

Aspects of the Morpho-phonology and Classification of Tái-wān Hakka Dialects

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1 Introduction *

The aim of this thesis is to establish a basic description of the phonology and morphology of several Hakka Chinese dialects spoken in Táiwān 臺灣, with particular attention paid to the Sixiàn 四縣 dialect spoken in Guānxī 閩西 Township, Xīnzhú 新竹 County. The source for the data is my fieldwork conducted in 2009. A particular focus will be the nominal suffix (NS); its morpho-phonology is remarkable in several ways. The phonetic realization of the NS has traditionally been cited in classification, but due to extensive contact between Hakka variants its phonological form cannot be used in classifying Táiwān Hakka dialects into subgroups in the new classification scheme proposed in this thesis.

The nominal suffix (NS) is obligatory on a class of noun roots. In the Sixiàn dialect it has several surface forms, summarized in (1).

(1) *Surface forms of the nominal suffix in Guānxī Sixiàn*

- a. Gemination of the root-final stop + [l]
/hap+NS/ -> [hap.pɿ] ‘box’
- b. Gemination of a root-final nasal (+ optional [ɿ])
/tam+NS/ -> [tam.mɿ] ‘a little bit’
- c. [l]
/tʂa+NS/ -> [tʂa.l] ‘car’
- d. A homorganic glide + [l]
/koi+NS/ -> [koi.jl] ‘scab’
/tʂao+NS/ -> [tʂao.wl] ‘bird’

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To complicate matters, some of the allomorphs are in free variation. For example, when a root ends in a nasal, the nominal suffix can be either [N] or [Nɿ]: /mun+NS/ → [mun.nɿ] ‘mosquito’. After root-final high vowels, the nominal suffix can be [Gŋ], [Gɿ], or [Gɿ] (where G is a glide homorganic with the preceding vowel): [poi-jŋ] ‘quilt’, [moi-jɿ] ‘woman’, [koi-jɿ] ‘scab’.

The NS is phonologically remarkable in several ways. It presents the only situation in which the languages permit a CV syllable (to my knowledge); all other syllables are obligatorily heavy (i.e. have CVX syllable structure). It also provides the only situation where consonant geminates and a liquid nucleus are permitted.

In spite of the diverse allomorphy shown by the NS, I will argue that the underlying form of the Guānxī nominative suffix is simply /l/. Its unique prosodic properties follow from its incidental status as the only unstressed syllable in the language. Its allomorphy is the result of general phonological restrictions.

Chapter two provides necessary background about Hakka and Chinese. Chapter three provides phonemic inventories and background information about the Hakka dialects spoken in Táiwān. Chapter four is about the Hakka Nominal Suffix (NS); a detailed description and phonological analysis is provided. Chapter five investigates the classification of Táiwān Hakka dialects. The final chapter will conclude this thesis by tying the key concepts together. A glossary of the lexicon gathered from this study follows the conclusion in the appendix.

Unless specifically stated otherwise, the data used in this study was gathered from fieldwork conducted in Táiwān during the summer of 2009¹. Between June and August

¹ The numbers following lexical items correspond to their tone based on Norman’s Common Dialectal Chinese tone system explained in section 3.3.2.

2009, I worked with four consultants who each spoke different dialects of Táiwān Hakka. Each set of fieldwork investigations consisted of interviews that elicited data sets based on Simmons, Gu and Shi's (2006) *Handbook for Lexicon-Based Chinese Dialect Fieldwork*. The corpus I extracted from these interviews includes approximately five hundred lexical items, sixty sentences using specific words and a large set of character pronunciations that enable examination of the dialectal evolution from a Middle Chinese corpus, the *Qièyùn* 切韻 *Rimebook*. All consultants were recorded on a Roland Edirol R-09 (a solid-state digital handheld recorder) with an external microphone. Chinese linguistic terms will be expressed in Standard Mandarin Chinese (abbreviated as SC) using Pinyin Romanization.

2 Background Information

2.1 Chinese 'dialects' and 'languages'

As this thesis is about a specific group of Chinese dialects, I feel obliged to provide a brief clarification about the use of the terms 'language' and 'dialect' for Chinese languages. There is terminological confusion about whether Chinese is a family of languages or a family of dialects, perpetuated by the fact that the terms 'language' and 'dialect' have fairly subjective definitions, influenced primarily by socio-political concerns.

Chinese 'dialects' are generally divided into seven 'languages' based on typological characteristics. However, even if two different Chinese dialects have all of the typological characteristics of one of the seven 'languages', it is possible that they may

not be mutually-intelligible (Norman 2003)². In fact, Norman (2003) claims that if mutual intelligibility were the key criterion for defining the “language” a “dialect” belonged to then there would be hundreds of “languages” instead of seven in the case of Chinese dialects.

A further complication is that these speakers of “hundreds of mutually-unintelligible languages” all consider themselves part of the same ethnic entity – Han Chinese. The designation “language” is often based on a shared ethnic background of its speakers; this designation is the cause of difficulty in deciding whether Chinese dialects should be classified as separate languages or as dialects of the same language. For all practical purposes, such as pedagogy or linguistic observation, Chinese dialects are not “dialects” of the same “language”, even though they may have many mutual commonalities; they form hundreds of “languages”, which are categorized into seven families based on their typological characteristics. Four essentially mutually intelligible dialects of the Tái wān Hakka Chinese ‘language’ are the focus of this paper.

2.2 Chinese and Hakka

The People’s Republic of China is home to approximately 1.3 billion people; citizens of Han-Chinese ethnicity constitute 92% of the total population (Sun 2006).³ In addition, the Republic of China (Tái wān)⁴ is home to roughly 23 million, of whom 97% are ethnically Han-Chinese (Ku 2005b). As stated in the previous section, the Han-Chinese speak the seven mutually unintelligible Chinese languages; namely, Mandarin,

² In *The Chinese dialects: Phonology*, Norman refers to seven Chinese ‘languages’; however, this number is disputed and is not the primary focus of this thesis.

³ See 2.1 for more information on the Han-Chinese ethnicity

⁴ Note that Tái wān is officially known as ‘The Republic of China’.

Wú 吳, Xiāng 湘, Gàn 贛, Hakka, Yuè 粵 and Mǐn 閩 (Norman 1988, Sun 2006).

Mandarin is spoken by the largest percentage of the Han-Chinese, roughly 70 percent. The percentage breakdown of the remaining six dialects is as follows: Wú 8.5%, Yuè 5.5%, Xiāng 5%, Mǐn 4.5%, Hakka 4%, Gàn 2.5% (Sun 2006). All seven dialects are spoken in their own geo-political areas in Mainland China. In Táiwān, only Mandarin, Min and Hakka are spoken by sizeable percentages of the population. Discussion will now turn to the Hakka dialects (Norman 1988).

Hakka, also known as Kèjiā 客家 in Mandarin, is spoken by roughly 50 million people worldwide; primarily in China, Táiwān and Southeast Asia (Ku 2005b). While these Hakka speakers are indeed a subset of the larger Han-Chinese ethnicity and their language is clearly related to the other Chinese languages, they have not always been historically considered fellow Chinese by their neighbors of different dialect affiliation. Likewise, the term ‘Hakka’ which actually means ‘guest-person’ was probably a title bestowed upon them by their neighbors who had lived in shared regions of inhabitation in larger numbers (Leong 1998).

Today, southwestern Fújiàn 福建 and northeastern Guǎngdōng 廣東, sometimes called the “Hakka Heartland”, is where the largest concentration of Hakka speakers resides (Leong 1998). Between the late seventeenth and early nineteenth centuries, large numbers of Hakkas from Méizhōu 梅州, Cháo zhōu 潮州 and Huì zhōu 惠州 migrated to Táiwān in order to leave the economically depressed Southeastern coast, seeking opportunities in the rice and tea exportation industries and escaping oppression and discrimination by the local majority dialect speakers (Leong 1998).

2.3 Hakka and Old Southern Chinese

While the claims that the Hakka people originated in Northern China are possible, it is evident that these “Northerners” did not bring their language with them. Instead, they adopted the regional varieties of Old Southern Chinese local to their places of immigration. Modern day ancestor dialects of Old Southern Chinese include Yuè, Mǐn, and Hakka dialects⁵. Common features of these dialects are as follows (Norman 1988):

(2) Common Features of Yuè, Mǐn, and Hakka dialects (Southern Chinese Dialects)

- (a) Lack of a third person pronoun cognate to *tā* 他
- (b) Suffixation of gender marker in animal nouns
- (c) Distinction in register outside of the *píng* 平 tone category
- (d) Velars are not palatalized before high vowels.
- (e) Retention of bilabial initials in the lexicon from the Middle Chinese rimebook *Qièyùn* which have labiodentalized in Northern and Central Dialects
- (f) Southern dialects only retain negatives which have bilabial nasal initials whereas other dialects retain negatives which also have non-nasal initials.
- (g) Uniform evolution of the Middle Chinese voiced obstruents to voiceless aspirates in all four tones.
- (h) Retention of all three plosive consonants [p, t, k] in codas.

The main differences between the Southern Chinese dialects are the degree to which they have been influenced by northern elements. Geographic features such as mountains and rivers within Fújiàn province have isolated villages and towns from the north with the result that the Mǐn dialects are conservative descendants of Old Southern Chinese.

Conversely, the lack of these geographic blockades in Guǎngdōng allowed for strong Northern influence in Yuè dialects, with the effect that Yuè dialects have innovated in

⁵ The Yuè dialects are spoken in Guǎngdōng province and the Mǐn dialects are spoken in Fújiàn province. In fact, the terms “Yuè” and “Mǐn” are actually formal abbreviations for these provinces.

significant ways. In terms of retaining characteristics of Old Southern Chinese, Hakka dialects are considered less conservative than Mǐn but more conservative than Yuè (Norman 1988). Hakka dialects have their own special innovations of Northern nature; the most famous innovation is the aforementioned Nominal Suffix (Norman 1988).

2.4 Hakka Characteristics

As stated earlier, there are approximately 50 million Hakka speakers living in the Greater China region (Mainland China, Táiwān, Hong Kong, and Macao). While the largest concentration of Hakka is around the Hakka heartland mentioned in Section 2.2, there are Hakka communities scattered across Fújiàn, Guǎngxī 廣西, Guǎngdōng, Guìzhōu 貴州, Hong Kong, Sìchuān 四川 and Táiwān (Zhang 1996). According to Zhang (1996), Hakka dialects are broken down into the following groups based on region:

(3) Hakka Dialectal Divisions

- (a) Yuè-Tái 粵台 Hakka: The aforementioned “Hakka Heartland” and Táiwān
- (b) Yuèzhōng 粵中 Hakka: Central Guǎngdōng Province
- (c) Huìzhōu 惠州 Hakka: Within Huìzhōu city, Guǎngdōng
- (d) Yuèbei 粵北 Hakka: Northern Guǎngdōng Province
- (e) Ráopíng 饒平 Hakka: Ráopíng County, Guǎngdōng
- (f) Mǐnxī 閩西 Hakka: Southwestern Fújiàn Province
- (g) Guǎngxī Hakka: Scattered throughout Guǎngxī Province
- (h) Guìzhōu Hakka: Scattered throughout Guìzhōu Province
- (i) Sìchuān Hakka: Scattered throughout Sìchuān Province

Hakka speakers have traveled throughout Greater China and their dialects have diverged, sometimes to the point of mutual unintelligibility. However, all Hakka dialects retain a set of common characteristics, to varying degrees, that form the criterion for classifying a

dialect as Hakka. In addition to the features of Old Southern Chinese listed in section 1.3, Hakka dialects also have the following characteristics (Norman 1988, 1989):

(4) Hakka Characteristics

- (a) Lack of the front rounded vowel [y] altogether; no *cuōkǒu* 撮口 category finals⁶
- (b) Words from the *yángshǎng* 陽上 tone category have moved to other tonal categories, generally words of literary origin with voiced obstruent initials have moved to *yīnpíng* 陰平 while words of colloquial origin have moved to *yángqù* 陽去.
- (c) Several words with sonorant initials occur in both the *yīn* 陰 and *yáng* 陽 tonal registers. This suggests the possibility of voiceless sonorant initials in earlier stages of Hakka.
- (d) Register distinction in *píng* and *rù* 入, and sometimes *qù* 去, tonal categories. Since the lexicon in the *yángshǎng* 陽上 tonal category moves to other tonal categories, all Hakka dialects only have one *shǎng* 上 tone, namely, *yīnshǎng* 陰上.
- (e) The words ‘son’ *lai*⁶ and ‘mother’ *oi*¹ which are not cognate to the words for ‘son’ and ‘mother’ in other Chinese dialects.

3 Phonological Fundamentals of Four Táiwan Hakka Dialects

The first Hakka immigrants to Táiwan arrived in the late seventeenth century and inhabited Píngdōng 屏東 County in the south (Leong 1998). Once the Hakkas reached Táiwan, they settled in scattered communities along the west coast and were later forced into concentrated regions by the Southern Mǐn-speaking sub-ethnic majority. The major concentrations of Hakka are found in their original locale of inhabitation in Píngdōng as well as the neighboring northern counties and cities of Miáoli 苗栗, Xīnzhú and Táoyuán 桃園. Today, there are roughly three million Hakka speakers living in Táiwan (Leong

⁶ In Traditional Chinese phonology, finals in which the main or medial vowel is [y] are categorized under the *cuōkǒu* division.

1999, Ku 2005b). The Táiwān Hakka came from various places in Guǎngdōng and Fújiàn; their dialects are divided by, and named after, their locales of ancestry described below.

The main difference in the phonologies of these dialects are their tonal contours, total number of discrete tones and the presence or lack of the set of post-alveolar non-plosives [tʃ, tʃʰ, ʃ, ʒ]. To the best of my knowledge, the Sixiàn, Hǎilù 海陸 and Ráopíng dialects of Táiwān Hakka are mutually intelligible, at least to some extent. I have witnessed effective cross-dialect communication between my consultants, but have not determined the degree of mutual intelligibility. Unfortunately, I was not able to do any fieldwork on the Mǐnxī Hakka dialects. Speakers are quite hard to find; Mǐnxī Hakka (not to be confused with Western Mǐn dialects) is spoken by fewer than ten percent of all Táiwān Hakka speakers (Luo 2005).⁷

The aim of the following subsections is to identify core phonological properties of four Hakka dialects: Zhútíán 竹田 Sixiàn, Yángméi 楊梅 Hǎilù, Xīnzhú Ráopíng, and Guānxī Sixiàn. Discussion will focus on consonant and vowel inventories, syllable structure, word structure, and tones.

3.1 Syllables and Stress

Almost all Hakka syllables are ‘stressed’, by which I mean that they are phonologically the head of a foot (see 3.2 below). They typically have the form C(G)VX. C is any consonant from the initial charts below. G is a glide ([j] or [w]) which could be considered to be a secondary articulation on the C it follows; nothing in this thesis

⁷ Uncommonly spoken Táiwān Hakka dialects such as Yǒngdìng 永定, Zhàoān 詔安, and Dàbù 大埔 are not included in this study. Compared with the Sixiàn, Hǎilù, and Ráopíng dialects, the published information on these rare dialects is scarce and difficult to attain. Future research on Táiwān Hakka classification and the Hakka nominal suffix relies on extensive descriptive research on the other Táiwān Hakka dialects.

crucially depends of the status of glides in syllable structure (CGVX or C^GVX are both viable possibilities). X is a vowel, a nasal, or an unaspirated stop.

Any combination of C+G is possible in onsets: common examples include *kwan*¹ ‘to close, shut’ and *ljoŋ*² ‘cool (temperature)’.

Every stressed syllable has an obligatory onset. When there is no underlying consonant or glide to fill the onset position, a glottal stop [ʔ] is epenthesized. This corresponds to the zero initial (zero onset) [Ø] commonly used in the linguistics tradition of China. The zero initial is detectable as it prevents “linking” of the nuclear vowel with the preceding coda or high vowel (Duanmu 2007). This point is fundamentally important to the theory of germination in the NS in chapter four.

There are several restrictions on rimes. Rimes contain maximally one long vowel or two segments. Diphthongs have the form {e,o,a} {i,u}: i.e. the first vowel must be non-high while the second is high. Diphthongs also cannot consist of two vowels with the same backness: i.e. [ei ou] are not attested. The central vowel [a] can occur with either high vowel. So, the attested diphthongs are [ai au eu oi].

Rimes can contain a coda consonant. The consonant can be a nasal or voiceless unaspirated stop. VC rimes consist of any combination of vowel with an acceptable coda.

The one exceptional stressed syllable form is the syllabic nasal /N/, which is found in a few words, namely *ŋ*² ‘general negative’, *ŋ*¹² ‘fish’, and *ŋ*³ ‘you (Sixiàn)’.

Two important generalizations are that Hakka stressed syllables demand (1) onsets and (2) heavy rimes. The exceptional case is when the syllable consists entirely of a nasal consonant.

To my knowledge, the only unstressed syllables are the allomorphs of the nominative suffix (NS). The NS has a variety of shapes that are quite unlike stressed syllables. In no allomorph is the nominative suffix heavy – it always has one rime element. Onsets are not present in some allomorphs, and the nucleus in some allomorphs is [l] or a syllabic nasal. I will discuss these remarkably divergent features in chapter four.

3.2 Word Structure

From the Classical Chinese texts which have survived to the present, it is evident that words in Classical Chinese were primarily monosyllabic. As the Chinese language evolved, the total number of phonologically distinct syllables decreased (Norman 1988). Since the possible syllabic inventory decreased, it is not surprising that monosyllabic words are not as common as polysyllabic (specifically dissyllabic) words in modern Chinese languages. Utilizing polysyllabic words in place of monosyllabic words allows speakers to access morphemes which become ambiguous in isolation due to their identical phonetic realizations. In Chinese languages, these polysyllabic words are formed by compounding two or more free morphemes or by attaching bound morpheme affixes. These derivation-like affixes are bound morphemes which are attached to free words and bound roots to form new nouns and verbs (Sun 2006).

In short, all morphemes are mono-syllabic. There are a few apparently disyllabic morphemes such as the words for ‘spider’ and ‘snail’, but these could be ‘fossilized compounds’ – i.e. two roots that have been lexicalized into a frozen compound.

In other words, Hakka dialects have both minimal and maximal word restrictions. Words are a minimum of one heavy syllable, and they are a maximum of one heavy syllable.

I follow Ketner (2006) in arguing that both minimal and maximal word restrictions follow from general prosodic requirements, namely:

- (5) *Morpho-Prosodic Requirements in Hakka*
- (a) Every root must be enclosed in its own Prosodic Word
 - (b) Every Prosodic Word must have a well formed foot
 - (c) Every Foot head must be heavy (CVV, CVC)
 - (d) No unparsed (i.e. unfooted) syllables are allowed
 - (e) No non-head feet are allowed

The requirements in (5) essentially gang up to ensure that roots cannot be smaller than CVX, but also cannot be larger. For example, a root with the form CVCCV will either have an unparsed syllable (CVC)CV or an ill-formed foot (CVC.CV) or (CVC)(CV).

In contrast, the requirements on roots do not always apply to affixes. Certainly, affixes that are prosodically large enough become Prosodic Words. However, there is no pressure on them to augment to a larger size. Consequently, the nominal suffix can stay as a CV syllable – it is not part of a Prosodic Word or a foot.

The generalizations about syllables and word form given above will prove to be essential in explaining the nominal suffix.

3.3 Sixiàn Dialect of Zhútíán, Píngdōng

Sixiàn dialect speakers form the largest group of Hakka speakers in Táiwān accounting for approximately fifty percent of all speakers (Lu 2005). The name ‘Sixiàn’ literally means ‘four counties’ which refers to the four counties of Wǔhuá 五華, Jiāolǐng

蕉嶺, Píngyuǎn 平遠 and Xīngníng 興寧 within the Hakka Heartland in Guǎngdōng Province. Oddly, the representative dialect of Sìxiàn and so-called Standard Hakka is found in a fifth county within Guǎngdōng province, Méi County (Méixiàn). In Táiwān, Sìxiàn speakers are concentrated in Píngdōng County in the south and Miáoli in the north. Sìxiàn speakers form the minority of Hakka speakers in Xīnzhú and Táoyuán.

My Sìxiàn dialect consultant was a college-educated woman in her thirties from Zhútián Township, Píngdōng County. She had no speech impediments and did not report any cognitive defects.

3.3.1 Consonant and Vowel Inventories of Sìxiàn

Table (6) lists the onset consonants of Sìxiàn. The velar nasal has a palatal allophone [ɲ] before the high front vowel [i]. The dental sibilants [ts, ts^h, s] become alveopatatal [tɕ, tɕ^h, ɕ] before the front vowels [i and ī]. There are also two glides [j] and [w]; they are discussed in section 3.1.

(6) Sixiàn Onset Consonant Inventory ⁸

	Bilabials	Labiodentals	Dentals	Velars	Glottals
Unaspirated Voiceless Stops	p 包冰		t 刀等	k 歌经	∅ [ʔ] 嬰有
Aspirated Voiceless Stops	p ^h 泡噴		t ^h 同定	k ^h 苦圈	
Unaspirated Voiceless Affricates			ts 子走		
Aspirated Voiceless Affricates			ts ^h 次在		
Fricatives		f 福 v 碗	s 双船		h 号限
Nasals	m 尾忘		n 牛难	ŋ 饿元	
Lateral Approximant			l 梨流		

Only the unaspirated voiceless stops and nasals can occur in the X position of the syllable CVX. Sixiàn has six vowels: [i e a o u i̯]. Each may appear long, under conditions described under ‘syllables’ above in section 3.2. Unlike the other dialects surveyed, [i̯] can occur in the V position followed by an unaspirated voiceless stop or nasal in the X position. Zhútián has three syllabic nasals [m̩ ŋ̩ ɲ̩].

3.3.2 Sixiàn Tones

Following Norman’s Common Dialectal Chinese tonal system (2006) where the four ancient tonal categories of the *Qièyùn* Middle Chinese corpus are separated into *píng*, *shǎng*, *qù*, and *rù*. These categories are further divided in half based on the distinction of

⁸ The Chinese characters on the right of the phonemes are example words with the consonant onsets listed above. In this inventory and those below, the zero initial phoneme is placed into the ‘unaspirated voiceless stops’ row and ‘glottals’ column because its phonetic realization is a glottal stop

voicing; historically voiceless onsets are in the high register (*yīn*) and voiced onsets are in the low register (*yáng*). The tonal system is numbered as follows (7):

	<i>píng</i>	<i>shǎng</i>	<i>qù</i>	<i>rù</i>
<i>yīn</i>	1	3	5	7
<i>yáng</i>	2	4	6	8

My consultant has the following contours (8):

24 – MH	31 – ML	44 - HH	32 - ML
11 – LL	X		55 - HH

As in all Hakka dialects, this speaker lacks tone 4, *yángshǎng*. In her dialect, the *yīnqù* (tone 5) and *yángqù* (tone 6) tones have merged into one *qù* tone (tone 5).

3.4 Hǎilù Dialect of Yángméi, Táoyuán

Accounting for roughly twenty percent of Táiwān Hakka, Hǎilù dialect speakers are the second largest subgroup. ‘Hǎilù’ is an abbreviation for the Guǎngdōng counties Hǎifēng 海丰 and Lùfēng 陸丰 which are the counties Táiwānese Hǎilù speakers find their ancestry. In Táiwān, Hǎilù speakers form the majority of Hakka in Táoyuán and Xīnzhú. My Hǎilù consultant was a retired college professor in his late sixties who is a Hǎilù speaker from Yángméi Township, Táoyuán County. He had no speech impediments and did not report any cognitive defects.

3.4.1 Hǎilù Consonant and Vowel Inventories

Table (9) lists the onset consonants of Hǎilù. Like Sixiàn, the velar nasal has a palatal allophone [ɲ] before the high front vowel [i] and there are also two glides [j] and [w]. The

main difference between Hǎilù and Sixiàn onsets is the complete class of Post-Alveolar sibilants [tʃ, tʃʰ, ʃ, ʒ] in Hǎilù.

(9) Hǎilù Onset Consonant Inventory

	Bilabials	Labiodentals	Dentals	Post-Alveolars	Velars	Glottals
Unaspirated Voiceless Stops	p 包冰		t 刀等		k 歌经	∅ [ʔ] 嬰矮
Aspirated Voiceless Stops	pʰ 泡噴		tʰ 同定		kʰ 苦圈	
Unaspirated Voiceless Affricates			ts 子走	tʃ 张		
Aspirated Voiceless Affricates			tsʰ 次在	tʃʰ 抽		
Fricatives		f 福 v 忘	s 四伞	ʃ 食 ʒ 有		h 号限
Nasals	m 尾		n 牛难		ŋ 饿元	
Lateral Approximant			l 梨流			

The unaspirated voiceless stops and nasals occur in the X position of the syllable CVX.

In Hǎilù, the voiceless stops are glottalized in the coda position. This is significant because this prevents the gemination of the stop coda into the onset of the unstressed nominal suffix. The vowel structure of Hǎilù is essentially the same as Sixiàn with three exceptions. First, [ɨ] cannot occur in the V position followed by an unaspirated voiceless stop or nasal in the X position. Second, only two syllabic nasals [m̩ ŋ̩] can occur in the V position. Third, the unstressed syllable NS has the mid-back vowel [ɤ] in the V position.

3.4.2 Hǎilù Tones

The traditional key criterion for classifying a dialect as Hǎilù⁹ is the presence of two *qù* tones *yīnqù* (6) and *yángqù* (7); my speaker has two distinct tonemes in the *qù* tone.

My consultant has the following tonemes

(10) *Hǎilù Tones*

53 –HM	13 – LM	21 – ML	55 – HH
55 – HH	X	33 – MM	32 – ML

3.5 A Ráopíng Dialect of Xīnzhú

The Ráopíng dialect is the third most commonly spoken Hakka dialect in Táiwān. These speakers have ancestry from Ráopíng County, Guǎngdōng. Ráopíng County is under the jurisdiction of Cháozhōu city. Ráopíng County is occupied by both Cháozhōu Southern Mǐn speakers and Ráopíng Hakka speakers; therefore, the Ráopíng Hakka dialect has borrowed several lexical items from Cháozhōu dialect. My Ráopíng consultant was a female catholic school principal Ráopíng speaker from Xīnzhú city. She had no speech impediments and did not report any cognitive defects.

3.5.1 Consonant and Vowel Inventories

The onsets in Ráopíng displayed in table (11) have similar allophone variations as those in the other dialects surveyed. The velar nasal has a palatal allophone [ɲ] before the high front vowel [i]. The dental sibilants [ts, ts^h, s, z] become post-alveolar sibilants [tʃ, tʃ^h, ʃ, ʒ]

⁹ See chapter five for more details.

before the high vowels [i and i]. Ráopíng also has the two glides [j] and [w] mentioned in section 3.1. An interesting feature of Ráopíng initials is that certain words such as ‘sleep’ and ‘water’ which have dental or post-alveolar voiceless fricative onsets [s or ʃ] in the other dialects have voiceless labiodental [f] onsets in Ráopíng.

(11) Ráopíng Consonant Inventory

	Bilabials	Labiodentals	Dentals	Velars	Glottals
Unaspirated Voiceless Stops	p 包冰		t 刀等	k 歌经	∅ [ʔ] 嬰矮
Aspirated Voiceless Stops	p ^h 泡噴		t ^h 同定	k ^h 苦圈	
Unaspirated Voiceless Affricates			ts 子走		
Aspirated Voiceless Affricates			ts ^h 次在		
Fricatives		f 福水 v 忘	s 四 z 蚶		h 号限
Nasals	m 尾		n 牛难	ŋ 饿元	
Lateral Approximant			l 梨流		

The Ráopíng vowel system is similar to that of Hǎilù. The main difference is that certain words such as ‘to buy’, ‘to sell’, ‘younger brother’, ‘sleep’, and ‘water’ have singleton long vowels in their rimes whereas in the other dialects these words have diphthongs; this will be expanded upon in 5.2.3.

3.5.2 Ráopíng Tones

Ráopíng, like Sìxiàn, generally has six tonemes. Lexicon originating in tone four moved into tones one and five. There is only one *qù* tone. My consultants' contours are listed in the table below:

(12) *Ráopíng Tones*

11 – LL	53 – HM	33 – MM	44 – HH
55 – HH	X		31 – ML

3.6 Sìxiàn Dialect of Guānxī, Xīnzhú

The second consultant I worked with was a college-educated man surnamed Chén in his sixties from Guānxī Township, Xīnzhú County. He claims to be a Sìxiàn speaker, but his dialect exhibits features of both Sìxiàn and Hǎilù; the classification of his dialect is discussed in chapter five. He had no speech impediments and did not report any cognitive defects.

3.6.1 Consonant and Vowel Inventories

Table (13) lists the onset consonants of Guānxī Sìxiàn. His onsets differ from the Sìxiàn onsets described in section 3.3 in two ways. First, Guānxī Sìxiàn also contains the additional onset [z] in its consonant inventory. Second, the dental sibilants become post-alveolars before the high vowels [i] and [ɨ].

(13) Guānxī Sixiàn Onset Consonant Inventory

	Bilabials	Labiodentals	Dentals	Velars	Glottals
Unaspirated Voiceless Stops	p 包冰		t 刀等	k 歌经	∅ [ʔ] 嬰矮
Aspirated Voiceless Stops	p ^h 泡噴		t ^h 同定	k ^h 苦圈	
Unaspirated Voiceless Affricates			ts 子走		
Aspirated Voiceless Affricates			ts ^h 次在		
Fricatives		f 福 v 碗	s 双 z 药		h 号限
Nasals	m 尾忘		n 牛难	ŋ 饿元	
Lateral Approximant			l 梨流		

The only difference between Guānxī Sixiàn rimes and the Sixiàn rimes described in section 3.3 is that the nominal suffix, being an unstressed syllable, has two phonetic realizations which are impossible in the Sixiàn dialect described earlier; the mid-back vowel [ɤ] or the syllabic lateral [l̥] in the V position.

3.6.2 Sixiàn Tones

Chén's tonal system is essentially the same as the tonal system described for "Standard" Sixiàn in 3.3.2. Chén's contours are displayed below (14):

24 – MH	31 – ML	44 – HH	32 – ML
11 – LL	X		55 – HH

4 The Hakka Nominal Suffix

The nominal suffix discussed in this section is cognate to SC (Standard Chinese) *ér* ‘son, child’ (Norman 1988).¹⁰ This suffix must attach to certain morphemes in order for these morphemes to become nouns. From the data elicited in my interviews, I found that these morphemes include¹¹: ‘quilt’, ‘neck’, ‘car’, ‘bag’, ‘rice paddy’, ‘son’, ‘heat rash’, ‘child’, ‘box’, ‘monkey’, ‘chicken’, ‘scab’, ‘pepper’, ‘basket’, ‘snail’, ‘ant’, ‘wheat’, ‘woman’, ‘cat’, ‘splinter’, ‘bird’, ‘plug’, ‘fool’, ‘socks’, ‘mosquito’, ‘mat’, ‘shrimp’, ‘boots’, ‘medicine’, ‘fish’, ‘a little bit’, ‘pig’, and ‘table’.

Very little has been said about the nominal suffix. The most authoritative published information regarding its pronunciation is found in Norman (1988) stating that the suffix cognate to SC *ér* is [e] in Méixiàn dialect and [l²] in Hǎilù dialect.

I found that this morpheme has different phonetic realizations in each of the dialects I observed. In Zhútián Sìxiàn it is always [e]. In Yángméi Hǎilù, its underlying form is /ɣ/, becoming [ŋ] when its preceding segment is [+nasal]. In Xīnzhú Ráopíng, its surface form is [ɣ] with slight rhoticization when its preceding segment is [-nasal].

The Guānxī speaker’s suffix has many allomorphs. These allomorphs provide great insight into the phonological restrictions active in the speaker’s idiolect.

4.1 The Nominal Suffix used by the Guānxī Sìxiàn Speaker

The Guānxī speaker’s nominal suffix had a variety of forms. Some are conditioned by phonological environment, but others are apparently in free variation. Forms for all local phonological environments are provided below.

¹⁰Although many sources use the character 仔 to represent this suffix, it is clear that this morpheme is actually best represented by the character 兒 as it is cognate to SC *ér*.

¹¹ See the glossary for the pronunciations of these words in the dialects observed.

(15) Nominal Suffix in Guānxī Sixiàn Hakka

Root-Final Segment	Suffix Form	Examples
[-p]	/p/	/hap ⁸ .p/ ‘box’
[-t]	/t/	/mat ⁷ .t/ ‘socks’
[-k]	/k/	/kok ⁸ .k/ ‘rice patty’
[-m]	/mɿ/	/zit ⁸ .tjam ³ .mɿ/ ‘a little bit’
[-n]	/nɿ/	/mun ¹ .nɿ/ ‘mosquito’; /se ⁵ .ŋin ² .nɿ/ ‘child’
[-ŋ]	/ŋ/	/lan ² .ŋ/ ‘basket’
[-ŋ]	/ŋ/	/k ^h wai ⁵ .t ^h oŋ ¹ .ŋ/ ‘chopsticks box’
[ŋ]	/ŋɿ/	/ŋ ² .ŋɿ/ ‘fish’
[-i]	/jŋ/	/p ^h i ¹ .jŋ/ ‘quilt’; /mi ¹ .t ^h joi ⁵ .jŋ/ ‘rice bag’; /t ^h joi ⁵ .jŋ/ ‘belt’
[-i]	/jɿ/	/pwoi ¹ .jɿ/ ‘heat rash’ /moi ⁵ .jɿ/ ‘woman’
[-i]	/j/	/koi ⁵ .j/ ‘scab’; /k ^h wai ⁵ .j/ ‘chopsticks’; /lai ² .j/ ‘son’
[-a]	/l/	/tsa: ¹ .l/ ‘car’
[-o]	/w/	/tjao ⁵ .w/ ‘bird’
[-u]	/wŋ/	/hu ¹ .wŋ/ ‘beard’

From the data displayed in figure 15, we can conclude that this suffix has four surface forms: the syllabic lateral [l], the syllabic dental nasal [ŋ], the syllabic velar nasal [ŋ] and the mid-high back unrounded vowel [ɿ].

I hypothesize that the underlying form is /l/, with no other material. However, the underlying form surfaces unchanged in only one environment: after [a:]: e.g. /ts^ha:+l/ → [ts^ha:..l]. In other environments it is either altered or augmented.

There seems to be free variation in some realizations, particularly with the nasals and glides.

I will argue in the following sections that all forms of the suffix are due to general phonological restrictions on syllable and word shape identified above. Even the free variants can be accounted for in this way.

4.2 Stop Gemination

After root-final stops, the nominal suffix appears as [Cl], where C copies the preceding stop, creating a geminate: /hap-!/ → [hap.!). Gemination is found in other dialects, too: Hashimoto (1973) also notes this phenomenon, but in the dialect he observed (Méixiàn) the NS is [i].

Gemination occurs for several converging reasons. There is a strong pressure for every syllable to have an onset. There is also a strong pressure for the rightmost segment of every root to be aligned with the right edge of a syllable.

In Optimality Theory (Prince & Smolensky 1993), these pressures are expressed via the constraints in (16) (from Prince & Smolensky 1993, McCarthy & Prince 1993). The constraints conflict: ONSET, ALIGN-R, and DEP must outrank *GEM, so as to allow geminates in the winning candidate.

(16) *Constraints*

ONSET Every syllable must have an onset

ALIGN-R(ROOT, σ) The right edge of every root must align with the right edge of every syllable.

DEP Do not epenthesize

*GEM Do not have geminates

(17)

/hap-l/	ONSET	ALIGN-R	DEP	MAX	*GEM
☞ (a) hap.p̩					*
(b) hap.l̩	*!				
(c) ha:.p̩		*!			
(d) hap.l̩x			*!		
(e) hap				*!	

The winner (a) may seem to violate ALIGN-R. However, I treat ALIGN-R as being satisfied if the rightmost root segment is associated to the rightmost position in a syllable. In [hap.p̩], the rightmost segment [p̩] is associated to the rightmost position in the first syllable; it also happens to be associated to the leftmost position in the second syllable, but this fact does not prevent it from satisfying ALIGN-R. The constraint is a weaker version of CRISPEGE (Ito & Mester 1994).

The candidate [hap.l̩] violates the constraint ONSET. ONSET as there is no onset consonant in the second syllable which contains the nominal suffix. In contrast, the winner satisfies ONSET through gemination.

The candidate [ha:.p̩] violates the constraint ALIGN-R. ALIGN-R is not satisfied in the first syllable of [ha:.p̩] since the rightmost root segment of the morpheme [hap] ‘box’ is associated to the leftmost position in the second syllable, [p̩], which contains is the nominal suffix morpheme.

The candidate [hap.l̩x] violates the constraint DEP because [x] has no input correspondent.

Finally, the candidate [hap] violates the constraint MAX. MAX is violated by the deletion of the nominal suffix's /l/.

In short, stop gemination occurs because the language demands onsets and there is no other way to satisfy the need without violating a higher ranked prohibition.

4.3 Nasals

After root-final nasals, there are two allomorphs in free variation: (1) a syllabic nasal and (2) a nasal followed by [ɾ]. I will account for both by showing that they follow from slightly different rankings of the constraints already identified.

Liquids assimilate to nasals when they are adjacent to nasals. So, the form /mun+l/ cannot surface as *[mun.n] or even *[mun.l]. Given the preceding section, the expected form is therefore [mun.nn], where the root-final nasal has geminated to form the onset of the following syllable, and the nominal /l/ has assimilated to become a nasal. The phonological problem with such a form is self-evident: it is a super-long geminate, which is banned.

There is no easy way out at this point: every allomorph violates some significant constraint. Apparently two different rankings are used to resolve the situation. One is with ONSET subordinated to ALIGN-R and DEP. This ranking produces [mun.n]:

(18)

/mun-l/	ALIGN-R	DEP	MAX	ONSET	*GEM
☞ (a) mun.n				*	*
(b) mun.nɣ		*!			*
(c) mu:.nn	*!				*
(d) mun			*!		

The other ranking in use has ONSET outranking DEP:

(19)

/mun-l/	ALIGN-R	ONSET	MAX	DEP	*GEM
(a) mun.n		*!			*
☞ (b) mun.nɣ				*	*
(c) mu:.nn	*!				*
(d) mun			*!		

However, winning candidates never violate ALIGN-R or MAX: *[mu:.nn] and *[mun] never surface.

Either ranking – with DEP or ONSET subordinate – will still uniquely ensure that /hap+l/ surfaces as [hap.p!].

I have identified two basic ranking that account for the variation in the allomorph. Formal implementation of free variation is beyond the scope of this thesis; for an overview of current theories, see Antilla (2007).

4.4 Vowel-final roots

Vowel final roots show a remarkable amount of free variation.

Perhaps unsurprising is the form of the nominal suffix [Gl]- after non-low vowels: e.g. /tjao-l/ → [tjao.wl]. This form is essentially identical to the form after stops: the /o/ vowel has been copied (or spread) into the second onset, forming its glide counterpart [w]. The same applies to /i/ in /koi-l/ → [koi.jl].

There are two other forms of the nominal suffix.

In some forms, the /l/ becomes [ŋ]: e.g. /p^{hi}.jŋ/. It is unclear to me why [l] and [ŋ] are in free variation in this particular environment. It is possible that glides and [l] are too close to each other in sonority – changing [l] to [ŋ] increases their distance.

It is probably for the same reason that in some forms the /l/ becomes the back vowel [ɤ]: e.g. /pwoi.jɤ/. Changing /l/ into [ɤ] achieves a greater distance in sonority.

The final form to discuss is after /a:/: e.g. [ts^ha:..l]. The allomorph cannot be *[ts^ha:..jl] or *[ts^ha:..wl] because /a/ has no glide counterpart (Rosenthal 1997). With a ban on epenthesis and strict adherence to right-alignment of roots with syllables, [ts^ha:..l] is the only option.

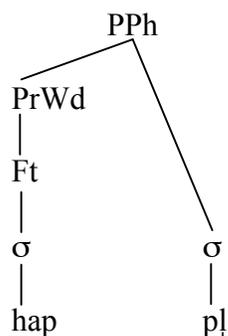
Given the discussion of nasals above, though, we could expect the form [ts^ha:..lɤ] to appear some of the time, given that ALIGN-R outranks DEP in some rankings; I have not observed that form, though my data may be incomplete.

4.5 The Prosodic Shape of the Nominal Suffix

As stated in 3.2, Hakka dialects have both minimal and maximal restrictions on roots so that every root has the shape CVX. In contrast, the NS has the shape (C)V. I propose that this is due to the NS's unique morpho-phonological status: as the language's sole affix, it is not subject to root-based restrictions. Prosodically, it is excluded from being in a PrWd. As it is not in a PrWd, it is not inside a foot either, and so is not subject to augmentation to fit inside a foot. Consequently, the NS can surface virtually intact without having to undergo augmentation.

As an example, the prosodic form of *hap.pl* is given below. The root must appear inside a PrWd, which consequently requires it to be the head of a foot. In contrast, the NS can attach directly to the PPh and so avoid any foot-based augmentation requirements. It is still subject to *syllable* restrictions, however, and so must have an onset.

(20) Prosodic shape of *hap.pl*



As demonstrated earlier, the nominal suffix has the underlying form /l/; however, this form seldom surfaces faithfully. Its attested occurrence in ‘car’ [(ts^ha:)] only occurs because its preceding segment [a] has no glide counterpart and so cannot spread into an onset C. In Guānxī Sixiàn, syllabic /l/ is only possible in the NS, it never occurs as a stressed syllable.

5 Reevaluation of Táiwān Hakka Dialect Classification

This chapter presents a new classification framework for the Táiwān Hakka dialects surveyed in this study. Since this framework uses phonetic values of tonemes from dialect sites in Mainland China as well as Táiwān, it could potentially be useful in classifying Mainland dialects into the Hakka subgroups Sixiàn, Hǎilù, and Ráopíng. However, the range of this proposal is limited to sub-classifying dialects already determined to be Hakka and is only intended to classify dialects spoken in Táiwān.

Táiwān Hakka dialects have been previously classified into Sixiàn or Hǎilù (and less often into other variants such as Ráopíng and Mǐnxī) based on their number of tones and the presence or lack of the set of post-alveolar sibilants [tʃ, tʃʰ, ʃ, ʒ]. I noticed fundamental contradictions of the established classification criteria in the dialects spoken by my consultants when I was conducting my fieldwork on these dialects; the Hakka dialects I conducted fieldwork on exhibit fundamental differences compared with the contemporary standards. Comparing the phonologies and lexicons of Táiwān Hakka dialects, the goal of this chapter is to provide a new classification framework based on my fieldwork. The phonologies of the dialects surveyed are described in chapter three and a corpus of their lexicon is provided in the appendix. In addition to the dialects I surveyed, my classification framework uses lexical and phonological dialect information of other Hakka dialects from Li (1996), Lu (2005), Pan (2000), Ting (1985), Xie and Huang (2007), Wei (1997), and Zhang (1996). I will argue that due to extensive dialect

contact, particularly in Northern Táiwān, Táiwān Hakka classification must solely be drawn based on the correspondences in the toneme contours and segment innovations.

5.1 Importance of Classification

Classification is a process in which items are compared to one another and placed into categories based upon their similarities and differences. Similarities define correspondences which demonstrate affiliation between two or more items. The sets of correspondences and discrepancies are never complete; new discoveries and innovations often redefine their boundaries (Branner 1999). When we formalize classification parameters, we try to convince others that certain items should be grouped together. We give names to these groups in the hope that fellow researchers accept the similarities we demonstrate.

The nomenclature of colors provides an example of formal classification. To the general English speaking public, “blue” usually refers to any color on a spectrum where navy blue is the darkest shade and cyan is the lightest shade. However, an artist or interior decorator need be more specific. When asking the man on the street for the colors of the American flag, the simple response of red, white, and blue will suffice. However, a cartoonist drawing the American flag has to use navy blue; he cannot use cyan or cerulean. His selection is based on the classification of colors the art world has established. On the other hand, a person who suffers from colorblindness may not be able to distinguish any shade of blue or even any colors any color at all; due to cognitive impairment, his or her brain cannot classify colors into discrete entities.

The same argument made for colors can be applied to the systematic classification of anything. In fact, the first step for any kind of systematic study looking at multiple items is classification; setting formal boundaries between entities. When describing dialects, classification provides a fundamental foundation for commencing discussion and debate (Simmons 1999). On the simplest level, if we cannot give a dialect a name distinguishing it from others, how can we refer to it? If we do not classify dialects, how can we tell them apart? How do we know if Mr. Wang is speaking Hakka or Cantonese? Simply put, these problems cannot be solved; Chinese dialects must be classified in order to be described. Like Branner (1999) and Simmons (1999), we agree that classification of Chinese dialects must be based primarily on phonology. This is because a language's phonology is its most stable component when compared with its syntax and lexicon which are subject to non random forces such as borrowing from other languages or dialects.

5.2 Earlier Classifications of Táiwān Hakka Dialects

Earlier classifications of Táiwān Hakka dialects, like most classifications of Chinese dialects, are based on the numbers of discrete initials, finals, and tones along with their phonetic realizations. For instance, Ting (1985) states that there few differences between Sixiàn and Hǎilù dialects; the primary differences being in the number of tones (six in Sixiàn, seven in Hǎilù) and the set of post-alveolar sibilants [tʃ, tʃʰ, ʃ, ʒ] (Sixiàn lacks this set whereas it is present in Hǎilù). This model is helpful and indeed useful for classifying dialects into one of the seven families of Chinese. However, in the case of the dialects surveyed in this study, the designation 'dialect' defines a subgroup of

the larger Hakka language spoken in Táiwān. While these dialects have different regional origins in Mainland China they are all, at least largely, mutually intelligible. As stated in chapter 3, I have witnessed successful cross-dialectal communication between my consultants and native speakers of other Hakka dialects; thereby demonstrating mutual intelligibility. While the dialects of Zhútián, Guānxī, Xīnzhú, and Yángméi are mutually intelligible, they have obvious typological discrepancies between them and have traditionally been grouped into the three subdivisions – Sixiàn, Ráopíng, and Hǎilù. These groups are useful divisions, especially with regard to number of tonemes and their phonetic values. The present study focuses on redefining the parameters for classifying Táiwān Hakka dialects into these categories.

5.2.1 Sixiàn

Lu (2005, 194-198) provides a clear-cut description of the Sixiàn dialect spoken in Táiwān. He states that it has 17 initials {p, p^h, m, f, v, t, t^h, n, l, ts, ts^h, s, k, k^h, ŋ, h, and Ø}, 65 finals comprised of combinations of six vowels {i, u, a, e, o, ɨ}, six consonant endings {p, t, k, m, n, ŋ}, some special final groups {syllabic nasals m, n, ŋ}, and six tones {1-24, 2-11, 3-31, 5-55, 7-11, and 8-55}. The *qù* tone is not split into *yīn* and *yáng*.

Similarly, Ku (2005a) states that Sixiàn dialects lack the set of post-alveolar sibilants [tʃ, tʃ^h, ʃ, ʒ]. He says that the voiceless sibilants [tʃ, tʃ^h, ʃ] in Hǎilù are [ts, ts^h, s] and the voiced sibilant [ʒ] becomes the zero initial [Ø].

5.2.2 *Hǎilù*

Lu (2005, 199-203) presents a description of Hǎilù with a comparison to his description of Sìxiàn. He states that Hǎilù has an extra set of post-alveolar sibilants [tʃ, tʃʰ, ʃ, ʒ] along with the dental sibilants, altogether having 21 initials. The Hǎilù system of finals uses six vowels {i, u, a, e, o, ɨ}, six consonant endings {p, t, k, m, n, ŋ}, altogether having 58 finals. Hǎilù dialect distinguishes between *yīn* and *yáng* register in the *qù* tone, altogether having seven tones {1-53, 2-55, 3-13, 5-11, 6-22, 7-55, 8-32}.

Pan (2000)'s description is quite similar. The primary site of interest in his study is the site of Hétián which is located within Lùfēng. This variant also has the same 21 initials in the description presented in Lu (2005). This variant has 63 finals including the syllabic nasals [m and ŋ]. The observed tonemes are {1-53, 2-55, 3-213, 5-31, 6-22, 7-34, 8-54}.

5.2.3 *Ráopíng*

Lu (2005, 204-209) describes *Ráopíng* after *Sìxiàn* and *Hǎilù*. He uses the *Sìxiàn* and *Hǎilù* dialects as a comparative basis in his description of *Ráopíng*. The *Ráopíng* variant he describes has 21 initials “similar to *Hǎilù*”, with 59 finals system having the same constituents as *Sìxiàn* and *Hǎilù* without the syllabic nasals. The tonal system of the dialect he observed has the same tonemic breakdown as his *Sìxiàn* dialect except with the following contours {1-11, 2-32, 3-53, 5-33, 7-32, 8-55}.

In addition to the initial, final, and tone systems described by Lu, *Ráopíng* is characterized from the other dialects with two phonological innovations: one affecting

initials and one affecting finals. The *Qièyùn shū* 書 and *shàn* 禪 initials have the phonetic realization of [f] before *hékǒu* finals in the third division.

(21) Labiodentalization in Ráopíng (adapted from Luo 2005)

	Sixiàn	Hǎilù	Ráopíng
shuǐ 水 ‘Water’	sui ³	ɸui ³	fi ³
shuì 睡 ‘Sleep’	soi ⁵	ɸoi ⁶	fe ⁵
shuì 稅 ‘Tax’	soi ³	soi ³	fe ³
chún 唇 ‘Lips’	sun ²	ɸun ²	fin ²

Words with *xièshè* 蟹攝 *kāikǒu* 開口 finals in the 2nd and 4th divisions and words with *zhǐshè* 止攝 *hékǒu* 合口 finals in the 3rd division have single vowel finals in Ráopíng whereas Hǎilù and Sixiàn have diphthongs.

(22) Monothongization in Ráopíng

	Sixiàn	Hǎilù	Ráopíng
mǎi 買 ‘to buy’	mai ⁵	mai ¹	mi ¹
jī 鷄 ‘chicken’	kai ¹	kai ¹	ke ¹
xiè 蟹 ‘crab’	hai ³	hai ³	he ³
mài 賣 ‘to sell’	mai ⁵	mai ⁶	mi ³
shuì 睡 ‘to sleep’	soi ⁵	ɸoi ⁶	fe ⁵
dì 弟 ‘younger brother’	t ^h ai ¹	t ^h ai ⁵	t ^h e ⁵
zuǐ 嘴 ‘mouth’	tsoi ⁵	tɸoi ⁵	tse ⁵

The above description of Ráopíng differs significantly from other published descriptions of Ráopíng dialects. Zhang (1996) notes that the Ráopíng dialect of Shàngráo 上饒 in Northern Guǎngdōng has 22 initials {p, p^h, m, f, v, t, t^h, n, l, ts, ts^h, s, z, tʃ, tʃ^h, ʃ, ʒ, k, k^h, ŋ, h, and Ø}, 62 finals, and 6 tones {1-11, 2-55, 3-53, 5-35, 7-21, 8-55} (223). Ting (1985) notes a five tone system for a Ráopíng variant spoken in Xīnzhú county (which is referred to as Ráopíng-2 below) where the *shāng* and *qù* tones have

merged having five tonemes altogether {1-11, 2- 44, 3-41, 7-31, 8-44}. Based on the chart below, we can make a generalization of the Ráopíng tonal system. Ráopíng dialects uniformly have a low-level *yīnpíng*, a high-level *yángpíng*, and a falling *shǎng* tone.

(23) Tones of Ráopíng Dialects

locale	yīnpíng	yángpíng	shang	qu	yīnrù	yánggrù
Ráopíng	11	55	53	33	32	55
Ráopíng-2	11	44	41		31	44
Shangrao	11	55	53	35	21	55
Xīnzhú	11	55	53	33	44	31

Ráopíng-2 from Ting (1988). Shangrao from Zhang (1996).

Most interestingly, Lu (2005) presents a survey on Ráopíng variants by Xu Guirong. This survey was conducted on three groups (A, B, C) of Ráopíng speakers in 2005. In terms of initials, Ráopíng variants in group A have 17 initials (lacking post-alveolar sibilants) where as Ráopíng variants in groups B and C have both sets of sibilants altogether having 21 initials. Ráopíng variants in group A have three syllabic nasals {m, n, ŋ} and the others only have {m and ŋ}. Groups A and C have six tones and group B have seven tones. Solely looking at Lu (2005), Ting (1985), and Zhang (1996), we see that the dialect sub-group which is called Ráopíng is largely inconsistent with regards to phonemic contrasts aside from its own innovations which have diverged from the other Táiwān Hakka dialects in this study.

5.2.4 Interesting note about the surnames of Hakka speakers in Táiwān

Simmons (1999b) argues that dialects are not biologically related to each other; hence we should stop trying to group them into “families” until after we formally analyze dialects based on their own characteristics. This is a well-reasoned assertion for languages and dialects for most general purposes. However the case of Táiwān Hakka

presents an interesting situation. Since speakers actually immigrated to Táiwān in waves from specific locales as discussed in section 2.2, it is conceivable that speakers of certain dialects might in fact be genetically related to each other and if so, the dialects they speak could also be related.

Scholars of Táiwān Hakka dialects make interesting comments appealing to genetic relationships between sub-group speakers. Luo (2005) says that people while most Hakka speakers in Xīnzhú County have ancestors from Hǎifēng or Lùfēng, Sixiàn speakers can often trace their ancestors to specific counties around Méizhōu in China. Those surnamed Dài 戴 in Húkǒu 湖口 township, Luó 羅 in Guānxī township, Xú 徐 in Qiónglín 芎林 township, and Huáng 黃 in Běipǔ 北埔 township came from Jiāolǐng. Xīnpǔ 新埔 residents surnamed Pān 潘 find their ancestry in Méixiàn. The Chén 陳 of Guānxī came from either Wǔhuá or Xīngníng. Ting (1985) notes that it is commonly known that within Xīnzhú county, people with the last names Zhān 詹, Liú 劉, Lín 林 are Ráopíng speakers. Based on these statements, it is perhaps more than a coincidence that my Sixiàn-speaking Guānxī consultant is surnamed Chén.

5.3 Contradictions of Present Classification

The classification models in 5.2 essentially portray a seemingly standard variant of a subset of dialects. The model stating that in order to be deemed dialect A, the surveyed dialect must have X number of initials, Y number of finals, and Z number of tones distinguishing such-and-such classes of phonemes, does not account for any variation based on idiolect or even uncommon, low prestige variants of the same dialect.

The dialects of Guānxī Sìxiàn and Xīnzhú Ráopíng present two cases which challenge the current classifications of Táiwān Hakka dialects.

5.3.1 Guānxī Sìxiàn

The Guānxī variant of Sìxiàn is of significant comparative interest in that it has the phoneme [z-] which does not exist in other Sìxiàn dialects. Interestingly, this phoneme occurs in the exact same words with [ʒ-] initials in Hǎilù. This phoneme must have been borrowed into the dialect through contact with Hǎilù. Contrary to Norman's (1988) statement that the Hakka nominal suffix is generally e^2 in Sìxiàn variants and l in Hǎilù variants, the nominal suffix of Guānxī (explained in detail in section 4) more closely resembles Norman's description of the Hǎilù nominal suffix than his description the Sìxiàn nominal suffix.

Luo (2005) notes that Táiwān Hakka speakers generally communicate with each other in Sìxiàn as it is the most commonly spoken Hakka dialect in Táiwān. However, speakers of Sìxiàn and Hǎilù variants in Guānxī Township communicate with each other in their own dialects. Sìxiàn, particularly the variant spoken in Méixiàn, is considered to be the standard and most prestigious Hakka dialect (Hashimoto 1972, Norman 1988). We also know that speakers of Sìxiàn variants comprise the majority of Hakka speakers in Táiwān. Therefore, it is not surprising that Sìxiàn is the established Hakka *koine* in Táiwān. However, in Xīnzhú county and the neighboring county of Táoyuán, speakers of Hǎilù variants comprise the majority of Hakka speakers, roughly two-thirds of all speakers (Ting 1985). Luo (2005) also tells us that due to a historically Hǎilù-speaking majority within these counties, many people with Sìxiàn-speaking ancestors adopted

Hǎilù as their own dialect. It seems that within Xīnzhú and Táoyuán counties that Hǎilù is the prestige variant of Táiwān Hakka.

Before making the claim that [z] was borrowed into Guānxī Sixiàn, we should take the possibility of historical existence into account. The dialects of Méixiàn, Wǔhuá, Jiāolǐng, Píngyuǎn, and Xīngníng are Mainland Sixiàn variants. These dialects are largely similar, their tonemes lack phonological differences; these dialects each have six tones with phonetically similar contours. Méixiàn {1-44, 2-11, 3-31, 5-53, 7-1, 8-5}, Wǔhuá {1-44, 2-23, 3-21, 5-52, 7-2, 8-5}, Jiāolǐng {1-55, 2-11, 3-31, 5-53, 7-1, 8-5}, Píngyuǎn {1-35, 2-11, 3-31, 5-55, 7-1, 8-5}, and Xīngníng {1-44, 2-11, 3-21, 5-52, 7-2, 8-5} (Xie and Huang 2007, Li 1996). Wǔhuá provides us with the most interesting historical information. Unlike the other variants which only have a set dental sibilants, Wǔhuá contrasts between dental and retroflex sibilants. Li (1996) provides us twenty initials for Wǔhuá {p, p^h, m, f, v, t, t^h, n, l, k, k^h, ŋ, h, ts, ts^h, s, tʂ, tʂ^h, ʂ, and Ø}. Note that while Wǔhuá has two contrasting sets of sibilants, Wǔhuá lacks a phoneme which corresponds to the aforementioned [z] in Guānxī Sixiàn. This phoneme only occurs with words with *Qièyùn yǐng* 影, *yún* 云, and *yǐ* 以 initials before *kāikǒu* finals in the third division. The words with this initial, such as *yào* 药 ‘medicine’, have zero initial in Wǔhuá [iok⁸] and other Sixiàn variants (Wei 1997). This means that proto-Sixiàn potentially had the set [*ts, *ts^h, *s] corresponding to *Qièyùn jīng* 精-, *zhī* 知 in the second division, and *zhuāng* 庄-groups and the set [*tʂ, *tʂ^h, *ʂ] corresponding to *Qièyùn zhī* in the third division and *zhāng* 章-groups (Wei 1997). However, existence of initial [z-] in Guānxī Sixiàn cannot be explained through the reconstruction of proto-Sixiàn initials. Therefore, it must have

been borrowed from Táiwān Hǎilù as [z-] occurs in exactly where [ʒ-] occurs, in words with *Qièyùn yǐng*, *yún*, and *yǐ* initials before *kāikǒu* finals in the third division.

The Hǎilù-like innovations in Guānxī extend into the phonetic realization of the nominal suffix. Since the Guānxī dialect I surveyed is a Sixiàn variant, we would expect it to have the nominal suffix *e*². However, this is not the case. Its underlying form is *l* with many allomorphs as described in chapter 4. Although the allomorphy is easily explained in most situations, the nominal suffix has several possible surface forms following vowel-finals and nasal-codas. This allomorphy can be explained to be a result of imitation of the Hǎilù suffix.

5.3.2 *Xīnzhú Ráopíng*

The Ráopíng dialect I surveyed is not all that different from Ráopíng variants discussed in 5.2.3. It is quite similar to the group A of Ráopíng dialects surveyed in Xu's 2005 survey; it has six tones and lacks the set of post-alveolar sibilants. Interestingly, while my Ráopíng-speaking consultant from Xīnzhú lacks the full set of post-alveolar sibilants [tʃ, tʃ^h, ʃ, ʒ], she also has the phoneme [z-] as in Guānxī Sixiàn corresponding to Hǎilù initial [ʒ-]. In recapitulation of the survey conducted by Xu in 2005, group A Ráopíng dialects have 17 initials and groups B and C have 21 initials. The dialect I surveyed has 18 initials {p, p^h, m, f, v, t, t^h, n, l, k, k^h, ŋ, h, ts, ts^h, s, z, and Ø}.

5.3.3 *Phoneme [z-] in Guānxī Sixiàn and Xīnzhú Ráopíng*

The dialect of Guānxī Sixiàn differs from the more common variants of Táiwān Sixiàn in that it has the initial [z-] which corresponds to Hǎilù initial [ʒ-]. The variant of

Xīnzhú Ráopíng introduced in this study is unlike other observed variants as it has also has initial [z-] corresponding to Hǎilù initial [ʒ-] while lacking phonemes corresponding to the Hǎilù voiceless sibilants [tʃ, tʃʰ, ʃ]. Ráopíng dialects generally have the full set of post-alveolar sibilants [tʃ, tʃʰ, ʃ, ʒ], but some dialects have been observed to lack this entire set. To demonstrate that Guānxī Sìxiàn and Xīnzhú Ráopíng have this phoneme in the exact same environment as Hǎilù, words with Hǎilù zero initial (words from ‘baby’ to ‘to want’) and Hǎilù initial [ʒ-] (words from ‘castrate’ to ‘salt’) are compared in the dialects observed. Note that the Hǎilù initial [ʒ-] is [j-] initial in Zhútián Sìxiàn which is an underlying [i] before becoming a glide in the onset.

(24) Comparison of words with zero initial and [z/ʒ]

		TZ Sìxiàn	YM Hǎilù	GX Sìxiàn	XZ Ráopíng
‘baby’	嬰(兒)	oŋ ¹ (ŋa ²)	oŋ ¹ (ŋa ²)	oŋ ¹ (ŋa ²)	oŋ ¹ (ŋa ⁶ ɿ ²)
‘to bend’	折	au ³	au ³	au ³	au ¹
‘short’	矮	ai ³	ai ³	ai ³	ai ³
‘to want’	要	oi ⁵	oi ⁵	oi ⁵	oi ⁵
‘castrate’	閹	jam ¹	ʒam ¹	zam ¹	zam ¹
‘far’	遠	jan ³	ʒian ³	zan ²	zan ³
‘to have’	有	jiu ²	ʒiu ⁵	ʒiu ⁵	ʒiu ⁵
‘medicine’	藥	jok ⁸	ʒiok ⁸ (?ɿ ²)	zok ⁸ (kɿ ²)	zok ⁸ (kɿ ²)
‘salt’	鹽	jam ²	ʒam ²	zam ²	zam ²

5.4 New Classification Proposal for Táiwān Hakka Dialects

From the dialects surveyed in this study and the survey on Ráopíng dialects by Xu (2005), the commonly used model which classifies Táiwān Hakka dialects based the total number of initials, finals, and tones of a given dialect into Sìxiàn, Hǎilù, or Ráopíng is clearly inadequate. The dialects of Guānxī Sìxiàn and the variant of Ráopíng local to Xīnzhú surveyed in this study both lack contrasting sets of sibilants but maintain a clear

desire to have a voiced sibilant initial in the same environment in which Hǎilù variants have [ʒ-] initial. Accordingly, we can see from these dialects described above that the presence of some or all of these phonemes which correspond to Hǎilù post-alveolar sibilants cannot be used as a criterion for classifying dialects into subgroups. The presence of these phonemes likely comes from imitation of the Hǎilù variants which are more commonly spoken in the area and have more social prestige. Additionally, the phonemes corresponding to initials, finials, and tones are inconsistent in Ráopíng dialects. Ting (1985) introduces a Ráopíng dialect with only five tones, Lu (2005) presents a survey conducted by Xu in 2005 in which Ráopíng dialects have either six or seven tones and either have two sets of sibilants, dental [ts, ts^h, s] and post-alveolar [tʃ, tʃ^h, ʃ, ʒ] (having a total of 21 initials) or have only one set of voiceless dental sibilants [ts, ts^h, s] (having a total of 17 initials).

We have concluded that the number of phonemes corresponding to initials, finals, and tones cannot be used in classifying Hakka dialects into subgroups. We also know that the presence or lack of phonemes which correspond to two contrasting sets of sibilants is also unreliable. Finally, we have seen that there are many possible phonetic values for the Hakka nominal suffix. If we cannot utilize these three traditionally fundamental criterions in classification, what can we use? This chapter proposes that we group Táiwān Hakka dialects into Sixiàn, Hǎilù, and Ráopíng solely based on internal Ráopíng innovations and tone contours.

Nichols (1996) argues that language affiliation must be demonstrated through a “paradigmatic and syntagmatic organization” in which the “probability of multiple independent occurrence[s are] so low that [they] can be considered unique”. If we look at

the all dialects in this study and compare their similarities and differences, we see that they share a far greater number of commonalities. The critical five differences in the phonologies of these dialects are:

- (25) *Critical phonological differences between Táiwān Hakka dialects*
- (a) Number of tones
 - (b) Presence of two contrasting sets of sibilants
 - (c) Phonetic realization of the nominal suffix
 - (d) Ráopíng innovations
 - (e) Phonetic values of the tones

Differences (a), (b), and (c) have been commonly used in classifying Táiwān Hakka dialects into Sixiàn, Hǎilù, or Ráopíng. Looking at the dialects surveyed in this study, we see these three differences are not suitable for classification into the sub dialects due to extensive contact. Therefore we must base our classification on the remaining options.

5.4.1 *Classifying Ráopíng*

Since the Ráopíng innovations occur only in Ráopíng dialects, we can use these innovations to filter out the Ráopíng dialects from the Sixiàn and the Hǎilù dialects. In other words, if fieldworkers begin research on any Hakka dialect in Táiwān and notice the three Ráopíng innovations: *Qièyùn shū* and *shàn* initials have the phonetic realization of [f] before *hékǒu* finals in the third division, words with *Qièyùn xièshè kāikǒu* finals in the second and fourth divisions or *Qièyùn zhǐshè hékǒu* finals in the third division have single vowel finals instead of diphthongs, and the tonemes have phonetic realizations of low-level for *yīnpíng*, high-level for *yángpíng*, and falling for the *shǎng* tone; then they can be satisfied that the dialect they are investigating is indeed a Ráopíng dialect. Once

they establish that a dialect is a Ráopíng dialect, there is no need to continue the taxonomic procedure.

5.4.2 Classifying Sixiàn and Hǎilù

If a Táiwān Hakka dialect does not have the Ráopíng innovations, then we must look into its tones to classify it as either a Sixiàn or Hǎilù dialect. Conveniently, the tonal systems of Sixiàn and Hǎilù are completely different.

(26) Tones of Sixiàn Dialects

	yīnpíng	yángpíng	shang	qu	yīnrù	yánggrù
Sixiàn	24	11	31	55	32	55
Méixiàn	44	11	31	53	1	5
Xīngníng	44	11	21	52	2	5
Jiāolǐng	55	11	31	53	1	5
Píngyuǎn	35	11	31	55	1	5
Wǔhuá	44	23	21	52	2	5
Zhútíán	24	11	31	44	32	55
Guānxī	24	11	31	44	32	55

Méixiàn, Xīngníng, Jiāolǐng, and Píngyuǎn from Xie and Huang (2007). Wǔhuá from Li (1996).

The chart above compares the tones of Sixiàn dialects spoken in Táiwān and Mainland China. The bold Sixiàn is the “standard” Táiwān Sixiàn variant described in Lu (2005). The Méixiàn, Xīngníng, Jiāolǐng, Píngyuǎn, and Wǔhuá dialects are the Sixiàn dialects spoken in Guǎngdōng Province, Mainland China. The Zhútíán and Guānxī dialects are the Táiwān Hakka variants described in chapter 3. While the Táiwān Hakka dialects above each have the same exact same tonemes, since there is some variation in

tone contours throughout Mainland Sixiàn dialects, it is possible that fieldworkers may come across a dialect which should be classified as Sixiàn with slightly different contours. As there are equally competing variations on the *yīnpíng* and *qù* tones, we cannot use these categories in establishing a criterion for Sixiàn dialect affiliation. Based on the chart above, if we want to make generalization about the phonetic realizations useful for future classification, we can say that *yángpíng* should have a low level contour, *shǎng* tone should be a low falling tone, and *yīnrù* should be lower than *yánggrù*.

The tonal systems among Hǎilù dialects are slightly more similar. The chart below compares three Táiwān variants and one Mainland variant.

(27) Tones of Hǎilù Dialects

	yīnpíng	yángpíng	shang	yīnqù	yángqù	yīnrù	yánggrù
Hǎilù	53	55	13	11	22	55	32
Hétíán	53	55	213	31	22	34	54
Zhúdōng	53	55	13	31	11	55	21
Yángméi	53	55	13	21	33	55	32

Hétíán and Zhúdōng from Pan (2000).

The bold Hǎilù is the “standard” Táiwān Hǎilù described in Lu (2005), Hétíán 河田 is a Hǎilù dialect spoken in Mainland China, Zhúdōng 竹東 is a Hǎilù variant spoken in Xīnzhú county, and Yángméi is the dialect I observed.¹² If we look at the Táiwān variants, we only see contour disparities in the *yīnqù* and *yángqù* tones. As applies to Sixiàn, we should strive to make a generalization about the common Hǎilù tonal system in both Mainland China and Táiwān. In summation, we can make the following statement about Hǎilù dialects when comparing the phonetic realizations of the tonemes above:

¹² Pan (2000) lists another Yangmei variant with the exact same tonemes of Standard Sixiàn

Yīnpíng is always high-falling, *yángpíng* is always high-level, *yánggrù* always has a falling contour, and Hǎilù dialects always have a yin-yang register distinction in the *qù* tone.

We could simply use the number of tonemes to distinguish between Sìxiàn and Hǎilù. However, the phonetic value of the tonemes provides us with a more concrete definition of Sìxiàn and Hǎilù. There are other Hakka variants spoken in Táiwān which fieldworkers could potentially discover and observe such as Yǒngdìng, Zhào'ān, and Dàbù; clearly defined classifications of Sìxiàn and Hǎilù allow future researchers to confidently determine whether or not the dialect they are working on is a variant of Sìxiàn or Hǎilù.

6. Conclusion

The Hakka dialects spoken in Táiwān demonstrate a textbook example of language evolution due to cross-dialectal contact. Sìxiàn and Hǎilù dialects have been traditionally distinguished by the presence of post-alveolar sibilants, the phonetic realization of the nominal suffix, and the register distinction in the *qù* tone. From the dialects surveyed in this study, we see that the nominal suffix and presence of post-alveolar sibilants cannot be used in classification due to cross-dialectal interaction. While it is uniformly apparent that Sìxiàn dialects have a single *qù* tone and Hǎilù dialects have both *yīnqù* and *yángqù*, cross-dialectal contact in Táiwān has significantly altered the segmental phonology of these dialects.

Guānxī Sìxiàn is clearly a product of Táiwān Hakka evolution. Unlike any other documented Sìxiàn variant, it has a phoneme corresponding to the voiced post-alveolar sibilant found in Hǎilù dialects and the underlying form of its nominal suffix is the

syllabic lateral, /l/. Additionally, my Guānxī consultant has quite a large number of allomorphs for this suffix which occur in irregular environments. The Hǎilù-like tendencies of Guānxī Sixiàn can be explained as the result of linguistic imperialism. Within Guānxī township, Hǎilù is the most commonly spoken dialect and local Sixiàn speakers alter the phonology of their own dialect to “cater to” the Hǎilù-speaking majority.

Ráopíng dialects have their own segmental innovations which keep them easily distinguishable from Sixiàn and Hǎilù. In Táiwān these dialects are also subject to cross-dialectal contact and evolution divergent from their Mainland counterparts. Ráopíng dialects generally have six tones and the complete set of post-alveolars [tʃ, tʃʰ, ʃ, ʒ]. This generalization cannot be used as primary criterion for classifying Ráopíng dialects since the dialects examined in this study have several variations of these features. Thanks to the survey conducted by Xu in 2005, information presented in Ting (1985), and the fieldwork conducted for this study, we are now aware that Ráopíng dialects can have between five and seven tones, completely lack the set of post-alveolars, and even have a phoneme corresponding to the voiced post-alveolar [ʒ-] while lacking the voiceless phonemes.

At this point, the best generalizations we can make are based on the tonal contours of these dialects. Looking at both Mainland and Táiwān dialects, there are consistent differing tonal patterns of which future dialect investigators should be aware. All Sixiàn dialects have low-level contours in *yángpíng*, low-falling contours in the *shǎng* tone, and a *yīnrù* that is higher in pitch than its *yánggrù*. All Hǎilù dialects have high-rising contours in *yīnpíng*, a high-level *yángpíng*, a yin-yang register distinction in the *qù* tone, and a falling contour in *yánggrù*. All Ráopíng dialects have a low-level

yīnpíng, a high-level *yángpíng*, and a falling *shǎng*. Crucial evidence for the need to give phonetic value of tonemes the most weight in classification is that my consultants claimed affinity to the dialect subgroup which has the most similar tones despite straying from the segmental norms of their claimed subgroups.

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Appendix: Glossary of Lexicon in Táiwān Hakka Dialects

English Gloss	SC Gloss	Hǎilù	Sixiàn	Guānxī Sixiàn	Ráopíng
a bit, a little	一點兒	jit ⁸ tit ⁷ ʔɿ ²	jit ⁷ tit ⁷ te ²	zit ⁸ tit ⁷ tɿ ²	zit ⁸ tiam ¹ mɿ ²
a short while, once, briefly	一下	jit ⁸ ha ⁶ ɿ ²	jit ⁷ ha ⁵	zit ⁸ ha ⁵ ɿ ²	zit ⁸ ha ⁵
able, capable	能幹	nen ² kon ⁶ / k ^h ian ¹	nen ² kon ⁵	nen ² kon ⁵	k ^h ian ¹ kiok ⁷
afternoon	下午	ha ⁵ tɿiu ⁵	ha ⁵ tsu ⁵	ha ⁵ tɿiu ⁵	ha ⁵ tsu ³
allow sediment to settle	沉澱	k ^h ien ² tai ³	ts ^h em ² tai ³	taŋ ⁵ lok ⁸ hi ⁵	tɿ ^h im ²
and, together	和	lau ⁵	t ^h oŋ ²	lau ⁵	lau ⁵
ant	螞蟻	nie ⁵ ɿ ² / nie ⁵ koŋ ¹	nie ⁵ koŋ ¹	nie ⁵ koŋ ¹	nie ⁵ ɿ ²
apply fertilizer, spread manure	施肥	ve ⁶ p ^h ui ²	je ⁵ p ^h i ²	fui ² liao ⁵	pion ¹ p ^h ui ²
Aspect Marker	過	ko ⁵	ko ⁵	ko ⁵	ko ³
Aspect Marker	了	le ¹	le ¹	le ¹	le ³
Aspect Marker	著	tɿiok ⁷	t ^h eiok ⁷	tet ⁷	nen ³
at present	現在	lia ³ ha ⁶ / hien ⁶ ɿ ²	kin ¹ ka ⁵	kin ¹ ha ⁵	lia ³ ha ³
aunt	伯母	pak ⁷ me ⁵	pak ⁷ me ¹	pak ⁷ me ¹	pak ⁷ me ¹
autumn	秋天	ts ^h iu ¹ t ^h ien ¹	ts ^h iu ² t ^h ien ¹	ts ^h iu ¹ t ^h ien ¹	tɿ ^h iu ¹ t ^h ien ¹
baby, infant	嬰兒	oŋ ¹ ŋa ²	oŋ ¹ ŋa ²	oŋ ¹ ŋa ²	oŋ ¹ ŋa ⁶ ɿ ²
bachelor	單身漢	tan ¹ ɿin ¹ hon ⁵	han ² ma ka ⁵ / ta ³ koŋ ² kuen ⁵	tan ² sen ² hon ⁵	tan ¹ ɿin ¹ go ⁶ wɿ ²
back, behind	後邊/後面	heu ⁶ poi ⁵	heu ⁵ poi ⁵	heu ⁵ poi ⁵	heu ⁵ poi ³
bad, evil, break	坏	fai ⁶	fai ³	fai ³	fai ³
bag, sack	袋子	t ^h oi ⁶ jɿ ²	t ^h oi ⁵ je ²	t ^h oi ⁵ ŋ ²	t ^h oi ⁵ jɿ ²
balance scale, steelyard	秤(桿秤/秤 砵)	tɿ ^h in ⁵ p ^h o ²	ts ^h en ⁵	tɿ ^h in ⁵	tɿ ^h in ⁵ p ^h o ²
bank, shore	岸	pok ⁷	on ⁵	on ⁵	am ⁵
basket	籃子	lam ² mɿ ²	lam ⁵ me ²	lan ² n ²	lam ² mɿ ²
bathe, take a bath	洗澡	se ⁶ ɿin ¹	se ² sen ¹	se ³ ɿin ¹	se ⁵ ɿin ¹
beard, moustache	鬍子	ɿi ¹	fu ² ei ¹	hu ² ŋ ²	fu ² ɿi ¹
bed	床	(min ²) ts ^h oŋ ²	ts ^h oŋ ²	min ² ts ^h oŋ ²	(min ²) ts ^h oŋ ²
below, underneath	下邊	ha ⁵ t ^h eu ²	ha ⁵ t ^h eu ²	ha ⁵ mian ⁵	ha ⁵ p ^h ian ³

bend, twist, break, snap	折	au ³	au ³	au ³	au ¹
big	大	t ^h ai ⁶	t ^h ai ⁵	t ^h ai ⁵	t ^h ai ⁵
bird	鳥	tiau ⁵ wɿ ²	tiau ¹	tiau ⁵ wɿ ²	tiau ⁵ wɿ ²
black	黑	vu ¹	vu ¹	vu ¹	vu ¹
blood	血	hiet ⁷	hiet ⁷	hiet ⁷	hiet ⁷
blue	藍	lam ²	lam ²	lam ²	lam ²
green	綠	liok ⁸	liok ⁸	liok ⁸	liok ⁸
boat	船	ʃon ²	son ² ne ²	son ²	son ²
boots	靴子	hio ¹ wɿ ²	hio ¹ we ²	mat ⁷ tɿ ²	hio ¹ wɿ ²
bore into, drill	鉗	tson ⁵	tson ⁵	tson ⁵	tson ⁵
both, all	都	tu ³	noŋ ⁵	ts ^h on ²	tʃ ^h un ¹ p ^h u ³
boy	男孩	se ⁵ lai ⁶ jɿ ²	se ⁵ lai ⁵ je ²	se ⁵ lai ⁵ jɿ ²	se ⁵ lai ⁵ jɿ ²
brain, mind, head	腦子	t ^h eu ² no ³	no ³	t ^h eu ² no ³	t ^h eu ² no ³
break, snap	斷	t ^h on ⁵	t ^h on ¹	t ^h on ¹	t ^h on ⁵
broken, damaged, torn	破	lan ⁶	lan ⁵	lan ⁵	lan ³
brood, hatch	孵小雞	p ^h u ⁶	p ^h u ⁵	p ^h u ⁵	p ^h u ⁵
bucket	桶	t ^h oŋ ³	t ^h oŋ ³	t ^h oŋ ³	t ^h oŋ ³
busy	忙	mo ² han ²	mo ² han ²	mo ² han ²	mo ² han ²
buy	買	mai ⁵	mai ¹	mai ¹	mi ¹
carry hanging from the hand	提	k ^h uan ⁶	k ^h an ⁵	t ^h i ²	k ^h uan ³
carry in arms, embrace	抱	nam ³	nam ³	nam ³	nam ³
carry on shoulder	扛	koŋ ¹	kaŋ ¹	koŋ ¹	koŋ ¹
carry/hold with both hands	端	teu ¹	teu ¹	tso ¹	teu ¹
castrate, spay	閹割	zam ¹	jam ¹	zam ¹	zam ¹
cat	貓	ɲiau ⁵ wɿ ²	meu ⁵ we ²	meu ⁵	ɲiau ⁵ wɿ ²
chase after, pursue	追	tui ¹	tui ¹	tui ¹	tui ¹
cheap, low priced	便宜	p ^h ian ² ɲi ²	p ^h ian ² ɲi ²	p ^h ian ² ɲi ²	p ^h ian ² ɲi ²
chicken	雞	kai ¹ jɿ ²	ke ¹ je ²	ke ¹ ɿ ²	ke ¹ jɿ ²
child, kid	孩子	se ⁵ ɲin ² nɿ ²	se ⁵ ɲin ² nɿ ²	se ⁵ ɲin ² nɿ ²	se ⁵ ɲin ² nɿ ²
Chinese mugwort	艾草	ɲie ⁵ ts ^h o ³	ɲie ⁵ ts ^h o ³	ai ³ ts ^h o ³	ɲie ⁵ ts ^h o ³
chit-chat, chat	閒談	ham ² t ^h am ² / ta ⁶ tʃoi ⁵ ku ³	ham ² t ^h am ²	ham ² t ^h am ²	ta ⁵ tsoi ⁵ ku ³
chop, dice	剁	tok ⁸	tok ⁸	tok ⁸	tok ⁸
chopstick	筷子	tʃ ^h u ⁶	k ^h uai ⁵ je ²	k ^h uai ⁵ ɿ ²	k ^h uai ⁵ jɿ ²
chopstick container	筷籠	tʃ ^h u ⁶ lui ³	k ^h uai ⁵ loŋ ²	k ^h uai ⁵ t ^h oŋ ³ ɿ ²	k ^h uai ⁵ t ^h oŋ ³
clap, pat, beat	拍	p ^h ok ⁷	p ^h ok ⁷	p ^h ok ⁷	p ^h ok ⁸

clean, neat and tidy	乾淨	tshian ⁶ li ⁶	te ^h ian ⁵	tshian ⁵ li ⁵	tʃ ^h ian ⁵
close doors	關門	kuan ¹ mun ²	kuan ¹ mun ²	kuan ¹ mun ²	kuan ¹ mun ²
cloth	布	pu ⁵	pu ⁵	pu ⁵	pu ⁵ wɿ ²
cock	公鷄	kai ¹ koŋ ¹	ke ¹ koŋ ¹	kai ¹ koŋ ¹	ke ¹ koŋ ¹
cold	冷	lan ⁵	lan ²	lan ⁵	lan ⁵
cold, cool	涼	lion ²	lion ²	lion ²	lion ²
color	顏色	set ⁷	set ⁷	set ⁷	set ⁷
comfortable	舒服	su ² ʃi ⁵ / ho ⁶ ʃie ⁵	ho ³ ko ⁵	sun ¹ son ⁵	su ¹ son ³
<i>comparative preposition</i>	比	pi ³	pi ³	pi ³	pi ³
cook in boiling water	水煮/清水煮	tsu ³ / sap ⁸	tsu ³	tsu ³	sap ⁸
copper	銅	t ^h oŋ ²	t ^h oŋ ²	t ^h oŋ ²	t ^h oŋ ²
corn, maize	玉米	pau ¹ ʃio ⁷	pau ¹ ɕio ⁷	pau ¹ ʃio ⁷	pau ¹ ʃio ⁷
corner	角落	kok ⁸ (lok ⁸) t ^h eu ²	kok ⁸ (lok ⁸) t ^h eu ²	kok ⁸ (lok ⁸) t ^h eu ²	kok ⁸ t ^h eu ²
cowlick	頭髮旋	tʃ ^h ion ⁶			k ^h ien ³
crab	螃蟹	mo ⁵ hai ³	mo ⁵ hai ³	mo ⁵ hai ³	mo ⁵ he ³
crack, fissure	縫/裂縫	p ^h oŋ ⁶	p ^h oŋ ⁵	foŋ ³	p ^h oŋ ³
crawl, creep, climb	爬	p ^h a ²	p ^h a ²	p ^h a ²	p ^h a ²
crooked, askew, slanted	歪	vai ¹	vai ¹	vai ¹	vai ¹
cry, weep	哭	k ^h iau ⁵	k ^h iau ⁵	k ^h eu ⁵	vo ³
cut, reap, mow	割	kot ⁷	kot ⁷	kot ⁷	kot ⁸
dark, dim	暗	am ⁵	am ⁵	am ⁵	am ⁵
daughter	女兒	moi ⁵ jɿ ²	moi ⁵ je ²	moi ⁵ jɿ ²	moi ⁵ jɿ ²
daughters son/daughters daughter	外孫/外孫女	ŋoi ⁶ saŋ ¹ ŋ ³	ŋoi ⁵ sen ¹ n ³	ŋoi ⁵ sun	ŋoi ⁵ sun ¹ ŋ ³
day after tomorrow	後天	heu ⁶ nit ⁷	heu ¹ nit ⁷	heu ⁵ nit ⁷	heu ⁵ nit ⁷
day, date	日子	nit ⁷ ɿ ²	nit ⁷ te ²	nit ⁷ tɿ ²	nit ⁷ tɿ ²
daytime	白天	nit ⁸ ʃi ² t ^h eu ²	nit ⁸ si ² t ^h eu ²	pak ⁸ nit ⁸	nit ⁸ ʃi ² t ^h eu ²
deep, dark	深	tʃ ^h im ¹	ts ^h em ¹	tʃ ^h im ¹	tʃ ^h im ¹
dip in	蘸	tʃiam ³	teiam ³	tsan ¹	vuen ³
dirty, filthy	骯髒	o ¹ tso ¹	o ¹ tso ¹	o ¹ tso ¹	o ¹ tso ¹
dog	狗	kieu ³	kieu ³ we ²	keu ³	kieu ³
don't	不要	mo ² oi ⁵ / moi ¹	m ² moi ¹	mo ² oi ³	mok ³ oi ⁵

doze, nod off	打瞌睡/打盹	tuk ⁸ muk ⁸ foi ⁶	tut ⁸ muk ⁸ soi ⁵	tuk ⁸ muk ⁸ soi ⁶	tuk ⁸ muk ⁸ fe ⁵
dream	夢	moŋ ⁶	moŋ ⁵	moŋ ⁵	moŋ ³
drunk	醉	tsui ⁵	tsui ⁵	tsui ⁵	tsui ⁵
dry	乾	tsau ¹	tsau ¹	kon ⁵	tsau ¹
dry in the air, hang to dry	晾	lan ²	lan ⁵	sai ⁵	lan ²
dusk, nightfall	傍晚/黃昏/ 天黑	lim ² am ⁶ mɿ ²	lim ¹ am ⁵	ha ⁵ am ¹ tiam ³	lim ² am ⁵ mɿ ²
dust	灰尖/尖土	foi ⁵ ʃin ²	ts ^h en ² foi ¹	huen ² fui ¹	foi ⁵
ear	耳朵	ni ⁶ koŋ ¹	ni ⁵ koŋ ¹	ni ³ koŋ ¹	ni ⁵ koŋ ¹
earn money	賺錢	tson ⁶ tʃien ²	tson ⁵	tson ⁵ tʃien ²	tson ⁵ tʃien ²
earthworm	蚯蚓	tʃion ² k ^h ien ³ / hien ⁶ koŋ ¹		tʃion ² k ^h ien ³	tʃiu ² hien ⁵ nɿ ²
east	東邊	toŋ ¹ p ^h ien ³	toŋ ¹ p ^h ien ¹	toŋ ¹ p ^h ien ³	toŋ ¹ p ^h ien ³
egg	雞蛋	lon ³	lon ³	lon ³	lon ³
eggplant	茄子	k ^h io ² wɿ ² / tiau ⁶ ts ^h oi ⁶ jɿ ²	tiau ⁵ ts ^h oi ⁵ je ²	tiau ⁵ ts ^h oi ⁵ jɿ ²	k ^h io ² wɿ ²
eight	八	pat ⁸	pat ⁸	pat ⁸	pat ⁸
elder brothers wife	嫂子/嫂嫂	a ⁶ so ³	so ³ we ²	a ⁵ so ³	a ⁵ so ³
elder sister	姐姐	a ⁶ tse ²	a ² tse ⁵	a ⁵ tʃi ²	a ⁵ tse ⁵
everybody	大家	t ^h ai ⁶ ka ¹	t ^h ai ⁵ ka ¹	t ^h ai ⁵ ka ¹	t ^h ai ⁵ ka ¹
exchange	換	von ⁶	von ⁵	von ⁵	von ³
excrement, feces	屎	ʃɿ ³	sɿ ³	ʃɿ ³	ʃɿ ³
expensive, pricy	貴	kui ⁵	kui ⁵	kui ⁵	kui ³
eye	眼睛	muk ⁸ tʃu ¹	muk ⁸ tsu ¹	muk ⁸ tsu ¹	muk ⁸ tsu ¹
face	臉	mien ⁶	mien ⁵	mien ⁵	mian ³
fall out, drop off, lose	掉	tiet ⁸ t ^h et ⁷ / lut ⁸ t ^h et ⁷	tiet ⁷	tiet ⁸	tiet ⁸ / lut ⁸
far, distant	遠	ʒian ³	jan ³	zan ³	zan ³
fast	快	kiak ⁷	kiak ⁷	kiak ⁷	kiak ⁷
fat	胖	p ^h ui ²	t ^h ai ⁵ k ^h o ¹	t ^h ai ⁵ k ^h eu ¹	p ^h ui ²
father, dad	爸爸	a ⁶ pa ⁵	fu ⁵ te ^h in ¹	a ⁵ pa ⁵	a ⁵ pa ⁵
fathers younger brother	叔叔	a ⁶ ʃiok ⁷	sok ⁷ sok ⁷	a ⁵ ʃiok ⁷	a ⁵ sok ⁷
feel nauseated	惡心	voi ⁶ eu ³	ɕion ² p ^h on ¹	fan ⁵ vui ³	vui ³
ferment	發酵粉	fat ⁸ kau ⁵ wɿ ²	fat ⁸ kau ⁵ wɿ ²	fat ⁸ kau ⁵	fat ⁸ fun ¹
fever	發燒	fat ⁸ ʃau ¹	fat ⁸ seu ¹	fat ⁸ ʃieu ¹	fat ⁸ sau ¹
few, little, less	少	ʃiau ³	seu ⁵	seu ³	ʃau ³

fill a bowl with rice	盛飯/添飯	t ^h iam ¹ fan ⁶ /p ^h on ⁶	t ^h iam ² fan ⁵	t ^h iam ¹ fan ⁵	t ^h iam ¹ p ^h on ⁵
filling, stuffing	餡兒	pau ¹ ʃim ¹		zan ⁵ ʃim ¹	a ⁵
finger	指頭/手指	ʃiu ⁶ tʃi ³	su ² tsi ³ koŋ ¹	ʃiu ⁶ tʃi ³ koŋ ¹	ʃiu ⁵ tʃi ⁵
finger nail ¹ , toenail ²	指甲	ʃiu ⁶ kiok ⁸ / tʃi ⁶ kap ⁷	su ² tsi ² kap ⁷	ʃiu ⁶ tʃi ⁶ kap ⁷	ʃiu ⁵ tʃi ⁵ kap ⁷
fingerprint	指紋	lo ²	tsi ³ vuen ²	tʃi ⁵ mun ⁵	tsi ⁶ vun ³
fish	魚	ŋ ² ŋɣ ²	ŋ ²	ŋ ² ŋɣ ²	ŋ ² ŋɣ ²
fish bone	魚刺	ŋ ² kuet ⁸ t ^h eu ²	ŋ ² tɛ ^h iok ⁷	ŋ ² kuet ⁸ t ^h eu ²	ŋ ² kuet ⁸ t ^h eu ²
fish scale	魚鱗	ŋ ² lin ¹	ŋ ² lin ¹	ŋ ² lin ¹	ŋ ² lin ¹
five	五	ŋ ³	ŋ ³	ŋ ³	m ³
flash lightening	閃電	niap ⁸ lan ⁶	niap ⁸ loŋ ⁵	niap ⁸ lan ⁵	niap ⁸ lan ⁵
flesh (of a fruit), pulp	瓜瓢	kua ⁵ non ¹	kua ⁵ non ¹	kua ⁵ non ¹	kua ⁵ niok ⁸
float	浮	p ^h o ²	p ^h eu ³	fu ²	p ^h o ²
flower, blossom	花	fa ¹	fa ¹	fa ¹	fa ¹
fool, idiot	傻子	ŋoŋ ¹ ŋɣ ²	ŋoŋ ⁵ ŋe ²	ŋoŋ ¹ ŋɣ ²	ŋoŋ ² ŋɣ ²
foot	腳	kiok ⁷	kiok ⁷	kiok ⁷	kiok ⁷
force to accept or take something	硬給	tu ¹	ŋaŋ ⁵ oi ⁵	ŋaŋ ⁵ pun ¹	ŋaŋ ³ ts ^h uet ⁷
forenoon, morning	上午	tʃau ⁵ ʃin ²	soŋ ⁵ tsu ⁵	tsau ⁵ ʃin ²	tsau ⁵ ʃin ²
four	四	si ⁶	ɛi ⁵	si ⁵	ʃi ⁵
freeze, jelly, gelatin	凍	toŋ ⁶	toŋ ⁵	toŋ ⁵	toŋ ³
from	從	tʃ ^h ioŋ ²	tui ⁵	ts ^h oŋ ²	tu ¹
front	前邊	t ^h eu ² tʃ ^h ian ²	tɛ ^h ian ² mian ⁵	tʃ ^h ian ² pian ¹	t ^h eu ² tʃ ^h ian ²
gap, notch, chipped spot	缺口	k ^h iet ⁷ / k ^h iet ⁸ heu ³		k ^h iet ⁸ heu ³	k ^h iet ⁸ heu ³
get wet in the rain	淋雨	lim ² ʃui ³ / tok ⁸ ʃui ³	tok ⁸ ʃi ³	lim ² ʃi ³	tok ⁸ ʃi ³
ghost, spirit, apparition	鬼	kui ³	kui ³	kui ³	kui ³
ginger	姜	kioŋ ¹ ma ²	kioŋ ¹	kioŋ ¹ ma ²	kioŋ ¹
girl	女孩	se ⁵ moi ⁶ ʃɣ ²	se ⁵ moi ⁵ ʃɣ ²	se ⁵ moi ⁵ ʃɣ ²	se ⁵ moi ⁵ ʃɣ ²
give	給	pun ¹	pun ¹	pun ¹	pun ¹
give birth, raw	生	kioŋ ⁵	kioŋ ⁵	kioŋ ⁵	kioŋ ³
gnaw, nibble	啃	k ^h ie ⁵	lot ⁷	k ^h e ⁵	ŋau ⁵
go	去	hi ⁶	hi ⁵	hi ⁶	hi ³
go home	回家	tʃon ⁶ vuk ⁷	tson ⁵ vuk ⁷	tson ⁵ loi ²	tʃon ³

good, well	好	ho ³	ho ³	ho ³	ho ³
<i>Grammatical particle</i>	得	to ⁵	e ⁵	tit ⁷	tet ⁸
<i>Grammatical particle</i>	的	kai ⁶	a ⁵	e ⁵	e ³
hand	手	ʃiu ³	su ²	ʃiu ³	ʃiu ³
handle	柄	pian ⁵	pian ⁵	pian ⁵	pian ³
hard, stiff, tough	硬	ŋaŋ ⁶	ŋaŋ ⁵	ŋaŋ ⁵	ŋaŋ ³
have, posses, exist, there is	有	ziu ⁵	jiu ²	ziu ⁵	ziu ⁵
he/she	他/她	ki ²	ki ² / i ²	ki ²	ki ²
head	頭/腦袋	t ^h eu ² na ²	t ^h eu ²	t ^h eu ²	t ^h eu ² na ²
heavy	重	tʃ ^h ioŋ ¹	ts ^h oŋ ¹	ts ^h oŋ ¹	tʃ ^h oŋ ¹
hen	母雞	kai ¹ ma ²	kei ¹ ma ²	kai ¹ ma ²	ke ¹ ma ²
here	這裡	lia ³ vui ⁶	ia ³ ve ¹	lia ³ vi ⁵	lia ³ vi ³
hiccup, burp	打嗝兒	ta ⁶ et ⁷	ta ⁵ et ⁷ tok ⁸	ta ⁵ et ⁷ tok ⁸	ta ⁵ et ⁷ tok ⁸
hoe up weeds	鋤草	kot ⁸ tso ³	ts ^h u ²	ts ^h u ² tso ³	vut ⁷
hold between finger and thumb, pinch	捏	niam ¹ / net ⁷	niam ¹ / net ⁷	net ⁷	net ⁸
hold hanging from the mouth	銜	ham ²	ham ²	kiet ⁸	ham ²
hold, pick up	拿	na ¹ / niam ¹	na ¹	na ¹	na ¹
hole, cavity	洞	t ^h oŋ ⁶	t ^h oŋ ⁵	k ^h oŋ ⁵	k ^h oŋ ³
horizontal	橫	vaŋ ²	vaŋ ²	vaŋ ²	vaŋ ²
horse	馬	ma ¹	ma ¹	ma ¹	ma ¹
hot	熱	niet ⁸	niet ⁸	niet ⁸	niet ⁸
how, in what way	怎麼	nioŋ ⁶ pan ¹	nioŋ ⁵ pan ¹	nioŋ ⁵ pan ¹	nioŋ ⁵ ŋɿ ²
husband	丈夫	lo ⁶ koŋ ¹	lo ² koŋ ¹	lo ⁶ koŋ ¹	lo ⁵ koŋ ¹
husbands father	公公	a ⁶ koŋ ¹	ka ⁵ koŋ ¹	a ⁵ koŋ ¹	ka ⁵ koŋ ¹
husbands mother	婆婆	ka ¹ nioŋ ²	ka ¹ nioŋ ²	ka ¹ nioŋ ²	ka ¹ nioŋ ²
ice	冰	pen ¹	pen ¹	pen ¹	pen ¹
ill, sick, illness check aspiration	病	p ^h iaŋ ⁶	p ^h iaŋ ⁵	p ^h iaŋ ⁵	p ^h iaŋ ⁵
in the process of	正在	toŋ ¹	tu ² ho ²	te ⁵ kai ⁵	tu ⁵ tu ³ ho ³
inside	裏邊	ti ⁶ poi ⁶	ti ² poi ⁵	ti ⁵ poi ⁵	ti ⁵ tu ³
jade	玉	niok ⁸	niok ⁸	niok ⁸	niok ⁸
jump, leap, dance	跳	t ^h iau ⁵ vu ³	t ^h iau ⁵ vu ³	t ^h iau ⁵ vu ³	t ^h iau ³
just a moment ago	剛才	t ^h eu ² ha ⁶	t ^h eu ² to ⁵	t ^h eu ² ha ⁵	t ^h eu ² sen ² nɿ ²
keep or hold in mouth	含	ham ² / hem ²	ham ² / hem ²	hem ²	ham ²

kill and clean a fish	殺魚	tʃ ^{hi} ² η² ηʂ²	tɛ ^{hi} ² η²	tʃ ^{hi} ² η² ηʂ²	tʃ ^{hi} ² η² ηʂ²
kitchen knife	菜刀	ts ^{hoi} ⁵ to¹	ts ^{hoi} ⁵ to¹	ts ^{hoi} ⁵ to¹	ts ^{hoi} ⁵ to¹
knee	膝蓋	tʃ ^{hit} ⁸ t ^{heu} ²	tɛ ^{hit} ⁸ t ^{heu} ²	k ^{hip} ⁷ t ^{heu} ²	tʃ ^{hit} ⁸ t ^{heu} ²
knock on the door	敲門	k ^{hok} ⁸ mun²	k ^{hok} ⁸ mun²	k ^{hok} ⁸ mun²	k ^{hok} ⁸ mun²
lake	湖	fu²	fu²	fu²	fu²
last year	去年	k ^{hieu} ⁶ nien²	k ^{hieu} ⁵ nien²	k ^{hieu} ⁶ nien²	k ^{hiu} ⁵ nien²
late	晚	man⁶ / tʃiu⁵	am⁵	am⁵	am³
laugh, smile	笑	ʃiau⁵	seu⁵	seu⁵	ʃiau³
layer, tier	層	ts ^{hen} ²	ts ^{hen} ²	tsan³	tsam¹
lean on/against	靠	k ^{ho} ⁵ / fa⁵	pen⁵	k ^{hao} ⁵	p ^{hen} ⁵
left hand	左手	tso⁶ ʃiu³	tso⁵ su²	tso⁶ ʃiu³	tso¹ ʃiu³
leg	腿	kiok⁷	t ^{hui} ³	t ^{hui} ³	t ^{hui} ³
let, allow, yield, give way to	讓	nion⁵	nion²	nion⁵	puen¹
lid of a pot/ wok cover	鍋蓋	vok⁸ koi⁵	vok⁸ koi⁵	vok⁸ koi⁵	vok⁸ koi⁵
light (a lamp/incense)	電燈	t ^{hien} ⁶ fo³	t ^{hien} ⁵ fo³	t ^{hien} ⁵ fo³	t ^{hien} ⁵ fo³
light (in weight)	輕	k ^{hian} ¹	k ^{hian} ¹	k ^{hian} ¹	k ^{hian} ¹
long	長	tʃ ^{hoŋ} ²	ts ^{hoŋ} ²	ts ^{hoŋ} ²	ts ^{hoŋ} ²
look, see, watch	看	k ^{hoŋ} ⁵	k ^{hon} ⁵	k ^{hoŋ} ⁵	k ^{hoŋ} ³
look, seek	找	tʃ ^{him} ⁶	tɛ ^{him} ³	tʃ ^{him} ⁶	tʃ ^{him} ⁵
lotus root	藕	niu³ / lien² kin⁵	ŋo²	eu⁵	
low	低	tai¹	tai¹ / ai³	tai¹	tai¹
man	男人	nam² pu⁵ nin²	nam² me² nin²	nam² pu⁵ nin²	nam² mɿ² nin²
many, much	多	to¹	to¹	to¹	to¹
mat	席子	tʃ ^{hiak} ⁸ ʂ²	tɛ ^{hiak} ⁸ ke²	ts ^{ho} ⁵ ʃit⁸	tʃ ^{hia} ¹ ʂ²
maternal grandfather	外祖父/外公	tsia⁶ koŋ¹	ŋoi⁵ a³ koŋ¹	tʃia⁵ koŋ¹	tʃia⁵ koŋ¹
maternal grandmother	外祖母/外婆	tsia⁶ p ^{ho} ²	ŋoi⁵ a³ p ^{ho} ²	tʃia⁵ p ^{ho} ²	tʃia⁵ p ^{ho} ²
matter, affair, thing	事情	ʃi⁶ ts ^{hin} ²	si⁶ tɛ ^{hin} ²	ʃi⁶ ts ^{hin} ²	ʃi⁵ tʃ ^{hin} ²
Measure for knives, handfuls; Preposition	把	ki¹	t ^{huen} ²	lau¹	
Measure Word	個	kai⁵	tsak⁷	tsak⁷	tsak⁷
meat, flesh, pulp	肉	niok⁷	niok⁷	niok⁷	niok⁷

medicine, drug, remedy	藥	ziok ⁸ ʔɿ ²	jok ⁸	zok ⁸ kl ²	zok ⁸ kɿ ²
melt	融化/溶化	zoŋ ² fa ⁵	joŋ ² fa ⁵	zoŋ ² fa ⁵	zoŋ ²
money, cash	錢	ts ^h ian ²	tɛ ^h ian ²	ts ^h ian ²	ts ^h ian ²
monkey	猴子	heu ² wɿ ²	san ¹ kieu ³ we ²	heu ²	heu ² wɿ ²
moon	月亮	ɲiet ⁸ koŋ ¹	ɲiat ⁸	ɲiet ⁸	ɲiet ⁸ koŋ ¹
mosquito	蚊子	mun ¹ nɿ ²	mun ¹ ne ²	mun ¹ nɿ ²	mun ¹ nɿ ²
most	最	tsui ⁵	tsui ⁵ / ti ⁵	tsui ⁵	tsui ⁵
mother	母親/媽媽	a ⁶ me ¹	a ³ me ¹	a ⁵ me ¹	a ³ me ¹
mothers brother	舅舅	a ⁶ k ^h iu ¹	a ² k ^h iu ¹	a ⁵ k ^h iu ¹	a ⁵ k ^h iu ¹
mountain, hill	山	san ¹	san ¹	san ¹	san ¹
mouse	老鼠	lo ⁶ tʃu ³	n/lo ⁵ tsu ³	lo ⁵ tsu ³	lo ⁵ tsu ³
mouth	嘴巴	tʃoi ⁵	tsoi ⁵	tsoi ⁵	tse ³
move, stir, get moving	動	t ^h oŋ ⁵	t ^h oŋ ¹	t ^h oŋ ⁵	t ^h oŋ ^{3/5}
mud	泥土	nai ²	nai ²	nai ²	nai ²
MW	只	tʃiak ⁷	tsak ⁷	tsak ⁷	tsak ⁷
narrow	窄	hap ⁸	hap ⁸	tsat ⁸	hap ⁸
naughty, mischievous, unruly	調皮	t ^h ok ⁸ ts ^h oi ⁶	t ^h iau ¹ p ^h i ²	t ^h iau ¹ p ^h i ²	t ^h iau ¹ p ^h i ²
near, close	進	k ^h iun ⁵	k ^h iun ^{5/1}	k ^h iun ⁵	k ^h iun ⁵
neck	脖子	kian ⁶ kin ¹	kian ³ kin ¹	kian ⁵	kian ⁵ kin ¹
needle	針	tʃim ¹	tɛim ¹	tʃiam ¹	tʃim ¹
<i>negation adverb</i>	不	m ²	m ²	m ²	m ²
new	新	sin ¹	ɛin ¹	ʃin ¹	sin ¹
next year	明年	maŋ ² ɲien ²	miŋ ² ɲian ²	maŋ ² ɲien ²	maŋ ² ɲien ²
nine	九	kiu ³	kiu ³	kiu ³	kiu ³
noodles	麵條	mian ⁶ t ^h iau ²	mian ⁵ t ^h iau ²	mian ⁵ t ^h iau ²	mian ³
noon, midday	中午	toŋ ¹ tʃiu ⁵	toŋ ² tsu ⁵	toŋ ¹ tʃiu ⁵	toŋ ¹ tsu ³
north	北邊	pet ⁷ p ^h ian ³	pet ⁷ p ^h ian ³	pet ⁷ p ^h ian ³	pet ⁷ p ^h ian ³
nose mucus	鼻涕	p ^h i ⁶	p ^h i ⁵ ts ^h ui ³	p ^h i ⁵ t ^h i ³	p ^h i ⁵ fi ³
not enough time, have enough time	來不及	fu ⁶ m ² ts ^h at ⁷	loi ² m ² ts ^h at ⁷	loi ² m ² ts ^h at ⁷	loi ² m ² ts ^h at ⁷
not have, there is not	沒有	mo ²	mo ^{1/2}	mo ²	mo ²
not until	才	tʃaŋ ⁵	naŋ ⁵	tsaŋ ⁵	zaŋ ⁵
number	數/數目	son ⁶	su ⁵	su ⁵	su ⁵
old, worn, second hand	舊	k ^h iu ⁶	k ^h iu ⁵	k ^h iu ⁵	k ^h iu ³

older brother	哥哥	a ⁶ ko ¹	a ² ko ¹	a ⁵ ko ¹	a ⁵ ko ¹
one	一	ʒit ⁷	jit ⁷	ʒit ⁷	ʒit ⁷
oneself	自己	tʃit ⁸ ka ¹	teik ⁸ ka ¹	kit ⁸ ka ¹	tʃik ⁸ ka ¹
only	只			tsi ⁵	tʃhi ⁵
open	開	k ^h oi ¹	k ^h oi ¹	k ^h oi ¹	k ^h oi ¹
out, outside	外面	ŋo ⁶ poi ⁵	lo ⁵ poi ⁵	ŋoi ⁵ pian ¹	ŋo ⁵ poi ³
overflow	溢出來	p ^h un ² tʃ ^h ut ⁷ loi ²	p ^h un ¹ ts ^h ut ⁷ loi ²	man ¹ tʃ ^h ut ⁷ loi ²	nem ¹ tʃ ^h ut ⁷ loi ²
ox, cattle, buffalo	牛	niu ²	niu ² we ²	niu ²	niu ²
pare or peel with a knife	削	ʃiok ⁷	ɕiok ⁷	ʃiok ⁷	ʃiok ⁷
paternal grandfather	祖父/爺爺	a ⁶ kuŋ ¹	a ² kuŋ ¹	a ⁵ kuŋ ¹	a ⁵ kuŋ ¹
paternal grandmother	祖母/奶奶	a ⁶ p ^h o ²	a ² p ^h o ²	a ⁵ p ^h o ²	a ⁵ p ^h o ²
peck	啄	tuk ⁷	tuk ⁷	tuk ⁷	tuk ⁷
pencil	鉛筆	ʒan ² pit ⁷	jan ² pit ⁷	zan ² pit ⁷	zan ² pit ⁷
pepper	辣椒	lat ⁸ tʃiau ¹ wɣ ²	lat ⁸ tʃeu ¹ we ²	lat ⁸ tʃiau ¹	lat ⁸ tʃiau ¹
person, people	人	jin ²	jin ²	jin ²	jin ²
pick up food with chopsticks	夾菜	kiap ⁸ ts ^h oi ⁵	kiap ⁷ ts ^h oi ⁵	kiap ⁸ ts ^h oi ⁵	kiap ⁸ ts ^h oi ⁵
pick, pluck, take off	摘	tsak ⁷	tsak ⁷	tsak ⁷	tsak ⁷
pick, select, choose	挑	k ^h ai ¹	t ^h ok ⁸	k ^h ai ¹	t ^h ok ⁸
pig, pork	豬	tʃu ¹ wɣ ²	tsu ¹ we ²	tsu ¹	tsu ² wɣ ²
place	地方	t ^h i ⁶ foŋ ¹	t ^h i ⁵ foŋ ¹	t ^h i ⁵ foŋ ¹	t ^h i ⁵ foŋ ¹
play, have fun	玩兒	kau ³	kau ³	kau ³	kau ³
pleasantly cool	涼快	lioŋ ² soŋ ³	lioŋ ⁵ soŋ ²	lioŋ ² soŋ ³	lioŋ ² soŋ ³
pleat, crease, fold, wrinkle	褶子	tʃiu ⁵	tsiu ⁵	tʃiu ⁵	tsap ⁷ pɣ ²
plug, cork	塞子	set ⁸ lɣ ²	set ⁸ te ²	set ⁸	tʃet ⁸ lɣ ²
pork tongue	口條	tsu ¹ li ⁶ t ^h eu ²	tsu ¹ li ⁵ t ^h eu ²	tsu ¹ li ⁵ t ^h eu ²	tsu ¹ sap ⁸ ma ²
pour, dump	倒	to ³	to ³	to ³	to ³
preposition	被	pun ¹	puen ¹	puen ¹	p ^h i ¹
press or rub hard	硌	k ^h ok ⁸	k ^h ok ⁸	k ^h ok ⁸	k ^h ok ⁸
prickly heat rash	痱子	niet ⁸ poi ⁵ jɣ ²	niet ⁸ pi ⁵ je ²	poi ⁵ jɣ ²	pui ² jɣ ²
public/government official	管	kon ³	kon ¹	kon ¹	kon ³
purple	紫	k ^h io ² set ⁷	tsi ²	tsi ²	k ^h io ²
put between	夾	kiap ⁸	kiap ⁸	kiap ⁸	kiap ⁸

put in order, tidy up	收搭	ʃiu ¹ tshiu ⁵	su ¹ te ^{hiu} ⁵	ʃiu ¹ ʃit ⁷	ʃiu ¹ ʃiu ¹ wɿ ²
put on	戴	tai ⁵	tai ⁵	tai ⁵	tai ⁵
put on clothing	穿	tʃok ⁷	tsok ⁷	tsok ⁷	tsok ⁷
question particle	嗎	mo ²	mo ¹	mo ²	mo ¹
quilt	被子	p ^{hi} ¹	p ^{hi} ¹	p ^{hi} ¹ ŋ ²	p ^{hi} ¹ k ^{huet} ⁷
radish	蘿蔔	ts ^{hoi} ⁶ t ^{heu} ²	lo ¹ p ^{het} ⁸	ts ^{hoi} ⁵ t ^{hieu} ²	ts ^{hoi} ⁵ t ^{heu} ²
rainbow	虹	k ^{hion} ⁶	foŋ ²	foŋ ²	k ^{hion} ⁵
raw rice	米	mi ³	mi ³	mi ³	mi ³
reach, able to reach	夠得著	na ¹ tet ⁸ to ³	na ¹ tet ⁸ to ³	na ¹ tet ⁸ to ³	mia ¹ it ⁸ to ³
recite from memory	背書	p ^{hoi} ⁶ ʃu ¹	p ^{hoi} ⁵ su ¹	p ^{hoi} ⁵ su ¹	p ^{hoi} ⁵ su ¹
red	紅	foŋ ²	foŋ ²	foŋ ²	foŋ ²
resemble, be similar to	像	tʃ ^{hion} ⁵	te ^{hion} ⁵	tʃ ^{hion} ⁵	tʃ ^{hion} ³
rice gruel	粥	moi ²	tsok ⁷	tseu ¹	moi ²
rice in the field, paddy	稻子/水稻	vo ² wɿ ²	vo ² we ²	kok ⁷ kɿ ²	vo ² wɿ ²
ripe, fully cooked	熟	ʃiok ⁸	sok ⁸ ke ²	ʃiok ⁸	sok ⁸
river	河	ho ² pa ⁶	ho ²	ho ² pa ⁶	ho ²
river	江	ho ² pa ⁵	koŋ ¹	ho ² pa ⁵	koŋ ¹
road, path, way	路	lu ⁶	lu ⁵	lu ⁵	lu ³
room	房間	kien ¹ foŋ ²	foŋ ² kien ¹	foŋ ² kien ¹	kien ¹ tu ³
rub, knead	揉	ɲio ⁵	no ²	no ⁵	tʃ ^{hit} ²
rubbish, garbage	垃圾	lep ⁸ sep ⁷	let ⁸ sep ⁷	la ⁵ sep ⁷	la ¹ sep ⁷
run	跑	tseu ³	tseu ³	tseu ³	tseu ³
saliva	口水	heu ⁶ ʃui ³	heu ⁵ loŋ ²	heu ⁵ sui ³	heu ⁵ fi ³
salt	鹽	zam ²	jam ²	zam ²	zam ²
salty, salted	咸	ham ²	ham ²	ham ²	ham ²
scab	痂	pa ¹ ɿ ²	lat ⁷ te ²		pa ¹
scar	疤	pa ¹	pa ¹	pa ¹	pa ¹
scatter, sprinkle	撒		je ⁵ in ² ne ²	sa ⁵	ve ³
scoop up	撈	leu ²	leu ²	leu ⁵	lau ⁵
scratch an itch	抓癢	tsau ⁶ hoi ²	tsau ⁵ hoi ²	tsau ⁵ hoi ²	tsau ¹ zoŋ ¹
sell	賣	mai ⁶	mai ⁵	mai ⁵	mi ³
seven	七	tʃ ^{hit} ⁷	te ^{hit} ⁷	tʃ ^{hit} ⁷	tʃ ^{hit} ⁷
shallow, light	淺	ts ^{hian} ³	te ^{hian} ³	ts ^{hian} ³	ts ^{hian} ²
shed, shack, awing	棚子	p ^{han} ² ŋɿ ²	p ^{han} ² ŋɿ ²	p ^{han} ² ŋɿ ²	p ^{han} ² ŋɿ ²
shift	班	pan ¹	pan ¹	pan ¹	pan ¹

short (height)	矮	ai ³	ai ³	ai ³	ai ³
short (in length)	短	ton ³	ton ³	ton ³	ton ³
shoulder	肩膀	kien ¹ teu ²	kien ¹ teu ²	kien ¹ teu ²	kien ¹ teu ²
shout, yell, cry out	喊	hem ¹	hem ¹ / ham ⁵	hem ¹	hem ³
shrimp	蝦	ha ² koŋ ¹ ŋɿ ²	ha ²	ha ² koŋ ¹	ha ² koŋ ¹
sieve, sifter, winnowing tray	篩子	ʃi ⁵ jɿ ²	tɛ ^{hi} ⁵ je ²	ʃi ⁵ muk ⁷	tʃ ^{hi} ⁵ jɿ ²
silkworm	蠶	ts ^h am ²	sam ²		ts ^h am ²
sisters son/sisters daughter	外甥/外甥女	ŋoi ⁶ saŋ ¹ ŋɿ ²	ŋoi ⁵ sen ¹ ne ²	ŋoi ⁵ sen ¹	ŋoi ⁵ saŋ ¹ ŋ ³
sit down, travel by bus/train	坐	ts ^h o ⁵	ts ^h o ¹	ts ^h o ¹	ts ^h o ⁵
six	六	liok ⁷	liok ⁷	liok ⁷	liok ⁷
slanting, at an angle, oblique	斜	tʃ ^h ia ²	tɛ ^h ia ²	hiap ⁷	tʃ ^h ia ²
slow	慢	man ⁶	man ⁵	man ⁵	man ³
small box	盒子	hap ⁸ ʔɿ ²	hap ⁸ pe ²	hap ⁸ pɿ ²	hap ⁸ pɿ ²
small, little, young	小	se ⁵	se ⁵	se ⁵	se ³
snail	螺螄	lo ² wɿ ²	lo ² wɿ ²		ze ² lo ²
snake	蛇	ʃa ²	sa ²	sa ²	sa ²
soap	肥皂	ts ^h a ¹ ku ⁵	hioŋ ¹ kian ³ / fi ² ts ^h o ⁵	zoŋ ⁵ kiam ⁵	ts ^h a ¹ ku ⁵
sock, stockings	襪子	mat ⁷ / mat ⁸ ʔɿ ²	mat ⁷ te ²	mat ⁷ tɿ ²	mat ⁸ lɿ ²
soft, supple	軟	ɲion ⁵	ɲion ⁵	ɲion ⁵	ɲion ⁵
solid, sturdy	結實	kiet ⁸ ʃit ⁸ / hen ²	t ^h ep ⁸	kiet ⁸ ʃit ⁸	tsap ⁷
son	兒子	lai ⁶ jɿ ²	lai ⁵ je ²	lai ⁵ jɿ ²	lai ⁵ jɿ ²
son-in-law	女婿	se ⁶ loŋ ²	se ⁵ loŋ ²	se ⁵ loŋ ²	se ⁵ loŋ ²
sons wife	媳婦	ʃim ¹ k ^h iu ¹	ɕim ¹ k ^h iu ¹	ʃim ¹ p ¹	ʃim ¹ pu ¹
sour, tart	酸	son ¹	son ¹	son ¹	son ¹
south	南邊	nam ² pian ³	nam ² pian ¹	nam ² pian ³	nam ² p ^h ian ³
spider	蜘蛛	la ² k ^h ia ² / ti ¹ tu ¹ wɿ ²	la ² k ^h ia ² /	ti ² tu ¹	la ² k ^h ia ²
splinter	木刺	net ⁸ ʔɿ ²	net ⁷	muk ⁷ ts ^h ak ⁷	
spring	春天	tʃ ^h un ¹ t ^h ian ¹	ts ^h un ² t ^h ian ¹	ts ^h un ¹ t ^h ian ¹	tʃ ^h un ¹ t ^h ian ¹
sprinkle, splash	潑水	p ^h at ⁸ ʃui ³	p ^h at ⁷ sui ³	p ^h at ⁸ sui ³	p ^h at ⁸ fi ³
stand, stand up	站	k ^h i ¹	k ^h i ¹	k ^h i ¹	k ^h i ¹

steep	陡	teu ²	teu ³		k ^h i ¹
step on	踩	t ^h ap ⁸	tem ³	ts ^h ai ³	t ^h ap ⁷
stick, paste	粘/貼	niam ² / tap ⁷	niam ² / tap ⁷	niam ²	niam ²
stomach	肚子	tu ⁶ ʃi ³			tu ⁵ ʃi ³
street, road	街	kai ² lu ⁶	kai ²	kai ²	kie ¹
stumble on, trip over	絆	pan ⁵	pan ⁵	pan ⁵	pan ⁵
stupid	傻	ŋoŋ ¹	ŋoŋ ⁵	ŋoŋ ¹	ŋoŋ ⁵
summer	夏天	niet ⁸ t ^h ian ¹	niet ⁸ t ^h ian ¹	niet ⁸ t ^h ian ¹	niet ⁸ t ^h ien ¹
sun	太陽	nit ⁷ t ^h eu ²	nit ⁷ t ^h eu ²	nit ⁷ t ^h eu ²	nit ⁷ t ^h eu ²
Surname: Cai ⁴	(姓)蔡	ts ^h ai ⁵	ts ^h oi ⁵	ts ^h oi ⁵	ts ^h ai ³
Surname: Chen ²	(姓)陳	t ^ʃ in ²	ts ^h en ²	t ^ʃ in ²	t ^ʃ in ²
Surname: Fan ⁴	(姓)范	fam ⁶	fam ⁵	fam ⁵	fam ³
surname: Liu ²	(姓)劉	liu ²	liu ²	liu ²	liu ²
Surname: Wang ²	王	voŋ ²	voŋ ²	voŋ ²	voŋ ²
Surname: Xu ²	(姓)徐	t ^ʃ hi ⁶	t ^h ei ⁵	t ^ʃ hi ⁶	t ^ʃ hi ⁵
Surname: Xu ³	(姓)許	hi ³	t ^h ei ³	hi ³	hi ¹
Surname: Zhang ¹	張	t ^ʃ ioŋ ¹	tsoŋ ¹	tsoŋ ¹	tsoŋ ¹
Surname: Zhao ⁴	趙	t ^ʃ hau ⁶	ts ^h eu ⁵	ts ^h au ⁶	t ^ʃ hau ⁵
surplus, remnant	剩	t ^ʃ huen ¹	ts ^h uen ¹	ts ^h uen ¹	ts ^h uen ¹
sweat	汗	hon ⁶	hon ⁵	hon ⁵	hon ³
swill, slop, water left from washing rice	泔水	mi ⁶ t ^ʃ ip ⁸ ʃui ³	o ¹ tso ¹ sui ³	t ^h o ² mi ⁵ sui ³	mi ⁵ t ^ʃ ip ⁸ ʃui ³
table	桌子	tsok ⁸ ʔ ²	tsok ⁷ ke ²	tsok ⁸ kɿ ²	tsok ⁸ kʔ ²
tail	尾巴	mui ³	mi ¹	mui ¹	mui ¹
take a wife, marry a woman	娶	t ^h o ³	t ^h o ³	t ^h o ³	t ^h o ³
take off	脫	t ^h ot ⁷	t ^h ot ⁷	t ^h ot ⁷	t ^h ot ⁷
tall, high	高	ko ¹	ko ¹	ko ¹	ko ¹
taste	味道	mui ⁶ t ^h o ⁶ / moi ⁶ sui ⁵	mi ⁵ ei ⁵	mui ⁵ t ^h o ⁵	mui ⁵ t ^h o ³
tasteless, not salty	淡	t ^h am ⁵	t ^h am ⁵	t ^h am ⁵	t ^h am ⁵
tea	茶	ts ^h a ²	ts ^h a ²	ts ^h a ²	ts ^h a ²
ten	十	ʃip ⁸	sip ⁸	ʃip ⁸	ʃip ⁸
thank	謝	t ^ʃ hia ⁶ / ʃin ² moŋ ²	t ^ʃ hia ⁵	t ^ʃ hia ⁵ / ʃin ² moŋ ²	ʃia ³
that	那個	kai ¹ kai ⁵	te ⁵ ke ⁵	kai ¹ tsak ⁷	kai ¹ tsak ⁷
the right hand	右手	t ^ʃ in ⁵ ʃiu ³	jiu ⁵ su ²	ziu ⁵ ʃiu ³	t ^ʃ in ⁵ ʃiu ³
them	他們	ki ² teu ¹	ki ² / i ² ten ¹	ki ² teu ¹ sa ¹	ki ² teu ¹

thick	厚	p ^h un ⁵	p ^h un ³	p ^h un ⁵	p ^h un ⁵
thick (liquid)	稠	neu ²	tsok ⁷	tʃ ^h iu ²	neu ²
thick, course	粗	tʃ ^h u ¹	ts ^h u ¹	ts ^h u ¹	tʃ ^h u ¹
thin	薄	p ^h ok ⁸ / jau ¹	p ^h ok ⁸	p ^h ok ⁸	p ^h ok ⁸
thin, lean	瘦	seu ⁶	ts ^h eu ⁵	seu ⁵	seu ³
thing	東西	toŋ ¹ ʃi ¹	toŋ ¹ ei ¹	toŋ ¹ si ¹	toŋ ¹ ʃi ¹
this	這個	lia ³	ia ³ e ²	lia ³ kai ⁵	lia ³ zap ⁷
this year	今年	kin ¹ ɲien ²	kin ¹ ɲian ²	kin ¹ ɲien ²	kin ¹ ɲien ²
three	三	sam ¹	sam ¹	sam ¹	sam ¹
threshold	門坎	mun ² k ^h iam ¹	fu ² k ^h iam ²	mun ² k ^h am ¹	mun ² k ^h iam ¹
thunder	打雷/雷	ta ⁶ lui ² / hioŋ ⁶ lui ²	hioŋ ⁵ lui ²	ta ⁵ lui ²	ta ⁵ lui ² / hioŋ ⁵ lui ²
tile	瓦片	ɲua ⁶ sak ⁷	ɲa ²	ɲa ¹	ɲa ³
time	時候/時間	ʃi ² tʃiet ⁷ / ʃi ² kien ¹	si ² kian ¹	ʃi ² kien ¹	ʃi ² kien ¹
to be	是	he ⁵	he ⁵	he ⁵	he ³
to be acquainted with, recognize	認識	ɲin ⁶ ʃit ⁷	ɲin ⁵ sit ⁷	ɲin ⁵ ʃit ⁷	ʃiok ⁸ si ³
to be full (after eating)	飽	pau ³	pau ³	pau ³	pau ³
to be in, at, on	在	ts ^h oi ⁵ / tu ⁵ / to ⁵	te ¹	ts ^h oi ⁵	ts ^h oi ⁵
to deep-fry	油炸	p ^h o ²	p ^h eu ²	p ^h o ²	p ^h o ²
to die	死	si ³	ei ²	si ³	si ³
to dye	染	ɲiam ⁶	ɲiam ⁵	zam ⁵	ɲiam ⁵
to eat	吃飯	ʃit ⁸ p ^h on ⁶	sit ⁸ fan ⁵	ʃit ⁸ fan ⁵	ʃit ⁸ p ^h on ⁵
to fan a fan	扇扇子	pat ⁸ ʃan ⁵ nɿ ²	san ⁵ san ⁵ ne ²	san ⁵ san ⁵ nɿ ²	pat ⁸ sen ⁵ nɿ ²
to fight	打架	ʃioŋ ¹ ta ³	sioŋ ² ta ³	ʃioŋ ¹ ta ³	ʃioŋ ¹ ta ³
to fold	摺	tʃap ⁷	tsap ⁷	tʃap ⁷	tsap ⁷ pɿ ²
to kneel	跪	k ^h ui ⁶ / k ^h ui ³	k ^h ui ³	k ^h ui ³	k ^h ui ³
to know	知道	ti ¹	ti ¹	ti ¹	ti ³
to learn	學	hok ⁸	hok ⁸	hok ⁸	hok ⁸
to lick	舔	ʃe ¹		se ¹	se ¹
to like, love, be fond of	喜歡	hi ⁶ fon ¹ / oi ⁶	oi ⁵ / hau ⁵	hau ⁵	oi ³
to marry (for a woman)	出嫁	tʃ ^h uet ⁸ ka ⁵	ts ^h uet ⁸ ka ⁵	ka ⁵ ts ^h uet ⁸ hi ⁵	ka ⁵
to mix in, add	攪	ts ^h am ⁵ / t ^h eu ³	lo ¹	ts ^h am ⁵	ts ^h am ³
to quarrel	吵架	ʃioŋ ¹ ma ⁵ ɿ ²	ts ^h au ² si ⁵	ʃioŋ ¹ ma ⁵	zan ⁵ ka ⁵
to rain	下雨	lok ⁸ ʃui ³	lok ⁸ sui ³ /i ³	lok ⁸ sui ³	lok ⁸ fi ³

to relax in a cool place	乘涼	liau ⁶ lion ²	liau ⁵ lion ²	ts ^h ui ² feŋ ² ʒion ³	liau ¹ lion ²
to rest, take a break	休息	hiu ¹ ʃit ⁷	hiu ¹ ɛit ⁷	hiu ¹ ʃit ⁷	hiu ¹ ʃit ⁷
to sleep	睡覺	ʃoi ⁶ muk ⁷	soi ⁵ muk ⁷	soi ⁵ muk ⁷	fe ⁵ muk ⁷
to spit	吐	eu ³	p ^h ui ⁵ / p ^h on ¹	p ^h ui ⁵	eu ³
to squat on heels	蹲	k ^h u ²	ku ²	tun ⁵	k ^h u ²
to store away	(收)藏	k ^h oŋ ⁵	pian ⁵	k ^h oŋ ⁵	k ^h oŋ ⁵
to sun, dry in the sun	曬	sai ⁵	sai ⁵	sai ⁵	sai ³
to take along	帶	tai ⁵	tai ⁵	tai ⁵	tai ⁵
to taste	嘗	ʃion ²	soŋ ²	tʃip ⁷	tʃi ³
to teach	教	kau ¹	kau ¹	kau ¹	kau ¹
to weigh	稱	tʃin ¹	tsen ¹ (ne ² noun)	tʃin ¹	tʃin ³
to wring dry	擰干	niu ⁶ tsau ⁵	niu ² tsau ¹	niu ⁵ tsau ⁵	niu ⁵ tsau ⁵
to write	寫	ʃia ³	ɛia ³	ʃia ³	ʃia ³
today	今天	kin ¹ pu ¹ nit ⁷	kin ¹ pu ¹ nit ⁷	kin ¹ pu ¹ nit ⁷	kin ¹ pu ¹ nit ⁷
together	一起	k ^h ioŋ ⁶ ha ⁶	k ^h ioŋ ⁵ ha ⁵	k ^h ioŋ ⁵ ha ⁵	k ^h ioŋ ⁵ ha ³
tomorrow	明天	ʃiau ² tso ³	t ^h ien ¹ koŋ ¹ nit ⁷	t ^h ien ¹ koŋ ¹ nit ⁷	t ^h ien ¹ koŋ ¹ nit ⁷ / ʃau ² tso ³
tongue	舌頭	ʃak ⁸ ma ⁶	sat ⁸ ma ⁵	set ⁸ t ^h eu ²	sap ⁸ ma ²
too, excessively	太	t ^h et ⁷ (to ¹)	t ^h et ⁷	t ^h ei ⁵	t ^h ioŋ ²
toss, cast, toss away	丟/扔	tiu ¹ / tep ⁸ / t ^h iau ³	teiet ⁸	tep ⁸	fit ⁸
touch, bump, meet, run into	碰	pen ⁶ / mia ¹	tsoŋ ¹ to ³	loŋ ⁵	p ^h oŋ ⁵ to ³
transplant rice seedlings	插種	ʃi ⁶ tʃoŋ ⁵	ts ^h ap ⁷ joŋ ¹ e ²	ʃi ⁵ ʒoŋ ⁵	ʃi ⁵ / tsoŋ ⁵
turn over	翻	fan ¹ / hien ¹	fan ¹ / pien ³	fan ¹	pian ³
two	兩	lion ³	lion ³	lion ³	lion ³
two	二	ni ⁶	ni ⁵	ni ⁵	ni ³
ugly	難看/丑	tʃie ³	ts ^h u ³	tse ³	tse ³
unable to eat	吃不下	ʃit ⁸ m ² lok ⁸	sit ⁸ m ² lok ⁸	ʃit ⁸ m ² lok ⁸	ʃit ⁸ m ² lok ⁸
uncle	伯父	a ⁶ pak ⁷	a ⁵ pak ⁷	a ⁵ pak ⁷	a ⁵ pak ⁷
understand	懂	ti ¹	toŋ ³	ti ¹	ti ¹
upper, upside	上面	mien ⁵ ʃion ⁶ / taŋ ³ ko ⁵	hoŋ ⁵	taŋ ³ ko ⁵	taŋ ³ poi ¹
urine, pee	尿	niau ⁶	niau ⁵	niau ⁵	niau ³

vegetables, cooked food	菜	ts ^h oi ⁵	ts ^h oi ⁵	ts ^h oi ⁵	ts ^h oi ³
vehicle, car	車/車子	tʃ ^h a ¹ ɿ ²	ts ^h a ¹ e ²	ts ^h a ¹ l ²	ts ^h a ¹ ɿ ²
vertical, perpendicular	豎	ten ²	su ⁵	ten ²	ts ^h aŋ ³
very, quite	很	ton ¹	tɛ ^h in ⁵	tʃ ^h in ⁵	ton ¹
village	村子	tson ¹ ha ⁶	tson ¹ e ²	tson ¹ ha ⁵	tson ¹ th ^{eu} ²
walk	走路	haŋ ² lu ⁶	haŋ ²	haŋ ²	haŋ ² lu ⁵
want to, wish to	要	oi ⁵	oi ⁵	oi ⁵	oi ³
wash	洗	se ³	se ³	se ³	se ³
wash ones face	洗臉	se ⁶ mian ⁵	se ² mian ⁵	se ³ mian ⁵	se ⁵ mian ³
waste	浪費	lon ⁶ fui ⁶	lon ⁵ fui ⁵	lon ⁵ fui ⁵	lon ⁶ fui ⁵
water	水	ʃui ³	sui ³	sui ³	fi ³
well-behaved	乖	kuai ¹	kuai ¹	kuai ¹	kuai ¹
west	西邊	ʃi ¹ p ^h ian ³	ei ¹ p ^h ian ³	si ¹ p ^h ian ³	ʃi ¹ p ^h ian ³
wet, damp, humid	濕	ʃip ⁷	sip ⁷	ʃip ⁷	ʃip ⁷
what	什麼	mak ⁸ kai ⁶	mak ⁸ ke ⁵	mak ⁸ kai ⁵	mak ⁸ kai ³
wheat	麥子/小麥	mak ⁸	mak ⁸ ke ²	mak ⁸ kl ²	mak ⁸ kɿ ²
wheat flour	麵粉	mian ⁶ fun ³	mian ⁵ fuen ³	mian ⁵ fun ³	mian ⁵ fuen ³
where	那裏	nai ⁶ vui ⁶	nai ³ je ²	nai ⁵ li ⁵	nai ⁵ vui ⁵
which	哪個	nai ⁶ kai ⁵	nai ⁵ ke ⁵	nai ⁵ e ⁵	nai ⁵ kai ³
white	白	p ^h ak ⁸	p ^h ak ⁸	p ^h ak ⁸	p ^h ak ⁸
who	誰	ma ⁶ jin ²	man ³	ma ⁵ sa ¹	ma ⁵ sa ¹
wide, broad	寬	fat ⁷	fat ⁷	fat ⁷	fat ⁷
wife	妻子/老婆	pu ⁵ nion ²	teia ² e ²	pu ⁵ nion ²	pu ⁵ nion ²
wife of fathers younger brother	孀孀	ʃiok ² me ⁵ /a ⁶ tʃim ²	me ⁵ me ¹	pak ⁷ me ¹	a ⁵ tʃim ²
wife of mothers brother	舅母	k ^h iu ¹ me ⁵	k ^h iu ¹ me ¹	k ^h iu ¹ me ⁵	k ^h iu ¹ me ⁵
wine, liquor, alcoholic drink	酒	tʃiu ³	teiu ³	tʃiu ³	tʃiu ³
winter	冬天	ton ¹ thien ¹	ton ¹ thien ¹	han ⁵ thien ¹	hon ² thien ¹
wipe	擦	ts ^h ut ⁷	ts ^h ut ⁸	tʃ ^h it ⁷	ts ^h ut ⁷
wok, pot, pan	鍋	vok ⁸	vok ⁸	vok ⁸	vok ⁸
woman	女人	se ⁶ moi ⁵ ɿ ²	se ⁵ moi ⁵ e ²	pu ¹ nion ² nin ²	pu ¹ nion ² nin ²
words, talk	話	fa ⁵ /voi ¹	fa ⁵	fa ⁵	voi ¹
work	活兒	ʃie ⁶	tso ⁵ se ⁵	tso ⁵ sen ¹ fat ⁸	se ³
year (of age)	歲	soi ⁵	sei ⁵	soi ⁵	soi ⁵
year after next	後年	heu ⁶ nien ²	heu ¹ nien ²	heu ³ nien ²	heu ⁵ nien ²

yellow	黃	voŋ ²	voŋ ²	voŋ ²	voŋ ²
yesterday	昨天	tso ⁵ pu ¹ ɲit ⁸	tso ¹ pu ¹ ɲit ⁸	tso ⁵ pu ¹ ɲit ⁸	tso ⁵ pu ¹ ɲit ⁸
You (plural)	你們	ɲi ² teu ¹	n ² ten ¹	ɲi ² teu ¹	ɲi ² teu ¹
You, yours	你	ɲi ² / ɲi ² kai ⁶	n ² / n ² ne ²	ɲi ²	ɲi ²
younger brother	弟弟	lo ⁶ t ^h ai ⁵	lo ² t ^h ai ¹	lo ⁵ t ^h ai ¹	lo ⁵ t ^h e ⁵
younger sister	妹妹	lo ⁶ moi ⁶	lo ⁵ moi ⁵	lo ⁵ moi ⁶	lo ⁵ moi ³