after the Miqie, although from where the Geipo migrated from, or for what reason, is unknown. The language variety is mutually intelligible with Miqie because of long-term contact and assimilation with the neighboring Miqie villages. Geipo does not appear to be related to Gepu, a Nothern Ngwi language spoken in central Yunnan similar to Nasu and Naisu.

2.4.2.3   Southern Ngwi (Honi)

There are around 900 people classified as Hani in Wuding, most living in mixed-ethnic villages with Lipo, Miqie, and Han in 5-10 villages in Gaoqiao (Dacun Administration) and Chadian (Ande Administration). Hani is a large government-classified minority group with more than 1 million people in central and southern Yunnan. The Southern Ngwi variety spoken in Wuding is Honi (Hao-Bai cluster), which is distinct from the Hani proper dialects (Bradley 2001b). The Hani in Wuding are called *Luomian* and have been assimilated with the Central Ngwi groups in the area for some time (Wuding 1990).

An example of this assimilation is Luomian Village in Shishan's Gubai Village Administration, which is now considered a Miqie village because of the Miqie majority with intermarried Han and Lisu. The name and village history indicate the village was settled by Hani, and the village maintains relations with the Chadian Ande villages as many families have relatives there. At the

time of this survey, there was one Hani woman who had married into a Miqie family in Luomian Village.[16]

2.4.3 Hmong/Miao languages (Ahmao and Hmong)

In Wuding County there are two Hmong languages spoken by two distinct groups classified in the Miao minority group: Ahmao and Hmong (Map 2.12). Both languages are classified in the Chuanqiandian cluster and have similar phonological systems with some mutual intelligibility. The Miao in general are known for their frequent migrations, though until this past century, there is not much information about the contact relations between various Miao groups. For centuries, due to the Yi dominance over land control through the turn of the 20th century, Miao villages of only a handful of families were typically settled in the mountains, at higher elevations than the Yi. Hence, one of the reputations of the Miao in Wuding by other groups is that they are relatively isolated with little integration with other groups.

The Ahmao 阿卯, known locally in Wuding as the Hua Miao 花苗 'Flowery Miao', have a widespread scattered population throughout northeast Yunnan, southern Sichuan, and Guizhou. The Ahmao have the most recent village settlements in Wuding, as a result of a series of small migrations from the northeast corner of Yunnan and Guizhou border over the past two centuries.

The Ahmao language [Dongdianbei, ISO 639-3: hmd] is considered by Ethnologue to be "developing" due to widespread literacy in the Miao Pollard script among the middle age and older generation especially (Lewis, Simons, and Fennig 2016). The Pollard script 柏格理苗文 is an alphasyllabary that was designed for Ahmao in Guizhou by missionary Samuel Pollard and introduced to the Ahmao in Sapushan Wuding in 1906 (location of Sapushan on Map 2.12). The Christian movement grew quickly in southern Wuding, and use of the script to read the newly-translated Bible was adapted also for Hmong, Lipo and Nasu (see Figure 2.13). The Ahmao remain the largest Christian group in Wuding with an active network of churches and seminary-educated clergymen. The Ahmao have had a rocky relationship with local governments over the past 100 years, from the KMT in the early 1900s, to the founding of the PRC in the 1950s, through the persecution of Ahmao Christians during the Cultural Revolution, followed by the Reform years of the 1980s—for an engaging, detailed account of this history, see Huang (2014). With the combination of geographic isolation and lack of intermarriage with other groups and integration into mainstream Chinese society, the Ahmao retain vibrant language use and cultural practices among

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[16] A wordlist was collected from this Hani woman, but unfortunately the data from the SD card was lost due to a technical error. A Hani wordlist from Azhemi Village in Gaoqiao Dacun was published by Bradley (2001) and is included in the transcriptions in Appendix A.

Hmong ethnolinguistic groups in Wuding
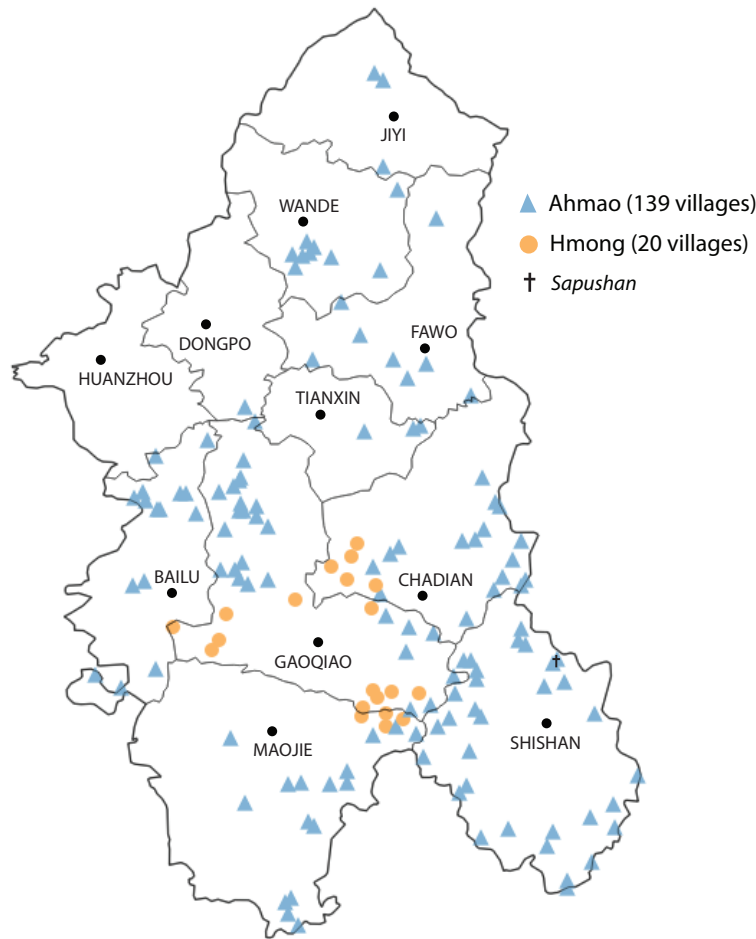
Figure 2.12: Map of Hmong language groups in Wuding County. The cross indicates the location of Sapushan, the historical center for Ahmao Christianization in Wuding.

all generations while their socioeconomic status and education levels as a whole are lower than other groups.

Differing from the Ahmao, the Hmong *mɛŋ⁴⁴klɘu⁵³* in Wuding, called Bai Miao 'White Meng' in Mandarin, have a much smaller population than the Ahmao and live in the border areas of Gaoqiao township in Chadian and Maojie. The Hmong in Wuding speak a variety of the Chuanqiandian proper cluster [ISO 639-3: cqd], related to Ahmao but not mutually intelligible. The Ahmao and Hmong have frequent contact especially in the Maojie-Gaoqiao cluster area, and one consultant reported that many Miao have command of both language varieties because of this contact. Like the Ahmao, the Hmong also marry primarily other Hmong and have not assimilated with Han culture as much as the different Yi groups have.
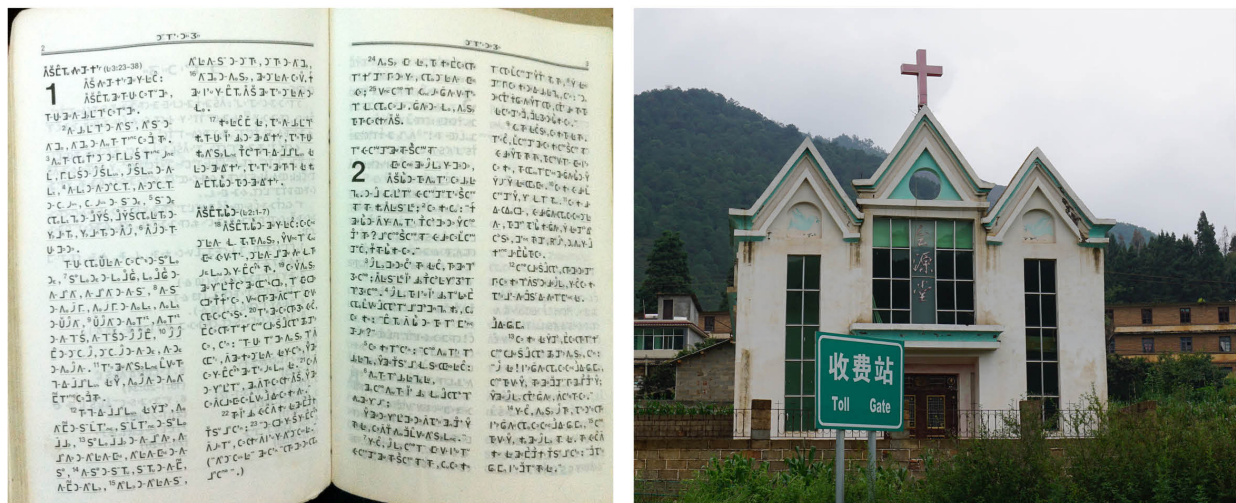
Figure 2.13: *Left*: Ahmao Bible written in the Pollard Script (image shows Matthew 1-2); *Right*: a Hmong Christian church in Maojie stands on the side the newly constructed Jingkun Expressway.

2.4.4 Tai Hongjin (Dai)

The Dai people in Tianxin, Dongpo, and Jiyi townships speak a variety of Tai Hongjin, a subgroup of scattered Tai language groups in northern and central Yunnan (Figure 2.14). The Tai Hongjin [ISO 639-3: tiz] spoken in Wuding is classified in the Yongwu 永武 dialect cluster, which includes Tai varieties spoken by Dai living in the Jinsha River valley of Chuxiong's Dayao and Yongren counties in addition to Wuding (Zhou and Luo 2001). The Wuding Tai live along the Jinsha and Mengguo tributary, and they are in contact with the Han, Aluo, and Lipo, who also take advantage of the fertile river valleys to cultivate fruits and vegetables.

The Dai ethnic group population in Wuding is around 8,000 people, but the speaker number is far lower as Tai speakers are shifting to more Mandarin usage. The village leader of the Tai village Aduoka in Tianxin said that all children in their village grow up speaking Tai and even the few Lipo and Aluo who have married into the village learn to speak Tai. In contrast, our consultants in Jiyi and Dongpo said that many young people speak a mix of Tai and Mandarin and their Tai abilities decrease after attending middle school or leaving the county/province for work.

2.5 Contact relationships and language shift

This chapter presented brief descriptions of the ethnolinguistic groups residing in Wuding County and these groups' contact relationships with each other, summarized in Table 2.5. This region has been an area of intense contact for centuries; however, the contact situation is rapidly changing and the amount of intergroup contact is growing due to developments in the economy: access to

Tai ethnolinguistic group in Wuding
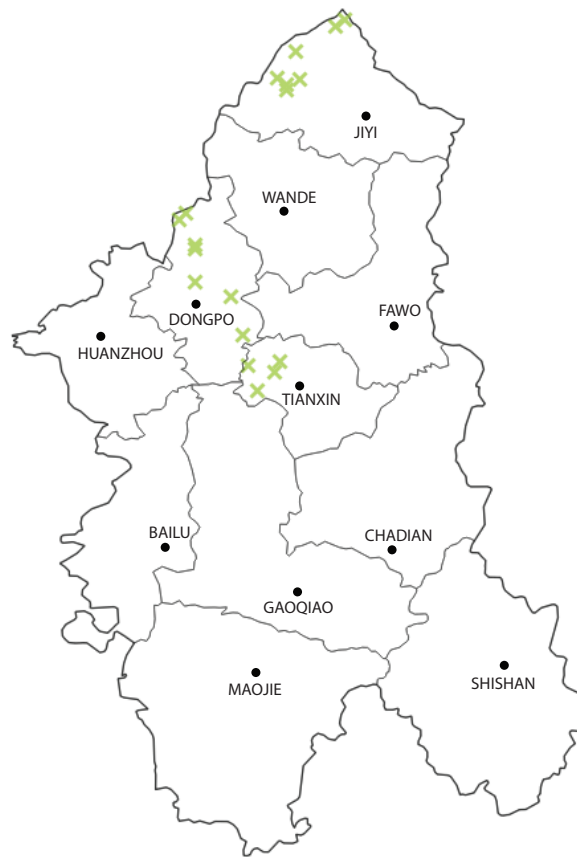
Figure 2.14: Map of Tai villages in Wuding County

work in towns and cities, access to government-mandated education, and access to communication technologies.[17]

2.5.1 The wordlists

The wordlists provided in the appendix are intended to provide a base to other researchers interested in the language varieties spoken in this rural county. But the purpose in describing the contact scenarios (and the purpose of the following two chapters) is to emphasize that a wordlist from one person is only a record of that one person's contact experience as well as the ethnic and other aspects of identity that were being "performed" in the context of an elicitation session with a foreign researcher.

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[17]   For example, just in the short amount of time I have spent traveling in Wuding, from 2012 to 2015, my commute from Kunming was shortened from four hours to two hours because of the new expressway. Additionally, several smartphone and computer stores were opened in Wuding town, and between 2013-2014 the town went from having one smoke-filled Internet cafe to free Wi-Fi in every store.

Table 2.5: Summary of ethnolinguistic group contact in Wuding

Group	ISO 639-3	Language	Contact with	Intermarries with	Language Status (Simons et al. 2016)	Notes
Nasu	ywq	Ngwi, Northern	Han, Lipo, Tai	Han, Lipo	Developing	Vigorous use, but many young people not learning
Naisu	ywq	Ngwi, Northern	Han, Lolo, Hmong	Han	–	Threatened in Wuding due to high contact with Han and small speaker population
Aluo	yna	Ngwi, Northern	Han, Lipo, Tai, Nasu	Han, Lipo, Tai	Shifting	
Sanie	ysy	Ngwi, Northern	Han, Lipo, Miqie, Nasu	Han, Lipo, Miqie, Nasu	Moribund	No Sanie-majority villages in Wuding
Lipo	lpo	Ngwi, Central	Han, Nasu, Aluo, Miqie, Tai	Han, Miqie,Geipo, Honi	Threatened	
Miqie	yiq	Ngwi, Central	Han, Lipo, Geipo, Nasu	Han, Lipo, Geipo, Honi	Shifting	
Lolo	ycl	Ngwi, Central	Han, Naisu, Lipo, Hmong	Han, Lipo	Vigorous	Shifting in Wuding due to high contact with Han and small speaker population
Honi	how	Ngwi, Southern	Han, Miqie, Lipo, Nasu	Han, Miqie, Lipo	Vigorous	Threatened in Wuding due to small speaker population and high rate of intermarriage
Geipo	–	Ngwi, Central	Han, Miqie, Lipo	Han, Miqie, Lipo	–	Threatened
Ahmao	hmd	Chuanqiandian Hmong, Diandongbei	all groups in different regions	none	Developing	
Hmong	cqd	Chuanqiandian Hmong, CQD proper	Han, Ahmao, Naisu, Lolo, Miqie	none	Vigorous	
Tai	tiz	Tai Hongjin, Yongwu	Han, Aluo, Lipo, Nasu	Han, Lipo	Shifting	

An example these multiple dynamics of contact evidenced in the wordlists is in the Fawo Lipo wordlist recorded by a 23-year-old Lisu man, researcher-selected pseudonym, Frank. Frank distinctly identifies as Lisu (the government-classified minority group in which the Lipo of Wuding are grouped) rather than "Lipo" because Mandarin is his dominant language and his ID card says Lisu. He agreed to record a wordlist because he said he does speak some of the language from his birth village, Yongchangshang in Fawo Township, a Lipo-majority village. In the wordlist instructions, we assured him that it was ok to use the Mandarin word if he did not recall the "Lisu" word in the moment. At the completion of the wordlist, Frank produced about 30% of the words in Mandarin *fangyan* and 15% of the words were non-cognate words. In the remaining 55% of the wordlist, Frank produced lexical items that resembled Nasu more than Lipo. From the followup interview with Frank about his background and language use patterns, we can see how his family's contact situation and adaptation to the growing economy affected his performance on the wordlist.

First, like most young adults in his generation, Frank had the opportunity to pursue education past the mandated middle school requirement. Frank's parents and grandparents' generation were not afforded as many opportunities for education or professional development, and therefore worked hard to provide that for their children. Frank's parents often spoke Mandarin with him at home growing up, with the idea that he could be exposed to Mandarin in a non-school environment

in order to enhance his studies. Frank also attended school outside of his township beginning in elementary school, requiring him to use Mandarin more often than a minority language. Even though Frank could produce more than half of the 283 words in his minority language, he could only count 1-5 confidently, mixed the numbers 6-8 around, and used the Mandarin word for all higher numbers. This shows that the process of language shift at an individual level is not exclusive to abstract words or rarely used words in different domains, but even numbers, if not used, can be lost in one's speech as well.

Second, Frank is the child of intermarried parents, each who speak different language varieties. Frank's mother is Lipo from Fawo, and his father, who is Nasu moved to his mother's village at the time of marriage.[18] The home situation is interesting, as Nasu is the socially prestigious language in Fawo, but the village is primarily made up of Lipo L1 speakers—many of whom likely can speak Nasu in addition to Mandarin—and Frank's parents communicated with each other and to Frank in a mix of these languages. Toward the end of Frank's wordlist, a Nasu observer in the room asked Frank what ethnicity he was, because he expected Frank to produce the lexical items in Lipo rather than Nasu. Frank replied: ɬa³³pʰo³¹, which is the Nasu exonym for the Lipo people, not an ethnonym a Lipo person would typically call himself. Frank did not seem aware that he was producing Nasu-like words, but emphasized that he was speaking "Lisu."

Frank's wordlist is not one that would/should be used for the purposes of lexical subgrouping and historical reconstruction (which is not a goal of this dissertation), but the variation across varieties observed in his speech is a reflection of the extreme contact situations that thousand of ethnic minority people are navigating on a daily basis.[19] This highlights the need for more contact-related variationist studies of languages spoken in Southwest China, as much of the current literature on languages in this area relies heavily on wordlists for establishing historical relatedness, with little attention to daily contact scenarios that affect individuals' speech patterns.

2.5.1.1 The ethnolinguistic maps

The ethnolingusitic maps produced for this chapter likewise are a simplistic representation of one set of data—in this case, village demographic data. The maps do not reflect the diversity of mixed villages, nor patterns of intermarriage and migrant workers, nor do they reflect the language

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[18] This is not the stereotypical marriage situation of the patrilocal Yi groups, but it is not uncommon for a man to marry into his wife's village for different reasons, such as the need for the husband to leave his family's village to help take care of his wife's parents. Also, parents from different classified ethnic groups are allowed to select which nationality they want their child to be identified as.

[19] An encounter with an American researcher asking you to say certain words in your mother tongue is not a daily encounter, and I acknowledge that my presence, as well as the presence of everyone else in the room, also effects linguistic performance—a subject for another study.

vitality of the varieties spoken throughout the county. And while the administrative county unit was selected for the purpose of containing the bounds of this study, the maps also do not reflect the extent that the ethnic groups residing in Wuding county extend past the county borders.

The maps are, however, the first time that village-level ethnicity data has been mapped at the county level in Chuxiong Prefecture. And although simplistic and not error-proof, the method to collect this data utilizing the Yunnan Digital Village site provides a new approach for field researchers to visualize ethnic and linguistic information.

2.5.1.2 Macro to micro

Under the socioeconomic pressures to succeed in a Chinese-speaking nation and globalized world, language shift is a rapidly growing reality threatening the perpetuation of non-Chinese minority languages. Regions like Wuding, which have relatively rural and disadvantaged ethnic minority populations compared to more developed areas, are especially at a turning point in this nation-wide shift to Chinese mainstream culture. Researchers can study this phenomenon at the macro level to find patterns of language contact at a regional or national level, but the social mechanisms for language change also requires a look at the micro level—in this case, village, family, and individuals.

The study of family language use, especially in inter-ethnic families, is a key component to understanding language contact (scenarios and outcomes) as a whole in a diverse society. Intermarriage is extremely common in all of Wuding's ethnolinguistic groups, except the Ahmao and Hmong, so the final two chapters of this dissertation will discuss two social contexts of language contact in one village area of Wuding.

Chapter 3

Geographic location as a factor of language shift

3.1 Introduction

Language shift, the process in which a community abandons one language in favor of another, is a common outcome of intense language contact situations. Widespread language shift across generations leads to language endangerment and eventual language death if the process is not reversed. As discussed in Chapter 1, minority language speakers in China face a variety of social, political, and economic circumstances that that may compel them to continue or discontinue speaking their native language(s) both in and outside the home. In Wuding County, the ethnolinguistic diversity throughout the region requires a lingua franca, a role which Mandarin Chinese has filled for centuries as the language of trade and wider communication along with other local lingua francas (like Nasu). But more recently, with greater top-down political impact, including the education system and migrant worker policies, Mandarin's role in Yunnan's multiethnic society has had an escalating influence on the rate of language shift. This chapter explores the factors influencing language shift in the context of one village administration in Wuding, with wider implications for how language shift can be characterized and researched with geographic considerations.

3.2 Factors of Language Shift

There are a number of ways linguists and researchers in other fields have approached the study of language shift and language maintenance. Fishman (1990, 1991) focuses on language use in various social domains in order for a language to maintain its viability in a society. Regardless of domains, the key factor that propels language shift in a community or family is a disruption in intergenerational transmission, when the younger generation does not acquire the language from the older generation, but rather acquires the language of wider communication. The most common causal social factors of language shift addressed in the literature are economic, political, attitudinal, and inadequate input of the language. These factors do not exist in isolation, but are more typically a combination of social pressures that an indigenous or minority language speech community will experience when in contact with other majority-language speaking groups. Lan-

guage shift is not a symptom of contact itself, as multilingual societies around the world can attest, but certain societal pressures can be indicators of imminent threat to the vitality of a language.

3.3   Geography and language shift

The idea that geography plays a role in language shift and maintenance is not new to linguistics; however, it also is not a subject that has garnered much attention in the literature, perhaps because it is often a basic assumption in language vitality research. Fishman (1991) notes that often "the last survivors of a formerly vibrant language-in-culture community live in relatively isolated, rural and inaccessible locations," a situation that is described in many other studies on languages around the world that are spoken over a large geographic area. In Yunnan, Bradley and Bradley (2002:88) describe the Sani language as "extinct in some villages, moribund in others, severely endangered or endangered in some, but still transmitted to children, though in fewer domains, in some remote villages and in a cluster of less remote villages." Chirkova (Chirkova 2015) notes that regional isolation in the Yunnan-Sichuan plateau has not only "contributed to the development and preservation of local languages" but is also an inhibiting reason why little research has been done on the languages in this area. The adjectives "remote" and "isolated" often go hand in hand with descriptions of locations and language communities that exhibit viable language use, in places where a majority language does not necessarily hold a social stake. However, few researchers have made the connection between relative remoteness and language shift a subject of study.

Studies of this nature are not apparent in the linguistics literature, but rather in social psychology, which deals with speaker attitudes and links between social factors and language use, and in the geography literature. For example, Bills et al. (1995) used census data[20] to show that the simple geographic factor of distance to the border was the strongest predictor for the language loyalty and retention of the tested variables in their study on Spanish language shift around the U.S.-Mexican border. The distance-to-the-border factor was even a stronger correlation than other political and socioeconomic factors analyzed (e.g. assimilation and integration) which also clearly affect language shift. Bills et al. argue that, in this case, further distance away from the Mexican border was indicative of immigrant communities' further integration into U.S. society, with shifting from Spanish to English as one of the consequences.

Another study with the goal of connecting geography and language shift did not use speaker or census data, but rather collected data from more than 9,000 gravestone inscriptions in Czech and English to assess the historical rate of language shift by immigrant Czech communities in Texas from the 1880s to 1960s (Cox, Giordano, and Juge 2010). While distance from the towns did not

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[20]   The US 1980 census question used to assess language shift in U.S. cities and counties was "Does this person speak a language other than English in the home?"

predict the rate of shift to English as hypothesized by the researchers[21], the study did find that the more rural, more traditionally homogeneous Czech communities exhibited a slower rate of shift to English than Czech communities closer to urban areas. Cox et al. notes that "urban" may be a misnomer in their research for those looking to compare with other urban-rural data, as the largest town in their study had a population of 20,000 people.

The categories of rural vs. urban are often used as sociolinguistic variables to describe dialectal differences and identity associations (Edwards 1975; Thipa 1989; Kerswill 1994), and likewise have been used in studies of language vitality and language shift. However, like in the Czech inscriptions study, these categories do not necessarily apply to an overwhelmingly rural county like Wuding, which has an 83 percent "agricultural population" (Wuding 2013). This chapter argues that a geographic factor different from the common sociolinguistics urban-rural variable is valuable for assessing the causal factors of language shift. Geographic isolation (i.e. dispersion) of China's minorities has been shown to correlate with social factors such as as higher fertility rates and lower socioeconomic status (Poston and Shu 1992), so geographic correlation with language shift is potentially a rich area of study as other demographic and social characterizations. While geographic location is certainly not inseparable from other social constructs that affect the rate of language shift, this study will discuss the idea that location—in this case, village proximity to a main road—is the crux of many social variables and language use domains.

3.4   Assessing language vitality and shift

Along with absolute factors like population size and relative population in the national context, domains of language use—government, education, media, marketplace, household, etc.—are the basis of several tools developed for the purpose of assessing a particular language's vitality or level of endangerment: Graded Intergenerational Disruption Scale (GIDS) (Fishman 1991), Expanded-GIDS (Lewis and Simons 2010), UNESCO's Language Vitality Index (UNESCO 2003), and the Catalogue of Endangered Languages' Language Endangerment Index (LEI) (Lee and Van Way 2016). Gao (2015) used LEI to assess the vitality of several individual villages, but also showed that assessing a language "community" as a whole is not possible in scattered populations because each group of speakers faces different levels of social pressures. In general, vitality assessments are meant to gauge an overall degree of language endangerment and the patterns of language usage; however, a scale or index on its own is not an adequate tool for further exploring language shift, whether looking at attitudes, language acquisition, or other fields associated with the decline in usage of one language in favor of another (Lee and Van Way 2016).

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[21]   This may be due in part to the fact the language on gravestones does not occupy the same domain space as spoken language.

One way to quantify language shift, in order to determine the rate and areas in which a language is shifting, is to assess language proficiency. Proficiency level assessment is underrepresented in the language shift literature, especially in endangered language situations in less-accessible areas. Due to the limiting factors of time and lack of language description, this study analyzes *reported* language proficiency, that is, the level of language proficiency that individuals subjectively rate themselves and their family members (see Section 3.8.3 for the reasoning behind and critique of this method).

3.5   Gubai Village Administration

The regional focus of this chapter is Gubai Village Administration 古柏村委会, an administrative unit within Shishan Township 狮山镇, consisting of 13 villages located along National Highway 108 (国道 108) northwest of Wuding, the county seat (see Figure 3.1). Five of the villages are Han Chinese, five are Micha Yi (Miqie and Geipo), and three are A-Hmao (Table 3.1). Language varieties from three language families are spoken in the villages—Sinitic, Tibeto-Burman, and Hmong-Mien—and Mandarin serves as the lingua franca in most inter-ethnic communications. The Micha villages in Gubai have the largest average village population (average 330 people, 77 households)[22] compared to the Han and A-Hmao, but also two of the Micha villages have a substantial number of non-Micha living there. Village leaders estimated Xia Gubai is half Micha and half Han Chinese, and Luomiancun with 75 percent Micha. Intermarriage with other ethnic groups (e.g. Han, Lipo, Hani) is more common in the Micha villages than in the Han and A-Hmao villages who tend to marry a person of the same ethnic group with similar socioeconomic status.

The average village elevation in Gubai is just over 2000 meters—1.25 miles above sea level. The A-Hmao live the furthest up on the mountains, with the highest village 380 meters higher than the lowest village, which is Han. As discussed in Chapter 2, the general trend of ethnic group distribution in Wuding is that the Miao groups, the A-Hmao and the Hmong, live at the highest elevations while the Han settled in the river valleys, and the Yi settling somewhere in between, depending on the wave of settlements. The satellite view of the terrain in Figure 3.2 shows the location of the villages in the mountains and valleys.

Most village residents are farmers——some practicing subsistence farming and others commercial, growing fruits and vegetables to sell in Wuding or Kunming. Besides pigs and chickens sold for meat, the primary crops cultivated in Gubai include: wheat, cabbage, various gourds, beans, and rapeseed plants. The stone factory on the northwestern mountain of Gubai has also been a principal source of income for many families, especially in Shanju Dacun, after it was built in

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[22]   Population and sea level data are from 2014, obtained from the publicly available website site, Yunnan Digital Village 云南数字乡村 http://ynszxc.gov.cn

Gubai Village Administration

云南省楚雄彝族自治州武定县狮山镇古柏村委会

● Han Chinese village
◓ Micha (Yi) village
◓ A-Hmao (Miao) village

Changchong Stone Mine and Factory 长冲石场

山居大村 **Shanju Dacun**

Yangjiacun 杨家村

Shanju Xiacun 山居下村

Santaishan 三台山

小水井 **Xiaoshuijing**

大水井 **Dashuijing**

Dadi 大地

罗免村 **Luomiancun**

Tianbaxin 田坝心
a.k.a **Shang Gubai** 上古柏

Gubai Elementary
古柏小学

平头山 **Pingtoushan**

汤巴哨 **Tangbashao**

Dashifang Cherry Farm
大石房樱桃场

Shijiangjun 石将军

下古柏 **Xia Gubai**

500 m   1km
N

Figure 3.1: Map of Gubai Village Administration. The five Micha (Yi) villages are included in this study.
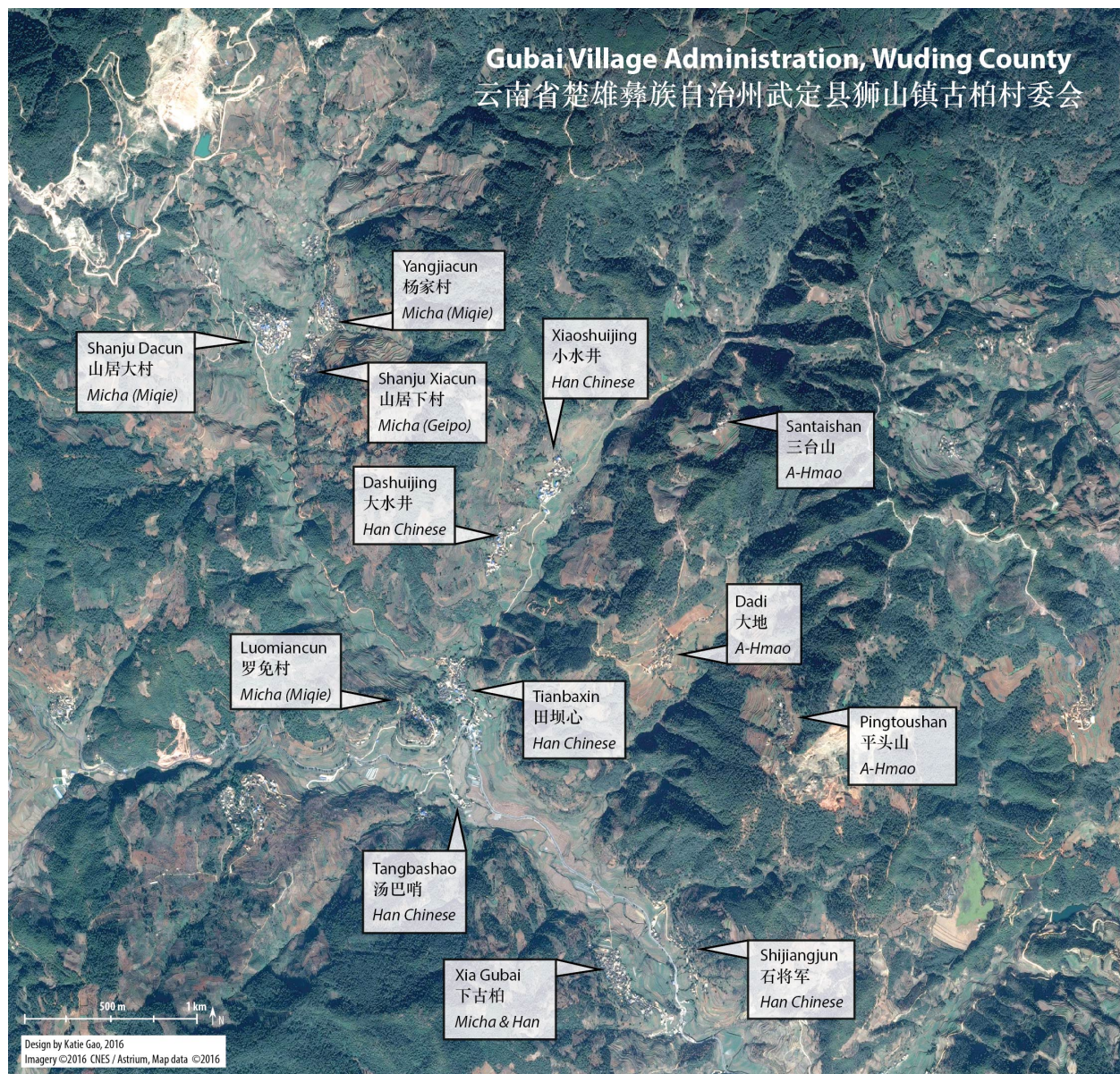
Figure 3.2: Satellite view of Gubai Village Administration. The Changchong stone mine is visible in the image's top left corner.

Table 3.1: Population data for the 13 villages in Gubai Village Administration

Village 村子	Ethnic Group(s) 民族	Population 人口	Households 户口	Elevation (m) 海拔 (米)
Tianbaxin 田坝心	Han Chinese 汉族	321	87	1940
Dashuijing 大水井	Han Chinese 汉族	240	67	2050
Shijiangjun 石将军	Han Chinese 汉族	141	35	1880
Xiaoshuijing 小水井	Han Chinese 汉族	93	20	2040
Tangbashao 汤巴哨	Han Chinese 汉族	79	19	1900
Xia Gubai 下古柏	Micha 密岔, Han 汉族	431	108	1890
Shanju Dacun 山居大村	Micha 密岔 (Miqie)	348	78	1920
Shanju Xiacun 山居下村	Micha 密岔 (Geipo)	325	75	1920
Yangjiacun 杨家村	Micha 密岔 (Miqie)	314	73	2080
Luomiacun 罗免村	Micha 密岔, Han 汉族	230	52	1970
Dadi 大地	A-Hmao 花苗	108	33	2060
Pingtoushan 平头山	A-Hmao 花苗	62	19	2200
Santaishan 三台山	A-Hmao 花苗	56	16	2260

1999 (see Figure 3.3). Other methods of earning income include working as a tradesman or in hard labor, or in harvesting speciality food items—such as cherries, blueberries, and mushrooms—to draw tourists or to sell nationally. However, despite local business endeavors, migrant workers remain the primary source of income in most villages, where the grandparent generation stays in the village to raise their grandchildren, while the working-age parents live in Wuding, Kunming, or even as far away as Guangzhou or Shanghai. This family structure adds another factor to consider in discussing the local language shift situation. The study presented in this chapter investigates the factors influencing language shift in the five Micha villages in Gubai.

3.6 Research questions

Gao (2015) shows that the degree of language shift in Miqie villages varies depending on the particular village, and that the "Miqie language" as a whole is not shifting at one rate because there is not a singular "Miqie community." The purpose of conducting a household language proficiency survey in five Micha villages (four Miqie and one Geipo, see below) was to investigate further how regional patterns of language shift are evident by looking across generations in a given village administrative area. The interviews with the village leaders and subsequent household language proficiency survey addressed the following research questions: (1) What is the current language contact situation in the five Micha villages in Gubai Village Administration, (2) What are the strongest factors influencing the shift to Mandarin, and (3) What are the reported patterns of language use across generations in Micha households.

Figure 3.3: Photo of the three Micha villages located up the mountain in Gubai. Shanju Xiacun is in the center foreground, Shanju Dacun is to the left, and Yangjiacun is on the right. The Changchong stone mine is the mountain backdrop of Shanju Dacun.

3.7 Methods

This study on the language situation in Gubai was completed in January and February 2013, following my regional survey on the linguistic vitality of Miqie in 2012 and immediately prior to beginning a language description project on the Miqie and Geipo language varieties.[23] At the time these surveys were conducted, I knew the local Yi in Gubai only as "Micha", without the Geipo-Miqie autonym distinction (see Chapter 4). Therefore, this chapter uses the Mandarin exonym *Micha* 密岔 to refer to both the Miqie and Geipo, as this is the local Mandarin name that includes both groups.[24]

3.7.1 Survey design and implementation

The two survey parts—informal interviews about the village language situation and a household language use survey—were designed to collect both qualitative and quantitative data, respectively.

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[23] Before returning to Wuding in 2013, the only Gubai-area village I previously visited was Luomiancun.

[24] Noting the distinction between the Miqie and Geipo groups and their language varieties would have been ideal for this survey and would have unquestionably led to more detailed results of the household language use survey discussed in this chapter; however, because these details were not known at the time of the study, the results presented here refer to Miqie and Geipo collectively as *Micha*. Additionally, referring to Miqie and Geipo as a single group perhaps more accurately represents their contact situation and perceived group status as the "Yi" of Gubai, because the Miqie and Geipo live as one cultural group in this village area. The Miqie-Geipo variation research presented in Chapter 4 was designed as a follow-up study to further investigate the results of this chapter. See Section 4.3 for a discussion on the current Miqie-Geipo contact situation and the usage of group names.

The surveys were conducted by my research assistant Li Jing[25] and myself in Mandarin Chinese, using a mix of Standard *Putonghua* and Yunnan *fangyan*. Introductions to village leaders were made through previous contacts made during our 2012 survey of Miqie.

3.7.1.1 Interviews with village leaders and Micha schoolteacher

We first conducted interviews with village leaders (an official position) in the five Micha villages.[26] The village leaders were all Micha, except in Xia Gubai, whose village leader was Han, therefore in that village we interviewed a Micha elder who the village leader referred us to. The interview questionnaire used was based on an SIL-developed language vitality questionnaire, the same used in the preceding chapter's Wuding County survey, with specific adjustments for Yi and the Gubai area. The questions addressed issues of cultural practices and language use as well as general village life. Following the completion of the household language use survey described below, I also had the opportunity to interview the sole Micha schoolteacher at Gubai Elementary School. His insight of children's language use patterns when they enter elementary school is also relevant to the current study.

3.7.1.2 Household language proficiency survey

To assess language proficiency patterns within a household in a quick and noninvasive manner in order to maximize the number of participants, I created a simple questionnaire that one individual could answer on behalf of his or her household. The survey was a simple grid (as shown in Figure 3.4), which we used to record participants' answers.[27] We collected basic demographic information–-–sex, age, ethnic group, birthplace, education level—and language proficiency levels for each member of the household. The questions were not asked in a particular order, but we let the answers to one question lead to the next. If two members of a household were present when we were completing the survey, we only recorded one entry as "self" for the household, but all members could help answer the questions.[28] The questionnaire took approximately 5-15 minutes per participant, depending on the size of the participant's household and if they offered any detailed explanations for their answers.

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[25] Li Jing 李晶 at the time was a MA student in Linguistics at Minzu University of China in Beijing. She is not a native speaker of Yunnan Mandarin but is excellent at building rapport with participants and making them feel comfortable. With her previous linguistics fieldwork experience in both Yunnan and Sichuan's Liangshan, Li Jing proved to be an invaluable partner during my 2012 and 2013 field research.

[26] The interviews in this study were not recorded to ensure the privacy of the participants and potentially sensitive issues at the village level.

[27] While Li Jing interviewed the participant, I listened and took additional notes on the participant's remarks about language use, e.g. "My wife [who is Micha] can speak Lipo because her grandmother is Lipo."

[28] "Household" implies the people living in the same house in the village (including individuals who live in town for work but return home to the village on the weekends or holidays). Households typically consist of 2-3 generations.

Figure 3.4: Image of the household language proficiency questionnaire used in this study. Levels A-E were recoded as 5-1, respectively.

The language proficiency levels were recorded as follows:

- Level 5: Fluent—native or high proficiency

  Able to communicate fluently in Lg X in all or most domains

- Level 4: Conversational proficiency—basic to intermediate level

  Can communicate at a basic-intermediate level in Lg X but is not fully proficient

- Level 3: Passive bilingual[29]

  Can understand Lg X, but does not or cannot speak it very much

- Level 2: Limited understanding

  Can understand some of Lg X, but cannot speak

- Level 1: No understanding

  No understanding of Lg X, cannot speak

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[29] *Passive bilingual* in this study can refer to two situations: (1) A speaker who can understand a language due to family exposure; however, they prefer to use a more dominant language for communication. This is the result of a disruption in intergenerational transmission. (2) A speaker who can understand a non-native language due to exposure in the community, but social practices do not dictate its use if it not one's own ethnic variety. For example, Chapter 4 explores this type of passive bilingualism in intermarriage in which each spouse speaks their own language variety to each other.

Table 3.2: Example data from one household, as reported by "self"

Family Relation 家庭关系	Sex 性别	Age 年龄	Ethnicity (Official) 民族	Birthplace 籍贯	Education Level 文化程度	Micha Proficiency 密岔话水平	Mandarin Proficiency 汉话水平	Lipo Proficiency 里泼话水平
self	M	42	Micha (Yi)	SJXC	elementary	5	5	5
wife	F	44	Lipo (Lisu)	Chadian	none	3	4	5
daughter	F	18	Micha (Yi)	SJXC	middle	5	5	5
son	M	16	Micha (Yi)	SJXC	middle	5	5	5
mother	F	65	Micha (Yi)	SJXC	none	5	2	5

By leaving the questions open-ended and letting the participants describe their family language situation in their own words (intentionally avoiding handing out paper surveys), we were able to record individuals' language proficiency levels as they described them in their own words. We selected a proficiency level based on the description of the individual and our follow-up questions about that individual's language use. This method was preferred over offering participants a set list and having them choose a level and worked well because participants were more willing to talk about their language use conversationally without the pressure of having to select pre-determined levels.

Because these levels describe reported and perceived proficiency, the levels were separated by family testimonials we commonly heard throughout the Miqie language vitality survey the year earlier. The levels do not focus on domains of use, because in the Gubai region, Micha is not used in any official domain outside of the village itself except in the case of meeting another Micha person in town. Therefore the levels were designed to gauge perception of active language ability—in Chinese, the difference between *hui* 会 'can' (is able to), and *keyi* 可以 'can' (is able to, but chooses not to in different circumstances). The levels also do not specify "native speaker" or "mothertongue" for the different languages, because this is also a complicated answer for social reasons, depending on the ethnic makeup of the household.

3.7.2 Data analysis

The quantitative data analyzed are demographic information and reported proficiency levels from the household survey. Additionally I use qualitative data from the village leader interviews to help interpret and inform the results from the survey. The three most prevalent languages from the study were included in the spreadsheet with reported proficiency levels: Micha, Mandarin, and Lipo. The household survey data was organized and coded a spreadsheet (like in Table 3.2) and analyzed using R statistical programming software (R Core Team 2015).

We completed the household proficiency questionnaire in 77 households across the five Micha villages, totalling 374 individual data entries (77 self-reported and 297 other-reported). Although we attempted to collect similar numbers of questionnaires in all five villages, our ability to do

Table 3.3: Percentage of Micha population in the five Micha villages of Gubai, as reported by village leaders

Village	Percentage of Micha	Total Village Population
Xia Gubai	50%	431
Luomiancun	75%	230
Shanju Dacun	90%	348
Shanju Xiacun	90%	325
Yangjiacun	90%	314

Table 3.4: Summary of questionnaire demographic data collected in the five Micha villages

Village	Individuals	Households # of self-reporters	Percent Micha	Percent Han	Percent Lipo	Percent other ethnicity	Percent high school graduates	Average|Median Age
Xia Gubai	34	6	76%	18%	0%	6%	15%	40|38
Luomiancun	53	10	77%	8%	11%	4%	9%	37|39
Shanju Dacun	82	17	89%	0%	7%	4%	4%	35|37
Shanju Xiacun	104	24	86%	2%	11%	1%	6%	36|37
Yangjiacun	101	20	89%	2%	7%	2%	5%	34|34

so was largely dependent on our point of contact in the village, the time of day we visited, the ethnic makeup of the village, and availability of Micha family members to interview. The ethnic make-up of the villages, as unofficially reported by the village leaders and confirmed with survey participants, is shown in Table 3.3. The data collected are from self-identifying Micha households, which does not necessarily mean all members of the household are Micha. For example, a Lipo woman who moved to one of these villages to marry a Micha man would be included in the husband's "Micha household." A summary of the village data are presented in Table 3.4.

3.8   Results and implications

The five Micha villages can be divided into two groups that exhibit similar results in this study: (Group 1) Xia Gubai and Luomiancun, and (Group 2) the Shanju villages Shanju Xiaxun, Shanju Dacun, and Yangjiacun. Both Xia Gubai and Luomiancun are located on the highway and next to Han villages, while the three-village cluster is more isolated, located along the river valley, higher up the mountain. The following sections will present some examples from the interviews and the household questionnaire of how these two "groups" show similar language patterns linked with village attributes.
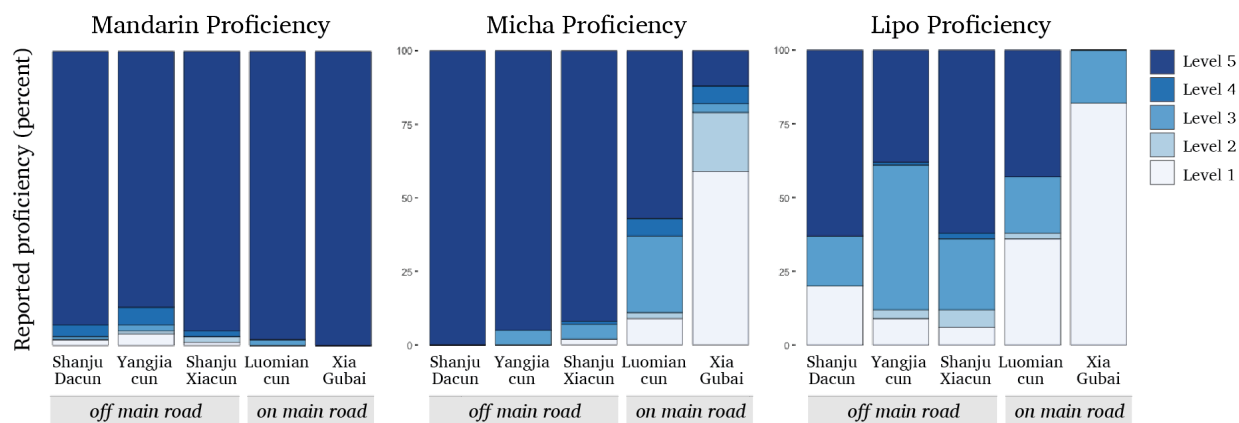
Figure 3.5: Reported proficiency levels for Mandarin, Micha, and Lipo in the five Micha villages. Level 5 is fluent proficiency, and Level 1 is no proficiency in the language.

3.8.1 Language proficiency questionnaire results

All households in the five villages reported high levels of Mandarin proficiency (Level 4-5 >96%), confirming the societal norm that Mandarin is an essential language in diverse ethnic group regions. The Mandarin speakers who had reported proficiency of Level 3 and below were all either under the age of 6 or had never attended school and rarely leave the village area. Micha language proficiency was also high—at equal levels with Mandarin—in the three Shanju villages, but the rate of Micha Level 1 fluency drops to 57% and 12% in Luomiancun and Xia Gubai, respectively. The overall language proficiency results described here are shown in Figure 3.5.

Although Lipo was not the focus of this study, because many participants reported some household proficiency in Lipo, and the Shanju villages overall have a greater proficiency in Lipo than Luomiancun. While the Xia Gubai data did not include any Lipo individuals, the other four villages included 7-11% Lipo individuals (25 women, 6 men), all of whom had reported levels of Micha proficiency from Level 3 and above. The interviews with the village leaders also described the Lipo intermarriage situation as such: each village has about 10 percent Lipo, and most Lipo learn Micha but don't necessarily use it because many Micha people, especially the older generation, can understand Lipo when spoken.

3.8.1.1 Shift in Xia Gubai and Luomian

A small degree of language shift away from Micha across generations is evident in Xia Gubai and Luomiancun. Of village-born Micha-identifying residents of Xia Gubai, only the oldest two individuals (81m, 80f) were rated as Level 4 proficient in Micha, while individuals between 41-79 were reported as Level 2, except one man at a reported Level 1; and all individuals under 40, with two exceptions, were rated as Level 1, with no speaking or listening ability in Micha.

The Han Chinese village leader of Xia Gubai said that he did not hear much Micha spoken around the village and was not aware of any families who use it actively in the household, consistent with the 2012 survey results that Micha is no longer a primary language of communication in the village. The only Level 5 fluent Micha speakers in Xia Gubai were women from the Shanju village cluster who married into the village. These women remarked that they do not speak Micha in the household, but only when they meet the other in-married Shanju women in the village or when they visit relatives in Shanju. One woman also candidly said that she is forgetting how to speak Micha because there is no one to use it with in Xia Gubai.

In Luomiancun, unlike Xia Gubai, level 5 fluent speakers of Micha were reported across all age groups, from 13-75. All Micha individuals above age 50 had Level 5 proficiency; and of speakers under 50, 42% were Level 5 and 50% were Levels 2-4. The remaining 8%, two 18 year-olds in Han-Micha intermarried households, were reported as Level 1 in their Micha proficiency. Luomiancun has a greater degree of variability in Micha language proficiency compared to Xia Gubai, but the village also has more variety of interethnic and inter-village marriages, including Lipo and Hani in addition to Micha from the Shanju Villages.

3.8.1.2 Village access (to a main road) variable

From the village interviews and initial summary of the data, there are several variables that we can anticipate as predictors of Micha Proficiency, including ethnicity, age, intermarriage, and a village's access to a main road. The data analyzed included the individual as the primary data point (n = 374), and the predicting variables were binary except for age.

In order to test for a relationship between language proficiency and these variables, an ordinal regression model[30] was fit by hand to accuracy in R (2015). The value in the results shows the strength of the relationship between the dependent variable (Level) and the predicting variable.

Only the variable "village on the main road" (y/n) was included in the final model, as the results reached significance showing a cline in the values of language proficiency levels depending on whether or not the village is located on the main road. The results show that in villages on the main road, speakers are more likely to have a Micha Proficiency of Level 1|2, and less likely to have a 4|5 fluent proficiency rating (β 3.54, SE 0.36, $p < 0.05$). With "fluent" Level 5 coded as the baseline, a higher/positive coefficient in the Value column indicates greater shift away from Micha (Table 3.5).

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[30] An ordinal regression is similar to a general linear regression analysis but it is used for predicting discrete ordinal variables, in this case, Proficiency Levels from 1 to 5. This analysis assumes a dependence or causal relationship between one or more independent variables and one dependent variable.

Table 3.5: Village location and reported Micha proficiency levels (n = 374)

		Value	Std Error	t-value	p-value
Village on the main road		3.54	0.36	9.94	$p < .05$
Level 5 Can speak fluently	Level 4 Can speak some	3.05	0.28	10.76	$p < .05$
Level 4 Can speak some	Level 3 Can understand	3.23	0.29	11.07	$p < .05$
Level 3 Can understand	Level 2 Can understand some	4.12	0.33	12.36	$p < .05$
Level 2 Can understand some	Level 1 Cannot understand	4.49	0.35	12.77	$p < .05$

3.8.2   Access and language shift

Access, via paved roads, is the turning point for villages in mountainous regions, after remaining isolated for centuries due to dangerous and impassible road conditions. In terms of Yunnan as a whole, or even many parts of Wuding County, access to Gubai is not difficult. From when I first traveled to Gubai in 2012 to my last trip in 2015, the new elevated expressway was constructed that passes over and through the mountains between the capital Kunming and Wuding town, turning a nearly-3-hour bus ride into one hour. Likewise, Wuding also has several active road improvement projects allowing more convenient access for villagers to conduct business and go to school in the county seat. Importantly, and relevant to the story of access in Gubai, Shanju Xiacun, Yangjiacun, and Shanju Dacun agreed to pool fiances together to self-fund and self-construct a concrete road leading from the main road, highway G108, to their three villages. In June 2015, the three villages threw a two-day joint celebration, the first of its kind bringing the three villages together, to commemorate the day they received access to the main road. Where before only tractors or daring vehicles would drive on the same narrow road on which farmers would drive animals and villagers would walk to the bus stop by the elementary school, now a luxury sedan or a truck full of construction materials can easily access the Shanju villages. Language maintenance and endangerment are not the first concerns on people's minds, but rather making better lives for themselves and for their children—through education, new jobs and businesses, and new travel opportunities which are more in reach now than before.

3.8.2.1 Observations at Gubai Elementary School

Teacher Luo[31], a now-retired elementary school teacher at Gubai Elementary School, was keen to talk about language use and proficiency of village children who attend the school. In Spring 2013, the elementary school had 10 teachers: eight Han Chinese, and two ethnic minorities, a Dai teacher from central Wuding and teacher Luo, a local Micha man. Luo said that the A-Hmao students who come from the three Miao villages in Gubai have the hardest time adjusting to school because they have little exposure to Mandarin and other ethnic groups before entering school at 5-6 years old. Micha, on the other hand, have a little easier time adjusting because most Micha parents, at least from his experience in Luomiancun, speak a mix of Micha and Mandarin to their children. This codeswitching was evident in speaking with some of the grade-school children during my visit to the school. When counting to 10 in Micha, several children used the Mandarin terms for 'seven' and 'eight', of which Teacher Luo's explanation was that 'seven' and 'eight' are especially difficult in Micha.[32] Another example is the use of the nominal classifier in 'one butterfly'. The Micha construction is NOUN-NUMERAL-CLASSIFIER, while the Mandarin construction is NUMERAL-CLASSIFIER-NOUN. One student used the Micha construction, but used the Mandarin classifier *zhi* 只.

3.8.2.2 Socioeconomic factors

Teacher Luo's observations about ethnic minority student's adaptations to a Mandarin-speaking environment were indicative of many people's attitudes and comments about their own children's language acquisition while we were completing the household proficiency survey: if you can speak good Mandarin, that will get you farther than if you can't speak "good" Mandarin. And for parents and grandparents who grew up without much formal education, the key to unlocking this pathway to success is education in Mandarin—and if your minority language seems to be a hindrance in school, then that is a small price to pay (as one survey participant put it).

Formal education in Mandarin, though it may contribute to language shift, it is not necessarily a causal factor. The results of the three Shanju villages' reported proficiency levels show that maintaining fluent command of Micha and Mandarin is possible, at least in the more-isolated village setting of Shanju. Families in Luomiancun and Xia Gubai, on the other hand, have easier access to the school in Gubai, but also may have more opportunity to test into a middle school in Wuding, a short public bus ride away. Xia Gubai and Luomiancun also have a higher rate of

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[31] Teacher Luo, a Micha man and native of Luomiancun, is a respected community leader and well-loved teacher. He and his family were especially hospitable during my several research trips to Gubai.

[32] The Miqie terms for 'seven' and 'eight' have different vowels and nasalization than what appears in local Mandarin phonology, while the other basic Micha numerals are fairly compatible with Mandarin phonology.

education beyond middle school than the Shanju villages, so family influence also likely plays a big role in whether a student will continue to attend school beyond the compulsory middle school education or stay to work on in the fields or become a migrant worker.

At a national, provincial, or even county level, the socioeconomic and social situation of the Micha villages in Gubai may appear the same, and they largely are at the regional level. However, the slight economic differences between the two villages located on the main road and the Shanju villages located just 2 kilometers up the mountain may also help shed light into the reasons that the language appears to be shifting in the lower villages than the upper. In 2013, the Shanju average household annual income was 7,000-8,000 RMB/year (about $3.13-$3.57 USD per day), compared to the Xia Gubai annual income of 10,000 RMB/year ($4.46 USD per day), a 30 percent difference. This extra income is evident in the village's infrastructure improvements, including new houses and paved village roads, as well as an increase in personal vehicles and satellite technology.

3.8.3 Implications for future research

Language shift as a global phenomenon is not caused by one single social, political, or economic factor, as research on language maintenance and endangerment situations has shown (Fishman 1991; Fase, Jaspaert, and Kroon 1992; Moseley 2007). However, this chapter makes a broader connection relevant to many minority and indigenous languages in developing nations around the world. There is a strong relationship between the physical geographic location of a minority language community and the various socioeconomic and cultural pressures that may influence language shift to a majority language. And the connection between these two things—the people and the pressures—is access. Access can come in the form of a paved road or airstrip that allows for more convenient travel to-and-from a town center, and it can come in the form of technology, like cell or radio towers, satellite phones and Internet, and solar-powered equipment that can facilitate non-physical access to languages outside of the immediate area.

Researchers working on language surveys, documentation, and sociolinguistic descriptions outside of urban areas should consider the most basic geographic factors influencing a particular language situation. If assessing language vitality is a priority for the linguistic research, then appropriate methods for assessing vitality and language proficiency should be used. Because most published language vitality information relies on firsthand reports from field research and census data, the need for a more accurate measure of vitality and language shift is necessary before proceeding with a larger descriptive project. Yang et al. (in prep) proposes a self-assessment method using recorded sentences of the language (Jejueo in their case study) and having speakers rate their own proficiency before and after completing a paraphrasing task. This method is ideal for research on

languages that are not well documented and may provide more reliable proficiency level results than asking direct questions to speakers about their reported proficiency ability.

Chapter 4

Language variation and ethnic identity
in Miqie-Geipo marriages

4.1 Introduction

The present chapter further investigates the intersection of language, ethnicity, and place by focusing on the individual speaker and the social variables that influence language use among speakers of two mutually intelligible Central Ngwi varieties. Miqie and Geipo are little-known undocumented language varieties spoken by people classified in the Yi minority group in Wuding.[33] In Gubai Village Administration, a 10-kilometer drive northwest on National Highway 108 from Wuding town, two Miqie villages and one Geipo village form a village cluster that until recent years has remained fairly remote from the rapid development in villages along the highway (Chapter 3). In Mandarin, both the Miqie and Geipo call themselves Micha 密岔, a branch of Yi, and live together in this area as one cultural group-—the only distinction between the two groups is the language variety they speak. This situation presents an interesting situation for sociolinguistics variation research regarding ethnic identity and language use. This chapter looks specifically at the speech of in-married and intermarried Miqie and Geipo women in two production tasks and includes insights from ethnographic interviews with the participants. The results show that accommodation to one's surroundings should not necessarily be expected in close-contact multilingual families and communities, but rather that language variation can play a singular role in establishing and maintaining group identities within a society.

4.2 Accommodation and loyalty in dialect contact

An individual's linguistic choices in a given context provide insight into meaningful social factors that influence a speaker's conscious and unconscious language use. As such, sociolinguists study

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[33] This chapter will refer to Miqie and Geipo as language *varieties* in order to remain neutral on the political implications of the terms "language" and "dialect". For purposes of the literature review, *dialect* contact refers to contact between mutually intelligible language varieties (which Miqie and Geipo are) and *language* contact between mutually unintelligible varieties. The terms "Miqie" and "Geipo" will be used throughout this chapter to refer to the ethnic group identity as well as the language variety being discussed.

both intraspeaker and interspeaker variation by asking the questions: *what* are speakers saying, *where* and with *whom*, and ultimately, *why*. While much of the field's understanding of language variation and change has focused on English and other languages spoken in Western contexts (e.g. rural-urban vernacular variation), the structure and organization of different societies are not universal, so it is imperative to investigate sociolinguistic variation in contexts not previously described.

The following sections will introduce the background literature relevant to the discussion of language variation in Miqie and Geipo. This project primarily addresses the question of linguistic accommodation vs. loyalty in a contact scenario: what are the social expectations of language use for intermarried women in this patrilocal society (see research questions in Section 4.4.1). Before describing the Miqie and Geipo linguistic situation in Section 4.3, I will present a brief overview of the literature on dialect contact scenarios and what previous studies on accommodation, social networks, and language loyalty predict in these contexts, specifically in terms of crosslinguistic marriages.

4.2.1 Dialects in contact

Dialect contact—contact that occurs between speakers of *mutually intelligible* language varieties—can give rise to linguistic change at the individual and community level, just as contact between *mutually unintelligible* languages can bring about wider language change (Trudgill 1986). However, because dialect contact does not require a speaker to adjust his or her speech to facilitate comprehension, other social forces are at work that may influence how and why a speaker adapts or maintain their speech variety. The most accepted explanation for speakers' short-term and long-term adaptations in dialect contact is Accommodation Theory, originally proposed by social psychologist Howard Giles (1973). These long-term accommodations by speakers of different dialects—both regional and social varieties—are what can lead to some kind of systematic language change, such as the creation of contact varieties (koines), dialect mixing, or overall dialect shift.

A *koine*, or "new dialect" (Trudgill 1986), is a "stabilized contact variety which results from the mixing and subsequent leveling of features of varieties which are similar enough to be mutually intelligible, such as regional or social dialects...in the context of increased interaction among speakers of these varieties" (Siegel 2001:175). Examples of koine formation discussed include Fijian Hindi (Siegel 1988), Japanese dialect contact on Hawaiʻi plantations (Hiramoto 2006), and Chicano Spanish in Los Angeles (Parodi 2004) among others. Siegel (2001) and Kerswill (1998) provide examples of how dialect accommodation influences the formation of a koine at different levels of linguistic form.

Although koineization is not always the outcome of long-term dialect contact, some type change is expected to occur, such as a shift to a more prestigious dialect just as language shift occurs. However, in the absence of a local norm or standard variety, children and sometimes adults are shown to acquire a mixture of the two dialects due to accommodation (Trudgill 1986). DIALECT MIXING refers to "the coexistence of features" within a new community's language variety, while DIALECT LEVELLING refers to the "selection of forms found in the mix" (Kerswill and Trudgill 2005:197). Manfredi (2013) illustrates this nicely in his description of a Bedouin Arabic variety in Western Sudan that exhibits dialect mixture in some linguistic variables but is undergoing a synchonic change of dialect levelling in several variables of the local prestigious variety.

One aspect of dialect contact that is not often addressed is the maintenance of dialectal features in cases where dialect leveling or mixing might be expected. This has been addressed in the urban-rural social class divide by Milroy (1980) and others, showing strong correlation of language attitudes and group solidarity with the ability to maintain a less prestigious dialect. Dialect maintenance was also, unexpectedly, the findings in a Mexican and Puerto-Rican Spanish-speaking context in Chicago, with the conclusion that integration of social networks is necessary in addition to increased contact in order for dialect change to take place (Ghosh Johnson 2005). Marshall (2004) proposes that a sociolinguistic model for dialect maintenance cannot rely only on social network integration, but must include other social factors for consideration such as attitudes, age, sex, location (urban/rural), social class, and other important factors for a particular community.

While Trudgill (2004; 2008) maintains that dialect mixture is inevitable in dialect contact situations, he strongly opposes the idea that speaker identity and attitudes alone can account for dialect change, citing case studies of the formation of colonial Englishes. This is similar to the mechanistic view of language change that Labov (2001) offers, recognizing that identity often, but not always, correlate with dialect change. Identifying and describing linguistic changes motivated by internal and external pressures is not straightforward and has been the focus of many sociolinguistic studies of language contact (see Thomason 2011; Anderson 2008). Regardless, language accommodation that takes place in face-to-face interactions as a precursor to wider systematic change, so understanding how social and group identity can motivate language use is an important aspect of any language contact research.

4.2.1.1 Accommodation Theory

Accommodation is the process in which speakers adapt their speech and communicative behaviors in an interaction in order to enhance or diminish their relationship with the interlocutor. Accommodation Theory was developed to help explain the reasons why speakers of mutually intelligible dialects change their speech in different situations when not motivated by issues with comprehension (Giles 1973; Giles, Coupland, and Coupland 1991). Accommodation Theory, which has

now emerged as the field of study of Communication Accommodation Theory (CAT), has largely focused on the strategies of CONVERGENCE and DIVERGENCE that speakers use to decrease or increase social distance with another person, respectively (Soliz and Giles 2014; Gasiorek, Giles, and Soliz 2015). Motivations and outcomes of using these accommodation strategies include expressing desire to be affiliated with a person or group, seeking approval, negotiating common goals, and affirming social identites (Harwood, Soliz, and Lin 2006). Other important social psychological theories that have been developed with accommodation theory as part of the backbone are Social Identity Theory (Tajfel 1974) and Ethnolinguistic Identity Theory (Giles and Johnson 1987), both of which identify language as a core aspect of one's identity and a tool that people use to negotiate their position in society. Although this dissertation does not use CAT methodology for investigating the Miqie-Geipo relationship, these social psychological concepts are relevant in the discussion of ethnic group relations, as represented through language use.

4.2.2 Language loyalty

Another way to conceptualize dialect maintenance is to think of the speaker or community as remaining "loyal" to the language variety that society considers intrinsic to that person's or group's identity. Language loyalty is generally addressed in the literature on language contact and language shift: does a community maintain (remain loyal to) their cultural heritage language or is there generational language shift to a majority language. The term LANGUAGE LOYALTY assumes a certain attitude of the speaker toward his or her cultural identity in order for the language to maintain its usage in a community surrounded by a more prestigious majority language (Fishman 1966, 1991; Szecsy 2008). Weinreich (1979) proposes the notion that language loyalty is similar to nationalism, in that it is an ideology of allegience to one's own group. If "language loyalty breeds in [language] contact situations as nationalism breeds on ethnic borders" (Weinreich 1979:100), then it stands to reason that most of the literature on language loyalty and maintenance has focused on linguistic identity as it relates to national or ethnic identity in contact.

As a symbol of one's identity, language can be used to project or align with a particular (ethnic) identity. Fishman's (1966) monograph, which laid the groundwork among his other work for the seminal *Reversing Language Shift* (1991), addresses language maintenance among non-English-speaking minority groups in the United States, illustrating various groups' efforts to maintain cultural identity in America's "melting pot" society. Salaberry (2009) takes the question of language allegiance one step further asking questions such as how bilingualism and loyalty to one's heritage/cultural language, in U.S. immigrant situations particularly, affect the perception of inclusion within one's cultural group vs. inclusion in a national identity. Language loyalty is largely attitudinal, as shown in the Spanish-English bilingual environment in Juarez and El Paso on both sides of the Mexican-U.S. border (Hidalgo 1986) and in the French-English bilingual environ-

ment in Montreal, where both languages have official status (Taylor and Simard 1975). Attitudes toward the majority group as well as other socio-economic factors such as education, religion, and migration, also play significant roles in the shift of language allegiance from a local language to the majority language, even in traditionally multilingual societies (Mohd-Yasin 1996, Florey 1990).

In addition to intergenerational language shift situations, the concept of language loyalty can be applied in other linguistic variation situations, where one's identity within a society is tied with a particular dialect or variety spoken. For example, Ramamoorthy (2000) describes a situation in Southern India where various dialects of the majority language Telegu are utilized by minority language speakers in different castes and occupational groups to exert varying levels of their allegiance to the Telegu identity. Investigating variation in the pronunciation of /u/ in Cantabrian Castilian and a rural dialect spoken in Ucieda, Holmquist (1988) found that speakers who were loyal to the Ucieda variety were also perceived to be loyal to the "mountain life," such as maintaining traditional farming techniques and holding a particular political orientation. This is similar to Labov's (1963) findings on Martha's Vineyard, where sound change was subconsciously motivated by external social factors relating to the desirableness of traditional island values. A different type of language loyalty perhaps even more connected to identity, and even more relevant to the Miqie-Geipo situation, is a clan's (or "descent group") collective loyalty to maintain their language variety that represents their family lineage, as a Sui community in China is described to exhibit (Stanford 2009). This case in particular shows how loyalty represented through language is not necessarily tied to larger national or ethnic group identities but can be negotiated at the family level as well.

4.2.3   Studies on crosslinguistic marriages

Marriage patterns between different linguistic communities are recognized as a key component of contact relationships that may lead to language change or diffusion (Owen 1965; Aikhenvald and Dixon 2006). Widespread intermarriage among ethnic groups can be a major factor in a minority language shifting to a majority language; however, the role that intermarriage plays in maintaining or leveling existing variation in a minority language is an understudied aspect in language contact and sociolinguistics research. Intermarriage between ethnic groups is a topic traditionally approached from the fields of anthropology and sociology, largely focusing on social organization and ethnic identity and negotiation. Language contact and language choice in intermarriage situations is not a new concept in linguistics either, but these studies tend to fall into two categories: (1) the effects of intermarriage on language choice, including language and culture shift to the majority language/culture, and (2) ethnographic and descriptive accounts of systematic intermarriage, particularly in non-Western indigenous contexts.

In Western societal contexts, discourse on intermarriage and language has its roots in Assimilation Theory (Gordon 1964; Qian and Lichter 2007), when a minority—often immigrant—group gradually shift into sharing the same culture and language of the majority. Intermarriage is shown to be an indicator, if not facilitator, of language shift in numerous situations. While much of the literature focuses on language shift to English (Castonguay 1982; Stevens 1985; Stevens and Schoen 1988; Clyne and Kipp 1996), language and culture shift via intermarriage is not an isolated phenomenon, especially when immigrant groups seek to build their home in a new country (Pfaff 1991; Meng and Meurs 2009; Dribe and Lundh 2011). Related studies address language choice for bilingual, bi-cultural couples and families, including between Japanese-English intermarriages (Jackson 2009) and Filipino-Malayasian couples (Dumanig 2010). Even less research has been devoted to the study of bidialectal families, especially in minority language contexts where there is not necessarily a norm (see discussion of Stanford's (2010) paper in Section 4.2.3.1). Notably, Potowski (2011) found that children of Mexican-Puerto Rican intermarried parents in Chicago exhibited some mixing of Spanish dialects, but most of the children participants' speech resembled their mother's ethnolinguistic group despite other social influences. Stanford (2008), who looked at children's speech in Sui bidialectal marriages, found that younger children used more variables associated with their mother's language variety, but older children had completely shifted to their father's variety, as this was the primary variety spoken in their village.

In the cases above, cultural and linguistic dissimilarity between two groups, especially in marriage, usually necessitates that one group adapt to the other, and this usually means adapting to the language of wider communication, which often has higher social prestige. However, ethnographic studies outside of Western contexts show that societal multilingualism can be a norm (Jackson 1974; Sankoff 1979; Campbell and Grondona 2010). Not only is multilingualism standard, but multilingualism in marriage and a household is commonplace, and in some interesting cases, linguistic exogamy is required by social rules. The term *exogamy*[34] is used here to refer to a society's compulsory rule that one marry outside of one's social group. *Social group* in these contexts most commonly refers to one's patrilineal clan or tribe, whereas one is prohibited from marrying anyone within your patrilineal line. This kind of marriage network in the linguistics

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[34] The exogamy/endogamy terminology of marriage systems is largely unaddressed in the literature in all disciplines, with each study focusing on a particular society's marriage practices. The most thorough discussion I have seen on the terminology itself is found in a footnote in (Davis 1941:376), an excerpt of which is included here: "Endogamy and exogamy are correlated terms. The first indicates marriage into a class of persons of which I also am a member; the second, marriage into a class of which I am not a member. Thus, compulsory marriage into my own village is endogamy; into a neighboring village, exogamy. If intermarriage be taken simply in the sense of marriage between two persons who are members of different groups, then every marriage is an intermarriage (between male and female, if nothing else) and the word is redundant. Therefore, intermarriage must be viewed as the violation of or deviation from an endogamous rule. Above all, it must not be confused with exogamy. Whereas intermarriage is a deviation from an endogamous rule, exogamy is not a deviation at all but a rule in itself."

literature is referred to as linguistic exogamy because patrilineal group and language often have a one-to-one relationship. In other words, the language you speak is the marker of your patrilineal descent.

The most well-known and well-described example of linguistic exogamy is the Tukanoan language area of the Amazon's Vaupés basin spanning Brazil and Colombia, where Eastern Tukanoan groups and Northern Arawakan groups traditionally practice strict patrilineal/linguistic exogamy within their own clan systems (see Sorensen 1967; Jackson 1972, 1974, 1983; Grimes 1985; Aikhenvald 2002, 2003, 2014; Fleming 2010). This begins at childhood, with a child identifying with one language—their father's—and that language then becomes their primary method of communication.[35] Campbell and Grondona (2010) report on a different linguistic exogamous system in Misión La Paz, Argentina, where a spouse speaks their own language and has perfect understanding ("dual-lingualism" or "passive bilingualism") of the other. Children grow up in this multilingual environment and are seemingly free to choose with which language they want to identify and then rarely switch out of using that language. Linguistic exogamy has also been reported in other regions: Arnhem Land in Northern Australia (Elkin 1950; Tindale 1953; Heath 1978), Baja California (Owen 1965), American Northwest Coast Plateau (Gunther 1927; Hill 1978) and Southern China (Stanford 2006; Stanford and Pan 2013). The extent that these groups have obligatory exogamy or simply patterns of intermarriage outside of their ethnic group, clan or tribe, is unclear; however, one commonality is that lower population density may influence a society's structure of intermarriage, and hence degree of language contact.

Outside of exogamous and endogamous societies, intermarriages between ethnic groups, clans, or other social groups marked by a particular language variety are fairly common throughout the world. However, apart from the famous linguistic exogamous cases above, the topic of marriage itself as a factor in language contact and change receives very little attention in the literature. Some researchers mention the linguistic consequence of intermarriage in a contact scenario, such as the syntactic and semantic convergence of languages in New Britain (Thurston 1987) or the formation of a contact language like Baba Malay (Lee 2014), but focus studies on contact in marriage are lacking.

4.2.3.1 Variationist studies on intermarriage

Until recently, ethnographic methods of observation and description from linguistics, anthropology and sociology have been the main source of information about linguistic intermarriage in minority languages and non-Western contexts. Amidst growing interest in language variation

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[35] Jackson (1974) reports that in some cases an individual might start a conversation in their own patrilect to exert their identity and then switch to a different variety for better ease of communication.

methods investigating relationships between social and linguistic variables (Labov 1972), the study of minority language contact in intermarriage is a natural fit to add to the discourse on language contact and language variation and change. Stanford (2006, 2007, 2009) and Stanford and Pan (2013) use a variationist approach to look at two exogamous societies in China: the Sui in Guizhou and Zhuang in Guangxi. Both the Sui and the Zhuang practice patrilocal[36] clan exogamy but in different contexts with different linguistic outcomes. The Sui marriage system is exogamous in that a man must marry a woman outside of his clan, denoted by patrilineal lines, surnames, and dialect differences. Stanford's work with the Sui showed that women who marry into their husbands' village maintain their own home dialect even after more than a decade living away from their native dialect area. Ethnographic interviews suggest that the social expectation for women to maintain their home dialect is connected to identity and loyalty to *communities of descent*, in this case, patrilineal clan (Stanford 2009). The Zhuang marriage context differs in that women who speak a variety of Northern Zhuang will marry into a new village without prior communication ability in their husband's mutually unintelligible Southern Zhuang variety. Unlike the Sui marriages, which take place in a relatively close geographic distance, Zhuang women may travel up to 300 kilometers to marry into a specific clan. This study, which focuses on Northern Zhuang in-married women's acquisition of their husband's dialect, found that they do acquire the Southern Zhuang dialect (but not the elusive aspirated stop consonants) because need for basic communication is the greatest concern (Stanford and Pan 2013).

In addition to variation research on socially constructed marriage systems, Stanford (2010) also looked at intermarriage language contact between two Hmong dialects in Texas. While traditional Hmong culture requires that a Hmong wife in a cross-dialect marriage learn her husband's dialect, the study shows that not all women follow the traditional expectations of dialect accommodation. Stanford argues that, at an individual level, women may be using language to challenge the Hmong norm within an American context. Table 4.1 is a summary of the three variationist studies discussed in this section, adding the present study to the list.

The Miqie-Geipo situation differs from previous studies in that these two varieties are highly mutually intelligible, not only from a historical linguistics perspective, but also from the close daily contact these two groups have maintained for several centuries. At a local village level, Miqie and Geipo maintain separate ethnic identities through the group autonym and family surnames, while at the same time they identify themselves to outsiders under the same "Micha" ethnic group at a regional level, a subbranch of the Yi government classified ethnic group. This presents an interesting situation for variation study in intermarraige, as subtle differences in language are key

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[36]   *Patrilocal,* in comparison to *patrilineal,* implies that the wife moves to her husband's place of residence.

to maintaining inter-village interethnic identities. To my knowledge, the following section is the first description in the literature of the Miqie-Geipo cultural and linguistic relationship.

Table 4.1: Summary of variationist studies on intermarriage language contact

Group	Linguistic Relationship	Location & Contact	Marriage System	Linguistic outcome of intermarriage	Source
Sui (Tai-Kadai)	varying degrees of mutual intelligibility	Guizhou, China. 30-mile village radius, little contact	patrilocal clan exogamy	intermarried wives maintain their original variety	Stanford (2006, 2007, 2009)
Zhuang (Tai-Kadai)	mutually unintelligible	Guangxi, China. no contact between groups	patrilocal clan exogamy	intermarried wives acquire husband's variety	Stanford & Pan (2013)
Hmong (Hmong-Mien)	semi mutually intelligible	Texas, USA. occasional contact immigrant groups	occasional intermarriage between Hmong groups	intermarried wives do not acquire husband's dialect; against traditional social expectations	Stanford (2010)
Miqie-Geipo (Tibeto-Burman)	mutually intelligible	Yunnan, China. daily contact between groups	occasional intermarriage between Miqie and Geipo	intermarried wives use their own ethnolect in the home, aligning with social expectations for maintaining inter-village ethnic identity	Gao (2017) *this chapter*

4.3 Miqie and Geipo

4.3.1 Historical and current contact situation

Miqie has a speaker population of around 9,000 people across 40 villages in the border region between Chuxiong and Luquan prefectures, while Geipo is spoken by no more than 600 people in three villages: one Geipo village and one mixed Miqie-Geipo village in southern Wuding County and one Geipo village in northern Lufeng County (Gao 2015). Both Miqie and Geipo are considered small groups in the context of local minority and Han populations. Neither Miqie nor Geipo contest their status as members of the Yi minority nationality as established during the 1950s *minzu shibie* government classification process, and they share traditional creation and migration folklore that is common across Yi groups and languages. In a 2012 interview I conducted at the Chuxiong Yi Culture Research Institute, a Yi scholar and government official said that the Miqie have been assimilating with Han Chinese for centuries, which he said is evident today in the prevalence of Chinese borrowings and mixed Chinese-Yi language they speak, as well as the lack of many traditional customs (religious ceremonies, musical genres, etc.) that were preserved more in other less-assimilated Yi groups. Certainly the proximity of Gubai to the towns of Wuding and Luquan has permitted extensive contact among Han and other groups. Beginning in the 14th century with large scale Han Chinese migrations to Yunnan and the building of the Ming-era Buddhist temple complex on Lion Mountain 狮子山, to more recent 20th century contact with Chinese and foreign

military, missionaries, government reform officials, and now tourists and researchers, the local Yi around Wuding have been actively involved in the development of this region.

In visits to Miqie villages over several years, Miqie interviewees could not present a particular meaning or place association with their group autonym.[37] *Miqie* could be a derivative of the autonym *Misha-pa* for Central-Ngwi-speaking Lalo groups in Dali Prefecture, where the traditional Lalo homeland of Misha (called Mengshe 蒙舍 in Mandarin) has held important cultural and historical significance since the Tang Dynasty (Yang 2010, Bai 2002). The Mandarin autonym for Miqie, *Micha*, also is likely derived from Lalo's *Misha*. The Geipo in Gubai also call themselves *Micha* in Mandarin, a testament to their close connection with the Miqie in this area. When asked about the meaning of the Geipo group autonym $ke^{55}p^ho^{21}$, Geipo people had one of two answers: the ke^{55} comes from the first-person plural pronoun $a^{21}ke^{55}$ 'we', or the folk group name 'the star people 星宿族' from the Geipo word ke^{55} 'star'.

Elders in Gubai do not have a specific historical account for what brought the Miqie and Geipo groups to settle together in Gubai. The oldest known tombstone in this particular village area is around 300 years old, so many people estimate that the Miqie settled this village cluster around that time. One elder said the Gubai area was a good place to grow wheat (*xiaomai* 小麦), so that was why their ancestors decided to settle here. The Geipo are said to have moved to Gubai after the Miqie, although from where the Geipo migrated, or for what reason, is unknown.

A third village with direct connection to the village cluster in Gubai is Shuiduifang 谁对方, a small village 5km west on Highway 108 in Yaoying Village Administration 吆鹰村委会. Shuiduifang is a mixed-Miqie-Geipo village, settled in the early 1800s together by a several Miqie families from Yangjiacun and several Geipo families from Shanju Xiacun. Now the village has a population of approximately 100 people with fewer than 40 families. Two-thirds are Miqie households and one-third are Geipo, so the village is considered Miqie-dominant; however, households identify with one ethnic group or the other (e.g. surnames Yang and Li are Miqie, and surnames Luo and Pu are Geipo). In Gubai, all households in Yangjiacun and Shanju Dacun are Miqie, and all households in Shanju Xiacun are Geipo.

The ethnic identity of the village, however, should not be confused with the ethnic homogeneity of the people residing in the village. For example, this is not to say that every individual living in Yangjiacun identifies as an ethnic Miqie person, but rather the village as a whole is a "Miqie village"—because this is the ethnic identity that has been passed down in each village household

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[37] In the local Miqie and Geipo language varieties, the group autonyms for 'Miqie person' and 'Geipo person' are $mi^{55}t\wp^hi^{21}p^ho^{21}$ and $ke^{55}p^ho^{21}$, respectively, with the suffix $-p^ho^{21}$ 'man, person 人'. To refer to a Miqie or Geipo woman, the suffix $-mu^{33}$ 'woman 女人' is used. They call their language varieties $mi^{55}t\wp^hi^{21}\tilde{o}^{21}$ and $ke^{55}\tilde{o}^{21}$, with the $-\tilde{o}^{21}$ 'speech 话' suffix.

through the father's line. There is currently no socially required marriage system of exogamy or endogamy for the Miqie and Geipo in this area, but a couple's marriage, which may be determined by the family, is decided based on the mutual economic benefits that come out of the marriage. The close-knit relationship between the villages is not only because of their neighboring locations, but also because of the marriage exchanges that maintain family connections between villages. A new wife is expected to move to her husband's home at the time of marriage, where she keeps her family name but raises her family as members of her husband's household and village. The children of an intermarriage between Miqie and Geipo assume their father's ethnolinguistic identity, which is also the ethnolinguistic identity of the village they grow up in (or in the case of Shuiduifang, the identity of their household/surname). Assuming an ethnolinguistic identity here means that a child grows up with one ethnic identity as a "Miqie person" or a "Geipo person" with the community understanding that the child speaks that language variety, as it is their father's language and the primary language of their birth village.[38] A household usually consists of three generations: the husband and wife parent generation, the grandparents (typically the husband's parents), and several children.

Family structure and village life, however, has been undergoing rapid change due to the rural migrant worker phenomenon that has transformed China's workforce and economy since the Chinese Economic Reform 改革开放 of the 1980s. While agriculture and subsistence farming is still the primary source of income for the farmers who remain in Gubai, village leaders estimate that 50-70 percent of the village's population does not actually live in the village. The working-age population (age 15-45) has largely found employment in Wuding town, Kunming city, or as far away as Guangdong, Shanghai and Xinjiang. If working nearby in Wuding, a good employment situation would allow one to return home on the weekends, but in many cases where the job is farther away, many migrant workers only return home to the village once or twice a year. The extreme economic shift has certainly helped boost the villages' infrastructures and provide healthier lives for the elderly and children staying in the villages, and it also is the primary reason for increased intermarriages with Han Chinese and rapid generational language shift away from Miqie and Geipo, as this livelihood provides no context or economic benefit to maintain one's local language.

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[38] This is different from the government-recognized identification process, which classifies both Miqie and Geipo as members of the Yi minority group. In cases of marriages in the Gubai villages between a Miqie or Geipo man and a Han Chinese woman, most parents register their child with the Yi identity because minority children and families often can receive particular government benefits and subsidies. In marriages in Gubai between a Miqie or Geipo man and a Lipo woman, some families opt to officially register their children (or one of their children) in the Lisu minority group (in which local Lipo people are classified) because the Lisu are a smaller minority than the Yi and therefore may receive preferential treatment in some cases. This was the reasoning presented to me when I asked families about how they chose to officially register their children.

It is within this social context that this study investigates Miqie-Geipo variation in intermarriage. These language varieties are the sole markers of ethnic identity in a close-contact village situation between two groups that have lived side by side for several centuries. But due to economic change and shift to a majority culture, traditional family structure, village practices, and language pattens are quickly transforming under pressure from China's national developmental boom.

4.3.2 Miqie and Geipo language varieties

4.3.2.1 Miqie-Geipo typology

Like other languages of the Mainland Southeast Asia linguistic area, Miqie and Geipo have isolating morphology and are largely monosyllabic, utilizing compounding for word and phrase formation. Miqie and Geipo follow SOV basic word order, but similar to other Ngwi languages, there is ambiguity in syntactic descriptions regarding topic prominence (Li and Thompson 1976). While there is certainly variation in word formation and syntax between Miqie and Geipo, only selected phonological and lexical variables will be discussed in this chapter. Miqie and Geipo have (C)V syllable structure (an optional initial consonant and obligatory rhyme) and every syllable contains a lexical tone. Miqie and Geipo spoken in Gubai share the same phoneme inventory (Tables 4.2 and 4.3) yet the two varieties' phonologies slightly differ,[39] notably, where Miqie has a rising contour tone, Geipo exhibits a mid-level tone (Table 4.4).

Table 4.2: Miqie and Geipo initial consonants

	Labial	Alveolar	Alveopalatal	Velar	Glottal
Stops	p pʰ b	t tʰ d		k kʰ g	
Nasals	m	n	[ɳ]	ŋ	
Fricatives	f v	s z	ɕ ʑ	x ɣ	h
Affricates		ts tsʰ dz	tɕ tɕʰ dʑ		
Approximants	w	l			

4.3.2.2 Mutual intelligibility

Miqie and Geipo speakers alike report their language varieties are completely mutually intelligible, although mutual intelligibility was not tested as part of this research project.[40] Speakers of Lipo,

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[39] There is inter- and intraspeaker variation in the back vowels. While minimal pairs can distinguish each vowel from another, I have not been able to identify a minimal set that distinguishes all of the back vowels in Table 4.3. The vowel transcriptions that appear in this chapter were determined by auditory analysis. Acoustic analysis is necessary for future study on the vowel variation exhibited among Miqie and Geipo speakers.

[40] The nature of the contact scenario between Miqie and Geipo in Gubai is such that a person is likely to hear both Geipo and Miqie on a daily basis. Likewise, adults and children alike report that mutual intelligibility between Miqie and Geipo is extremely high.

Table 4.3: Miqie and Geipo rhymes

Monophthongs			Diphthongs	
i [i]	ɯ u		ia iu ie io	ua
e	o			
	ʌ			
	a			

Table 4.4: Miqie and Geipo tones

IPA	Pitch Level	Contour	Language Variety
˥	55	high level	Miqie and Geipo
˧	33	mid level	Miqie and Geipo
˩, ˩	21, 31	low falling (creaky, sharp)	Miqie and Geipo
˨˥	25	low rising	Miqie

a closely related Central Ngwi language, living in Gubai reported in informal interviews during time in the village that Miqie and Geipo are much more similar to each other than Lipo is to either variety. Miqie and Geipo speakers also report varying levels of mutual intelligibility with Lipo, and especially high intelligibility if they have a Lipo relative living in their household. In informal interviews around the Gubai villages, Miqie, Geipo and Lipo speakers uniformly say they use their own language variety with speakers of the other two varieties, yet they need to use Mandarin when communicating with the few Nasu (Northern Ngwi) or Honi (Southern Ngwi) speakers living in the villages.

4.3.2.3 Miqie-Geipo differences

The most recognizable differences between Miqie and Geipo are phonological and lexical, mostly differing only in tone or vowel quality. There are noticeable non-cognate lexical differences, such as the word for water—*ɣu²⁵* in Miqie and *a⁵⁵dʑie³³* in Geipo—but these are not prevalent. When asked about the perceived differences between Miqie and Geipo speech, study participants and other villagers invariably said the two language varieties are "more or less the same" ("差不多一样"), and that tone 声调 and pronunciation 口音 are the only differences. Several participants cited specific lexical items such as 'cat' (tone difference) or 'seven' (lexical difference) to show how the two varieties differ.[41] Because of the frequent contact and movement of people among

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[41] It should be noted that study participants also reported tone differences between neighboring Miqie villages Yangji-acun, Shanju Dacun, and Luomiancun, but that the the differences between Geipo and varieties of Miqie are more identifiable.

these villages, the Miqie-Geipo variables selected for this study (see Section 4.4.4) seek to address these reported phonological differences as well as some systematic phonological correspondences between these two varieties.

4.4 Methods

4.4.1 Research questions

Building on Stanford (2009, 2010) and Stanford and Pan's (2013) studies on language and dialect contact in intermarriage, this study investigates the question of linguistic accommodation in marriage. Because Miqie and Geipo are not documented languages and the social context in Gubai has not been described in previous literature, the primary question this study addresses is: In intermarriages between Miqie and Geipo, does an intermarried wife shift her speech to her husband's village ethnic variety? If so, to what extent is this evident in phonological variables, and what factors predict the shift? And if not, what social factors are contributing to her loyalty to her birth-village speech variety? These questions are important to ask not only to add indigenous minority language data to the existing understanding of language use in mixed-ethnicity families and multilingual societies, but also to challenge sociolinguists' expectations of where and what kind of variation may or may not be present in different societies.

4.4.2 Field research

The data presented in this chapter were collected over a four-week field research trip to Gubai and Yaoying village administrations in Shishan Township of Wuding County in July and August 2015. My relationships with previous project participants and their families formed over my past trips to Wuding from 2012-2014, especially in Gubai, were the motivation for my continued research interests in language contact and intermarriage in this area. My host family in Gubai Village went above and beyond expectations in helping me contact and recruit participants for this study. The tasks and interviews took place at the participants' convenience over several days of visiting participants' homes in Yangjiacun 杨家村 (Gubai), Shanju Xiacun 山居下村 (Gubai), and Shuiduifang 水对方 (Yaoying). Not all tasks were recorded in the participant's own home, but rather several participants would come to one or two homes in the village where we were recording.[42] Recordings were made with a Zoom H4n solid-state digital recorder at 44.1kHz/16-

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[42]   "We" includes the author and research assistant Xuan Guan 管璇, an MA student in Linguistics at the University of Hawaiʻi at Mānoa at the time of this project, as well as a local village contact who facilitated the meeting.

bit sample rate in WAV format. The recordings and transcriptions of the wordlist and Cat Story tasks are archived in Kaipuleohone, the University of Hawaii's digital ethnographic archive.[43]

4.4.3 Participants

The 17 participants in this study are nine self-identifying Miqie women—five who married a Miqie man in their own village, and four who married into to a Geipo village—and eight Geipo women— four who married within their village, and four who married into a Miqie village. I chose to focus this study on the speech of women for two reasons: (1) men rarely move to another village for marriage, so their ethnic identity, village ethnicity, and language variety are most often one and the same; in contrast, women are more likely to move for an eligible husband, and (2) women, especially older women, were more likely to be in the village during the daytime and available to participate in this linguistic study.

The women who participated in this study are between 31 and 71 years old (mean = 53), and were married between ages 16-23 (mean = 19). Therefore, all participants have been married 15-52 years, with an average of 34 years. All intermarried participants moved to their husband's village at the time of marriage and have since lived in their husband's village, but they also maintain contact with relatives and friends in their birth village.[44] Table 4.5 and Table 4.6 summarize the demographic information of the Miqie and Geipo participants, respectively.[45]

4.4.4 Target variables

The target variables in this study are organized into eight phonological and lexical categories that differ between the Miqie and Geipo varieties spoken in Gubai Village Administration, specifically between the Miqie village Yangjiacun 杨家村 and Geipo village Shanju Xiacun 山居西村. The final analysis includes 50 analyzable morphemes. The target variables were selected based on my field research notes from January to April 2013 when I worked with two women, a Miqie speaker, 63, and a Geipo speaker, 65, both living in Luomiancun 罗免村, a Miqie-dominant mixed-ethnicity village located on the G108 highway in Gubai.[46] Recording words, phrases, and stories

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[43] Recordings and transcription files are archived in Kaipuleohone's Katie Gao Collection—Languages of China at http://hdl.handle.net/10125/33422.

[44] This is not always the case for other Yi ethnic groups in this area; sometimes women who marry a man in another village will not move there until after their first year of marriage or until after they have a child.

[45] A list of pseudonyms—common given names and nicknames for Miqie and Geipo women—was generated by my Geipo research consultant, after which I randomly assigned the pseudonyms to the study participants for the purposes of reporting in this chapter.

[46] These two aunties generously invited me into their homes to share their language with me several hours a day, three days a week, over six weeks. Their patience with my questions and their unrelenting hospitality cannot go unstated.

Table 4.5: Summary of Miqie participants

	Participant	Age	Number of years married	Birth village (and ethnicity)	Husband's village (and ethnicity)	Father's birth village (and ethnicity)	Mother's birth village (and ethnicity)
In-married (Miqie husband)	Shuangying 双英	31	15	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)
	A-feng 呵凤	42	23	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Wodu 窝堵 (Miqie)
	Raolan 绕兰	48	30	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)
	A-mei 阿梅	53	34	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)
	Xiaoqin 小琴	68	51	Yangjiacun 杨家村 (Miqie)	Shuiduifang 水碓房 (Miqie)	Shanju Dacun 山居大村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)
Intermarried (Geipo husband)	Lanhua 兰花	66	45	Shanju Dacun 山居大村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Shanju Dacun 山居大村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)
	Shuangmei 双梅	60	40	Shanju Dacun 山居大村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Shanju Dacun 山居大村 (Miqie)	Yangjiacun 杨家村 (Miqie)
	Qilan 七兰	63	40	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)
	A-chun 呵春	45	23	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)	Yangjiacun 杨家村 (Miqie)

Table 4.6: Summary of Geipo participants

	Participant	Age	Number of years married	Birth village (and ethnicity)	Husband's village (and ethnicity)	Father's birth village (and ethnicity)	Mother's birth village (and ethnicity)
In-married (Geipo husband)	Liuzhen 流珍	52	32	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Yongzhao 永兆 (Miqie)
	Shuangrao 双绕	52	32	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)
	Lanmei 兰梅	45	24	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)
	A-li 呵丽	38	19	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)	Wulong 乌龙 (Lipo)
Intermarried (Miqie husband)	Qimei 七梅	58	39	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Shanju Xiacun 山居下村 (Geipo)
	Xiaoli 小丽	53	34	Shuiduifang 水碓房 (Geipo)	Yangjiacun 杨家村 (Miqie)	Shuiduifang 水碓房 (Geipo)	Shanju Dacun 山居大村 (Miqie)
	A-hua 阿花	71	52	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Michacun 密岔村 (Miqie)
	Shuangfeng 双风	68	49	Shanju Xiacun 山居下村 (Geipo)	Yangjiacun 杨家村 (Miqie)	Shanju Xiacun 山居下村 (Geipo)	Michacun 密岔村 (Miqie)

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with a Miqie and Geipo speaker simultaneously was essential in understanding subtle tone and lexical differences between the two language varieties that I would not have noticed without this interactional elicitation process; however, this situation may have also had some impact on the elicited forms. Prior to carrying out the tasks in the villages, the variables were checked with a trilingual (Geipo-Miqie-Mandarin) Geipo woman who served as a language consultant throughout this project.

The variable categories in the original study design were the affricate initial category, the nasal initial category, the rising tone category, and the lexical items 'water', 'three', 'seven', 'chestnut', 'water buffalo', 'horse', 'rat', and a NEGATIVE marker. While carrying out the tasks in Gubai as well as during the transcription process, I became more familiar with phonological differences between Miqie and Geipo, so several more variables were added to these existing categories, and two morpheme categories (the animal *a-* prefix, and the *si^{55}* locative in Miqie) were also added to the existing list of variables to allow for a more robust analysis. Table 4.7 is a summary of the variable categories with two examples from Miqie and Geipo for each category. The first five are grouped as categories because these are systematic phonological differences due to historical sound change, the three remaining categories (marked with an * in the table) contain only individual instances observed in my field notes. The following subsections address the variables within each category and offer a perspective from historical linguistics on distinctions between the Miqie and Geipo varieties.

4.4.4.1 Affricate initial (-Miqie, +Geipo)

A common sound change in Sino-Tibetan languages is a stop becoming an affricate, such as Proto-Ngwi *k^h (as in *k^{h}ri^1 'foot' 脚) becoming [tɕʰ-, tsʰ-] in numerous Ngwi languages of different subgroups. While Miqie and Geipo both have [k^h] and [tɕʰ] in their phoneme inventories, in several lexical items, Miqie retains the proto stop initial while Geipo exhibits the affricated initial. This is the most noticeable example of initial consonant variation in the Miqie and Geipo ethnolects. The target variables in this category are listed below in Table 4.8.

This stop-affricate relationship is interesting because it also parallels local Mandarin (and other Chinese languages) varieties' distinctions. For example, Standard Mandarin Putonghua has affricate initials, like Geipo, for the homophones *tɕiao^{213}* 'horn' and *tɕiao^{213}* 'foot', which are also homophones in the local Mandarin dialect, but with the stop initial: *ko^{21}* 'horn' and *ko^{21}* 'foot'. Because Ngwi languages exhibit either a *tɕʰ-* or *k^h-* initial for these words which are reflexes of Proto-Ngwi *k^{h}ro^1 'horn' and *k^{h}ri^1 'foot', this parallel to Mandarin dialect variation could be attributed to both the genetic relationships within the Sino-Tibetan language family, as well as potential borrowing from Mandarin under intense contact with Han Chinese in the central Yunnan region.

Table 4.7: Summary of variable categories

Variable category	Miqie examples	Geipo examples	Gloss	No. of variable morphemes in each category
Affricate onset in GP	kʰɯ⁵⁵pe²¹ kʰo³¹	tɕʰi⁵⁵pe²¹ tɕʰio⁵⁵	foot 脚, leg 腿 six 六	8
Nasal onset loss in MQ	i⁵⁵tsʰɨ²¹ u²¹	ni⁵⁵tsʰɨ²¹ ŋu⁵⁵	mud 泥巴 fish 鱼	7
Rising lexical tone in MQ	mu²⁵ a²¹mi²⁵	mu³³ a⁵⁵mi³³	bamboo 竹子 cat 猫	17
/a-/ prefix for animals in MQ	a⁵⁵ni²¹ æ⁵⁵hæ³³	ni²¹ ha³³	cow 牛 rat 老鼠	3
/si/ locative suffix in MQ	kɑ²¹si⁵⁵ n̠ʑiæ³³si⁵⁵	kɑ⁵⁵be²¹ ni⁵⁵dzɑ²¹be²¹	above 上面 outside 外面	1
Tone*: word differs only in lexical tone	tʰæ³¹ nɯ²¹	tʰæ⁵⁵ nɯ⁵⁵	GEN CLASSIFIER 个 smell 闻	2
Vowel*: word differs only in vowel nucleus	mɯ²¹ tsɛ⁵⁵mu²¹	me²¹ tsɛ⁵⁵mi²¹	hungry 饿 chestnut 板栗	2
Lexical*: word is phonologically distinct	ɣɯ²⁵ kʰɯ⁵⁵dzu³³	a⁵⁵dʑie³³ ɣu²¹me²¹	water 水 mountain 山	9

In organizing the data for analysis, the kʰɯ/tɕʰie morpheme in Miqie-Geipo words for 'leg', 'foot' and 'claw' was coded as one semantic morpheme as it is found throughout the recordings of the narrative Cat Story task (see Section 4.4.5) in reference to the leg/foot/claw of the woman, water buffalo, and bird. Contextual lexical information was retained for analysis of intraspeaker variation usage of this morpheme.

4.4.4.2 Nasal initial (-Miqie, +Geipo)

Another sound change found throughout various Ngwi languages is the loss of an initial nasal, specifically [n] and [ŋ], particularly before high front vowels. This loss of nasal initials seems to have begun earlier in Miqie than Geipo, because in many lexical items in which Geipo retains an initial [n], Miqie has a glottal stop followed by a nasalized vowel. The nasal initial variables in Table 4.9 are clear examples of this distinction. During the task elicitation, a few speakers used a third variant for some of these words: a syllabic nasal, with no vowel coda. This will be discussed more in Section 4.5.2.2.

Table 4.8: Affricate initial variable

Miqie	Geipo	English	Mandarin
kʰɯ^{55} (be^{21})	tɕʰie^{33} (tɕʰi^{55}be^{21})	leg, foot, claw	腿，脚，爪子
kʰɯ^{33}	tɕʰiu^{33}	horn	角
a^{55}mu^{21}kʰɯ^{21}	a^{55}mu^{21}tɕʰi^{33}	evening	晚上
kʰo^{21}	tɕʰio^{33}	six	六
kʰɯ^{21}mu^{33}	tɕʰi^{21}mu^{33}	wife	妻子
gu^{25}mu^{33}	dʑiu^{33}mu^{33}	road	路

Table 4.9: Nasal initial variable

Miqie	Geipo	English	Mandarin
i^{21}sɿ^{33}	ni^{55}sɿ^{33}	animal	动物
i^{21}ve^{21}	ni^{55}ve^{21}	wild pig	野猪
le^{21}i^{55}	le^{21}ni^{55}	finger	手指
u^{21}	ŋu^{55}	fish	鱼
ne^{33}i^{55}	ne^{33}ni^{55}	look	看
i^{55}tshɿ^{21}	ni^{55}tsɿ^{21}	mud	泥巴
i^{55}læ^{33}læ^{33}	ni^{55}læ^{33}læ^{33}	red	红色
i^{21}	niu^{55}	short	短

4.4.4.3 Rising tone (+Miqie, -Geipo)

The primary tonal difference between the Miqie and Geipo varieties is that Miqie exhibits a rising contour tone, which corresponds primarily with a mid-level tone in Geipo and other Central Ngwi languages like Lipo, Lolopo and Lisu. Miqie's rising tone [˨˦] is represented in this paper as pitch contour [^{25}], although it may start at a lower or higher pitch level depending on the pitch of the preceding syllable. Table 4.10 is a list of the target morphemes in the rising tone variable category.

The rising tone in Miqie seems to be a result of a split in Proto-Ngwi high-level tone class *TC-1. With a high-level tone reflex (e.g. PN *pʰlu^1 > *pʰu^{55} 'white') and an innovative rising-tone reflex (e.g. PN *ŋgwɯ^1 > *ve^{24} 'buy'), the tone split in Miqie was likely conditioned by PN *voiced initials, which lower the pitch onset of *TC-1, resulting in a rising tone. Yang (2010) describes a similar tone split in Lalo, another Central Ngwi language spoken in Western Yunnan.

4.4.4.4 a– prefix on animal terms (+Miqie, –Geipo)

The Proto-Burmic nominal prefix *ʔa- is found throughout Ngwi languages attached to different nominal forms in kinship terms, animal terms, body parts, etc., and it can behave as an abstract or productive verb nominalizer. This prefix is one of the few remaining traces of Tibeto-Burman's re-

Table 4.10: Rising tone variable

Miqie	Geipo	English	Mandarin
dzɨ²⁵	dzɨ³³	alcohol	酒
mu²⁵	mu³³	bamboo	竹子
ve²⁵	ve³³	buy	买
a²¹mi²⁵	a⁵⁵mi⁵⁵	cat	猫
le²⁵	le³³	come	来
dzu²⁵pi⁵⁵	dzu³³pi⁵⁵	cook	做饭
dzu²⁵dzɔ²¹	dzu³³dzɔ²¹	dinner	晚饭
dɔ²⁵	dɔ³³	drink	喝
dzu²⁵tɕha³³	dzu³³tɕhia³³	eat	吃饭
ʑi²⁵	ʑi³³	go	去
gɯ²⁵sɯ²⁵	gɯ³³sɯ³³	happy	高兴
ɯ²¹dɯ²⁵	ɯ⁵⁵dɯ³³	head	头
jɛ²⁵	je³³	laugh	笑
lɔ²⁵	lɔ³³	light	轻
gɯ²⁵sɯ²⁵	gɯ³³sɯ³³	like	喜欢
tɕhi⁵⁵phu⁵⁵dzu²⁵	tɕhi⁵⁵phiu⁵⁵dzu³³	rice	米饭
lʌ²⁵dzʌ²¹	lʌ³³dzɔ²¹	river	河
gu²⁵mu³³	dʑiu³³mu³³	road	路
ndzɔ²⁵	ndzɔ³³	study	学
lɯ²⁵bɯ³³	lɯ³³bɯ³³	wall	墙
bi²¹di²⁵	bi²¹di³³	worm	虫子

constructed morphology attested in the highly monosyllabic and analytic Ngwi languages (Bradley 2012). While both Miqie and Geipo retain the a- prefix in some common terms (e.g. MQ/GP: *a³³mu³³* 'mother'; MQ: *a⁵⁵ni⁵⁵*, GP: *a⁵⁵ŋie⁵⁵* 'son'; MQ: *a²¹mi²⁵*, GP: *a⁵⁵mi⁵⁵* 'cat'), Miqie seems to be more conservative in preserving the fossilized nominal prefix, as shown in some animal terms in Table 4.11.[47] The only lexical item in the 80-word wordlist task for which Geipo speakers overall used an a-prefix form where Miqie did not was for 'water' (GP: *a⁵⁵dʑie³³*, MQ: *ɣu²⁵*), which is analyzed as a variable in the lexical category in Section 4.4.4.6.

Table 4.11: *a*-prefix on animal terms variable

Miqie	Geipo	English	Mandarin
a⁵⁵ȵie³³	ŋa³³	bird	鸟
a⁵⁵mu²¹	mu²¹	horse	马
æ⁵⁵hæ³³	ha³³	rat	老鼠

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[47]   This set of a- prefix words should not be taken as extensive or conclusive of Miqie-Geipo variation in this variable category, as this variable was added for analysis after the tasks were completed.

4.4.4.5 si^{55} locative morpheme (+Miqie, –Geipo)

In both Miqie and Geipo, the locative root $b\varepsilon^{21}$ 'side' attaches to the right of location terms such as 'above', 'below', 'inside' and 'outside'. However, Miqie has an additional si^{55} nominalizing construction that may form "relator nouns" to capture the deictic notion of 'on top of' or 'on the bottom of', as described by Merrified (2010) for Yao'an Lolo, a Central Ngwi language spoken in the neighboring county to the east of Wuding. This variable was added for analysis after the tasks had been completed when a language consultant noted during the transcription process that Geipo speakers do not use si^{55} when describing location. Systematic differences among locative forms and deictic systems can vary greatly in Ngwi languages (see Bradley 2003, Bradley 2012) so further investigation is needed to learn about the specific semantic distinctions in Miqie and Geipo.

Because the si^{55} construction is exclusively found in Miqie and not Geipo, the presence of si^{55} was coded as a marker of the Miqie language variety, but the absence of it does not denote a Geipo form. In the wordlist task, Miqie participants used both $b\varepsilon^{21}$ and si^{55} in locative constructions, so for Miqie speakers these both were coded as "Miqie variety" because both are commonly used in Miqie. Of the 15 participants, only Kona used both morphemes within a single lexical item: $\eta i\alpha^{55}si^{55}b\varepsilon^{33}$ 'outside 外面' and $th\Lambda^{33}si^{55}b\varepsilon^{33}$ 'below 下面'.

4.4.4.6 Other variables categories

The remaining three variable categories (tone, vowel, and lexical) are not systematic differences between Miqie and Geipo, but rather these specific lexical items were identified as words that are distinct in the two varieties. The two variables in the tone category have falling tone realizations in Miqie, corresponding to the high-level tone in Geipo (Table 4.12). The two variables in the vowel category exhibit the same tone but have distinct vowels in Miqie and Geipo (Table 4.13). Finally, the lexical target variables (Table 4.14), many of which are non-cognates, were selected because many speakers can easily identify these words as being an obvious Miqie word or an obvious Geipo word.

Table 4.12: Tone variable category

Miqie	Geipo	English	Mandarin
$t^{h}æ^{31}$	$t^{h}æ^{33}$	GEN CLASSIFIER	个
$n\mu^{21}$	$n\mu^{33}$	smell	闻

Table 4.13: Vowel variable category

Miqie	Geipo	English	Mandarin
tsɛ^{55}mu^{21}	tsɛ^{55}mi^{21}	chestnut	板栗
mɯ^{21}	me^{21}	hungry	饿

Table 4.14: Lexical variable category

Miqie	Geipo	English	Mandarin	Analyzable Morpheme
tʰʌ^{55}si^{55}	dʑiʌ^{55}be^{21}	below	下面	
ɣɯ^{25}ni^{21}	u^{55}ni^{21}	water buffalo	水牛	
ɣɯ^{21}tɕʰi^{33}	ni^{21}mi^{33}	Kunming	昆明	
khu^{55}dzu^{33}	ɣu^{21}me^{21}	mountain	山	
mʌ^{21}	i^{21}	NEGATIVE	没	
hɯ^{33}	ɕi^{21}	seven	七	
dzɨ^{33}de^{21}	nɔ^{55}di^{33}dzɨ^{33}	Wuding	武定	
zɨ^{21}	ʑe^{21}	sleep	睡觉	sleep
zɨ^{21}me^{33}kʰɔ^{33}	ʑe^{21}me^{33}kʰɔ^{33}	dream	做梦	sleep
tsɨ^{21}ɣɯ^{25}	tsɨ^{55}ʑi^{33}	dew	露水	water
ɣɔ^{21}ɣɯ^{25}	ɣɔ^{21}ʑi^{33}	soup	水汤	water
ɣɯ^{25}lu^{33}tʰæ^{21}	ʑi^{55}lu^{33}tʰæ^{21}	swim	游泳	water
ɣɯ^{25}	a^{55}dʑie^{33}	water	水	water

4.4.5 Participant tasks

The tasks selected follow Stanford's (2010) methodology for speech production: a wordless picture book to collect a narrative text, a wordlist and an ethnographic interview. The narrative story and wordlist are relatively formal tasks designed to elicit the target variables, while the interview questions addressed the participant's views on their own language use, variation, and contact in the villages. Participants knew that I was visiting the villages as I had over the past several years to study *Michahua* 'Micha speech', which, in Mandarin, can refer to either the Miqie or Geipo variety. In The Cat Story and wordlist tasks, participants were given instructions in Mandarin to speak as they would to their own children. When a participant asked specifically if she should do the tasks in Miqie or Geipo, we instructed her to use her own language (你自己的话), which in Mandarin leaves some ambiguity, allowing the speaker to make the decision for herself without explicit instruction to use a particular variety.

Whenever possible, the tasks were completed with a single participant in a room with myself, Guan Xuan, and a non-Miqie-Geipo local who facilitated the meeting. However, the nature of fieldwork in the village did not aways allow for solitary meetings with the participant, so occa-

sionally another Miqie or Geipo person(s) was also present in the room for the tasks. The ethnicity and gender of people in the room was noted and subsequently coded in the data to account for the influence that person(s) may have had on the participant's production.

4.4.5.1 The Cat Story

The wordless picture book The Cat Story (Gao and Tanaka 2015) was written and illustrated specifically for this study to elicit many of the variables described in the preceding sections. The story contains 30 illustrations about a cat's adventures in search of a meal (see Figure 4.1). The cat encounters a woman, a rat, a water buffalo, birds, and a fish throughout the day, but is unsuccessful in its attempts to eat anything until the end of the story when he is fed by a boy having dinner with his family. The story was designed to be culturally appropriate with animals and people that the study participants would be familiar with. Appendix B contains all Cat Story illustrations, which are also available for download in PDF format in Kaipuleohone.

Participants were given a full-color printed copy of the book to look through before the task began. When we met with the first few participants, we did not review the story before recording. However, we found that talking through the story in Mandarin prior to recording was the best method to (1) resolve ambiguities about the story and illustrations, e.g. the cat is the main character, (2) to familiarize the participant with the Mandarin translation of the target variables, and (3) to help make the participant more comfortable and more familiar with the task prior to recording.
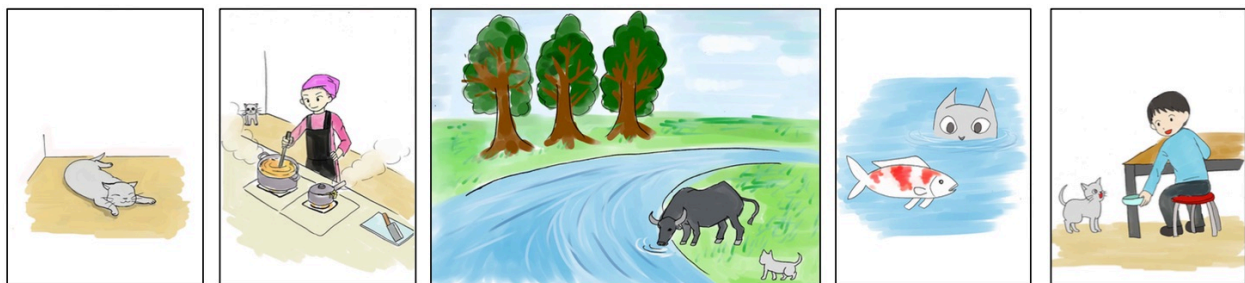
Figure 4.1: Example pictures from The Cat Story (Gao and Tanaka 2015)

4.4.5.2 Wordlist

Following The Cat Story task, participants were asked to translate some words from Mandarin into their language. The 80-word wordlist was designed to elicit many of the same variables in the story, as well as several other variables not in the story. Filler words that have the same pronunciation in Miqie and Geipo were also included. The wordlists were randomized for each participant.

When available, a local Mandarin-speaking contact facilitated the wordlist elicitation by reading the words in the Mandarin *fangyan*, otherwise a non-local Chinese research assistant used Stan-

dard Mandarin *Putonghua* to elicit the words, although this was not preferred. The wordlist was printed in simplified Chinese characters on a single page each for the participant, facilitator, and myself to use. The participants liked seeing the characters while the facilitator read them, which helped for word-by-word translation because there was no semantic grouping in the vocabulary. I made rough transcriptions during the task and clarified meaning and pronunciation with the participant, which helped during the auditory transcription process that took place after the tasks were completed.

The facilitator read each word once, then the participant translated it into either Miqie or Geipo (like the Cat Story task, the instructions were to use the language they speak with their children). The participant repeated the word two to three times after the Mandarin translation. Occasionally, the participant would ask to clarify the meaning of the word, or if they did not produce the target variable for a particular word, we would ask if they could translate the word in another way. In a few cases, an observer in the room during the task objected to the participant's translation of a particular word—either their word choice or, in a couple select instances, their language variety choice. As language variation is the topic of this study, cases like this were noted for reference in data analysis and discussion.

4.4.5.3 Ethnographic interview

The interview, which was conducted in Mandarin, followed both production tasks. During the interview, participants were asked about their family's ethnic background and language use, such as what language(s) they speak with their parents, siblings, husband, children, neighbors, etc. We also asked directly about the differences between Miqie and Geipo—language varieties, cultural practices, and village economies. These questions also revealed language ideologies and attitudes that will be discussed in Section 4.5.2.3. We also talked with many participants about the overall economic changes that have taken place in the village area over their lifetime. Moving the subject away from language also allowed us to address recent local history and the participant's general attitude toward village life, which is relevant to the discussion on the rapid language shift to Mandarin common not only in this area, but across Southwest China.

4.4.6 Transcription and coding

The Cat Story recordings were manually segmented into phrases using Praat speech analysis software (Boersma and Weenink 2015), and then were freely translated phrase-by-phrase into Standard Mandarin by a multilingual Geipo research assistant. Time in the field did not allow for a word-by-word transcription of the Miqie-Geipo phrases, so only the targeted variables were segmented, transcribed and translated into Mandarin and English for analysis. Variables were

identified manually using the Mandarin free translation as a guide, and unclear or fast speech was clarified with a native speaker.

The wordlist data was first roughly transcribed at the time of the recording, and then later was transcribed phonetically using auditory analysis. For the purposes of the present study, impressionistic auditory analysis was sufficient to determine whether the target utterance in question is either Miqie or Geipo; however, further research using acoustic techniques is necessary in order to describe Miqie-Geipo phonology, especially vowel and tonal qualities.

Because each lexical item in the wordlist was repeated at least twice, the first utterance was selected for transcription by default, as the participant typically produced the word in careful speech first. The second utterance, or sometimes third or fourth, was transcribed in the following cases: (1) if the first utterance had outside noise interference or if the participant stuttered, or (2) if the participant changed their translation based on clarification of the Mandarin word. In the few instances where an observer prompted the participant with the word or "corrected" the participant to use the word in one variety rather than the other, the participant's initial reaction to the lexical item was transcribed, and these examples are noted in the discussion section.

Using a Praat script, the lexical items transcribed in the Cat Story and wordlist recordings were exported to a spreadsheet for coding in preparation for analysis in the statistical software R (R Core Team 2015). Each target variable was coded for (1) the task it was produced in, (2) the variable category, (3) the morpheme, and (4) the lexical item it appeared in. Participants' demographic information was also noted for each variable, including age, family ethnic and language background, and reported language use. Other factors coded for that may have had an effect on the production tasks include the village location where the task took place, as well as the ethnicity and gender of other Miqie-Geipo villagers observing the tasks.

One issue that arose during the coding process for The Cat Story was determining the underlying tone in words in the rising tone variable category. The contour tone's presence (Miqie) or absence (Geipo) was clear in the wordlists; however, this variable category was not analyzed for the Cat Story because of the effects of tone sandhi on these lexical items. For example, the phrase-final intonation environment in Miqie requires the rising tone to be realized as a mid-level tone, which happens to be the Geipo default tone in this variable category. Tone sandhi was prevalent in The Cat Story, but because the rising tone category and the tones for 'GEN CLASSIFIER' and 'smell' were the only suprasegmental features analyzed in this study, other instances of sandhi did not affect the ability to determine whether a variable was Geipo or Miqie in the remaining phono-lexical variable categories.

4.4.7 Hypothesis

While designing this study based on field notes and personal anecdotes from residents in Gubai, I hypothesized that women overall would largely perform the tasks in their birth-village variety, but that intermarriage would be the main predictor for a woman who produced words in the other variety. I anticipated that the Cat Story task would contain more "switches" in intermarried women's speech, while the wordlist task would be primarily careful speech and contain few if any words in the intermarried woman's husband's variety. As discussed in Section 4.5, the results not only revealed far less variation than expected but also can speak to the social prestige relationship between the Miqie and Geipo, as well as the role that language plays in maintaining one's ethnic identity.

4.5 Results and Implications

4.5.1 Summary of results

As shown in Table 4.15, speakers rarely used words associated with their non-native ethnolect. Of the four participant groups—in-married Miqie, intermarried Miqie, in-married Geipo, and inter-married Geipo—only the in-married Miqie participants collectively produced all target variables (100%) in their ethnolect, Miqie; while the the Geipo intermarried group had the lowest, yet still high, average at 96.8%. Participants produced an average of 151 target words across both tasks; therefore the high percentages of "accuracy" for each participant is the result of them producing just one or two words in the other ethnolect.[48] The results of the two production tasks show that speakers decidedly did not switch between Miqie and Geipo, but rather overwhelmingly performed both production tasks in the ethnolect associated with their ethnic identity: Miqie speak Miqie and Geipo speak Geipo. The following sections will discuss the few instances of intraspeaker and interspeaker variation by participant and variable category.

The participant averages in Table 4.15 indicate that intermarriage was not the primary predictor of words produced in the alternative variety, but rather ethnicity played a larger role. That is to say that Miqie women on the whole (both in-married and intermarried) produced fewer words in Geipo than the number of Miqie words that Geipo women produced across both tasks. Additionally, in both Miqie and Geipo participant groups, intermarried women were more likely to produce words in the ethnolect of their husband and village of residence than in-married participants who

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[48] Each participant's percentage was calculated by dividing the number of target words they produced in their own ethnolect by the total number of target words they produced. "Target words" refers to analyzable morphemes determined by the target variable categories. Words produced only in the target Miqie or Geipo variety were included for analysis in this study. Rising-tone category words produced during the Cat Story task were omitted from analysis, see Section 4.4.6.

Table 4.15: Percentage of target words each participant produced in their own ethnolect. The total number of target words produced by each participant across both tasks is shown in parentheses.

		Miqie Participant		Geipo Participant	
In-married	Shuangying	100% (162)	Liuzhen	99% (222)	
	A-feng	100% (182)	Shuangrao	98% (129)	
	Raolan	100% (127)	Lanmei	99% (140)	
	A-mei	100% (137)	A-li	99% (132)	
	Xiaoqin	100% (180)			
		100% (788)		**98.8% (623)**	**Total**
Intermarried	Lanhua	100% (152)	Qimei	99% (140)	
	Shuangmei	99% (111)	Xiaoli	98% (150)	
	Qilan	99% (195)	A-hua	92% (121)	
	A-chun	99% (136)	Shuangfeng	98% (151)	
		99.3% (594)		**96.8% (562)**	**Total**

married a speaker of their same ethnolect. Other social factors—such as age or number of years married—showed no effect on the production results.

4.5.1.1 Variation by participant group and variable category

Interestingly, the five in-married Miqie participants—Shuangying, A-feng, Raolan, A-mei, and Xiaoqin—did not produce a single target item in Geipo, in either task. These five women were all born in Yangjiacun and all married Miqie men who were also born in Yangjiacun, with the exception of Xiaoqin who married a Miqie man in the nearby mixed Miqie-Geipo village Shuiduifang. Also, all have both a Miqie father and Miqie mother, again with the exception of Xiaoqin whose mother was Geipo. Despite having daily contact with Geipo-speaking villagers, the women still exhibited no Miqie-Geipo language variation in this study; therefore, the homogeneity of their nuclear families, which is unique to this participant group, may be part of the reason that they produced only Miqie words in the tasks.

The intermarried Miqie participants, all residing in the Geipo village Shanjuxiacun, did not produce any of the target words in Geipo during the Cat Story task; however, three speakers— Shuangmei, Qilan, and A-chun—produced at least one Geipo lexical item in the wordlist task. The tasks for these participants were carried out in a Geipo-speaking household with at least one Geipo speaker present in the room at the time of recording, yet the speakers remain remarkably consistent in producing 99-100 percent of target variables in Miqie. This indicates that intermarried Miqie women did not consider it necessary to accommodate their language (in these target variables) during the formal production task scenario, despite their Geipo surroundings.

The in-married Geipo participants also were nearly 100 percent faithful to their ethnolect in the Cat Story task, with only one woman, Shuangrao, who used the Miqie NEGATIVE marker ma^{21} twice, yet she used Geipo i^{21} in the wordlist. Additionally, in the wordlist task, Liuzhen dropped the Geipo [n] initial preceding the high vowel in $ne^{21}i^{33}$ 'look'; and all four in-married Geipo speakers produced a rising tone for the lexical item for 'worm'.

Likewise, the four intermarried Geipo participants used the Miqie variety for the word 'look' in the Cat Story and 'worm' in the wordlist. And one speaker, Shuangfeng, used the Miqie NEG marker in the Cat Story. This participant group collectively produced the largest number of words in the differing ethnolect, but this lower percentage was largely due to one particular speaker. A-hua, 71, the oldest among the 17 participants, used Miqie 'look'/'see' in all instances she produced this word in both the Cat Story and the wordlist. Similarly, in both tasks she didn't produce the Geipo nasal initial in 'finger'. A summary of the production data by participant group is presented in Table 4.16.

Table 4.16: Number of participants who produced lexical items in the other ethnolect

Word	Variable category	Intermarried Miqie	In-married Geipo	Intermarried Geipo
buy	rising tone	1		
chestnut	vowel			1
drink	rising tone	1		
finger	nasal initial			1
go	rising tone	1		
leg	affricate initial	1		
look	nasal initial		1	4
NEG	lexical		1	1
wall	rising tone	1		
wild pig	nasal initial	1		
worm	rising tone		4	3
Wuding	lexical	1		

4.5.2 Patterns and possible explanations

Because of the limited number of examples of Miqie-Geipo variation produced in the tasks, finding patterns within these results may be difficult for predicting larger societal patterns of variation; however, I will make some observations with the aim of providing building blocks for future descriptive studies of Ngwi languages, shedding light on complex societal issues that affect language use, as well as for the planning of variationist research in this region or in other minority language contexts around the world.

4.5.2.1 The variables and study design

Contrary to my original hypothesis that the narrative format of the Cat Story would encourage more variation than the elicitation structure of the wordlist, more participants produced a word in the other ethnolect during the wordlist than in the story. However, this effect cannot be attributed to the task itself, but rather the uneven number (and presence of) variables in both tasks. For example, the rising tone variable 'worm' appears in the wordlist but not in the story. On the other hand, a participant often produced a target word more than once throughout the story, such as 'cat' and 'look'. Additionally, the variables relating to tone were analyzed in the wordlist but not in the story due to the effects of tone sandhi. Therefore, the observed instances of interspeaker and intraspeaker variation are primarily specific to the speaker and to the lexical item.

Examples of lexical-specific and participant-specific variation would be intermarried Miqie speaker Shuangmei who used the Geipo affricate initial $tɕ^h$ in the morpheme $tɕ^hi^{21}$ for 'leg, foot, claw' in the wordlist item 'leg', but used Miqie k^hu when referring to the bird's claw in the Cat Story. Or likewise, intermarried Miqie participant Qilan, who used the Geipo name for 'Wuding' in the wordlist instead of the Miqie name. Two intermarried Miqie participants—Qilan and A-chun—produced level tones in lexical items where a Miqie rising tone was expected, but the reason for this is not clear. Geipo participants on the other hand did not exhibit the rising tone in any lexical item in the wordlist, that is, except for one particular word, $bi^{21}di^{25}$ 'worm', for which 7 of the 8 Geipo participants had a strong rising tone in the second syllable. For many Geipo speakers, this word may be fossilized with the rising tone, as the rising tone (or just tone, in general) is something Miqie and Geipo speakers alike cite as a salient difference between the two varieties, and the wordlist shows no other evidence that Geipo is developing a rising tone as other Ngwi varieties have.[49]

4.5.2.2 Language change, a closer look at the nasal initial variable

The nasal initial category is interesting because this is the variable that showed the most intra- and interspeaker variation in the tasks. Five of the eight Geipo participants, including all intermarried Geipo, produced the Miqie variety $ne^{21}i^{33}$ 'look' at least once during the tasks while using Geipo $ne^{21}ni^{33}$ in other utterances (Table 4.17). All of A-hua's utterances of 'look' as well as her two instances of 'finger' were produced without the initial [n]; however, the other lexical items in this category—'animal', 'wild pig', 'fish', 'mud', 'red' and 'short'—were produced with the initial nasal, consistent with other Geipo participants.

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[49] Interestingly, when I pointed out the rising tone in 'worm' to my Geipo language consultant (who was not a study participant), she found it surprising that Geipo did indeed have a clear example of rising tone in wordlist isolation—as opposed to rising tone found in a phrase context due to sandhi.

Table 4.17: Number of times Geipo speakers produced 'look' without the nasal initial (as in, Miqie $ne^{21}i^{33}$ vs. Geipo $ne^{21}ni^{33}$)

Geipo Participant	Cat Story	Wordlist
Liuzhen	0/0	1/1
Qimei	1/11	0/1
Xiaoli	1/3	0/1
A-hua	6/6	1/1
Shuangfeng	1/9	0/1

As mentioned in Section 4.4.4.2, the loss of the initial nasal has been reported as a sound change in other Ngwi languages. Yang (2010) shows that the /n/ in many of the same nasal-initial words identified in this study were lost in several Lalo dialect clusters from Proto-Lalo (a reconstruction of the synchronic Lalo varieties spoken in Western Yunnan). For example, 'look', 'finger', and 'red', all reconstructed as Proto-Lalo *ʔni[1], demonstrate loss of the alveolar nasal in approximately half of the Lalo dialect groups. The velar nasal is lost across all dialect groups in 'fish', and no nasal is present in 'mud', similar to Miqie.

Another factor in the variability of this nasal initial is the occasional syllabification of the nasal or the presence of a heavily nasalized vowel in Miqie, indicating the more recent historical presence of a nasal onset in Miqie, as reconstructions of Proto-Ngwi would suggest. The syllabification of a nasal is not a form of fast speech, as it was produced slowly and carefully in isolation in the wordlist, nor is it an effect of the presence of a classifier following the word. Two in-married Miqie participants syllabified $ŋ̍^{21}$ 'fish' vs. a low creaky nasalized $\tilde{u}^{21}$ like other Miqie speakers (A-feng in the wordlist, and Shuangying in the Cat Story). Another in-married Miqie participant, Raolan, syllabified $i^{55}tsɨ^{21}$ 'mud' to $ņ^{55}tsɨ^{21}$ during the second repeat of the wordlist task, seemingly having access to both pronunciations. My analysis does not show any overlap in the specific lexical items between Geipo participants who produced an /n/-less Miqie word and Miqie participants who produced a syllabified nasal, so this is likely two separate phenomenon that are realized in the same phonolexical environment.

The one overlap of syllabification between Miqie and Geipo speakers is in the numeral 'two', which was a wordlist filler in this study because the pronunciation and tone is the same in both Miqie and Geipo. Seven of the 17 participants syllabified ni^{21} 'two' as $ņ^{21}$ in the wordlist tasks, with one Geipo speaker, Shuangying, producing $ņ^{21}$ in both the wordlist and Cat Story. This shows that syllabification is indeed available to Geipo and Miqie speakers alike, but the limited results from this study cannot determine if this is only in specific lexical items or in certain environments.

From a historical linguistics standpoint, the direction of change is clear: a nasal stop from Proto-Ngwi (or a closer descendant) has been lost in certain lexical items in Miqie and retained in Geipo. However, the process in which this change occurs (e.g. syllabification) and in what historical phonological environments in which the /n/ or /ŋ/ is lost is not clear. Whether the variation (lack of) of the initial nasal consonant in some words for some Geipo speakers is an internal sound change in progress or if is it the result of social pressures——e.g. widespread borrowing from Miqie, situational variation, or other demographic and social effects——is a subject of future investigation.

4.5.2.3 Social factors and insight from the interviews

This study began with the intention of investigating language variation within Miqie-Geipo inter-marriages, but a great deal of information about language use in family life and village life was revealed during the participant interviews that took place after the two production tasks were completed. One of the biggest themes throughout the interviews was the focus on intergenerational language use within the nuclear family, from grandparents to grandchildren, with a secondary focus on communication between villagers and village relations. In a tight-knit community where everybody knows everybody and where it literally "takes a village" to raise children, language is a crucial indicator of identity—of one's household and heritage. To answer the question of how and why the Miqie and Geipo language varieties are maintained in intermarriage, as the production results of this study show, this section summarizes the societal norms that were discussed by participants in the interviews.

All Miqie-Geipo intermarried participants——except one, Xiaoli, discussed in more detail below—reported that they speak their ethnolect with their husband, and their husband speaks his ethnolect with them; in other words, as the wife speaks her language variety, the husband can understand and responds with his language variety. Therefore, there is already a high degree of mutual intelligibility and (at least passive) bilingualism, so that when a woman marries into a new village she can already understand her husband's variety. All participants, again with the exception of Xiaoli, also said they use their own ethnolect when speaking to their children, as does the father. Finally, all but two intermarried women, Xiaoli and A-hua, said that their children growing up at home would use the mother's ethnolect when speaking to the mother and the father's ethnolect when speaking with the father. More than half of the 17 participants, who also came from inter-married households, all reported growing up speaking their mother's language with their mother and father's language with their father. Participants were clear in the interviews that the social expectation within the family is to use your own ethnolect to speak to others.

Xiaoli, the only intermarried Geipo participant who reported that she speaks Miqie with her husband and children, produced 98% of the target variables in Geipo across the two tasks, with

only three unrelated lexical items produced in Miqie.[50] So the results of her production tasks do not reveal anything telling in her variation except that she comfortably performed the tasks in Geipo despite reporting her primary home language is Miqie. Xiaoli is different from the other 16 participants in that she was the only participant who was born in Shuiduifang (SDF), a mixed Miqie-Geipo village located several kilometers west from the Gubai village cluster. Growing up in SDF, she spoke both Geipo and Miqie with her parents (Geipo father from SDF and Miqie mother from Shanju Dacun) and others in the village, but after marrying into Yangjiacun (YJC) to her Miqie husband, whose own parents are intermarried Miqie and Lipo, she said she speaks mostly Miqie with her children and other villagers, except for a few local relatives with whom she'll speak Geipo. Xiaoli reported that while her children are passively fluent in Geipo, her grandchildren only speak and understand Miqie, in addition to Mandarin. Like Xiaoli, intermarried Geipo participant A-hua[51] also reported that her children speak Miqie (A-hua's husband's variety) with her although she spoke Geipo to them growing up. She reported that only the oldest of her five children speaks Geipo while the others only speak Miqie. She said she did not mind them speaking Miqie because everyone can understand each other fine; this attitude toward her children's language use is interesting in light of her own convictions for her personal language choice (discussed in Section 4.5.2.4).

The distinction between norms in family communication vs. outside the household became apparent when we asked about encounters with other villagers, both Miqie and Geipo, among the villages in the cluster. Six of the eight Geipo participants said that when they meet a Miqie person in the village or if they go to a Miqie village, they will speak Miqie with them. On the contrary, no Miqie participant said that they switch to speak Geipo with a Geipo person they meet in the village or if they go to a Geipo village (see comments on Xiaoqin in the next section). This stark difference between Miqie speakers and Geipo speakers, even if just reported language use, is an important clue to understanding basic Miqie-Geipo prestige relations in this area, which I attribute to three reasons evident from the interviews: (1) absolute population size, (2) local economic differences, and (3) fewer intermarriages between a Geipo husband and Miqie wife.

Because the Geipo have a much smaller population (just two or three villages) while more than 40 Miqie villages span across a four-county region, the absolute population size can speak to power relations even when villages have a closely networked relationship. In the three village cluster in Gubai, Miqie outnumber Geipo by approximately 2-to-1. Perhaps more relevant to

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[50]   While the task instructions were to "speak as you would to your child", the formality of the task and knowing that we were researching about language may have prompted Xiaoli to use her own ethnolect, Geipo.

[51]   A-hua exhibited the most variation among all participants, primarily because of the lexical items 'look' and 'finger', which she repeated multiple times.

prestige relations in Gubai is the stone mines on the mountains that form the backdrop of the Miqie-Geipo village cluster. Because one Miqie village, SJDC, was given the rights to develop the stone mine on their mountain, that village's economy has vastly improved while the other villages that did not reap those benefits still mainly depend on farming or becoming migrant workers.[52] The economic difference not only shows on the outside, with the construction of new roads and buildings in the village, but also because those villagers now tend to seek spouses in the towns, outside of the village area. Participants attributed the wealth imbalance as well as general economic development to why marriage relations have weakened among the villages and why SJXC and YJC have a closer working relationship.

Village relations over time were largely preserved through marriage network systems. For example, SDF, YJC, and SJXC are connected through several generations of marriage "trade" since the formation of SDF as a village about 200 years ago. When I began recruiting participants for this study, I was under the assumption that intermarriage among the villages is still a common practice; however, from the interview discussions and the difficulty in finding participants in the first place, it is evident that marriage networks are no longer being actively practiced among the Miqie and Geipo villages because, with greater access to Wuding and Kunming, there are more opportunities for education, jobs, and selecting a spouse outside of the village area. In fact, Qimei, who has been married 40 years at the writing of this paper, is the most recent Geipo women from SJXC to have married into YJC.

4.5.2.4 Language as marker of heritage and respect for family

Intermarriage in this society has played a key role in keeping up village relations, both near and far, and thus the language use patterns of multi-ethnic and multilingual families have played a key role in preserving many ethnic identity distinctions. If contact between two language varieties in a marriage is prevalent and if one spouse does not accommodate to the other's variety, this bidialectal household will produce bidialectal children who can then choose to use both varieties in various social situations outside the home. Of the participants in this study, seven of eight Geipo women come from bidialectal households (six Geipo-Miqie and one Geipo-Lipo). Only two Miqie participants had a Geipo mother, while the remaining eight have two Miqie parents. Xiaoqin—

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[52] This is certainly not to say that the economies of all the villages haven't remarkably improved over the past several decades, only that the most recent economic push is the stone mine. Interviewees repeatedly emphasized how much better their quality of life has improved since they were children, some women recalling starving in the winters with barely any vegetables to eat and clothes to keep warm. Now, the villages have electricity, running water, and migrant worker family members who send money back to the village for the older generation. As one participant said, "Now we can build houses out of bricks, not clay, and eat meat everyday, not just one or two times a year." In a movement of community solidarity in 2015, the three villages pooled their finances together to complete a newly paved road from the village cluster to highway G106, allowing easy access for cars and trucks to move between the villages and Wuding.

whose father is Miqie from YJC and mother is Geipo from SJXC, and who married into a Miqie household in SDF—uses her multilingual abilities as an asset, reporting that she uses Miqie with her children, but in her mixed village, she switches varieties depending on the majority of people in the room or whose house she is visiting.[53] With fewer examples of Miqie women who grew up with a Geipo mother, they may not have the linguistic resources to be as fluid between varieties as many Geipo women are brought up to be, both because of family background and because of local prestige relations.

The most telling attitudinal factor observed from the interviews that speaks to the language loyalty of intermarried Miqie and Geipo women is not necessarily how they talk about their language use within their marriage, but in their parents' intermarriages. A-hua, the oldest participant and perhaps the most vocal in her attitudes about language use, said she always speaks Geipo, her 'mother tongue', to respect her heritage. While she used the Mandarin term *muyu* 母语 (lit. "mother's language") to express this language ideology, she clearly is referring to her father's language variety and the language variety of her birth village SJXC. She expresses another form of respect to her mother's language variety, Miqie, saying that she only spoke Miqie with her mother and no one else, even other Miqie villagers, which was out of respect for her mother. And since her mother passed away, A-hua said she has not spoken Miqie since. Shuangfeng, A-hua's younger sister who was also a participant in this study, shared similar sentiments in that the last time she spoke Miqie was with her mother before she passed away, and that Geipo and Mandarin are her languages of communication in the villages, even though she lives in a Miqie village. Qilan, one of the Miqie participants with intermarried parents, put it this way: "I spoke Geipo with my mother [before she died], but I don't have a reason to anymore." Qilan has lived in the Geipo village for more than 40 years, her husband's and children's primary language is Geipo, yet she chooses to speak Miqie as that is the "mother tongue" of her father's heritage.[54]

4.5.3 Conclusion and further questions

This ideological sense of respect for both the father's and mother's heritage is expressed through the language choice of children of intermarried families. And this choice is perhaps what is maintaining the strong variety distinctions in something as simple as a production task yet allowing

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[53] At the start of the tasks, Xiaoqin also asked us very specifically which variety we wanted her to complete the tasks in, which also attests to her fluency in both varieties. We asked her to use the variety she speaks with her children.

[54] Several of the interviews took place in the home of one the intermarried Geipo participants, her husband is Miqie, born and raised in this particular Miqie village. The husband was enthusiastic to talk about village life, language use and had a positive attitude toward cultural preservation in the villages. He reported that their two sons not only speak Geipo with their mother but grew up speaking Geipo with each other at home (despite living in a Miqie village and identifying as "Miqie"), and when we asked why, he said it was because the boys respected their mother more than him. When we asked if he ever spoke Geipo to his sons, he laughingly said no, because he has to preserve his family's heritage.

for ease of code switching in other situations. This study was a preliminary investigation into intermarried Miqie-Geipo families that have linguistic access to at least two mutually intelligible varieties. By analyzing a limited set of target variables in two structured production tasks with a followup interview, I have attempted to set the groundwork for future variationist research that will look at language contact situations like Miqie and Geipo.

Chapter 5

Concluding remarks on challenges and contributions

5.1 Summary of dissertation

This dissertation utilized three approaches to studying the social context of language contact in Yunnan Province, China. Chapter 2 presented a series of original ethnolinguistic maps that showcase the amount of language diversity in Wuding County as well as summaries of the language contact relationships between the different groups. The maps show the location of villages with a majority of people who's ethnic identity is typically associated with a particular language variety; however, the maps alone do not show the current and growing pressure that groups are under pressure to shift from using their minority language to speaking Mandarin Chinese. Therefore, Chapter 3 analyzes the social factors motivating this shift and finds that a village's geographic location and their relative access to the Chinese-dominant towns and schools is a predictor of a village's overall language shift pattern. Intermarriage with Han Chinese is also a major factor in whether or not children will speak Mandarin growing up in the home and if the minority language will be transmitted past that generation. While many villages do have higher rates of intermarriage with Han, some villages still maintain inter-village marriage patterns among different ethnic groups, a practice that was more prevalent 50 years ago than it is today. Chapter 4 discusses one such context in marriages between Miqie and Geipo, speakers of two mutually intelligible Central Ngwi varieties living in the same village area. Using a variationist approach in two production tasks, this chapter shows that the Miqie and Geipo language varieties are maintained in this high-contact social context because language serves as a marker of heritage and patrilineal ethnic identity where other distinguishing markers of identity do not exist.

Language plays an important role in all societies as an indicator of place (geographic location), family background (heritage, ethnicity), and where you want to be (social mobility). This dissertation ties together these concepts of language's role in society by presenting both macro and micro views of social contexts of language contact in Wuding County, an under-described region of Southwest China.

5.2   Challenges and implications

As in any research, this dissertation was not without its challenges and limitations. In this section I will present a few reflections on my experience designing and implementing this work.

5.2.1   Researching variation in undocumented languages

The methods used in this dissertation—surveys, interviews, and production tasks—were selected because of a lack of available information in the region researched. Survey data are an important introduction to potential questions that could be investigated in follow-up projects. In this case, the variation in Miqie-Geipo marriages study (Chapter 4) was a result of my initial regional survey of Miqie in 2012 (Gao 2015) and follow up study of household language use in 2013 (Chapter 3). Without corpus data or a comprehensive description of a particular language and the contexts in which it is spoken, designing a study to investigate specific variables is not a typical approach. However, Chapter 4 provides an example of how variation can be addressed using what knowledge is available in two language varieties. The more descriptive information available for a language, the more targeted variation research can be. Potential directions for variationist research should be considered within a comprehensive language description, and vice versa, variationist work can inform the direction of language description and documentation.

5.2.2   The role of the researcher

My role as the primary researcher, a European-American non-native-Mandarin speaker, certainly influenced the collection of data over the four summers I traveled in Wuding. On one hand, being an American researcher carried some prestige and allowed me access to local government offices who were gracious in providing me initial resources and contacts for research on language and culture—a popular research topic in Yunnan. In some situations, participants in my studies may have felt obligated to participate at the request of a local official, but others were genuinely excited about the opportunity to share their language and culture with a foreigner, without expectation of return. On the other hand, as obvious outsiders in the more remote areas of Wuding, we were, understandably, met with skepticism and caution from officials and villagers about our motivations for pursuing research in an area where researchers do not normally visit.

Since the language data presented in this dissertation is mostly based on production tasks (elicited wordlists and stories), the researcher's position especially plays a role in what data was produced. To better contextualize my data, I approached my analysis with the perspective that the language produced is a performance—a performance for the researcher and others present in the room. This means that it is possible that the presence of myself, my non-local Chinese research partner, a village leader, a family member, or others may have had an affect on the linguistic form produced.

This also indicates that there is not a "baseline" language necessarily, but that what we produce is a product of our environment. It was not possible to control for all of these variables, but it is necessary for any researcher to consider during design and analysis.

5.2.3   Field research in China

There are two ways of approaching research in China—working from top-down or bottom-up connections—but both require *guanxi,* personalized networks of relationships for facilitating business (or research). The studies presented in this dissertation were a direct result of the relationships my research partners and I built and maintained since my first trip to Wuding in 2012. Collecting primary data in the field requires the researcher to rely on the generosity and goodwill of strangers and to be flexible in both study design and implementation. A little more than three decades after China opened its doors to foreign scientists in the 1980s, foreign researchers have even more opportunity to collaborate and utilize technology to advance the understanding of languages spoken in China's border regions. However, the same political climate in which ethnic minorities languages are spoken (and either developed or marginalized) is the same political climate in which the researcher must operate. For example, China policy places heavy restrictions on geography-based field work, and some regions are politically more sensitive regarding language policy than others. In all, I feel incredibly privileged to have worked in China and hope that my research can encourage other foreign and domestic researchers to pursue linguistics research to contribute to the general understanding of language and the people who speak these languages.

5.3   Broader Contributions

First, this dissertation provides the first regional overview of the language varieties spoken in Wuding County in Yunnan and the general contact relations within the county. Additionally, I show how language contact is dependent on social context in two language-specific studies on language shift and language variation. Besides being of interest to a broad range of researchers working in Southwest China, this work also has some broader implications for the field of linguistics in the 21st century.

5.3.1   Intersection of Typology and Variation

The study of diversity in language is a core concept for researchers studying both language typology and sociolinguistic variation. The former takes a macro approach, looking at structural patterns across unrelated languages, while the latter takes a micro approach, looking at patterns in variation within a language. The intersection of these two may come most naturally in the subjects of language contact and language change. Typologists' work in linguistic areas show that languages in a particular "historical stock" are subject to widespread convergence in all linguistic

structures due to long-term contact, while variationists' work show that language is actively used at the individual level to express identity, which can lead to language change when adopted by a community of speakers. Whether internal (structural) and/or external (social) forces are motivating language change, all changes happen in certain social contexts in which different groups of speakers are in contact.

In the field of linguistics there is little integrative research using both macro and micro approaches to studying language change, perhaps because the methods and target data in these subfields are traditionally different. But with a singular focus on wanting to understand why and how language changes with an aim toward explaining the linguistic diversity we observe today, there is potential for interesting collaborations that can approach this question from both diachronic and synchronic perspectives.

5.3.2 Endangered diversity and variation

Further research on language diversity, from the local to the international level, is critical due to the threatened status of endangered languages around the world. The rate of language shift is only accelerating as once-isolated communities gain access to majority-speaking cities and economies. The kind of variation observed in the social contexts where minority languages are spoken may not exist within a generation or two if families are shifting to a majority language. Minority languages around the world tell stories of the region's history and people's heritage, they contain cultural knowledge about how people view the world around them.

Appendix A

Wordlists from Wuding survey

This appendix presents transcriptions of 11 selected wordlists from the 11 language varieties reported in the Wuding County survey described in Chapter 2. All wordlists were collected in the 2014 survey, with the exception of Miqie, which was collected during the author's survey of Miqie in 2012 (see Gao 2015), and Hani, as reported in Bradley (2001) from a 1990 language survey in north-central Yunnan. See Chapter 2 for description of survey methods and wordlist collection. All 2014 wordlist WAV files and Praat TextGrid TXT files (time aligned by the English gloss) are located in the Kaipuleohone Digital Ethnographic Archive.

The worlists, organized by semantic category and part of speech, appear in the following order:
Central Ngwi—Lipo, Lolopo, Miqie, Geipo
Southern Ngwi—Hani
Northern Ngwi—Nasu, Aluo, Naisu
Chuanqiandian Hmong—Ahmao, Hmong
Tai Hongjin—Tai

#	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
			Tianxin, Limi	Maojie, Maojie	Shishan, Gubai	Shishan, Gubai	Gaoqiao, Dacun
			F-42; 2014	M-47; 2014	M-44; 2012	F-65; 2014	F-20s; 1990
1	[group autonym]	自称	li³³pʰo²¹	lo³³lo³³pʰo²¹	mi⁵⁵tɕʰi³¹pʰo³¹	ke⁵⁵pʰo³¹	xo²¹ɲi²¹pʰɑ²¹
2	[group language]	自称 (话)		lo³³lo³³õ³³	mi⁵⁵tɕʰi³¹õ³¹	ke⁵⁵õ³¹	
3	sky	天 (天空)	mu³¹de³¹	muɯ²¹lu³³	muɯ²¹	mɣ³¹	ə²¹
4	sun	太阳	a⁵⁵mu²¹ni³³	a⁵⁵mi²¹dʑi³³	a⁵⁵mu²¹tsʰo⁵⁵	a⁵⁵mu²¹je³³	na⁵⁵mɑ³³
5	star	星星	kɛ⁵⁵	kɛ⁵⁵	ke⁵⁵	ke⁵⁵	pi²¹kɯ⁵⁵
6	moon	月亮	ɬo⁵⁵bo⁵⁵	ɬɛ³³bɛ³³muɯ³³	ɕiu³³bu³³	ɕiu³bu³³	pɑ³³ɟa³³
7	wind	风	a⁵⁵muɯ²¹ɬɯ³³	a⁵⁵muɯ²¹ɬɯ³³	a⁵⁵mu²¹ɕi³³	a⁵⁵mu²¹ɕi³³	o²¹ɟi⁵⁵
8	rain	雨	a⁵⁵mu²¹huɯ³³	a⁵⁵mu²¹	a⁵⁵mu²¹hõ³³	a⁵⁵mu²¹hõ³³	
9	lightning	闪电	te⁵⁵ʃa³¹	mu³¹kʰu³¹		a⁵⁵mu²¹kʰɯ³¹	ə²¹mu²¹
10	thunder	雷	mu³³gu³¹de²¹	mu³¹kʰu³¹tsʰɛ⁵²	a⁵⁵mu²¹kɯ²¹	a⁵⁵mu²¹bie³¹	ə²¹tɕi²¹
11	water	水	a³³dʑie³³	ʑɿ³¹	ɣu²⁵	a⁵⁵dʑie³³	ɣi⁵⁵kɑ³³
12	dew	露				tsi⁵⁵ʑi³³	tsʰu²¹pi²¹
13	fire	火	a²¹to⁵⁵	a²¹to⁵⁵	a³³to²¹	a³³to³¹	mi²¹tsɑ²¹
14	flame	火焰	a²¹to⁵⁵lu³³	a²¹to⁵⁵lu³³		a³³to³³lu³³	
15	smoke	烟 (炊烟)	a⁵⁵mu²¹tɕʰi³³	a²¹to⁵⁵ʂɿ⁵⁵	a³³to²¹si³³	a³³to³³se³¹	me²¹kʰo²¹
16	night	夜	a⁵⁵mu²¹ni³³	ha²¹pa⁵⁵	a⁵⁵mu²¹kʰɯ²¹	a⁵⁵mu²¹tɕʰi³³	
17	day	天	a⁵⁵ni³³	tsi²¹ni³³	muɯ²¹	muɯ³¹	en³³
18	today	今天	a⁵⁵ni³³	o⁵⁵ni³³	u²¹ni³³	u⁵⁵ni³³	ɑz³³ne³³
19	yesterday	昨天	a²¹ni³³	a²¹ni⁵⁵	a²¹ni³³	a²¹ni³³	mi⁵⁵ne³³
20	day before yesterday	前天	ʂɿ³³ni³³	ʂɿ³³ni³³	si³³ni³³	si³³ni³³	su²¹mi⁵⁵ne³³
21	tomorrow	明天	a²¹gu³³ni³³	a²¹gu³³ni³³	a²¹kɯ⁵⁵ni³³	a²¹gu³³ni³³	nɑ³³su²¹
22	day after tomorrow	后天	tsʰʌ³³pʰʌ⁵⁵ni³³	pʰa²¹ni³³	tse³³pʰe²¹ni³³	tsʰɣ³³pʰɣ⁵⁵je³¹	tsʰɔ⁵⁵pʰə²¹ne³³
23	year	年	kʰo³³	kʰo³¹	kʰo³¹	kʰo³¹	kʰu²¹

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#	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
24	this year	今年	tʰi³³ɲi³³kʰo³³	tʰi³³ɲi³³	tʰi³³ɲi³³	tʰi⁵⁵ɲi³³	tsʰɨ²¹nɛ̃³³
25	last year	去年	a²¹ɲi³³kʰo³³	a²¹ɲi³³	a²¹ɲi³³	a²¹ɲi³³	me⁵⁵nɛ̃³³
26	year before last	前年	ʂi³³ɲi³³kʰo⁵⁵	si³³ɲi³³kʰo³³	si³³ɲi³³	si³³ɲi³³	su²¹mi⁵⁵nɯ³³
27	next year	明年	na³³he⁵⁵	ɲia³³kʰu³³	na³¹he³¹	na³³he³³	nɑ²¹xɑ³³
28	year after next	后年	na³³ɲi³³	nu⁵⁵ɲi³³	nu⁵⁵ɲi³³	nu⁵⁵ɲi³³	nɯ⁵⁵nɯ³³
29	this evening	今晚	a⁵⁵me³³	u⁵⁵me³³	u²¹me³³	u⁵⁵me³¹	
30	this morning	今早	a⁵⁵na⁵⁵hɯ³³	a⁵⁵xu³³	u²¹su³³nɯ³³	u⁵⁵su³¹nɯ³³	
31	cow	牛		ni⁵²	a⁵⁵ɲi²¹	ni³¹	ɲi²¹sɨ⁵⁵
32	water buffalo	水牛	u⁵⁵ɲi³¹	o⁵⁵ɲi²¹	ɣɯ²⁵ɲi²¹	u⁵⁵ɲi³¹	kʰɑ³³pʰɯ⁵⁵
33	horse	马	mɯ³¹	mɯ³¹	a⁵⁵mu²¹	mɯ³¹	me²¹
34	pig	猪	ve̞³¹	va̠²¹	a⁵⁵ve²¹	ve³³	wɑ²¹
35	goat	山羊	a³³tɕʰɨ⁵⁵	a⁵⁵tsʰɨ²¹	a⁵⁵tɕʰɨ²¹	a⁵⁵tsʰe⁵⁵	tɕʰɨ²¹
36	ram	公羊	a³³tɕʰɨ⁵⁵po⁵⁵	a⁵⁵tsʰɨ²¹po³³	a⁵⁵tsʰɨ³³kʌ²¹	a⁵⁵tsʰɨ⁵⁵pu⁵⁵	
37	sheep	绵羊	ʑiɔ³³		a⁵⁵ʑɔ⁵⁵	ʑiɔ³³	zu³³
38	dog	狗	tɕʰi³¹	a⁵⁵nu²¹	a⁵⁵no²¹	a⁵⁵nu⁵⁵	kʰɯ²¹
39	dragon	龙	ɬo̞³¹	lu³¹	lo̞²¹	lu³¹	le³³
40	tiger	老虎	lo³¹		lo̞²¹mɔ²¹	lu³¹mʌ³¹	lɑ²¹
41	leopard; panther	豹	ʑi̠³¹		ʑi³³bo³¹	ve³³mʌ³¹	kʰɑ²¹zi²¹
42	monkey	猴子	a⁵⁵mio³³	nɔ⁵²	a⁵⁵miɔ³¹	a⁵⁵miɔ³¹	a⁵⁵mu²¹
43	pangolin	穿山甲			tʰɔ²¹kʰɛ²¹	pʰʌ³³kʰe³³	
44	muntjac deer	麂子 / 赤鹿		tsʰɨ³³	tɕʰɨ⁵⁵	tsʰe³³	ne²¹kʰə²¹
45	rat; mouse	老鼠	ha³³	ha³³	a⁵⁵hæ³³	ha³³	xu³³
46	chicken	鸡	je³³	ja³³	a⁵⁵je³³	je³³	xɑ³³
47	rooster	公鸡	je³³pu³³	ja⁵⁵pu⁵⁵mo³³	a⁵⁵je³³pʰɯ⁵⁵	je³³pu³³	xɑ³³pʰe⁵⁵

	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
48	bird	鸟	ŋa³³	ŋa³³	a⁵⁵ɲe³³	ŋa³³	ŋa³³za²¹
49	crow	乌鸦	dzi³³ma³¹	a³³na³³	a⁵⁵ne³³mu³³	a⁵⁵ne³³mu³³	lo²¹ŋa²¹
50	fish	鱼	ŋo⁵⁵	ŋu⁵⁵	ũ̯²¹	ŋu⁵⁵	ŋa²¹sɑ²¹
51	leech	蚂蟥(水蛭)	vi³³ve̯²¹	bu³¹	bu⁵⁵ve²¹	ʑi³³ve³¹	ɛ⁵⁵ɛ²¹ma³³
52	insect	昆虫	bi³³di⁵⁵	bu³¹	bi²¹di²⁵		pe²¹
53	fly	苍蝇	jʌ³³mu³¹	dʑio³³mu²¹		jʌ³¹mi³³	xa⁵⁵pʰu²¹
54	honeybee	蜜蜂	biu³¹	ɖo⁵²	tsʰo³³bio³¹	tsʰo³³bi³³lu³¹	pa²¹ɣɯ⁵⁵
55	grasshopper	蚱蜢	tsɛ³³bu³³	tsɛ³³bu³³	tsʰɛ⁵⁵pu⁵⁵	tsɛ⁵⁵pu³³	
56	egg	蛋	je³³fu³³	ja²¹fu³³	a⁵⁵je³³fu³³	je³³fu³³	ɣ̃³³
57	wing	翅膀	du³³le̯³¹	do³³la⁵⁵	du²⁵le²¹	du³³le³¹	i³³tɕə⁵⁵
58	horn	角	kʰɯ⁵⁵ba³³	kʰɯ³³ba³³	kʰɯ³³	tɕʰiu³³	yu²¹tɕʰin⁵⁵
59	tail	尾巴	mɛ³³	mɛ⁵⁵	mɛ̃²¹	mɛ⁵⁵	te²¹me²¹
60	(cocks)comb	冠(鸡冠)	je³³ku³³	ja²¹kɯ³³		je³¹kɯ³³	
61	brood, incubate	孵	mɤ⁵⁵	mɯ⁵⁵	mɯ⁵⁵	mɯ⁵⁵	
62	rooster crow; call (of animals)	嘀(公鸡嘀)	bɯ³³	bu³³			te³³
63	bark (of dog)	吠(狗叫)			lu³¹	lu̯³¹	ɬə⁵⁵
64	tree	树	ɕi³³dze³³	ʃi³³	si³³dzi³³	si³³dzi³³	si³³tsə³³
65	bamboo	竹子	mõ³³	mo³³	mu²⁵	mu³³	ma⁵⁵
66	wheat	小麦	ʂo³³	ʂu⁵⁵	ʂu⁵⁵	so⁵⁵	sa⁵⁵
67	buckwheat	荞麦(荞子)	gu³¹	go³¹	go²¹	go³¹	ka²¹tɕʰi⁵⁵
68	barley	大麦	dzu³³	zu⁵⁵	zu³³	zo³³	zə³³
69	sorghum	高粱	mu³³lu⁵⁵		mɯ³¹lɯ³¹	mu²¹lɯ⁵⁵	mo⁵⁵ɬo⁵⁵
70	corn	玉米	ʂɯ³³pɯ³³	ʂu⁵⁵pu⁵⁵	ʂu⁵⁵pɯ³³	su⁵⁵pɤ³³	sa⁵⁵ma³³
71	vegetable	蔬菜	ɣa³³tɕi⁵⁵	ɣɔ²¹tsʰa⁵⁵	ɣɤ³¹	ɣɔ³¹	ko²¹tsʰa²¹

Gloss			Lipo	Lolopo	Miqie	Geipo	Hani
72	grass	草	ʂi⁵⁵be³¹	ʂɯ⁵⁵be²¹	ʂi³³pa³¹	si⁵⁵ba³¹	tsɑ³³kɑ²¹
73	seed	种子	ʂi⁵⁵mɤ³³	ʂɯ⁵⁵mu³³	ja³¹ʂi³	ja²¹si⁵⁵	tsɑ⁵⁵we²¹
74	leaf	叶子	çi³³pʰe⁵⁵	ʂi³³pʰa⁵²	ja³¹pʰe³¹	ja²¹pʰe⁵⁵	i³³pʰɑ²¹
75	unhulled rice	谷子 (稻谷)	tɕʰi³³	tɕʰe³³	tɕʰi⁵⁵	tɕʰe³³	tɕʰin⁵⁵
76	rice (grains)	米	tɕʰi³³pʰiu³³	tɕʰe³³tʰu³³	tɕʰi⁵⁵pʰu⁵⁵	tɕʰie³³pʰiu³³	tɕʰiŋ⁵⁵pʰu⁵⁵
77	cooked rice	饭	ndzo³³	zo³³	tsu²⁵	dzo³³	xo²¹tsɑ²¹
78	glutinous rice	糯米	tɕʰie³³ɲiɔ³¹	tɕʰe³³ɲiɔ³¹		tɕʰie³³dʑiɔ³¹	
79	mushroom	菌子	mɯ³³lɯ³³	mɯ³³lu³³	mɯ²⁵	mɯ³³	xe⁵⁵
80	germinate, sprout, bud	发 (芽)	nɯ³³tʰiɔ⁵⁵	nɯ³³dɔ³³	ja²¹bɯ³³	bi³³bi³³	i³³pʰɔ²¹ne³³
81	bloom; blossom	开 (花)	ve³³pʰu³³	vɛ³³lu³³ve³³	ve²⁵	ve³³ve³³	we³³
82	bear fruit	结 (果)	dɣ³¹	mo³³ɣ³³		dɣ³¹	ɣi⁵⁵çi²¹to²¹
83	house	房子	hĩ⁵⁵	hẽ⁵⁵	hĩ⁵⁵	hẽ⁵⁵	zə⁵⁵
84	tile (ceramic)	瓦片	ɲiɛ³¹	ŋe³¹	ŋiɛ³¹	ge³¹	mo⁵⁵tɕʰiŋ³³
85	charcoal	木炭	sɛ³³ni³³mo⁵⁵	sɛ³¹ni³¹	sɛ³³ŋie³¹	sɛ³³ŋie³¹	kʰɑ²¹ɣɯ²¹
86	bracelet	手镯	le³¹dʑiu³³	la³¹dʑiu³³	le²¹gu³³	le³¹dʑiu³³	kɯ²¹tu²¹
87	clothing	衣服	pʰiʌ³³	tʰɔ³³	pʰiɔ⁵⁵	pʰiɔ³³	kʰo³³
88	pants	裤子	lu²⁵du²¹	lu⁵⁵	me²¹lu⁵⁵	lu⁵⁵du²¹	ɬɑ²¹tə²¹
89	shoes	鞋	tʰɣ⁵⁵lɣ³³	tɕʰie⁵⁵ŋɣ³³	kʰɯ⁵⁵ne³³	tɕʰi⁵⁵dɣ³³	kʰə⁵⁵nɑ³³
90	lard	动物油	tsʰɛ³³	tsʰɛ³³	tsʰɛ⁵⁵	tsʰɛ³³	tɕʰi⁵⁵
91	salt	盐	tsʰo³¹	tsʰo³¹	tsʰo³¹	tsʰo³¹	tsʰɑ²¹tɯ²¹
92	meat	肉	xo³¹	xo³¹	xo³¹	xo³¹	sɑ²¹
93	liquor	酒	dzɿ³³bɛ³¹	dzɿ³³bɛ³¹	dzɿ²⁵bɛ²¹	dzɿ³³bɛ³¹	ɣɯ⁵⁵sɿ⁵⁵
94	knife	刀	a⁵⁵tʰo²¹	a⁵⁵tʰo²¹	a⁵⁵tʰo²¹	a⁵⁵tʰo²¹	tsʰɑ³³pɑ⁵⁵
95	plow	犁	lo³¹kʰe³¹	çi³³go³¹	si³³go²¹	si⁵⁵go³¹	mɑ²¹tsʰə²¹
96	needle	针	ɣɯ⁵²	ɣɣ⁵²	ɣɯ²¹	ɣɣ³³	ko²¹

	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
97	medicine (herbal)	药	no^{55}tɕʰɿ^{33}	nu^{55}tɕʰɿ^{31}	tsʰɿ^{21}	nu^{33}tsʰɛ^{31}	nɑ^{33}tɕi^{21}
98	chopsticks	筷子	a^{55}dʐu^{33}	a^{33}dʑu^{33}	a^{55}dzu^{33}	a^{55}dzu^{33}	tu^{33}tɑ^{55}
99	manure; fertilizer	粪 (肥料)		ɬi^{31}		çi^{31}	
100	road	路	dziu^{33}mu^{33}	dʑʅ^{33}mu^{33}	gu^{25}mu^{33}	dʑiu^{33}mu^{33}	kɑ^{55}mɑ^{33}
101	bridge	桥	tsɣ^{33}	tsɣ^{33}	ndzɣ^{25}	ndzɣ^{33}	tɑ^{33}tsə^{55}
102	market	街子 (市场)	kʰɯ^{33}	kʰɯ^{31}ga^{31}		ntsi^{33}	tʰe^{21}le^{21}mu^{21}
103	village	村 (寨)	kʰa^{55}gɣ^{33}	kʰa^{55}	tsʰɔ^{33}kʰæ^{33}	tsʰɔ^{33}kʰɑ^{33}	pʰu^{33}lɑ^{33}
104	shadow	影子	a^{55}ɣɯ^{33}zo^{21}	a^{55}ɣɯ^{33}se^{31}		a^{55}ɣɯ^{33}lɯ^{33}	a^{55}ɣɯ^{33}
105	soul	魂	ɬo^{33}	ɬo^{55}		çiu^{33}	
106	body	身体	gɯ^{33}tʂɿ^{33}	gɯ^{55}dɯ^{31}	gɯ^{25}tɕʰɿ^{21}	gɯ^{55}tsʰe^{31}	ko^{55}lɑ^{21}
107	brain	脑髓	a^{55}dɯ^{33}	ɣ^{55}du^{55}kɣ^{33}	u^{55}no^{31}	ɣ^{55}dɣ^{33}	ɣu^{21}no^{21}
108	head hair	头发	a^{55}tsʰɯ^{33}	ɣ^{55}tsʰɣ̊^{33}	ɯ^{55}tsʰɯ^{33}	ɣ^{55}tsʰɣ̊^{33}	ɣu^{21}tu^{21}
109	face	脸	pʰe^{31}me^{33}	kʰa^{33}na^{33}	pʰu^{33}me^{33}	pʰu^{31}me^{33}	mɑ^{33}pʰu^{21}
110	eye	眼睛	me^{33}du^{21}	na^{55}du^{31}	me^{33}sɛ^{31}	me^{33}se^{33}	mɑ^{55}tɕi^{33}
111	nose	鼻子	nu^{33}kʰu^{33}	nu^{55}kʰu^{55}	nu^{55}kʰu^{33}	nu^{55}kʰu^{33}	nɑ^{55}me^{55}
112	ear	耳朵	no^{55}pa^{33}	nu^{55}ba^{33}	nu^{33}pa^{55}	nu^{55}pa^{33}	nɑ^{21}tə^{21}
113	teeth	牙齿	zɣ̊^{33}	tsɛ^{33}	sɯ^{31}	sɣ^{31}	su^{21}
114	hand/arm	手/胳膊	le^{33}ɣu^{31}	la^{52}ɣɯ^{21}	le^{31}pe^{33}	le^{31}pe^{33}	la^{21}pɑ^{33}
115	foot/leg	脚/腿	tɕʰɿ^{33}ɣu^{31}	tɕʰɿ^{33}ɣu^{21}	kʰɯ^{55}pe^{33}	tɕʰɿ^{55}pʰe^{33}	ɣi^{33}kʰɯ^{55}
116	belly	肚子 (腹部)	a^{55}pɯ^{33}	a^{33}pɯ^{55}	u^{21}pɯ^{55}	ɯ^{55}pɯ^{33}	ɣo^{21}mɑ^{33}
117	waist	腰	tso^{33}ɣu^{31}	tso^{33}ɣu^{21}	tʂʰo^{31}	tso^{31}pe^{33}	tsu^{21}
118	heart	心	ni^{33}mu^{33}	ni^{33}mu^{33}	ni^{33}mo^{33}	ni^{33}mo^{33}	nɯ^{33}mɑ^{33}
119	liver	肝	di^{33}ʅi^{33}	ʂ̩^{52}	sɿ^{31}kʰe^{33}	sɿ^{31}kʰɛ^{33}	i^{33}tsʰə^{21}
120	gallbladder	胆/苦胆	tɕi^{33}	tɕi^{33}	tɕi^{55}	tɕi^{55}	pʰi^{21}kʰɯ^{55}
121	blood	血	si^{31}	ʂ̩^{21}	si^{21}	se^{31}	çi^{21}

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	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
122	snot	鼻涕/粘液		nu^{55}bi^{55}	nu^{55}ɣɯ^{55}	nu^{55}bi^{33}	nɑ^{21}pe^{55}
123	excrement	屎	ɬi^{31}	ɬi^{31}̃	çi^{21}	çi^{31}	tɕʰɿ^{21}
124	urine	尿	ʑi^{31}	ʑi^{31}̰	zi^{31}	zi^{31}	ɣɑ^{21}tɕʰi^{55}
125	tendon	筋/腱	tɕiu^{31}	tɕiu^{31}	gu^{31}	dʑiu^{31}	i^{33}ku^{21}lu^{21}
126	child	儿童	a^{33}ɲie^{55}zo^{21}	a^{33}ɲie^{55}lo^{21}	a^{33}ɲie^{33}zo^{21}	a^{55}ɲe^{33}	zɑ^{21}ne^{55}
127	old (person)	老（老人）	mɔ^{31}	mɤ^{31}	mɔ^{21}	mɔ^{33}	zɑ^{21}mo^{21}
128	young (person)	年轻	le^{33}hi^{31}	kʰu^{55}tʰu^{33}jɛ^{55}		jɔ^{33}	kʰu^{21}tʰe^{33}ȵi^{55}
129	father's mother	奶奶	a^{33}ŋe^{33}	a^{33}ŋe^{33}	a^{55}ne^{33}	a^{55}ne^{33}	a^{33}ne^{33}
130	wife's father	岳父			jo^{21}pʰo^{31}	je^{31}pʰu^{31}	
131	younger brother	弟弟	ɲie^{33}zo^{21}	ɲie^{33}mɔ^{21}	ɲie^{25}zo^{21}	ɲie^{55}zo^{21}	a^{33}ȵi^{55}
132	younger sister	妹妹	na^{55}mu^{33}	nɛ^{55}mu^{33}	ɲie^{25}mu^{33}	ɲie^{33}mu^{33}	na^{55}mɑ^{33}
133	son	儿子	zo^{31}	zo̰^{21}	zo^{31}	zo^{31}	zɑ^{21}
134	daughter	女儿（姑娘）	zo^{33}mɛ^{21}	zo̰^{21}mɛ^{31}	zo^{31}mɛ^{31}	zo^{31}mɛ^{31}	zɑ^{21}mi^{21}
135	son's wife	儿媳（媳妇）	tɕʰi^{33}mu^{33}ne^{55}	ɬu^{33}tɕʰɛ^{55}	zu^{21}kʰu^{21}mu^{33}	zo^{31}tɕʰi^{33}mu^{55}	zɑ^{21}kʰɯ^{21}mɑ^{33}
136	daughter's husband	女婿	a^{21}pu^{33}mɔ^{31}	si^{55}ɣu^{33}	zu^{21}me^{21}mɯ^{21}ɣɯ^{25}	zo^{31}me^{21} sɯ^{55}ɣɯ^{33}	a^{21}zɑ^{21}
137	son's son	孙子	lɯ^{55}po^{33}	li^{55}po^{55}	li^{31}pu^{31}	li^{55}pu^{55}	li^{55}zɑ^{21}
138	father+children (CLF)	三父子	sa^{33}po^{55}lo^{31}	ni^{21}sa^{33} pʰo^{55}lo^{31}		so^{33}pu^{55}lo^{33}	
139	mother+children (CLF)	三母子	sa^{33}mo^{55}lo^{31}	ni^{21}sa^{33} mo^{55}lo^{31}		so^{33}mu^{55}lo^{33}	

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	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
140	grandfather + grandchildren (CLF)	三爷孙	sa³³pu⁵⁵lu³¹	ni²¹sa³³ pʰi⁵⁵li³¹		so³³pʰi⁵⁵li³³	
141	white; silver	白	pʰiu⁵⁵pʰiu³³	tʰu³³	pʰu³³	jʌ²¹pʰiu³³	pʰu⁵⁵
142	yellow; gold	黄	ʂa⁵⁵sɛ³³	sɛ³³	se⁵⁵	jʌ²¹sɛ³³	si⁵⁵
143	black	黑	na³³	na³³	ne³³	ja²¹ne³³	na³³
144	grey	灰色	pʰɛ⁵⁵pʰɛ³³	pʰɛ³³	pʰɛ³³	jʌ²¹pʰɛ³³	pʰw⁵⁵
145	sharp (blade)	快 (刀快)	dʑiɔ³³	tʰa³³		tʰe³³	tʰɑ³³
146	crooked; bent	弯 (棍子弯)	go²¹le̠²¹	ngo̠³¹		go̠³¹	ku²¹
147	hard	硬	xiɛ³³	hɛ³³		xiɛ³³	kə⁵⁵
148	soft	软	nu³¹	nu⁵²	nu³³	nu³³	xɑ²¹
149	wet	湿 (衣服湿)	ʑi³³tsʰu³¹	ʑɛ³¹		ʑi³³tsi³¹	zu²¹tʂu²¹
150	dry	干 (衣服干)	fɛ³³	fɛ³³		fɛ³³	
151	new	新	jɛ³¹ɕi⁵⁵	ɕi⁵⁵ɕi³³		jʌ²¹ɕie³³	ʃi²¹
152	old	旧	li³³	lw³³	li⁴⁴	li³³	li⁵⁵
153	easy	容易	pe³³so⁵⁵	pe³³gu³³su³³		pe⁵⁵so³³so³³ so³³	
154	difficult	难		pe³³su⁵⁵dʑiɔ³³			
155	cold (weather)	冷	dʑi³³	dʑia³³	dʑe³³	dʑie³³	
156	warm	暖和	no³³mɤ⁵⁵	lw³³mw⁵⁵	lw⁴⁴mw³³	lɤ⁵⁵mu³	
157	full (stomach)	饱	bo³³	bo⁵⁵	bo³³	bo³³	pu³³
158	hungry	饿	mw³¹	me³¹	me³¹	me³¹	me²¹
159	thirsty	渴	ɕi⁵⁵	ɕi³¹	si³¹	sɛ³³	ʃu²¹
160	short	短	niu⁵⁵	niu⁵⁵	i²¹	niu⁵⁵	ɳo⁵⁵
161	ashamed	惭愧 (害羞)	ɕie⁵⁵tɔ³³	sa⁵⁵to³³	ɕi²¹tɔ³³	xi²¹tɔ³³	

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	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
162	cooked; ripe	熟 (熟肉)	mi³³	mi³³	mi³³	mi³³	i³³mə³³
163	sticky	粘	ŋɣ⁵⁵ŋɣ³³di³¹	ŋia³³		ŋia³¹	
164	early	早 (来得早)	ne̥³¹		ne³¹	ne³¹	nɑ²¹
165	near	近	nɛ³¹	nɛ³¹	ne³¹	ne³¹	me⁵⁵ɲi²¹
166	far	远	mi³³vu³¹	vi̥³¹	mi²⁵ve²¹	mu³³vi³¹	xe²¹
167	high	高	mɯ³³	mɯ³³	mɯ⁵⁵	mɯ³³	ma²¹ɣioŋ³³
168	low	低	tɕʰiɣ³³ni³³	tɕʰiɣ³³ni³³	mie³³	mia³³	ɣioŋ³³
169	deep	深 (水深)	ne³³			ne⁵⁵	nɑ²¹
170	many	多	miu³¹	wɣ⁵⁵no³¹	miu³¹	mio³³	ma²¹
171	big	大	ɣɛ³¹	ɣɛ³¹		ɣɛ³¹	xɯ²¹
172	small	小	ɣiɔ³³	ʑiɛ³³	zo²¹	ʑiɔ³³	ɲi⁵⁵
173	light (weight)	轻	ʌ³³	la³³	lɔ²⁴	lɔ³³	pʰɑ⁵⁵
174	heavy	重	li̥³¹	li̥³¹	li³¹	li³¹	tsʰə³³
175	thick	厚	tʰɣ⁵⁵	tʰu³³	tʰu⁵⁵	pʰu³³	tʰu³³
176	thin	薄	bo³¹	bo³¹	bo²¹	bo³¹	pɑ²¹
177	one	一	tɕʰi²¹	tsu³¹	tɕʰi³¹	tɕʰi²¹	tʰi²¹
178	two	二	n̩²¹	n̩²¹	ni²¹	ni²¹	ɲi²¹
179	three	三	sʌ³³	so³³	sɔ³³	so³³	sə²¹
180	four	四	li³³	li³³	li³³	li⁵⁵	li²¹
181	five	五	ŋu²¹	ŋu²¹	ŋu²¹	ŋu²¹	ŋɑ²¹
182	six	六	tɕʰiu⁵⁵	tɕʰiu³³	kʰo³¹	tɕʰio³³	kʰu²¹
183	seven	七	ɕi²¹	ɕi²¹	xɯ³¹	ɕi²¹	ɕi²¹
184	eight	八		hḛ⁵⁵	hḛ²¹	he⁵⁵	xe²¹
185	nine	九	gu³³/tɕʰio⁵⁵	kɯ³³	kɯ³³	kɯ⁵⁵	kui²¹
186	ten	十	tsʰe³³	tsʰe³³	tsʰe²⁵	tsʰe³³	tsʰe⁵⁵
187	eleven	十一	tsʰe³³tɕʰi²¹	tsʰɛ³³ti⁵⁵	tsʰe²⁵ti²¹	tsʰɛ³³ti⁵⁵	tsʰe⁵⁵tʰi²¹
188	twelve	十二	tsʰe³³ŋ²¹	tsʰɛ³³ni²¹	tsʰe²⁵ni²¹	tsʰe³³ni²¹	tsʰe⁵⁵ɲi²¹

	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
189	twenty	二十	ŋ^{21}tsʰe^{3}	ni^{21}tsʰe^{33}	ni^{21}tsʰe^{55}	ni^{21}tsʰɛ^{55}	ɲi^{21}tsʰe^{55}
190	hundred	百		tsi^{21}hũ^{33}	tɕʰi^{21}hũ^{33}	tɕʰi^{21}hũ^{33}	xɑ^{55}
191	GEN CLF	个	tæ^{33}	tæ^{33}	tʰæ^{31}	tʰæ^{33}	mɑ^{55}
192	armspan	庹 (两臂伸直)		tsʰɿ^{31}pʰɛ^{31}		tɕʰi^{21}lu^{55}lɔ^{33}	to^{33}
193	handspan	拃 (拇指,中指)		tsʰɿ^{31}tsa^{31}		tɕʰi^{21}tʰɤ^{33}	to^{35}
194	left	左边		a^{33}vɛ^{55}	vɛ^{33}ɕi^{55}bɛ^{21}	a^{21}vɛ^{33}	lɑ^{21}kə^{55}
195	right	右边	le^{21}jiu^{55}bɛ^{33}	la^{31}jio^{33}	jiu^{33}ɕi^{55}bɛ^{21}	le^{21}jiu^{33}	lɑ^{21}mɑ^{33}
196	look at	看	ĩ^{33}	i^{33}	ne^{31}ɿ^{33}	ne^{31}ɿ^{33}	ɑ^{33}xɑ^{21}
197	see	看见	miʌ^{33}ga^{55}	i^{33}mɛ^{33}	miɔ^{25}	miɔ^{33}	mo^{55}
198	listen	昕	no^{33}	dʑio^{31}	nu^{55}	nu^{55}	kɑ^{21}ha^{21}
199	hear	听见	no^{33}ga^{55}	dʑio^{33}jʌ^{55}	nu^{55}gu^{33}la^{33}	dʑiu^{33}ɔ^{33}	nə^{55}
200	eat	吃	tɕʰia^{33}	tɕʰia^{33}	tɕʰia^{33}	tɕʰia^{33}	tsɑ^{21}
201	feed	喂 (人、猪)	ba^{33}	dɔ^{55}tɕʰia^{33}	zɔ̩^{21}	mʌ^{33}	
202	drink	喝	dɔ^{33}	ndɔ^{33}	dɔ^{25}	ndʌ^{33}	to^{55}
203	bite	咬	kʰɤ^{55}tʰɛ^{33}	kʰɤ^{52}	kʰo^{31}	kʰɤ^{33}	tsʰe^{21}
204	chew	嚼	gu^{21}	go^{31}	go^{31}	je^{31}	ko^{21}
205	lick	舔	lɛ̩^{31}	lɛ^{52}	lɛ^{31}	lɛ^{31}	mɯ^{21}
206	savor	含	mɤ^{33}	mɤ^{33}	mɤ^{33}	mɤ^{33}	
207	spit	吐 (吐口水)	pʰe^{55}	pʰe^{52}	pʰi^{31}	pʰe^{33}	pʰe^{21}
208	vomit	呕吐			pʰe^{21}	u^{21}pʰe^{33}	pʰe^{21}
209	say	说	mbe^{33}	ba^{33}	be^{33}	be^{33}	tʰə^{55}
210	smell	闻 (嗅)		nɤ^{55}	nɯ^{31}	nɤ^{55}	
211	sweat	汗	kɛ^{55}	kɛ^{55}	ke^{31}	kɛ^{55}	kʰə^{21}pʰu^{55}
212	swell	肿	pʰɯ^{55}	pʰɯ^{52}		pʰɤ^{55}	tsə^{33}
213	fart	放屁	vi^{31}	vi^{33}pʰɿ^{33}		vi^{33}vi^{31}	ɣe^{21}kʰɑ^{21}
214	defecate	解大便	ɬɿ^{31}pe^{33}	li^{31}pe^{33}		ɕi^{31}e^{31}	

	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
215	urinate	解小便	ʑia³¹pe³³	zi³¹hõ³³		ʑi³¹so³³	
216	kick	踢	tʰiɛ³³	tʰɛ⁵⁵	tʰɛ³³	tʰe³³	tʰe⁵⁵
217	carry on back	背 (背小孩)	dʑia⁵⁵buɯ³³	ba⁵²	ba³¹	buɯ³¹	pʰi³³
218	carry in arms	抱 (抱小孩)	te³³	ta⁵⁵		te³³	
219	ride; ride on	骑 (骑马)	dze³¹	ze³¹		ntsɛ³³	tɕi²¹
220	stand	站 (站位)	hio³³	hẽ⁵²	huɯ³¹	xɣ³³	xo²¹
221	sleep	睡觉	zɨ³¹	ɕi⁵²	mɯ⁵⁵	je³¹	zu²¹
222	dream	做梦	zɨ³¹mɯ³³kʰa³³	ji⁵⁵mɯ⁵⁵kʰa⁵⁵	zɨ³³mɯ³³kʰa⁵⁵	je³¹me³³kʰa³³	zu²¹xɑ⁵⁵mɑ³³
223	awake	醒 (睡醒)	ho⁵⁵tɕʰi³¹	ho⁵⁵tɕʰia³³	ho³¹le⁵⁵	hu⁵⁵tɕʰi³¹	ne²¹
224	laugh; smile	笑	je³³	je³³		je³³	ɣɯ⁵⁵
225	know; understand	懂；知道	sɛ³³	se⁵⁵ou³³	sɛ³¹	sɛ³¹	ɕi²¹le³³
226	remember	记得	ho⁵⁵tɕʰiɛ³³	hu⁵⁵tɕʰia³¹	xo²¹du²⁵	hu⁵⁵tɕʰiɔ³¹	tɕʰin³³ze⁵⁵
227	fear	怕	dʑiu³³	dʑiu³³		dʑiu³³	
228	have courage	敢	pe³³pɯ⁵⁵	be³³pi⁵⁵ga³³		pi⁵⁵pi⁵⁵piɛ³³	nuɯ³³mɑ³³
229	fly	飞	biu³³	ndɯ³³		biu³³	pə⁵⁵
230	graze; herd (a flock)	放牧	tɕi³³lo⁵⁵	ni²¹lo⁵⁵	ni²¹lo⁵⁵	ni²¹lo⁵⁵je³³	ȵi²¹ɣu⁵⁵
231	dig	挖 (挖洞)	kɛ⁵⁵	kɛ⁵²	ke³¹		ku³³pʰu³³
232	split; chop (wood)	劈 (劈木柴)	ɕi³³tʰɛ⁵⁵	kʰɛ⁵²	kʰe²¹	kʰɛ³¹be³¹	kʰə²¹
233	pound	舂 (舂捣碎)	te⁵⁵	te⁵⁵		te³⁵	
234	dry (in the sun)	晒 (晒太阳)	lɣ⁵⁵	lɣ⁵⁵		lɣ⁵⁵	ɬo²¹
235	blow (on)	吹 (吹火)	mɯ³³	mɯ³³	mɯ³³	mɣ³³	
236	buy	买	vɛ³³	vɛ³³	vɛ²⁵	vɛ³³	ɣu⁵⁵

	Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
237	sell	卖	vu²¹	vu³³	vu³¹	vu³¹	ə²¹
238	borrow (money)	借（借钱）	ŋo⁵⁵	ŋo⁵⁵	ŋo⁵⁵	ŋo⁵⁵	ŋɑ²¹
239	count (number)	数（数东西）	ɣɯ³³	ɣɯ³³	ɣɯ³³	ɣɯ³³	xe³³
240	weigh	称	tɕi³³	tɕi³³	tɕi³³	tɕi³³	tɕi⁵⁵
241	teach	教	mu⁵⁵	mu⁵⁵	ũ⁵⁵	bu⁵⁵gɯ³³	mɑ²¹
242	study	学	ndzɑ³³	ndza³³	ndzɔ²⁵	ndza³³	tsu⁵⁵
243	write	写	vɛ³³	vɛ³³	vɛ²¹	vɛ̰³¹	le²¹
244	cook; boil	煮	tsa³³tɕʰi⁵⁵	tsʰa⁵⁵	tɕi²¹	tsʰa³³	tsʰɑ²¹
245	boil	沸	ɬa³³	ɬa⁵⁵		tsu³³	tsʰu⁵⁵
246	stirfry	炒	lu⁵⁵	lu³³	lu³³	lu³³	ɬu⁵⁵
247	steam	蒸	pu⁵⁵	pu⁵⁵	se²¹	pu⁵⁵	
248	wear; put on	穿（衣服）	vḛ²¹	vḛ³¹		ve³¹	tə³³
249	take off	脱（脱衣服）	lɯ⁵⁵	lɯ⁵²		lie³¹	ɬe³³
250	shave	剃（头）	tsʰo³¹	tsʰo⁵⁵		tʰu³³tsʰɛ³¹	ɣu²¹tu²¹
251	comb	梳（梳头）	pɯ⁵⁵	pi³⁵		pi⁵⁵	so²¹
252	sweep	扫（扫地）	si³³	ʂi³³		si³³	zɑ³³
253	put down; put/place	放（下），放置	pʰiu³³se⁵⁵	tʰɣ²¹tɕʰe³³		pe³³pʰiu³¹	
254	drive out	赶（驱逐）	gɑ̰³¹	gɑ³¹		gɑ̰³¹	
255	shut	闭（闭眼）	me³³	mi⁵⁵		mi⁵⁵tu⁵³	
256	untie	解（解绳结）	pʰɣ⁵⁵h̃ɛ̃³³	pi⁵⁵		pʰi³³	pʰɯ⁵⁵
257	load; pack (put in)	装		tɕe⁵⁵		tɕi³³	
258	get; obtain;	得（得到）	wo³³	be⁵⁵ɣo⁵⁵		wo³³	ɣɑ³³
259	use	用（使用）	li³³tʰɛ³³	zɣ³¹		wu³³	zə²¹
260	help	帮助	pe³³pa⁴³	pe³³dʑiu³³		dʑiu³³pa⁵⁵	dɑ³³

Gloss		Lipo	Lolopo	Miqie	Geipo	Hani
261 cure; treat; heal	医治	no³³gu³³	gu³³da⁵⁵		gu³³	nɑ⁵⁵zu⁵⁵zɑ³³
262 shake	摇动	ŋʲɔ³³	ɲiɤ³³		ŋʲɔ³³	
263 kill	杀 (杀鸡)	xu³¹	xɔ̰³¹		se³³	se²¹
264 die	死	çi³³	çi⁵⁵	çi³³	çi³³	çi⁵⁵zɑ³³
265 sharpen (grind)	磨 (磨刀)	sɛ³³	sɛ⁵⁵	sɛ³³	sɛ³³	çi²¹
266 divide; separate; distribute	分	fi³³	fi⁵⁵		bɯ³³	pi⁵⁵
267 ascend	上 (上山)	ga³³sɯ³³	za³³da³³		ti³³je³³	le³³
268 descend	下 (下山)	tʰa³³sɯ³³	za³³tɕʰio³³		tse³³ʝi³³	zɑ²¹
269 come	来	lɔ³³	lɔ⁵⁵	le²⁵	le³³	lɑ⁵⁵
270 go	去	ʑi³³	ze³³	ʑi̥²⁵	ʑe³³	ʑi⁵⁵
271 climb	爬 (上)	me³³	tɕʰi⁵⁵dɔ³³		mbɛ³³	tɛ⁵⁵
272 arrive	到	tɕʰiu³³	tɕʰio⁵⁵		tʰue³³	kʰo³³lɑ⁵⁵
273 exit (come out)	出 (出去)	li³³jo³³	ɣa³³dui³³		du³³ʝe³³	
274 be short of; lack	缺 (碗缺)	ma³³lo³¹	go³³ni⁵⁵		i²¹dza³³	
275 give; BEN	给	dʑa⁵⁵gɯ³³	tɔ⁵		gɯ³³	pi²¹
276 affirmative	是 (是的)	ŋɔ³⁵	n̩²¹ka³¹		ŋɔ³¹	
277 have; exist	有	ndza³³	dza³³	dza²⁵	dza³³	tsɑ³³
278 not (NEG)	不 (他不来)	mʌ²¹	mʌ²¹	ma²¹	i²¹	mɑ²¹
279 don't	别 (别去)	tʌ³³	ta³¹	tʰɔ³¹	tʰɔ³¹	tʰɑ²¹

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Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
		Fawo, Shanpin	Jiyi, Xinmin	Maojie, Maojie	Shishan, Huapo	Maojie, Yongquan	Dongpo, Suosuoka
		M-58; 2014	F-44; 2014	M-34; 2014	F-28; 2014	F-31; 2014	M-35; 2014
1	[group autonym] 自称	na³³su³³pʰo³³	a⁵⁵lu³³pʰɯ⁵⁵	ne⁵⁵su³³pʰo⁵⁵	a³⁵hmo³³kləu³¹	mɛŋ⁴⁴kləu⁵³	tai⁵⁵
2	[group language] 自称 (话)	na³³suʔ³³ŋo³¹		ne⁵⁵su³³hũ²¹	a³⁵hmo³³lu³²		ga⁵⁵tai⁵³
3	sky 天 (天空)	mu³³	mu³³ka³³la³³	a³³pʰu²¹mɔ³³	qaŋ³¹tu³⁵	ndo³¹	kaŋ³³hao³⁵
4	sun 太阳	nʌ¹³dʑɿ²¹	ni³³dʑɿ³¹	ni³¹dʑɿ³¹	le⁴⁴nɯ⁵³	tɕʰan⁵⁵do³¹	ve⁵⁵
5	star 星星	dzɿ⁵⁵dzɿ̃⁵⁵	a⁵⁵tɕiɔ⁵⁵	tɕiɔ³³	nu⁵⁵qu⁵³	no⁵⁵qo⁵³	le³³lau³³
6	moon 月亮	no³³bo³¹	no³³bo³¹	nɔ³¹bɔ³³	lai⁴⁴ɰi³³	ka⁴⁴ɰi⁴⁴	lɛ³³
7	wind 风	mu³³nu³³	mu⁵⁵nɯ⁵⁵	mu³³nu³³	lai⁴⁴tɕia³³	tɕua⁴⁴	lui⁵⁵
8	rain 雨	mo⁵⁵hõ³³	mo⁵⁵ho⁵⁵	mo³³ho³³	na³¹lo³⁵	na¹³	feiŋ³⁵
9	lightning 闪电	mu³³dɛ⁵²	mu³³dʑɛ³³	mu³³ɕɛ⁵⁵	su⁵²vu²¹læ³⁵	ntʰi⁵⁵so⁵³	
10	thunder 雷	mu³³ku³¹	mu³³ku³¹	mu³³dɛ⁵⁵	suŋ⁵⁵tʰɿ³³		
11	water 水	ʑi³¹	i²¹tʃʰɯ⁵⁵	a³³qia	ao⁵²	kle³¹	na⁵²
12	dew 露	tsɿ⁵²	dzɿ⁵²		bu⁵⁵lu³³		
13	fire 火	mo³³to⁵²	mu³³ʈɯ³³	mu³³tu³³	teu³⁵	ʂa⁵⁵teu³³	fei⁵⁵
14	flame 火焰	mu³³ʥe³³	mu³³ʥe³³vu³³	mu³³le³³	bu⁵⁵la³¹teu³⁵	ʂa⁴⁴teu³³paŋ³¹	fei³³hu³¹
15	smoke 烟 (炊烟)	mu³³ku³³	je³³tɕu³³	mɯ³³kʰu³³	ʑi³¹	tɕua⁵³	ae³³
16	night 夜	mu³³tɕʰi⁵⁵	mu³³tɕʰi⁵⁵	mu³³tɕʰi⁵⁵	mau⁴⁴ndu³⁵	mau⁴⁴nto³¹	ve³³laŋ¹¹
17	day 天	ni²⁵	mu³³ni²¹	tʰa³³ɲi̥²¹	nu⁵²	nto³¹	mu⁵³
18	today 今天	u³³ni³¹	e²¹ni²¹	u²¹ni²¹	mo⁴⁴na⁴⁴	no⁵⁵næ³³	mə¹¹nei³³
19	yesterday 昨天	a³³ni³¹	a²¹ni²¹	a²¹ni³¹	a³³na³¹	a³¹n̥æ²⁵	mi¹¹nia⁵³
20	day before yesterday 前天	pʰa³³ni³¹	ʂɯ³³mu³³ ʃɯ³³ni²¹	si³³ni⁵⁵ni̥²¹	a³³na³¹ kʰa³³na²¹	no⁵⁵no⁵³	mɛ¹¹sen⁵³
21	tomorrow 明天	a²¹dʑi³³ni³¹	a²¹dʑi³³ni²¹	a²¹dʑi⁵⁵ni³¹	pi³³ki³¹	pu³³kʰi³⁵	mə³³pʰu⁵³
22	day after tomorrow 后天	tʰɯ⁵⁵ni³¹	pa³³ni²¹	tʰʌ³³ni²¹	kla⁴⁴no³¹ki³³		mə¹¹heŋ⁵³
23	year 年	kʰo⁵⁵	kʰɯ⁵⁵	kʰu⁵⁵	tɕue⁵²	ɕioŋ⁴⁴	hei³³

	Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
24	this year	今年	tsʰɔ⁵⁵kʰo⁵⁵	tʃʰʌ³³kʰu⁵⁵	tsu⁵⁵kʰu³³	ɕio⁴⁴na⁵⁵	ɕioŋ⁴⁴na⁵⁵	hei³³nei⁵³
25	last year	去年	a²¹ni³¹kʰo³³	a²¹ni²¹kʰu⁵⁵	a²¹ni²¹kʰu⁵⁵	a³³bo²⁵na⁴⁴	tɕi⁴⁴na³³	hei³³kae³³
26	year before last	前年	ʂe³³ni³³kʰo³³	ʃɯ³³ni²¹tʰa²¹kʰu⁵⁵	si³³ni²¹kʰu⁵⁵		tɕi⁵⁵ʔo³³	hei³³kao³³
27	next year	明年	ni⁵⁵ha³³	ni⁵⁵ha³³	ni⁵⁵ha³³	lie¹³nio³³na⁵⁵	lɐu³¹ɕioŋ⁴⁴	hei³³na¹¹
28	year after next	后年	a²¹pʰa³³du⁵⁵kʰo³³	ni³³ni³³kʰu⁵⁵	nu³³ne³³kʰu⁵⁵	lie¹³nio³³o⁵²		hei³³leŋ⁵³
29	this evening	今晚	o²¹me³³	e²¹me³³	u²¹me²¹	mo⁴⁴na⁵⁵	mau⁴⁴na⁵⁵	la¹¹le³³
30	this morning	今早	o²¹tɕi⁵⁵ɕie³³	e²¹tɕi⁵⁵	u²¹ʂe⁵⁵	ti⁴⁴na⁵⁵	tꞎan³³kɦi³³na⁵⁵	nei¹³nɯ³¹
31	cow	牛	ni³³	ni³³		ŋiu²⁵	ŋio⁵³	vu⁵⁵
32	water buffalo	水牛	u⁵⁵ni³³	u⁵⁵ni³³	u⁵⁵ni³³	ti⁵⁵	tsɿ⁵⁵tʉ¹³	xae⁵⁵
33	horse	马	mu³³	mu³³	mɯ³³	ne³³	ṇe¹³	ma³¹
34	pig	猪	va⁵²	va³³	va³³	ba⁴⁴	mpua⁴⁴	mu²⁵
35	goat	山羊	tɕʰɿ⁵²	tɕʰɿ⁵⁵	tɕʰɿ⁵⁵	tʂʰɪ⁴⁴	tʂʰɪ⁴⁴	be³³
36	ram	公羊	tsɿ⁵⁵gu³³	tɕʰɿ⁵⁵gu³³	tɕʰɿ⁵⁵po⁵⁵	tʂʰɪ⁴⁴ʂɪ⁵	tsɿ³⁵tʂʰɪ⁴⁴	be⁵³hɛ³³
37	sheep	绵羊	hʐ̩³¹	hɑ³¹		ʑiau³⁵		
38	dog	狗	tɕʰɿ³³	tɕʰɿ³³	tɕʰɿ³³	kli⁵⁵	kli⁴⁴	ma²⁵
39	dragon	龙	lu³³	lu³³	mba⁵⁵	qae⁵³zau³⁵		nik³³
40	tiger	老虎	lu⁵²	lu⁵²	ve²¹	tʂo⁵⁵	tʂo⁴⁴	si²⁵
41	leopard; panther	豹	zi⁵²	zi³³	ʑi²⁵lo²¹			liŋ⁵⁵
42	monkey	猴子	no⁵²	a⁵⁵no³³	a²¹nu⁵⁵	lie⁵³	la⁵²	fæ³³
43	pangolin	穿山甲	tʰɣ³¹kʰu³¹ tɕʰɣ³¹sɛ³³		tɔ³¹kʰu³¹	zɔ⁵²		nu²⁵
44	muntjac deer	麂子 / 赤鹿	lu³¹	tɕʰɿ³³	tsʰɿ³³			kae³³
45	rat; mouse	老鼠	hʐ̩³¹	hɑ³¹	hʐ̩³¹	na³⁵	qa⁴⁴tʂua¹³	nu²⁵
46	chicken	鸡	ɣa³¹	ja³¹	ja³¹	qae⁵³	qa⁵³	kae³³
47	rooster	公鸡	ɣa³³pu³³	ja³³pu³³	ja⁵⁵pu⁵⁵	lo⁴⁴qae⁵³	lau³³qa⁵³	kae³³pʰu¹¹

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	Gloss	Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
48	bird 鸟	ŋa̠³¹	ŋɑ̠³¹	ŋa̠³¹	nao⁵²	ŋ̊oŋ¹³	num⁵²
49	crow 乌鸦	da⁵²	a⁵⁵dʑie³³	a⁵⁵dʑie³³	li⁴⁴a⁵²	lẹu³¹qua⁵³	tɕ¹¹ɭɛ³³
50	fish 鱼	ŋo³³	ŋɔ³³	ŋu³³	pu³⁵	ntʂfie¹³	ba³³
51	leech 蚂蟥(水蛭)	bu³³vi⁵²	bu³³vi⁵²	bu⁵⁵vi⁵⁵		pla⁴⁴ha⁵²	
52	insect 昆虫	bi²⁵la̠³¹		bu⁵⁵		kaŋ⁵²	miaŋ⁵⁵
53	fly 苍蝇	ha²¹mu³³	ha²¹mu³³	ha²¹mu³³	mu³³mu³³	joŋ³⁵	miaŋ⁵⁵mai⁵⁵
54	honeybee 蜜蜂	ndo³³	ndu³³	ɖo³¹ha³¹	mu⁵⁵	mi⁵⁵mo⁵⁵	peŋ¹¹
55	grasshopper 蚱蜢			tsɔ³³bu³³		koŋ³¹	tak³¹
56	egg 蛋	tʰo³¹	ɬo³¹	ja³¹ɬa³¹	qu⁵⁵kɔ³³	qae⁵⁵	kʌi³³
57	wing 翅膀	du²¹la⁵²	du³³lɛ⁵⁵	do³³la⁵⁵	qa⁴⁴ti⁴⁴	qa⁴⁴ti⁴⁴	bit⁵⁵
58	horn 角	tɕʰiu²⁵	tɕʰi³³pʰa³³	tɕʰiu⁵²	ku⁵³ku⁵³	qa⁴⁴ko³³	xau²⁵
59	tail 尾巴	mɔ²¹ʂu³³	mʌ³³ʂʌ⁵⁵	mɔ³³su⁵⁵	kan³³tsa³⁵	ku³³tu⁵⁵	haŋ²⁵
60	(cocks)comb 冠(鸡冠)	ga³³bu³³	ja²¹dʑi³³	ja³³tɕi⁵²	qo⁵⁵qo³³		hue²⁵kae³³
61	brood, incubate 孵	mu⁵²	ja³³mu³¹	mu⁵²			wu⁵⁵
62	rooster crow; call (of animals) 嗒(公鸡嗒)	du²¹tʰɤ⁵²		bu³¹	qae⁵³kʰa³⁵	ka⁵⁵qua⁴⁴	huaŋ⁵²
63	bark (of dog) 吠(狗叫)	lu⁵⁵				kli⁵⁵qua³¹	
64	tree 树	si̠³¹	si⁵⁵dzɛ³³	si̠³¹	fen⁵⁵to⁴⁴	ntoŋ⁴⁴	dui¹¹mai³¹
65	bamboo 竹子	mɤ³³	mɯ³³	mũ³³	fei⁵⁵hi⁵⁵klo⁵²	çioŋ⁵³	mai⁵²ɭe³¹
66	wheat 小麦	ʂo³³	su⁵⁵	ʂo⁵⁵	fei⁵⁵ʂo⁵³	mi⁵m̥ao³³	kʰao³¹tɕʰa³¹
67	buckwheat 荞麦(荞子)	n̩²¹kʰo³³	go³³kʰɑ⁵⁵	gɔ⁵⁵mɛ²¹		tɕi³¹	kʰao¹³ka⁵²
68	barley 大麦	zu³¹	zi³¹	zu³¹	fei⁵⁵mo³¹	ŋa̠³¹m̥ao³³	kʰao³¹tɕʰa³³
69	sorghum 高粱	mu³¹ɬu³³	mu³³ɬu⁵⁵		wu³³tsʰu⁵⁵		kʰao³¹lo³³
70	corn 玉米	su³³mo³	ɕua³³mɔ³¹	ʂo⁵⁵ma⁵²	zu⁵⁵qeu⁵²		kʰao³¹lu³³
71	vegetable 蔬菜	ɣ̠⁵⁵	vʌ⁵²	ɣɔ²⁵tsʰa³³	ka⁴⁴zau⁵²	zau⁵²	pʰa³³

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	Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
72	grass	草	ʂi³³	ʂi³³	ɓɯ³⁵	qɯ⁵²	mtɕau⁵²	ŋ̍ja³¹
73	seed	种子	ʂi³³mo³¹	ʂi⁵⁵mɔ³¹	ʂɯ⁵⁵mu²¹	tɕa⁵⁵keu⁵²	koŋ⁵²	fe⁵⁵
74	leaf	叶子	si³³pʰa⁵⁵	si³³pʰa⁵⁵	ʂi⁵²pʰa³³	kan³¹klau³⁵	qa⁴⁴mploŋ³¹	vae³³fu³⁵
75	unhulled rice	谷子(稻谷)	tɕʰe³¹	tʃʰɯ³³	a³³tsʰa³¹	mplei³¹	mplei³¹	kʰao³¹pɯt³³
76	rice (grains)	米	dzu³³kʰo³³	zu³³kʰo³³	tsʰe³³tʰu³¹	hi⁵⁵tɕɣ⁵³	ntʂa⁵²	kʰao³¹sa²⁵
77	cooked rice	饭	a⁵⁵mɛ̰³¹	a⁵⁵mɛ³¹	zo³¹	va³¹	mau⁴⁴	kʰao³¹
78	glutinous rice	糯米	tɕʰe³¹niɔ³³	tɕʰu³³nio⁵⁵	tsʰe³³ɲiɔ⁵⁵	va³¹kliŋ⁵⁵kleu³¹	mau⁴mblau³⁵	kʰao³¹nuo²⁵
79	mushroom	菌子	mu³³	mu³³lu³³	mɯ³³lu³¹	ȵtɕi⁵²	ȵtɕi⁵²	hit⁵⁵
80	germinate, sprout, bud	发(芽)	ne³³	nḛ³¹	nḛ³¹dʑ̰³¹	ta³⁵		ʔo⁵⁵ha³³
81	bloom; blossom	开(花)	vi¹³	vi³¹	vḭ³¹	tɤu³³ba³⁵	kʰai⁵³	ʔo⁵⁵vɯk⁵⁵
82	bear fruit	结(果)	nde⁵²	mo³³dɯ⁵⁵	mo³³dɣ⁵⁵	tsa³⁵lu⁵²	tsɿ⁴⁴tsi⁵⁵	
83	house	房子	hɛ³³	hɛ³¹	hɛ̰³¹	leŋ⁵²ka³⁵	tʂe⁴⁴	hḛ³³
84	tile (ceramic)	瓦片	ŋɔ³¹	ŋɔ³¹	ŋɔ̰³¹	tsʰe⁵³va³⁵	va̰³⁵	vaŋ³¹
85	charcoal	木炭	mu²¹ni³³	sa³³mu³³ni⁵⁵	mo³³ɲie⁵⁵	a⁵⁵tɕi³¹teu³³	tḛ⁴⁴	
86	bracelet	手镯	la⁵dʑu³¹	la³³dʑiu²¹	la⁵⁵dʑiu²¹	le⁴⁴bo³¹	pɸau¹³	
87	clothing	衣服	mpʰe³³	be³³	mpe³³	le⁴⁴tɕʰua³³	tʂʰau⁴⁴	sʌ³¹
88	pants	裤子	ɬu⁵²	lu⁵²	ɬu³³	qa⁵⁵ti³¹	qa⁴⁴tɕi³³	tiu⁵⁵
89	shoes	鞋	tɕʰe⁵⁵ne³³	ɕie³³nɯ³³	tɕʰḭɣ⁵⁵ŋɣ³³	tsʰe³³kʰau⁴⁴	kʰau⁴⁴	ti³¹ti³³
90	lard	动物油	tsʰɔ³¹	tsʰɔ³¹	tsʰɔ³¹	tʂuo³⁵	tʂau⁵³mpua⁴⁴	xei³⁵mu³⁵
91	salt	盐	tsʰo³³	tsʰu³³	tsʰo³³	ntɕɯ⁵⁵	ntɕi⁵⁵	gu³³
92	meat	肉	xu³³	ũ³³	xo³³	qe³⁵	nqa³¹	nɯ⁵²
93	liquor	酒	ntɕʰɨ³¹	dʑɨ³¹	ntɕʰi³¹	tɕeu⁵⁵	tɕi³³qau⁵³	lau³¹
94	knife	刀	be⁵⁵tʰo³³	be⁵⁵tʰo³¹	a⁵⁵tsʰa³³	dai⁵³tue³⁵	qa⁴⁴tʂʰa³⁵	mit³³
95	plow	犁	si³³go⁵⁵	si³³gu⁵⁵	si³¹gu³⁵	ʐu²⁵di⁵	tsɿ⁵⁵ʐua⁵³	tʰəi²⁵
96	needle	针	gɣ⁵⁵	ɣʌ³³	ɣɣ²⁵	tai⁵⁵kleu⁵³	koŋ⁵²	ɕi²⁵

	Gloss	Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
97	medicine (herbal) 药	kʰu⁵⁵tsʰɿ³³	kʰu⁵⁵tsʰi³³	kʰu⁵⁵tɕʰi³³	ka⁵⁵tsa³³	tʂʰua⁵³	ni¹¹ja³³
98	chopsticks 筷子	a⁵⁵dʑu³¹	a⁵⁵dʑu³¹	a⁵⁵dʑu³¹	su⁵²	tʂɛu³³	tʰu⁵⁵
99	manure; fertilizer 粪 (肥料)	tɕɿ³³	tɕʰi³³	tɕʰi⁵⁵	tɕʰɿ⁵⁵	tɕʰi⁵⁵	
100	road 路	dʑio³³mo³¹	gio³³mo³¹	dʑio³¹mɔ³¹	ki⁵⁵	ki³⁵	dan⁵⁵
101	bridge 桥	ntsʰe³¹	ndze³¹	ntsʰe³¹	ɬa⁵³	tɕʰaŋ⁵³	kʰo²⁵
102	market 街子 (市场)	tɕʰɿ³¹tʰa³³	tʰɔ³³jɛ̃³¹	tɕʰiu⁵²	ki⁴⁴		kɛt³³
103	village 村 (寨)	kʰa³¹ku⁵⁵	kʰa⁵⁵ku³³zu³¹	kʰa⁵⁵gu³³	zo³⁵	zɑu¹³	va¹¹
104	shadow 影子	a⁵⁵ji³³tɕʰi³³	ʑi³¹	a⁵⁵ʑi⁵²		pu⁴⁴tʂua⁵³	xu³⁵xɛ³⁵
105	soul 魂	so³¹no³³	nɔ³¹	he³³lu³³	qa⁵⁵kɬi⁵²	qa⁴⁴ple³⁵	mʌ⁵³
106	body 身体	gʁ²¹pʰe³³	gɯ³³pʰɯ³¹	gɯ³³tsæ³¹	qa⁴⁴tɕi⁵⁵	qa⁴⁴tɕi⁵⁵	ʔu⁵⁵ʔia³³
107	brain 脑髓	u³³no⁵⁵	u³³nu³³	ɣ³³kʁ⁵²	li⁵⁵fou⁴⁴	da⁵⁵hau⁴⁴	pʰeɪ³⁵xo³⁵
108	head hair 头发	u³³tsʰe³³	u³³tsʰe³³	o⁵⁵tsʰɛ³³	klo⁵⁵fou⁴⁴	pla⁵⁵hau⁴⁴	na³¹
109	face 脸	tʰo⁵⁵na²¹	tu³³nã³¹	pʰa³³nã³¹	lai³⁵kɬeu³³	pʰlo³³	da³³
110	eye 眼睛	na²¹du³³	na²¹du³³	nã³¹dɯ³³	qa⁵⁵ma³¹	qo⁵³mua⁴⁴	laŋ³³
111	nose 鼻子	nu³³mu³³	no⁵⁵gu³¹	no³³bʁ³³	qa⁵⁵mpue³¹	qau⁵⁵ntʂu⁴⁴	hu²⁵
112	ear 耳朵	no³³pa⁵⁵	no³³pa⁵⁵	no²¹ba³³	qa⁴⁴bɯ³⁵	qau⁵⁵ntʂi⁵³	ɕiu¹¹
113	teeth 牙齿	ndʑɿ³¹	ndʐua³¹	tsɛ³¹	ŋie⁵⁵	na²³⁵	
114	hand/arm 手/胳臂	nʁ³³tɕe³¹	nɯ³³tsi⁵⁵	la⁵⁵yu³³	ti³⁵	qa⁴⁴paŋ⁵²	mɯ⁵⁵
115	foot/leg 脚/腿	tɕi⁵⁵pʰa³³	tɕʰi⁵⁵pʰa³³	tɕi³³pʰa³¹	qa⁵⁵tɕi³¹	ku⁵⁵teu⁴⁴	ka³⁵
116	belly 肚子 (腹部)	u⁵⁵be³³	ɯ⁵⁵pɯ³³	u⁵⁵pe³³	qa⁵⁵kla⁵³	qa⁴⁴plaŋ⁵²	peŋ³³
117	waist 腰	dʑu⁵⁵be²¹	dzu³³dzi³³	dzu⁵⁵be³¹	le⁴⁴kla⁵⁵	qloa³⁵	
118	heart 心	ni³³mo³³	ni³³mɔ³¹	ni³³mʑ̃³¹	le⁴⁴ka⁴⁴si⁴⁴	qa⁴⁴sa⁵²	tsʌɪ³³
119	liver 肝	sɯ⁵⁵	sɛ⁵⁵	ʂɛ²⁵		qa⁴⁴ntʂu⁴⁴	
120	gallbladder 胆/苦胆	dʑi⁵⁵	dʑi³³	tɕi³³		ntɕʰaŋ⁵⁵	
121	blood 血	si³³	si³³	si³³	ntʂʰa⁴⁴		lut³³

	Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
122	snot	鼻涕/粘液	nu⁵⁵be³³	nɯ³³nɛ³³	no³³bɛ²¹	qa⁴⁴pi³³nau⁵³	qa⁴⁴nʈʂu³³	mʌ³³
123	excrement	屎	ɬi³³	ɬi³³	ɬi³³	tse⁴⁴qa⁵⁵	qua³⁵	çi¹¹
124	urine	尿	zi³³	zi³³	zi³³	veu³⁵	zʅ³⁵	niu³¹
125	tendon	筋/腱	ndʑiu³³	ndzɿu³³	tɕiu³³	tse⁴⁴ɕeu⁵⁵	qa³⁵leŋ³⁵	nu³¹tɕai⁵³
126	child	儿童	a⁵⁵go³³	a⁵⁵go³³	a⁵⁵kʰa³³qo³³	ŋia³⁵jo³³	mi⁵⁵ŋua⁴⁴	
127	old (person)	老 (老人)	mɔ⁵⁵	mɑ⁵²	mɤ²⁵	lao³⁵	lao¹³	tʰao¹¹
128	young (person)	年轻	ɬa³³	ɬa³³	ɬa⁵⁵	do³⁵ɬa⁴⁴	ɬua⁴⁴	a³³naɛ³³
129	father's mother	奶奶	a⁵⁵pʰɿ³³	a⁵⁵pʰɿ³³	a⁵⁵pʰɿ³³	a⁵⁵bo⁵³		
130	wife's father	岳父	a⁵⁵gu⁵⁵	a⁵⁵go³³zo²¹	a³³gu³³ma⁵⁵	a³³ʐɯ³³	jɔ³¹tsi⁴⁴	nu³¹ni³³
131	younger brother	弟弟	a⁵⁵zo³³	nʝe³³mɔ⁵⁵	ni²¹ma³³	tsae⁴⁴ki⁵⁵	mi⁵⁵ku⁵⁵	
132	younger sister	妹妹	a³³mɔ⁵⁵zo³³	nʝe³³mɔ⁵⁵	ni²¹ma³³	la⁵⁵ki⁵⁵	mi⁵⁵mʮa³¹	
133	son	儿子	zo³³	zo³³	zo³³	tsa⁴⁴tɯ⁵²	mi⁵⁵to⁵³	lot¹¹tɕai⁵³
134	daughter	女儿(姑娘)	a²¹mɔ³³	a³³mɔ⁵⁵	a²¹ma³³	la³⁵tsʰe³³	mi⁵⁵ntsʰai⁴⁴	lu¹¹ni⁵³
135	son's wife	儿媳(媳妇)	tɕʰi⁵⁵ɬa³³	çi⁵⁵ɬa³³	tɕʰi⁵⁵ɬa³³	la³⁵ŋia⁵³	to⁵³ŋia⁵³	lot¹¹bae⁵²
136	daughter's husband	女婿	sɯ⁵⁵gu³¹	si⁵⁵vʮ³¹	si³³ɣu³¹	tsʰa⁵⁵go⁵⁵	ntsʰai⁴⁴vau⁵⁵	
137	son's son	孙子	ɬi³³bɯ³¹	ɬɯ³³bɯ³¹	a⁵⁵bɛ²¹	tsa⁵⁵ki⁵⁵		la²⁵
138	father+children (CLF)	三父子	a⁵⁵de³³nieʳ³³	sa³³pʰu⁵⁵	sa³¹pʰo²⁵		pi⁵⁵tsɿ⁴⁴to⁵³	sa⁵⁵po³³lo³¹
139	mother+children (CLF)	三母子	a⁵⁵me³³nieʳ³³	sa³³mʮ³¹	sa³³ma³³o³¹		pi⁵⁵nʮ²¹to⁵³	sa⁵⁵me³³lo³¹

Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
140	grandfather + grandchildren (CLF) 三爷孙		sa³³pʰu³³ʈu³³	sa³¹pʰɿ⁵⁵ʑi³³		pi⁵⁵ʝo̠²¹ku⁵⁵	
141	white; silver 白	tʰu³¹	tʰu³³	tʰu³¹	kleu⁵²	klo⁵³	xao²⁵
142	yellow; gold 黄	ʂɤ³¹	ʂuʌ³¹	sɑ³¹	va³⁵	tɬaŋ³¹	leŋ²⁵
143	black 黑	nɑ̃²¹	nɑ̃³¹	nɑ̃³¹	tsɑuŋ⁴⁴du³⁵	klou⁵³	lɛ³³
144	grey 灰色	pʰɔ³¹	pʰʌ³³pʰʌ³¹	pʰɑ³¹	pʰao⁵⁵		mein⁵⁵
145	sharp (blade) 快 (刀快)	dziɔ³³	dʒɯ³³tʰa³¹	tʰa³¹	fei³³	tɕi⁴⁴	pae³⁵
146	crooked; bent 弯 (棍子弯)	kɤ³³	gɛ³³	kɛ³³	li⁴⁴kʰəu⁴⁴	ntʰao⁴⁴	wɛ³³
147	hard 硬	xɔ⁵²	ɣɯ⁵²	hɤ³¹	za³³	teu⁵⁵	tɕʰiaŋ²⁵
148	soft 软	nu³³	nu³³	nu³³	deu⁴⁴ma⁴⁴	mua³⁵	vein¹¹
149	wet 湿 (衣服湿)	ntsɣ³³	ndzɛ³³	nzɛ³³	ntu⁵²	ntu⁵³	do⁵²
150	dry 干 (衣服干)	fɔ̠³¹	fɔ³¹	fɤ³¹	nki⁵²	qua⁵⁵	hiaŋ¹¹
151	new 新	ɕi⁵²	ɕi⁵⁵ɕi³³	ɕi³⁵	qa⁵⁵tɕuə⁵²	tʂʰa⁵³	mae³³
152	old 旧	ɬu⁵⁵	mɑ⁵²	ɬɯ³³	qa⁵⁵lo³³	qo⁵³	kou⁵⁵
153	easy 容易	lɛ⁵⁵lɛ³¹	dʑɿ³³ʈo³¹	pe³³gɑ̃³³sa³¹	li³³kəu³⁵		
154	difficult 难	pa³³kʰa³¹	dʑɿ³³pa³³ka³¹	pe³³su⁵⁵	ta⁵⁵		
155	cold (weather) 冷	ntɕiɔ³¹	dʑia³³gɯ³¹	ntɕʰia³¹	nou⁵⁵nou⁵⁵	nao⁴⁴	nau²⁵
156	warm 暖和	la³¹mɯ⁵⁵	la³³mɯ⁵⁵	la³³mɯ⁵	sue⁵⁵	ʂu³⁵	ʔui⁵⁵
157	full (stomach) 饱	mpʰo³³	bɯ³¹	pʰo⁵²	tʂau³³	tʂau⁴⁴	ʔi⁵⁵
158	hungry 饿	nɪ⁵²	nɪ⁵⁵	nɪ³⁵	tʂʰae⁵²	tʂʰai⁵³	jie⁵²
159	thirsty 渴	ɕi⁵²	i³³ɕiu⁵⁵si⁵⁵	si³⁵	nqʰɤ⁴⁴ao⁵³	nqʰai⁴⁴	jie⁵⁵na⁵²
160	short 短	niu³³	ni⁵⁵ni³³	nɔ³³	lɯ⁵⁵	ta⁵⁵lo³³	lʌ³³
161	ashamed 惭愧 (害羞)	dzia⁵⁵ku³³ dʑiɣ³³	sɑ³³tɔ³³	sa³³tɑ³¹	tʰɿ⁴⁴tsa³⁵		ʔae³³

	Gloss	Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
162	cooked; ripe 熟 (熟肉)	mɛ²¹	mɛ³¹	mɛ²¹	ʂe⁵⁵	ʂa⁵⁵	suə³³
163	sticky 粘	ŋiɔ³³	ŋie⁵⁵ŋiɔ³³	ŋɤ³⁵	luo⁴	lu⁴⁴	tʰa³¹
164	early 早 (来得早)	ɕi³³	ɕi³³		ntso⁵⁵	ntso⁵⁵	tʂao⁵³
165	near 近	nɤ³³	nɔ³³	nɔ⁵⁵	vɤ⁴⁴	zɤ⁴⁴	kʰa¹¹
166	far 远	mu³³vi³³	mu³³vi³³	vɛ̧³¹	kli⁵²	tli⁵³	kəi³³
167	high 高	mu³¹	tɕʰia³³mu³¹	tɕʰiɤ³³muɯ³¹	se⁵³	ʂa⁵³	som²⁵
168	low 低	nɤ³¹	tɕʰia³³nɛ³¹	tɕʰiɤ³³nɛ³¹	qəu³⁵	qəe¹³	te⁵⁵
169	deep 深 (水深)	na̧ɤ⁵²	na³³	na⁵⁵	to⁵²	to⁵²	leŋ⁵³
170	many 多	nu⁵⁵	nu⁵⁵	no⁵⁵	tɕiao⁵²	tɕiɔŋ⁵³	to¹¹
171	big 大	kʰu⁵⁵tɕʰi³¹	kʰɔ³³cw³³dʐɔ̧³¹	ɣɑ³³	ɬuo⁵²	na̧¹³	xɯ⁵²
172	small 小	ŋiɤ̧ʳ⁵⁵	niʌ³³	niɔ³³	ʂao⁵²	mi⁴⁴qua⁴⁴	nɛ³³
173	light (weight) 轻	lɔ³¹	lɔ⁵⁵lɔ³¹	la³¹	ʂi⁵²	ʂi⁵³	vau³³
174	heavy 重	li⁵⁵	li³³	lɯ³³	ŋia⁵⁵	ŋia³⁵	na³¹
175	thick 厚	tʰu⁵⁵	tʰu⁵⁵	tʰu⁵⁵	ta⁵³	tua⁵²	na²⁵
176	thin 薄	bɔ⁵⁵	bɔ⁵⁵	bo³³	ŋie³⁵	ŋi̧a¹³	vaŋ³³
177	one 一	tʰa³¹	tʰɔ³¹	tʰa³¹	ji⁵²	i⁵⁵	laŋ²⁵
178	two 二	ni⁵⁵	ni⁵⁵	ni⁵⁵	a⁵²	ao⁵⁵	soŋ²⁵
179	three 三	sa³³	sa³³	sa³³	tsi⁵²	pi⁴⁴	sa²⁵
180	four 四	ɬi³³	ɬu³³	ɬi³³	kləu⁵²	plau⁵³	ɕi⁵⁵
181	five 五	ŋu³³	ŋu³³	ŋu³³	bɛ⁵²	tʂi⁵³	ha¹¹
182	six 六	tɕʰio⁵⁵	tɕʰiʌ⁵⁵	tɕʰiu⁵⁵	kləu⁴⁴	tʂau⁴⁴	pʰo³³
183	seven 七	ɕi⁵⁵	ɕi⁵⁵	ɕi⁵⁵	ɕie⁴⁴	ɕiaŋ⁵⁵	tɕi³¹
184	eight 八	he⁵⁵	he⁵̃⁵	hɛ̃⁵⁵	zɿ³¹	zɿ¹³	pie⁵⁵
185	nine 九	ku³³	ku³³	kɯ³³	tɕa³⁵	tʂua³¹	kau¹¹
186	ten 十	tsʰɛ³¹	tsʰɛ³¹	tsʰɛ	kao³¹	kə̧o³¹	si³¹
187	eleven 十一	tsʰɛ³¹ti³³	tsʰɛ³¹ti³³	tsʰɛ³¹ti³³	kao³¹i⁵²	kə̧o³¹i⁵⁵	si³¹ʔi¹¹
188	twelve 十二	tsʰɛ³¹ni⁵⁵	tsʰɛ³¹ni⁵⁵	tsʰɛ³¹ni⁵⁵	kao³¹a⁵²	kə̧o³¹ao⁵⁵	tɕʰi¹¹so³³

	Gloss	Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
189	twenty 二十	ni⁵⁵tsʰɛ³³	ni⁵⁵tsʰɛ³³	ni⁵⁵tsʰɛ³³	ni³¹kao³¹	ŋo̞ŋ³¹kao̞³¹	so⁵⁵
190	hundred 百	tʰa³¹ho̞³³	tʰɑ³¹hũ³³	tʰɑ³¹hũ³¹	i⁵⁵fa³¹	i⁵⁵pua³³	bɯ⁵⁵
191	GEN CLF 个	mɯ³³	mu³³	mo³³		lu⁵³	la²⁵
192	armspan 庹 (两臂伸直)	tʰa³¹tʰu³¹ʂɣ³¹	kʰɔ³³fɟ³³ʐ̩³¹	tʰa³¹le³¹	i⁵⁵klə⁵³		va⁵⁵la³³
193	handspan 柞 (拇指,中指)	tʰa³¹tʰu³¹	tʰa³³tɕʰɣ³¹	tʰa³¹tʰɣ³¹	i⁵⁵kloe⁴⁴	i⁵⁵na³¹klo⁴⁴	xe⁵⁵la³³
194	left 左边	fo³³pʰa³¹	la³³fu⁵⁵	a⁵⁵fɔ³³	sa⁵⁵fɣ⁴⁴		kʰə⁵⁵ʂɛi⁵²
195	right 右边	se⁵⁵pʰa³¹	la³³si⁵⁵	a⁵⁵se³³	sa⁵⁵si³³		kʰə³³xa²⁵
196	look at 看	na̞³¹	na̞³¹	na̞³¹	na³¹	ɕai⁵²	hiə⁵⁵
197	see 看见	ŋa²⁵tʰo⁵⁵	kɔ³³ɳɔ³¹	ŋo³¹	na³³bo³¹	po¹³la⁴²	lɛ¹¹hɛ²⁵
198	listen 听	dɔ⁵⁵nu³³		dʑio³³	nou³¹	no̞ŋ¹³	ta⁵⁵tin³³
199	hear 听见	dɔ⁵⁵nu³³ɣo³³	tʌ⁵⁵dʑio³³	dʑio⁵²	nou³¹tou⁴⁴	no̞ŋ¹³tao⁴⁴	ta⁵⁵tin³³zo¹¹
200	eat 吃	ndzu³³	ndzu³³	ndzo³³	nou³⁵	na̞o̞⁵²	tɕi³³
201	feed 喂 (人, 猪)	da³¹na³¹tɕiu³³		dɔ³⁵tɕʰia⁵²	tɤu⁵⁵	pu⁵²	ʔoe³³
202	drink 喝	ntʰɔ³¹	ndɔ³¹	ntʰɔ³¹	hao⁴⁴ao⁵²	hao⁴⁴	loi⁵⁵
203	bite 咬	tɕʰɣ⁵⁵	tɕʰiʌ³³	tɕʰiʌ⁵⁵	to³¹	to³⁵	kɛt³¹
204	chew 嚼	ngu³³	ngu³³	nkʰo⁵⁵	zo³¹	na⁴⁴	tɕiu⁵²
205	lick 舔	lɛ⁵⁵	tʂʰɿ⁵⁵tʂʰɿ³³	lɛ³⁵	je³¹	ji²¹je³³	lɛ⁵⁵
206	savor 含	mɯ³³	mɯ³³	mɯ⁵⁵	mpa⁵⁵	mpua⁵⁵	ʔoi³³
207	spit 吐 (吐口水)	ti⁵⁵	ti⁵⁵pʰɿ³³pʰɿ³¹	pʰɿ³⁵	nto⁴⁴	nti⁴⁴	dɤu⁵⁵
208	vomit 呕吐	pʰɿ⁵⁵	pʰɿ³³de³¹za̞³¹		nto⁴⁴sɛ⁴⁴	lo̞³¹ntua⁵⁵	xa³¹
209	say 说	xe³¹	dʑi³³	ntɕiu³³	ni⁴	xa⁴⁴	he³¹
210	smell 闻 (嗅)	be⁵⁵ne³³	be⁵⁵ne³³	nɯ³⁵	tʂɿ⁵⁵	na⁴⁴	loi³³
211	sweat 汗	dzɿ⁵²	tɕio⁵²	tɕiɔ³³	ga³⁵ɭa⁵³	ntɕɤ³³fɣ³⁵	hʌ³³
212	swell 肿	pʰɣ⁵⁵	pʰɯ⁵⁵	pʰɯ³⁵	ua⁴⁴	ao⁵⁵	kɤi³¹
213	fart 放屁	pi³¹	pi³¹	vi³⁵pʰɿ³¹	tʂo⁴⁴qa⁵⁵	tʂau⁴⁴ka³³tao³³	pɤi⁵⁵tu³³
214	defecate 解大便	ɬi³³hu³³ɬi³³	ɬi³³hu³³	ɬi³³ho³³	mo³⁵kleu⁴⁴ti¹⁴⁴	tʂau⁴⁴qua⁵⁵	ka⁵⁵tɕʰi¹¹

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	Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
215	urinate	解小便	zi^{33}hu^{33}ji^{33}	zi^{33}hu^{33}	zi^{33}ho^{33}	kleu^{44}qa^{55} tɕi^{33}ti^{44}	tʂau^{44}z̩ɿ^{31}	ka^{55}niu^{33}
216	kick	踢	ntʰo^{31}	ndu^{52}	ntʰu^{52}	ta^{33}	ntɕieu^{44}	
217	carry on back	背 (背小孩)	bu^{55}	mbu^{52}	mba^{52}	tɤ^{4}	tʂɿ^{13}	ba^{25}
218	carry in arms	抱 (抱小孩)	dʐ̩^{31}	da^{31}	tʐɤ^{35}	ba^{31}	pua^{13}	bao^{25}
219	ride; ride on	骑 (骑马)	ndzɿ^{33}	kɑ^{33}dzɑ^{33}	ndzɑ^{33}	tɕiu^{35}	tɕie^{53}	tɕʰɿ^{55}
220	stand	站 (站位)	he^{52}	kɔ^{33}hɔ^{55}	hɤ^{35}	ʂeu^{55}	ntʂʰe^{13}	hiə^{25}
221	sleep	睡觉	kɔ^{33}ji^{55}	kʌ^{33}ji^{33}	kɔ^{33}ji^{55}	pɣn^{33}kleu^{55}niu^{33}	pu^{44}laŋ^{55}	nue^{55}
222	dream	做梦	ji^{55}ma^{33}	ji^{33}ma^{33}vu^{21}	ʑi^{55}ma^{31}	po^{44}sa^{55}	a^{44}pao^{44}ʂua^{55}	fɛ^{55}hɛ^{35}
223	awake	醒 (睡醒)	tɕʰɿʁ^{33}	ji^{33}tɕʰɛ^{33}	ha^{55}tɕʰie^{33}	tʂi^{31}	tʂi^{35}	teŋ^{55}
224	laugh; smile	笑	wʐ̩^{31}	ɣʐ̩^{31}	ɣʐ̩^{31}	koa^{44}	ðua^{13}	kʰo^{25}
225	know; understand	懂，知道	sɛ^{55}	sɛ^{33}	sɛ^{33}ʁ^{31}	peu^{52}	pao^{55}gao^{53}	pʰu^{55}tɕiaŋ^{11}
226	remember	记得	tɕʰʁ^{33}	tɕʰɛ^{33}	xo^{55}tɕʰie^{33}	peu^{55}tʁ^{53}	tʂu^{44}la^{53}	tɕi^{55}lae^{11}
227	fear	怕	ndʐio^{31}	tsʮ^{33}	dʑiu^{31}	ntʂʰae^{44}gu^{31}	ntʂʰae^{44}	ku^{33}
228	have courage	敢	ma^{33}ndʐio^{31}		be^{33}dʑiɔ^{33}			
229	fly	飞	nde^{31}	dɯ^{31}	nde^{31}	jiʌ^{44}	ʑiaŋ^{44}	vi^{33}
230	graze; herd (a flock)	放牧	dzæ^{33}ɬo^{52}	ni^{33}ɬu^{55}	ni^{33}ɬu^{33}	ʑiu^{33}tʂe^{35}	ju^{24}tʂa^{52}	bei^{33}huaŋ^{35}
231	dig	挖 (挖洞)	kɛ^{52}	kɛ^{52}	kɛ^{52}	ntɕeu^{55}	ɲtɕeu^{55}	kun^{33}
232	split; chop (wood)	劈 (劈木柴)	xɛ^{33}	kʰɛ^{33}	kʰɛ^{33}	pa^{31}teu^{35}	tsa^{53}	pʰa^{33}
233	pound	舂/捣碎	mɯ^{52}	de^{33}	tʐɤ^{35}		tɕʰoŋ	
234	dry (in the sun)	晒 (晒太阳)	ɬʁ^{55}	dɯ^{52}	ɬʁ^{25}	zie^{52}	zɑ̩^{53}	pʰi^{35}
235	blow (on)	吹 (吹火)	mɯ^{21}	mɯ^{31}	mɯ^{31}	tsʰa^{53}	tʂʰua^{43}	bao^{55}
236	buy	买	vu^{55}	vo^{31}	va^{52}	ma^{35}	m̥ua^{13}	sɯ^{52}

	Gloss	Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
237	sell 卖	vɔ^{31}	vu^{51}	vu^{35}	tei^{31}		hae^{25}
238	borrow (money) 借（借钱）	ŋu^{55}	ŋo^{33}	ŋo^{33}	tsae^{33}	tsae^{33}	ʑin^{35}
239	count (number) 数（数东西）	ɣɯ^{31}	mɛ^{31}	ɣɯ^{52}	ʑy^{31}		ʔa^{33}
240	weigh 称	dʒiɔ^{31}	ndʒiɔ^{31}	tɕi^{33}	ɬu^{35}	ki^{55}	tɕaŋ^{31}
241	teach 教	mu^{55}	mɯ^{52}	mɯ^{35}	ka^{53}	ʂua^{55}	vɤʔ^{55}
242	study 学	ntsʰɔ^{33}	ndzɔ^{33}	ntsʰa^{33}	ʑiɔ^{31}	tsʰəu^{52}	
243	write 写	nkʰo^{52}	gu^{31}	gu^{31}	sao^{44}	ʂao^{44}	tie^{11}
244	cook; boil 煮	tɕa^{33}	tʃa^{52}	tsʰa^{25}	xao^{44}	xao^{44}	tɕiaŋ^{33}
245	boil 沸	na^{25}	la^{33}dzu^{31}	na^{31}	mbau^{44}ðə^{31}	mpau^{55}	fem^{52}
246	stirfry 炒	ɬu^{33}	lu^{33}		gi^{53}		kʰo^{53}
247	steam 蒸	sa^{55}	sa^{52}	sa^{35}	tɕiu^{52}	tɕiɔ^{53}	tem^{55}
248	wear; put on 穿（衣服）	gu^{55}	be^{33}ɬu^{55}bu^{53}	vi^{35}	na^{55}	na^{55}	neɹ^{31}
249	take off 脱（脱衣服）	lɯ^{55}	ɬu^{52}	lɯ^{35}	kləu^{44}	ɬi^{44}	tɤʔ^{33}
250	shave 剃（头）	tɕo^{52}	u^{33}kʌ^{33}tɕʰiu^{31}	tsʰu^{52}	sɤ^{44}ji^{55}fo^{44}	kua^{13}	haɹ^{55}
251	comb 梳（梳头）	tɕi^{55}	tɕi^{52}	tɕio^{33}	xia^{44}ji^{55}fo^{44}	ntʂi^{35}	vi^{25}
252	sweep 扫（扫地）	si^{31}	sɿ^{31}	sɿ̰^{31}	tɕʰi^{53}	tɕʰi^{53}	bɛt^{33}
253	put down; put/place 放（下），放置	tʰɯ^{55}	tʰʌ^{55}ka^{33}ɖu^{31}	tʰɤ^{35}tɕie^{31}	tʂou^{44}tɕie^{33}	tʂau^{44}tɕia^{44}	baɹ^{55}
254	drive out 赶（驱逐）			nkʰa^{33}	ləu^{55}	ləu^{55}	
255	shut 闭（闭眼）	bi^{33}	bi^{33}	mi^{33}	qɛ^{55}	qae^{44}	let^{33}
256	untie 解（解绳结）	tʰɯ^{55}tɕe^{33}	pʰɯ^{33}tʰɛ^{52}	tɕʰi^{31}	kləu^{44}sɤ^{33}	kləu^{44}	kʰəɹ^{25}
257	load; pack (put in) 装	tsʰɤ^{55}	tsɿ^{52}	tsɤ^{35}	ki^{33}tɕe^{44}		ser^{33}
258	get; obtain 得（得到）	tɕia^{33}wo^{31}	wɔ^{33}	xɛ^{52}	tau^{44}	nti^{13}	ʔao^{33}tɕuo^{11}
259	use 用（使用）	zɤ^{33}	ka^{33}zɿ^{33}	zɤ^{33}	ja^{55}	tau^{55}	zue^{55}
260	help 帮助	pɔ^{33}	wɔ^{33}la^{55}pɑ^{55}	tʰiæ^{55}bɔ^{33}	bao^{55}la^{31}		tɕuaɹ^{52}

	Gloss		Nasu	Aluo	Naisu	Ahmao	Hmong	Tai
261	cure; treat; heal	医治	nkʰu³¹	nu³¹gu³¹	no³³gu³¹	m̥eu³⁵teu⁴⁴	ʂe⁵³meu⁵³	
262	shake	摇动	ɬɣ⁵²	ɲ̟ɛ³¹	ŋɟɛ³¹	a⁴⁴ʐo³¹		neiŋ²⁵
263	kill	杀 (杀鸡)	xu³³	hu³³	xo⁵⁵	ta⁴⁴	tua⁴⁴	bɛt⁵⁵
264	die	死	ɕi³³	ɕi³³	ɕi³³	ta³¹	tua¹³	dae³³
265	sharpen (grind)	磨 (磨刀)	suɯ³³	sʌ³³lu³¹	sa³³	lou⁵³	xu⁵⁵	lat⁵³
266	divide; separate; distribute	分	fi⁵⁵xu³³	fe³³	fi³³	fe⁵²	fẽ⁵³	fi¹¹
267	ascend	上 (上山)	da³³ɟi³³	da⁵²	da³³ʑi³³	ka⁵⁵ʂa⁵³	ʂao⁴⁴	xem¹¹
268	descend	下 (下山)	za⁵⁵ɟi³¹	za⁵²	za⁵⁵lɛ³¹	pu⁵⁵ti⁵³	fu⁵⁵	loŋ⁵⁵
269	come	来	vʌ⁵⁵le³³	vʌ³³lɛ³³	lɛ³¹	ta³⁵	lo¹³	ma⁵⁵
270	go	去	vʌ⁵⁵ɟi³¹	ɟi³¹	ʑɿ̃³¹	meu³⁵	mo¹³	ka⁵⁵
271	climb	爬 (上)	da³³ɟi³³	da³³ɟi³³	tɕʰi⁵²	ntɕi⁴⁴	pua⁵³	va⁵²
272	arrive	到	gɔ⁵⁵tɕʰy³³	kɑ⁵⁵ɕio³³	tɕʰio⁵²	tɕia³¹	tsʰo³¹la³¹	tʰəiŋ⁵²
273	exit (come out)	出 (出去)	dɔ⁵⁵liu³³	du³³ji³¹	du³³ji³³	teu³³	teu³¹mo¹³	po⁵⁵ka⁵⁵
274	be short of; lack	缺 (碗缺)	ma³³dʑiɔ³¹	mʌ³¹dʑɔ³¹	tɕʰiɣ³³tsʰɛ⁵⁵		tʂeu³³leu³³	tuʔ⁵⁵
275	give; BEN	给	nu²¹dʑi⁵⁵	nʌ³³dʑi⁵⁵	dʑɿ³⁵	ma⁵⁵do³³	mua⁵³	hae¹¹mɛi⁵²
276	affirmative	是 (是的)	ɲɟe³³dɔ⁵⁵	ne³³dɔ⁵⁵	ɲio³⁵	ʑo³³ɟɣ³⁵	jao³¹ne⁴⁴	tɕʰaɪ³¹ne³³
277	have; exist	有	ndʑiɔ³³	dʒɔ³³dɔ⁵⁵	ndza³¹	ma³⁵	mua⁵³	ni⁵⁵ne³³
278	not (NEG)	不 (他不来)	ma³³	mʌ³³	mʌ³³	xi⁵²		ma⁵⁵
279	don't	别 (别去)	tʰa³³		ta³³	ka⁴⁴mo³³	tʂɿ⁴⁴mu¹³	tʰa³¹

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Appendix B

The Cat Story
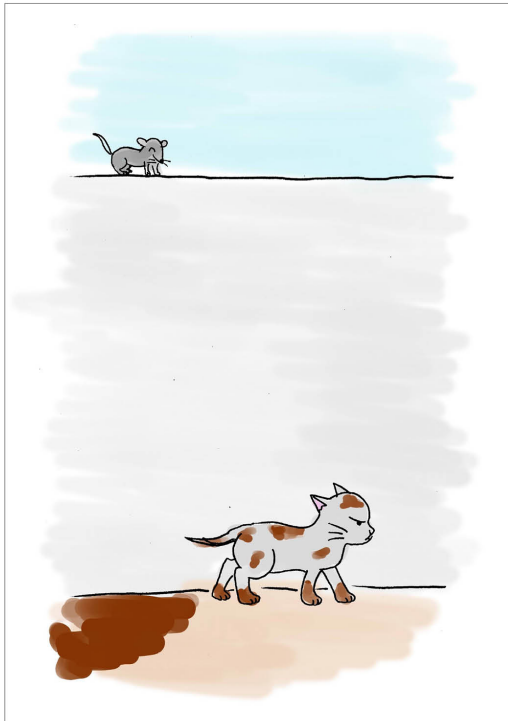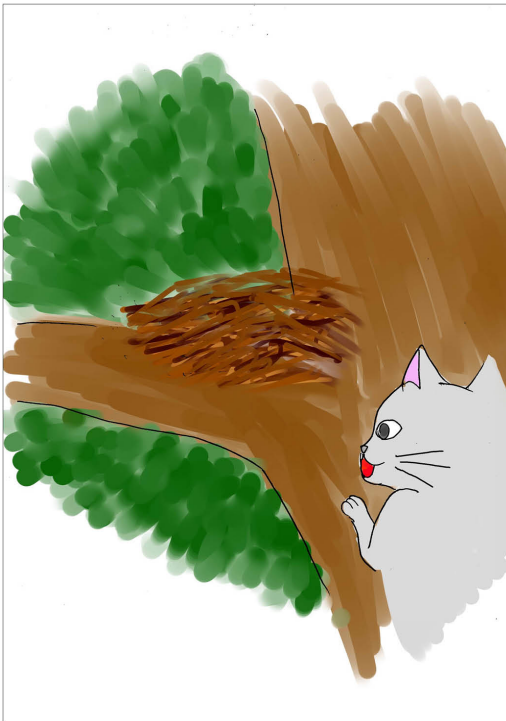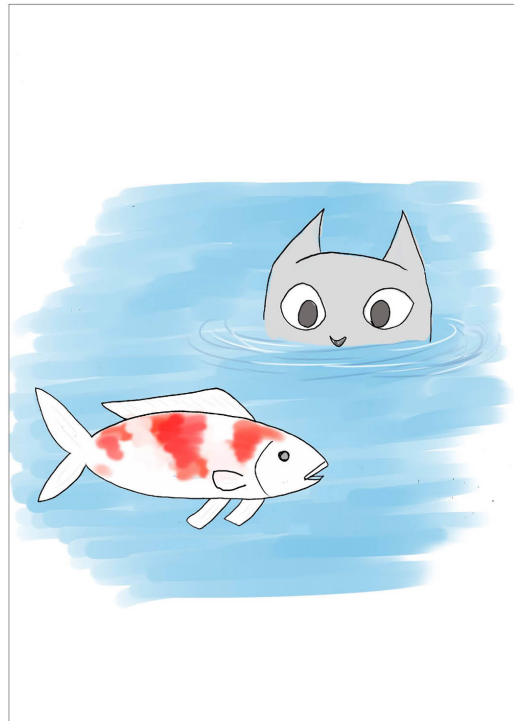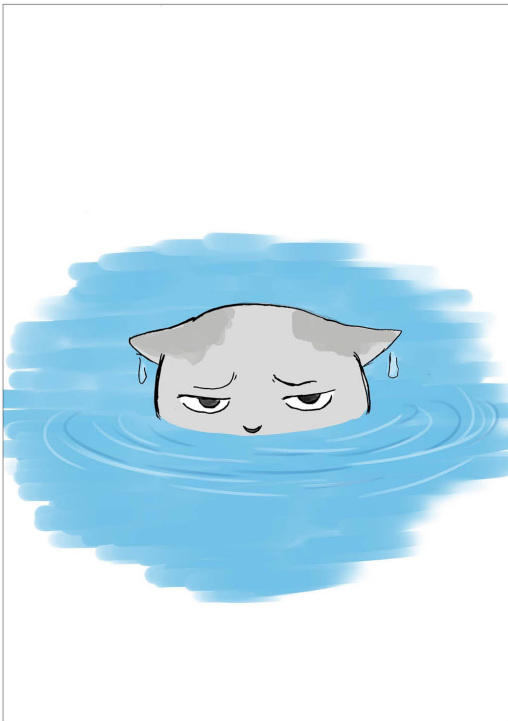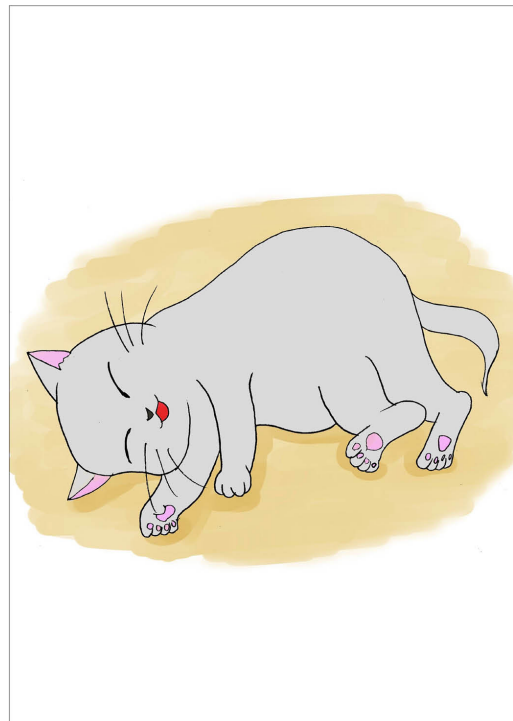

Story by: Katie Gao
Illustrations by: Nozomi Tanaka
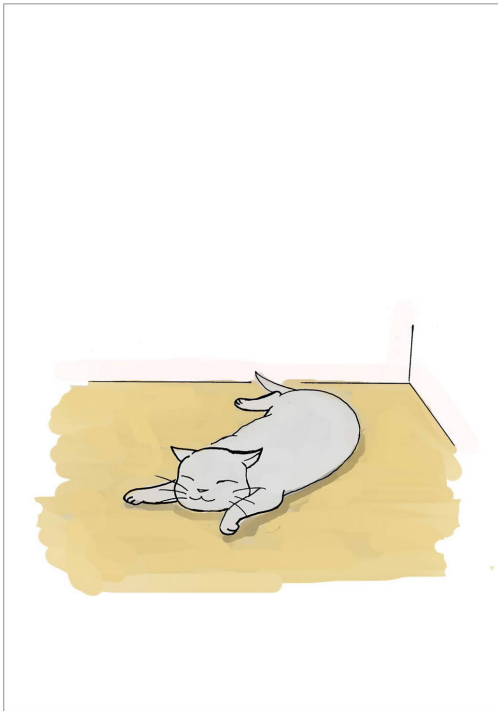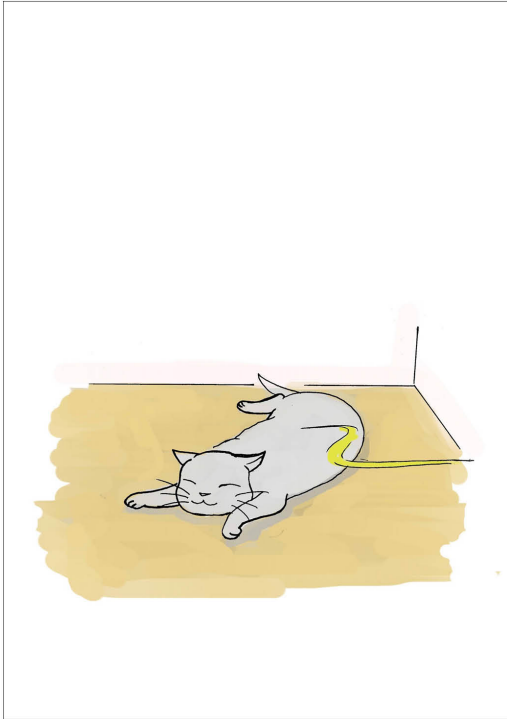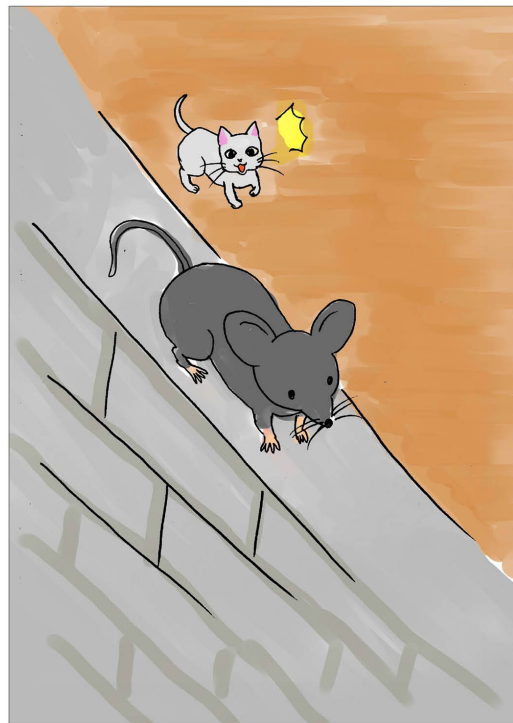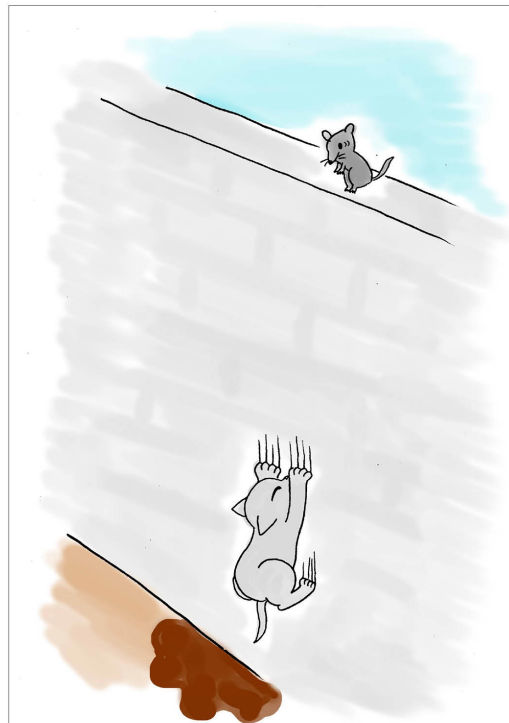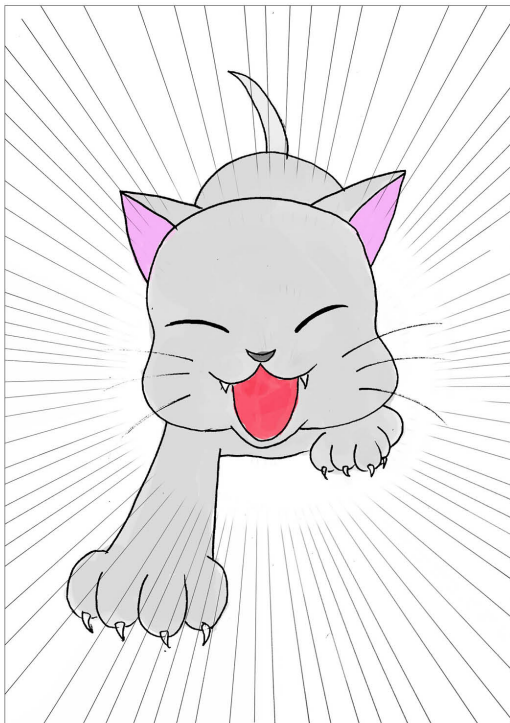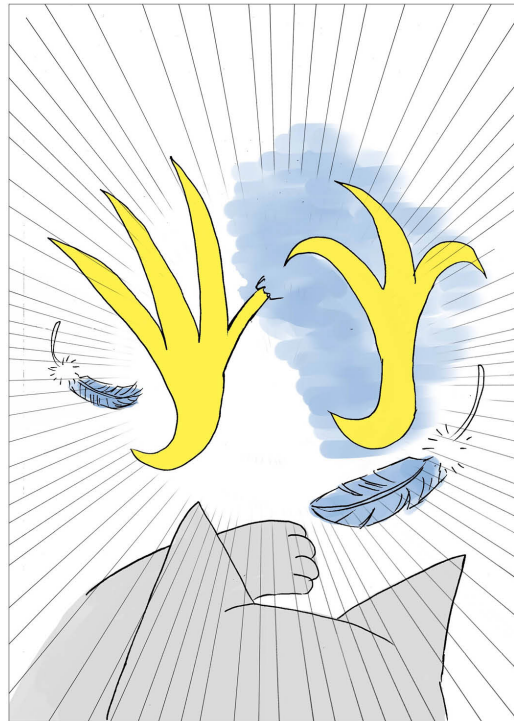
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