The Prosody and Morphology of Elastic Words in Chinese:

Annotations and Analyses

by

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Notations

1. Numbering of examples, tables, and figures

   Examples are numbered from (1) in each chapter. Tables and figures are numbered as X.Y, where X is the chapter number and Y is the sequential number. For example, Table 1.3 is the third Table in Chapter 1.

2. Chinese examples are transcribed in Character followed by Pinyin. The four full tones in Standard Chinese are indicated with the digits 1 to 4 (in Pinyin transcriptions). The description of four tones and instances of Chinese examples are listed below.

Tone	Description	Example
1	high level	低 di1 'low'
2	rising	敌 di2 'enemy'
3	low dipping	底 di3 'bottom'
4	falling	地 di4 'land'

A tone representation (in terms of tone digits) is used when it is relevant. When they are not relevant, tones are omitted. For example, when tone is irrelevant, 低 'low' is represented as *di*, without the marker of tone.

For ease of reading, a hyphen is added between syllables. For example, 煤炭 'coal' is represented as *mei-tan*.

Examples in Pinyin are italicized when cited in text, but not when cited in isolation in a numbered example. English examples cited in text are also italicized.

3. Commonly used abbreviations

    *   An ill-formed form

    MCD   Modern Chinese Dictionary

    POS   Part of Speech

4. Historical periods of Chinese (Wang 1957:35)

Before 300 AD	Old Chinese
300-1200	Middle Chinese
1200-1900	Mandarin
1900-	Modern Chinese

Abstract

Elastic words are those whose length can vary between monosyllabic and disyllabic, without changing the meaning. Though elastic words have known to be many in Chinese, it is still not clear how many words are elastic. In addition, there is no consensus on the motivation of creating elastic words. This dissertation offers a complete annotation of elastic words in modern Standard Chinese and sample annotations of Middle Chinese, and investigates why elastic words are created. Specifically, it examines four properties of elastic words focusing on the homophone-avoidance theory and the prosody theory. The former, by far the most popular one, proposes that disyllabic words are created to reduce homophony and avoid ambiguity after massive syllable loss. In contrast, the prosody theory proposes that elastic words are created because disyllabic words are needed in prosodically strong positions, due to the requirement of Foot Binarity.

First, a study examines the relation between homophony and elastic words, based on a complete length elasticity annotation of Modern Chinese Dictionary (2005). Results show that there is no correlation between homophony and elastic words. The second study examines the effect of word category on elastic words in modern Standard Chinese. Results show that (i) half of words in Chinese lexicon are elastic; (ii) content words have higher percentage of elastic words than function words. The third study examines the historical development of elastic words, with a focus on Middle Chinese, especially Tang poems. Results show that there are many elastic words in Middle Chinese, similar to that in Modern Chinese. The fourth study examines word length in Chinese dialects, focusing on Mandarin and Cantonese. Results show that they have similar percentages of disyllabic words and that the size of syllable inventory has no effect on word length.

Various evidence consistently points to the conclusion that the prosody theory offers a better explanation of why elastic words are created in Chinese, despite of the fact

that the homophone-avoidance theory seems quite intuitive and natural. In other words, elastic words are created to fulfill prosodic requirement rather than to compensate for syllable loss or an increase in homophony.

Chapter 1

Introduction

Chinese has many synonymous pairs of word forms, one short and one long. The short one is monosyllabic and the long one is made of the short one plus another morpheme. Since the long form has the same meaning as the short (evidenced by their mutual annotation in the dictionary), the meaning of its extra morpheme is either lost or redundant. Some examples are shown in (1), where Chinese data are transcribed in Pinyin spelling (tones are omitted unless relevant). In each case, the extra part of the long form is shown in parentheses. For ease of reading, a hyphen is added between morphemes.

(1)   Words of elastic length in Chinese

Character	Word	Literal	Gloss
煤炭	mei-(tan)	coal-(charcoal)	'coal'
老虎	(lao)-hu	(old)-tiger	'tiger'
技术	ji-(shu)	skill-(technique)	'skill'
学习	xue-(xi)	study-(practice)	'study'
商店	(shang)-dian	(business)-store	'store'

In 'coal', the original meaning of 炭 *tan* 'charcoal' is absent, because 煤炭 *mei-tan* simply means 'coal', not 'coal and charcoal'. Similarly, in 'tiger', the original meaning of 老 *lao* 'old' is absent, because 老虎 *lao-hu* simply means 'tiger', not 'old tiger'. To say 'old tiger', one must add another 老 *lao* 'old', i.e., 老老虎 *lao lao-hu*; similarly, 'young tiger' is 小老虎 *xiao lao-hu*, where 小 *xiao* means 'young'. In 'skill', both parts of the long form have their own meanings, but the meanings are repetitive, which means that the second is redundant. In 'study', the meaning of 习 *xi* 'practice' is redundant, because studying presumably involves practice. Finally, in 'store', 商 *shang*

1

has its own meaning, too, but it is again redundant, because stores are for business. Long and short forms like these are called 'elastic words' or 'words with elastic length' (Guo 1938; Pan 1997; Duanmu 2013; Huang & Duanmu 2013).

The existence of elastic words is well acknowledged in the literature (Karlgren 1918/1923; Jespersen 1930; Mullie 1932; Guo 1938; Chao 1948; Sproat and Shih 1996; Pan 1997; Duanmu 2007a; Duanmu 2013; Huang and Duanmu 2013). For example, Karlgren (1918/1923) observes that, although most Chinese words are monosyllabic, many also have a corresponding long form, which he calls an 'elucidative compound'. Similarly, Chao (1948: 33) observes that, while Chinese morphemes are dominantly monosyllabic, Chinese words are usually polysyllabic when they are used. Moreover, Pan (1997: 140) suggests that almost all Chinese words have elastic length. Though the phenomenon has been observed for a long time, many empirical facts and theoretical implications are still not clear, such as how many words in Chinese are elastic, why elastic words are created, what is the semantic and the morphological structure of elatic words, and what are the factors that affect the structures of elastic words, etc.

There are different views on the nature of elastic words. I will introduce three views. First, since the long and short forms mostly have the same meaning and interchangeable, many linguists consider them to be variants of the same word and such words are said to have 'elastic length' (Guo 1938; Pan 1997; Huang and Duanmu 2013).

Second, long forms in elastic words are considered compounds. As shown above, length pairs differ in word forms where the long form looks like a compound and has been so called in some studies (e.g. Karlgren 1923; Jespersen 1930; Mullie 1932; Chao 1948; Sproat and Shih 1996, He and Wang 2005). However, long forms in elastic words differ from true compound. The extra morpheme in the long form does not contribute much meaning. For example, the meaning 老虎 *lao-hu* 'tiger' is decided by 虎 'tiger' not 老 'old'. In 技术 *ji-shu* 'skill-technique (skill)', the meaning can be expressed by either one of the morphemes since their meanings are repetitive. In contrast, both morphemes contribute to the meaning of the entire word in true compounds. For example, the meaning of 书包 *shu-bao* 'school-bag' come from both 书 *shu* 'school' and 包 *bao* 'bag'.

Third, some length pairs differ in some aspects of meaning (Li 1990, Feng 2010) and style (Liu 2007a, Liu 2007b, Feng 2010), where dissyllabic forms are more abstract,

noun-like and formal than monosyllabic forms. Let us look the semantic difference, where an example is shown in (2).

(2)　　　Semantic difference between short and long forms (Li 1990)

Length	Basic meaning	Additional meaning
Short 死 si 'die'	'die'	Concrete
Long 死亡 si-wang 'die-perish'	'die'	Abstract

Li (1990) observes that, when used as a verb, the short form 'die' has a concrete meaning, whereas the long form 'die-perish' has an abstract meaning. Therefore, 'die-perish' can be used for an abstract entity, such as 'society', but not for a concrete entity, such as a person or an animal. In contrast, 'die' has a concrete meaning and can be used for concrete entities, such as a person or an animal. However, examples like that in (2) are sporadic, and quantitative data are lacking. In addition, it can be shown that most elastic words do not have such meaning distinctions between the long and short forms. Moreover, as is often observed before, and as we shall see in chapters 3 and chapter 4 with quantitatively evidence, elastic words occur extensively in Chinese. If we treat elastic words as regular compounds, we will miss an important characteristic of Chinese.

The focus of the present study concerns two aspects of elastic words: how many elastic words there are, and why elastic words are created. For the first aspect, scholars gernerally agree that there are many elastic words in Modern Chinese (Lü 1963; Pan 1997; Duanmu 2013; Huang and Duanmu 2013). For Middle Chinese (about 600 AD), some studies suggest that there are not many (Dobson 1959; Feng 1998b), while others suggest that there are as many as that in Modern Chinese (Duanmu 2007a).

For the second aspect, various theories have been proposed in the literature to account for the creation of elastic words, such as the homophone-avoidance theory (Karlgren 1918/1923; Jespersen 1930; Guo 1938; Lü 1963; T'sou 1976; Li and Thompson 1981; Ke 2006; Jin 2011), the prosody theory (Duanmu 1999; Duanmu 2000; Lu and Duanmu 2002; Duanmu 2007a; Duanmu and Dong 2015), the change in prosody theory (Feng 1998b), the increase in vocabulary theory (Cheng1992; Packard 2000), the speech rate theory (Guo 1938), and the processing need thoery (Pan 1997). For example, the homophone-avoidance theory, by far the most popular one, proposes that disyllabic

words are created to reduce homophony and avoid ambiguity after massive syllable loss in Chinese. Since monosyllabic forms are still in use, Chinese ends up with many elastic words (monosyllabic-disyllabic pairs). In contrast, the prosody theory proposes that elastic words are created because disyllabic words are needed in some positions (prosodically strong positions), due to the phonological requirement of Foot Binarity while monosyllabic words are needed in other positions.

The importance of the first aspect (i.e. how many elastic words there are) is exhibited when we are to answer the question, namely, how many words are there in Chinese? For example, among the three forms, 水 *shui* 'water', 煤 *mei* 'coal', and 煤炭 *mei-tan* 'coal', there could be three sepreate words where each form is a word, or there could be two seprate words where the latter two are the short form and the long form of the same word 'coal'. If elastic words were not annotated and accounted for appropriately, it would be hard to estimate the size of the Chinese lexicon. In addition, we will miss this unusual property of Chinese, which yields a 'dual lexicon' (Duanmu 2007a).

The importance of the second aspect (i.e. why elastic words are created) is clearly illustrated in the use of elastic words, namely, the length preference in word combinations (Lü 1963; Feng 1998a; Lu and Duanmu 2002; Duanmu 2007a; Duanmu 2012; Huang and Duanmu 2013; Duanmu, Feng and Dong under revision). For example, in noun-noun compound 'coal-store' where both words for 'coal' and 'store' are elastic, there are four possible length patterns: 2+2, 2+1,1+2 and 1+1 (where 1 refers to a monosyllabic form and 2 refers to a disyllabic form). The predictions of the goodness of these patterns differ, depending on which theory is considered the correct one. For example, as I will show later, the prosody theory predicts that 1+2 is bad while the other three are generally good. The homophone-avoidance theory does not have explicit predictions, but it would predicts that 2+2 is the best while 1+1 is the worst since monosyllabic words are generally more ambiguous than disyllabic words.

As discussed above, first there are many estimates of the amount of elastic words. While it is generally agreed that there are many in Modern Chinese, previous studies are not based on complete annotations or statistics. In addition, there is no agreement on how many words are elastic in Middle Chinese. Second, for the motivation of creating elastic

words, though various theories have been proposed, there is no consensus so far on the correct explanation. Moreover, there is little proof for most theories. For those that do have proof, the evidence is mostly from cross-linguitics comparison. It is also not clear whether the result would differ with language-internal evidence.

This paper investigates these two aspects. First, I provide a full annotation of elastic words in Standard Chinese as well as a sample in Middle Chinese. Annotations are important since it is still not clear how many words are elastic in Chinese. Second, I offer an analysis of why elastic words are created in Chinese. I examine various properties of elastic words in order to evaluate these theories, with a focus on the homophone-avoidance theory and the prosody theory. Specifically, the comparison focuses on four pieces of evidence. I examine the effect of homophony and word category (content vs. function) in Standard Chinese. In addition, I explore the historical development of elastic words, focusing on Middle Chinese. Finally, I examine word length distribution among Chinese dialects, focusing on Mandarin and Cantonese. I show that various evidence consistently points to the conclusion that the prosody theory offers a better explanation of why elastic words are created in Chinese, despite of the fact that homophone-avoidance theory seems quite intuitive and natural. In other words, elastic words are created to fulfill prosodic requirement rather than to compensate for syllable loss or an increase in homophony.

The remainder of the dissertation is structured as follows: Chpater 2 assesses pevious research on the estimates of elastic words in Chinese and introduces theories on the motivation of creating elastic words. In Chapter 3, I introduce the method of annotating elastic words. Chapters 4 through 7 discuss four properties of elastic words and the predictions of the homophone-avoidance theory and the prosody theory are examined. Finally, Chapter 8 contains a conclusion of this study, including ideas for future research.

Chapter 2

Literature review

2.1   Introduction

This chapter provides an overview of previous research investigating the question of how many words in Chinese are elasic. Studies on this area will be reviewed in section 2.2. In addition, previous theories on the motivation of creating elastic words will be reviewed in section 2.3 in order to motivate the predictions and select proper evidence to evaluate the theories. Based on the findings of previous research, the research questions and predictions of the present study will be discussed in section 2.4.

2.2   Previous estimates on elastic words

In this section, I review previous work on annotation and introduce their estimates of elastic words in Chinese, foucing on Modern Chinese. Previous estimates on Middle Chinese will be introduced in section 6.2. In addition, previous research on the distribution of part of speech (hereafter POS) is also introduced in order to compare it with our results.

First, let us consider previous estimates on how many elastic words there are in Modern Chinese. Scholars generally agree that there are many. However, most previous estimates are based on disyllabic words, while until recently the estimates are made directly on elastic words. Since disyllabic words include not only elastic words but also true compounds and monomorphemic words, there should be fewer elastic words than the estimate.

Lü (1963) proposes that in Modern Chinese there are much more disyllabic words than monosyllabic words. The study examines the percentages of disyllabic words among

nouns, verbs and adjectives in 'Three thousands commonly used words in Mandarin'
(ZWGW 1959). The result is shown in (2), where the polysyllabic words are mostly
disyllabic words.

(3)   Distribution of nouns, verbs and adjectives in (ZWGW 1959).

POS	Total	Polysyllabic words	%
Noun	1621	1379	85%
Verb	941	573	61%
Adj	451	311	69%
Total	3013	2263	75%

Given there are totally 3264 words in ZWGW (1959), nouns, verbs and adjectives
accounts for about 90% of the lexicon. It is reasonable to estimate that disyllabic words in
nouns, verbs and adjectives approximate to that in the entire lexicon. Hence, about 69%
of the lexicon is composed of disyllabic words.

Some studies suggest that 'nearly all' Chinese words have elastic length (Pan
1997: 140). However, quantitative data have not been offered until quite recently. Two
studies are summarized in (3), where MCD refers to Modern Chinese Dictionary (2005).

(4)   Quantitative studies on the percentage of elastic words in Chinese

Study	Data size	Elastic
Duanmu (2013)	60 characters; 84 words in Da (2004)	79%
Huang and Duanmu (2013)	2,000 morphemes in MCD (2005)	61%

Duanmu (2013, written in 2011) provides a quantitative estimate of elastic words
in Chinese and shows that elastic words constitute 79% of the data. It samples 1/50 of
3,000 most commonly used Chinese characters (Da 2004), totally 60 characters and 84
words (some characters represent more than one word). For each character, all the words
that it represents are listed and the word elasticity is determined. Some examples are
provided in (4).

(5)   Annotations of elastic words (Duanmu 2013)

Character	Gloss	Short	Long	POS
力	ability	力	力量，能力	N
测	measure	测	测量	N, V

The annotation is based on word entries. As shown above, the word 力 is elastic with two possible long forms. However, 力 has four senses in MCD (excluding proper names): 'force', 'ability', 'physical strength', and 'to make an effort', where the latter three all have a corresponding long form '能力', '体力', '尽力'. Similarly, 测 has two senses in MCD: 'to measure' and 'to speculate', both of which have a long form '测量', and '推测'. In addition, the sample size is small compared to MCD, which has 10,000 monosyllabic words and 20,000 word senses.

Huang and Duanmu (2013) examine elastic words with a larger data size from sampling. They estimate that 61% of words in Chinese are elastic (after excluding names), which is lower than the estimate in Duanmu (2013). They sample 10% of all morphemic words in MCD (2005), totally 2,000 word senses. Items that have related meanings but differ in part of speech are counted as different ones. For example, 学 *xue* 'study' can be a noun or a verb, and each is counted as a separate item.

Besides elastic words, there are quantitative studies on the annotation and distribution of POS in Chinese, which will be compared with the results of the present study. Yin (1986) examines 40,000 words in MCD. The study shows that nouns, verbs and adjectives constitute most of the lexicon. In addition, there are more nouns than verbs. The result is shown in Table 2.1 and Table 2.2.

POS	Count	POS %
Noun	23,267	56%
Verb	11,603	23%
Adj.	3,116	8%
Adverb	239	2.2%
Measure	202	
Mood	32	
Pron	83	
Prep.	37	
Interj.	74	
Conj.	86	
Num.	64	2%
Set phrase	2380	6%

Table 2.1: POS counts, and POS percentages (POS %) in all words in MCD, excluding phrases. (Yin 1986:429)

POS	POS % words	POS% morphemes
Noun	56%	41%
Verb	28%	38%
Adj.	8%	13%
Adverb	0.6%	1.7%
Measure	0.5%	1.9%
Mood	0.1%	0.4%
Pron	0.2%	0.7%
Prep.	0.1%	0.3%
Interj.	0.2%	0.7%
Conj.	0.2%	0.3%
Num.	0.2%	1%

Table 2.2: POS counts based on words (POS % words), and POS counts based on morphemes (POS % morphemes) in MCD, excluding phrases and set phrases. (Yin 1986:430)

In Table 2.1, the distribution of POS is based on words, including monosyllabic and polysyllabic words. For words with more than one POS, the basic POS is adopted. Hence the result is based in 'basic' entries in MCD, where the difference in senses of the meanings is not distinguished. In Table 2.2, word based POS distribution is compared

with morpheme based POS distribution. The latter one is more comparable to our result (to be introduced in Chapter 3.4 and Chapter 5), which is based on word senses.

2.3 Theories on why elastic words are created

Having confirmed the abundance of elastic words in Chinese, let us consider why this is the case. Various theories have been proposed. Let us consider seven of them, shown in (5).

(6) Theories on why elastic words are created
    a. The homophone-avoidance theory
    b. The prosody theory
    c. The prosody-change theory
    d. The increase-of-vocabulary theory
    e. The speech rate theory
    f. The processing need theory
    g. The disyllabic origin theory

 I focus on the homophone-avoidance theory and the prosody theory, which I will compare in the present study. The other five theories will be briefly introduced.

2.3.1 The homophone-avoidance theory

First, I begin with the homophone-avoidance theory. Karlgren (1918/1923) observed the abundant use of disyllabic words in Chinese and proposed an explanation for it. His view is echoed by many others (Jespersen 1930; Guo 1938; Lü 1963; T'sou 1976; Li and Thompson 1981; Nettle 1995; Wang 1998; Nettle 1999; Lin 2001; Shi 2002; Ke 2006; Jin 2011) and referred to as 'the homophone-avoidance theory' in the present study. This view is also called 'the orthodox view' in Kennedy (1955).

In the homophone-avoidance theory, the syllable inventory of Modern Chinese is too small, especially for a language whose morphemes are mostly monosyllabic. In particular, Middle Chinese (about AD 600) used to have over 3,000 distinct syllables (including tonal contrasts), whereas modern Standard Chinese has just 1,300. In comparison, English has many times more syllables (estimated to be 158,000 by Jespersen 1930: 347). English has homophones (Higgins 1995), which has influence in

speech (Mondon 2009). In comparision, Chinese has many homophones. To avoid ambiguity in speech, 'elucidative compounds' are created, such as 看见 *kan-jian* 'look-see' for 看 *kan* 'see', 技术 *ji-shu* 'skill-technique' for 技 *ji* 'skill', and 学习 *xue-xi* 'study-practice' for 学 *xue* 'study'. A comparable example in English would be for those who have the same pronunciation for *pen* and *pin* to use *ink-pen* for the former and *thumb-pin* for the latter.

Some proponents of the homophone-avoidance theory (e.g. Karlgren 1923; Guo 1938; Lü 1963) offer little quantitative evidence; instead, they often rely on the reader's positive response to what seems to be a plausible idea. Other proponents have offered quantitative evidence from cross-linguistic data. For example, Jespersen (1930) notes a striking difference between the numbers of possible syllables English and that in Chinese and concludes that Chinese must have a much higher degree of homophony than English. Similarly, T'sou (1976) examines syllable inventories in Cantonese and Mandarin and the amount of disyllabic words they use. He reports that (i) Cantonese has more syllables than Mandarin and (ii) Cantonese speakers use fewer disyllabic words than Mandarin speakers. He concludes that the result supports of the orthodox view. Moreover, Ke (2006) examines 20 dialects of Chinese and reports a 'correlation between the degree of homophony and the degree of disyllabification'. Finally, Jin (2011) compares Mandarin, Cantonese, English, and Japanese and argues that there is a constant relation between the size of the syllable inventory and the percentage of monosyllabic words, regardless of the language (i.e. $S/M = C$, where S is the number of distinct syllables of a language, M the percentage of monosyllabic words in that language, and C a near constant). Studies also show that homophone density is related to speech processing (Chen, Vaid and Wu 2009).

Central to the homophone-avoidance theory is the prediction that there is a correlation between homophone density (or degree of homophony) and word length, which I state in (6), where homophone density is measured in terms of how many homophones a monosyllabic word or morpheme has.

(7)   Prediction of the homophone-avoidance theory

There is a positive correlation between homophone density and the percentage of disyllabic words.

There are several problems of the homophone-avoidance theory. First, it often relies on cross-linguistic evidence while evidence from language-internal data is lacking. If homophone avoidance is the motivation of creating elastic words, robust evidence should also be found within a language. Second, if homophone-avoidance is the motivation, we would expect to find more disyllables (i.e. words that have elastic length) when the degree of homophone is high or vice versa. However, words with very few homophones also have disyllabic length forms. For example, there are only two homophones for *bao2*, 雹 'hail' and 薄 'thin'. However, 雹 *bao* has a disyllabic form 冰雹 *bing-bao* 'hail', which cannot be accounted by the homophone-avoidance theory. In addition, it is not clear how ambiguity is measured (Kaplan 2010) and how many homophones will cause ambiguity (Kaplan 2011). Third, proponents of the homophone-avoidance theory assume that there are not many disyllabic words before Modern Chinese (Lü 1963). However, many elastic words exist even in Old Chinese (before 300 AD), such as '奈何' *nai-he* and '奈' *nai* for 'helpless', '异同' *yi-tong* and '异' *yi* for 'difference'. Fourth, many cross-linguistic comparisons are not based on parallel data, such as Mandarin with a broad range of styles and content and Cantonese with one textbook (Jin 2011). The conclusion will be more dependable if it results from a parallel comparison.

There are three other problems of the homophone-avoidance theory. First, this theory cannot predict cases where the monosyllabic form is derived from deleting a morpheme from the disyllabic form, since losing a syllable will increase the degree of homophony. For example, 轮 *lun* is derived from 轮船 *lun-chuan* 'wheel-boat (powered ship) through truncation. Secondly, ambiguity in context is almost nonexistent (Chao 1948: 34). The context facilitates the process of retrieving the correct word among the homophones. For instance, *son* and *sun* are homophones, but there is no ambiguity in the sentence 'The sun was hidden by clouds'. Finally, the homophone-avoidance theory cannot explain the length preference in word combination. According to the homophone-

avoidance theory, the combination with few homophones is better. Hence, 2+1 is better than 1+1 (where 1 refers a monosyllable and 2 refers to a disyllable) since there ar generally fewer homophones in monosyllables than that in disyllables. However, in [VO] phrases, 1+1 is better than 2+1. For example, 种植蒜 *zhong-zhi suan* 'plant garlic' is bad, but 种蒜 *zhong suan* is good.

2.3.2   The prosody theory

The prosody theory proposes that elastic words are created to fulfill phonological requirements concerning stress and foot Binarity (Prince 1980).

Let us first consider stress assignment, including word stress, compound stress and phrasal stress. I begin with word stress. Many studies have been done on English stress patterns (Chomsky and Halle 1968, Hayes 1982, Halle and Jean-Roger. 1987, Halle 1995, Zubizarreta 1998, Truckenbrodt 2005, Zubizarreta and Jean-Roger 2006). In Chinese, a monosyllable can be stressed or unstressed. Examples are shown in (7), where 'm' refers to a mora.

(8)   Stressed   Unstressed

        Heavy   Light
        mm   m
        [dii2]   [də]
        'indeed'   'of'

The words are written in the same character. The vowel difference is due to the reduction in the unstressed word.

Next, let us consider word stress in disyllabic words. According to Duanmu (2007a), disyllabic words in Chinese have either initial stress or final stress. The claim is stated in (8). Examples are illustrated in (9).

(9)   Word stress in disyllables
        A disyllabic word either has initial stress (SS) or final stress S (SØ), where S is a
        syllable and Ø is an empty beat.

(10)   Examples of word stress in disyllables

X	X	X	stress
(S S)	(S S) S	(S Ø)	syllabic foot
(mm).m	(mm).(mm)	(mm).(mm). Ø	moraic foot
[maa.ma]	[miŋ. tʰʲan]	[tʰau.jan]	
'mom'	'tomorrow'	'to hate'	

Following Duanmu (2007a: 139), I assume that both moraic foot and syllabic foot exist in Chinese and the stress is on the left side of the foot, which is also called 'the dual trochee'. In 'mom' and 'tomorrow', the stress is on the initial syllable, giving (SS). In contrast, in 'to hate', the stress is on the final syllable, giving S (SØ).

Now, let us consider compound stress and phrasal stress. Duanmu (1990, 2000) proposed a general rule for compound stress and phrasal stress assignment, called 'nonhead stress', stated in (10).

(11)   Nonhead stress

In the syntactic structure [X XP] (or [XP X]), where X is the syntactic head and XP the syntactic nonhead, XP should be stressed.

According to nonhead stress rule, the syntactic nonhead gets stress in phrases. For example, in [VO] phrase shown in (11), the verb is the syntactic head and therefore it is unstressed. In contrast, the object occupies the nonhead position and thus gets the stress.

(12)   Examples of phrasal stress assignment

[V	O]
X	XP
head	non-head
unstressed	stressed
zhong-zhi	shi-mu
'plant	trees'

The analysis for compounds is similar. As illustrated in (12), the first noun takes the nonhead position and gets stressed, while the second noun is the head and does not receive stress.

(13)   Examples of compound stress assignment

[N   N]
XP   X
nonhead   head
stressed   unstressed
ji-shu   gong-ren
'technique   worker'

Besides the stress requirements, there are also restrictions on foot: Foot Binarity (Prince 1980), Stress length and Anti-Allomorphy (Duanmu 2007a).

(14)   Foot Binarity (Prince 1980)

Feet must be binary on moras or syllables.

(15)   Stress length (Duanmu 2007a)

Phrasal stress should be carried by a syllabic foot.

(16)   Anti-Allomorphy (Duanmu 2007a)

A stressed word should keep the same phonological shape. (If a word has a disyllabic shape, it should be used when the word has phrasal stress.)

Given the requirement of Foot Binarity, stress length can be satisfied by SS or S (SØ), where S is a syllable and Ø is an empty beat. The two structures can be met by a disyllablic word since it could be SS in non-final positions or S (SØ) in final positions. In other words, the stressed (by compound stress or phrasal stress) positions need a disyllabic word. Anti-Allomorphy requires a disyllabic form to be used if there is one available, when the word is in a stressed position.

Let us consider how these requirements apply to [NN] compounds and [VO] phrases, in two cases: both words are elastic and at least one of them is non-elastic. First, let us consider the case where both words are elastic. I begin with [N N] compounds, where 1+2 is generally bad (Lü 1963; Feng 1998a; Lu and Duanmu 2002; Duanmu

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2007a; Duanmu 2012; Huang and Duanmu 2013). The reason is not due to syntax, but is a case where prosody outranks syntax (Golston 1995). An example is shown in (16), where 1 is a monosyllabic form, 2 a disyllabic form, and '*' indicates an illegal form.

(17)   Length patterns in [N N] compounds

    a.   2+2   煤炭 mei-tan   商店 shang-dian
    b.   2+1   煤炭 mei-tan   店   dian
    c.   *1+2   煤   mei   商店 shang-dian
    d.   1+1   煤   mei   店   dian
                 'coal   store'

I assume that the nonfinal disyllabic words are always (SS), and the final disyllabic words can be (SS) or S (SØ). The anaylsis is shown in (17) and (18), where X refers to the stress, S indicates a syllable and Ø indicates an empty beat.

(18)   The second nouns is (SS) or (SØ)

    a.   2+2   mei-tan   shang-dian
                X   X
                (SS)   (SS)
    b.   2+1   mei-tan   dian
                X   X
                (SS)   (SØ)
    c.   *1+2   mei   shang-dian
                X   X
                (S)   (SS)
    d.   1+1   mei   dian
                X
                (S   S)
                'coal   store'

(19)　The second nouns is S (SØ)

　　　a.　2+2　　mei-tan　shang-dian
　　　　　　　　X　　　　　X
　　　　　　　　(SS)　　　S (SØ)
　　　b.　2+1　　mei-tan　　dian
　　　　　　　　X　　　　X
　　　　　　　　(SS)　　　(SØ)
　　　c.　*1+2　　mei　　　shang-dian
　　　　　　　　X　　　　　X
　　　　　　　　(S)　　　　S (SØ)
　　　d.　1+1　　mei　　　dian
　　　　　　　　X
　　　　　　　　(S　　　　S)
　　　　　　　　'coal　　　store'

According to Nonhead stress, the compound stress is on the first noun. The stress assignment requires the first noun to be a foot, which is true in (17a) and (17b). In (17d), the first noun can also form a foot by combining with the second noun, under the term of Foot Shelter (Duanmu 2007a). The idea is that a foot or a potential foot can be treated as a word, where the internal morphosyntactic structure can be ignored. Lastly, (17c) is bad because the first noun only has one syllable, which cannot form a binary foot.

The analysis for (18) is similar, except for (18c). It seems that (18c) can also use the term of Foot Shelter to form two binary feet (SS) (SØ). However, the reconstruction is not allowed. The reason probablily is on the perception: since after Foot Shelter, the structure is likely to be confused with 2+1 as in (18b).

Next, let us consider [VO] phrases, where 2+2 and 1+2 are generally good, 1+1 is marginal and 2+1 is generally bad (Duanmu 2007a). Some examples are shown in (18), where '*' indicates an illegal form and '?' indicates that the form is questionable.

(20)　Length patterns in [VO] phrases

　　　a.　2+2　　种植 zhong-zhi　大蒜 da-suan
　　　b.　*2+1　种植 zhong-zhi　蒜　　suan
　　　c.　1+2　　种　　zhong　　　大蒜 da-suan
　　　d.　?1+1　种　　zhong　　　蒜　　suan
　　　　　　　　'plant　　　　　　garlic'

According to Nonhead stress, the object carries the stress. The verb does not have phrasal stress, but could have word stress if it is disyllabic. The analysis is provided in (20) and (21).

(21)　The object is (SS) or (SØ)

　　a.　2+2　zhong-zhi　da-suan
　　　　　　　X　　　　　X
　　　　　　　(SS)　　　(SS)
　　b.　*2+1　zhong-zhi　suan
　　　　　　　X　　　　　X
　　　　　　　(SS)　　　(SØ)
　　c.　1+2　zhong　　　da-suan
　　　　　　　　　　　　X
　　　　　　　S　　　　　(SS)
　　d.　?1+1　zhong　　　suan
　　　　　　　　　　　　X
　　　　　　　S　　　　　(SØ)
　　　　　　　'plant　　　garlic'

(22)　The object is S (SØ)

　　a.　2+2　zhong-zhi　da-suan
　　　　　　　X　　　　　 X
　　　　　　　(SS)　　　S (SØ)
　　b.　*2+1　zhong-zhi　suan
　　　　　　　X　　　　　X
　　　　　　　(SS)　　　(SØ)
　　c.　1+2　zhong　　　da-suan
　　　　　　　　　　　　 X
　　　　　　　S　　　　　S (SØ)
　　d.　?1+1　zhong　　　suan
　　　　　　　　　　　　X
　　　　　　　S　　　　　(SØ)
　　　　　　　'plant　　　garlic'

All the forms in the object position form a foot, which satisfies Stress lengh. 2+1 and 1+1 are bad because they violate Anti-Allomorphy. The object gets the stress and there is a disyllabic form for the object. Hence, the disyllabic form should be used. As shown above, 1+1 is not as bad as 2+1. This is probably due to Foot Shelter, where the

internal synatactic structure is ignored. Therefore, 1+1 is considered a [VO] compound, where two syllables form a binary foot with stress reassigned on the left.

The above analysis are made given both words are elastic. Now let us consider the case when one or both words are non-elastic. Consider examples in [VO] phrase, shown in (22) and (23).

(23) Length patterns in [VO] phrases where object is non-elastic

    a. 2+1 相信 xiang-xin 鬼 gui
    b. 1+1 信 xin   鬼 gui
             'believe   ghost'

(24) Length patterns in [VO] phrases where both verb and object are non-elastic

    a. 2+1 研究 yan-jiu 水 shui
             'study   water'

When the object has elastic length, 2+1 is not allowed. However, since both 'ghost' and 'water' have only a monosyllabic form, there is no choice and 2+1 must be allowed. Though 2+1 is allowed, it is not precisely clear if they are as good as 2+2, 1+2 or 1+1, which require a separate future study.

In sum, the prosody theory proposes that both monosyllabic words and disyllabic words are required but in different prosodic positions. Disyllabic words are found in stress positions where disyllabic foot is required. Monosyllabic words cannot occur in such positions unless two monosyllables form a binary foot under Foot Shelter (Duanmu 2007a).

There are more theories on why elastic words are created in Chinese. However, most of them are not substantiated and less commom. We could examine them with quantitative evidence. But due to the time limit, they are briefly introduced in the following section.

2.3.3   The prosody-change theory

The prosody-change theory is proposed by Feng (1998b, 2000) and echoed by others (Arcodia 2007). The idea is that the prosodic requirement of Chinese has changed

from bimoraic foot to disyllabic foot (Feng1998b), due to the simplification of syllable structure.

Before the Han Dynasty, the prosodic requirement in Old Chinese is a bimoraic foot. In other words, a syllable with two moras can forms a foot. However, since the Han Dynasty, the syllable structure of Chinese experiences massive simplification, where there is a loss of consonant clusters and final consonants. Hence the weight of one mora is weakened, and two syllables are required to form a foot. To satisfy a binary syllabic foot, disyllabic forms are needed.

2.3.4   The increase-of-vocabulary theory

Cheng (1992: 44) and Packard (2000) propose the increase-of-vocabulary theory. The idea is that as more words are added in the lexicon, monosyllables are insufficient for new referents. In other words, disyllabic words are created in order to convey new meanings. One typical statement of this view is stated in (24).

(25)   Packard (2000:365): 'the shift towards the use of disyllabic words occurred when free monosyllabic words combined into new disyllabic words both through compounding (…) and through abbreviation of longer phrases. The newly juxtaposed morphemes subsequently often lost their status as free words, undergoing semantic shift or reduction due to the general effects of lexicalization (…)'

Shi (2002) also suggests a combination of the homophone-avoidance theory and the increase-of-vocabulary theory. He proposes that 'the increasing complexity of the lexicon, together with the simplification of the phonological system (homophones)' provided sources for disyllabification.

2.3.5   The processing need theory

The 'processing need' theory is proposed by Pan (1997: 177). The idea is that the information conveyed by monosyllabic words is too dense for the listener, who cannot

process what is hears fast enough. To help the listener, the speaker slows down by using repetitive words.

2.3.6 The speech rate theory

The 'speech rate' theory is proposed by Guo (1938). The idea is that in some positions we need to speak faster and in some positions we need to speak slower. When speaking faster, monosyllabic forms are good; while when speaking slower, disyllabic forms are ideal. Guo (1938) also cites other researchers who hold similar opinions. For example, Gu Yanwu (1613-1682) claims in *Ri Zhi Lu* that additional character is added when speaking slowly, such as 阿母 *a-mu* 'prefix-mom (mom)'.

The main problem of Guo's proposal is that it does not specify the circumstance when we should speak fast and when we should speak slowly. Therefore, it cannot explain the restrictions on word combination. For example, in [VO] phrases, why the verb cannot be spoken slowly when the object is spoken fast, giving the illegal [2+1], or why the object can be spoken slowly when the verb is spoken fast, giving [1+2]. Furthermore, there is no explanation why the patterns are different between [NN] compounds and [VO] phrases.

2.3.7 The disyllabic origin theory

The 'disyllabic origin' theory is proposed by Kennedy (1951; 1955). The idea is that most Chinese words were originally disyllabic in the first place, as some still are, such as 蝴蝶 *hu-die* 'butterfly'. However, because Chinese dictionaries use character entries, instead of using word entries, each disyllabic word is split into two entries. For example, 蝴蝶 *hu-die* 'butterfly' would have an entry under 蝴 *hu*, where the annotation would be 'butterfly', and another entry under 蝶 *die*, where the annotation would again be 'butterfly'. As a result, users of such dictionaries get the misimpression that each entry is a word and start using them as such, mistakenly. Gradually, most Chinese words have become monosyllabic.

Little evidence has been shown for the five theories introduced above. We shall, therefore, not discuss them any further. Instead, we shall focus on the homophone-avoidance theory and the prosodic theory. In the present study, I evaluate them with four pieces of evidence from properties of elastic words.

2.4   The present study

2.4.1   Research questions

This study investigates the quantity of elastic words in Chinese and evaluates theories on the motivation of creating elastic words. In particular, the following questions are asked:

(1) How many words in Chinese are elastic? To answer this question, I provide a full annotation of elastic words in MCD (2005). The complete annotation enables us to examine the word length types in Chinese, including mono-only, poly-only and elastic.

(2) Which theory can better explain why elastic words are created, the homophone-avoidance theory or the prosody theory? To evaluate the theories, I examine four properties of elastic words. First, I examine the effect of homophony and word category (content vs. function) in Standard Chinese since homophony is crucial to the homophone-avoidance theory. In addition, since the homophone-avoidance theory assumes that there are not many elastic words before Modern Chinese, I explore the historical development of elastic words, focusing on Middle Chinese. Finally, most proponents of the homophone-avoidance theory use evidence from cross-linguistics data, especially the comparison between Mandanrin and Cantonese. To justify previous results, I also examine word length distribution in Mandarin and Cantonese. The details of the four aspects are shown in (3) to (6).

(3) Are elastic words related to the degree of homophony? To answer this question, I group morphemes by their degree of homophony. Their elasticity is determined. Then the correlation between levels of homophony and the average percentage of elastic words in each level of homophony is examined.

(4) Are elastic words related to word categories? Elastic words are examined for all word categories, with the degree of homophony counted both within a word category and across word categories.

(5) How many elastic words are there in Middle Chinese? Are they as many as Modern Chinese? To answer the question, I randomly sampled peom in Tang poetry, a representatives of Middle Chinese. Word length types including elastic words are examined.

(6) Are disyllabic words related to syllable inventory size? Disyllabic words are examined in Mandarin and Cantonese, of which the number of distinct syllable differs greatly.

2.4.2 Predictions

For the question how many elastic words there are in Chinese, no full annotation has been provided. However, based on previous results from sampling (Duanmu 2013; Huang and Duanmu 2013), it is predicted that the percentage of elastic words in Chinese is high.

For theories on why elastic words are created, I focus on two of them: the homophone-avoidance theory and the prosody theory. Little proof has been given so far for the homophone-avoidance theory. However, based on the facts that there are elastic words even when the ambiguity is low, it is predicted that the homophone-avoidance theory cannot account for the creation of elastic words. In other words, the results of the four examinations should not support the homophone-avoidance theory. In contrast, previous studies show that the prosody theory can explain when elastic words are needed. Therefore, we need the prosody theory. In addition, I predict that the predictions of the prosody theory will not be inconsistent with the results of the four examinations.

The predictions of the homophone-avoidance theory and the prosody theory regarding the four examinations are shown below.

First, for the degree of homophony, the homophone-avoidance theory predicts that there is a positive correlation between homophony and elastic words. The prosody theory does not have explicit predictions since degree of homophony is irrelevant.

Second, for the effect of word category, the homophone-avoidance theory does not have explicit predictions. The prosody theory predicts that content words have higher percentage of elastic words than function words, since content words are more likely to be stressed than function words.

Third, for Middle Chinese, the homophone-avoidance theory predicts that Middle Chinese has fewer elastic words than Modern Chinese since the degree of homophony is higher in Modern Chinese, giving a smaller syllable invertory. The prosody theory does not have explicit predictions.

Fourth, for the comparison between Cantonese and Mandarin, the homophone-avoidance theory predicts that Cantonese has fewer disyllabic words than Mandarin. The reason is that Cantonese has more distinct syllables than Mandarin. Therefore, there are fewer homophones and thus less strong need for disyllabic words. Again, the prosody theory does not have explicit predictions since homophony and the size of syllable inventory are not relevant.

Chapter 3

Annotations

3.1   Introduction

This chapter introduces the method of annotating elastic words in Chinese. The goal is to provide a clear definition of elastic words, and introduce an explicit procedure to obtain word length elasticity information. The definition of elastic words is provided in section 3.2. In section 3.3, I discuss the lexical data where I will be gathering information on word length elasticity, focusing on Modern Standard Chinese. In section 3.4, I discuss two types of anonation: the annotation based on entry and the annotation based on senses. I argue that the latter one is appropriate for annotating word length elasticity. The procedure of annotating elastic words is introduced in section 3.5. A brief summary of the annotation of the Modern Standard Chinese data is provided in section 3.6.

3.2   Criteria for Elastic words

First, let us consider the definition for elastic words. Elastic word pairs, such as 煤 *mei* and 煤炭 *mei-tan* for 'coal', have often been cited in the literature, and some linguists believe that most Chinese words have the property (e.g. Pan 1997). However, there is no dictionary that lists such pairs. In my annotation, I follow an explicit definition of elastic words proposed by Huang and Duanmu (2013). The criteria are stated (1).

(1)   Defining elastic words in Chinese:

An elastic word has two length forms A and B where
a.   A is monosyllabic and B disyllabic
b.   A and B share the same base (morpheme)
c.   A and B have the same meaning
d.   A and B are interchangeable in some contexts

Strictly speaking, (1a) is not necessary, but it represents a property of the majority of elastic words in Chinese. There are also elastic words where one is monosyllabic and the other is trisyllabic or more, but that is rather rare, such as 加 *jia* and 加拿大 *jia-na-da* 'Canada'. Given (1a), (1b) means that B contains A, such as 煤炭 *mei-tan* and 煤 *mei*. (1c) means that the extra part of B adds no new meaning to A and is therefore semantically redundant. (1d) is expected if (1c) is the case.

Of the four conditions in the definition, (1a) and (1b) are easy to verify, so is (1d). Some examples are shown in (2).

(2)   Interchangability of elastic words in 'coal store'

	Character	Word	Literal
a.	煤炭 商店	mei-tan shang-dian	coal-charcoal business-store
b.	煤炭 店	mei-tan dian	coal-charcoal store
c.	煤　　店	mei　　dian	coal business-store

As shown above, both (2a) and (2b) are allowed, which shows that 商店 *shang-dian* and 店 *dian* are interchangeable for the meaning 'store'. Similarly, (2b) and (2c) are synonymous, which again indicates that 煤炭 *mei-tan* and 煤 *mei* are interchangeable.

Let us now consider the criterion in (1c). It can often be a subtle judgment whether two forms have exactly the same meaning. However, we can rely on an objective criterion, which are mutual annotations in dictionary entries. For example, if A is defined as B in a dictionary and B defined as A, then I consider A and B to have the same meaning. An example is shown in (3). The definitions are found in Modern Chinese Dictionary (Xiandai Hanyu Cidian 2005, hereafter MCD), where … is a description of 'coal' which we omit.

(3)   Mutual dictionary annotations of 煤 'coal' and 煤炭 'coal-charcoal'

Entry	Pinyin	Definition (MCD)
煤	mei	noun,…also called 煤炭 mei-tan 'coal-charcoal'
煤炭	mei-tan	noun, 煤 mei 'coal'

Our definition of elastic words is both explicit and implementable. Its application is illustrated in (4). For ease of reading, Pinyin transcriptions are omitted.

(4)   Word pairs that do or do not form elastic words

Short	Long	Length alternation	Same base	Same meaning	Elastic
好 'good'	优 'good'	No	No	Yes	No
乐 'glad'	高兴 'high-mood (glad)'	Yes	No	Yes	No
包 'bag'	书包 'book-bag'	Yes	Yes	No	No
书 'book'	书包 'book-bag'	Yes	Yes	No	No
炭 'charcoal'	煤炭 'coal-charcoal (coal)'	Yes	Yes	No	No
老 'old'	老虎 'old-tiger (tiger)'	Yes	Yes	No	No
大 'big'	大葱 'green onion'	Yes	Yes	No	No
空 'empty'	天空 'sky-empty (sky)'	Yes	Yes	No	No
煤 'coal'	煤炭 'coal-charcoal (coal)'	Yes	Yes	Yes	Yes
虎 'tiger'	老虎 'old-tiger (tiger)'	Yes	Yes	Yes	Yes
葱 'green onion'	大葱 'green onion'	Yes	Yes	Yes	Yes
天 'sky'	天空 'sky-empty (sky)'	Yes	Yes	Yes	Yes

According to our definition, 好 and 优 are not elastic pairs because they are both short and do not satisfy the requirement of length alternations. 乐 and 高兴 are synonymous and one is short and the other is long. However, they do not share the same morpheme. Thus they are not elastic word pairs, either. 包 'bag' and 书包 'book-bag' are not elastic words since they have different meanings, neither are 书 'book' and 书包 'book-bag'. 煤 and 煤炭 are variants of the elastic word 'coal' since they fulfill all the requirements above. But 炭 and 煤炭 are not since they differ in meaning, where 炭 'charcoal' means not 'coal'. Similarly, 虎 and 老虎 are variants of the word 'tiger' while 老 and 老虎 are not since 老 means 'old' not 'tiger'. 葱 and 大葱 are elastic words for 'green onion' while 大 and 大葱 are not since 大葱 'green onion' is not 大 'big'. 天 and

天空 are elastic words for 'sky', but not 空 and 天空 since 空 means 'empty' not 'sky'. As illustrated above, words like 煤 and 煤炭 are elastic words, but many are not since all the requirements need to be satisfied in order to be called 'elastic words'.

As pointed by Bill Baxter, there are two kinds of elastic words. One type are length pairs which share a morpheme, such as 煤 *mei* and 煤炭 *mei-tan*, 物 *wu* and 物体 *wu-ti*, which I call 'the related type'. The other type are length pairs which do not share a morpheme, but satisfy other requirements, such as 物 *wu* and 东西 *dong-xi* , which I refer as 'the unrelated type'. In the present study, I focus on the related type. They are more common that the unrelated type since they are so easy to make. For example, in 松 *song* 'pine', a disyllabic length form can be made by adding a morpheme for the object type 树 *shu* 'tree', which gives 松树 *song-shu* 'pine tree (pine)'.

3.3   Data of interest

To examine elastic words, I shall focus on lexical data, which contain information on Pinyin transcription, word category, and word length elasticity. In addition, I focus on Standard Chinese, for which there is a large amount of high-quality data. For example, Modern Chinese Dictionary (2005) has over 65,000 entries. In contrast, a typical dialectal dictionary normally has only 8,000 entries (Li 2002). In this study, I conduct a complete examination of all monomorphemic units in MCD. The information of interest is shown in (5).

(5)   Information of interest for elasticity

    a. The word length type
       i.   A monosyllabic morpheme only has a monosyllabic form (i.e. 1-only)
      ii.   A monosyllabic morpheme only has a polysyllabic form (i.e. poly-only)
     iii.   A monosyllabic morpheme is elastic and has a disyllabic form.
    b. Source of word length property
       i.   Word length information is from the definition in MCD
      ii.   Word length information is added by three annotators.

Such information is not always readily available in MCD and requires much manual annotation. Let us consider some details.

First, let us begin with the data, from which these information will be gathered. MCD contains a total of 65,381 entries. Their basic information is summarized in Table 3.1 and Table 3.2.

Regular	64,687
Rare graph	626
"Archaic"	68
Total	65,381

Table 3.1: Entry types and counts in MCD

Length	Count	%	Senses
1	10,244	16%	2.1
2	42,163	65%	1.2
3	5,977	9%	1.1
4	5,761	9%	1
5+	542	1%	1
All	64,687	100%	1.3

Table 3.2: Distribution of regular entries by length (in syllables), along with the average number of senses for each length.

The type "rare graph" refers to those not available in my word processor; most of them are found in written or dialectal vocabulary. The type "archaic" refers to historical forms that have been replaced by modern ones. These two types do not include many members and are excluded in the discussion below. Regular entries can be divided into several cases, depending on their length and content. This is shown in Table 3.3, where I use "simple word" to refer to a monomorphemic unit.

Length	Content	Example (tones omitted)
1	Simple word	煤 mei 'coal'
1	Pointer	咖 ka see 咖啡 kafei 'coffee'
1	Pointer	啡 fei see 咖啡 kafei 'coffee'
2+	Compound	草帽 cao-mao 'straw-hat'
2+	Pseudo-comp.	煤炭 mei-tan 'coal- charcoal'
2+	Idiom; set phrase	牛头马面 niu-tou ma-mian 'cattle-head horse-face (ugly looking thugs)'
2+	Simple word	咖啡 ka-fei 'coffee'
2+	Simple word	儒艮 ru-gen 'dugong'

Table 3.3: Types of regular entries according to length and content, where a "simple word" is a monomorphemic word.

Most monosyllabic entries are simple words. A monosyllabic entry can also be a pointer, which is not a word by itself but points to a polysyllabic simple word, of which the pointer is a part. For example, both parts of 咖啡 *ka-fei* 'coffee' point to the disyllabic entry, because neither part is a word by itself. Most polysyllabic entries are compounds, such as 草帽 *cao-mao* 'straw-hat' or 有名 *you-ming* 'have-name (famous)'. Some polysyllabic entries look like compounds but are in fact long forms of monosyllabic words, which I can call pseudo-compounds. For example, 煤炭 *mei-tan* 'coal-charcoal' is the long form of 煤 *mei* 'coal' and 学习 *xue-xi* 'study-practice' is the long form of 学 *xue* 'study'. Such long forms are already covered when I annotate the length of the short forms. Some polysyllabic entries are idioms or set phrases. A polysyllabic entry can also be a simple word, pointed to by a monosyllabic entry, such as 'coffee'. Finally, some polysyllabic entries are simple words and not pointed to by a monosyllabic one, because all of its parts are independent words. For example, the first part of 'dugong' 儒 *ru* is the word for 'Confucianism' and the second part 艮 *gen* is a surname, and neither part points to 'dugong'.

I shall focus on simple words, because compounds, pseudo-compounds, and idioms are made of simple words. Once I know the length properties of simple words, I can understand those of compounds. As seen above, simple words occur in three places: (a) monosyllabic entries, (b) polysyllabic entries pointed to by a monosyllabic entry, and

(c) polysyllabic entries not pointed to by a monosyllabic entry. Therefore, I adopt the procedure of annotation in (6).

(6)   Procedure of annotation
         a. Annotate all monosyllabic entries.
         b. Annotate all polysyllabic entries pointed to by a monosyllabic entry.
         c. Examine polysyllabic entries for other simple words not yet covered.

For step (6c), I sample 1,000 randomly selected polysyllabic entries and obtain the result in Table 3.4.

Type	Count
Same as	9
Complex	870
Repeat	113
Simple word	8
All	1,000

Table 3.4: Types of polysyllabic entries in 1,000 randomly selected samples. See text for explanations of the types.

The type "same as" refers to an orthographic alternative to a recommended standard. The type "complex" refers to a compound, a set phrase, or an idiom. The type "repeat" refers to a simple word already covered, i.e. it is either pointed to by a monosyllabic entry or it is the long form of a monosyllabic word. Finally, out of the 1,000 samples, there are eight simple words not yet covered. The eight simple words are shown in Table 3.5, none of which belongs to a set that has many members. For example, while MCD includes about 2,000 surnames, most of them are monosyllabic and less than 10% are disyllabic.

	In sample	In all	Example (tones omitted)
Onomatopoeia	3	163	烘烘 *honghong* (sound of flame)
Name (noun)	2	109	赫连 *Helian* (surname)
Loan (noun)	3	163	儒艮 *rugen* 'dugong'
All	8	435	

Table 3.5: Polysyllabic simple words not covered or pointed to by a monosyllabic entry. Their numbers in all polysyllabic entries are estimated from 1,000 samples.

The estimated entries in Table 3.5, together with entries indicated in (2a) and (2b) are the source of data that I will examine in detail. However, these data are based on entries. To get the information on elasticity, we need sense-based annotation, which I discuss in section 3.4.

3.4   Entries and senses

To obtain elasticity, I need to distinguish three kinds of items: orthographic shapes (graphs), entries, and senses. A graph can have one or more entries depending on meaning or pronunciation. Entries differ from each other in meaning (such as financial *bank* vs. river *bank* in English) or in etymological origin (such as *petrol* vs. *gas*). Each entry in turn is divided into senses, which differ in shades of meaning or in POS categories. A graph from MCD is shown in (7), where the digit after the spelling of an entry indicates tone, angle brackets indicate POS, and […] indicates sample usage, which I omit. I also ignore the literal translation of the extra syllable of the long form, since the meaning is irrelevant.

(7)   Entries and senses for the graph 供 in MCD

Entry 1: 供 gong1 (basic meaning: 'supply')
a. <verb> 供给 gong-ji; 供应 gong-ying 'supply': […]
b. <verb> 提供 ti-gong 'provide (conditions for use)': […]
c. <noun> surname

Entry 2: 供 gong4 (basic meaning: 'offer')
a. <verb> 供奉 gong-feng 'offer (to the sacred or deceased)': […]
b. <noun> 供品 gong-pin 'offering on display (to the sacred or deceased)': […]

Entry 3: 供 gong4 (basic meaning: 'confess')
a. <verb> 'confess (by the accused)': […]
b. <noun> 口供 kou-gong; 供词 gong-ci 'confession': […]

The graph has three entries and two pronunciations, indicated by Pinyin spelling and tone. The pronunciation of the first entry is *gong1*, which has tone 1 and three senses. The first sense has two disyllabic forms, both of which satisfy the criteria for elastic length. The second sense has one disyllabic form. The third sense is a surname and has no disyllabic form. The pronunciation of the second entry is *gong4*, which has tone 4 and two senses, each having a disyllabic form. The pronunciation of the third entry is also *gong4*, which has two senses. The first sense is not listed with a disyllabic form, while the second sense is listed with two disyllabic forms.

If we annotate elasticity based on entries, it will be hard to determine if the third entry of *gong4* is elastic or not since one of its senses is elastic but the other is not. The uncertainty of the annotation also exists when senses of an entry differ in POS.

Let us consider another graph 学, which has one entry xue2 (with tone 2) and six senses, shown in (8).

(8)   Senses of the entry 学 xue2

a. <verb> 学习 *xuexi* 'study': […]
b. <verb> 'imitate': […]
c. 学问 *xuewen* 'knowledge': […]
d. 学科 *xueke* 'discipline': […]
e. 学校 *xuexiao* 'school': […]
f. <noun> surname

Four of the senses have a disyllabic form and two do not. In addition, three of the senses have POS annotation and three do not. Based on their meanings and the examples, it is easy to see that the three senses without POS annotations are all nouns. Senses can differ in POS and in elasticity. Therefore, to obtain elasticity information, we need to

annotate senses instead of entries.

Senses are the source of data that I will examine in the present study. The total number of monomorphemic entries and their senses are counted. This is shown in Table 3.6, where 'pointed' refers to polysyllabic simple words pointed to by a monosyllabic entry.

	Entries	Senses
Monosyllabic	10,244	20,533
Pointed	255	323
Polysyllabic	435	435
All	10,934	21,291

Table 3.6: Entries and senses of simple words in MCD. 'Monosyllabic' and 'pointed' entries and senses are all individually annotated. 'Polysyllabic' entries and senses are based on sampling.

In addition, as shown above POS information is also useful in distinguishing senses and might provide extra information on the relation between word category and elasticity. Hence, POS also need to be annotated.

3.5   Annotations

Let us now consider annotation. Because elasticity and POS are annotated based on senses, I must annotate senses, not entries. The contents of annotation are shown in (9).

(9)   Contents of annotation for each sense

    a. Word length property
    b. Source of word length property (original in MCD or added)
    c. POS (part-of-speech)
    d. Source of POS (original in MCD or added)
    e. Style

Senses can be divided in to the following cases, depending on its length and source of length. Examples are shown in (10) and the annotations are provided in (11).

(10)   Sample dictionary definitions

Entry: 松 song1 (basic meaning: 'pine')
a. \<noun\> 松树 song-shu 'pine tree': […]

Entry: 鲤 li3 (basic meaning: 'carp')
a. \<noun\> 鲤鱼 li-yu 'carp': […]

Entry: 供 gong4 (basic meaning: 'confess')
a. \<verb\> 'confess (by the accused)': […]
b. \<noun\> 口供 kou-gong; 供词 gong-ci 'confession': […]

Entry: 短 duan3 (basic meaning: 'short')
a. \<noun\> 'disadvantage': […]

Entry: 长 zhang3 (basic meaning: 'increase')
a. \<verb\> 'increase': […]

Entry: 海 hai3 (basic meaning: 'carp')
a. \<noun\> 'a part of ocean that is near the land': […]

Entry: 需 xu1 (basic meaning: 'confess')
a. \<verb\>需要 xu-yao 'need': […]
b. \<noun\> 'needs': […]

Entry: 水 shui3 (basic meaning: 'water')
a. \<noun\> 'water': […]

Entry: 笑 xiao4 (basic meaning: 'smile')
a. \<noun\> 'express happy facial expressions and make joyful sound': […]

Entry: 松 song1 (basic meaning: 'loose')
a. \<adj\> 'not firm': […]

(11)   Annotations of word length and the length source for (10)

Entry	Sense	Length	L-S	POS	Meaning
松 song	1	松树 song-shu	MCD	N	'pine tree'
鲤 li	1	鲤鱼 li-yu	MCD	N	'carp'
供 gong	1	供认 gong-ren	Added	V	'confess'
	2	口供 kou-gong	MCD	N	'confession'
短 duan	1	短处 duan-chu	Added	N	'disadvantage'
长 zhang	1	增长 zeng-zhang	Added	V	'increase'
海 hai	1	大海 da-hai	Added	N	'sea'
需 xu	1	需要 xu-yao	MCD	V	'to need'
	2	1	MCD	N	'needs'
水 shui	1	1	MCD	N	'water'
笑 xiao	1	1	MCD	V	'smile'
松 song	1	1	MCD	Adj	'loose'
咖 ka	1	see 咖啡 ka-fei	MCD	N	'coffee'
柠 ning	1	see 柠檬 ning-meng	MCD	N	'lemon'
儒艮 ru-gen	1	儒艮 ru-gen	MCD	N	'dugong'

The annotation of word length relies on two sources. First, if a monosyllabic morpheme in MCD is defined by a disyllabic one (or vice versa) in the dictionary, I consider them to be a length pair. For example, 松 is defined by 松树. Thus they form a elastic pair. When a sense has two (or more) disyllabic forms, I normally choose the first one. For instance, in the second sense of 供, there are two disyllabic forms and I choose the first one 口供. Since the source of length information is from the dictionary, I add 'MCD' in the 'Length-source' column.

Second, if no length pair is offered in MCD, I consult at least three native speakers to see if a length pair is available. In most cases, the native speakers agree on the solution. If a length pair is available, I add the disyllabic form that annotators agree with. For example, for the first sense of 供, there is a disyllabic form 供认 *gong-ren* 'confess', which I shall add. Since the length pair is not from the dictionary, the source of length pair is labeled as 'added'.

The majority of length annotation is from the dictionary. Annotators add a small portion. The source of length annotation is shown in Table 3.7, excluding 1,404 senses that are orthographic alternatives to other forms or pointers to other entries or senses.

	Length
Original (MCD)	16,133
Added	3,754
All senses	19,887

Table 3.7: Senses and sources of length annotation, excluding 1,404 senses that are orthographic alternative forms, or pointers to other entries or senses.

There are three length types. Besides the elastic type, the other two are mono-only and poly-only. If there is no length pair, I label it as '1' (i.e. mono-only). In other words, the morpheme only has a monosyllabic form. For example, there is only a monosyllabic form 水 for 'water' and so is 笑 for 'laugh'. If a monosyllabic morpheme points to a polysyllabic simple word, of which the pointer is a part, it belongs to the type of 'poly-only'. For example, 柠 is pointed by 柠檬 and I shall label it as 'poly-only'. If a polysyllabic simple word is not pointed by a monosyllabic morpheme, it is also 'poly-only' since the morpheme only occurs in a polysyllabic form. For example, in polysyllabic simple word 儒艮, 儒 *ru* is the word for 'Confucianism' and 艮 *gen* is a surname, and neither part points to 'dugong'. However, 儒艮 only has a polysyllabic form and therefore belongs to the type 'poly-only'. Three kinds of length types are summarized in Table 3.8.

Type	Entry	Length	Example
Mono-only	Mono.	Mono.	Sense 2 of 水 shui
Poly-only	Poly.	Poly.	Sense 1 of 儒艮 ru-gen
Elastic	Mono.	Poly.	Sense 1 of 松 song

Table 3.8: Three length categories, illustrated by examples from (11).

To summarize, 'Mono-only' are morphemes that only have a monosyllabic form, which is also referred as '1-only'. 'Poly-only' are those that only occur as polysyllabic form, which is not limited to disyllabic ones, though disyllable are most common. 'Elastic' refers to morphemes that can alternate between monosyllabic and disyllabic

forms, where the monosyllabic form is called 'Elastic1' and disyllabic forms is called 'Elastic2' in present study.

The annotation of word category also has two sources: original from MCD or added. Examples are shown in (12).

(12)   Senses of the entry 学 xue2

      a. \<verb\> 学习 *xue-xi* 'study': […]
      b. \<verb\> 'imitate': […]
      c. 学问 *xue-wen* 'knowledge': […]
      d. 学科 *xue-ke* 'discipline': […]
      e. 学校 *xue-xiao* 'school': […]
      f. \<noun\> surname

If the sense has POS annotation, provided in the dictionary (MCD here), I follow the dictionary and the source of POS is labeled as 'MCD'. For example, three senses of 学 have POS annotation where the first two are verbs and the last one is a noun. Their POS sources are all annotated as 'MCD'. If the sense does not have POS annotation in the dictionary, definitions and examples of the sense are examined in order to determine the POS. Since the POS annotation is not from the dictionary, the source of POS is annotated as 'added'. For instance, by examine the definition and examples, it is clear that the third to the fifth senses of 学 are all nouns and their POS source is labeled as 'added'.

Less than half of the POS annotation is added by the annotators. The count is shown in Table 3.9, excluding 1,404 senses that are orthographic alternatives to other forms or pointers to other entries or senses.

	POS
Original (MCD)	11,418
Added	8,469
All senses	19,887

Table 3.9: Senses and sources of POS annotation, excluding 1,404 senses that are orthographic alternative forms, or pointers to other entries or senses.

Some style labels are given in MCD. Examples are shown in (13).

(13)   Sample "style" labels

Label	Example
Written	藟 *lei* 'vine'
Loan	咖啡 *kafei* 'coffee'
Dialect	伲 *ni* 'I'
Surname	王 *Wang* 'Wang'
Same as	化 *hua* same as 花 'spend'
See	榈 *lü* see 棕榈 'palm'

Most labels are self-explanatory. The label "same as" means the item is an alternative to a recommended (orthographic) form. The label "see" is a pointer to another entry; it is used under the second syllable of a disyllabic simple word, which is listed under the first syllable.

In Table 3.10, I show the annotation of two sample entries, where 'L-S' refers to the source of 'Length' and 'P-S' refers to the source of 'POS'. Style is omitted.

Entry	Sense	Length	L-S	POS	P-S	Meaning
学 xue	1	学习 xuexi	MCD	V	MCD	'study'
	2	1	MCD	V	MCD	'imitate'
	3	学问 xuewen	MCD	N	added	'knowledge'
	4	学科 xueke	MCD	N	added	'discipline'
	5	学校 xuexiao	MCD	N	added	'school'
	6	1	MCD	N	MCD	surname
儒艮 rugen	1	儒艮 rugen	MCD	N	MCD	'dugong'

Table 3.10: Sample annotation of two entries, where "L-S" refers to the source of
        "Length". "1" in the "Length" column indicates that a given sense only
        has a monosyllabic form.

The annotation method introduced this chapter is employed in the following two chapters, where additional annotations are added when necessary. In particular, Chapter 3 discusses the relation between homophone density and elastic words, where the calculation of homophone density (HD) is introduced. Chapter 4 focuses on word category and elasticity, where HD and POS information are used.

3.6　Summary

In this section, I provide the definition of elastic words and the procedure to annotating elastic words. The raw results of the annotations are illustrated below Statistical analysis and discussions are provided in Chapter 5.

First, I show the distributions of length patterns by POS categories. The result is listed in Table 3.11.

POS	Count	POS %	Mono %	Poly %	Elastic %
Noun	9,559	48.1%	32.5%	8.9%	58.6%
Verb	5,904	29.7%	56.1%	1.8%	42.1%
Adj.	2,709	13.6%	53.3%	9.4%	37.2%
Adverb	429	2.2%	72.5%	0.2%	27.3%
Measure	411	2.1%	91.0%	0.5%	8.5%
Onom.	291	1.5%	18.6%	74.6%	6.9%
Mood	121	0.6%	96.7%	1.7%	1.7%
Pron	116	0.6%	90.5%	6.9%	2.6%
Prep.	103	0.5%	97.1%	0.0%	2.9%
Interj.	79	0.4%	97.5%	2.5%	0.0%
Conj.	69	0.3%	63.8%	0.0%	36.2%
Num.	64	0.3%	96.9%	0.0%	3.1%
Affix	32	0.2%	100.0%	0.0%	0.0%
All	19,887	100%	46.0%	7.2%	46.8%

Table 3.11:POS counts, POS percentages (POS %), and percentages of words that are monosyllabic only (Mono %), polysyllabic only (Poly %), and elastic in length (Elastic %), in all senses in MCD.

There are also special styles such as <written>, <dialect>, <ancient>, and <oral>. To reflect the property of elastic length in general prospective, proper names and special styles are excluded and the result is presented in Table 3.12.

POS	Count	POS %	Mono %	Poly %	Elastic %
Noun	4841	39.6%	29.5%	8.2%	62.3%
Verb	4463	36.5%	49.3%	1.1%	49.6%
Adj.	1779	14.6%	48.7%	4.8%	46.5%
Adverb	306	2.5%	66.0%	0.3%	33.7%
Measure	321	2.6%	95.0%	0.0%	5.0%
Onom.	96	0.8%	47.9%	31.3%	20.8%
Mood	79	0.6%	96.2%	1.3%	2.5%
Pron	67	0.5%	83.6%	11.9%	4.5%
Prep.	86	0.7%	96.5%	0.0%	3.5%
Interj.	63	0.5%	98.4%	1.6%	0.0%
Conj.	40	0.3%	52.5%	0.0%	47.5%
Num.	54	0.4%	96.3%	0.0%	3.7%
Affix	26	0.2%	100.0%	0.0%	0.0%
All	12221	100.0%	44.4%	4.7%	50.9%

Table 3.12:POS counts, POS percentages (POS %), and percentages of words that are monosyllabic only (Mono %), polysyllabic only (Poly %), and elastic in length (Elastic %), in all senses excluding special styles and proper names in MCD.

Chapter 4

Homophone density and elastic words[1]

4.1 Introduction

This chapter examines the relation between the degree of homophony and elastic word length with evidence from Modern Chinese. Recall that the homophone-avoidance theory proposes that the motivation of creating elastic words in Chinese is to avoid homophones. In particular, most morphemes in Chinese are monosyllabic while the syllable inventory is limited. As a result, there are many homophones, which would cause ambiguity especially among monosyllables. To avoid ambiguity, disyllabic forms are created. For instance, 煤 *mei2* means 'coal'. However, when used alone *mei2* could also refer to other morphemes such as 眉 *mei2* 'eyebrow', 媒 *mei2* 'media', etc. Therefore, to be distinguished from other homophones of *mei2*, the disyllabic form 煤炭 *mei2-tan4* is created as an alternative form of 煤 *mei2* 'coal'.

The homophone-avoidance theory is intuitively natural. It is well known that Chinese has many homophones (Jespersen 1930) and many morphemes or words have elastic length (Karlgren 1923; Mullie 1932; Guo 1938; Chao 1948; Sproat and Shih 1996; Pan 1997; Huang and Duanmu 2013). For example, 力 *li4* 'strength' has 38 homophones in nouns, many of which have disyllabic forms. A sample of homophones is shown in Table 4.1.

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[1] The preliminary version of this chapter has been published in the paper titled 'Homophone density and word length in Chinese' with San Duanmu, in *Capturing*

Morpheme	Disyllables	Gloss
力	力量 *li-liang*	'strength'
例	例子 *li-zi*	'example'
利	利益 *li-yi*	'interest'
历	日历 *ri-li*	'calendar'
吏	官吏 *guan-li*	'government official'
枥	1	'manger'
栗	栗子 *li-zi*	'chestnut'
沥	1	'drop'
痢	痢疾 *li-ji*	'dysentery'
荔	荔枝 *li-zhi*	'lychee'
蛎	牡蛎 *mu-li*	'oyster'
隶	奴隶 *nu-li*	'slave'

Table 4.1: A sample of homophones for 力 *li4* 'strength' and the disyllabic counterparts. The column of 'Morpheme' lists the characters of morphemes, all of which share the syllable *li* with tone 4. '1' in 'Disyllables' column indicates that a given sense only has a monosyllabic form.

Since the homophone-avoidance theory seems so natural, there appears to be little need for a proof. Some proponents of the homophone-avoidance theory (e.g. Karlgren 1918; Guo 1938; Lü 1963) offer little quantitative evidence; instead, they often rely on the reader's positive response to what seems to be a plausible idea. Other proponents have offered quantitative evidence from cross-linguistic data (T'sou1976, Ke 2006, Jin 2011). However, no quantitative evidence has been shown from language-internal data. If homophony is the motivation of creating elastic words in Chinese, there should be language-internal evidence. In particular, words with more homophones should have higher percentage of elastic words; words with few homophones should have lower percentage of elastic words.

In this chapter, I examine such evidence using quantitative data from Modern Chinese. I show that the homophone-avoidance theory makes wrong predictions in that the correlation between degree of homophony and elastic words does not exist. In addition, the prediction of the prosody theory, which does not rely on homophony, is consistent with our results.

4.2   Predictions

Let us begin with the predictions of the two theories. First, let us consider the homophone-avoidance theory. There are many studies based on cross-linguistics evidence. However, it is still unclear if homophony is related to elastic word length within one language. In particular, if words with many homophones differ from those with few homophones in terms of their elasticity.

Proponents of the homophone-avoidance theory did not make predictions on language-internal data, but the prediction can be easily borne out. According to the homophone-avoidance theory, words with more homophones have higher chance to be confused with each other. In order to reduce ambiguity, they are more likely to have disyllabic counterparts. On the other hand, words with few homophones have lower chance to cause ambiguity. Hence they are less likely to have disyllabic counterparts. Therefore, the homophone-avoidance theory would predict that words with more homophones have high percentage of disyllabic counterparts; words with few homophones have low percentage of disyllabic counterparts. In other words, there is a positive correlation between degree of homophony and elastic word length, stated in (1).

(1)   Prediction of the homophone-avoidance theory on homophony and elasticity:
        There is a positive correlation between degree of homophony and the percentage of disyllabic counterparts (i.e. words that have elastic length).

The prosody theory, on the other hand, does not make predictions according to homophony (Guo 1938, Lu and Duanmu 2002, Duanmu 2007a). Recall that the prosody theory proposes that the motivation of creating elastic words in Chinese is to fulfill the requirements of stress and Foot Binarity (Prince 1980). In particular, stressed positions require disyllabic forms due to the phonological requirement of Foot Binarity (Prince 1980), while monosyllables cannot occur in such positions unless two monosyllables form a binary foot. Since homophony is irrelevant, the prosody theory does not have predictions on degree of homophony and elastic words. But we can still check if it is compatable with our results.

The predictions of the homophone-avoidance theory and the compatability of the prosody theory will be examined. In next section, I introduce the method to examine the relation between degree of homophone and word elasticity.

4.3   Method

I shall focus on the lexicon, in particular monomorphemic nouns and verbs in MCD (for details about the method see Chapter 3). There are two reasons for investigating nouns and verbs. First, nouns and verbs form the two largest POS categories, nearly 90% of all word senses. We can understand the majority of the lexicon by looking at the two word categories. Second, homophones within POS category are more likely to cause ambiguity, which I will show in detail below.

The information of interest is the degree of homophony and information of elasticity, stated in (2).

(2)   Information of interest
      a.   The degree of homophony
      b.   Information on elasticity: 1-only, elastic, and poly-only

The degree of homophony or homophone density (henceforth HD) is defined in (3).

(3)   Degree of homophony (homophone density):
      Homophone density is the number of homophones a monosyllabic morpheme or word has within its POS category.

A homophone is a word that is identical to the target word including all its phonemes. It is different from a phonological neighbor (Yates, Locker, & Simpson, 2004; Grainger, Muneaux, Farioli, & Ziegler, 2005), which is a word that differs from the target word by one phoneme. Examples are shown in Table 4.2.

	Pinyin	Meanings	Homophones	Phonological neighbors
Target word	*mei2*	煤 'coal'		
Candidate 1	*pei2*	陪 'to accompany'		yes
Candidate 2	*mai2*	埋 'to bury'		yes
Candidate 3	*mei3*	美 'beautiful'		yes
Candidate 4	*mei2*	眉 'eyebrow'	yes	

Table 4.2: Examples of homophones and phonological neighbors

pei2 differs from *mei2* by one consonant, so *pei2* and *mei2* are not homophones but phonological neighbors. Similarly, *mai2* differs from *mei2* by one vowel and thus not homophones. *mei3* and *mei2* are identical in consonants and vowels but carry different tones, so they are not homophones, either. Finally, candidate 4 *mei2* has the same consonants, vowels and tones as the target word *mei2*. Therefore only candidate 4 and the target word are homophones.

Homophone density in this chapter is defined within one POS category. It is also reasonable to calculate it across POS categories, which I will return in Chapter 5. I adopt the calculation within POS because homophones within one POS category are more likely to cause ambiguity, whereas homophones across POS categories are less likely to (T'sou 1976; Ke 2006). Examples are shown in (4).

(4)   Ambiguity across and within POS categories
   a. John is going to _ a book from the store. (buy/bye)   [across: no anbiguity]
   b. I bought some _ from the store. (flower/flour)   [within: ambiguity]

In (4a), *buy* and *bye* are homophones, while *buy* is a verb and *bye* is an exclamation. Since only verbs are expected in the slot due to the syntactic requirements, *buy* and *bye* are less likely to confuse with each other. Hence the ambiguity is resolved by properties of word categories. However, when homophones belong to the same POS category, the ambiguity is hard to resolve without further contexts. For example, in (4b) *flower* and *flour* are both nouns, and can occur in the position of the slot as the object of *bought*. Therefore, the ambiguity between *flower* and *flour* will remain unless additional information such as the type of shop is provided.

In the present study, I count homophones based on the lexicon, namely, their occurrence in the dictionary. However, as pointed by Bill Baxter, the effect of frequency might play a role in homophone density. For instance, if a word is homophonous with six other words, but four of theses words are infrequent. The effect of homophony is not much different from having two homophones. So a better measure of homophone density would incorporate data on frequency, not just the number of homophonous syllables in the lexicon.

The frequency based homophone density would be ideal, but it is not easy to count accurately. Frequency depends on corpus. A word might be frequent in news but infrequent in causal speech. For example, 伊拉克 yi-la-ke 'Iraq' on news is a high frequency word, but it is not that frequent in causal speech. One good alternative is to use the comparison between all words and commom words of a POS. For example, as I will show in section 4.3, there are totally 8,706 nouns and 4,968 common nouns in MCD. Half of all nouns are excluded in common nouns, most of which are infrequent. Therefore, by examining common nouns, we cut off a long tail of infrequent words and keep only the frequent ones. For instance, in all nouns, *yi* with tone 4 has the highest number of homophones and there are 64 homophonous morphemes. However, in common nouns, the number of homophones for *yi* with tone 4 is reduced to 28, where 36 uncommom ones are excluded. Besides, our result is robust (to be shown in section 4.4 and 4.5). Therefore, the result is unlikely to be different if frequency is taken into account.

Three types of word length are distinguished: mono-only, elastic and poly-only, listed in Table 4.3 (see Chapter 3 for method of annotatiing word length). 'Mono-only' are morphemes that only have a monosyllabic form, which is also referred as '1-only'. 'Poly-only' are those that only occur as polysyllabic form. 'Elastic' refers to morphemes that can alternate between monosyllabic and disyllabic forms, where the monosyllabic form is called 'Elastic1' and disyllabic forms is called 'Elastic2' in present study.

Length type	Entry in MCD	Possible Length	Example
Mono-only (1-only)	Mono.	Mono.	水 shui 'water'
Poly-only	Poly.	Poly.	儒艮 rugen 'dugong'
Elastic	Mono.	Mono. (Elastic1)	学 xue 'study'
		Poly. (Elastic2)	学习 xue-xi 'study'

Table 4.3: Three word length categories

Poly-only mono-morphemes are excluded from the following calculation of homophone density. The reason is that homophones in polysyllabic words are rare and are less probable to cause ambiguity. To examine the relation between degree of homophony and elastic word length, I look at all morphemes with the same number of homophones (i.e. the same level of homophony), and count the percentage of elastic word in the group, following the procedure in (5).

(5)   Procedure

   a. Calculate homophone density for each morpheme
   b. Group morphemes by number of homophones (ex. all morphemes with no homophone, all morphemes with 1 homophone, 2 homophones…)
   c. Within each level of homophony, count the percentage of morphemes or words that have elastic length.

4.4   Results in nouns

In this section, I examine the relation between homophone density and elastic words length. I focus on monosyllabic nouns to see which of them have elastic length, and whether the presence of elastic length is correlated with homophone density.

There are 8,706 monosyllabic nouns, 65% of which have elastic length (SD =5.2%). The information on their homophone density and word length is given in Table 4.4 with examples in Table 4.5. Correlation statistics are shown in Table 4.6.

Homo	1-only	Elastic	All	Elastic%
1	75	92	167	55%
2	91	125	216	58%
3	101	199	300	66%
4	101	219	320	68%
5	139	226	365	62%
6	129	267	396	67%
7	147	252	399	63%
8	139	237	376	63%
9	141	264	405	65%
10	87	203	290	70%
11	115	248	363	68%
12	132	240	372	65%
13	133	270	403	67%
14	133	203	336	60%
15	105	225	330	68%
16	65	159	224	71%
17	98	174	272	64%
18	72	126	198	64%
19	117	225	342	66%
20	81	139	220	63%
21	54	93	147	63%
22	96	168	264	64%
23	49	89	138	64%
24	59	85	144	59%
25	37	63	100	63%
26	52	104	156	67%
27	77	166	243	68%
28	42	98	140	70%
29	8	21	29	72%
30	17	43	60	72%
31	22	40	62	65%
32	34	62	96	65%
33	11	22	33	67%
34	10	24	34	71%
35	20	50	70	71%

36	26	46	72	64%
37	24	50	74	68%
40	17	23	40	58%
42	15	27	42	64%
44	14	30	44	68%
47	35	59	94	63%
48	19	29	48	60%
49	16	33	49	67%
51	8	43	51	84%
56	23	33	56	59%
62	30	32	62	52%
64	19	45	64	70%
All	3,035	5,671	8,706	65%

Table 4.4: Homophone density (Homo) and word length of nouns in MCD, excluding nouns that are polysyllabic-only. Homophone density refers to the number of homophones a noun has among all nouns in Table 4.4, where 1 means no other homophone. Word length information includes the number of nouns that are monosyllabic-only (1-only), the number of nouns that have elastic length (Elastic), the sum of 1-only and Elastic (All), and the percentage of elastic nouns (Elastic %), for each level of homophone density.

Homo	1-only	Elastic
1	虾 xia 'shrimp'	癌(症) ai(zheng) 'cancer'
64	翳 yi 'shade made with feather'	艺(术) yi(shu) 'art'

Table 4.5: Examples with least and most homophones in nouns of all types.

Correlation:	0.089
Confidence interval (95%):	-0.066 0.122
Multiple R-squared:	0.008
F-statistic:	0.3628 on 1 and 45 degrees of freedom
P-value:	0.55

Table 4.6: Statistics on the data in Table 4.4, which show no correlation between homophone density and word length.

As shown in Table 4.6, the correlation value is small, the 95% confidence interval

for the correlation crosses zero, the R-squared value is very small (less than 25%), and the probability of the null hypothesis (i.e. there is no correlation between homophony and word length) is high ($p = 0.55$). Therefore, there is no significant correlation between homophone density and word length.

The results in Table 4.4 and 4.6 include nouns of all styles, many of which have special length properties. First, let us consider proper names. There are also 1876 proper names among nouns, either family names or given names. Proper names are special in that they are mostly monosyllabic except for polysyllabic proper names. Therefore, they are not elastic. However, when used, they can be combined with other monosyllables and form a disyllabic form. In this sense, proper names are also elastic. Some examples are shown in Table 3.7.

	Pinyin	Meaning
a.	Wang	'Wang (surname)'
b.	xiao Wang	'Little Wang'
c.	Wang xiong	'Wang brother (brother Wang)'

Table 4.7: Elasticity of proper names in Chinese.

As shown in Table 4.7, *Wang* is a monosyllabic surname, which is not elastic. However, additional syllables need to be added to address a person with last name *Wang*, such as *xiao Wang* and *Wang xiong*. Proper names are usually excluded in the dictionary, such as ZWGW (1959), CELEX (Baayen et al 1995) and Lancaster Corpus of Mandarin Chinese (Tony and Xiao 2004).

Another special type is chemical elements or chemical compounds. Except for few chemical elements that are familiar to Chinese (e.g. 金 *jin* 'gold', 银 *yin* 'silver'), most of chemical elements are translated from western chemistry terms in 18th and 19th century (e.g. 锂 *li* 'lithium', 碘 *dian* 'iodine'). The translation usually uses one Chinese character, thus one syllable, for each chemical element. Therefore, mostly chemical elements or chemical compounds are not elastic. Abbreviated administrative units (e.g. 沪 *hu* 'Shanghai', 蜀 *shu* 'Sichuan') are not elastic, either, since they are one-syllable abbreviation for polysyllabic administrative units.

Dialectal, written, and archaic vocabularies reflect the vocabulary specific to dialects, written style or historical usage. Examples are shown in Table 4.8.

Label	Example
Written	蘽 *lei* 'vine'
Dialect	囡 *nan* 'kid, daughter'
Archaic	璧 *bi* 'piece of jade with hole in it'

Table 4.8: Examples of dialectal, written, or archaic styles.

As shown in Table 4.8, 蘽 *lei* 'vine' is only used in written Chinese. 囡 *nan* 'kid, daughter' is used in dialects, especially Shanghainese and Wu dialect. 璧 *bi* 'piece of jade with hole in it' is a term occurred in ancient China.

To show the relation between homophone density and elasticity in modern standard Chinese, let us consider regular nouns, where I exclude personal names, chemical elements or chemical compounds, abbreviated administrative units, and dialectal, written, or archaic vocabulary. Among regular nouns, 71% of them have elastic length (SD = 7.9%). The result is shown in Table 4.9 with examples in Table 4.10. Correlation statistics are shown in Table 4.11.

Homo	1-only	Elastic	All	Elastic%
1	49	127	176	72%
2	79	197	276	71%
3	94	230	324	71%
4	90	242	332	73%
5	108	282	390	72%
6	105	261	366	71%
7	75	198	273	73%
8	101	267	368	73%
9	118	242	360	67%
10	87	233	320	73%
11	50	148	198	75%
12	78	102	180	57%
13	86	174	260	67%

14	53	129	182	71%
15	44	91	135	67%
16	36	60	96	63%
17	24	78	102	76%
18	23	67	90	74%
19	21	36	57	63%
20	24	56	80	70%
21	13	29	42	69%
22	35	75	110	68%
23	13	56	69	81%
24	9	39	48	81%
28	7	21	28	75%
30	2	28	30	93%
33	12	21	33	64%
43	22	21	43	49%
All	1,458	3,530	4,968	71%

Table 4.9: Homophone density (Homo) and word length of regular nouns in MCD. Homophone density refers to the number of homophones a noun has among the nouns in Table 4.9, where 1 means no other homophone. Word length information includes the number of nouns that are monosyllabic-only (1-only), the number of nouns that have elastic length (Elastic), the sum of 1-only and Elastic (All), and the percentage of elastic nouns (Elastic %), for each level of homophone density. Nouns of special styles are excluded, such as personal names, chemical elements or compounds, abbreviated administrative units, and dialectal, written, or archaic vocabulary.

Homo	1-only	Elastic
1	泵 beng 'pump'	尘埃 (chen)ai 'dust'
43	世 shi 'the whole life'	事(情) shi(qing) 'matter'

Table 4.10: Examples with least and most homophones in regular nouns.

Correlation:	-0.126
Confidence interval	-0.41 0.21
Multiple R-squared:	0.016
F-statistic:	0.4167 on 1 and 26 degrees of
P-value:	0.54

Table 4.11: Statistics on the data in Table 4.9, which show no correlation between homophone density and word length.

Again, the correlation between levels of homophony and elastic rate is small; confidence interval across zero and R-squared value is very small, too. Thus, the result shows that there is no correlation between homophone density and word length among regular nouns, either.

Despite of the difference in all nouns and common nouns, the results are consistent in that there is no correlation between the degree of homophony and elastic word length. It is worth noticing that regular nouns have significantly higher elastic rate than that of all nouns (t = -3.19, df = 41.1, p = 0.003). The reason is that dialectal, written, or archaic styles have much lower percentage of elastic words than regular nouns, shown in Table 4.12.

Style	Count	Noun%	Elastic%
Regular	4,968	57%	71%
Written	1034	12%	14%
Archaic	445	5%	18%
Dialectal	154	2%	16%

Table 4.12: Elasticity of words of dialectal, written, and archaic styles

As shown above, the percentage of elastic words among dialectal, written, and archaic styles are all below 20%, which is much lower than that of regular style (71%). The reason, I venture to guess based on samples, is that most of morphemes in written style and archaic style are from classical Chinese. Due to the short and concise written style of classical Chinese (Karlgren 1949), the disyllabic counterparts would not be

recorded historically even if they did exist. Since the disyllabic forms are unknown, these words are only used in monosyllabic forms in Modern Chinese.

4.5   Results in verbs

In this section, I examine verbs. There are 5,800 verbs, and 43% of which have elastic length. The result is shown in Table 4.13 with examples in Table 4.14. Correlation statistics are shown in Table 4.15.

Homo	1-only	Elastic	All	Elastic%
1	101	74	175	42%
2	196	120	316	38%
3	211	149	360	41%
4	210	150	360	42%
5	311	209	520	40%
6	289	197	486	41%
7	256	199	455	44%
8	239	209	448	47%
9	235	179	414	43%
10	212	168	380	44%
11	155	131	286	46%
12	64	68	132	52%
13	87	56	143	39%
14	107	89	196	45%
15	74	46	120	38%
16	66	62	128	48%
17	42	43	85	51%
18	58	32	90	36%
19	62	52	114	46%
20	26	34	60	57%
21	10	11	21	52%
22	55	33	88	38%
23	17	6	23	26%
24	43	29	72	40%
25	29	21	50	42%
27	13	14	27	52%

28	21	7	28	25%
34	21	13	34	38%
35	18	17	35	49%
36	37	35	72	49%
37	22	15	37	41%
45	27	18	45	40%
All	3314	2486	5800	43%

Table 4.13: Homophone density (Homo) and word length of verbs in MCD, excluding verbs that are polysyllabic-only. Homophone density refers to the number of homophones a verb has among all verbs in Table 4.13, where 1 means no other homophone. Word length information includes the number of verbs that are monosyllabic-only (1-only), the number of verbs that have elastic length (Elastic), the sum of 1-only and Elastic (All), and the percentage of elastic verbs (Elastic %), for each level of homophone density.

Homo	1-only	Elastic
1	端 duan 'to hold sth. level with both hands'	创(造)chuang(zao) 'to create'
45	是 shi 'to be'	(解)释 (jie)shi 'to explain'

Table 4.14: Examples with least and most homophones in verbs of all types

Correlation:	-0.043
Confidence interval (95%):	-0.386 0.309
Multiple R-squared:	0.0018
F-statistic:	0.057 on 1 and 30 degrees of freedom
P-value:	0.8134

Table 4.15: Statistics on the data in Table (13), which show no correlation between homophone density and word length.

Again, the correlation value is small and not significant. The results show that there is no significant correlation between homophone density and word length among verbs.

Parallel to nouns of regular styles, I also examined regular verbs, where I excluded verbs of dialectal, written, and archaic styles. The result is shown in Table 4.16 with correlation statistics in Table 4.17.

Homo	1-only	Elastic	All	Elastic%
1	84	99	183	54%
2	154	136	290	47%
3	213	219	432	51%
4	215	205	420	49%
5	258	252	510	49%
6	208	194	402	48%
7	132	155	287	54%
8	152	120	272	44%
9	133	164	297	55%
10	89	111	200	56%
11	87	89	176	51%
12	78	66	144	46%
13	58	85	143	59%
14	50	62	112	55%
15	32	43	75	57%
16	17	15	32	47%
17	30	21	51	41%
18	30	24	54	44%
19	35	22	57	39%
20	17	23	40	58%
21	39	45	84	54%
22	31	13	44	30%
23	29	17	46	37%
29	13	16	29	55%
33	16	17	33	52%
All	2200	2213	4413	49%

Table 4.16: Homophone density (Homo) and word length of verbs in MCD, excluding verbs that are polysyllabic-only. Verbs of special styles are excluded, such as dialectal, written, or archaic vocabulary. Homophone density refers to the number of homophones a verb has among all verbs in Table 4.16, where 1 means no other homophone. Word length information includes the number of verbs that are monosyllabic-only (1-only), the number of verbs that have elastic length (Elastic), the sum of 1-only and Elastic (All), and the percentage of elastic verbs (Elastic %), for each level of homophone density.

Correlation:	-0.175
Confidence interval (95%):	-0.534 0.236
Multiple R-squared:	0.0308
F-statistic:	0.7314 on 1 and 23 degrees of freedom
P-value:	0.4013

Table 4.17: Statistics on the data in Table 4.16, which show no correlation between homophone density and word length.

Similar to nouns, there is no correlation between the degree of homophony and elastic word length in verbs, which is true in all verbs as well as common verbs. The percentage of elastic words is higher in regular style than that in all styles (t = 3.49, df = 53.1, p <0.001). Similar to nouns, the low percentage of elastic words in all verbs results from the low percentage of elastic words in written, archaic and dialectal styles.

4.6   Discussion and summary

This chapter I examine the relation between the degree of homophony and elastic word length in MCD, focusing on nouns and verbs. I show that homophony and elasticity are not correlated in either nouns or verbs, which holds for all nouns, common nouns, all verbs and common verbs.

Recall that the homophone-avoidance theory predicts a positive correlation between the degree of homophony and elastic word length, while the prosody theory does not make predictions on homophony. The result in this chapter is against the prediction of the homophone-avoidance theory since there is no correlation between homophony and elasticity. For the prosody theory, since it is not related to the degree of homophone, our result is compatible with the prosody theory.

The relation between homophony and elasticity is the key claim of the homophone-avoidance theory, which used to lack of proof from language-internal evidence. In this chapter, such evidence is provided and the result does not support the prediction, which calls for a reconsideration of homophone-avoidance as the explanation for creating of elastic words in Chinese.

In addition, this chapter also reveals a difference in the percentage of elastic words between POS categories. In particular, nouns have higher percentage of elastic

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words than verbs. It is interesting to ask (i) if such difference also exists in other POS categories, (ii) what factors contribute to the difference and (iii) whether the homophone-avoidance theory and the prosody theory can predict such difference. To answer these questions, all the POS categories in MCD are examined and the results are discussed in the following chapter.

Chapter 5

Word categories and elastic words

5.1   Introduction

This chapter investigates the relation between word categories and the percentage of elastic words in MCD. It is well known that word categories indicate the syntactic characteristics of words. It would be interesting to ask if word categories are also cues to the form of words. In particular, if word categories influence the elasticity of a word. In this chapter, I examine such a relation.

As shown in the previous chapter, the percentages of elastic words differ between nouns and verbs in MCD. Since only two POS categories are examined, it remains unknown if such a difference in elasticity also exists among other POS categories, and more importantly, if there are systematic patterns between POS categories and the percentage of elastic words. To answer these questions, an examination of all POS categories is needed, yet such studies are still lacking.

The variations of elasticity between POS categories also provide a perspective to examine theories on the motivation of creating elastic words. In particular, the prosody theory, predicts that word categories that are more likely to be stressed have high percentage of elastic words, while word categories that are less likely to be stressed have low percentage of elastic words. On the other hand, the homophone-avoidance theory does not make predictions on word category and elasticity since word category is irrelevant.

In this chapter, I examine such predictions on the relation between word categories and elastic words length in all POS categories in MCD. I show (i) the elasticity of word length differ between word categories, (ii) there is a correlation between the size of POS categories and elastic words. The result is not against the homophone-avoidance

theory. On the other hand, the prosody theory makes the correct predictions. Content words, which are more likely to carry stress, have high percentages of elastic words; functions words, which are less likely to carry stress, have low percentages of elastic words. The result shows that word categories are cues to elastic word length while the degree of homophony is not.

5.2   Predictions

Let's start with the prediction of the prosody theory. Recall that the prosody theory proposes that stressed positions require disyllabic forms, while monosyllables cannot occur in such positions unless two monosyllables form a binary foot. Thus with regard to POS categories, the prosody theory would predict that POS categories that are more likely to be stressed have high percentage of elastic words; POS categories that are less likely to be stressed have low percentage of elastic words. More specifically speaking, the prosody theory would predict that content words have higher percentage of elastic words than function words, as it is well known that content words are more like to be stressed than function words. The prediction is stated in (1).

(1)   Prediction of the prosody theory
       Content words are more likely to be stressed and have high percentage of elastic words; function words are less likely to be stressed and have low percentage of elastic words.

The homophone-avoidance theory does not make predictions on POS and elasticity, since it is the degree of homophony that is relavant. However, let us consider what the homophone-avoidance theory might predict.

First, consider two measures of homophone density, which are relevant to the predictions. Two measures are defined in (2).

(2)   Two measures of homophone density

    a. Homophone density across POS categories: homophone counts are based on the lexicon, that is, words of all POS categories.
    b. Homophone density within POS categories: the number of homophones is counted within the same POS category.

Homophone density across POS categories is also referred as 'HD external' and homophone density within POS categories is referred as 'HD internal' in the present study. To illustrate, let's look at the homophone density calculation of 桌 *zhuo1* 'table', shown in Table 5.1.

HD measurements	Homo count		Homophones of 桌 *zhuo1* 'table'
HD external	All POS	11	桌 'table' noun 捉 'to grab' verb 拙 'clumsy' adj 桌 'a table of' measure …
HD internal	Noun	4	桌 'table' 桌 (proper name) 涿 'place name' 棁 'short support on the beam'
	Verb	2	捉 'to grab' 捉 'to arrest'
	Adj.	4	拙 'clumsy' 拙 'for humble usage' 倬 'outstanding' 焯 'obvious'
	Measure word	1	桌 'a table of'

Table 5.1: Homophone density of 桌 *zhuo1* 'table', calculated in two ways. 'POS external' calculation counts homophones across POS categories, while 'POS internal' calculation counts homophones within the same POS category.

In HD external measure, 捉 *zhuo1* 'to grab' (verb) and 拙 *zhuo1* 'clumsy'(adj) are counted as homophones of 桌 *zhuo1* 'table' (noun), though they differ in their POS categories. Including homophones in all POS categories, 桌 *zhuo1* 'table' has 11 homophones. In HD internal measurement, however, 桌 *zhuo1* 'table' (noun) and 涿

zhuo1 'place name'(noun) are homophones while 桌 *zhuo1* 'table' (noun) and 捉 *zhuo1* 'to grab' (verb) are not. With homophones counted in nouns, 桌 *zhuo1* 'table' (noun) only has 4 homophones.

The HD internal measure is more reasonable for the homophone-avoidance theory, as homophones within one POS category are more likely to cause ambiguity, whereas homophones across POS categories are less likely to (T'sou 1976; Ke 2006). Thus, I will use the HD internal measure when examing the homophone-avoidance theory.

Next, let's consider the possible predictions of the homophone-avoidance theory. When homophones are counted within one POS category, the number of homophones is influenced by the inventory size of the POS category. In particular, words in large POS categories could have more homophones since more words are available, which will cause more ambiguity. Therefore, words in large POS categories would have a high percentage of elastic words. In contrast, words in small POS categories would have fewer homophones, less ambiguity, and a low percentage of elastic words. The prediction is stated in (3).

(3)   Prediction of homophone theory on word categories
        Large POS categories have a high percentage of elastic words; small POS
        categories have a low percentage of elastic words.

To test these predictions, I examine all POS categories in MCD, of which the method is introduced in the next section.

5.3   Method

In this section, I examine the relation between POS categories and the percentage of elastic words.

I shall focus on the lexical data for all POS categories in MCD (for details on the method to obtain the lexical data, see Chapter 3). In this chapter, the information of interest is POS categories, homophone density and elasticity information, listed in (4).

(4)   Information of interest
      a. POS categories
      b. Homophone density
      c. Information on elasticity

Let us look at the relation between POS categories and the percentage of elastic words. First, I will examine the percentage of elastic words for each POS category. Next, when homophony is considered, I calculate the average number of homophones for each POS, which is a measure of the average homophones per syllable for each POS. The formula is given in (5).

(5)   Average homophone density of a POS
      The average of homophones for a POS is the sum of the numbers of homophones
      in a POS divided by the number of distinct syllables.

Finally, the role of POS category and homophone density is examined in generalized regression models, through model comparisons. Three models are compared, shown in (6).

(6)   Models for comparison

	Dependent variable	Independent variables
Model 1	Elasticity (binary)	POS categories
Model 2	Elasticity (binary)	Homophone density
Model 3	Elasticity (binary)	POS categories, Homophone density

All three models have 'Elasticity' as the dependent variable. It is a binary variable, since there are only two choices: elastic or not. Model 1 and Model 2 both have one independent variable, which are 'POS categories' and 'Homophone density', respectively. Model 3 has two independent variables, both 'POS categories' and 'Homophone density'. The comparison between Model 1 and Model 3 shows the effect of homophone density, while the comparison between Model 2 and Model 3 shows the effect of POS categories.

5.4   Results and discussions

In this section, I first show word length elasticity by POS, and then examine the relation of elasticity and homophone density by POS.

5.4.1   Elasticity by POS

Let us consider the distribution of POS categories and their length properties. MCD uses twelve POS categories, which are noun, verb, adjective, adverb, measure words, mood, pronoun, preposition, interjection, numeral, conjunction, and onomatopoeia. In addition, there is a category called 'affix'. The result is shown in Table 5.2.

POS	Count	POS %	Mono %	Poly %	Elastic %
Noun	9,559	48.1%	32.5%	8.9%	58.6%
Verb	5,904	29.7%	56.1%	1.8%	42.1%
Adj.	2,709	13.6%	53.3%	9.4%	37.2%
Adverb	429	2.2%	72.5%	0.2%	27.3%
Measure	411	2.1%	91.0%	0.5%	8.5%
Onom.	291	1.5%	18.6%	74.6%	6.9%
Mood	121	0.6%	96.7%	1.7%	1.7%
Pron	116	0.6%	90.5%	6.9%	2.6%
Prep.	103	0.5%	97.1%	0.0%	2.9%
Interj.	79	0.4%	97.5%	2.5%	0.0%
Conj.	69	0.3%	63.8%	0.0%	36.2%
Num.	64	0.3%	96.9%	0.0%	3.1%
Affix	32	0.2%	100.0%	0.0%	0.0%
All	19,887	100%	46.0%	7.2%	46.8%

Table 5.2: POS counts, POS percentages (POS %), and percentages of words that are monosyllabic only (Mono %), polysyllabic only (Poly %), and elastic in length (Elastic %), in all senses in MCD.

It can be seen that, nearly half of the words in Chinese lexicon have elastic word length, which is lower than previous estimations (Huang and Duanmu 2013). Yet it is rather high comparing to English, which has few elastic words. In addition, the percentage of elastic words varies between word categories. The difference in elasticity exists not only between nouns and verbs (as shown in Chapter 3), but also exists among

other POS categories. For example, adverbs have higher percentage of elastic words than adjectives, which is also higher than that of prepositions.

In addition, the distributions of the percentages of elastic words fall into two groups. In particular, content words[2] (i.e. nouns, verbs, adjectives and adverbs) have much higher percentage of elastic words than function words (i.e. measure words, mood, pronouns, prepositions, interjections and numbers). The result is predicted by the prosody theory since content words are more likely to be stressed and therefore have high percentage of elastic words; function words are less likely to be stressed and have low percentage of elastic words.

Now let us look at some details. First, onomatopoeia and affix are not POS categories. These two types do not include many members and are excluded in the discussion below.

Next, within content words, the percentages of elastic words also differ between POS categories, where nouns rank higher than verbs, verbs rank higher than adjectives and adverbs are the lowest. The ranking can be predicted by the prosody theory. I skip adverbs, because not many. Adjectives are similar to verbs in the percentage of elastic word, so I will focus on nouns and verbs.

Nouns have higher percentage of elastic words than verbs. There are two reasons. First, nouns are more likely to be in stressed positions than verbs since nouns carry more new information. Following Information Theory (Shannon 1948), the load of information is determined by its predictability, stated in (7).

(7)   Information load
        The more predictable a form is, the less information it carries.

        Consider VO phrase, such as *study linguistics* and *study applied linguistics*, shown in (8).

---

[2] There are also different categorizations of content words and function words in Chinese. For example, Guo (1999, 2002) only consider prepositions, conjunctions and mood as function words. The rest POS categories are all content words except for interjections, which are neither content words nor function words.

(8)   Study   linguistics/applied linguistics

                                   Verb   Object

              Syntactic unit Words   Phrases

              Choices   limited   unlimited

              Category   Verb   Nouns, Noun phrases…

              Information   low   high

In the verb position, the syntactic units are words while in the object position the units are phrases. Since phrases are composed by words, there are more phrases than words. Therefore, the object position has more choices and carries more information.

According to the Information-Stress Principle (Duanmu 2007a, b), the words or phrases that carries more information should be stressed, stated in (9).

(9)   The Information-Stress Principle (Duanmu 2007a, b)

        A word or phrase that carries more information than its neighbour(s) should be

        stressed.

Nouns often occur in positions are are stressed such the object positions in VO phrase, the subject of a sentence, etc. Therefore nouns are often stressed and require a disyllabic form.

In verbs, intransitive verbs are usually stressed while transitive verbs get less stress since the new information is on the object, which can influence syntax structure (Zhou 2007). Sometimes transitive verbs also get stressed when objects are omitted. For example, in (10) when the object 'movie' is omitted, the verb 'watch' is stressed. Therefore, verbs are also often stressed, though not as likely as nouns (Ladd 1980: 90-2).

(10)   Stress of transitive verb when objects are omitted

Question	kan bu kan dianying watch not watch movie 'Do you want to watch a movie or not?'
Answer	kan watch 'Watch (a movie)'

Second, there are more nouns than verbs. As shown in Table 3.11, in modern standard Chinese, there are 9,559 nouns and 5,904 verbs. Therefore, the probability of each noun is lower and each noun has greater information load than verbs (Shannon 1948).

The more information a word has, the more stress and the more disyllabic words are needed. Hence the percentage of elastic words is higher in nouns than that in verbs.

It is much clear if we look at the percentages of nouns and verbs in stressd position in a text. For example, in the Mandarin version of Aesop's Fables 'The north wind and the sun', there are 23 nouns and 17 verbs. I determine stress according to *The Sound Patterns of English* (Chomsky and Halle 1968) where compound stress is on the left while phrasal stress is on the right. A sample annotation of stress is shown in (11).

(11)   A sample annotation of stress

	Category	Type	Stressed
The North <u>Wind</u>	Noun	Determiner Phrase	yes
the <u>Sun</u>	Noun	Determiner Phrase	yes
were <u>disputing</u> (which)	Verb	Verb phrase	yes
a <u>traveler</u>	Noun	Determiner Phrase	yes
<u>take</u> his cloak off	Verb	Verb phrase	no
take his <u>cloak</u> off	Noun	Verb phrase	yes

The North <u>Wind</u> is a determiner phrase; therefore the stress goes to the rightmost element. Thus, the noun *Wind* gets stressed. Similarly, *were <u>disputing</u>* is a verb phrase,

the stress is assigned to the right, which is the verb *disputing*. In *take his <u>cloak</u> off,* the stress is again on the right. Thus the object *his <u>cloak</u>* is stressed intead of the verb. More specifically, in the determiner phrase the stress is on the right, which is the noun *cloak.*

All nouns are in prosodic strong positions and get the stress. In contrast, only 7 verbs are in stressed positions while the other 10 verbs are not. Again, the result shows that nouns are more likely to be in stressed positions than verbs.

Finally, let us examine functions words. The percentages of elastic words in function words are less than 10% except for conjunctions. Conjunctions have high percentage of elastic words, which is similar to content words. However, a close examination shows that many conjunctions act like adverbs. For example, some of the elastic conjunctions such as 因(为) *yin-(wei)* 'because', 虽(然) *sui-(ran)* 'although', 但(是) *dan-(shi)* 'but' are adverb-like, which are different from typical conjunctions such as 和 *he* 'and'. In measure words, the percentage of elastic words should be lower, as some of the elastic pairs are foreign translations, such as 卡(路里) *ka (lu-li)* 'calorie', which should be excluded. As expected by the prosody theory, pronouns have a low percentage of elastic words since they seldom get stress. The reason is that no new information is provided, where the information is either given in the context or known by speakers in the conversation.

There are also special styles such as <written>, <dialect>, <ancient>, and <oral>, where the elastic rate is lower than other styles. To reflect the property of elastic length in general prospective, proper names and special styles are excluded and the result is presented in Table 5.3.

POS	Count	POS %	Mono %	Poly %	Elastic %
Noun	4841	39.6%	29.5%	8.2%	62.3%
Verb	4463	36.5%	49.3%	1.1%	49.6%
Adj.	1779	14.6%	48.7%	4.8%	46.5%
Adverb	306	2.5%	66.0%	0.3%	33.7%
Measure	321	2.6%	95.0%	0.0%	5.0%
Onom.	96	0.8%	47.9%	31.3%	20.8%
Mood	79	0.6%	96.2%	1.3%	2.5%
Pron	67	0.5%	83.6%	11.9%	4.5%
Prep.	86	0.7%	96.5%	0.0%	3.5%
Interj.	63	0.5%	98.4%	1.6%	0.0%
Conj.	40	0.3%	52.5%	0.0%	47.5%
Num.	54	0.4%	96.3%	0.0%	3.7%
Affix	26	0.2%	100.0%	0.0%	0.0%
All	12221	100.0%	44.4%	4.7%	50.9%

Table 5.3: POS counts, POS percentages (POS %), and percentages of words that are monosyllabic only (Mono %), polysyllabic only (Poly %), and elastic in length (Elastic %), in all senses excluding special styles and proper names in MCD.

With regular styles, the percentages of elastic words are higher than that with all styles, as the word elasticity in special styles are lower. For example, in nouns words in written, archaic and dialectal styles have lower percentage of elastic words than those in regular styles, as shown in Table 5.4.

Style	Count	Noun%	Elastic%
Regular	4,968	57%	71%
Written	1034	12%	14%
Archaic	445	5%	18%
Dialectal	154	2%	16%

Table 5.4: Elasticity of words of dialectal, written, and archaic styles in nouns

Though the percentages of elastic words differ between common styles and that with all styles, the pattern between function words and content words is the same. That is, the percentages of elastic words vary between POS categories, where content words have higher percentage of elastic words than functions words, which is summaried in Table 5.5.

	POS	Elastic-All %	Elastic-Common %
Content	Noun	58.60%	62.30%
	Verb	42.10%	49.60%
	Adj.	37.20%	46.50%
	Adverb	27.30%	33.70%
Function	Measure	8.50%	5.00%
	Onom.	6.90%	20.80%
	Mood	1.70%	2.50%
	Pron	2.60%	4.50%
	Prep.	2.90%	3.50%
	Interj.	0.00%	0.00%
	Conj.	36.20%	47.50%
	Num.	3.10%	3.70%
	Affix	0.00%	0.00%

Table 5.5: POS and percentages of words that are elastic in length (Elastic %), in function and content words, in all styles and common styles in MCD.

In sum, the percentages of elastic words vary between POS categories where content words have high percentages of elastic words and function words have low percentages of elastic words. This results support the prosody theory. Since the homophone-avoidance theory does not have predictions, the theory is not against our results.

5.4.2 Elasticity and homphone density by POS

In this section, I examine the relation between homophone density and the percentage of elastic words by POS. When homophone density is calculated within a POS, it could differ due to the difference in the inventory sizes of POS categories. To account for it, I calculated homophone density for each POS. The result is shown in Table 5.6, where proper names and words that are poly-only are excluded.

POS	Count	Homophone density	Elastic %
Noun	6727	21	55%
Verb	5800	10	43%
Adj.	2453	5	41%
Adverb	428	3	27%
Measure	409	2	9%
Onom.	74	1	27%
Mood	119	4	2%
Pron	108	3	3%
Prep.	103	2	3%
Interj.	77	2	0%
Conj.	69	2	38%
Num.	64	3	3%
Affix	32	2	0%

Table 5.6: POS counts (Count), homophone density of POS (Homophone density) and percentages of words that are elastic in length (Elastic %), in all senses excluding words that are poly-only, and proper names in MCD.

Excluding onomatopoeia and affix, the result shows that there is significant correlation between homophone density and the percentage of elastic words by POS ($r=0.71$, $p<0.05$). This is illustrated in Figure 5.1, where affix, interjections, pronouns are overlapped with each other in the lower-left corner.
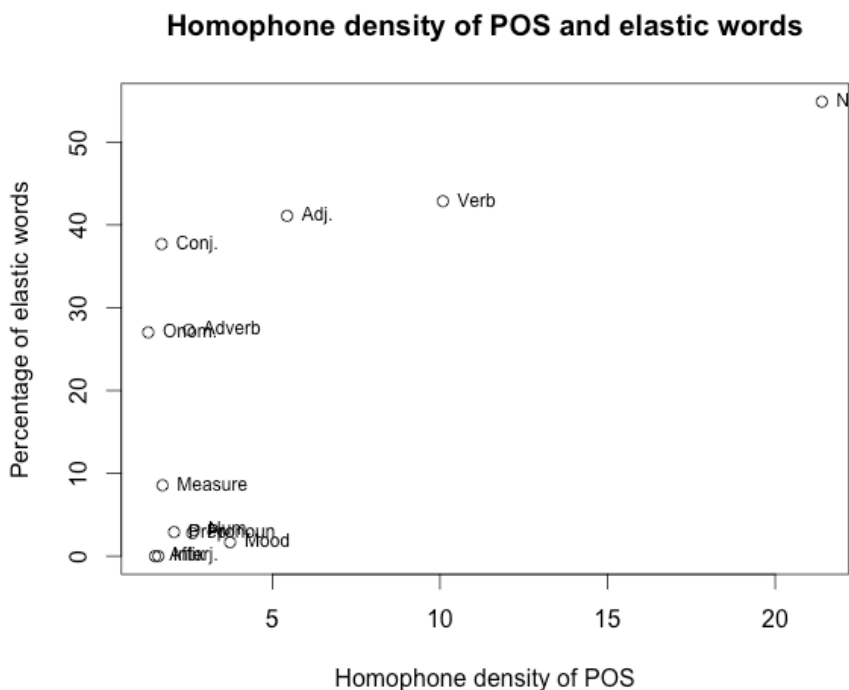
Figure 5.1: Homophone density of POS and the percentage of elastic words.

As shown above, the correlation is greatly influenced by the three large groups: nouns, verbs and adjective. It will be not significant if they are taken out. In addition, it is still not clear if the correlation holds with content words and function words, since the sample size is too small to be significant. Therefore, it is not clear whether homophony is relevant for elasticity, which I will examine in section 5.4.3 using regression models.

In addition, there is a correlation between the size of POS and elastic word length (r= 0.77, *p* <0.05). In particular, large POS categories tend to have higher percentage of elastic words; small POS categories tend to have low percentage of elastic words. The result is consistent with the prediction of the homophone-avoidance theory.

5.4.3   Model comparisons

Last, I examine the effect of homophone density and POS categories through generalized regression models. The models are listed in (8), where dependent variable is the elasticity of a word (i.e. elastic or not) and the independent variable(s) is/are the POS category or/and homophone density of the word. The result is shown in (9).

(12)   Models for comparison

	Dependent variable	Independent variables
Model 1	Elasticity (binary)	POS categories
Model 2	Elasticity (binary)	Homophone density
Model 3	Elasticity (binary)	POS categories, Homophone density

(13)   Effects of homophone density and POS

HD effect   Model 1: Elasticity ~ POS + HD

Model 2: Elasticity ~ POS

  Resid. Df Resid. Dev Df Deviance Pr(>Chi)

1   16449   21516

2   16450   21517 -1 -1.5058 0.2198

POS effect   Model 1: Elasticity ~ POS + HD

Model 2: Elasticity ~ HD internal

  Resid. Df Resid. Dev Df Deviance Pr(>Chi)

1   16449   21516

2   16461   22510 -12 -994.13 < 2.2e-16 ***

The results show that homophone density is not a significant cue to the elasticity of a word (p=0.22). In contrast, POS categories are significant cues (p<0.001). In particular, content words have high percentage words while function words have low percentage of elastic words, as shown in the previous sections.

5.5   Summary

In this chapter, I examine the relation between word categories and the percentage of elastic words in MCD. I show that the percentages of elastic words vary between POS categories, where content words have high percentage of elastic words while function word have low percentage of elastic words. POS categories are cues to elastic words length, while homophony is not.

The prediction of the homophone-avoidance theory is compatible with our results. It predicts that large POS categories tend to have higher percentage of elastic words; small POS categories tend to have low percentage of elastic words.

On the other hand, the prediction of the prosody theory is supported by our results. POS categories are not equally likely to be stressed, thus the percentage of elastic words

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differ between POS categories. Content words are more likely to be stressed and thus have a high percentage of elastic words; function words are less likely to be stressed and thus have a low percentage of elastic words.

Chapter 6

Elastic words in Middle Chinese

6.1   Introduction

This chapter examines elastic words in Middle Chinese (300-1200), one of the
historical periods of the Chinese language that is phonologically represented by the rime
dictionary *Qieyun* (601 AD). I examine Middle Chinese as an example to test different
theories about elastic words in classical Chinese (up to 1900). In the present study, I use
the term 'classical Chinese' as a general term to refer to historical periods of Chinese,
which covers periods of Chinese before Modern Chinese (1900-). Classical Chinese can
be further divided into three historical periods: Old Chinese (before 300), Middle Chinese
(300-1200) and Mandarin (1200-1900) (Wang 1957, and there are other opions on the
time periods such as Norman 1998).

According to the homophone-avoidance theory, syllable inventory size is the key
element that decides the percentage of elastic words. Hence, it is ideal to select a
historical period whose phonological system is well defined but different from Modern
Chinese in invertory sizes. For Old Chinese, there have been no clear estimates of the
number of distinct syllables since words might have prefixes and suffixes (Ding 1979,
Sagart and Baxter 2010, 2012). For Mandarin, the phonological system is similar to that
of Modern Chinese (Wang 1957) and its inventory size does not differ much from
Modern Chinese. Hence, Middle Chinese is the best option for our purpose. Though there
are still detabes on the nature of *Qieyun* (601 AD) (Shao 1961, Zhou 1966, Wang 1981,
etc.), scholars generally agree that it is a reliable source to study the phonology of Middle
Chinese. In addition, most researchers agree that the syllable inventory in *Qieyun* (601
AD) is 3500- 4000 (Li 1952), which is nearly three times as large as that of Modern
Chinese.

There has been a disagreement on the existence of disyllabic words or elastic words in classical Chinese. Some studies assume that there are not many disyllabic words in classical Chinese (Karlgren 1949; Dobson1959; Lü 1963; Shi 2002), therefore most Chinese words must be monosyllabic. Therefore, there cannot be many elastic words. On the other hand, studies also suggest that there are many elastic words in classical Chinese (Guo 1938; Duanmu 2007a). Although there are different claims, no evidence has been provided. Therefore, it is difficult to settle the conclusion.

In this chapter, I have two goals. The first is to gather and annotate data on elastic words in Middle Chinese. Previous studies did not have quantitative data since such annotated data were not available. The second goal is to analyze them and evaluate claims on elastic words in classical Chinese. I show that in Middle Chinese the percentage of elastic words is as high as that in Modern Chinese. The results do not support the prediction of homophone-avoidance theory, but it is compatible with the prosody theory.

6.2   Previous studies

Although the existence of elastic words is well known, elastic words were not historically studied. They are often mentioned under the term 'disyllabic words' or 'compound words', which not only include elastic words but also true compounds. Yet, we can still obtain the information on elastic words from studies focusing on disyllabic words (Karlgren 1949; Dobson 1956; Lü 1963; Guo1997; Feng 1998b).

I suggest two approaches. One is to assume that the more disyllabic words, the more elastic words. Since elastic words are included in disyllabic words, it is reasonable to assume that there is no change in the percentage of elastic words in disyllabic words. Hence, if there are more disyllabic words, there are also more elastic words accordingly. In fact, we can get an estimate of the percentage of elastic words in disyllabic words. In Modern Chinese, there are 40,000 disyllabic words and 10,000 elastic words (see chapter 5), thus elastic words account for 25% of disyllabic words.

The other approach is to assume that the disyllabic words mentioned in previous studies are all elastic words. If studies claim that there are not many disyllabic words, there cannot be many elastic words, either, since some of the words are not elastic.

Hence, by either approach, we consider the estimate of disyllabic words or compound word in classical Chinese as the maximum estimate of elastic words.

Next, let us look at previous studies on disyllabic words or compound words. I review three groups of studies.

First, it has been a common assumption that before Modern Chinese, most Chinese words are monosyllabic and there are only a few elastic words (e.g. Karlgren 1949; Dobson 1956; Lü 1963). For example, Karlgren (1949) assume that classical Chinese mostly consists of monosyllabic words. Dobson (1959: 6) suggests that compounds in Late Archaic Chinese (LAC, fourth and third centuries BC) were never higher than 3%, far below the percentage in Modern Chinese (see chapter 4). Lü (1963) also suggests that there are not many elastic words in classical Chinese. The study proposes that the increase of disyllabic words started only from the second half of the 19th century; long after Chinese lost most of its syllable contrasts. However, these studies did not give any quantitative evidence for their hypotheses.

Second, some studies propose that though there are not many elastic words in Old Chinese, disyllabic words continue to increase especially during the period of Middle Chinese (300-1200) (Kallgran 1958; Feng 1998b; Guo 1997; Shi 2002).

Feng (1998b) suggests that compound words exist in the period of 500 BC-220AD, which roughly corresponds to Old Chinese. In particular, the paper proposes that compound words increase sharply during the Han Dynasty (206 BC- 220 AD), which is a transitional period from Old Chinese to Middle Chinese. Up to the Han Dynasty, compound words account for less than 3% of the lexicon. Furthermore, the increase of disyllabic words continues. For example, in Wei-Jin period (220-450), 839 monosyllabic words were found replaced by disyllabic words in the commentary of *Er Ya* (c. 200 BC) and *Fang Yan* (c. 50 BC) (Xu 1981).

As suggested by Duanmu (2007a), the definition of compounds in Feng (1998b) as well as Dobson (1959) is quite narrow. They only consider words as compounds if their meaning is specialized and non-transparent. For example, expressions like 油灯 *you deng* 'oil lamp' and 水井 *shui jing* 'water well' are not treated as compounds since their meanings can be analyzed as the combination of the meaning of their components. Due to the narrow definition of compounds, their estimation of compound in Old Chinese is

expected to be too low. Since the number of elastic words continues to increase, compound words should be more than 3% in Middle Chinese.

Guo (1997) provides a higher estimate of disyllabic words Old Chinese (before 200 BC). The study estimated that disyllabic words represented roughly 20% of the lexicon, which is higher than previously estimated (Dobson 1959; Feng 1998b). The study also suggests that the increase of disyllabic words continues over later historical periods. Thus, according Guo (1997), disyllabic words account for over 20% of the lexicon in Middle Chinese.

Two studies provide quantitative evidence on the increase of disyllabic words since Middle Chinese (Karlgren 1958; Shi 2002). Karlgren (1958) selects 163 disyllabic compounds from *Zhuzi yulei*, all of which are still used in Modern Chinese. The first appearance of these disyllabic words is checked in dictionaries. The result is shown in Table 6.1.

	Disyllables	%
Before 600	10	6%
600-900	53	33%
900-1200	98	60%
After 1200	121	74%
Unidentifiable	163	100%

Table 6.1: The first appearance of 163 compounds from *Zhuzi yulei.* All ompounds are still used in Modern Chinese. The first appearance of these words is checked in dictionaries. The table is adapted from Karlgren (1958).

Among 163 disyllabic words, 26% of them were not found in the dictionaries. For the rest of the words, at least 60 % of them were first found in the period of Middle Chinese (300-1200).

Similarly, Shi (2002:75) also selected 124 disyllabic verbs from *Zhuzi yulei* and checked their first appearance in texts from the fifth, the eighth and the twelfth century.[3] The result is listed in Table 6.2.

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[3] The texts the study investigated are *Shi shuo xin yu* in the fifth century, *Dunhuang bianwen* in the eighth century and *Zhuzi Yulei* in the twelfth century.

	Disyllables	%
Before 400 AD	7	6%
400-700	49	40%
700-1100	124	100%

Table 6.2: The first appearance of 123 disyllabic verbs from *Zhuzi yulei*. The first appearance of these words is checked in texts from the fifth, the eighth and the twelfth century. The table is adapted from Shi (2002).

As shown above, only a few disyllabic words were first found before Middle Chinese. Most of them (94%) first occur in the period of Middle Chinese.

Though Karlgren (1958) and Shi (2002) examine the increase of disyllabic words using quantitative evidence, the data size is quite small for each period, where the larger one includes only 163 words. In addition, the selected words are not from random sampling, which might affect the reliability of the results.

As we have seen above, various studies have all point to the fact that there is an increase of disyllabic words in Middle Chinese. However, there are no consensuses on the estimates of the percentage of disyllabic words. The estimates vary from 3% to 20% for the entire lexcion. Moreover, in the two quantitative studies, the data size is small and the method is rather causal.

Third, there are also researchers argue that there have always been elastic words in classical Chinese. Guo (1938) argues that Chinese words have always had elastic length. Guo cites many previous scholars who made similar comments, such as Gu Yanwu. Some examples are shown in (1).

(1)   Elastic words in Classical Chinese (Guo 1938)

	Disyllabic	Monosyllabic	Gloss
Repetition	洋洋 yang-yang	洋 yang	'lots of water'
Truncation	犹豫 you-yu	豫 yu	'hesitate'
Addition	阿母 a-mu	母 mu	'mom'
Opposites	异同 yi-tong	异 yi, 同 tong	'the same'

In 'lots of water', 洋洋 *yang-yang* is used when we need to speak slowly and 洋 *yang* is used when we need to speak fast. 豫 *yu* is truncated from disyllabic form 犹豫

you-yu, and used when we need to speak fast. In contrast, 阿 *a* is added to the monosyllabic form 母 *mu* to form a disyllabic form. In 异同 *yi-tong*, 异 *yi* and 同 *tong* mean 'different' and 'the same', respectively. The former lost its meaning and the disyllabic form only means 'the same'.

Duanmu (2007a) agrees with Guo (1938) that elastic words must 'exist in the past, too, although the exact extent remains unknown.' Again, neither of the studies has offered quantitative evidence to support the arguments.

In sum, in this section I review studies on how many elastic words there are in Middle Chinese. However, there is no consensus so far. In addition, only a little quantative evidence has been provided and the method is rather casual. In the present study, I will collect and annotate a sampled data from Tang poems in order to better clarify the empirial facts and evaluate theories on elstic words in Middle Chinese.

6.3   Predictions

Let's first look at the predictions of the two theories on Middle Chinese. Recall that the homophone-avoidance theory, proposes that disyllabic words are created to reduce homophony and avoid ambiguity after massive syllable loss in Chinese. Since monosyllabic forms are still in use, Chinese ends up with many elastic words (monosyllabic-disyllabic pairs). In contrast, the prosody theory proposes that elastic words are created because disyllabic words are needed in some positions (prosodically strong positions), due to the phonological requirement of Foot Binarity (Prince 1980), while monosyllabic words are needed in other positions.

In the homophone-avoidance theory, elastic words are related to homophony, whereas in the prosody theory the key factor is the prosodic positions. It is reasonable to assume that Middle Chinese and Modern Chinese have similar prosodic requirements. Hence, the difference between the two is the degree of homophony. For a language, I define the degree of homophony (i.e., homophone density) as the number of morphemes divided by phonological resources, stated in (2).

(2)   The degree of homophony for a language

        $H = M/S$, where H is homophone density, M is the number of morphemes, and S

        is the number of distinct syllables (with tonal contrast).

        In the present study, I assume that the number of morphemes in Middle Chinese is
the same as that in Modern Chinese. There are two reasons. One is that there are similar
number of characters in Middle Chinese and Modern Chinese. Second, the number of
morphemes each character represents is also similar between Middle Chinese and
Modern Chinese. Therefore, the total number of morphemes ought to be similar. In
contrast, there are studies claiming that the size of the lexicon is increasing since it is
insufficient to account for objects that are recently brought into the lexicon (Packard
2000). However, the increase of the lexicon is realized through compounding, while the
number of morphemes does not increase.

        Since the number of morphemes is the same between Middle Chinese and Modern
Chinese, the degree of homophony is determined by syllable inventory size according to
(2). Middle Chinese has 3, 500 to 4,000 syllables with tonal contrast. For example, the
Que Yun database of Pan has 3761, and Shao (2008) has 3606 distinct syllables. On the
other hand, Modern Standard Chinese has 1,300, which is about one third of that in
Middle Chinese. Given that Modern Chinese has about 10,000 monomorphemes, the
overall homophone density of Modern Chinese is 7.7 morphemes per syllable, while it is
only 2.5 to 2.9 morphemes per syllable in Middle Chinese. Information of syllable
inventory sizes and homophone density in Middle Chinese and Modern Chinese are
shown in (3).

(3)   Syllable inventory sizes and homophone density of Middle and Modern Chinese

	Middle Chinese	Modern Chinese
Distinct Syllables	3,500-4000	1,300
Homophone density	2.5-2.9	7.7

        According to homophone-avoidance theory, Modern Chinese has a small syllable
inventory, thus there are many homophones, which invokes the need to create disyllabic
words. Middle Chinese, on the other hand, has three times as many distinct syllables as

Modern Chinese. Hence Middle Chinese has fewer homophones and less need for disyllabic words. The prediction is stated in (4).

(4)   Predictions of the homophone-avoidance theory on Middle Chinese
        The percentage of disyllabic words is lower in Middle Chinese than that in
        Modern Chinese.

According to the prosodic theory, disyllabic words are created to satisfy phonological requirement and the number of distinct syllables is irrelevant. Thus, the prosodic theory does not have a prediction.

Next, I will gather quantitative data to examine disyllabic words in Middle Chinese, and test the predictions. In the next section, I introduce the data and how they are annotated.

6.4   Method

6.4.1   Data

In the present study, I shall examine the lexical data in the Tang Dynasty (618-907 AD), when *Que Yun* (601AD) is used as a guide of reading classical texts. In particular, I focus on poems. There are two reasons. First, the traditional Chinese dictionaries are based on characters not words, which do not differentiate words senses. In addition, the dictionary definitions are not always available. Thus, the elasticity information cannot be obtained, either. Second, for poems, there is a large amount of high-quality data. As I will show below, the number of characters that poems include is almost comparable to the character inventory of Modern Chinese. In other words, it is a good representation of the lexicon.

For poems, I shall look at *Quan Tangshi* (1705) [The complete collection of Tang poems]. *Quan Tangshi* is collected by scholars in the Qing Dynasty (1636-1912). The collection includes 48,000 poems composed by 2,200 authors. Each poem contains 2 or more lines. The counts of lines and characters are listed in (5), excluding titles, author names, and comments.

(5)   Line and character token counts in *Quan Tangshi*

	Count
Line	465,053
Character token	2,597,374

Poems are further divided into different types according to the length of lines, rhyming requirements, etc. According to the length of lines, there are mainly 3 types: 3-syllable lines, 5-syllable lines and 7-syllable lines, where the latter two constitute most of the poems. In particular, 5-syllable line is the most common type, which constitutes 65% of the lines. The counts of lines and characters of 5-syllable lines are shown in (6), excluding titles, author names, and comments.

(6)   Line and character counts of 5-syllable lines in *Quan Tangshi*

	Count
Line	301,172
Character token	1,505,860 (non-character 467)
Character type	6,982 (non-character 21)

Among 5-syllable lines, there are 6,982 distinct graphs, of which 21 are non-character graphs. There are 467 tokens of non-character graphs, which could in fact be more than 21 rare characters that do not have proper computer font.

In summary, it is safe to say that there are 7,000 distinct characters among 5-syllable lines, and likely to be 10,000 characters in all of *Quan Tangshi*. Modern Chinese dictionary (2005) has about 7,000 common distinct characters. Therefore, the total of distinct characters in *Quan Tangshi* is very close to that in modern Chinese. In other words, *Quan Tangshi* covers almost the entries vocabulary.

In the present study, I use poetry not prose. It is an interesting question if the choice of the genre would greatly influence the result. I would say no. The difference between poetry and prose lies on two aspects. First, small amount of words are used in one not the other genre. For example, some function words might be missing in poetry. However, most of the words are the same for both genres. Second, the frequency of words might be different between poetry and prose. However, we are looking at the

availability of elastic words not the frequency. Thus, the result is not expected to be much different if prose were used.

For sampling, I randomly sample 10 Qi lü, which are poems of 7-syllable lines, and 8 lines per poem. There are 7271 Qi lü with 58,168 lines. With 10 Qi lü, the sample includes 560 characters. The sample size seems small, but it could be reliable. There are two reasons. First, the result might be robust. For example, if the percentage of elastic words is 70% of the 10 samples, it is unlikely that the percentage is 10% if we sample 100 poems. Second, the 10 poems are from random sampling. The result might be more precise, but it is unlikely to differ greatly if we sample 100 poems. I could have added 10 more poems, but the result should be the same. The procedure is summarized in (7).

(7)   Procedures

    a. Sample every 700 poems from Qi lü (to get 10 poems)
    b. Segment lines into words
    c. Check the elasticity of words in all poems of *Quan Tangshi*

For the method for annotation is introduced in the following section.

6.4.2 Annotations

Now, let us consider the annotation. I will illustrate the annotation using a sample poem, which is provided in (8). The translation is from the English translation of '300 Selected Tang Poetry'.

(8)   Elastic words in a Tang poem (underline indicates disyllabic non-compound words, which can be 'Elastic2' or 'poly-only', to be explained below)

	Words	Gloss
昔人已乘黄鹤去	7	Where long ago a yellow crane bore a sage to heaven,
此地空馀黄鹤楼	7	Nothing is left now but the Yellow Crane Terrace.
黄鹤一去不复返	6	The yellow crane never revisited earth,
白云千载空悠悠	5	And white clouds are flying without him forever.
晴川历历汉阳树	5	...Every tree in Hanyang becomes clear in the water,
芳草萋萋鹦鹉洲	4	And Parrot Island is a nest of sweet grasses;
日暮乡关何处是	5	But I look toward home, and twilight grows dark
烟波江上使人愁	7	With a mist of grief on the river waves.

For each poem, lines are segmented into words. For example, the first line in (8) has 7 words, where each character is a word. In line 2, there are 6 words where 空馀 is disyllabic word.

Then I check the elasticity of each word in all poems in *Quan Tangshi*. Recall that there are three length types. Here elastic words are futher divided in to monosyllables (Elastic1) and disyllables (Elastic2). The length types are listed in (9).

(9)   Length types and syllable length checked in *Quan Tangshi*

Length types	Syllable length
1-only	Monosyllabic
Poly-only	Disyllabic
Elastic1	Monosyllabic
Elastic2	Disyllabic

For a monosyllabic word, I check if it only has a monosyllabic form (i.e. 1-only) or it is the short form of elastic words (i.e. Elastic1). For a disyllabic word, I check if it only has a polysyllabic form (i.e. poly-only), or if it is the long form of elastic words (i.e. Elastic2).

The analysis of the sample in (8) is provided in (10), (11), (12) and (13), corresponding to the length type of 1-only, poly-only, Elastic1 and Elastic2, respectively. In the analysis, repetitions of words are not listed below. There is one place name 汉阳 *han-yang*, which I exclude from following discussion.

(10)   Analysis of 1-only words in (8)

昔 xi 'past'
人 ren 'person'
已 yi 'already'
此 ci 'this'
草 cao 'herb'
何 he 'where'
餘 yu 'left'
楼 lou 'building'
一 yi 'once'
不 bu 'negation'
空 kong 'empty'

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芳 fang 'fragrant'
烟 yan 'smoke'
川 chuan 'river'
是 shi 'predicate'
上 shang 'above'
使 shi 'to make'
千 qian 'thousand'
洲 zhou 'island'
云 yun 'cloud'

(11)　Analysis of poly-only words in (8)

鹦鹉 ying-wu 'parrot'

(12)　Analysis of Elastic1 words in (8)

黄 huang 'yellow'	黄色 huang-se 'yellow-color'
白 bai 'white'	白色 bai-se 'white-color'
鹤 he 'crane'	仙鹤 xian-he 'crane'
去 qu 'leave'	离去 li-qu 'leave-go'
乘 cheng 'ride'	驾乘 jia-cheng 'ride-ride
地 di 'place'	地方 di-fang 'place-side'
载 zai 'year'	年载 nian-zai 'year-year'
晴 qing 'sunny'	晴朗 qing-lang 'sunny-clear'
树 shu 'tree'	树木 shu-mu 'tree-wood'
烟 yan 'smoke'	烟雾 yan-wu 'smoke-fog'
波 bo 'wave'	水波 shui-bo 'water-wave'
江 jiang 'river'	长江 chang-jiang 'long-river' (Yangtze River)
愁 chou 'worry'	忧愁 you-chou 'worry-worry'
处 chu 'location'	处所 chu-suo 'location-place'

(13)　Analysis of Elastic2 words in (8)

复返 fu-fan 'again-return'	返 fan 'return'
悠悠 you-you 'leisurely'	悠 you 'leisurely'
历历 li-li 'distincly'	历 li 'distincly'
萋萋 qi-qi 'exuberant'	萋 qi 'exuberant'
日暮 ri-mu 'sun-sunset'	暮 mu 'sunset'
乡关 xiang-guan 'hometown-check point'	乡 xiang 'hometown'

The words listed in (10) do not have disyllabic forms (i.e. 1-only). For example, I search 昔 *xi* 'past' in all poems of *Quan Tangshi*, but no corresponding long forms are found. In (11), I search 鸚鵡 *ying-wu* 'parrot' as well as 鸚 and 鵡, but no disyllabic form has been found for either 鸚 or 鵡. Therefore, 鸚鵡 *ying-wu* 'parrot' only has a polysyllabic form (i.e. poly-only).

In (13), for each disyllabic word in the sample, there is a monosyllabic form found in *Quan Tangshi*. For instance, 日暮 ri-mu 'sun-sunset (sunset)' occurs as a disyllabic form in the sample. I search for 暮 and it is found in the line '可怜朝与暮 [what a pity for the sunrise and sunset]'. Now let us examin if 日暮 and 暮 fulfill the criteria for elastic words. First, 日暮 is disyllabic and 暮 is monosyllabic. Second, they share the same morpheme 暮. Third, 暮 means 'sunset' which is the same as 日暮 'sun-sunset'. Fourth, both lines of '已日暮 [already sunset]' and '(今)已暮 [(today it has) already sunset]' are found, therefore they are also interchangeable. After the examiniation of the four criteria with 日暮 and 暮 , it is clear that they form a pair of elastic words and 日暮 is the disyllabic form (i.e. Elastic2).

Now let us look at (12), which is not very obvious. Words in (12) appear as a short form in the sample. However, a corresponding long form is found in other poems in *Quan Tangshi*. For example, I search 晴 *qing* 'sunny' in *Quan Tangshi* and found a disyllabic form 晴朗 *qing-lang* 'sunny-clear' where they share the morpheme 晴 *qing* 'sunny' . In addition, 晴朗 *qing-lang* 'sunny-clear' means sunny, therefore 晴朗 and 晴 are synonymous. Lastly, they acan occur in similar contexts, such as '小雪已晴芦叶暗 [snow has stopped and the whether is clear and sunny, the leaf ofcommon reed brings a shadow]' and '秋天已晴朗 [In autumn, the weather is clear and sunny]'. Hence, 晴朗 and 晴 are a pair of elastic words and 晴 *qing* 'sunny' is the monosyllabic form (i.e. Elastic1).

The count of length types in the sample in (8) is summarized in (14).

(14)   The count of length types in the sample shown in (8)

Length types	Count	%
1-only	20	49%
Poly-only	1	2%
Elastic1	14	34%
Elastic2	6	15%
All	41	100%

Since both Elastic1 and Elastic2 are elastic words, the table shows that 64% of words in the sample are elastic. The rest nine poems are examined in the same method and the result of their length property is shown in the following section.

6.5   Results

In this section, I examine elastic words in 10 sampled Tang poems. The result is shown in Table 6.3 and Table 6.4.

Poem	1-only	Poly-only	Elastic	Words	Elastic%
1	5	2	41	48	85%
2	18	1	33	52	63%
3	10	2	39	51	76%
4	15	3	32	50	64%
5	11	4	32	47	68%
6	16	2	35	53	66%
7	6	2	41	49	84%
8	11	3	37	51	73%
9	9	1	43	53	81%
10	20	1	20	41	50%
All	121	21	353	495	71%

Table 6.3: Word length of words of 10 sampled poems in *Quan tangsh*i, Word length information includes the number of words that are monosyllabic-only (1-only), the number of words that are polysyllabic-only (poly-only), the number of words that have elastic length (Elastic), the number of words in each poem, and the percentage of elastic words (Elastic %). 'Elastic' includes words that are short forms of elastic words (i.e. Elastic1) and words that are long forms of elastic words (i.e. Elastic2)

	Count	%
1-only	116	23.3%
Poly-only	21	4.2%
Elastic	361	72.5%
All	498	100.0%

Table 6.4: Distribution of word length types in 10 sampled poems in *Quan tangshi*, Word length information includes the number of words that are monosyllabic-only (1-only), the number of words that are polysyllabic-only (poly-only), the number of words that have elastic length (Elastic). 'Elastic' includes words that are short forms of elastic words (i.e. Elastic1) and words that are long forms of elastic words (i.e. Elastic2)

The result shows that there are many elastic words in Tang poems (mean= 72.5%). The result is quite consistent across poems (SD = 9%). For all poems the elastic words constiture over 63% of the words. The average of elastic words is much precise than previous estimates, where the highest of estimate is over 20% (Guo 1997).

Furthermore, the average of elastic words is higher than that in Modern Chinese (46.8%) (See Chapter 5). It is interesting to ask why it is the case or if it is related to the genre of poetry. Here is the reason. In the present study, elastic words are search for in all *Quan Tangshi*, which as I have shown covers almost the entire vocabulary. In this sense, the avalibility of elastic words is comparable to that in the Modern Chinese dictionary. However, in the sample of 10 poems, there are more content words and fewer function words. As I have shown in chapter 5, content words have higher percentage of elastic words than function words. Hence, the higher average percentage of elastic words in poems results from the high percentage of content words. Once the POS difference is factored out, the average percentage of elastic words in Middle Chinese should be similar to that in Modern Chinese.

Now let us examine the predictions of the homophone-avoidance theory. Recall that the homophone-avoidance theory predicts that the percentage of disyllabic words is lower in Middle Chinese than that in Modern Chinese. The reason is that there three times as many syllables in Middle Chinese, thus homophone density is low and the need for disyllabic words is also low. The prosody theory, on the other hand, does not have predictions on elastic words in Middle Chinese, since homophony is irrelevant to

elasticity. Therefore, according to our result, the homophone-avoidance theory again makes wrong predictions on elastic words in Middle Chinese. The prosody theory is again compatible with our results.

Chapter 7

Elastic words in Mandarin and Cantonese

7.1 Introduction

In this chapter, I investigate elastic words in Mandarin and Cantonese. In particular, I examine if Mandarin has higher percentage of disyllabic words than Cantonese.

There are four reasons why this is of interest. First, many studies have compared Mandarin and Cantonese (T'sou 1976, Ke 2007 and Jin 2011). Predictions are often made that there are fewer disyllabic words in Cantonese (e.g. Lü 1963). However, the conclusion is inconclusive due to various issues in method (which I discuss below). Second, the comparison between Mandarin and Cantonese is often used as evidence to support the homophone-avoidance theory. Third, the homophone-avoidance theory and the prosody theory make different predictions on the percentage of disyllabic words in Mandarin and Cantonese (which I introduce below). Lastly, there are problems with the data used in previous studies, such as small sample size, unbalanced style, etc. Due to these reasons, there is a need for more careful comparison between Mandarin and Cantonese.

In this chapter, I recheck the disyllabic words in Mandarin and Cantonese and examine the predictions of the homophone-avoidance theory and the prosody theory. I show that that Mandarin and Cantonese have similar percentages of disyllabic words and that the size of syllable inventory has no effect on word length.

7.2 Previous studies

Many studies have proposed that there are fewer elastic words in Cantonese since there are fewer homophones. One typical statement of this view is stated in (1).

(1)   Lü (1963: 21), 'Why is there a strong tendency for disyllabic words in Modern Chinese? The large number of homophones should be an important factor. Because of sound change, many characters that used to sound different historically have now become homophones, and the creation of disyllabic forms is a compensating measure. … There are fewer homophones in the dialects spoken in places such as Guangdong and Fujian, and the tendency of disyllabification is weaker.'

However, Lü (1963) did not provide any evidence. In this section, I focus on three studies that have offered some quantitative evidence: T'sou 1976, Ke 2007 and Jin 2011. All the three compare Cantonese and Mandarin in order to argue for the homophone-avoidance theory.

T'sou (1976) compares Mandarin (Standard Chinese) and Cantonese. First, he observes that, excluding tones, Mandarin has about 400 different syllables whereas Cantonese has 700. Then he offers an experiment in which Mandarin and Cantonese speakers were asked to tell two short stories. Percentages of disyllabic words were then counted, and it was found that Cantonese speakers used fewer disyllabic words than Mandarin speakers. Consider the data from one of the stories, shown in Table 7.1.

Type/Token	Poly	Type %	Poly %	Token %
Mandarin	Extended	1:3.2	28.9%	14.70%
	Standard	1:2.8	27%	16.80%
Cantonese	Extended	1:3.2	20.30%	11.50%
	Standard	1:2.7	18.70%	12.90%

Table 7.1: Percentages of polysyllabic words in Mandarin andCantonese, in type and token counts, in the story 'The boy who cried 'Wolf!' (T'sou 1976: 82). "Extended" refers to speakers who told the story with elaboration. "Standard" refers to speakers who told thestory at normal length.

More than one speaker was used in each dialect. The average percentages of polysyllabic words are clearly quite different between the two dialects. However, some questions remain. First, it was not reported how many speakers were used in each dialect. Second, there are no statistics on the variation among speakers of a dialect, or on whether

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the difference between the dialects is significant. Third, the data size is not reported, but it is likely to be rather small. For example, a typical Chinese version of the story in Table 7.1 is about 400 graphs (including punctuations), or about 200 words in English. Therefore, it is unclear whether such a data size can adequately reflect the overall difference between the two dialects. Fourth, word segmentation was probably done by the author himself, but the method was not reported. In particular, word segmentation is a notorious problem in Chinese and decisions on whether a disyllabic unit is a phrase (two words), a compound (possibly two words), or a single word are not always obvious. The author does give some examples, but they are not always clear. For example, Mandarin N+er (noun with the –er suffix) is counted as a disyllabic word (T'sou 1976: 77), but such forms are normally pronounced as a single syllable (Duanmu 2007a). In summary, while T'sou (1976) is innovative in introducing quantitative argument for the orthodox view, its conclusion remains open, since its data size is small and its method is rather casual.

Ke (2006) proposes two correlations between Chinese dialects, shown in (2).

(2)   Two correlations found among 20 Chinese dialects (Ke 2006)

      a. There is a strong negative correlation between the number of distinct syllables and the degree of homophony.
      b. There is a strong positive correlation between the degree of homophony and the degree of disyllabification.

The correlation in (2a) is not controversial. Specifically, complete lists of syllables of Chinese dialects are available, and such lists indeed vary in size. For example, if we include tones, Shanghai has about 900 syllables (Xu & Tao 1997), Standard Chinese has 1,300 (Duanmu 2007a), and Cantonese has 1,800 (Kao 1971). If we assume that Chinese dialects have a similar number of morphemes, most of which are monosyllabic, then the degree of homophony (or homophone density) will clearly differ from dialect to dialect.

The correlation in (2b) is less obvious though. Let us consider what is reported in Ke (2006), shown in Table 7.2.

Dialect	Syllable	Homo%	Disyl%1	Disyl%2
Taiyuan	828	0.70	0.60	0.40
Wuhan	870	0.72	0.62	0.40
Chengdu	938	0.70	0.62	0.42
Yangzhou	947	0.68	0.61	0.40
Hefei	976	0.68	0.61	0.40
Changsha	981	0.67	0.62	0.41
Suzhou	999	0.64	0.61	0.40
Shuangfeng	1,001	0.67	0.63	0.43
Wenzhou	1,048	0.65	0.53	0.31
Ji'nan	1,063	0.69	0.59	0.36
Xi'an	1,084	0.69	0.61	0.41
Nanchang	1,111	0.66	0.60	0.38
Beijing	1,125	0.67	0.62	0.41
Jian'ou	1,241	0.63	0.55	0.31
Meixian	1,304	0.60	0.60	0.39
Yangjiang	1,319	0.61	0.51	0.24
Guangzhou	1,367	0.59	0.50	0.24
Fuzhou	1,413	0.61	0.51	0.25
Chaozhou	1,759	0.52	0.50	0.23
Xiamen	1,855	0.54	0.54	0.29

Table 7.2: Syllable counts, percentages of syllables with homophones, and percentages of disyllabic words (counted in two ways) in 20 Chinese dialects (Ke 2006: 150). Disyllabic monomorphemes are counted as disyllabic words in Disyl%1 and as monosyllabic words in Disyl%2.

The correlation between the degree of homophony and the degree of disyllabification is found to be statistically significant, even though there is some variation among the dialects and the differences seem small. Still, there are some questions.

First, the number of syllables and the percentage of homophones are mostly based on Peking University (1989), which consists of some 3,000 common characters, whereas the percentage of disyllabic expressions is based on Peking University (1995), which consists of 905 common lexical entries. Therefore, the data sets are not only different but are rather small. For example, in Modern Chinese Dictionary (XDHYCD 2005), there are 10,000 characters and over 60,000 entries. Second, many of the 905 entries in Peking University (1995) are true compounds, such as 猪肉 *zhu rou* 'pig meat (pork)', 素菜 *su*

cai 'vegetarian dish', 开水 *kai shui* 'boiled water', 午饭 *wu fan* 'noon meal (lunch)', 电筒 *dian tong* 'electric tube (flashlight)', 阴天 *yin tian* 'cloudy day', and 明年 *ming nian* 'next year'. Such compounds have to be at least disyllabic in most dialects, regardless of the degree of homophony. Therefore, it would be better to exclude them from calculation. Third, of the 20 dialects in Table 7.2, only 16 are from Peking University (1995), and two dialects in Peking University (1995) are not found in Table 7.2. It is not explained where the disyllabic data for the 4 added dialects come from, nor why the data of two dialects are left out. It is worth noting, too, that of the four added dialects, two have the fewest number of syllables (Taiyuan and Wuhan), which could have changed the statistics. Fourth, the 905 lexical entries in Peking University (1995) are based on Standard Chinese. It is not entirely clear whether they fairly represent the basic vocabulary of other dialects. Fifth, as just mentioned, Peking University (1995) contains 905 lexical entries, yet in Ke's calculation, there are 1,236 entries (Ke 2006: 149). It is not explained where the 300 extra words come from. Finally, in both Peking University (1989) and Peking University (1995), there are many words that have two pronunciations and therefore counted twice. However, such words appear more often in in Cantonese than in Mandarin, which may change the result.

Last, let us consider the proposal of Jin (2011). Jin (2011) proposes a linear relation between the size of the syllable inventory and the percentage of monosyllabic words, regardless of the language. This is shown in (3).

(3)   The relation between syllable inventory size (S) and the percentage of
    monosyllabic words (M), regardless of the language (Jin 2011):
    $S/M \approx C$, where C a constant

Jin illustrates her proposal with data from Mandarin, Cantonese, English, and Japanese. For example, she argues that $S_{Can}/M_{Can} \approx S_{Eng}/M_{Eng}$ (Jin 2011: 49), where S_{Can} is the number of syllables in Cantonese, M_{Can} is the percentage of monosyllabic words in Cantonese, S_{Eng} is the number of syllables in English, and M_{Eng} is the percentage of monosyllabic words in English.

The data for Mandarin are based on materials that cover a wide range of subjects. In contrast, the data for Cantonese are based on two textbooks on the Cantonese language. Therefore, the data for the two dialects are not parallel in content or style; this is problematic, because the average word length can vary a lot from style to style.

In addition, the difference in the percentage of monosyllabic words is not always very large between Mandarin and Cantonese. This can be seen in Table 7.3, where the Mandarin data are based on 3,000 most frequent words in a corpus of over 200 million characters, and the Cantonese data are based on two textbooks on Cantonese.

Language	Source	Words	Mono	Mono%
Mandarin	High frequency words	3,000	1,000	33.3
Cantonese	Textbooks on Cantonese	2,291	796	34.7

Table 7.3: Percentages of monosyllabic words in the basic lexicons of Mandarin and Cantonese (Jin 2011: 38).

In sum, the comparisons are not conclusive since there are issues with the method in previous studies. In particular, the data used to draw conclusions are not parallel. To account for it, I examine two parallel data sets of Mandarin and Cantonese in following section 7.4. Before that, let us first consider the predictions of the two theories, introduced in the following section.

7.3   Predictions

In this section, I introduce the predictions of the homophone-avoidance theory and the prosody theory on disyllabic words in Mandarin and Cantonese.

Mandarin and Cantonese are often compared with each other since two dialects differ in the number of distinct syllables: Mandarin (1,300 distinct syllables) and Cantonese (1,800 distinct syllables). According to homophone-avoidance theory, since Cantonese has more distinct syllables, there are fewer homophones and hence the need for creating disyllabic words is less strong. Therefore, there are fewer disyllabic words in Cantonese. In contrast, Mandarin has fewer distinct syllable, hence more homophones and strong need for disyllabic words. As a result, there are more disyllabic words in Mandarin. The prediction is summarized in (4).

(4)   Prediction of the homophone-avoidance theory on Mandarin and Cantonese

The more syllables a Chinese dialect has, the fewer homophones there are, and the less the need for creating disyllabic words, and hence a lower percentage of disyllabic words it has.

In contrast, according to the prosodic theory, disyllabic words are created for prosodic requirements and have little to do with the number of syllables a language has. It is reasonable to assume that the phonological requirement is the same for Mandarin and Cantonese. Therefore, the prosodic theory would predict that Mandarin and Cantonese should have similar percentages of disyllabic words. The predictions are shown in (5).

(5)   Prediction of the prosody theory on Mandarin and Cantonese

Mandarin and Cantonese have similar percentages of disyllabic words.

In the following section, I collect word length data from Mandarin and Cantonese and examine the two predictions against the data.

7.4   Method

We have seen that several studies have argued for the homophone-avoidance theory using cross-linguistic evidence (T'sou 1976, Ke 2006, Jin 2011). To verify their conclusions, I also conduct an examination of words length comparing Mandarin and Cantonese. However, different from previous studies, I examined two parallel textbooks to account for the problem on imbalanced data. The method is introduced below, where I first provide a recap on Mandarin and Cantonese, and then introduce the data and finally I explain the method of annotation.

Recall that Cantonese has more distinct syllables than Mandarin. If we assume there are similar amount of morphemes in Mandarin and Cantonese, Cantonese ought to have fewer homophones, according to (6) (introduced in Chapter 6). Hence, there is less need for disyllable words and there exists fewer disyllabic words in Cantonese.

(6)   The degree of homophony for a language

$H = M/S$, where H is homophone density, M is the number of morphemes, and S is the number of distinct syllables (with tonal contrast).

I shall focus on lexical data, where the length of morphemes is provided. The information of interest is shown in (7).

(7)   Information of interest for the present study
    a. The syllable inventory of a language (including tonal contrast)
    b. The percentage of disyllabic words

Complete lists of syllables of Mandarin and Cantonese are available, which can be exhaustively listed. Including tones, Mandarin (i.e. Standard Chinese) has 1,300 distinct syllables (Duanmu 2007a), and Cantonese has 1,800 (Kao 1971). For both languages, I count the number of monosyllabic words. There are words or phrases that contain three or more syllable in the two dialects, but the amount is small. It is reasonable to assume the percentage of trisyllabic or longer words are similar between Mandarin and Cantonese. Hence, to simply the issue, I assume the textbooks only contain monosyllabic words and disyllabic words. I count monosyllables since it is easy to count and can also avoid accounting polysyllables. The percentage of disyllabic words equals one minus the percentage of monosyllabic words.

Let us consider the selection of data. One of the issues of previous studies is that the data they use are not parallel. The languages in comparison may have very different morphological structure, which makes it difficult to compare. For example, Japanese has regular suffixes whereas Chinese does not (e.g. Jin 2011). Besides, the content and styles of data often differ between languages in comparison. For example, Mandarin data may be based on various subjects and styles while Cantonese data are from one introductory textbook of the language (e.g. Jin 2011).

In this study, I carry out a complete annotation of word length in two parallel textbooks, a Mandarin textbook and a Cantonese textbook (Chao 1948 vs. Chao 1947), listed in Table 7.4. Both data are in the form of introductory textbooks, thus the content

are parallel. The selection criteria and word segmentation are also likely to be consistent since the two textbooks were edited by the same author and around the same time.

Language	Source	Author and year
Mandarin	Mandarin Primer (textbook)	Chao 1948
Cantonese	Cantonese Primer (textbook)	Chao 1947

Table 7.4: Sources of the Mandarin and Cantonese data.

Next, let us consider annotation. Mandarin and Cantonese data contain on three aspects: phonemic transcriptions, gloss and some usage indications (for measure word in particular). A sample of original data is provided in Figure 7.1 for Mandarin and Figure 7.2 for Cantonese.

Figure 7.1: A sample of original data from Mandarin Primer (Chao1948)

A

a° *particle for animated enumera-*
    tion, emphatic statement, etc.
    L 4.8

aam'aam just, just as; just now
    L 6.8

aanncaw afternoon

aekwae dwarf devil, Japanese

Ah *prefix for familiar way of calling*
    persons L 2.22

ah *sound of hesitation,* er— L 1.10

ah *interrogative particle* L 1.24,4.7;
    particle before a pause L 1.10;
    emphatic particle

Ahcau Asia L 15.5

Ahkandheng Argentina

Aighap Egypt

amx-juh cover up

Aucau Europe L 15.6

ayiah oh! my goodness! gosh! gee!
    ouch! L 2.42, 3.28

Figure 7.2: A sample of original data from Cantonese Primer (Chao1947)

As shown above, words in the two textbooks are represented by phonemic letters and are listed alphabetically according to their pronunciations. In addition, there are monosyllabic words (e.g. *ann* 'dark' in Mandarin), disyllabic words (e.g. *an.wey* 'to comfort' in Mandarin) and affixes (e.g. *Ah* 'prefix of family way of calling person' in Cantonese).

The annotation of first 50 entries in Mandarin Primer (Chao1948) is shown in Table 7.5, where the column 'Length' indicates the number of syllables in the word or phrases, where 'mono' refers to a monosyllable and 'poly' refers to a polysyllable.

Entry (Spelling)	Length	Gloss
a	mono	(or .ie. after open vowels) particle for pause 122.10, 228.6; for (new) questions 59d, 122.6; (high pitch) for expressing obviousness 123.13; (low pitch) for echo question
aan	mono	I, me (dialectal) 99
Ae!	mono	No, indeed! Oh, no! 50.27, 146.57,222.50, 26350
ae	mono	short (of stature) 39.10f
Agentyng	poly	Argentina 227ao
Ah!	mono	Mind you! 15980, 207'''; Well 205 ;inUrjection to soften a command, etc.146.60
ai	mono	sorrowful L 98
Ai!	mono	sound of sighing 199.9
Ai.ia!	poly	Goodness! 1293; Ohl 191n; Gosh! 203.3e
Aiiau	poly	Goodness me! Gee! 272.52
Aijyi	poly	Egypt 22710
air-mah	poly	to receive a scolding 283u
an	mono	peace B 21.2
Andong	poly	Antung 2315
Angelha	poly	Angora 227'1
An6huei	poly	Anhwei 35.5b, 23328
ann	mono	dark 100
ann	mono	shore 215.45, 264.31
an.wey	poly	to comfort 183"
ao	mono	short heavy jacket AN -jiann 99
Ar?	mono	Huh? What (did you say)? 14118
... , ar?	mono	... , isn't it? 27741
arng, ang	mono	lofty L 102
au	mono	to stew 98
Aw.gwo	poly	Austria 22710
Awjou, Awdahlihyah, -yea	poly	Australia 227.4
ay	mono	love, love to 36.6b, 100, 167.3
ay-shyh	poly	to be in the way 270.8
ay-taair	poly	love wealth,-avaricious 48e
ba	mono	eight B 142.4
….ba	mono	particle for tentative statement:... , I suppose? 92, 12127; warning about indecorous combinations with144.18; interrogative particle 59d,277"

baa	mono	pretransitive, see second bae
-baa	mono	AN for chair and things with handles132.34
baan	mono	board AN -kuay 99
bae	mono	display 288.3
bae,bay, baa	mono	pretransitive 39.10g,49.25, 162.49, 226.2
-bae	mono	hundred 141', 15918
Baejia Shinq (... Shienql)	poly	Hundred Family Surnames' 278.3
bag	mono	eight 189D
bah.bah	poly	papa 40.12
bair	mono	white 15110
bairhuah	poly	colloquial language 286.1
bairhuah-wen	poly	vernacular literature 286.1
bairshuu	poly	sweet potatoes 42g
Bairta. Syh	poly	White Pagoda, Temple 111
Bair.tian	poly	daytime 19711
bairtsay	poly	Chinese cabbage; Chinese green AN -ke 255.18
Bali	poly	Paris 22741
ban	mono	move (furniture, residence, etc.)227•, 234.14
-ban	mono	class, group 192.29

Table 7.5: Annotations of first 50 entries in Mandarin Primer (Chao1948). The column 'Length' indicates the number of syllables in the word or phrases, where 'mono' refers to a monosyllable and 'poly' refers to a polysyllable.

The 'Entry' column is the phonemic representations of the word or phrase. They are not in Pinyin, but they not difficult to interpret with the instruction provided by the Primer (Chao 1948). When there are multiple pronunciations, all of them are recorded and separated by comma. The symbol of '-' indicates that the item is a affix, such as a suffix –*ban* 'class'. The second column indicates if a word or phrase is monosyllabic or polysyllabic. For example, *ban* is monosyllabic. However, *Bali* is polysyllabic since /l/ is not a legal coda in Chinese. Thus, there must be two syllables and /l/ becomes the onset of the second syllable. The last column is the gloss of the entry, which can help check the interpretation of syllables. For instance, Paris is *ba-li* in Pinyin, which has two syllables. Hence, it is confirmed that *Bali* is polysyllabic here.

Similarly, I annotate word length in Cantonese Primer (Chao1947) with the same

method. The annotation of first 50 entries in Cantonese Primer is shown in Table 7.4.

Spell	Leng	Gloss
a	mono	particle for animated enumeration, emphatic statement, etc. L 4.8
aam'aam	poly	just, just as; just now L 6.8
aanncaw	poly	afternoon
aekwae	poly	dwarf devil, Japanese
ah	mono	interrogative particle L 1.24,4.7; particle before a pause L 1.10; emphatic particle
Ah	mono	prefix for familiar way of calling persons L 2.22
ah	mono	sound of hesitation, er-L 1.10
Ahcau	poly	Asia L 15.5
Ahkandheng	poly	Argentina
Aighap	poly	Egypt
amx-juh	poly	cover up
Aucau	poly	Europe L 15.6
ayiah	poly	oh! my goodness! gosh! gee! ouch! L 2.42, 3.28
baak	mono	white
baakwah	poly	colloquial language, ordinary speech L 23.1
baakwahman	poly	vernacular literature L 23.1
baann	poly	manage
baannfaat	poly	way of doing; yao baann jaat practicable; moo baannjaat impossible, no way, cannot do anything about it L 7.47 (See also moo baannfaat mu)
batlaandey	poly	brandy
bay lhoh	poly	too bad! oh dear! what a mess!
beaq	mono	to be sick;ill, illness L 13.12
beaqvoang	poly	room, ward (in a hos-pital), AN kaan L 13.30
beaqyan	poly	a patient L 13.4
beq	mono	and, moreover (literary)
bey	mono	by; suffer L 21.3
bey, beyko	poly	the nose
bha	mono	to row
bha-faanxoy	poly	row back

bha-kwohxoy	poly	row over
bhangyao	poly	friend
bheang	mono	cheap
bheetaan	poly	(bed) sheet, AN dhiu L 18.20
bheeyu	poly	for instance
bheifu	poly	the skin
bheihaai	poly	(leather) shoes, AN ceak,toy L 18.28
bhengkwan	poly	average, even
bhengman	poly	ordinary people
bhengzeung	poly	ordinarily
bhengzi	poly	in ordinary times, at the usual time
-binn	mono	side L 2.21
binnlonn	poly	argue, debate
boak	mono	to moor (literary)
-bow	mono	part, portion; AN for books
bowpeng	poly	infantry L 19.8
bowtseung	poly	(infantry) rifle, AN ci L 19.12
bowvann	poly	part, portion (quasi-AN)
caak	mono	crush
caak-dhunx	poly	crush, cut off
caak-juh	poly	put one's weight on

Table 7.6: Annotations of first 50 entries in Mandarin Primer (Chao1947). The column 'Length' indicates the number of syllables in the word or phrases, where 'mono' refers to a monosyllable and 'poly' refers to a polysyllable.

7.5   Results

In this section, I examine word length in Mandarin and Cantonese. The result is shown in Table 7.7.

Language	Entries	Monosyllabic entries	Mono%
Mandarin	2983	931	31%
Cantonese	2069	597	29%

Table 7.7: Entry count, monosyllabic entry count and percentage of monosyllabic entry among all entries.

As listed above, the Mandarin data contains 2983 entries while the Cantonese one contains 2069 entries. Mandarin has more entries than Cantonese. In terms of the

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percentage of monosyllabic words, Mandarin and Cantonese are similar despite the difference in the size of their syllable inventories (Mandarin 1,300 vs. Cantonese 1,800).

The results show that and that the size of syllable inventory has no effect on word length. This result is again inconsistent with the prediction of the homophone-avoidance theory since the theory predicts that languages with larger syllable inventory have more monosyllabic words. While the result supports the prosody view that percentage of monosyllabic word is not affected the size of syllable inventory.

7.6   Summary

In this chapter, I examine word length in Chinese dialects. According to homophone-avoidance theory, the more syllables a Chinese dialect has, the fewer homophones there are, and the less the need for creating disyllabic words, and hence a lower percentage of disyllabic words it has. In contrast, according to prosodic theory, disyllabic words are created for prosodic requirements and have little to do with the number of syllables a language has. To evaluate the predictions, I examine two dialects that differ in the number of distinct syllables: Mandarin (1,300 distinct syllables) and Cantonese (1,800 distinct syllables). I carry out a complete annotation of word length in two parallel textbooks, a Mandarin textbook and a Cantonese textbook (Chao 1948 vs. Chao 1947). The results show that Mandarin and Cantonese have similar percentages of disyllabic words and that the size of syllable inventory has no effect on word length.

Chapter 8

Conclusions

8.1   Annotations and analyses of elastic words

This study focuses on two issues. First, I offer a complete annotation of elastic words in modern Standard Chinese. In the annotation, I employ the criteria of elastic words according to Huang and Duanmu (2013). That is, an elastic word has two length forms, where (1) one is short and the other is long; (2) they share the same morpheme; (3) they have the same meaning and (4) they are interchangeable in some contexts. Modern Chinese Dictionary (2005) is annotated with these criteria in the present study, which shows that the criteria are feasible and explicit. In addition, our annotation is based on word senses, which distinguishes word categories and shades of the meaning under the same entry. Sense-based annotation is also used in Huang and Duanmu (2013), but most of previous studies are based on word entries (Duanmu 2013). The sense-based annotation shows its advantage when senses under the same entry have different length properties. For example, one sense is elastic but the other is not. Aother example is when two senses are both elastic but they have different long forms. According to the criteria of elastic words and annotations based on senses, I provide a full annotation of Modern Chinese Dictionary (2005), where all the monomorphemic words are included. The result shows that about half of the morphemes in modern Standard Chinese are elastic, which is lower than previous estimates from sampling (79% in Duanmu 2013, 61% in Huang and Duanmu 2013).

Second, I offer an analysis of why elastic words are created in Chinese. There are various theories in the literature, such as the homophone-avoidance theory (Karlgren 1918/1923; Jespersen 1930; Guo 1938; Lü 1963; T'sou 1976; Li and Thompson 1981; Ke 2006; Jin 2011), the prosody theory (Duanmu 1999; Duanmu 2000; Lu and Duanmu

2002; Duanmu 2007a; Duanmu and Dong 2015), the change in prosody theory (Feng 1998b), the increase in vocabulary theory (Cheng1992; Packard 2000), the speech rate theory (Guo 1938), and the processing need thoery (Pan 1997), but there is no consensus on the correct explanation. The present study examines four properties of elastic words in order to evaluate these theories, with a focus on homophone-avoidance theory and the prosody theory. Specifically, I examine the effect of homophony and word category on elastic words in modern Standard Chinese. In addition, I explore the historical development of elastic words, focusing on Middle Chinese. Finally, I examine word length distribution among Chinese dialects, focusing on Mandarin and Cantonese.

The homophone-avoidance theory, by far the most popular one, proposes that disyllabic words are created to reduce homophony and avoid ambiguity after massive syllable loss in Chinese. Since monosyllabic forms are still in use, Chinese ends up with many elastic words (monosyllabic-disyllabic pairs). In contrast, the prosody theory proposes that elastic words are created because disyllabic words are needed in some positions (prosodically strong positions), due to the phonological requirement of Foot Binarity (Prince 1980), while monosyllabic words are needed in other positions. The comparison focuses on four pieces of evidence.

The first is a study of the relation between homophony and elastic words, based on a complete annotation of length elasticity of all word senses in Modern Chinese Dictionary (2005) (e.g. monosyllabic-only, polysyllabic-only, elastic). The results show that there is no correlation between homophony and elastic words within nouns and verbs, which is contradictory to homophone-avoidance theory but consistent with the prosody theory.

The second study examines the effect of word category on elastic words, with exhaustive annotations of POS category and length elasticity in Modern Chinese Dictionary (2005). A general examination shows that over half of words in Chinese lexicon are elastic; the percentage is over 60% among common words. As predicted by the prosody theory, content words have higher percentage of elastic words than function words since content words tend to carry more information and therefore stressed, which require disyllabic forms.

The third study examines the historical development of elastic words, with a focus on Middle Chinese. According to homophone-avoidance theory, Modern Chinese has a small syllable inventory, thus there are many homophones, which invokes the need to create disyllabic words. Middle Chinese, on the other hand, has twice as much distinct syllable as Modern Chinese, hence has fewer homophones and less need for disyllabic words. In contrast, according to the prosody theory, disyllabic words are created to satisfy phonological requirement and the number of distinct syllables is irrelevant. Thus, Middle Chinese should have just as many elastic words as Modern Chinese. I examine the two predictions based on elasticity annotations of ten random sampled poems from *Quan Tangshi* ('Complete collections of poems in the Tang Dynasty'), where word elasticity is checked in the rest of the poems of *Quan Tangshi*. The results show that there are many elastic words in Middle Chinese, similar to that in Modern Chinese, which is again inconsistent with homophone-avoidance theory but consistent with the prosody theory.

The fourth study examines word length in Chinese dialects. According to homophone-avoidance theory, the more syllables a Chinese dialect has, the fewer homophones there are, and the less the need for creating disyllabic words, and hence a lower percentage of disyllabic words it has. In contrast, according to prosodic theory, disyllabic words are created for prosodic requirements and have little to do with the number of syllables a language has. To evaluate the predictions, I examine two dialects that differ in the number of distinct syllables: Mandarin (1,300 distinct syllables) and Cantonese (1,800 distinct syllables). I carry out a complete annotation of word length in two parallel textbooks, a Mandarin textbook and a Cantonese textbook (Chao 1948 vs. Chao 1947). The results show that Mandarin and Cantonese have similar percentages of disyllabic words and that the size of syllable inventory has no effect on word length.

Various evidence consistently points to the conclusion that the prosody theory offers a better explanation of why elastic words are created in Chinese, despite of the fact that homophone-avoidance theory seems quite intuitive and natural. In other words, elastic words are created to fulfill prosodic requirement rather than to compensate for syllable loss or an increase in homophony.

8.2　　Contributions

This study has the following contributions:

First, it shows that it is important to evaluate linguistic theories with quantitative evidence, including theories that seem self-evident and are part of the conventional wisdom. The homophone-avoidance theory is so common and intuitively natural that it seems that no proof is needed. However, I test this theory with four properties of elastic words using quantitative evidence. The results show that none of the predictions of the homophone-avoidance theory are supported. Instead, the prosody theory, a less common view is consistent with our results.

Second, the study shows that prosody interacts with morphology and syntax a lot more than previously thought. In particular, prosody determines the formation of words, in that the extra part in the disyllabic form does not contribute to the meaning but to fulfill phonological requirements. Prosody also has restrictions on syntax. For example, in verb-object [VO] phrase, both [disyllable + disyllable] ([2+2]) 种植树木 *zhong-zhi shu-mu* 'plant tree' and [disyllable + monosyllable] ([2+1]) 种植树 *zhong-zhi* shu 'plant trees' are legal in syntax. However, the latter is generally not allowed and the reason is phonological. Specifically, compound stress falls on the first N, and Foot Binarity requires it to be disyllabic (as in 2+2 or 2+1), unless both Ns are monosyllabic (i.e. 1+1), which can form a binary foot, too.

Third, it is the first study that provides a full annotation of POS and word length elasticity, based on word senses. The complete annotation of the elastic length property in MCD yields an elastic length dictionary of modern Standard Chinese, which can be used to further explore this property in Chinese.

Fourth, both language-internal and cross-linguistic evidence are provided in the present study while most previous studies rely on cross-linguistic evidence. The internal evidence from modern Standard Mandarin and the parrelled comparison between Mandarin and Cantonese provide a better understanding of why elastic are created in Chinese.

Finally, both synchronic and diachronic evidence are offered. The examination of elastic words in Middle Chinese and its copmparism with modern Standard Chinse provides historical evidence on the development of elastic words.

8.3   Future studies

This study focuses on the annotations and the analyses of elastic words in Chinese. It is desirable to expand the study in the following aspects as possible future studies.

First, the dataset for Middle Chinese is relatively small (560 characters, 498 words). It is desirable to collect a larger dataset and annotate the word length property. In that case, we can be more confident with the conclusion on Middle Chinese.

Second, as discussed in section 3.2, the elastic word is not the only type of length alternations. There are three types. An elastic word can have a long and a short form where the two forms are related (i.e. share a morpheme), such as 煤 *mei* vs. 煤炭 *mei-tan* 'coal'. The long form and the short form could be unrelated (i.e. do not share a morpheme), such as 故 *gu* vs. 所以 *suo-yi* 'therefore'. The long form and the short form could be both related and unrelated, such as 物 *wu* vs. 物体 'things' *wu-ti* and 物 *wu* vs. 东西 *dong-xi* 'things'. It would be useful to annotation all three types so that we can examine how different types are used in length alternation.

Third, as mentioned in Chapter 1, studies propose that elastic words are formed to serve different purpose, such as different styles (Li 1990, Feng 2010). Otherwise, having two sets of words with the same meaning violates the notion of 'blocking effect'. However, the usual interpretation of the 'blocking effect' is to account for 'irregular inflections' (Kiparsky 1982), such as 'foot-feet' (not 'foot-foots') and 'give-gave' (not 'give-gived'). Embick and Marantz (2008) propose that blocking is a competition among different forms of a morpheme, such as the 'zero suffix' and 'ed' of 'past tense' for words like 'give' and 'see'. Therefore, grammar allows a morpheme to have two forms, such as '0' and 'ed' for 'past tense'. In addition, it is worth noting that the alternation between long and short forms of an elastic word is not inflection. The extra part in the long form is not an inflectional affix, which fulfills grammatical functions. Therefore, there is no conflict between creating elastic words and the blocking effect.

Finaly, there are many other issues about elastic words that have not been discussed, such as the configuration of the length pair (such as the semantic and the morphological structures); factors affect the formation of length pairs (such as family size and word frequency), etc. I hope to investigate these issues in future research and have a

better understanding of the elastic word length in Chinese. In addition, it is interesting to notice that elastic words occur extensively in Chinese but not in languages like English. It would be interesting to know if the existence of elastic words is related to tones and the strategies to fulfill phonological requirements. In particular, if tonal language and non-tonal languages adopt different strategies to fulfill phonological requirements.

Appendix: Elastic words in Modern Chinese

Notes

1. The list below represents all elastic words (7387 in all) in *Xiandai Hanyu Cidian* 'A Modern Chinese Dictionary (MCD)', first compiled by the Chinese Academy of Social Sciences Institute of Linguistics (1978). The present study is based on its fifth edition (2005).

2. There are three length types in MCD: those that only have monosyllabic forms (1-only), those that only have polysyllabic forms (Poly-only), and those that can alternate between monosyllabic and disyllabic forms (Elastic). 1-only and Poly-only are not listed here.

3. Proper names are mostly monosyllabic, but in use they are usually combined with another morpheme, such as *Wang* (surname Wang) and *Xiao-Wang* (little-Wang). Proper names are not included.

4. Elastic words are listed alphabetically by Pinyin and tone of the monosyllabic form (second column). Monosyllabic forms are monosyllabic monomorphemic units, based on senses. The same character may be listed multiple times if they represent more than one morpheme.

5. Monosyllabic forms of elastic words can be divded into two groups according to whether they can be used alone or fulfill syntactic functions: free (3356 in all) and bound (4031 in all). The information of free or bound are based on the annotation from the dictionary (MCD 2005).

6. Polysyllabic forms can be divided into three groups according to the number of syllables: disyllables (7290 in all), trisyllables (88 in all) and quadrisyllables (9 in all).

7. For each elastic word, four items are provided: the character for its monosyllabic form (column 1), the character for its polysyllabic form (column 2), its POS (column 3), and whether the monosyllabic form in column 1 is bound or free (column 4). Annotations of elastic words are discussed in Chapters 2 to 5.

8. Lijun Huang, Xinting Zhang, Michael Opper, and San Duanmu contributed to part of the annotation.

9. Abbreviations of POS categories

A	Adjective
Ad	Adverb
Con	Conjunction
Md	Mood
Ms	Measure
N	Noun
Num	Number
Ono	Onomatopoeia
Pre	Preposition
Pro	Pron
V	Verb

10. Abbreviations of free or bound categories

B	Bound
F	Free

Short	Long	POS	Free
哀	悲哀	A	F
哀	哀悼	V	F
哀	哀怜	V	F
埃	尘埃	N	F
癌	癌症	N	F
蔼	和蔼	A	B
艾	艾蒿	N	F
艾	耆艾	N	B
爱	爱惜	V	F
隘	狭隘	A	B
隘	关隘	N	B
碍	妨碍	V	F
瑷	瑷珲	N	F
安	安定	A	F
安	安定	V	B
安	平安	N	B
安	安装	V	F
安	安培	Ms	F
桉	桉树	N	F
庵	庵堂	N	F
谙	谙熟	V	B
鞍	鞍子	N	B
埯	小埯	N	F
铵	铵根	N	F
岸	江岸	N	F
岸	伟岸	A	B
岸	傲岸	A	B
案	案子	N	B
案	案件	N	B
案	案卷	N	B
案	方案	N	B
黯	黯淡	A	B
枊	马枊	N	B
螯	螯山	N	F
螯	螯阴	N	F
遨	遨游	V	B
廒	仓廒	N	B
獒	獒犬	N	F
螯	螯钳	N	F
翱	翱翔	V	B
鳌	鳌鱼	N	B
鏖	鏖战	V	B
媪	老媪	N	B
坳	山坳	N	B
傲	骄傲	A	F
奥	深奥	A	B
澳	澳门	N	F
澳	澳洲	N	F
澳	澳大利亚	N	F
懊	懊恼	A	B
巴	锅贴	N	B
巴	巴国	N	F
巴	巴士	N	B
扒	扒开	V	F
苁	奋苁屯	N	F
峇	峇厘	N	F
疤	疮疤	N	F
笆	篾笆	N	B
鲃	鲃鱼	N	F
拔	选拔	V	B
跋	跋语	N	F
把	把持	V	F
把	把守	V	F
把	车把	N	F
靶	靶子	N	F
坝	水坝	N	F
坝	堤坝	N	F
坝	坝子	N	F
把	把子	N	F
弝	弓弝	N	B
爸	爸爸	N	F
耙	钉耙	N	F
罢	罢免	V	B
鲅	鲅鱼	N	F
霸	恶霸	N	F
霸	霸权	N	F
霸	霸占	V	F
灞	灞河	N	F
白	空白	A	B
白	表白	V	B
白	道白	N	B
白	白话	N	B
白	白话	N	B
柏	柏树	N	F
摆	摆放	V	F
摆	摆动	V	F
摆	钟摆	N	F
摆	衣摆	N	F
败	失败	V	B
败	败落	V	F
拜	拜访	V	F
稗	稗子	N	F
敠	放发	V	B
班	班级	N	F
班	戏班	N	F
颁	颁发	V	B
斑	斑点	N	F
搬	搬运	V	F
瘢	瘢痕	N	F
癍	皮癍	N	F
阪	大阪	N	F
板	板子	N	F
板	门板	N	F
板	黑板	N	B
板	檀板	N	B
板	板拍	N	B
板	呆板	A	F
昄	昄大	N	F
版	底版	N	F
版	版子	N	B
钣	钣子	N	F
办	办理	V	F
办	置办	V	F
扮	装扮	V	F
伴	同伴	N	F
伴	陪伴	V	F
拌	搅拌	V	F
瓣	花瓣	N	F
瓣	瓣膜	N	F

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邦	国邦	N	B	报	报纸	N	F	奔	奔逃	V	B
帮	帮助	V	F	报	报刊	N	B	栟	栟茶	N	F
帮	帮子	N	F	报	电报	N	B	锛	锛子	N	B
帮	帮伙	N	B	刨	刨子	N	B	本	根本	N	B
帮	帮会	N	B	抱	抱养	V	F	本	本钱	N	F
梆	梆子	N	B	豹	豹子	N	F	本	本来	Ad	F
浜	河浜	N	F	鲍	鲍鱼	N	F	本	本子	N	F
榜	名榜	N	F	暴	暴躁	A	F	本	版本	N	B
榜	榜文	N	B	瀑	瀑河	N	F	本	底本	N	B
膀	肩膀	N	F	杯	杯子	N	F	本	章本	N	B
膀	翅膀	N	F	杯	奖杯	N	B	畚	畚箕	N	B
蚌	河蚌	N	F	卑	卑贱	A	B	坌	坌集	V	B
棒	棒子	N	F	卑	卑鄙	A	B	奔	奔走	V	F
谤	诽谤	V	B	卑	卑恭	A	B	倴	倴城	N	F
磅	磅秤	N	F	背	背负	V	F	笨	愚笨	A	F
包	包裹	N	F	悲	悲伤	A	B	笨	笨重	A	F
包	蒙古包	N	B	悲	慈悲	A	B	崩	崩裂	V	F
包	包围	V	F	碑	石碑	N	F	绷	紧绷	V	F
包	包含	V	F	鹎	鹎鸟	N	F	绷	床绷	N	B
苞	花苞	N	F	北	北方	N	F	绷	绷子	N	B
枹	枹树	N	F	北	北部	N	B	迸	迸裂	V	B
胞	胞衣	N	F	北	败北	V	B	逼	逼迫	V	F
胞	同胞	N	B	贝	贝壳	N	F	鳊	鳊鱼	N	F
褒	褒奖	V	B	贝	贝尔	Ms	F	鼻	鼻子	N	F
雹	冰雹	N	B	孛	孛星	N	B	匕	匕首	N	B
饱	饱满	A	F	邶	邶国	N	F	比	比较	V	F
饱	中饱	V	B	备	具备	V	B	比	比画	V	F
宝	宝物	N	F	备	准备	V	F	比	比喻	V	F
保	保卫	V	F	备	防备	V	B	沘	沘江	N	F
保	保持	V	F	备	设备	N	B	沘	沘河	N	F
保	保证	V	F	背	后背	N	F	秕	秕子	N	B
保	担保	V	F	背	背面	N	F	笔	笔法	N	B
保	保人	N	B	背	背诵	V	F	笔	笔迹	N	B
鸨	鸨鸟	N	F	背	违背	V	B	笔	笔画	N	B
鸨	鸨母	N	B	倍	倍增	V	B	鄙	鄙陋	A	B
堡	堡垒	N	B	被	被子	N	F	鄙	鄙薄	V	B
褓	襁褓	N	B	被	被覆	V	B	鄙	边鄙	N	B
报	报告	V	F	辈	辈分	N	F	币	货币	N	B
报	报答	V	F	辈	辈子	N	F	必	必定	Ad	F
报	报复	V	F	惫	疲惫	A	B	必	必须	Ad	F
报	报应	V	B	奔	奔走	V	B	闭	关闭	V	F

庇	庇护	V	B	变	突变	N	B	鬓	鬓角	N	B
泌	泌阳	N	F	变	变文	N	B	兵	兵器	N	B
毙	毙命	V	B	便	方便	A	B	兵	士兵	N	F
毙	枪毙	V	F	便	方便	N	B	丙	丙丁	N	B
敝	凋敝	A	B	便	粪便	N	B	饼	饼子	N	F
婢	婢女	N	B	遍	普遍	V	F	饼	饼子	N	B
弼	辅弼	V	B	缏	缏子	N	B	屏	屏除	V	B
痹	痹症	N	B	辨	辨别	V	F	禀	禀报	V	F
裨	裨益	N	B	辩	辩论	V	F	禀	禀文	N	B
蔽	遮蔽	V	B	辫	辫子	N	F	并	合并	V	B
壁	墙壁	N	B	辫	辫子	N	F	并	并且	Con	F
壁	壁垒	N	B	标	标志	N	B	病	疾病	N	F
避	回避	V	F	标	标准	N	B	病	弊病	N	B
嬖	嬖幸	V	B	标	标记	V	F	病	诟病	V	B
濞	漾濞	N	F	标	锦标	N	B	摒	屏除	V	B
臂	臂膀	N	F	标	标价	N	B	波	波浪	N	B
襞	皱襞	N	B	飑	飑风	N	B	波	风波	N	B
襞	肠襞	N	B	膘	肥膘	N	F	钵	钵盂	N	F
边	边缘	N	F	飙	飙风	N	B	钵	钵盂	N	F
边	边界	N	B	镖	飞镖	N	F	播	传播	V	F
边	边际	N	B	表	表面	N	B	播	播种	V	F
边	旁边	N	B	表	中表	N	B	播	播迁	V	B
边	边上	N	F	表	表示	V	F	嶓	嶓冢	N	F
砭	砭石	N	B	表	表率	N	B	伯	伯父	N	B
砭	针砭	V	B	表	奏表	N	B	伯	伯爵	N	B
编	编织	V	F	表	表格	N	F	驳	反驳	V	B
编	编辑	V	F	表	手表	N	F	驳	驳运	V	B
编	编制	N	B	裱	裱糊	V	F	驳	驳船	N	B
鳊	鳊鱼	N	B	鳔	鱼鳔	N	F	泊	停泊	V	F
鞭	鞭子	N	F	鳔	鳔胶	N	F	泊	漂泊	V	B
鞭	鞭炮	N	F	鳖	鳖鱼	N	B	泊	淡泊	A	B
鞭	鞭打	V	B	别	告别	V	F	柏	柏林	N	B
匾	横匾	N	F	别	区别	V	B	勃	蓬勃	A	B
匾	竹匾	N	F	别	差别	N	B	铍	铜铍	N	F
碥	碥磴	N	B	别	类别	N	B	亳	亳州	N	F
卞	卞急	A	B	瘪	干瘪	A	F	舶	船舶	N	B
忭	欢忭	A	B	邠	邠县	N	F	脖	脖子	N	F
变	变化	V	F	宾	宾客	N	B	脖	脖子	N	F
变	改变	V	F	濒	濒临	V	B	博	渊博	A	B
变	变卖	V	B	摈	摈弃	V	B	博	博取	V	B
变	变通	V	B	髌	髌骨	N	B	渤	渤海	N	B

搏	搏斗	V	B	才	人才	N	B	操	操纵	V	F
鲌	鲌鱼	N	F	材	材料	N	B	操	操作	V	B
箔	苇箔	N	B	材	棺材	N	F	操	操练	V	B
箔	蚕箔	N	B	材	材料	N	B	操	体操	N	F
膊	胳膊	N	B	材	人材	N	B	操	操行	N	B
薄	薄弱	A	B	财	财产	N	B	糙	粗糙	A	F
薄	轻薄	A	B	裁	裁减	V	F	曹	曹国	N	F
薄	鄙薄	V	B	裁	体裁	N	B	嘈	嘈杂	A	B
簸	簸荡	V	B	裁	裁决	V	B	漕	漕运	V	B
逋	逋逃	V	B	裁	制裁	V	B	槽	槽子	N	F
逋	逋欠	V	B	采	开采	V	F	槽	槽子	N	F
卜	占卜	V	B	采	采取	V	B	槽	槽子	N	B
卜	预卜	V	B	采	神采	N	B	草	草野	N	B
补	填补	V	F	彩	彩色	N	B	草	草率	A	F
补	滋补	V	F	彩	彩带	N	B	草	草书	N	B
补	补益	N	B	彩	彩活	N	B	草	起草	V	B
捕	捕捉	V	F	彩	彩票	N	F	册	册子	N	B
哺	哺育	V	B	彩	彩活	N	B	厕	厕所	N	B
堡	堡子	N	F	睬	理睬	V	B	侧	侧面	N	F
布	棉布	N	F	菜	蔬菜	N	F	测	测量	V	F
布	宣布	V	B	菜	油菜	N	B	测	推测	V	B
布	散布	V	F	蔡	蔡国	N	F	恻	凄恻	A	B
布	布置	V	F	参	参加	V	B	策	简策	N	B
步	脚步	N	F	参	参考	V	B	策	筹策	N	F
步	步骤	N	F	参	参谒	V	B	策	计策	N	B
步	地步	N	F	参	参劾	V	F	策	策划	V	B
吥	唝吥	N	F	餐	餐食	N	B	策	鞭策	V	B
怖	恐怖	V	B	残	残缺	V	F	层	层叠	A	B
埔	大埔	N	F	残	残害	V	B	曾	曾经	Ad	F
部	部分	N	B	残	凶残	A	B	蹭	磨蹭	V	F
部	部门	N	B	惭	惭愧	A	B	叉	叉子	N	F
部	部位	N	B	惨	悲惨	A	F	叉	叉子	N	F
部	部队	N	F	惨	惨毒	A	B	杈	杈子	N	F
部	部领	V	B	灿	灿烂	A	B	差	差数	N	F
埠	船埠	N	B	璨	璨玉	N	B	插	安插	V	F
埠	商埠	N	B	仓	仓库	N	F	茬	话茬	N	F
簿	簿子	N	B	仓	仓位	N	B	茶	茶树	N	F
擦	摩擦	V	F	苍	苍穹	N	B	茶	茶礼	N	B
猜	猜测	V	F	舱	舱位	N	F	茶	茶色	N	B
猜	猜忌	V	B	藏	躲藏	V	F	茶	茶饮	N	B
才	才能	N	F	藏	收藏	V	F	茶	油茶树	N	B

茶	山茶	N	B	铲	铲子	N	F	巢	匪巢	N	B
查	检查	V	F	铲	铲除	V	F	朝	朝廷	N	B
查	调查	V	F	阐	阐述	V	B	朝	朝代	N	B
嵖	嵖岈	N	F	忏	忏悔	V	B	朝	朝代	N	B
察	观察	V	B	忏	忏悔	N	B	朝	朝见	V	B
檫	檫树	N	F	颤	颤抖	V	B	嘲	嘲笑	V	B
镲	镲钹	N	F	羼	羼杂	V	B	潮	潮汐	N	F
汊	汊子	N	B	伥	伥鬼	N	B	潮	潮流	N	B
杈	杈子	N	F	昌	昌盛	A	B	潮	潮湿	A	F
岔	分岔	N	F	猖	猖狂	A	B	潮	潮州	N	B
岔	岔开	V	F	娼	娼妓	N	B	吵	吵扰	V	F
岔	岔子	N	F	鲳	鲳鱼	N	F	吵	争吵	V	F
衩	衩口	N	F	长	长度	N	F	炒	炒作	V	F
诧	惊诧	V	B	长	长处	N	B	炒	炒作	V	F
拆	拆毁	V	F	场	场地	N	F	车	车子	N	F
钗	钗子	N	B	场	市场	N	F	车	车子	N	B
差	差遣	V	F	肠	肠子	N	F	车	车子	N	F
差	差役	V	F	尝	品尝	V	F	扯	拉扯	V	F
柴	柴火	N	F	常	平常	A	B	扯	撕扯	V	F
豺	豺狗	N	F	常	常常	Ad	F	彻	透彻	A	B
觇	觇视	V	B	常	伦常	N	B	撤	撤退	V	F
掺	掺兑	V	B	偿	偿还	V	B	澈	清澈	A	B
搀	搀扶	V	B	厂	工厂	N	F	郴	郴州	N	F
谗	谗言	N	B	厂	厂子	N	F	嗔	嗔怒	V	B
禅	坐禅	V	B	场	场地	N	B	嗔	嗔怪	V	B
孱	孱弱	A	B	场	台场	N	B	尘	灰尘	N	B
缠	缠绕	V	F	场	场地	N	B	尘	尘世	N	B
缠	纠缠	V	F	场	场地	N	B	辰	星辰	N	B
蝉	蝉子	N	B	惝	惝恍	A	F	辰	时辰	N	B
澶	澶渊	N	F	敞	宽敞	A	F	辰	辰州	N	F
瀍	瀍河	N	F	氅	大氅	N	B	沉	沉重	A	F
蟾	蟾蜍	N	B	玚	玚圭	N	B	陈	陈列	V	B
巉	巉峻	A	B	怅	惆怅	A	B	陈	陈述	V	B
产	生产	V	F	畅	畅通	A	B	陈	陈国	N	F
产	生产	V	B	倡	提倡	V	B	陈	陈朝	N	F
产	出产	V	F	唱	唱词	N	F	榇	榇树	N	F
产	产品	N	B	抄	抄袭	V	F	晨	早晨	N	B
产	产业	N	B	钞	钞票	N	B	碜	寒碜	A	B
浐	浐河	N	F	超	超过	V	F	衬	衬里	N	F
谄	谄媚	A	B	超	超出	V	B	衬	陪衬	V	F
啴	啴缓	A	B	巢	鸟巢	N	B	谶	谶语	N	B

称	名称	N	F	痴	痴迷	V	B	虫	虫子	N	F
称	称赞	V	B	痴	痴子	N	B	重	重复	V	F
蛏	蛏子	N	B	痴	痴子	A	B	重	重新	Ad	F
铛	饼铛	N	B	池	池塘	N	F	重	重叠	V	F
成	成功	V	F	弛	松弛	A	B	崇	崇高	A	B
成	成全	V	B	驰	奔驰	V	B	崇	尊崇	V	B
成	成为	V	F	驰	神驰	V	B	宠	宠爱	V	F
成	成果	N	B	迟	迟缓	A	B	冲	冲压	V	B
成	成熟	A	B	茌	茌平	N	F	铳	火铳	N	F
成	现成	A	B	持	支持	V	B	仇	仇敌	N	B
呈	呈现	V	F	持	操持	V	B	仇	仇恨	N	F
呈	呈文	N	B	持	挟持	V	B	俦	俦侣	N	B
郕	郕国	N	F	匙	匙子	N	B	惆	惆怅	A	B
诚	诚恳	A	B	尺	尺子	N	F	绸	绸子	N	B
承	承担	V	B	尺	尺子	N	B	畴	田畴	N	B
承	承蒙	V	F	尺	尺子	N	B	畴	范畴	N	B
承	继承	V	B	呎	英尺	Ms	F	酬	酬谢	V	B
承	秉承	V	B	齿	牙齿	N	B	酬	报酬	N	B
城	城墙	N	F	齿	齿及	V	B	酬	应酬	N	B
城	城区	N	F	侈	奢侈	A	B	稠	稠密	A	B
城	城市	N	F	耻	羞耻	N	B	愁	忧愁	V	F
埕	埕田	N	B	耻	耻辱	N	B	愁	忧愁	N	B
程	章程	N	B	褫	褫革	V	B	筹	筹子	N	B
程	程序	N	B	叱	叱责	V	B	筹	筹划	V	F
程	旅程	N	B	斥	斥责	V	B	筹	筹划	N	B
程	路程	N	B	斥	排斥	V	B	雠	校雠	V	B
惩	惩罚	V	B	斥	斥卤	N	B	丑	丑陋	A	F
惩	惩戒	V	B	赤	赤诚	A	B	丑	丑角	N	F
塍	田塍	N	F	赤	赤金	N	B	出	出产	V	F
澄	澄澈	A	B	饬	整饬	V	B	出	出版	V	F
澄	澄清	V	B	饬	饬令	V	B	出	发出	V	F
橙	橙子	N	F	饬	谨饬	A	B	出	支出	V	B
橙	橙子	N	F	炽	炽热	A	B	初	初始	N	F
橙	橙色	N	B	翅	翅膀	N	F	初	初始	N	B
逞	得逞	V	B	翅	鱼翅	N	F	樗	樗树	N	F
骋	驰骋	V	B	冲	冲撞	V	B	除	除去	V	F
棖	棖木	N	F	冲	冲洗	V	F	厨	厨房	N	B
眙	眼眙	N	F	冲	冲洗	V	F	厨	厨师	N	B
笞	鞭笞	V	B	充	充足	A	B	锄	锄头	N	F
嗤	嗤笑	V	B	充	充当	V	B	滁	滁州	N	F
痴	痴呆	A	F	充	冒充	V	F	雏	幼雏	N	B

橱	橱柜	N	F	创	创造	V	F	辞	言辞	N	B
处	处置	V	B	怆	悲怆	A	B	辞	告辞	V	B
处	处罚	V	B	吹	吹嘘	V	F	辞	辞职	V	F
杵	杵棒	N	F	吹	吹捧	V	F	辞	辞退	V	F
础	础石	N	B	陲	边陲	N	B	辞	推辞	V	B
楮	楮树	N	F	捶	捶打	V	F	慈	慈祥	A	B
储	储藏	V	B	圌	圌山	N	F	慈	慈爱	V	B
储	王储	N	B	槌	棒槌	N	F	慈	慈母	N	B
楚	苦楚	N	B	锤	锤子	N	B	磁	磁铁	N	F
楚	清楚	A	B	锤	锤子	N	B	次	次序	N	B
楚	楚国	N	F	锤	锤子	N	F	刺	刺激	V	F
处	处所	N	F	锤	捶打	V	F	刺	刺杀	V	F
怵	怵惧	V	F	春	春季	N	F	刺	刺探	V	B
畜	牲畜	N	B	椿	椿树	N	F	刺	讽刺	V	B
搐	抽搐	V	B	椿	椿庭	N	B	刺	名刺	N	F
触	接触	V	F	蝽	蝽象	N	F	伙	伙助	V	B
触	触动	V	B	纯	纯净	A	F	赐	赐予	V	F
黜	罢黜	V	B	纯	纯粹	A	F	赐	赏赐	N	B
搋	搋搋	V	F	纯	纯熟	A	F	匆	匆忙	Ad	B
揣	揣测	V	B	唇	嘴唇	N	F	枞	枞树	N	B
川	河川	N	B	淳	淳朴	A	B	葱	葱绿	N	B
川	平川	N	B	鹑	鹌鹑	N	F	聪	聪明	A	B
川	四川	N	F	蠢	蠢动	V	B	从	跟从	V	B
穿	穿透	V	F	蠢	愚蠢	A	F	从	顺从	V	B
传	流传	V	F	蠢	蠢笨	A	F	从	从事	V	B
传	传授	V	F	逴	逴远	A	B	从	随从	N	B
传	传播	V	F	踔	踔跃	V	B	丛	丛集	V	B
传	传导	V	F	踔	踔越	V	B	丛	草丛	N	B
传	传达	V	B	戳	戳记	N	F	凑	凑凑	V	F
传	传染	V	F	啜	啜泣	V	B	辏	辏集	V	B
橼	橼子	N	B	绰	宽绰	A	B	粗	粗糙	A	F
舛	舛错	N	B	绰	绰丽	A	B	粗	粗疏	A	F
喘	气喘	V	F	辍	辍止	V	B	粗	粗野	A	F
串	贯串	V	B	刺	刺刺	Ono	F	粗	粗略	Ad	F
串	串通	V	B	词	言词	N	F	促	短促	A	B
钏	钏子	N	B	词	词牌	N	F	促	催促	V	B
创	创伤	N	B	词	单词	N	F	猝	猝然	Ad	F
疮	疮伤	N	B	兹	龟兹	N	F	蔟	蚕蔟	N	F
窗	窗户	N	F	祠	祠堂	N	B	醋	酸醋	N	F
幢	经幢	N	B	瓷	陶瓷	N	F	簇	簇拥	V	B
闯	闯练	V	F	瓷	瓷器	N	B	蹴	蹴踏	V	B

镩	冰镩	N	B	怛	怛伤	A	B	单	单子	N	F
窜	流窜	V	F	答	回答	V	F	单	单子	N	F
窜	窜改	V	B	答	报答	V	B	耽	耽误	V	B
催	催促	V	F	打	敲打	V	F	郸	郸城	N	F
摧	摧折	V	B	打	殴打	V	F	聃	老聃	N	B
脆	清脆	A	F	打	打造	V	F	殚	殚尽	V	B
萃	荟萃	V	B	打	打开	V	F	儋	儋州	N	F
淬	淬火	V	B	大	大小	N	F	胆	胆囊	N	F
粹	纯粹	A	B	大	大人	N	B	胆	胆量	N	F
粹	精粹	N	B	呆	呆笨	A	F	胆	内胆	N	F
翠	翠绿	N	B	傣	傣族	N	B	旦	晨旦	N	B
翠	翡翠	N	B	代	代替	V	F	旦	旦角	N	F
翠	翡翠	N	B	代	代理	V	F	旦	旦尼尔	Ms	F
村	村庄	N	F	代	时代	N	B	但	但是	Con	F
皴	皴裂	V	F	代	朝代	N	B	担	担子	N	F
存	存在	V	B	代	年代	N	F	诞	诞生	V	B
存	储存	V	F	岱	岱宗	N	F	诞	华诞	N	B
存	寄存	V	F	带	带子	N	F	诞	荒诞	A	B
存	存留	V	B	带	车带	N	F	淡	清淡	A	F
存	结存	V	F	带	地带	N	B	淡	冷淡	A	F
忖	忖度	V	B	带	白带	N	B	弹	弹子	N	B
吋	英寸	Ms	F	带	携带	V	F	弹	弹药	N	B
搓	揉搓	V	F	带	捎带	V	F	氮	氮气	N	F
磋	切磋	V	B	带	附带	V	F	当	相当	V	B
磋	磋商	V	B	带	带领	V	F	当	应当	V	F
挫	挫折	N	B	带	带动	V	F	当	充当	V	F
厝	安厝	V	B	贷	贷款	N	B	当	承当	V	F
措	措置	V	B	贷	借贷	V	F	当	当当	Ono	F
措	筹措	V	B	待	对待	V	F	铛	铛铛	Ono	F
锉	锉刀	N	F	待	招待	V	F	裆	裤裆	N	F
错	交错	V	F	待	等待	V	B	裆	胯裆	N	F
错	过错	N	F	怠	懈怠	A	B	挡	抵挡	V	F
搭	搭建	V	F	怠	怠慢	A	B	挡	遮挡	V	F
搭	搭配	V	F	袋	口袋	N	F	挡	挡子	N	F
搭	搭乘	V	F	戴	爱戴	V	B	挡	排挡	N	F
嗒	哒哒	Ono	F	丹	丹色	N	B	党	政党	N	F
达	通达	V	B	丹	丹药	N	B	党	党团	N	B
达	抵达	V	B	担	担负	V	F	当	恰当	A	B
达	通达	V	B	单	单独	A	B	当	当做	V	F
达	表达	V	B	单	简单	A	B	当	当当	V	F
达	显达	A	B	单	单薄	A	B	当	当当	N	B

砀	砀山	N	F		稻	稻子	N	F		地	地球	N	F
宕	延宕	V	B		嘚	嘚嘚	Ono	F		地	陆地	N	F
宕	跌宕	V	B		得	得到	V	F		地	土地	N	F
荡	摇荡	V	F		得	得意	A	B		地	地板	N	F
荡	游荡	V	B		德	道德	N	F		地	地区	N	F
荡	涤荡	V	B		德	恩德	N	B		地	地区	N	F
荡	扫荡	V	B		灯	灯具	N	F		地	地方	N	F
荡	浩荡	A	B		灯	灯管	N	F		地	地方	N	B
荡	放荡	A	B		登	攀登	V	F		地	地点	N	F
档	挡橱	N	B		登	刊登	V	F		地	地位	N	B
档	档案	N	B		噔	蹬蹬	Ono	F		地	地步	N	B
档	档子	N	F		等	等级	N	F		弟	弟弟	N	F
档	档次	N	B		等	相等	V	B		弟	弟弟	N	F
刀	刀子	N	F		等	等候	V	F		的	目的	N	B
鲂	鲂鱼	N	B		等	等到	Con	F		帝	皇帝	N	B
导	引导	V	B		等	等等	Md	F		帝	帝国主义	N	B
导	传导	V	B		凳	凳子	N	F		递	传递	V	F
导	开导	V	B		镫	马镫	N	B		第	科第	N	B
导	导演	V	B		氐	氐族	N	B		第	府第	N	B
岛	海岛	N	F		堤	堤坝	N	F		谛	真谛	N	B
捣	捣乱	V	F		狄	狄族	N	B		蒂	瓜蒂	N	B
倒	倒闭	V	F		迪	启迪	V	B		掂	掂量	V	F
倒	出倒	V	F		的	的士	N	B		颠	颠峰	N	B
倒	倒卖	V	F		敌	敌人	N	B		颠	颠簸	V	F
祷	祷告	V	B		涤	洗涤	V	B		颠	颠倒	V	B
祷	盼祷	V	B		笛	横笛	N	F		巅	山巅	N	B
蹈	舞蹈	V	B		笛	笛子	N	B		癫	疯癫	A	B
到	到达	V	F		嫡	嫡系	N	B		典	典范	N	B
到	周到	A	F		邸	官邸	N	B		典	典籍	N	B
倒	颠倒	V	F		诋	诋毁	V	B		典	典故	N	B
倒	倒退	V	F		坻	宝坻	N	F		典	典礼	N	B
倒	倾倒	V	F		抵	抵挡	V	B		典	典当	V	F
盗	偷盗	V	F		抵	抵偿	V	F		点	小数点	N	F
盗	强盗	N	B		抵	抵押	V	F		点	指点	V	F
悼	悼念	V	B		抵	抵消	V	F		点	点缀	V	B
道	道路	N	F		抵	抵达	V	F		点	钟点	N	F
道	水道	N	B		底	底下	N	F		点	点心	N	B
道	道理	N	B		底	底子	N	F		电	电流	N	F
道	道德	N	B		底	底子	N	F		电	闪电	N	B
道	道道	N	F		底	底数	N	F		电	电报	N	B
稻	水稻	N	F		砥	砥石	N	B		甸	甸子	N	F

店	客店	N	F	疔	疔疮	N	F	斗	南斗	N	B
店	商店	N	F	酊	酊剂	N	F	斗	北斗星	N	B
玷	玷污	V	B	顶	顶上	N	F	抖	颤抖	V	F
垫	垫子	N	F	顶	顶撞	V	F	陡	陡然	Ad	B
淀	沉淀	V	B	顶	顶替	V	F	斗	斗殴	V	B
惦	惦记	V	F	订	订立	V	F	斗	斗争	V	F
奠	奠定	V	B	订	预定	V	F	豆	豆子	N	F
奠	祭奠	V	B	订	订正	V	B	豆	豆子	N	F
殿	殿堂	N	F	订	装订	V	F	逗	引逗	V	F
靛	靛蓝	N	B	定	固定	V	F	逗	逗留	V	B
靛	靛色	N	B	定	决定	V	F	痘	天花痘	N	F
汈	汈汉	N	B	定	约定	V	F	痘	痘苗	N	F
凋	凋谢	V	B	定	必定	Ad	F	痘	痘疹	N	F
蛁	蛁蝉	N	B	碇	碇石	N	B	都	首都	N	B
碉	碉堡	N	B	锭	锭子	N	B	都	都市	N	B
雕	雕刻	V	F	锭	锭子	N	B	督	监督	N	B
雕	雕塑	N	B	丢	丢失	V	F	嘟	嘟嘟	Ono	F
鲷	鲷鱼	N	F	东	东方	N	F	毒	毒物	N	F
吊	吊销	V	B	东	东家	N	B	毒	毒物	N	F
调	调动	V	F	东	东道	N	F	毒	毒品	N	F
调	调查	V	B	冬	冬季	N	F	毒	毒辣	A	F
调	腔调	N	F	咚	咚咚	Ono	F	独	独自	Ad	F
调	论调	N	F	崬	崬罗	N	F	独	唯独	Ad	F
调	曲调	N	F	鸫	鸫鸟	N	F	读	阅读	V	F
调	声调	N	F	董	董督	V	B	读	读音	N	B
掉	掉落	V	F	董	董事	N	B	渎	亵渎	V	B
掉	掉转	V	F	动	行动	V	F	渎	沟渎	N	B
掉	掉换	V	F	动	触动	V	F	犊	犊子	N	B
铫	铫子	N	F	动	感动	V	B	牍	文牍	N	B
迭	更迭	V	B	侗	侗族	N	B	肚	肚子	N	F
谍	间谍	N	B	栋	栋梁	N	B	堵	堵塞	V	F
堞	城堞	N	B	胨	蛋白胨	N	F	赌	赌博	V	F
叠	重叠	V	B	洞	洞穴	N	F	杜	杜梨	N	B
叠	折叠	V	F	恫	恫恐	V	B	杜	杜绝	V	B
碟	碟子	N	F	恫	恫吓	V	B	肚	肚子	N	F
蝶	蝴蝶	N	B	胴	胴体	N	B	妒	忌妒	V	B
鲽	鲽鱼	N	F	硐	硐子	N	F	度	度量	V	B
丁	壮丁	N	B	兜	兜子	N	F	度	程度	N	B
丁	人丁	N	B	篼	篼子	N	F	度	角度	Ms	F
町	畹町	N	F	斗	量斗	N	F	度	程度	N	B
钉	钉子	N	F	斗	斗纹	N	F	度	限度	N	F

度	制度	N	B	钝	迟钝	A	B	遏	遏止	V	B
度	程度	N	F	盾	盾牌	N	B	愕	惊愕	V	B
度	度量	N	B	顿	停顿	V	F	腭	腭部	N	B
度	气度	N	B	顿	整顿	V	B	鹗	鹗鸟	N	F
度	度量	N	B	顿	困顿	A	B	鳄	鳄鱼	N	F
度	度过	V	F	遁	逃遁	V	B	恩	恩惠	N	F
渡	渡过	V	F	遁	隐遁	V	B	儿	儿童	N	B
渡	渡口	N	F	多	多么	Ad	F	儿	男儿	N	B
蠹	蠹虫	N	B	掇	掇拾	V	B	儿	儿子	N	F
端	尖端	N	B	缀	补缀	V	B	耳	耳朵	N	F
端	开端	N	B	夺	掠夺	V	F	饵	鱼饵	N	B
端	端正	A	B	夺	定夺	V	B	洱	洱海	N	B
短	短小	A	F	度	揣度	V	B	发	发射	V	F
短	短缺	V	F	垛	垛子	N	B	发	发生	V	F
短	短处	N	F	躲	躲避	V	B	发	发表	V	F
段	段位	N	F	堕	堕落	V	F	发	发展	V	B
断	断绝	V	F	惰	懒惰	A	B	发	发散	V	B
断	间断	V	F	阿	阿附	V	B	发	发现	V	B
断	判断	V	B	阿	东阿	N	B	发	出发	V	B
缎	缎子	N	B	讹	讹诈	V	F	发	启发	V	B
椴	椴树	N	F	俄	俄而	Ad	F	乏	缺乏	V	B
锻	锻造	V	B	俄	俄罗斯	N	F	乏	疲乏	A	F
簖	竹簖	N	F	哦	吟哦	V	B	伐	砍伐	V	F
堆	堆积	V	F	峨	巍峨	A	B	伐	征伐	V	B
队	队列	N	F	洓	洓水	N	F	罚	处罚	V	B
队	少先队	N	F	蛾	蛾子	N	B	阀	阀门	N	F
对	对答	V	B	额	额头	N	F	筏	筏子	N	B
对	对待	V	F	额	匾额	N	B	法	法律	N	F
对	对子	N	F	额	额数	N	B	法	方法	N	F
对	对于	Pre	F	恶	厌恶	V	F	法	效法	V	B
兑	兑换	V	F	恶	恶恶	V	F	法	佛法	N	B
怼	怨怼	V	B	厄	困厄	N	B	法	法术	N	B
碓	碓窝	N	F	扼	扼制	V	B	法	法国	N	F
吨	登记吨	Ms	F	轭	轭头	N	F	发	头发	N	B
惇	惇厚	A	B	呃	呃呃	N	B	帆	船帆	N	F
敦	敦厚	A	B	垩	白垩	N	B	帆	帆船	N	B
墩	土墩	N	B	恶	恶行	N	B	幡	幡旗	N	B
墩	墩子	N	F	恶	凶恶	A	F	藩	藩篱	N	B
墩	墩子	N	F	恶	恶劣	A	B	藩	屏藩	N	B
礅	石墩	N	B	饿	饥饿	A	F	藩	藩地	N	B
囤	粮囤	N	F	萼	花萼	N	B	翻	推翻	V	F

翻	翻译	V	F	方	药方	N	F	翡	翡鸟	N	B
翻	翻脸	V	F	方	方才	Ad	F	肺	肺脏	N	F
凡	平凡	N	B	邡	什邡	N	F	废	废除	V	F
凡	凡间	N	B	坊	牌坊	N	B	废	残废	A	B
凡	凡是	Ad	F	芳	芳香	N	B	废	废黜	V	F
矾	明矾	N	B	枋	枋树	N	B	沸	沸腾	V	F
烦	烦闷	A	F	枋	木枋	N	B	费	费用	N	F
烦	厌烦	A	F	防	防备	V	F	费	花费	V	F
烦	烦杂	A	B	防	防守	V	B	刜	刜刑	N	B
烦	烦劳	V	F	防	堤防	N	B	分	分散	V	F
蕃	蕃茂	A	B	坊	作坊	N	B	分	分配	V	F
樊	樊篱	N	B	妨	妨碍	V	B	分	分支	N	B
燔	燔烧	V	B	房	房子	N	F	分	分数	N	F
繁	繁杂	A	F	房	房间	N	B	分	分数	N	B
繁	繁殖	V	B	鲂	鲂鱼	N	F	芬	芬芳	N	B
反	反抗	V	F	仿	仿效	V	F	纷	纷乱	A	B
反	反叛	V	F	仿	相仿	A	B	纷	纠纷	N	B
反	反革命	N	B	仿	仿字	N	F	氛	气氛	N	B
反	反而	Ad	F	访	访问	V	B	坟	坟墓	N	B
反	反切	V	B	纺	丝纺	N	B	汾	汾河	N	F
返	返回	V	F	舫	舫舟	N	B	焚	焚烧	V	B
犯	违犯	V	F	放	放纵	V	B	粉	粉末	N	F
犯	侵犯	V	F	放	放逐	V	B	粉	粉末	N	F
犯	罪犯	N	B	妃	妃子	N	B	粉	凉粉	N	B
饭	米饭	N	F	非	非难	V	B	粉	粉丝	N	F
饭	吃饭	V	B	非	非洲	N	F	粉	粉碎	V	F
泛	广泛	Ad	B	菲	芳菲	A	B	粉	粉刷	V	F
泛	空泛	A	B	绯	绯红	A	B	粉	粉红	A	F
泛	泛滥	V	B	扉	门扉	N	B	分	成分	N	B
范	模范	N	B	霏	霏霏	A	B	分	本分	N	B
范	范围	N	B	鲱	鲱鱼	N	F	分	情分	N	F
范	防范	V	B	肥	肥胖	A	F	份	部份	N	B
贩	贩卖	V	F	肥	肥沃	A	F	坋	古坋	N	F
贩	商贩	N	B	肥	肥料	N	F	奋	振奋	V	B
畈	畈田	N	B	肥	肥水	N	B	粪	粪便	N	F
方	乘方	N	F	肥	肥大	A	F	粪	粪除	V	B
方	方正	A	B	淝	淝河	N	F	愤	气愤	V	B
方	方向	N	F	匪	盗匪	N	B	鲼	鲼鱼	N	F
方	方面	N	F	诽	诽谤	V	B	丰	丰富	A	B
方	地方	N	B	菲	菲薄	A	B	风	风气	N	B
方	方法	N	B	蜚	蜚虫	N	B	风	风景	N	B

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风	风度	N	B	敷	敷设	V	B	腐	腐烂	V	B
风	风声	N	F	伏	潜伏	V	B	腐	豆腐	N	B
风	国风	N	B	伏	伏天	N	F	父	父亲	N	B
沣	沣河	N	F	伏	伏特	Ms	F	讣	讣告	N	B
沣	沣水	N	F	扶	扶助	V	B	付	交付	V	B
枫	枫树	N	F	拂	拂逆	V	B	付	支付	V	F
封	册封	V	F	服	衣服	N	B	负	背负	V	B
封	封闭	V	F	服	丧服	N	B	负	担负	V	F
疯	发疯	V	F	服	服从	V	F	负	辜负	V	B
峰	山峰	N	B	服	信服	V	F	妇	妇女	N	B
烽	烽火	N	B	罘	芝罘	N	F	妇	妇人	N	B
锋	锋口	N	B	氟	氟气	N	F	附	附带	V	F
锋	前锋	N	B	俘	俘获	V	B	附	附近	V	F
锋	锋面	N	B	俘	俘虏	N	B	附	依附	V	B
蜂	蜜蜂	N	F	砩	砩石	N	B	复	重复	V	B
泽	杨家泽		N	浮	轻浮	A	F	复	繁复	A	B
				桴	桴子	N	F	复	反复	V	B

F

逢	相逢	V	F	符	符节	N	B	复	恢复	V	B
讽	讥讽	V	B	符	符号	N	B	复	报复	V	B
讽	讽诵	V	B	符	符合	V	B	赋	赋予	V	B
凤	凤凰	N	F	涪	涪江	N	F	赋	赋税	N	B
奉	奉献	V	F	袱	包袱	N	B	傅	师傅	N	B
奉	信奉	V	F	幅	幅宽	N	F	富	富裕	A	F
奉	侍奉	V	B	幅	幅度	N	B	富	财富	N	B
俸	俸禄	N	B	辐	辐条	N	F	富	丰富	A	B
缝	接缝	N	F	福	幸福	N	F	腹	腹部	N	F
缝	缝隙	N	F	福	福建	N	B	腹	腹部	N	B
佛	佛陀	N	F	蝠	蝙蝠	N	B	鲋	鲋鱼	N	B
佛	佛陀	N	F	抚	抚慰	V	B	缚	束缚	V	B
佛	佛教	N	F	抚	抚养	V	B	赙	赙赠	V	B
佛	佛像	N	F	抚	抚摩	V	B	鳆	鳆鱼	N	F
佛	佛经	N	F	斧	斧子	N	B	覆	覆盖	V	B
否	否定	V	B	府	官府	N	B	覆	颠覆	V	B
夫	丈夫	N	B	府	府库	N	B	该	应该	V	F
夫	匹夫	N	B	府	官府	N	B	该	活该	V	F
夫	夫役	N	B	府	府上	N	B	垓	垓下	N	F
肤	皮肤	N	B	辅	辅助	V	B	改	改变	V	F
肤	肤浅	A	B	脯	肉脯	N	B	改	修改	V	F
麸	麸子	N	B	脯	果脯	N	B	改	改正	V	F
稃	稃壳	N	B	腑	脏腑	N	B	丐	乞丐	N	B
鄜	鄜县	N	F	滏	滏阳河	N	F	盖	盖子	N	F

盖	盖子	N	F	钢	钢材	N	F	鬲	鬲津	N	F
盖	遮盖	V	F	缸	缸子	N	F	鬲	胶鬲	N	B
盖	盖磨	V	F	缸	缸瓦	N	B	葛	葛根	N	F
溉	灌溉	V	B	堽	堽城屯	N	F	葛	葛布	N	F
概	一概	Ad	F	岗	岗子	N	F	蛤	蛤蜊	N	F
概	气概	N	B	岗	岗子	N	F	隔	阻隔	V	F
干	干犯	V	B	岗	岗哨	N	F	隔	间隔	V	F
干	干连	V	B	岗	岗位	N	F	嗝	饱嗝	N	F
干	天干	N	B	港	港湾	N	F	滆	滆湖	N	F
甘	甘甜	A	B	港	航空港	N	F	槅	槅门	N	B
甘	甘愿	V	F	港	河港	N	B	槅	槅子	N	B
杆	杆子	N	F	港	香港	N	F	膈	膈膜	N	F
肝	肝脏	N	F	杠	杠子	N	B	根	根子	N	F
苷	糖苷	N	F	杠	杠子	N	F	根	根本	N	F
泔	泔水	N	B	杠	杠子	N	F	根	根据	N	B
柑	柑橘	N	F	篢	篢口	N	F	根	方根	N	F
柑	柑子	N	F	高	高度	N	F	跟	脚跟	N	F
竿	竿子	N	F	高	高度	N	F	亘	绵亘	V	B
酐	酸酐	N	F	羔	羔子	N	B	更	更改	V	B
疳	疳积	N	F	膏	油膏	N	B	庚	年庚	N	B
杆	杆子	N	F	篙	船篙	N	F	耕	耕种	V	F
秆	秆子	N	F	镐	镐头	N	B	浭	浭水	N	F
赶	追赶	V	F	稿	稿子	N	F	赓	赓续	V	B
赶	驱赶	V	F	稿	草稿	N	F	埂	埂子	N	F
敢	勇敢	A	B	藁	藁城	N	F	埂	山埂	N	B
感	感觉	V	F	告	告诉	V	B	埂	堤埂	N	B
感	感动	V	B	哥	哥哥	N	F	耿	耿直	A	B
感	感谢	V	B	哥	大哥	N	F	哽	哽咽	V	F
感	感觉	N	B	鸽	鸽子	N	F	梗	梗茎	N	F
澉	澉浦	N	F	搁	搁置	V	F	梗	顽梗	A	B
鳡	鳡鱼	N	F	割	分割	V	B	梗	梗塞	V	B
干	主干	N	B	歌	歌曲	N	F	更	更加	Ad	F
干	干部	N	B	革	皮革	N	F	工	工人	N	B
绀	绀色	N	B	革	变革	V	B	工	工作	N	F
淦	淦水	N	F	阁	阁楼	N	B	工	工程	N	B
赣	赣江	N	F	阁	闺阁	N	B	工	工业	N	B
冈	山冈	N	B	阁	内阁	N	B	工	工程师	N	B
刚	刚强	A	F	格	格子	N	F	工	工日	N	F
刚	刚刚	Ad	F	格	规格	N	B	工	工巧	A	B
肛	肛门	N	F	格	品格	N	B	弓	箭弓	N	F
纲	纲领	N	B	格	格斗	V	B	弓	弓子	N	B

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弓	步弓	N	F	钩	钩号	N	F	鼓	鼓气	V	F
公	公共	A	B	岣	岣嵝	N	F	鼓	鼓鼓	A	F
公	公共	A	B	笱	鱼笱	N	F	毂	轮毂	N	F
公	公布	V	B	构	构造	V	B	榖	榖树	N	F
公	公平	A	B	构	构成	V	B	臌	臌胀	V	B
公	公事	N	B	构	构作	N	B	瀔	瀔水	N	F
公	公爵	N	B	构	构树	N	F	固	牢固	A	B
公	公公	N	B	购	采购	V	F	固	固陋	A	B
公	公公	N	B	诟	诟病	N	B	故	事故	N	B
功	功劳	N	F	垢	污垢	A	B	故	缘故	N	B
功	功夫	N	B	垢	污垢	N	B	故	故意	Ad	F
攻	攻打	V	F	够	足够	V	F	故	亲故	N	B
供	供应	V	F	媾	婚媾	V	B	顾	兼顾	V	F
供	提供	V	F	媾	媾和	V	B	顾	光顾	V	B
宫	宫殿	N	B	媾	交媾	V	B	顾	顾念	V	B
宫	宫殿	N	B	估	估计	V	F	栝	栓栝	N	B
宫	宫殿	N	B	孤	孤单	A	B	雇	雇用	V	F
宫	宫殿	N	B	姑	姑母	N	F	锢	禁锢	V	B
宫	子宫	N	B	姑	姑子	N	B	鲴	鲴鱼	N	F
恭	恭敬	A	B	姑	翁姑	N	B	栝	栝树	N	B
巩	巩固	V	B	姑	尼姑	N	B	寡	守寡	V	B
共	共同	A	B	姑	姑且	Ad	F	诖	诖误	V	B
共	共同	Ad	B	菇	菇笋	N	F	挂	牵挂	V	F
共	一共	Ad	F	菇	蘑菇	N	B	褂	褂子	N	B
共	共产党	N	B	古	古代	N	B	乖	乖违	V	B
贡	贡献	V	B	古	古老	A	F	乖	乖戾	A	B
贡	贡品	N	B	古	古拙	A	F	拐	拐弯	V	F
供	供奉	V	F	谷	谷子	N	B	拐	拐杖	N	F
供	供品	N	B	谷	稻谷	N	F	拐	拐骗	V	F
供	供认	V	F	诂	训诂	V	B	夬	夬卦	N	F
供	口供	N	F	股	腿股	N	F	怪	奇怪	A	F
唝	唝咔	N	F	股	股份	N	F	怪	鬼怪	N	B
勾	勾销	V	F	股	股票	N	F	关	门关	N	F
勾	勾画	V	F	骨	骨头	N	F	关	关口	N	F
勾	勾引	V	F	骨	骨架	N	F	关	难关	N	F
勾	勾结	V	B	骨	骨气	N	F	关	关节	N	F
句	高句丽	N	F	牯	牯牛	N	B	关	关系	V	F
沟	沟道	N	F	贾	商贾	N	B	关	关饷	V	F
沟	沟槽	N	F	鹄	中鹄	N	B	观	观看	V	F
沟	水沟	N	F	鼓	锣鼓	N	F	观	景观	N	B
钩	钩子	N	F	鼓	鼓动	V	F	观	观点	N	B

官	官员	N	F	规	规划	V	B	过	经过	V	F
官	器官	N	B	邽	下邽	N	F	过	超过	V	F
棺	棺材	N	B	闺	闺房	N	B	过	过访	V	B
瘝	恫瘝	N	B	瘕	瘕山	N	F	过	过失	N	F
鳏	鳏寡	A	B	鲑	鲑鱼	N	F	过	经过	V	F
莞	东莞	N	F	氿	氿泉	N	B	过	胜过	V	F
馆	宾馆	N	B	轨	路轨	N	B	哈	哈腰	V	F
馆	使馆	N	B	轨	轨道	N	B	奋	奋苍屯 N		F
管	管子	N	F	轨	轨道	N	B	孩	孩子	N	B
管	管理	V	F	甌	甌子	N	B	骸	骸骨	N	B
管	管辖	V	F	诡	诡诈	A	B	骸	形骸	N	B
管	管教	V	F	诡	诡异	A	B	浬	海里	Ms	F
鳤	鳤鱼	N	F	鬼	死鬼	N	F	海	大海	N	F
观	道观	N	F	柜	橱柜	N	F	氦	氦气	N	F
贯	连贯	V	B	柜	柜房	N	F	害	祸害	N	F
贯	籍贯	N	B	桂	肉桂	N	B	害	损害	V	F
冠	冠军	N	B	桂	桂花	N	B	害	杀害	V	F
掼	使跌	V	F	桂	月桂	N	B	蚶	蚶子	N	F
惯	习惯	V	F	桂	桂皮	N	B	鼾	鼾声	N	F
盥	盥洗	V	B	桂	桂江	N	F	邗	邗江	N	F
灌	灌溉	V	F	桧	桧树	N	F	汗	可汗	N	F
瓘	瓘玉	N	F	鳜	鳜鱼	N	B	邯	邯郸	N	F
罐	罐子	N	F	辊	辊轴	N	F	函	函件	N	F
罐	罐车	N	F	滚	滚动	V	F	浛	涵管	N	F
光	光线	N	F	滚	滚动	V	F	涵	涵洞	N	B
光	风光	N	B	磙	棍子	N	B	韩	韩国	N	F
光	光彩	A	B	棍	棍子	N	F	汉	汉江	N	F
光	光荣	N	B	涡	涡河	N	F	汉	银河	N	F
光	光大	A	B	崞	崞山	N	F	汉	汉朝	N	F
光	光滑	A	F	锅	锅子	N	F	汉	汉族	N	F
洸	洸洸	N	F	锅	锅子	N	B	汉	汉子	N	F
广	推广	V	B	国	国家	N	F	汗	汗液	N	F
广	广东	N	F	国	本国	A	B	撼	摇撼	V	B
桄	线桄	N	B	腘	腘窝	N	F	夯	夯砸	N	B
归	回归	V	F	虢	虢国	N	F	行	行列	N	F
归	归还	V	F	果	果实	N	F	行	排行	V	F
圭	圭表	N	B	果	结果	N	F	行	行业	N	F
妫	妫水	N	B	果	果断	A	B	杭	杭州	N	B
规	圆规	N	F	果	果然	Ad	F	航	航行	V	B
规	规则	N	B	果	果然	V	F	巷	巷道	N	B
规	规劝	V	B	馃	馃子	N	B				

蒿	蒿子	N	B	核	核能	N	F	喉	喉咙	N	F
蚝	蚝蛎	N	B	菏	菏泽	N	F	猴	猴子	N	F
毫	毫毛	N	B	盒	盒子	N	F	骷	骨骷	N	F
毫	毛笔	N	B	盒	盒子	V	B	后	后面	N	F
豪	豪杰	N	B	涸	干涸	A	B	后	以后	N	F
壕	城壕	N	B	貉	貉子	N	F	后	后面	N	F
壕	壕沟	N	B	鹕	鹕鸟	N	B	后	后代	N	F
濠	城濠	N	B	翮	羽翮	N	F	后	皇后	N	B
濠	濠河	N	B	吓	恐吓	V	B	厚	厚度	N	F
号	称号	N	F	和	和谐	V	F	厚	厚道	N	B
号	别号	N	F	贺	庆贺	V	B	侯	闽侯	N	F
号	商号	N	B	荷	负荷	N	B	屋	神屋	N	F
号	标号	N	F	喝	吆喝	V	F	候	问候	N	B
号	号数	N	F	赫	赫赫	A	B	候	时候	N	B
号	记号	V	F	赫	赫兹	Ms	F	堠	斥堠	N	B
号	号令	N	B	褐	褐色	N	B	鲎	鲎鱼	N	B
号	号筒	N	F	鹤	仙鹤	N	B	鲘	鲘门	N	F
号	军号	N	F	壑	沟壑	N	B	呼	呼呼	Ono	F
号	号声	N	F	黑	黑暗	A	F	忽	忽而	Ad	F
耗	消耗	V	F	黑	黑夜	N	F	滹	滹沱河	N	F
耗	噩耗	N	B	痕	痕迹	N	B	狐	狐狸	N	F
浩	浩大	A	B	恨	悔恨	V	B	弧	圆弧	N	F
滈	滈河	N	B	亨	亨通	A	B	胡	胡人	N	B
镐	镐京	N	B	亨	亨利	Ms	F	胡	胡乱	Ad	F
呵	呵斥	V	B	恒	恒心	N	B	胡	胡子	N	B
喝	喝酒	V	F	桁	桁梁	N	F	湖	湖泊	N	F
禾	禾苗	N	B	鸻	鸻鸟	N	F	湖	湖州	N	B
合	合拢	V	F	横	蛮横	A	B	槲	槲树	N	F
合	结合	V	F	横	横竖	Ad	F	虎	老虎	N	F
合	复合	V	F	横	横是	Ad	F	浒	水浒	N	B
合	折合	V	F	衡	衡具	N	B	唬	唬人	V	F
合	回合	Ms	F	衡	衡量	V	B	互	互相	Ad	F
和	和平	N	B	衡	平衡	A	B	户	门户	N	B
和	和谐	A	F	红	红布	N	B	户	住户	N	B
和	和数	V	F	红	红利	N	B	户	户头	N	B
郃	郃阳	N	F	宏	宏大	A	B	冱	冱寒	A	B
河	河流	N	F	虹	彩虹	N	F	护	保护	V	B
河	银河	N	B	洪	洪水	N	B	护	袒护	V	F
河	黄河	N	B	鸿	鸿雁	N	B	斛	斛斗	N	B
荷	荷花	N	F	哄	哄逗	V	F	瓠	瓠子	N	F
荷	荷兰	N	F	侯	侯爵	N	B	扈	扈从	N	B

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鄂	鄂县	N	F	淮	淮河	N	F	慌	慌张	A	F
鸒	鸒鸟	N	F	槐	槐树	N	F	皇	皇帝	N	B
鳣	鳣鱼	N	F	踝	脚踝	N	F	黄	黄金	N	B
花	花朵	N	F	坏	变坏	V	F	黄	蛋黄	N	F
花	烟花	N	F	坏	坏主意	N	F	黄	黄河	N	B
花	花纹	N	F	欢	欢乐	N	B	黄	黄帝	N	B
花	眼花	A	F	还	返还	V	B	隍	城隍	N	B
花	棉花	N	B	还	归还	V	F	湟	湟水	N	F
花	天花	N	F	环	圆环	N	F	惶	惶惶	A	B
花	花费	V	F	环	环节	N	F	煌	辉煌	A	B
划	划算	A	B	环	环绕	V	F	潢	装潢	N	B
华	光华	A	B	萱	萱草	N	F	蝗	蝗虫	N	F
华	繁华	A	B	洹	洹河	N	F	磺	硫磺	N	B
华	精华	N	B	崔	崔苟泽	N	F	簧	弹簧	N	F
华	奢华	A	B	濂	濂河	N	F	鳇	鳇鱼	N	F
华	年华	N	B	鹮	鹮鸟	N	F	恍	恍然	A	B
华	中华	N	F	缓	迟缓	A	B	谎	谎话	N	F
哗	喧哗	A	B	缓	延缓	V	F	晃	晃动	V	F
铧	犁铧	N	F	缓	缓和	V	B	晃	晃县	N	F
猾	狡猾	A	B	幻	虚幻	N	B	灰	灰尘	N	F
滑	光滑	A	F	幻	变幻	V	B	灰	石灰	N	F
滑	滑动	V	F	宦	官宦	N	B	灰	灰色	A	F
滑	油滑	A	F	宦	仕宦	V	B	诙	诙谐	A	B
化	变化	V	F	宦	宦官	N	B	挥	挥舞	V	F
化	感化	V	B	换	交换	V	F	挥	指挥	V	B
化	熔化	V	F	换	变幻	V	F	挥	挥发	V	B
化	消化	V	F	换	兑换	V	F	恢	恢弘	A	B
化	烧化	V	B	唤	呼唤	V	F	珲	瑷珲	N	F
化	化学	N	B	涣	涣散	V	B	辉	光辉	N	B
化	化缘	V	F	患	患难	N	B	辉	辉映	V	B
划	划分	V	F	患	忧患	N	B	徽	徽章	N	B
划	划拨	V	F	患	患病	V	F	徽	徽州	N	F
划	计划	V	B	豢	豢养	V	B	回	迂回	A	B
华	华山	N	F	鲩	鲩鱼	N	F	回	回报	V	F
画	描画	V	F	荒	荒芜	V	F	回	回禀	V	F
画	图画	N	F	荒	荒凉	A	B	回	回绝	V	F
话	话语	N	F	荒	荒歉	A	B	回	回族	N	B
桦	桦树	N	F	荒	荒地	N	B	蛔	蛔虫	N	B
怀	胸怀	N	B	荒	荒疏	V	F	悔	后悔	V	B
怀	怀念	V	B	荒	荒谬	A	B	毁	毁坏	V	F
怀	怀孕	V	F	荒	荒淫	A	B	毁	烧毁	V	B

毁	诋毁	V	B	浑	浑朴	A	B	击	冲击	V	B
卉	花卉	N	B	珲	珲春	N	F	饥	饥饿	A	B
汇	汇合	V	F	魂	灵魂	N	F	玑	珠玑	N	B
汇	汇聚	V	B	诨	打诨	V	B	芨	芨芨草	N	F
汇	汇款	V	F	混	混合	V	F	机	机器	N	B
汇	外汇	N	B	混	蒙混	V	F	机	飞机	N	B
会	会合	V	B	溷	溷浊	A	B	机	转机	N	B
会	会见	V	F	秳	秳地	V	F	机	机会	N	B
会	集会	N	F	豁	豁开	V	F	机	心机	N	B
会	庙会	N	B	活	救活	V	F	机	机警	A	B
会	都会	N	B	活	活动	A	F	肌	肌肉	N	B
会	机会	N	B	活	活跃	A	F	鸡	家鸡	N	F
会	体会	V	B	火	火气	N	F	积	积累	V	F
会	会账	V	F	火	火红	A	F	积	乘积	N	F
会	会子	N	F	火	火急	A	B	屐	木屐	N	B
讳	忌讳	V	B	火	发火	V	F	屐	屐履	N	B
讳	名讳	N	B	伙	伙食	N	B	姬	歌姬	N	B
浍	浍河	N	F	伙	伙伴	N	B	基	基础	N	B
浍	浍河	N	F	伙	伙同	Ad	F	缉	缉拿	V	B
诲	教诲	V	B	潞	潞县	N	F	畸	畸零	N	B
绘	描绘	V	F	或	或许	Ad	F	箕	簸箕	N	B
恚	恚恨	N	B	或	或者	Con	F	箕	簸箕	N	B
贿	贿赂	N	B	货	货币	N	B	稽	稽查	V	B
硘	石硘镇	N	F	货	货物	N	F	稽	稽留	V	B
晦	隐晦	A	B	货	货卖	V	B	畿	京畿	N	B
秽	污秽	N	B	获	捕获	V	B	激	刺激	V	F
惠	恩惠	N	B	获	获得	V	B	激	激动	V	B
喙	鸟喙	N	B	获	收获	V	B	羁	羁绊	N	B
溃	溃烂	V	B	祸	祸事	N	F	羁	羁留	V	B
慧	聪慧	A	B	祸	祸害	V	B	及	推及	V	B
蕙	蕙兰	N	B	惑	迷惑	N	B	吉	吉利	A	B
潓	潓水	N	F	惑	迷惑	V	B	级	等级	N	F
昏	黄昏	N	B	霍	霍然	A	B	级	年级	N	F
昏	昏暗	A	B	腾	丹腾	N	B	即	即使	Con	F
昏	头昏	V	B	豁	豁然	A	B	急	着急	V	F
昏	昏迷	V	F	豁	豁免	V	B	急	急躁	A	F
荤	荤菜	N	B	几	茶几儿	N	B	急	急促	A	F
婚	结婚	V	B	几	几乎	Ad	F	急	紧急	A	F
婚	婚姻	N	B	讥	讥讽	V	B	疾	疾病	N	B
楯	楯树	N	B	击	击打	V	B	疾	疾苦	N	B
浑	浑浊	A	F	击	袭击	V	B	集	汇集	V	B

集	集市	N	F	迹	形迹	N	B	假	假定	Con	B
集	集子	N	B	济	救济	V	B	假	假如	Con	B
集	集合	N	F	既	既然	Con	F	价	价格	N	F
辑	编辑	V	B	继	继续	V	B	价	价值	N	B
耤	耤河	N	F	继	继而	Con	F	价	化合价	N	F
戴	戴菜	N	B	祭	祭祀	V	F	驾	驾驶	V	F
瘠	瘠薄	A	B	祭	祭奠	V	F	架	架子	N	F
籍	书籍	N	B	悸	悸动	V	B	架	招架	V	F
籍	籍贯	N	B	寄	邮寄	V	F	架	绑架	V	F
己	自己	N	B	寄	寄托	V	F	嫁	转嫁	V	B
虮	虮子	N	B	寂	寂静	A	B	稼	耕稼	V	B
挤	拥挤	A	F	寂	寂寞	A	B	稼	庄稼	N	B
挤	挤压	V	F	绩	功绩	N	B	奸	奸诈	A	B
挤	排挤	V	F	蓟	大蓟	N	F	奸	内奸	N	B
济	济水	N	F	蓟	蓟县	N	F	奸	奸淫	V	B
给	供给	V	B	鲚	鲚鱼	N	F	歼	歼灭	V	B
脊	脊柱	N	B	鲫	鲫鱼	N	F	坚	坚固	A	B
魢	魢鱼	N	F	髻	发髻	N	B	坚	坚定	A	B
麂	麂子	N	F	冀	希冀	V	B	间	中间	N	F
计	计算	V	F	稷	稷子	N	B	间	房间	N	B
计	计划	N	F	加	增加	V	F	肩	肩膀	N	F
计	设计	V	F	加	添加	V	F	肩	肩负	V	B
计	计较	V	F	加	加以	V	F	艰	艰苦	A	B
记	记录	V	F	夹	夹杂	V	F	监	监察	V	B
记	标记	N	B	夹	夹子	N	B	笺	笺注	N	B
伎	歌姬	N	B	迦	迦河	N	F	笺	信笺	N	B
纪	纪律	N	B	家	家庭	N	F	笺	笺札	N	B
纪	世纪	N	B	家	行家	N	B	犍	犍牛	N	B
技	技能	N	B	家	专家	N	B	湔	湔洗	V	B
忌	忌妒	V	B	笳	胡笳	N	B	瑊	瑊玏	N	B
忌	顾忌	V	B	嘉	嘉奖	V	B	鲣	鲣鱼	V	F
际	边际	N	B	郏	郏县	N	F	鹣	鹣鹣	N	B
际	际遇	N	B	荚	豆荚	N	F	鳒	鳒鱼	N	F
妓	妓女	N	B	恝	恝然	A	B	拣	拣选	V	F
季	季节	N	F	戛	戛击	V	B	柬	柬札	N	B
剂	调剂	V	B	颊	脸颊	N	B	俭	节俭	A	B
剂	制剂	N	B	甲	甲壳	N	B	检	检验	V	B
剂	剂子	N	F	甲	指甲	N	B	检	检点	V	B
荠	荠菜	N	B	甲	盔甲	N	B	趼	趼子	N	B
迹	痕迹	N	B	胛	肩胛	N	F	减	裁减	V	F
迹	遗迹	N	B	假	虚假	A	F	剪	剪刀	N	B

剪	剪裁	V	F	鳉	鳉鱼	N	F	珓	杯珓	N	B
剪	剪除	V	B	疆	疆界	N	B	校	校对	V	F
睑	眼睑	N	B	疆	新疆	N	B	轿	轿子	N	F
简	简单	A	B	讲	讲解	V	F	较	比较	V	B
简	简化	V	B	讲	讲求	V	F	较	比较	Ad	F
简	竹简	N	B	奖	夸奖	V	F	较	计较	V	B
简	书简	N	B	桨	船桨	N	F	教	教导	V	B
简	简选	V	B	匠	工匠	N	B	教	宗教	N	F
见	看见	V	F	降	降落	V	F	窖	地窖	N	F
见	看见	V	F	将	将领	N	B	酵	发酵	V	B
见	会见	V	F	强	倔强	A	B	醮	打醮	V	B
见	意见	N	B	交	结交	V	F	阶	台阶	N	B
件	文件	N	B	交	交情	N	B	疖	疖子	N	F
间	间隔	V	B	交	交配	V	B	接	接近	V	B
间	离间	V	B	郊	市郊	N	B	接	连接	V	F
饯	饯行	V	B	浇	浇灌	V	F	接	接受	V	F
饯	蜜饯	N	B	浇	浇薄	A	B	接	迎接	V	F
建	建设	V	F	娇	娇娆	A	B	接	接替	V	F
建	建议	V	B	娇	娇气	A	F	揭	揭露	V	F
建	建江	N	F	姣	姣好	A	B	街	街道	N	F
建	福建	N	B	骄	骄傲	A	B	节	节日	N	F
荐	推荐	V	B	胶	橡胶	N	B	节	删节	V	B
荐	草荐	N	B	蛟	蛟龙	N	B	节	节约	V	F
贱	卑贱	A	B	焦	焦炭	N	F	节	节操	N	B
贱	下贱	A	F	焦	焦急	A	B	劫	抢劫	V	F
涧	山涧	N	B	焦	焦耳	Ms	F	劫	劫持	V	B
健	强健	A	B	鲛	鲛鱼	N	F	劫	劫难	N	B
舰	军舰	N	F	礁	礁石	N	B	杰	俊杰	N	B
渐	逐渐	Ad	F	角	号角	N	B	杰	杰出	A	B
践	践踏	V	B	狡	狡猾	A	B	诘	诘问	V	B
践	实践	V	B	饺	饺子	N	B	洁	清洁	A	B
键	键子	N	F	绞	绞杀	V	F	结	结合	V	F
腱	肌腱	N	F	铰	铰链	N	B	结	凝结	V	F
鉴	鉴别	V	B	矫	矫正	V	B	结	了结	V	F
僭	僭越	V	B	矫	矫健	A	B	结	具结	N	B
江	长江	N	B	皎	皎洁	A	B	捷	敏捷	A	B
将	将养	V	B	脚	下脚	N	B	睫	睫毛	N	B
将	将要	Ad	F	搅	搅拌	V	F	截	截断	V	F
浆	浆洗	V	F	搅	搅扰	V	F	截	截止	V	B
僵	僵硬	A	F	剿	剿灭	V	B	碣	石碣	N	B
缰	缰绳	N	F	缴	缴纳	V	F	竭	枯竭	A	B

羯	羯羊	N	B	谨	谨慎	A	B	精	妖精	N	F
羯	羯族	N	B	近	接近	V	F	鲸	鲸鱼	N	F
姐	姐姐	N	F	近	亲近	A	F	麖	麖鹿	N	B
解	解开	V	B	荩	荩草	N	B	井	水井	N	F
解	解开	V	F	荩	忠荩	A	B	井	乡井	N	B
解	解除	V	B	浕	浕水	N	F	井	井然	A	B
解	解职	V	B	晋	晋级	V	B	阱	陷阱	N	B
解	了解	V	B	晋	晋国	N	F	洴	洴洲	N	F
解	解手	N	B	晋	晋朝	N	F	景	风景	N	F
介	介绍	N	B	赆	赆仪	N	B	景	景物	N	B
介	介壳	N	B	烬	余烬	N	B	景	景仰	V	B
介	耿介	A	B	浸	浸泡	V	F	儆	儆戒	V	B
戒	戒备	V	B	禁	禁止	V	F	警	警戒	V	B
戒	戒除	V	F	禁	监禁	V	B	警	机警	A	B
戒	戒律	N	B	禁	宫禁	N	B	警	警告	V	B
戒	戒指	N	B	觐	觐见	V	B	警	警察	N	B
芥	芥菜	N	B	噤	噤声	V	B	劲	强劲	A	B
芥	草芥	N	B	噤	寒噤	V	B	径	门径	N	B
界	界限	N	F	京	京师	N	B	径	径直	Ad	F
疥	疥疮	N	F	京	北京	N	F	径	直径	N	B
诫	告诫	V	B	泾	泾河	N	F	净	干净	A	F
借	凭借	V	B	经	经线	N	B	竞	竞争	V	B
解	解送	V	F	经	经脉	N	B	竟	竟然	Ad	F
巾	毛巾	N	B	经	经度	N	B	敬	尊敬	V	B
斤	斧斤	N	B	经	经营	V	B	敬	恭敬	A	B
今	当今	N	B	经	经典	N	B	靖	靖乱	V	B
金	金属	N	B	经	月经	N	B	静	静止	A	F
金	金钱	N	B	经	经过	V	F	静	寂静	A	F
金	金朝	N	F	经	经受	V	F	境	境界	N	B
津	津液	N	B	旌	旌表	V	B	境	境况	N	B
津	津润	A	B	惊	惊动	V	F	镜	镜子	N	B
津	津渡	N	B	晶	晶莹	A	B	炯	炯然	A	B
矜	矜怜	V	B	晶	水晶	N	B	窘	窘迫	A	F
矜	骄矜	A	B	晶	晶体	N	B	纠	纠缠	V	B
矜	矜持	A	B	粳	粳稻	N	B	纠	纠合	V	B
禁	禁受	V	F	精	精化	N	B	纠	纠察	V	B
襟	衣襟	N	B	精	精细	A	F	纠	纠正	V	B
襟	连襟	N	B	精	精明	A	F	鸠	鸠鸟	N	F
襟	胸襟	N	B	精	精通	A	F	究	追究	V	B
仅	仅仅	Ad	F	精	精力	N	B	究	究竟	Ad	F
尽	尽自	Ad	F	精	精子	N	B	久	长久	A	F

韭	韭菜	N	B	句	句子	N	B	决	决口	V	F
疚	内疚	A	B	拒	抗拒	V	B	诀	口诀	N	B
枢	灵枢	N	B	拒	拒绝	V	B	诀	诀窍	N	B
救	挽救	V	F	具	用具	N	B	诀	诀别	V	B
厩	马厩	N	F	具	才具	N	B	抉	抉择	V	B
就	就是	Con	F	具	具有	V	B	角	角色	N	F
舅	舅父	N	F	炬	火炬	N	B	角	角斗	V	B
舅	妻舅	N	B	剧	戏剧	N	F	觉	感觉	N	B
鹫	鹫鸟	N	F	剧	剧烈	A	B	觉	觉得	V	F
拘	拘捕	V	F	据	占据	V	B	觉	觉悟	V	B
拘	拘束	V	B	据	证据	N	B	绝	断绝	V	B
拘	拘泥	V	B	距	距离	V	F	绝	气绝	V	B
沟	沟河	N	F	距	距离	N	B	绝	绝句	N	B
居	居住	V	B	惧	畏惧	V	F	掘	挖掘	V	F
居	居所	N	B	锯	锯子	N	F	崛	崛起	V	B
居	居积	V	B	聚	聚集	V	F	厥	昏厥	V	B
驹	马驹	N	B	窭	贫窭	A	B	谲	诡谲	A	B
驹	驹子	N	F	踞	盘踞	V	B	橛	橛子	N	F
鞠	鞠养	V	B	遽	匆遽	A	B	爵	爵位	N	B
鞠	蹴鞠	N	B	遽	惶遽	A	B	攫	攫取	V	B
鞫	鞫问	V	B	濔	濔水	N	F	倔	倔强	A	F
局	棋局	N	B	醵	醵资	V	B	军	军队	N	F
局	局量	N	B	捐	捐弃	V	B	均	均匀	A	F
局	局限	V	B	捐	捐助	V	F	君	君主	N	B
局	局部	N	B	娟	娟秀	A	B	筠	筠连	N	F
桔	桔子	N	B	镌	镌刻	V	B	鲪	鲪鱼	N	F
菊	菊花	N	F	蠲	蠲免	V	B	俊	俊秀	A	F
淜	淜河	N	F	卷	卷子	N	B	俊	俊杰	A	B
橘	橘子树	N	F	卷	卷子	N	F	峻	严峻	A	B
橘	橘子	N	F	卷	卷宗	N	B	浚	疏浚	V	B
弆	藏弆	V	B	隽	隽永	A	B	骏	骏马	N	B
咀	咀嚼	V	B	倦	疲倦	A	F	竣	完竣	V	B
沮	沮丧	A	B	倦	厌倦	V	B	卡	卡路里	Ms	F
莒	莒县	N	F	狷	狷急	A	B	卡	卡片	N	B
矩	矩尺	N	B	狷	狷介	A	B	卡	磁卡	N	F
举	举动	N	B	绢	丝绢	N	F	卡	卡车	N	B
举	推举	V	F	鄄	鄄城	N	F	开	打开	V	F
举	举人	N	B	眷	亲眷	N	B	开	开辟	V	F
举	列举	V	F	眷	眷顾	V	B	开	展开	V	F
榉	榉树	N	F	决	决定	V	B	开	开拔	V	F
巨	巨大	A	B	决	处决	V	B	开	开办	V	F

开	开始	V	B	靠	倚靠	V	F	恳	恳求	V	B
开	开会	V	F	靠	靠拢	V	F	坑	坑道	N	B
开	开除	V	F	靠	依靠	V	F	坑	坑害	V	F
开	开尔文	Ms	F	苛	苛刻	A	F	吭	吭声	V	F
凯	凯歌	N	B	匼	匼河	N	F	铿	铿铿	Ono	F
垲	爽垲	A	B	呵	呵叻	N	F	空	天空	N	B
铠	铠甲	N	B	柯	枝柯	N	B	崆	崆峒	N	F
慨	愤慨	A	B	柯	斧柯	N	B	恐	恐吓	V	B
慨	感慨	V	B	科	科目	N	F	恐	恐怕	Ad	F
慨	慷慨	A	B	科	科举	N	B	控	控告	V	B
楷	楷模	N	B	科	科班	N	B	控	控制	V	B
楷	楷体	N	B	科	科刑	V	B	口	口味	N	B
刊	刊物	N	B	牁	牂牁	N	F	口	人口	N	B
看	看押	V	F	颏	下巴颏儿	N	B	口	口子	N	F
勘	校勘	V	B	磕	磕打	V	F	叩	叩头	V	B
勘	勘探	V	B	咳	咳嗽	V	F	扣	扣押	V	F
龛	佛龛	N	B	可	许可	V	F	扣	扣除	V	F
戡	戡乱	V	B	可	可以	V	F	扣	扣子	N	F
坎	坎德拉	Ms	F	可	可是	Con	F	扣	扣子	N	F
欿	欿然	A	B	岢	岢岚	N	F	寇	寇仇	N	B
槛	门槛	N	B	渴	口渴	A	F	寇	入寇	V	B
看	看待	V	F	克	克制	V	B	枯	枯槁	A	F
看	照看	V	B	克	克化	V	B	枯	干枯	A	F
崁	赤崁	N	F	克	克期	V	B	枯	枯瘦	A	B
瞰	鸟瞰	V	B	刻	雕刻	V	F	枯	枯燥	A	B
康	健康	A	B	刻	深刻	A	B	哭	哭泣	V	F
康	小康	A	B	刻	刻薄	A	B	苦	痛苦	A	F
亢	高亢	A	B	客	客人	N	F	苦	苦于	V	B
抗	抵抗	V	F	客	旅客	N	B	库	库仑	Ms	F
抗	抗拒	V	B	客	客居	V	B	裤	裤子	N	B
考	考问	V	F	客	客商	N	B	酷	残酷	A	B
考	考试	V	F	客	顾客	N	B	夸	夸大	V	F
考	考察	V	B	课	课程	N	F	夸	夸奖	V	F
考	思考	V	B	课	课目	N	F	垮	垮塌	V	F
考	先考	N	B	课	课税	V	F	跨	跨越	V	F
拷	拷打	V	B	课	卜课	N	B	蒯	蒯草	N	F
拷	拷贝	V	F	骒	骒马	A	B	会	会计	V	B
栲	栲树	N	F	锞	锞子	N	B	快	快速	A	F
烤	烤火	V	F	溘	溘然	Ad	F	快	赶快	Ad	F
铐	手铐	N	B	垦	开垦	V	B	快	快要	Ad	F
犒	犒劳	V	B	恳	诚恳	A	B	快	爽快	A	B

快	愉快	A	B	魁	魁梧	A	B	涞	涞水	N	F
快	捕快	N	B	魁	魁星	N	B	徕	劳徕	V	B
邝	邝国	N	F	夔	夔州	N	F	赉	赏赉	V	B
狂	狡狂	A	B	跬	跬步	N	B	赖	依赖	V	B
筷	筷子	N	B	匮	匮乏	A	B	赖	无赖	A	F
宽	宽阔	A	F	馈	馈赠	V	B	赖	抵赖	V	F
宽	宽度	N	F	溃	溃堤	V	B	赖	诬赖	V	F
宽	放宽	V	F	溃	溃围	V	B	兰	兰花	N	F
宽	宽大	A	F	溃	溃败	V	B	兰	兰草	N	F
宽	宽裕	A	F	溃	溃烂	V	B	兰	木兰	N	B
款	款待	V	B	愦	昏愦	V	B	岚	山岚	N	B
款	条款	N	F	愧	惭愧	A	F	拦	阻拦	V	F
款	款项	N	F	昆	后昆	N	B	栏	栏杆	N	B
款	款式	N	F	崑	崑崙	N	F	蓝	蔚蓝	A	F
匡	匡助	V	B	鹍	鹍鸡	N	B	蓝	蓼蓝	N	F
匡	匡计	V	F	锟	锟铻	N	F	澜	波澜	N	B
诳	诳骗	V	B	鲲	鲲鱼	N	B	篮	篮子	N	F
洭	洭河	N	F	捆	捆绑	V	F	篮	篮圈	N	F
悝	悝惧	A	B	阃	阃闱	N	B	篮	篮球运动 N	B
狂	疯狂	A	B	悃	悃诚	A	B	览	阅览	V	B
狂	狂妄	A	F	困	围困	V	F	缆	缆绳	N	B
圹	圹穴	N	B	困	困难	N	B	懒	懒惰	A	F
旷	空旷	A	B	困	困乏	A	B	烂	软烂	A	F
旷	旷达	A	B	扩	扩大	V	F	烂	腐烂	A	F
况	情况	N	B	括	包括	V	B	烂	破烂	A	F
况	比况	V	B	阔	广阔	A	B	滥	泛滥	V	B
况	况且	Con	F	阔	阔绰	A	F	郎	郎君	N	B
矿	矿床	N	F	廓	寥廓	A	B	郎	令郎	N	B
矿	矿石	N	F	廓	轮廓	N	B	廊	廊子	N	B
框	门框	N	F	拉	拉长	V	F	朗	明朗	A	B
框	框框	N	F	拉	拉扯	V	F	崀	崀山	N	F
眶	眼眶	N	B	拉	拉扯	V	F	阆	阆中	N	F
亏	亏损	V	F	拉	拉拢	V	F	浪	波浪	N	F
亏	亏负	V	F	拉	拉屎	V	F	浪	放浪	V	B
亏	多亏	V	F	剌	乖剌	A	B	蒗	宁蒗	N	F
盔	盔子	N	F	蜡	蜡烛	N	F	劳	劳动	V	B
盔	头盔	N	B	镴	锡镴	N	F	劳	烦劳	V	F
窥	窥视	V	B	来	来到	V	F	劳	疲劳	N	B
窥	窥探	V	B	来	来者	Md	F	劳	功劳	N	B
暌	暌离	V	B	来	未来	A	B	劳	慰劳	V	B
魁	魁首	A	B	崃	邛崃	N	F	牢	监牢	N	F

牢	牢固	A	F	礼	典礼	N	B	励	勉励	V	B
崂	崂山	N	F	礼	礼节	N	F	利	锋利	A	B
痨	痨病	N	B	礼	礼物	N	F	利	顺利	A	B
老	年老	A	F	李	李子树	N	F	利	利益	N	B
老	老年人	N	B	李	李子	N	F	利	利润	N	F
老	老练	A	B	里	里子	N	F	例	例子	N	F
酪	奶酪	N	B	里	里边	N	F	例	例子	N	B
乐	快乐	A	F	里	邻里	N	B	例	例子	N	F
乐	乐于	V	B	里	故里	N	B	例	体例	N	B
勒	勒马	V	F	里	里面	N	F	疠	疠疫	N	B
勒	勒克斯	Ms	F	俚	俚俗	A	B	戾	罪戾	N	B
鳓	鳓鱼	N	F	哩	英里	Ms	F	戾	乖戾	A	B
羸	羸瘦	A	B	浬	海里	Ms	F	隶	隶属	V	B
羸	羸疲	A	B	理	纹理	N	B	隶	奴隶	N	B
垒	堡垒	N	B	理	道理	N	F	隶	皂隶	N	B
累	积累	V	B	理	理科	N	F	隶	隶书	N	B
累	连累	V	B	理	管理	V	B	荔	荔枝	N	B
蕾	花蕾	N	B	理	整理	V	F	栎	栎树	N	F
泪	眼泪	N	F	理	理睬	V	F	轹	陵轹	V	B
类	种类	N	F	鲤	鲤鱼	N	F	俪	伉俪	N	B
类	类似	A	B	澧	澧水	N	F	莅	莅临	V	B
累	劳累	A	F	鳢	鳢鱼	N	F	栗	栗子树	N	F
擂	擂台	N	B	蠡	蠡县	N	F	栗	栗子	N	F
颣	疵颣	N	B	力	力量	N	B	栗	战栗	V	B
塄	地塄	N	B	力	体力	N	F	砺	砺石	N	B
冷	寒冷	A	F	力	尽力	Ad	B	砺	磨砺	V	B
冷	冷清	A	B	历	经历	V	B	砾	砾石	N	B
冷	冷僻	A	B	历	历法	N	B	溧	溧江	N	F
愣	发愣	V	F	历	日历	N	B	蛎	牡蛎	N	B
丽	丽水	N	F	厉	严厉	A	B	笠	斗笠	N	B
厘	厘定	V	B	立	站立	V	F	粒	颗粒	N	F
离	分离	V	F	立	竖立	V	F	詈	詈骂	V	B
离	距离	V	F	立	建立	V	F	溧	溧冽	A	B
骊	骊马	N	B	立	订立	V	F	痢	痢疾	N	B
梨	梨树	N	F	立	确立	V	F	溧	溧水	N	F
犁	犁田	V	F	立	立刻	Ad	F	连	连接	V	F
漓	漓江	N	F	吏	胥吏	N	B	连	连续	Ad	F
嫠	嫠妇	N	B	吏	官吏	N	B	怜	怜悯	V	B
犛	犛牛	N	B	坜	中坜	N	F	怜	怜爱	V	B
篱	篱笆	N	B	丽	美丽	A	B	帘	帘子	N	B
藜	藜草	N	F	丽	附丽	V	B	帘	帘子	N	F

字	词	词性	F/B	字	词	词性	F/B	字	词	词性	F/B
莲	莲藕	N	F	量	衡量	V	B	临	莅临	V	B
莲	莲子	N	B	辽	辽远	A	B	临	临近	Pre	F
涟	涟漪	N	B	辽	辽代	N	F	临	临摹	V	F
涟	涟涟	V	B	疗	治疗	V	B	遴	遴选	V	B
联	联结	V	B	聊	聊赖	V	B	霖	霖雨	N	B
联	对联	N	B	聊	聊天	V	F	鳞	鱼鳞	N	F
廉	廉洁	A	B	僚	官僚	N	B	鳞	鳞形	A	B
廉	低廉	A	B	僚	同僚	N	B	麟	麒麟	N	B
鲢	鲢鱼	N	F	寥	寥落	A	B	林	拂林	N	B
濂	濂江	N	F	寥	寂寥	A	B	凛	凛冽	A	B
镰	镰刀	N	B	寥	寥廓	A	B	凛	凛畏	V	B
敛	收敛	V	B	撩	撩拨	V	F	廪	仓廪	N	B
脸	脸面	N	F	缭	缭绕	V	B	檩	檩条	N	F
脸	脸面	N	F	了	了结	V	F	呇	呇啬	V	B
练	练习	V	F	了	明了	V	B	赁	租赁	V	F
练	熟练	A	B	蓼	蓼草	N	F	赁	出赁	V	F
恋	恋爱	N	B	憭	憭解	V	B	淋	过淋	V	F
恋	留恋	V	B	料	预料	V	F	伶	伶人	N	B
涮	洴涮	N	F	料	照料	V	B	灵	灵活	A	F
链	链子	N	F	料	材料	N	F	灵	灵魂	N	B
楝	楝树	N	F	料	饲料	N	F	灵	神灵	N	B
良	良好	A	F	瞭	瞭望	V	F	灵	灵验	A	F
良	良民	N	B	镣	脚镣	N	F	灵	灵柩	N	F
茛	薯茛	N	B	列	排列	V	F	泠	清泠	A	B
凉	凄凉	A	B	列	行列	N	B	铃	铃铛	N	F
凉	荒凉	A	B	洌	凛洌	A	B	铃	蕾铃	N	F
梁	房梁	N	F	岊	岊屿	N	F	凌	欺凌	V	B
梁	房梁	N	F	洌	清洌	A	B	凌	冰凌	N	F
梁	桥梁	N	B	埒	相埒	V	B	陵	丘陵	N	B
梁	梁国	N	F	烈	强烈	A	F	陵	陵墓	N	B
梁	梁朝	N	F	烈	刚烈	A	B	陵	陵压	V	B
量	测量	V	F	烈	功烈	N	B	聆	聆听	V	B
量	估量	V	B	捩	捩转	V	B	菱	菱角	N	F
粮	粮食	N	B	猎	打猎	V	B	菱	菱角	N	F
樑	山梁	N	F	猎	搜猎	V	B	棂	窗棂	N	B
俩	英两	Ms	F	裂	破裂	V	F	舲	舲船	N	B
亮	明亮	A	F	裂	裂口	N	F	翎	翎毛	N	F
亮	响亮	A	F	鬣	鬣鬃	N	B	翎	翎子	N	B
悢	悢悢	A	B	邻	邻居	N	B	羚	羚羊	N	F
谅	原谅	V	B	林	树林	N	B	羚	羚羊角	N	B
量	数量	N	F	林	林业	N	B	绫	绫子	N	B

棱	穆棱	N	F	溜	水溜	N	F	庐	庐舍	N	B
零	零碎	A	F	溜	檐溜	N	B	庐	庐州	N	B
零	零头	N	F	溜	檐溜	N	B	垆	垆土	N	B
零	凋零	V	B	鹨	鹨鸟	N	F	垆	酒垆	N	B
龄	年龄	N	B	蹓	蹓跶	V	F	炉	炉子	N	B
鲮	鲮鱼	N	F	聋	耳聋	A	F	泸	泸水	N	F
�	鄀县	N	F	笼	笼子	N	F	泸	泸水	N	F
岭	山岭	N	F	笼	囚笼	N	B	泸	泸州	N	F
岭	山岭	N	B	笼	蒸笼	N	F	胪	胪列	V	B
岭	五岭	N	B	隆	隆重	A	B	颅	头颅	N	B
领	领子	N	F	隆	兴隆	A	B	鲈	鲈鱼	N	F
领	领口	N	F	隆	隆起	V	B	卤	盐卤	N	F
领	要领	N	B	滦	永滦河	N	F	卤	卤素	N	F
领	率领	V	F	癃	癃闭	N	B	卤	卤汁	N	F
领	占领	V	B	陇	陇山	N	F	卤	卤汁	N	F
领	领取	V	F	拢	合拢	V	F	虏	俘虏	V	B
领	领会	V	B	拢	靠拢	V	F	虏	俘虏	N	B
另	另外	Pro	F	拢	收拢	V	F	掳	掳掠	V	B
另	另外	Ad	F	垄	田垄	N	F	鲁	愚鲁	A	B
令	命令	V	F	笼	笼罩	V	F	鲁	粗鲁	A	F
令	命令	N	F	笼	笼子	N	B	鲁	鲁国	N	F
令	酒令	N	B	弄	弄堂	N	F	橹	船橹	N	B
令	时令	N	B	搂	搂算	V	F	甪	甪直	N	F
令	小令	N	B	溇	溇水	N	F	甪	甪堰	N	F
溜	滑溜	A	B	楼	楼房	N	F	陆	陆地	N	B
留	停留	V	F	楼	楼层	N	F	录	记录	V	B
留	留学	V	F	耧	耧车	N	B	录	录制	V	F
留	保留	V	F	蝼	蝼蛄	N	B	录	录用	V	B
留	遗留	V	F	搂	搂抱	V	F	赂	贿赂	V	B
流	流动	V	F	嵝	岣嵝	N	F	菉	梅菉	N	F
流	流转	V	B	篓	篓子	N	F	渌	渌水	N	F
流	流传	V	B	陋	丑陋	A	B	禄	俸禄	N	B
流	流放	V	B	陋	粗陋	A	B	碌	庸碌	A	B
流	流水	N	B	陋	简陋	A	B	碌	忙碌	A	B
流	流明	Ms	F	陋	浅陋	A	B	路	道路	N	F
馏	蒸馏	V	B	镂	雕镂	V	B	路	路程	N	F
骝	骝马	N	B	瘘	瘘管	N	B	路	门路	N	B
榴	石榴	N	B	漏	漏壶	N	B	路	路线	N	F
瘤	肿瘤	N	F	漏	泄漏	V	F	戮	杀戮	V	B
柳	柳树	N	F	漏	遗漏	V	F	潞	潞水	N	F
遛	遛达	V	F	芦	芦苇	N	B	潞	潞江	N	F

鹭	鹭鸟	N	F	略	谋略	N	B	麦	麦子	N	F
麓	山麓	N	B	略	侵略	V	B	麦	小麦	N	F
露	露水	N	F	伦	人伦	N	B	卖	贩卖	V	F
露	显露	V	F	伦	伦次	N	B	卖	出卖	V	F
驴	毛驴	N	F	论	论语	N	B	卖	卖弄	V	B
闾	闾里	N	B	沦	沉沦	V	B	脉	脉管	N	B
侣	伴侣	N	B	沦	沦落	V	B	脉	脉搏	N	F
旅	旅行	V	B	轮	轮子	N	F	脉	脉络	N	B
旅	旅客	N	B	轮	轮船	N	B	嫚	嫚子	N	F
偻	伛偻	A	B	轮	轮换	V	F	蛮	蛮横	A	B
屡	屡次	Ad	F	论	议论	V	B	谩	谩欺	V	B
缕	线缕	N	B	论	评论	N	B	瞒	隐瞒	V	F
履	步履	N	B	论	理论	N	B	鳗	鳗鲡	N	F
履	履行	V	B	罗	罗网	N	B	满	充满	A	F
律	法律	N	B	罗	搜罗	V	B	满	满足	A	B
律	律诗	N	B	罗	罗列	V	B	满	满族	N	B
虑	考虑	V	B	罗	筛罗	N	F	螨	螨虫	N	F
虑	忧虑	V	B	萝	萝蔓	N	B	曼	曼妙	A	B
率	比率	N	B	逻	巡逻	V	B	曼	曼延	A	B
氯	氯气	N	F	胭	胭纹	N	B	谩	轻谩	V	F
滤	过滤	V	B	锣	铜锣	N	B	幔	帷幔	N	F
峦	山峦	N	B	箩	箩筐	N	B	漫	漫溢	V	F
孪	孪生	A	B	骡	骡子	N	B	漫	漫长	A	B
栾	栾树	N	F	螺	螺丝	N	F	漫	散漫	A	B
挛	痉挛	V	B	螺	螺纹	N	F	慢	缓慢	A	F
鸾	鸾鸟	N	B	裸	裸露	V	B	慢	傲慢	A	B
滦	滦河	N	F	泺	泺河	N	F	嫚	嫚侮	V	B
銮	銮铃	N	B	洛	洛河	N	F	邙	邙山	N	F
銮	銮铃	N	B	洛	洛河	N	F	芒	芒草	N	F
卵	卵子	N	F	络	网络	N	B	芒	麦芒	N	F
卵	受精卵	N	F	络	经络	N	B	忙	繁忙	A	F
乱	混乱	A	F	落	衰落	A	B	盲	盲目	Ad	B
乱	变乱	N	B	漯	漯河	N	F	茫	渺茫	A	B
乱	扰乱	V	F	妈	妈妈	N	F	茫	茫然	A	B
乱	淫乱	N	B	麻	芝麻	N	B	莽	草莽	N	B
掠	掠夺	V	B	麻	麻子	N	B	莽	鲁莽	A	B
掠	拷掠	V	B	埋	掩埋	V	F	蟒	蟒蛇	N	F
略	简略	A	F	埋	埋藏	V	B	蟒	蟒袍	N	B
略	概略	N	B	霾	阴霾	N	F	毛	毛糙	A	B
略	省略	V	F	买	购买	V	F	毛	毛躁	A	F
略	略微	Ad	F	迈	老迈	A	B	茅	白茅	N	F

字	词	词性	标记
锚	船锚	N	F
髳	髳国	N	F
蟊	蟊虫	N	B
卯	卯眼	N	B
铆	铆接	V	F
铆	铆劲	V	F
茂	茂盛	A	B
冒	冒昧	V	B
冒	冒充	V	F
贸	贸易	N	B
贸	贸然	A	B
耄	耄耋	A	B
鄚	鄚州	N	F
帽	帽子	N	F
媚	媚嫉	V	B
貌	相貌	N	B
貌	外貌	N	B
瞀	瞀乱	A	B
瞀	瞀昧	A	B
没	没有	V	F
没	没有	Ad	F
眉	眉毛	N	F
眉	书眉	N	B
梅	梅树	N	F
梅	梅花	N	F
梅	梅子	N	F
胨	胨子	N	B
郿	郿县	N	F
嵋	峨嵋	N	F
媒	媒人	N	B
媒	媒介	N	B
楣	门楣	N	B
煤	煤炭	N	F
霉	霉菌	N	F
霉	发霉	V	F
糜	糜子	N	B
每	每每	Ad	F
美	美丽	A	F
美	美好	A	F
美	美事	N	B
美	美洲	N	F
美	美国	N	F
妹	妹妹	N	F
昧	愚昧	A	B
昧	幽昧	A	B
昧	冒昧	V	B
媚	谄媚	V	B
媚	妩媚	A	B
魅	鬼魅	N	B
闷	憋闷	A	F
门	门口	N	F
门	门径	N	F
门	门第	N	B
门	门派	N	B
门	门派	N	B
门	门类	N	B
门	门位	N	F
们	图们	N	F
亹	亹源	N	F
闷	憋闷	A	F
懑	烦懑	A	B
懑	愤懑	V	B
蒙	蒙骗	V	F
虻	牛虻	N	F
萌	萌生	V	B
蒙	蒙受	V	F
蒙	蒙昧	A	B
盟	联盟	N	B
盟	盟誓	V	B
鹲	鹲鸟	N	F
掹	掹鸡特	N	F
猛	猛烈	A	F
猛	猛然	Ad	F
蒙	蒙古族	N	B
懵	懵懂	A	B
蠓	蠓虫	N	F
孟	孟月	N	B
梦	做梦	V	F
梦	梦想	N	B
眯	眯缝	V	F
弥	弥漫	A	B
弥	弥补	V	B
迷	迷失	V	F
迷	沉迷	V	B
迷	迷惑	V	F
谜	谜语	N	F
糜	糜粥	N	B
糜	糜烂	A	B
糜	糜费	V	B
縻	羁縻	V	B
麋	麋鹿	N	B
靡	靡费	V	B
米	稻米	N	F
洣	洣水	N	F
弭	消弭	V	B
敉	敉平	A	B
靡	披靡	V	B
靡	靡丽	A	B
汨	汨罗江	N	F
觅	寻觅	V	B
泌	分泌	V	B
秘	秘密	N	B
秘	保密	V	B
密	稠密	A	F
密	亲密	A	B
密	精密	A	B
密	秘密	N	B
谧	静谧	A	B
蜜	蜂蜜	N	F
蜜	糖蜜	N	B
蜜	甜蜜	A	B
眠	睡眠	N	B
绵	丝绵	N	B
绵	绵延	A	B
绵	绵软	A	B
棉	棉花	N	F
棉	棉花	N	F
免	免除	V	F
免	避免	V	B
沔	沔水	N	F
勉	勤勉	A	B
勉	勉励	V	B
勉	勉强	V	B

娩	分娩	V	B	岷	岷山	N	F	谬	谬误	N	B
冕	冠冕	N	B	岷	岷江	N	F	摸	摸索	V	F
偭	偭背	V	B	岷	岷县	N	F	馍	馍馍	N	F
渑	渑池	N	F	泯	泯灭	V	B	摹	临摹	V	B
面	脸面	N	B	闽	闽江	N	F	模	楷模	N	B
面	面向	V	F	悯	怜悯	V	B	模	模仿	V	B
面	表面	N	F	笢	竹笢	N	B	模	模范	N	B
面	当面	A	B	敏	敏捷	A	B	膜	薄膜	N	F
面	面子	N	F	敏	机敏	A	B	膜	薄膜	N	F
面	平面	N	F	鳘	鳘鱼	N	F	摩	摩擦	V	B
面	方面	N	B	名	名字	N	F	摩	抚摩	V	B
面	面粉	N	F	名	名叫	V	F	摩	摩尔	Ms	F
面	面粉	N	F	名	名义	N	B	磨	摩擦	V	F
面	面条	N	F	名	名声	N	B	磨	折磨	V	F
苗	幼苗	N	F	名	出名	A	B	磨	磨烦	V	F
苗	苗头	N	B	名	说明	V	B	磨	磨灭	V	B
苗	苗裔	N	F	明	明亮	A	B	磨	消磨	V	F
苗	幼苗	N	B	明	明白	A	F	蘑	蘑菇	N	B
苗	疫苗	N	B	明	明显	A	B	魔	魔鬼	N	B
描	描画	V	F	明	精明	A	B	抹	涂抹	V	F
眇	眇小	A	B	明	光明	N	B	抹	抹除	V	F
淼	浩淼	A	B	明	明了	V	B	末	末梢	N	B
渺	渺茫	A	B	明	显明	V	B	末	末尾	N	B
渺	渺小	A	B	明	明明	Ad	F	末	末尾	N	F
藐	藐小	A	B	明	明代	N	F	末	末子	N	F
藐	藐视	A	B	鸣	鸣叫	V	F	末	末角	N	F
妙	美妙	A	F	茗	茗茶	N	B	没	沉没	V	F
妙	巧妙	A	F	洺	洺河	N	F	没	隐没	V	B
庙	宗庙	N	F	冥	幽冥	A	B	没	没收	V	B
庙	寺庙	N	F	冥	冥昧	A	B	沫	沫子	N	F
庙	庙会	N	F	冥	冥府	A	B	沫	唾沫	N	B
灭	熄灭	V	F	铭	铭文	N	B	陌	阡陌	N	B
灭	熄灭	V	F	铭	铭记	V	B	莫	莫非	Ad	B
灭	灭亡	V	B	瞑	瞑目	V	B	秣	刍秣	N	B
灭	消灭	V	F	螟	螟虫	N	F	蓦	蓦然	A	B
蔑	轻蔑	A	B	命	生命	N	F	漠	沙漠	N	B
篾	篾片	N	F	命	寿命	N	F	漠	冷漠	A	B
民	人民	N	B	命	命运	N	F	寞	寂寞	A	B
民	民间	A	B	命	命令	V	F	墨	墨水	N	B
民	民众	N	B	命	命令	N	B	墨	墨线	N	B
旻	苍旻	N	B	命	命名	V	B	墨	墨家	N	F

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字	词	词性	F/B
墨	墨西哥	N	F
默	沉默	V	B
默	默写	V	F
磨	磨子	N	F
磨	研磨	V	F
礳	礳石渠	N	F
牟	牟取	V	B
侔	相侔	A	B
眸	眸子	N	B
谋	计谋	N	B
谋	图谋	V	F
毪	毪子	N	B
模	模子	N	B
母	母亲	N	B
拇	拇指	N	B
木	树木	N	B
木	木头	N	B
木	棺木	N	B
木	木讷	A	B
木	木然	A	F
木	麻木	A	F
目	目孔	N	F
目	项目	N	B
目	目录	N	B
目	名目	N	F
沐	沐浴	V	B
牧	放牧	V	B
募	募集	V	B
墓	坟墓	N	F
幕	幕布	N	B
幕	幕布	N	F
幕	幕府	N	B
睦	和睦	A	B
慕	羡慕	V	B
慕	爱慕	V	B
暮	日暮	N	B
穆	肃穆	A	B
拿	捉拿	V	F
那	那么	Con	B
郍	郍阝国	N	F
纳	收纳	V	B
纳	接纳	V	B
纳	交纳	V	F
衲	老衲	N	B
捺	按捺	V	F
奶	奶汁	N	F
氖	氖气	N	F
奈	奈何	Ad	B
奈	怎奈	V	B
柰	柰果	N	B
耐	忍耐	V	F
男	男性	A	F
男	男儿	N	B
男	男爵	N	B
南	南方	N	F
南	南方	N	B
难	困难	A	F
蝻	蝗蝻	N	F
难	灾难	N	B
难	问难	V	B
囊	囊括	V	B
呶	喧呶	V	B
挠	阻挠	V	B
猱	猱山	N	F
铙	铙钹	N	F
恼	恼怒	V	F
恼	烦恼	A	B
脑	脑子	N	F
脑	脑袋	N	B
脑	脑筋	N	F
闹	喧闹	A	F
闹	吵闹	V	F
闹	打闹	V	F
淖	泥淖	N	B
臑	臂臑	N	F
讷	木讷	A	B
馁	气馁	V	B
内	以内	N	F
内	内心	N	B
内	大内	N	B
嫩	娇嫩	A	F
能	才能	N	B
能	能量	N	F
能	能干	A	F
能	能够	V	F
尼	尼姑	N	B
呢	呢子	N	B
兒	兒国	N	F
泥	泥土	N	F
霓	霓虹	N	F
鲵	鲵鱼	N	F
麑	麑鹿	N	B
拟	草拟	V	F
拟	模拟	V	B
拟	比拟	V	B
拟	虚拟	V	B
泥	拘泥	A	B
昵	亲昵	A	B
逆	连逆	V	B
逆	叛逆	N	B
匿	隐匿	V	B
睨	睥睨	V	B
腻	油腻	A	F
腻	腻烦	A	F
腻	细腻	A	B
腻	垢腻	N	B
溺	沉溺	A	B
年	年纪	N	B
年	年景	N	B
年	年节	N	F
鲇	鲇鱼	N	B
捻	捻子	N	F
撵	撵走	V	F
碾	碾子	N	B
念	想念	V	F
念	念头	N	B
埝	堤埝	N	F
娘	亲娘	N	F
娘	大娘	N	B
娘	娘娘	N	B
酿	酿造	V	F
酿	酿蜜	V	F
酿	酒酿	N	B

袅	袅娜	A	B	蛆	败蛆	V	B	排	排除	V	F
尿	尿液	N	F	暖	暖和	A	F	牌	牌子	N	F
尿	撒尿	V	F	疟	疟疾	N	B	牌	牌子	N	F
捏	捏合	V	F	虐	暴虐	A	B	牌	牌子	N	F
捏	捏造	V	B	挪	挪动	V	F	牌	纸牌	N	F
镊	镊子	N	B	傩	傩舞	N	B	牌	牌子	N	B
蹑	蹑踪	V	B	诺	许诺	V	B	派	派别	N	F
孽	妖孽	N	B	诺	诺诺	N	B	派	派头	N	B
孽	罪孽	N	B	懦	怯懦	A	B	派	派别	Ms	F
蘖	蘖芽	N	B	糯	糯米	N	B	派	派遣	V	F
宁	安宁	A	B	讴	讴歌	V	B	派	摊派	V	F
狞	狞恶	A	B	瓯	瓯子	N	F	番	番禺	N	F
凝	凝结	V	F	欧	欧洲	N	B	攀	攀爬	V	F
凝	凝聚	V	B	欧	欧姆	Ms	F	攀	攀缘	V	B
宁	宁可	Ad	F	殴	殴打	V	B	攀	攀扯	V	F
佞	谄佞	A	B	鸥	海鸥	N	F	般	般乐	N	B
泞	泥泞	N	B	呕	呕吐	V	F	盘	盘子	N	F
牛	牛顿	Ms	F	偶	偶像	N	B	盘	盘旋	V	F
扭	扭转	V	F	偶	偶数	N	B	盘	盘点	V	F
扭	扭伤	V	F	偶	配偶	N	B	盘	盘运	V	F
纽	纽绊	N	B	偶	偶然	Ad	F	磐	磐石	N	B
纽	纽扣	N	F	藕	莲藕	N	F	磻	磻溪河	N	F
纽	枢纽	N	B	怄	怄气	V	F	判	判别	V	B
纽	瓜纽	N	B	扒	扒窃	V	F	判	评判	V	F
钮	按钮	N	F	爬	爬行	V	F	判	判决	V	F
拗	执拗	A	F	耙	耙子	N	F	拚	拚弃	V	B
农	农业	N	B	湓	湓江	N	F	泮	泮宫	N	B
农	农民	N	B	帕	手帕	N	B	盼	盼望	V	F
浓	浓稠	A	F	帕	帕斯卡	Ms	F	叛	背叛	V	B
浓	浓厚	A	F	怕	害怕	V	F	畔	田畔	N	B
弄	耍弄	V	F	拍	拍打	V	F	襻	纽襻	N	F
奴	奴隶	N	B	拍	拍子	N	F	膀	膀肿	V	F
奴	奴役	V	B	拍	拍子	N	F	庞	庞大	A	B
驽	驽马	V	B	拍	拍摄	V	F	庞	庞杂	A	B
驽	驽钝	A	B	拍	拍发	V	F	庞	脸庞	N	B
努	努力	V	F	俳	俳谐	A	B	旁	旁边	N	F
弩	弩弓	V	B	排	排列	V	F	旁	偏旁	N	F
怒	愤怒	V	F	排	排球	N	B	耪	耪地	V	F
女	女性	A	F	排	竹排	N	F	胖	肥胖	A	F
女	女儿	N	B	排	竹排	N	F	抛	抛掷	V	F
恧	惭恧	A	B	排	排演	V	F	抛	抛弃	V	F

抛	抛售	V	F	蓬	飞蓬	N	F	淠	淠河	N	F
刨	刨除	V	F	澎	澎湖列岛	N	F	辟	开辟	V	F
咆	咆哮	V	B	篷	篷子	N	F	辟	透辟	A	B
狍	狍子	N	F	篷	船篷	N	F	僻	偏僻	A	B
庖	庖厨	N	B	膨	膨胀	V	B	僻	怪癖	A	B
炮	炮制	V	F	髼	髼松	A	B	僻	生僻	A	B
袍	袍子	N	F	捧	吹捧	V	F	譬	譬喻	V	B
跑	跑步	V	F	碰	触碰	V	F	偏	偏偏	Ad	F
跑	逃跑	V	F	碰	碰见	V	F	篇	篇章	N	B
泡	气泡	N	F	批	审批	V	F	翩	翩然	A	B
泡	浸泡	V	F	批	批评	V	F	片	影片	N	B
炮	火炮	N	F	批	批发	V	B	片	片面	A	B
炮	鞭炮	N	F	批	批发	V	F	骗	欺骗	V	F
炮	炮眼	N	F	邳	邳州	N	F	骗	骗腿	V	F
疱	疱疹	N	F	坯	坯子	N	F	剽	剽掠	V	B
胚	胚胎	N	B	坯	土坯	N	F	漂	漂浮	V	F
陪	陪伴	V	F	砒	砒霜	N	F	飘	飘动	V	F
培	培养	V	B	砒	砒霜	N	B	嫖	嫖妓	V	F
赔	赔偿	V	F	劈	劈子	N	F	瓢	瓜瓢	N	F
赔	赔礼	V	F	皮	表皮	N	F	漂	漂白	V	F
赔	赔钱	V	F	皮	皮子	N	F	票	票证	N	F
沛	充沛	A	F	皮	表皮	N	F	票	钞票	N	F
佩	佩带	V	F	皮	表皮	N	B	骠	骠勇	A	B
佩	佩服	V	B	皮	顽皮	A	F	撇	撇开	V	F
配	婚配	V	F	皮	橡皮	N	B	拼	拼合	V	F
配	配偶	N	B	陂	黄陂	N	F	拼	拼命	V	F
配	交配	V	F	毗	毗连	A	B	贫	贫穷	A	B
配	搭配	V	F	郫	郫县	N	F	频	频频	Ad	B
配	分配	V	F	疲	疲乏	A	B	频	频率	N	B
配	发配	V	B	疲	疲软	A	B	嫔	妃嫔	N	B
辔	辔头	N	F	脾	脾脏	N	F	颦	颦眉	V	B
喷	喷射	V	F	蜱	蜱虫	N	F	品	物品	N	B
盆	盆子	N	F	罴	熊罴	N	F	品	品级	N	B
溢	溢涌	V	B	貔	貔貅	N	B	品	官品	N	B
抨	抨击	V	B	匹	匹配	V	B	品	品种	N	B
烹	烹饪	V	B	圮	倾圮	V	B	品	品质	N	B
朋	朋友	N	B	痞	痞块	N	F	品	品评	V	F
堋	堋堤	N	B	痞	痞子	N	B	聘	聘请	V	F
棚	棚子	N	F	劈	劈叉	V	F	聘	聘问	V	B
棚	棚子	N	F	癖	癖好	N	B	聘	出聘	V	F
棚	顶棚	N	F	屁	臭屁	N	F	乒	乒乓球	N	B

平	平坦	A	F	莆	莆田	N	F	齐	齐国	N	F
平	公平	A	B	脯	胸脯	N	B	祁	祁门	N	B
平	平定	V	B	蒲	香蒲	N	B	祁	祁阳	N	B
平	平淡	A	B	蒲	菖蒲	N	B	岐	岐山	N	F
平	平声	N	B	蒲	蒲州	N	B	奇	奇特	A	B
评	评论	V	F	璞	璞玉	N	B	奇	惊奇	A	B
评	评判	V	F	濮	濮水	N	F	歧	歧途	N	B
凭	凭据	N	B	朴	朴实	A	B	祈	祈祷	V	B
凭	凭借	Pre	F	普	普遍	A	B	祈	祈求	V	B
枰	棋枰	N	B	谱	谱子	N	B	耆	耆老	N	B
屏	屏风	N	B	谱	曲谱	N	F	顽	顽长	A	B
屏	屏条	N	F	谱	谱曲	V	F	脐	肚脐	N	B
屏	屏蔽	V	B	谱	谱子	N	F	其	豆其	N	B
瓶	瓶子	N	F	蹼	脚蹼	N	F	畦	畦田	N	F
萍	浮萍	N	B	铺	铺子	N	B	淇	淇河	N	F
鲆	鲆鱼	N	F	铺	床铺	N	F	骑	坐骑	N	B
坡	斜坡	N	F	铺	铺子	N	F	骑	骑兵	N	B
泊	湖泊	N	B	堡	堡子	N	F	棋	棋子	N	F
泼	泼洒	V	F	瀑	瀑布	N	B	棋	棋子	N	B
泼	撒泼	A	F	七	七日	N	F	旗	旗子	N	F
颇	偏颇	A	B	妻	妻子	N	B	旗	八旗	N	B
婆	老太婆	N	B	栖	栖息	V	B	蕲	蕲州	N	B
婆	婆婆	N	B	桤	桤木	N	F	鳍	鱼鳍	N	F
鄱	鄱阳	N	F	郪	郪江	N	F	乞	乞求	V	B
朴	朴树	N	F	凄	凄冷	A	B	企	企盼	V	B
迫	强迫	V	B	凄	凄凉	A	B	杞	杞国	N	F
迫	急迫	A	B	凄	凄切	A	F	启	开启	V	B
迫	迫近	V	B	戚	亲戚	N	B	启	启发	V	B
破	破除	V	F	戚	哀戚	N	B	启	启文	N	B
破	破费	V	F	期	日期	N	B	起	起来	V	F
破	破烂	A	F	期	时期	N	B	起	兴起	V	B
粕	糟粕	N	B	期	日期	N	B	起	起草	V	F
魄	魂魄	N	B	期	期望	N	B	绮	绮罗	N	B
魄	魄力	N	B	欺	欺骗	V	B	绮	绮丽	A	B
剖	剖开	V	F	欺	欺负	V	B	气	气体	N	F
剖	剖析	V	B	敧	敧斜	A	B	气	空气	N	F
掊	掊击	V	B	漆	油漆	N	F	气	气息	N	F
仆	仆倒	V	B	齐	整齐	A	F	气	天气	N	B
扑	扑打	V	F	齐	齐全	A	F	气	气味	N	B
铺	铺开	V	B	齐	齐国	N	F	气	气势	N	B
仆	仆人	N	B	齐	齐代	N	F	气	习气	N	B

气	生气	V	F	签	签子	N	F	腔	唱腔	N	F
气	元气	N	F	愆	愆尤	N	B	腔	腔调	N	F
弃	抛弃	V	B	磏	大磏	N	F	强	强大	A	F
汽	汽体	N	F	钤	钤印	N	B	强	坚强	A	F
汽	蒸汽	N	F	钤	钤束	V	B	强	强迫	V	B
泣	哭泣	V	B	前	前面	N	F	墙	墙壁	N	F
契	契约	N	B	前	前面	N	F	檣	桅檣	N	B
砌	堆砌	V	F	前	前面	N	F	抢	抢夺	V	F
葺	修葺	V	B	前	前方	N	B	抢	抢先	V	F
碛	沙碛	N	B	虔	虔诚	A	B	强	勉强	V	B
碛	沙碛	N	B	钱	铜钱	N	F	戗	戗架	N	F
碶	碶闸	N	F	钱	钱币	N	F	戗	戗木	N	F
槭	槭树	N	F	钱	钱财	N	F	跷	高跷	N	F
磏	小磏	N	F	钳	钳子	N	B	锹	铁锹	N	F
器	器具	N	B	钳	钳制	V	B	敲	敲诈	V	F
器	器官	N	B	軒	骊軒	N	B	橇	雪橇	N	B
器	气量	N	B	犍	犍为	N	F	侨	侨居	V	B
器	器重	V	B	墥	车路墥	N	F	侨	侨民	N	B
憩	休憩	V	B	潜	潜藏	V	B	桥	桥梁	N	F
卡	卡子	N	B	潜	潜力	N	B	谯	谯楼	N	B
卡	卡子	N	F	朒	朒窝	N	F	鞒	鞍鞒	N	B
洽	融洽	A	B	浅	浅显	A	F	巧	灵巧	A	F
洽	接洽	V	B	浅	浅薄	A	F	巧	恰巧	A	F
恰	恰当	A	B	遣	派遣	V	B	悄	悄声	A	B
恰	恰恰	Ad	F	遣	消遣	V	B	壳	外壳	N	B
阡	阡陌	N	B	谴	谴责	V	B	俏	俊俏	A	F
扦	扦子	N	B	谴	谴谪	V	B	俏	紧俏	A	F
扦	扦子	N	B	欠	赊欠	V	F	诮	诮责	V	B
迁	迁移	V	F	纤	纤绳	N	F	诮	讥诮	V	B
迁	变迁	V	B	芡	芡实	N	F	峭	陡峭	A	B
瓩	千瓦	Ms	F	芡	芡汁	N	F	窍	孔窍	N	B
岍	岍山	N	F	茜	茜草	N	F	窍	诀窍	N	B
汧	汧河	N	F	茜	茜色	N	B	茄	茄子	N	B
钎	钎子	N	B	堑	堑壕	N	B	且	暂且	Ad	F
牵	牵引	V	F	嵌	镶嵌	V	F	且	尚且	Con	F
牵	牵涉	V	B	歉	歉意	N	B	且	并且	Con	F
铅	铅芯	N	F	羌	羌族	N	B	切	切合	V	F
谦	谦虚	A	B	羌	羌族	N	B	切	亲切	A	B
签	签字	V	F	枪	长枪	N	F	切	急切	A	B
签	签子	N	F	枪	枪替	N	B	切	切实	Ad	F
签	标签	N	F	戕	戕害	V	B	切	反切	V	F

怯	胆怯	A	B	清	清静	A	B	酋	酋长	N	B
窃	偷窃	V	B	清	清廉	A	B	酋	酋领	N	B
挈	挈带	V	B	清	清楚	A	F	球	球体	N	F
惬	惬意	A	B	清	清除	V	B	球	球类	N	F
钦	钦佩	V	B	清	还清	V	F	球	地球	N	B
侵	侵入	V	B	清	清点	V	F	遒	遒健	A	B
亲	亲生	A	F	清	清代	N	F	裘	裘皮	N	B
亲	亲戚	N	B	鲭	鲭鱼	N	F	区	区别	V	B
亲	姻亲	N	B	情	感情	N	B	区	区域	N	B
亲	亲近	A	F	情	情面	N	B	曲	弯曲	A	B
亲	亲自	A	B	情	爱情	N	B	曲	酒曲	N	F
亲	亲近	V	F	情	情欲	N	B	驱	驱赶	V	B
芹	芹菜	N	B	情	情形	N	B	驱	驱逐	V	B
秦	秦国	N	F	情	情理	N	B	屈	屈服	V	B
秦	秦代	N	F	苘	苘麻	N	B	屈	理屈	V	B
琴	古琴	N	F	顷	顷刻	A	B	屈	委屈	V	F
禽	飞禽	N	B	请	请求	V	F	祛	祛除	V	F
勤	勤快	A	F	请	邀请	V	F	躯	身躯	N	B
勤	勤务	N	B	庆	庆贺	V	F	趋	趋向	V	B
溱	溱潼	N	F	磬	铜磬	N	F	黢	黢黑	A	B
擒	擒拿	V	F	邛	邛崃	N	F	劬	劬劳	A	B
螓	螓虫	N	B	穷	贫穷	A	F	胸	临胸	N	F
榩	榩木	N	B	穷	穷尽	A	B	鸲	鸲鸟	N	F
寝	寝室	N	B	穷	穷尽	V	B	渠	水渠	N	F
寝	陵寝	N	B	穷	穷究	V	B	癯	清癯	A	B
青	青色	A	F	穹	苍穹	N	B	曲	元曲	N	F
青	青草	N	B	丘	土丘	N	B	曲	歌曲	N	F
青	年青	A	B	丘	丘墓	N	B	曲	曲谱	N	F
青	青年	N	B	龟	龟兹	N	F	取	采取	V	F
轻	轻盈	A	F	秋	秋季	N	F	龋	龋齿	N	B
轻	轻装	A	B	湫	湫泊	N	N	去	离去	V	B
轻	轻松	A	B	楸	楸树	N	F	去	失去	V	B
轻	轻率	A	B	鹙	鹙鸟	N	B	去	除去	V	F
轻	轻佻	A	B	囚	囚禁	V	F	去	过去	A	B
轻	轻视	V	B	囚	囚犯	N	B	去	去声	N	B
氢	氢气	N	F	求	请求	V	F	阒	阒寂	A	B
倾	倾斜	V	F	求	要求	V	F	趣	趣味	N	B
倾	倾向	N	B	求	追求	V	F	趣	志趣	N	B
倾	倾覆	V	B	求	需求	V	B	觑	觑视	V	B
倾	倾倒	V	B	虬	虬龙	N	B	圈	圈子	N	F
清	清澈	A	F	俅	俅人	N	B	圈	圈子	N	F

圈	画圈	V	F	裙	裙子	N	B	仁	果仁	N	F
权	权衡	V	B	群	人群	N	B	任	任县	N	F
权	权力	N	F	群	成群	A	B	忍	忍耐	V	F
权	权利	N	F	麇	麇集	A	B	忍	忍心	V	B
权	权势	N	B	然	然而	Con	F	稔	丰稔	A	B
权	权变	N	B	髯	髯须	N	B	稔	稔知	V	B
权	权且	Ad	F	燃	燃烧	V	F	刃	刀刃	N	F
全	齐全	A	F	燃	点燃	V	F	刃	刀刃	N	B
全	保全	V	B	染	印染	V	F	认	认识	V	F
全	完全	Ad	F	染	感染	V	F	认	承认	V	F
诠	诠释	V	B	瀼	瀼河	N	F	任	委任	V	F
诠	真诠	N	B	瓤	瓤子	N	F	任	担任	V	F
荃	荃草	N	B	壤	土壤	N	B	任	担任	V	B
泉	泉水	N	B	攘	攘除	V	B	任	任凭	V	F
泉	泉眼	N	F	攘	攘夺	V	B	纫	缝纫	V	B
泉	泉币	N	B	攘	扰攘	V	B	韧	柔韧	A	B
拳	拳头	N	F	嚷	叫嚷	V	F	牣	充牣	V	B
拳	拳术	N	F	嚷	吵嚷	V	F	饪	烹饪	V	B
拳	拳曲	V	F	让	谦让	V	F	妊	妊娠	V	B
铨	铨选	V	B	让	转让	V	F	衽	衽席	N	B
铨	铨衡	V	B	瀼	瀼渡河	N	F	仍	频仍	A	B
痊	痊愈	V	B	饶	富饶	A	B	仍	仍然	Ad	F
蜷	蜷曲	V	F	饶	饶恕	V	F	日	白日	N	F
鲧	鲧鱼	N	F	扰	干扰	V	B	日	日本	N	F
劝	劝导	V	F	扰	纷扰	A	B	日	白日	N	F
劝	劝勉	V	B	扰	叨扰	V	F	日	每日	N	F
券	票券	N	F	绕	缠绕	V	F	日	日子	N	B
炔	炔烃	N	B	绕	绕远	V	F	戎	兵戎	N	B
缺	缺乏	V	F	惹	招惹	V	F	戎	戎族	N	B
缺	残缺	V	F	热	热量	N	F	茸	鹿茸	N	B
缺	缺席	V	F	热	加热	V	F	荣	繁荣	A	B
缺	空缺	N	F	热	热衷	A	F	荣	光荣	A	B
却	退却	V	F	热	热门	A	F	绒	绒毛	N	F
却	推却	V	B	热	热潮	N	B	绒	绒布	N	B
雀	雀鸟	N	F	人	人类	N	F	绒	绒线	N	B
确	正确	A	B	人	每人	N	F	容	容纳	V	F
确	的确	Ad	F	人	成年人	N	F	容	容忍	V	F
鹊	喜鹊	N	F	人	别人	N	F	容	容许	V	F
阙	宫阙	N	B	人	人格	N	F	容	容或	Ad	F
阙	石阙	N	B	人	人手	N	F	容	面容	N	B
榷	商榷	V	B	仁	仁爱	A	B	容	容貌	N	B

字	词	词性	标记	字	词	词性	标记	字	词	词性	标记
容	容貌	N	B	锐	锐气	N	B	嫂	大嫂	N	F
溶	溶解	V	F	瑞	祥瑞	A	B	臊	害臊	V	F
榕	榕树	N	F	睿	睿智	A	B	色	颜色	N	B
熔	熔化	V	F	润	滋润	A	F	色	神色	N	B
融	融化	V	F	润	浸润	V	F	色	货色	N	B
融	融合	V	B	润	润色	V	B	色	景色	N	B
融	金融	N	B	润	利润	N	B	色	成色	N	B
冗	冗余	A	B	挼	挼挲	V	B	色	紫色	N	B
冗	冗杂	A	B	郡	郡都	N	B	色	色情	N	B
柔	柔软	A	B	弱	软弱	A	F	涩	晦涩	A	B
柔	柔和	A	B	姹	姹羌	N	F	啬	吝啬	V	B
揉	揉搓	V	F	箬	箬竹	N	B	森	阴森	A	B
糅	杂糅	V	B	箬	箬叶	N	B	僧	僧人	N	B
蹂	蹂躏	V	B	爇	爇烛	V	B	杀	减杀	V	F
如	如同	V	F	撒	撒开	V	F	沙	沙哑	A	B
如	例如	V	F	洒	洒落	V	F	沙	沙皇	N	B
如	如果	Con	F	潵	潵河	N	F	霎	霎时	N	B
儒	儒家	N	B	腮	腮帮	N	F	筛	筛子	N	B
儒	儒生	N	B	塞	填塞	V	F	色	颜色	N	F
濡	濡湿	V	B	塞	塞子	N	F	山	山墙	N	B
濡	濡滞	V	B	塞	要塞	N	B	芟	芟除	V	B
孺	孺子	N	B	赛	比赛	V	F	杉	杉树	N	F
蠕	蠕动	V	B	赛	赛过	V	F	删	删除	V	F
乳	挛乳	V	B	散	松散	V	F	苦	草苦子	N	B
乳	乳房	N	B	散	零散	A	B	衫	衣衫	N	B
乳	乳汁	N	B	散	散开	V	F	煽	煽动	V	B
乳	乳汁	N	B	散	散布	V	F	膻	膻味	A	F
辱	耻辱	N	B	丧	丧事	A	B	闪	闪避	V	F
辱	侮辱	V	B	桑	桑树	N	F	闪	闪电	N	F
辱	玷辱	V	B	搡	推搡	V	F	闪	闪耀	V	F
鄏	郏鄏	N	F	嗓	嗓子	N	B	陕	陕西	N	F
入	进入	V	F	嗓	嗓音	N	B	汕	汕头	N	F
入	收入	N	B	磉	石磉	N	B	单	单县	N	F
入	入声	N	B	丧	丧失	V	B	剡	剡溪	N	F
褥	褥子	N	B	丧	懊丧	A	B	扇	扇子	N	B
阮	阮咸	N	F	骚	骚乱	N	B	善	善良	A	F
软	柔软	A	F	骚	骚体	N	B	善	善事	N	B
软	软弱	A	F	骚	风骚	A	F	善	友善	A	B
蕊	花蕊	N	B	臊	臊气	A	F	善	善于	A	B
蚋	蚋虫	N	B	扫	扫除	V	F	禅	禅让	V	B
锐	锐利	A	B	嫂	嫂子	N	F	鄯	鄯善	N	F

缮	修缮	V	B	少	少爷	N	B	鲹	鲹鱼	N	F
缮	缮写	V	B	召	召国	N	F	神	神妙	A	F
擅	擅自	Ad	F	绍	绍兴	N	B	神	精神	N	F
擅	擅长	A	B	哨	哨探	V	B	神	神气	N	F
膳	膳食	N	B	哨	哨卡	N	F	沈	沈阳	N	F
赡	赡养	V	B	哨	哨子	N	F	审	审慎	A	B
鳝	鳝鱼	N	F	奢	奢侈	A	B	审	审查	V	F
伤	伤害	N	F	赊	赊欠	V	F	审	审阅	V	F
伤	损害	V	F	畲	畲族	N	B	审	审悉	V	B
伤	悲伤	A	B	舌	舌头	N	F	谂	谂知	V	B
商	商量	V	B	舍	舍弃	V	F	婶	婶母	N	F
商	商业	N	B	舍	施舍	V	F	婶	婶子	N	F
商	商人	N	B	设	设立	V	F	肾	肾脏	N	F
商	商数	N	F	设	设计	V	B	肾	外肾	N	F
商	商朝	N	F	设	假设	V	F	渗	渗透	V	F
上	上声	N	B	舍	舍间	N	B	慎	谨慎	A	B
晌	晌午	N	B	射	发射	V	F	升	上升	V	F
赏	赏赐	V	F	射	喷射	V	F	升	升级	V	F
赏	赏赐	N	F	射	影射	V	B	生	生育	V	F
赏	欣赏	V	F	涉	跋涉	V	B	生	生长	V	F
赏	赏识	V	B	涉	牵涉	V	B	生	生存	V	B
上	上等	A	B	赦	赦免	V	B	生	生计	N	B
上	皇上	N	B	摄	摄取	V	B	生	生命	N	B
上	向上	V	B	摄	摄制	V	B	生	生平	N	B
上	上场	V	F	摄	摄护	V	B	生	发生	V	F
上	上菜	V	F	溻	溻水	N	F	生	生火	V	F
上	涂上	V	F	慑	威慑	A	B	生	生疏	A	F
上	登上	V	F	歙	歙县	N	F	生	生硬	Ad	F
上	上声	N	B	麝	麝香	N	F	生	学生	N	B
尚	崇尚	V	B	申	申述	V	B	生	书生	N	B
尚	风尚	N	B	伸	伸展	V	F	声	声音	N	F
尚	尚且	Con	F	身	身体	N	F	声	声明	V	B
绱	绱鞋	V	F	身	本身	N	B	声	名声	N	F
烧	燃烧	V	F	参	人参	N	F	声	声母	N	B
烧	发烧	V	F	绅	绅士	N	B	声	声调	N	B
稍	稍微	Ad	F	莘	莘县	N	F	牲	牲畜	N	B
艄	船艄	N	B	娠	妊娠	V	B	甥	外甥	N	B
鞘	鞭鞘	N	F	深	深度	N	F	绳	绳子	N	F
勺	勺子	N	F	深	深奥	A	F	省	俭省	V	F
苕	红苕	N	B	深	深入	A	F	省	省略	V	F
少	年少	A	B	深	深厚	A	F	省	省会	N	F

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圣	神圣	A	B	实	果实	N	B	柿	柿树	N	F
圣	圣人	N	B	拾	收拾	V	B	是	凡是	V	F
圣	圣上	N	B	食	食物	N	B	峙	繁峙	N	F
胜	胜利	V	F	蚀	侵蚀	V	F	适	适合	A	B
胜	战胜	V	F	鲥	鲥鱼	N	F	适	舒适	A	B
胜	胜景	N	B	史	历史	N	B	室	妻室	N	B
乘	史乘	N	B	史	史馆	N	B	逝	流逝	V	B
盛	兴盛	A	F	史	史部	N	B	莳	莳秧	V	F
盛	旺盛	A	F	使	使唤	V	F	释	解释	V	B
盛	盛大	A	B	使	使用	V	F	释	释放	V	B
盛	丰盛	A	B	使	致使	V	F	释	释迦牟尼	N	B
剩	剩余	V	F	使	使节	N	B	谥	谥号	N	B
嵊	嵊州	N	F	始	开始	N	B	嗜	嗜好	V	B
尸	尸体	N	B	始	开始	V	B	誓	发誓	V	F
失	丧失	V	F	驶	行驶	V	F	誓	誓言	N	F
失	迷失	V	B	士	士人	N	B	噬	吞噬	V	B
失	失误	N	B	示	表示	V	B	收	收拾	V	F
师	师傅	N	B	世	世道	N	B	收	没收	V	F
师	法师	N	B	仕	出仕	V	B	收	收获	V	F
师	师法	V	B	市	市场	N	F	收	接受	V	F
虱	虱子	N	F	市	城市	N	F	收	收监	V	F
狮	狮子	N	F	市	市制	A	B	手	亲手	V	B
施	施行	V	B	式	样式	N	B	手	手法	N	B
施	施与	V	F	式	格式	N	B	手	能手	N	B
施	施舍	V	B	式	仪式	N	B	守	防守	V	F
浉	浉河	N	F	势	势力	N	B	守	守护	V	F
湿	潮湿	A	F	势	趋势	N	B	守	遵守	V	F
蓍	蓍草	N	F	势	局势	N	B	首	首领	N	B
十	十足	A	B	势	姿势	N	B	首	首先	A	B
石	石头	N	F	事	事情	N	F	首	出首	V	B
石	石刻	N	B	事	事故	N	F	寿	寿命	N	B
石	药石	N	B	事	从事	V	B	寿	寿辰	N	B
时	时俗	N	B	侍	服侍	V	B	受	接受	V	F
时	时辰	N	B	饰	装饰	V	B	受	遭受	V	F
时	时机	N	B	饰	掩饰	V	B	受	禁受	V	F
时	时常	Ad	F	饰	装饰品	N	B	狩	狩猎	V	B
时	时而	Ad	F	饰	饰演	V	F	授	授予	V	B
识	认识	V	F	试	试验	V	F	授	传授	V	B
识	见识	N	B	试	考试	N	B	售	出售	V	F
实	实在	A	F	视	视察	V	B	兽	野兽	N	F
实	实际	N	B	拭	拂拭	V	B	绶	绶带	N	B

书	书写	V	B	束	拘束	V	B	顺	顺从	V	F
书	书信	N	B	述	叙述	V	B	瞬	瞬间	N	B
抒	抒发	V	B	沭	沭河	N	F	说	学说	N	B
枢	枢纽	N	B	树	树立	V	F	说	说合	V	F
叔	叔父	N	F	竖	竖立	V	F	烁	闪烁	A	B
叔	叔叔	N	F	恕	忠恕	V	B	朔	朔日	N	B
叔	小叔子	N	B	恕	宽恕	V	B	朔	朔方	N	B
殊	特殊	A	B	庶	富庶	A	B	硕	硕大	A	B
梳	梳子	N	B	庶	庶民	N	B	蒴	蒴果	N	B
梳	梳理	V	F	庶	庶几	Ad	F	数	频数	A	B
舒	舒展	V	F	腧	腧穴	N	F	丝	蚕丝	N	F
舒	舒缓	A	B	数	数目	N	F	丝	丝竹	N	B
疏	疏通	V	B	数	劫数	N	F	私	私人	A	B
疏	疏远	A	B	墅	别墅	N	B	私	自私	A	B
疏	生疏	A	B	漱	漱口	V	F	私	私下	Ad	B
疏	疏忽	V	B	刷	刷子	N	B	思	思考	V	B
疏	疏散	V	B	刷	刷刷	Ono	F	思	思念	V	B
疏	注疏	N	B	耍	玩耍	V	F	思	思路	N	B
输	运输	V	F	耍	耍弄	V	F	虒	虒亭	N	F
蔬	蔬菜	N	B	衰	衰弱	A	B	厮	小厮	N	B
赎	赎回	V	F	摔	摔倒	V	F	嘶	嘶哑	A	B
赎	赎罪	V	B	摔	摔打	V	F	死	死去	V	F
塾	私塾	N	B	帅	元帅	N	B	死	拼死	Ad	F
熟	成熟	A	F	率	率领	V	F	死	至死	Ad	F
熟	熟练	A	F	率	草率	A	B	死	死板	A	F
黍	黍子	N	B	率	直率	A	B	寺	寺庙	N	F
属	类属	N	B	闩	门闩	N	F	寺	清真寺	N	F
属	隶属	V	F	栓	枪栓	N	F	似	近似	V	F
属	归属	V	F	泷	泷水	N	F	似	似乎	Ad	F
属	家属	N	B	泷	泷冈	N	F	汜	汜河	N	F
署	部署	V	B	孀	遗孀	N	B	伺	窥伺	V	B
署	署理	V	B	爽	爽朗	A	B	祀	祭祀	V	B
署	署名	V	F	爽	直爽	A	B	饲	饲养	V	B
蜀	蜀国	N	F	水	汁水	N	F	饲	饲料	N	B
蜀	蜀汉	N	F	水	外水	N	B	泗	泗河	N	F
鼠	老鼠	N	F	说	游说	V	B	驷	驷马	N	B
数	数数	V	F	睡	睡觉	V	F	肆	放肆	N	B
数	数说	V	B	吮	吮吸	V	F	嗣	后嗣	N	B
瘱	瘱忧	A	B	顺	顺便	V	B	松	松树	N	F
术	技术	N	B	顺	顺意	V	F	松	松散	A	F
戍	卫戍	V	B	顺	顺利	A	F	松	松开	V	F

松	肉松	N	B	素	素食	N	F	孙	孙子	N	B
娀	有娀	N	F	素	元素	A	B	孙	孙子	N	B
淞	吴淞江		N	素	素来	Ad	B	损	损害	V	B
			F	速	迅速	A	B	损	损坏	V	B
筇	筇立	V	F	速	速度	N	B	笋	竹笋	N	F
筇	筇动	V	F	涑	涑水河	N	F	隼	隼鸟	N	F
悚	悚然	A	B	嗉	嗉囔	V	B	榫	榫头	N	F
讼	诉讼	V	B	塑	塑造	V	F	唆	唆使	V	B
讼	争讼	V	B	塑	塑料	N	B	梭	梭子	N	F
宋	宋国	N	F	溯	回溯	V	B	蓑	蓑衣	N	B
宋	宋朝	N	F	愫	倾诉	N	B	缩	缩小	V	F
送	赠送	V	F	酸	辛酸	A	F	缩	退缩	V	F
诵	朗诵	V	B	酸	穷酸	A	F	所	处所	N	B
诵	背诵	V	B	蒜	大蒜	N	F	索	绳索	N	B
诵	传颂	V	B	算	计算	V	F	索	搜索	V	B
颂	颂扬	V	B	算	算计	V	B	索	索取	V	B
颂	祝颂	V	B	算	推算	V	F	索	索然	A	B
搜	搜集	V	B	算	算作	V	F	琐	琐碎	A	B
搜	搜查	V	F	算	算数	V	F	琐	猥琐	A	B
叟	老叟	N	B	算	总算	Ad	F	锁	锁头	N	F
嗾	嗾使	V	B	虽	虽然	Con	F	锁	锁链	N	B
薮	渊薮	N	B	睢	睢县	N	F	塌	倒塌	V	F
嗽	咳嗽	V	B	濉	濉河	N	F	獭	水獭	N	F
苏	流苏	N	B	绥	绥靖	V	B	鳎	鳎鱼	N	F
苏	苏醒	V	B	隋	隋朝	N	F	拓	拓印	V	F
苏	苏州	N	B	随	跟随	V	F	挞	鞭挞	V	B
苏	江苏	N	F	随	随顺	V	F	榻	床榻	N	B
苏	苏维埃	N	B	随	随便	V	F	漯	漯河	N	F
苏	苏联	N	F	随	顺便	V	B	踏	践踏	V	F
酥	酥油	N	B	岁	年成	N	B	踏	踏勘	V	B
酥	桃酥	N	B	祟	鬼祟	N	B	台	台州	N	F
酥	酥软	A	F	遂	遂愿	V	B	胎	胚胎	N	B
俗	风俗	N	B	碎	粉碎	V	F	胎	轮胎	N	F
俗	通俗	A	B	碎	粉碎	V	F	台	台湾	N	F
俗	庸俗	A	F	碎	零碎	A	F	抬	抬杠	V	F
诉	告诉	V	B	隧	隧道	N	B	苔	苔藓	N	F
诉	倾诉	V	F	燧	燧石	N	B	跆	跆藉	V	B
诉	控诉	V	B	燧	烽燧	N	B	鲐	鲐鱼	N	F
肃	严肃	A	B	邃	深邃	A	B	薹	薹草	N	F
肃	肃清	V	B	邃	精髓	A	B	汰	淘汰	V	B
素	素净	A	F	孙	孙子	N	B	态	状态	N	B

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泰	泰然	A	B	塘	澡塘	N	B	特	特务	N	B
坍	坍塌	V	F	塘	火塘	N	B	特	特克斯	Ms	F
贪	贪污	V	F	搪	搪塞	V	F	疼	疼爱	V	F
贪	贪求	V	F	樘	门樘	N	B	腾	奔腾	V	B
贪	贪图	V	F	膛	胸膛	N	B	腾	升腾	V	B
摊	摊开	V	F	糖	食糖	N	F	腾	腾空儿	V	F
摊	分摊	V	F	糖	糖果	N	F	誊	誊写	V	F
瘫	瘫痪	V	F	螳	螳螂	N	B	滕	滕国	N	F
坛	讲坛	N	B	帑	国帑	N	B	剔	剔除	V	F
坛	花坛	N	B	倘	倘若	Con	F	梯	梯子	N	B
坛	坛子	N	F	淌	流淌	V	F	梯	电梯	N	B
郯	郯城	N	F	烫	烫发	V	F	提	提升	V	F
谈	谈论	V	F	叨	叨光	V	B	提	提前	V	F
谈	谈话	N	B	涛	波涛	N	B	提	提出	V	F
弹	弹劾	V	B	绦	绦子	N	B	提	提取	V	F
磹	磹口	N	F	韬	韬略	N	B	啼	啼哭	V	B
坦	平坦	A	B	咷	号咷	V	B	题	题目	N	F
坦	坦率	A	B	逃	逃跑	V	F	鳀	鳀鱼	N	F
坦	坦然	A	B	逃	逃避	V	B	体	身体	N	B
袒	袒露	V	B	洮	洮河	N	F	体	物体	N	B
袒	袒护	V	B	桃	桃树	N	F	体	体裁	N	B
毯	毯子	N	B	桃	桃子	N	F	体	体验	V	B
叹	叹气	V	B	桃	核桃	N	B	体	体制	N	B
叹	咏叹	V	B	陶	陶器	N	F	屉	屉子	N	F
叹	赞叹	N	B	陶	陶冶	V	B	屉	屉子	N	B
炭	木炭	N	F	陶	熏陶	V	B	屉	抽屉	N	B
探	试探	V	F	陶	陶然	A	B	涕	鼻涕	N	B
探	探子	N	B	啕	号啕	V	B	惕	警惕	A	B
探	探望	V	B	淘	淘气	A	F	替	代替	V	F
汤	汤水	N	F	讨	讨伐	V	B	替	衰替	A	B
汤	汤药	N	F	讨	讨论	V	B	嚏	打喷嚏	V	B
嘡	嘡嘡	Ono	F	套	套子	N	F	天	天空	N	F
蹚	蹚地	V	F	套	套子	N	F	天	天气	N	F
唐	唐朝	N	F	套	套购	V	F	天	天生	A	B
唐	唐朝	N	F	套	圈套	N	F	天	上天	N	F
堂	堂屋	N	B	套	客套	N	B	添	添加	V	F
堂	大堂	N	F	套	整套	N	B	田	提拿第	N	F
堂	堂房	N	B	忒	差忒	N	B	沺	沺泾镇	N	F
棠	棠梨	N	B	特	特殊	A	B	恬	恬静	A	B
郎	郎部	N	F	特	特别	Ad	F	填	填补	V	B
塘	池塘	N	F	特	特地	Ad	F	填	填写	V	F

殄	殄灭	V	B	通	沟通	V	B	图	贪图	V	F
佻	佻薄	A	B	通	通知	V	F	图	意图	N	B
挑	挑选	V	F	通	通晓	V	F	徒	徒步	V	B
挑	挑剔	V	F	通	通顺	A	F	徒	徒然	A	B
挑	挑子	N	F	通	普通	A	B	徒	徒弟	N	B
条	枝条	N	B	嗵	嗵嗵	Ono	F	徒	信徒	N	B
条	条子	N	F	同	相同	A	F	徒	徒刑	N	B
条	条理	N	B	同	共同	A	B	途	路途	N	B
调	调和	A	B	同	一同	Ad	F	涂	涂抹	V	F
调	调配	V	F	岭	岭峪	N	F	涂	涂鸦	V	F
调	调解	V	B	峒	峒冢	N	F	涂	海涂	N	B
髫	垂髫	N	B	峒	崆峒	N	F	屠	屠宰	V	B
挑	挑拨	V	F	桐	泡桐	N	F	屠	屠杀	V	B
眺	眺望	V	B	桐	油桐	N	F	土	泥土	N	F
稊	稊米	V	F	桐	梧桐	N	F	土	土地	N	B
跳	跳跃	V	F	烔	烔炀河	N	F	土	烟土	N	B
帖	服帖	V	B	童	儿童	N	B	吐	吐露	V	F
帖	妥帖	A	B	鲖	鲖城	N	F	吐	呕吐	V	F
贴	粘贴	V	F	潼	潼关	N	F	兔	兔子	N	F
贴	紧贴	V	F	瞳	瞳孔	N	F	块	桥块	N	B
贴	贴补	V	F	统	系统	N	B	湍	湍急	A	B
贴	津贴	N	B	统	统领	V	F	湍	急湍	N	B
帖	请帖	N	B	筒	竹筒	N	B	团	团子	N	B
帖	字帖儿	N	B	恸	恸哭	V	B	团	团聚	V	B
铁	铁定	A	F	痛	悲痛	A	B	团	团体	N	F
厅	客厅	N	F	偷	小偷儿	N	B	团	共青团	N	F
厅	办公厅	N	F	偷	偷空儿	V	B	推	推磨	V	F
听	听从	V	F	头	头型	N	F	推	推行	V	F
听	听凭	V	F	头	头目	N	F	推	推算	V	F
桯	桯子	N	F	投	投掷	V	F	推	推辞	V	F
廷	朝廷	N	B	投	投射	V	F	推	推诿	V	F
亭	亭子	N	B	透	透漏	V	F	推	推迟	V	F
庭	法庭	N	B	透	透彻	A	F	推	推崇	V	B
停	停止	V	F	凸	凸出	A	F	推	推举	V	F
停	停留	V	F	秃	光秃	A	F	颓	衰颓	A	B
停	停放	V	F	秃	光秃	A	F	颓	颓丧	A	B
停	停当	A	B	突	突然	Ad	F	腿	火腿	N	B
霆	雷霆	N	B	突	突起	V	F	退	后退	V	F
挺	笔挺	A	B	突	突起	N	B	退	退出	V	F
挺	挺拔	A	B	图	图画	N	F	退	减退	V	F
梃	梃子	N	B	图	图谋	V	B	退	退还	V	F

蜕	蜕化	V	F	袜	袜子	N	B	王	君王	N	B
煺	煺毛	V	F	歪	歪斜	A	F	王	王爵	N	B
吞	吞咽	V	F	崴	崴子	N	F	网	网络	N	F
吞	吞没	V	F	外	外面	N	F	枉	冤枉	A	B
暾	朝暾	N	B	外	外国	A	B	枉	枉然	A	B
屯	屯聚	V	B	外	另外	A	B	罔	欺罔	V	B
屯	驻屯	V	B	外	此外	N	F	往	去往	V	B
囤	囤积	V	F	弯	弯曲	A	F	往	过往	A	B
鲀	鲀鱼	N	F	弯	弯子	N	F	惘	惘然	A	B
托	托子	N	F	湾	水湾	N	B	王	称王	V	B
托	衬托	V	B	湾	海湾	N	B	妄	狂妄	A	B
托	委托	V	F	丸	丸子	N	F	忘	忘记	V	F
托	推托	V	B	丸	丸药	N	B	旺	旺盛	A	F
拖	拖延	V	F	完	完整	A	B	望	探望	V	B
拖	拖累	V	F	完	完结	V	F	望	盼望	V	F
脱	脱落	V	F	完	完成	V	F	望	名望	N	B
脱	脱离	V	B	完	完税	V	B	望	怨望	N	B
脱	轻托	A	B	玩	玩耍	V	F	望	望子	N	B
驮	驮运	V	F	玩	玩弄	V	B	望	望日	N	B
坨	坨子	N	F	玩	游玩	V	B	危	危险	A	B
驼	骆驼	N	B	玩	古玩	N	B	危	危害	V	B
驼	驼背	V	F	顽	顽固	A	B	危	高危	A	B
砣	秤砣	N	F	顽	顽皮	A	B	威	威严	N	B
砣	碾砣	N	B	烷	烷烃	N	F	偎	偎依	V	F
鸵	鸵鸟	N	B	宛	宛转	A	B	微	轻微	A	B
酡	酡然	A	B	挽	挽回	V	B	微	衰微	A	B
橐	囊橐	N	B	挽	挽车	V	B	微	微妙	A	B
橐	橐橐	Ono	F	晚	晚上	N	F	微	稍微	Ad	F
鼍	鼍龙	N	F	晚	晚年	N	B	鳁	鳁鱼	N	F
妥	妥当	A	F	脘	胃脘	N	F	巍	巍然	A	B
椭	椭圆	N	B	惋	惋惜	A	B	为	作为	V	B
拓	开拓	V	B	婉	婉转	A	B	为	作为	V	F
唾	唾液	N	B	婉	婉顺	A	B	为	成为	V	F
挖	挖掘	V	F	婉	婉丽	A	B	圩	圩子	N	F
哇	哇哇	Ono	F	腕	腕子	N	F	违	违背	V	B
洼	低洼	A	F	蔓	藤蔓	N	F	围	包围	V	F
呱	呱底	N	F	汪	汪洋	A	B	围	周围	N	B
娲	女娲	N	B	汪	汪汪	Ono	F	围	围度	N	B
蛙	青蛙	N	F	亡	逃亡	V	B	闱	宫闱	N	B
瓦	瓦特	Ms	F	亡	亡失	V	B	沩	沩水	N	F
佤	佤族	N	B	亡	死亡	A	B	涠	涠水	N	F

桅	桅杆	N	B	畏	畏惧	V	F	鹁	鹁鸟	N	F
潿	潿洲	N	F	谓	称谓	V	B	挝	老挝	N	F
唯	唯独	Ad	F	尉	尉官	N	B	涡	漩涡	N	B
帷	帷帐	N	B	遗	遗赠	V	B	窝	窝藏	V	B
维	维系	V	B	喂	喂养	V	F	蜗	蜗牛	N	B
维	维护	V	B	喂	喂食	V	F	我	自我	Pro	F
维	思维	V	B	猬	刺猬	N	B	沃	肥沃	A	B
维	维度	N	F	渭	渭河	N	F	卧	卧铺	N	B
巋	巋然	A	B	慰	欣慰	A	B	偓	偓佺	N	B
潍	潍河	N	F	魏	魏国	N	F	握	掌握	V	F
伟	伟大	A	B	魏	魏国	N	F	幄	帷幄	N	B
苇	芦苇	N	B	魏	北魏	N	F	斡	斡旋	V	B
尾	尾巴	N	B	鳁	鳁鱼	N	F	乌	乌鸦	N	B
尾	末尾	N	B	温	温度	N	B	乌	乌黑	A	F
纬	纬线	N	B	温	温柔	A	B	污	污垢	N	B
纬	纬度	N	B	温	温习	V	F	污	玷污	V	B
纬	纬书	N	B	瘟	瘟疫	N	F	巫	巫师	N	B
委	委托	V	B	文	文字	N	B	诬	诬陷	V	B
委	委弃	V	B	文	文字	N	B	屋	房屋	N	F
委	委员会	N	B	文	文章	N	B	屋	屋子	N	F
委	委曲	A	B	文	文言	N	B	芜	荒芜	A	B
委	委积	A	B	文	文明	N	B	芜	繁芜	A	B
委	委靡	A	B	文	文科	N	F	吴	吴国	N	F
委	委实	A	B	纹	花纹	N	F	吴	吴国	N	F
洧	洧川	N	F	纹	纹路	N	F	郚	郱郚	N	F
诿	推诿	V	B	闻	听闻	V	B	浯	浯河	N	F
萎	枯萎	A	B	蚊	蚊子	N	F	梧	梧桐	N	B
骫	骫曲	V	B	阌	阌乡	N	F	鹉	鹉鸟	N	F
猥	猥杂	A	B	吻	接吻	V	B	铻	锟铻	N	F
猥	猥亵	A	B	紊	紊乱	A	B	午	中午	N	B
艉	船艉	N	F	稳	稳固	A	F	伍	队伍	N	B
鲔	鲔鱼	N	F	稳	稳重	A	F	仵	仵作	N	B
卫	保卫	V	B	稳	稳妥	A	F	迕	违迕	V	B
卫	卫国	N	F	问	询问	V	F	怃	怃然	A	B
位	部位	N	B	问	问候	V	F	忤	忤逆	V	B
位	地位	N	B	问	审问	V	F	侮	欺侮	V	B
位	地位	N	F	问	过问	V	F	牾	抵牾	V	B
味	味道	N	F	汶	汶河	N	F	舞	舞蹈	N	F
味	气味	N	F	翁	老翁	N	B	舞	舞蹈	V	F
味	趣味	N	F	嗡	嗡嗡	Ono	F	舞	挥舞	V	F
味	体味	V	B	潣	潣江	N	F	舞	舞弄	V	F

兀	突兀	A	B	巂	越巂	N	F	隙	空隙	N	B
务	事务	N	B	膝	膝盖	N	F	隙	嫌隙	N	B
务	务必	Ad	F	嬉	嬉戏	V	B	匣	匣子	N	F
杌	杌子	N	B	蹊	蹊径	N	B	侠	侠客	N	B
物	事务	N	B	曦	晨曦	N	B	侠	侠义	N	B
误	错误	A	B	习	学习	V	B	狭	狭窄	A	B
误	耽误	V	F	习	习惯	N	B	硖	硖石	N	F
恶	厌恶	A	B	席	席子	N	F	瑕	瑕疵	N	B
悟	觉悟	V	F	席	席位	N	B	暇	空暇	N	B
晤	会晤	V	B	席	席位	N	F	辖	管辖	V	F
婺	婺江	N	F	席	酒席	N	F	黠	狡黠	A	B
婺	婺州	N	F	袭	袭击	V	B	下	下等	A	B
骛	驰骛	V	B	袭	沿袭	V	B	下	下次	N	F
西	西洋	N	B	媳	媳妇	N	B	下	下达	V	F
吸	呼吸	V	F	嵎	嵎峨	N	F	下	下场	V	F
吸	吸收	V	F	檄	檄文	N	B	下	取下	V	F
吸	吸引	V	F	鳛	鳛水	N	F	下	攻下	V	B
希	希望	V	F	洗	洗礼	V	B	下	下子	Ms	F
析	分析	V	B	洗	洗雪	V	B	夏	夏季	N	F
息	气息	N	B	洗	清洗	V	B	夏	夏朝	N	F
息	消息	N	B	洗	冲洗	V	F	夏	华夏	N	B
息	休息	V	B	洗	洗牌	V	F	厦	厦门	N	F
息	生息	V	B	洗	笔洗	N	B	仙	仙人	N	F
息	利息	V	B	枲	枲麻	N	B	先	祖先	N	B
息	子息	V	B	玺	玉玺	N	B	先	先前	N	F
浠	浠水	N	F	铣	铣削	V	F	纤	纤微	A	B
烯	烯烃	N	F	徙	迁徙	V	B	籼	籼稻	N	B
惜	爱惜	V	B	喜	欣喜	A	F	铦	铦利	A	B
惜	惋惜	A	B	喜	喜事	N	B	鲜	新鲜	A	F
惜	吝惜	V	B	喜	喜爱	V	B	鲜	新鲜	A	F
晰	清晰	A	B	禧	福禧	A	B	鲜	鲜明	A	B
稀	稀少	A	B	戏	游戏	V	B	鲜	鲜美	A	F
稀	稀少	A	F	戏	戏弄	V	B	鲜	鱼鲜	N	B
稀	稀薄	A	F	戏	戏剧	N	F	暹	暹罗	N	F
犀	犀牛	N	F	系	系统	N	B	闲	空闲	A	F
皙	白皙	A	B	系	联系	N	B	闲	闲置	A	F
溪	小溪	N	F	系	系念	V	B	闲	闲空儿	N	B
褉	祖褉	V	B	细	精细	A	F	贤	贤明	A	B
蜥	蜥蜴	N	B	细	仔细	A	F	贤	圣贤	N	B
熄	熄灭	V	F	细	细小	A	F	弦	弓弦	N	F
嘻	嘻嘻	Ono	F	隙	缝隙	N	B	拚	拚扎	V	F

娴	娴静	A	B	箱	箱子	N	B	翛	翛然	A	B
娴	娴熟	A	B	镶	镶嵌	V	F	霄	云霄	N	B
蚿	马蚿	N	B	详	详悉	A	B	嚣	喧嚣	A	B
衔	衔接	V	B	降	投降	V	F	洨	洨河	N	F
衔	头衔	N	F	降	降服	V	F	崤	崤山	N	F
舷	船舷	N	F	庠	庠序	N	B	淆	混淆	A	B
嫌	嫌疑	N	B	祥	吉祥	A	B	小	小妾	N	B
嫌	嫌怨	N	B	翔	飞翔	V	B	晓	拂晓	N	B
显	明显	A	F	享	享受	V	F	晓	知晓	V	B
显	显露	V	F	响	响应	N	B	晓	揭晓	V	B
显	显赫	A	B	响	响亮	A	F	孝	孝顺	A	B
险	险要	A	F	响	声响	N	F	孝	孝服	N	B
险	危险	N	B	飨	飨客	V	B	校	学校	N	F
险	阴险	A	B	想	推想	V	F	校	校官	N	B
险	险些	Ad	F	想	想念	V	F	哮	哮喘	N	B
跣	跣足	V	B	向	方向	N	B	哮	咆哮	V	B
藓	苔藓	N	F	向	偏向	V	F	笑	讥笑	V	F
苋	苋菜	N	B	向	向来	Ad	F	效	效果	N	B
岘	岘山	N	F	项	款项	N	B	效	仿效	V	B
现	现在	A	B	巷	街巷	N	F	效	效力	V	B
现	现款	N	B	相	相貌	N	F	楔	楔子	N	F
限	限度	N	B	相	相位	N	F	蝎	蝎子	N	B
限	限制	V	F	相	相态	N	F	协	协调	A	B
限	门限	N	B	相	宰相	N	B	协	协同	A	B
线	交通路线	N	F	相	傧相	N	B	协	协助	V	B
线	路线	N	B	象	大象	N	F	胁	胁迫	V	B
线	线索	N	B	像	好像	Ad	F	挟	挟制	V	B
宪	宪令	N	B	橡	橡树	N	F	挟	挟恨	V	B
宪	宪法	N	B	橡	橡胶树	N	F	偕	偕同	V	F
陷	陷阱	N	B	枭	枭首	N	B	斜	倾斜	V	F
陷	陷害	V	B	骁	骁勇	A	B	谐	和谐	A	B
陷	失陷	V	B	消	消失	V	F	谐	诙谐	A	B
陷	缺陷	N	B	消	消除	V	F	携	携带	V	B
羡	羡慕	V	B	消	消遣	V	B	携	携手	V	B
乡	乡村	N	F	萧	萧索	A	B	撷	采撷	V	B
乡	家乡	N	F	猇	猇亭	N	F	写	写作	V	F
相	互相	Ad	F	销	销金	V	B	写	描写	V	B
香	香料	N	B	销	撤销	V	F	泄	排泄	V	F
厢	厢房	N	B	销	销售	V	F	泄	泄露	V	F
厢	城厢	N	B	销	开销	N	B	泄	发泄	V	F
湘	湘江	N	F	销	销子	N	B	泻	流泻	V	F

泻	腹泻	V	F	兴	兴办	V	B	诇	诇察	V	B
卸	推卸	V	F	星	定盘星	N	F	夐	夐古	A	B
屑	琐屑	A	B	星	明星	N	B	休	休止	V	B
械	器械	N	B	猩	猩猩	N	B	休	休息	V	F
械	军械	N	B	腥	荤腥	N	B	休	休妻	V	F
亵	亵渎	V	B	刑	刑罚	N	B	修	修饰	V	B
亵	猥亵	A	B	行	行走	V	B	修	修理	V	F
谢	感谢	V	F	行	旅行	A	B	修	编修	V	F
谢	谢罪	V	B	行	推行	V	B	修	修行	V	F
谢	谢绝	V	B	行	行为	N	B	修	修建	V	F
谢	凋谢	V	F	行	行将	Ad	F	修	修剪	V	F
渫	渫渎	V	B	行	行药	V	B	修	修正主义 N		B
解	解池	N	F	形	形状	N	B	修	修长	A	B
廨	公廨	N	B	形	形体	A	F	脩	脩金	N	B
澥	渤澥	N	F	型	类型	N	F	羞	羞耻	N	B
懈	松懈	A	B	荥	荥阳	N	F	馐	珍馐	N	B
燮	调燮	V	B	省	内省	V	B	朽	腐朽	V	F
蟹	螃蟹	N	F	省	醒悟	V	B	朽	老朽	A	B
心	心脏	N	F	醒	苏醒	V	F	秀	清秀	N	B
心	心思	N	F	醒	醒悟	V	F	秀	优秀	A	B
心	中心	N	B	擤	擤鼻涕	V	F	袖	袖子	N	F
辛	辛辣	A	B	兴	兴致	N	B	绣	刺绣	V	F
辛	辛苦	A	B	杏	杏树	N	F	宿	星宿	N	B
辛	辛酸	A	B	杏	杏子	N	F	锈	生锈	V	F
欣	欢欣	A	B	幸	幸运	A	B	锈	锈病	N	F
莘	莘庄	N	F	幸	欣幸	A	B	圩	圩市	N	F
新	新婚	A	F	幸	侥幸	A	B	须	须要	V	F
新	新近	Ad	F	幸	宠幸	V	B	须	胡须	N	B
歆	歆慕	V	B	幸	巡幸	V	B	须	须子	N	B
薪	薪水	N	F	性	性格	N	B	虚	空虚	A	B
馨	馨香	N	B	性	性别	N	B	虚	心虚	A	F
囟	囟门	N	F	婞	婞直	A	B	虚	虚假	A	B
信	信用	N	B	凶	凶年	A	B	虚	虚心	A	B
信	相信	V	F	凶	凶恶	A	F	虚	虚弱	A	F
信	信奉	V	F	凶	凶手	N	B	墟	废墟	N	B
信	信物	N	B	兄	兄长	N	B	需	需要	V	F
信	书信	N	F	讻	汹汹	A	F	嘘	嘘气	V	F
信	信息	N	F	汹	汹涌	A	B	许	赞许	V	B
信	引信	N	B	胸	心胸	N	B	许	应许	V	F
信	信石	N	B	雄	雄性	A	F	许	许配	V	F
兴	兴盛	V	F	雄	雄伟	A	B	许	允许	V	F

许	或许	Ad	F	悬	悬挂	V	F	郇	郇国	N	F
许	许国	N	F	悬	悬念	V	B	询	询问	V	B
醑	醑剂	N	F	悬	悬想	V	B	浔	江浔	N	B
旭	朝旭	N	B	悬	悬殊	A	B	恂	恂谨	A	B
序	次序	N	B	旋	旋转	V	B	恂	恂然	A	B
序	排序	V	B	旋	旋涡	N	F	循	遵循	V	B
序	序文	N	F	旋	旋即	A	B	鲟	鲟鱼	N	F
序	庠序	N	B	选	挑选	V	F	训	训诫	V	F
叙	叙述	V	B	选	选举	V	F	训	训练	V	B
叙	铨叙	V	B	选	人选	N	B	训	训诂	V	F
洫	沟洫	N	B	选	选集	N	B	讯	闻讯	V	B
恤	怜恤	V	B	烜	煊赫	A	B	讯	审讯	V	B
恤	抚恤	V	B	券	拱券	N	F	讯	音讯	N	F
畜	畜养	V	B	炫	炫目	V	B	迅	迅速	A	B
勖	勖勉	V	B	炫	炫弄	V	B	驯	温驯	A	B
绪	头绪	N	B	绚	绚丽	A	B	逊	谦逊	A	B
绪	绪余	A	B	眩	目眩	V	B	逊	逊色	V	B
绪	心绪	N	B	旋	旋子	N	B	殉	殉葬	V	B
续	继续	V	B	渲	渲染	V	B	殉	殉难	V	B
续	接续	V	F	楦	楦子	N	B	浚	浚县	N	F
潊	潊水	N	F	靴	靴子	N	B	丫	枝丫	N	B
湑	湑水河	N	F	穴	洞穴	N	F	丫	小丫	N	B
絮	棉絮	N	B	穴	巢穴	N	F	压	压制	V	F
絮	絮叨	V	B	穴	墓穴	N	F	压	积压	V	F
婿	女婿	N	B	穴	穴位	N	F	押	抵押	V	F
婿	夫婿	N	B	峃	峃口	N	F	押	拘押	V	F
蓄	积蓄	V	F	学	学习	V	F	押	押送	V	B
煦	和煦	A	B	学	学问	N	B	押	押尾	V	B
滀	滀仕	N	F	学	学科	N	B	桠	树桠	N	B
轩	轩昂	A	B	学	学校	N	B	鸭	鸭子	N	F
宣	宣布	V	B	噱	噱头	N	B	牙	牙齿	N	F
宣	宣召	V	B	雪	雪耻	V	B	牙	象牙	N	B
宣	宣泄	V	B	鳕	鳕鱼	N	F	牙	牙子	N	B
宣	宣城	N	B	血	血液	N	F	牙	牙子	N	B
宣	宣纸	N	B	谑	戏谑	V	B	岈	嵖岈	N	F
萱	萱草	N	B	勋	功勋	N	B	玡	琅玡	N	F
萱	宣堂	N	B	勋	勋章	N	B	琊	琅琊	N	F
喧	喧哗	A	B	熏	熏制	V	F	蚜	蚜虫	N	B
儇	儇佻	A	B	醺	醉醺醺	N	B	崖	山崖	N	F
玄	玄妙	A	B	寻	寻找	V	F	衙	衙门	N	B
玄	玄虚	A	F	巡	巡查	V	B	哑	沙哑	A	F

哑	哑火	V	B	檐	房檐	N	F	洋	洋溢	A	B
雅	雅正	A	B	奄	奄然	Ad	F	洋	大洋	N	B
雅	文雅	A	B	兖	兖州	N	F	蛘	蛘子	N	F
轧	轧轧	Ono	F	衍	推衍	V	B	仰	仰慕	V	B
亚	亚洲	N	F	衍	衍文	N	B	仰	仰仗	V	B
讶	惊讶	A	B	掩	掩蔽	V	F	养	抚养	V	F
迓	迎迓	V	B	掩	掩捕	V	B	养	饲养	V	F
咽	咽头	N	F	郾	郾城	N	F	养	生养	V	F
胭	胭脂	N	B	眼	眼睛	N	F	养	培养	V	B
烟	烟雾	N	B	演	演化	V	B	养	休养	V	F
烟	烟草	N	F	演	演算	V	B	养	修养	N	B
烟	香烟	N	F	演	扮演	V	F	养	养护	V	B
烟	烟土	N	B	鼹	鼹鼠	N	F	氧	氧气	N	F
烟	烟子	N	B	厌	厌恶	A	B	样	样子	N	F
阉	阉割	V	F	眨	眨口	N	F	样	样子	N	F
淹	淹没	V	F	砚	砚台	N	B	样	样子	N	F
淹	淹博	A	B	艳	艳丽	A	F	样	样子	N	F
湮	湮没	V	B	艳	香艳	A	B	漾	荡漾	V	F
鄢	鄢陵	N	F	艳	艳羡	A	B	幺	幺小	A	B
燕	燕国	N	F	唁	吊唁	V	B	夭	夭折	V	B
延	延长	V	B	宴	宴请	V	B	吆	吆喝	V	F
延	迟延	V	F	宴	宴会	N	B	妖	妖怪	N	B
延	延聘	V	B	宴	宴乐	A	B	妖	妖娆	A	B
严	严密	A	F	验	查验	V	F	要	要求	V	B
严	严格	A	F	验	应验	V	B	要	要挟	V	B
严	家严	N	B	验	效验	N	B	腰	裤腰	N	F
言	言语	N	B	谚	谚语	N	B	邀	邀请	V	F
岩	岩石	N	B	雁	大雁	N	F	肴	菜肴	N	B
炎	炎热	A	B	焰	火焰	N	B	轺	轺车	N	B
炎	炎症	N	B	滟	滟滪堆	N	B	窑	煤窑	N	F
炎	炎帝	N	B	谳	定谳	V	B	窑	窑洞	N	F
沿	沿袭	V	B	燕	燕子	N	F	谣	歌谣	N	B
沿	边沿	N	F	央	央求	V	F	谣	谣言	N	B
研	研磨	V	F	央	中央	N	B	摇	摇摆	V	F
研	研究	V	B	殃	灾殃	N	B	遥	遥远	A	B
盐	食盐	N	F	秧	稻秧	N	F	鳐	鳐鱼	N	F
铅	铅山	N	F	扬	扬州	N	F	杳	杳然	A	B
筵	筵席	N	B	阳	太阳	N	B	咬	咬字	V	F
颜	容颜	N	B	阳	阳电	A	B	药	药物	N	F
颜	颜面	N	B	杨	杨树	N	F	要	重要	A	B
颜	颜色	N	B	疡	溃疡	V	B	要	纲要	N	B

要	索要	V	F	衣	胞衣	N	B	义	道义	N	B
要	要求	V	F	医	医生	N	B	义	情义	N	B
要	须要	V	F	医	医学	N	F	义	意义	N	B
要	需要	V	F	医	医治	V	F	艺	手艺	N	B
要	将要	V	F	依	依从	V	F	艺	艺术	N	B
要	要么	Con	F	洢	洢水	N	F	忆	回忆	V	B
钥	钥匙	N	B	洢	洢河	N	F	艾	惩艾	V	B
鹞	鹞鸟	N	F	漪	漪澜	N	B	议	建议	N	B
耀	照耀	V	B	黟	黟县	N	F	议	商议	V	F
耀	炫耀	V	B	仪	仪表	N	B	议	议论	V	B
耀	光耀	N	B	仪	仪式	N	B	屹	屹立	A	B
耀	荣耀	A	B	仪	仪器	N	B	异	奇异	A	B
椰	椰子	N	B	夷	夷灭	V	B	异	惊异	A	B
爷	爷爷	N	F	沂	沂河	N	F	异	离异	V	B
爷	大爷	N	F	饴	饴糖	N	B	抑	抑制	V	B
爷	老爷	N	B	宜	适宜	A	B	呓	呓语	N	B
冶	冶金	V	B	荑	芡荑	N	B	邑	城邑	N	B
冶	妖冶	A	B	贻	贻赠	V	B	役	劳役	N	B
野	野外	N	B	贻	遗留	V	B	役	兵役	N	B
野	视野	N	B	姨	姨母	N	F	役	役使	V	B
野	野蛮	A	F	眙	盱眙	N	F	役	仆役	N	B
业	行业	N	B	胰	胰脏	N	F	役	战役	N	B
业	职业	N	B	移	移动	V	F	译	翻译	V	F
业	学业	N	B	痍	疮痍	N	B	易	容易	A	B
业	事业	N	B	遗	遗失	V	B	易	变易	V	B
业	产业	N	B	遗	遗物	N	B	易	交易	V	B
业	业已	Ad	B	遗	遗漏	V	B	峄	峄山	N	F
叶	叶子	N	F	颐	颐养	V	B	诣	造诣	N	B
曳	摇曳	V	B	疑	怀疑	V	B	绎	抽绎	V	B
夜	夜晚	N	F	嶷	九嶷	N	F	弈	对弈	V	B
咽	哽咽	A	B	彝	彝器	N	B	疫	瘟疫	N	B
掖	扶掖	V	B	彝	彝准	N	B	益	利益	N	B
液	液体	N	B	彝	彝族	N	B	益	有益	A	B
谒	谒见	V	B	已	已经	Ad	F	益	增益	V	B
腋	腋窝	N	F	苢	薏苢	N	B	悒	忧悒	A	B
黡	酒黡	N	B	蚁	蚂蚁	N	F	谊	情谊	N	B
一	同一	Num	F	酏	酏剂	N	B	埸	疆埸	N	B
一	另一	Num	F	倚	倚靠	V	F	逸	安逸	A	B
一	专一	A	B	倚	倚仗	V	B	逸	逃逸	V	B
一	一旦	Con	B	椅	椅子	N	B	逸	隐逸	V	B
衣	衣服	N	B	乂	乂安	V	B	逸	超逸	A	B

肄	肄习	V	B	饮	饮子	N	B	影	影子	N	F
裔	后裔	N	B	蚓	蚯蚓	N	B	影	电影	N	B
意	意思	N	B	隐	隐蔽	V	B	影	皮影戏	N	B
意	心意	N	B	印	印章	N	F	应	答应	V	B
意	意料	N	B	印	印子	N	F	应	顺应	V	B
溢	充溢	V	F	印	印证	V	B	应	应付	V	B
溴	清溴河	N	F	荫	荫庇	V	B	硬	坚硬	A	F
嫕	婉嫕	A	B	吋	英寸	Ms	F	硬	强硬	A	F
毅	坚毅	A	B	呎	英尺	Ms	F	佣	雇佣	V	B
翳	翳蔽	V	B	应	答应	V	F	佣	佣人	N	B
臆	胸臆	N	B	应	答应	V	F	拥	拥抱	V	B
翼	翼助	V	B	应	应该	V	F	拥	拥护	V	B
因	因循	V	B	英	英豪	N	B	拥	拥有	V	B
因	因由	N	B	英	英国	N	F	邕	邕江	N	F
因	因为	Con	F	莺	莺鸟	N	F	庸	平庸	A	B
阴	太阴	N	B	唡	英两	Ms	F	鄘	鄘国	N	F
阴	阴险	A	F	哩	英里	Ms	F	慵	慵懒	A	B
阴	阴电	A	B	婴	婴儿	N	B	壅	壅塞	V	B
荫	树荫	N	B	缨	缨子	N	F	壅	壅土	V	F
音	声音	N	F	缨	缨子	N	F	臃	臃肿	A	B
音	音信	N	B	樱	樱桃	N	B	鳙	鳙鱼	N	F
音	音节	N	B	樱	樱花	N	B	永	永远	Ad	F
姻	婚姻	N	B	膺	膺惩	V	B	甬	甬江	N	F
殷	殷实	A	B	迎	迎接	V	F	咏	吟咏	V	B
殷	殷勤	V	B	茔	茔地	N	B	泳	游泳	N	B
殷	殷朝	N	F	荥	荥经	N	F	勇	勇敢	A	F
喑	喑哑	A	B	荧	荧惑	A	B	埇	埇桥	N	F
潵	潵溜	N	F	盈	充盈	A	B	踊	踊跃	V	B
吟	吟咏	V	F	盈	盈余	A	B	鲬	鲬鱼	N	F
吟	呻吟	V	B	莹	晶莹	A	B	用	使用	V	F
硍	六硍圩	N	F	萤	萤火虫	N	F	用	费用	N	B
淫	淫乱	N	B	营	经营	V	B	用	用处	N	F
鄞	鄞州	N	F	营	军营	N	B	佣	佣金	N	B
龈	牙龈	N	B	萦	萦绕	V	B	优	优良	A	F
黉	黉畏	V	B	罃	华罃	N	F	优	优裕	A	B
引	牵引	V	B	蝇	苍蝇	N	B	优	优待	V	B
引	引导	V	F	赢	赢利	V	B	优	优伶	N	B
引	引退	V	B	颍	颍河	N	F	忧	忧愁	A	B
引	引起	V	F	颖	聪颖	A	B	忧	忧患	N	B
引	引证	V	F	影	影子	N	F	忧	忧虑	V	B
饮	饮料	N	B	影	影子	N	F	幽	幽静	A	B

幽	幽禁	V	B	虞	虞国	N	F	愈	痊愈	A	B
悠	悠久	A	B	愚	愚笨	A	B	誉	名誉	N	B
悠	悠闲	A	B	愚	愚弄	V	B	蔚	蔚县	N	F
悠	悠荡	V	F	舆	舆地	N	B	蜮	鬼蜮	N	F
郼	郼国	N	F	与	给与	V	B	燠	燠热	A	B
尤	尤其	Ad	F	屿	岛屿	N	B	鹬	鹬鸟	N	F
由	缘由	N	B	宇	屋宇	N	B	鸳	鸳鸯	N	B
邮	邮寄	V	F	宇	宇宙	N	B	冤	冤屈	N	F
邮	邮品	N	B	宇	器宇	N	B	冤	冤仇	N	B
油	油滑	A	F	羽	羽毛	N	B	渊	深渊	N	B
疣	赘疣	N	F	禹	大禹	N	B	涴	涴市	N	F
游	交游	V	B	语	语言	N	B	元	元素	N	B
鲉	鲉鱼	N	F	语	成语	N	B	元	元朝	N	F
友	朋友	N	B	郚	郚国	N	F	园	园子	N	F
友	友爱	A	B	窳	窳劣	A	B	园	公园	N	F
羑	羑里	N	F	与	参与	V	B	员	成员	N	B
幼	幼小	A	B	玉	玉石	N	F	沅	沅江	N	F
幼	幼儿	N	B	驭	驾驭	V	B	垣	省垣	N	B
佑	保佑	V	B	芋	芋头	N	F	原	原始	A	B
柚	柚子	N	F	吁	呼吁	V	B	原	原来	A	F
囿	园囿	N	B	妪	老妪	N	B	原	原谅	V	B
宥	原宥	V	B	郁	馥郁	A	B	圆	圆周	N	F
诱	诱导	V	B	郁	葱郁	A	B	圆	圆满	A	F
诱	引诱	V	B	郁	忧郁	V	B	鼋	鼋鱼	N	F
釉	釉子	N	F	育	生育	V	B	援	攀援	V	B
迂	迂回	A	B	育	养育	V	B	援	援用	V	B
迂	迂腐	A	F	育	教育	V	B	援	援助	V	B
纡	萦纡	A	B	狱	监狱	N	F	缘	缘由	N	B
淤	淤积	V	F	浴	沐浴	V	B	缘	缘分	N	B
淤	淤泥	N	B	预	预先	V	B	缘	边缘	N	B
淤	淤血	V	F	域	疆域	N	B	猿	猿猴	N	F
邘	邘国	N	F	欲	欲望	N	B	源	发源	N	B
余	剩余	V	F	滪	滪河	N	F	源	来源	N	B
余	业余	N	B	遇	相遇	V	F	辕	辕门	N	B
娱	欢娱	A	B	遇	机遇	N	B	羱	羱羊	N	B
崳	昆崳	N	F	喻	晓喻	V	B	远	疏远	A	F
腴	丰腴	A	B	喻	比喻	N	B	苑	艺苑	N	B
腴	膏腴	A	B	御	防御	V	B	怨	怨恨	N	B
愉	愉快	A	B	寓	寓居	V	B	院	院子	N	B
榆	榆树	N	F	寓	公寓	N	B	院	学院	N	F
虞	虞朝	N	F	裕	富裕	A	B	院	医院	N	F

垸	垸子	N	B	运	运用	V	B	凿	确凿	A	B
愿	谨愿	A	B	运	运气	N	B	早	早晨	N	F
愿	愿望	N	B	郓	郓城	N	F	早	早已	Ad	F
愿	愿意	V	F	酝	酝酿	V	B	枣	枣树	N	F
愿	祝愿	V	F	韵	音韵	N	B	枣	枣子	N	B
愿	愿心	N	B	韵	韵母	N	F	蚤	跳蚤	N	B
约	约定	V	F	韵	韵味	N	B	澡	洗澡	V	B
约	约请	V	F	蕴	蕴藏	V	B	藻	词藻	N	B
约	条约	N	B	蕴	底蕴	N	B	皂	皂隶	N	B
约	约束	V	B	熨	熨烫	V	F	皂	肥皂	N	B
约	俭约	V	B	呲	呲嘴	V	F	灶	灶神	N	B
约	大约	Ad	F	拶	逼拶	V	B	造	制造	V	F
约	约分	V	F	杂	掺杂	V	F	造	捏造	V	F
月	月亮	N	F	灾	灾害	N	F	造	造诣	N	B
月	每月	N	F	栽	栽种	V	F	噪	聒噪	V	B
乐	音乐	N	B	栽	栽子	N	F	燥	干燥	A	F
岳	山岳	N	B	载	记载	V	F	躁	急躁	A	F
栎	栎阳	N	F	宰	主宰	V	B	则	准则	N	B
钥	钥匙	N	B	宰	屠宰	V	F	则	规则	N	B
阅	阅览	V	F	在	存在	V	F	责	责任	N	B
阅	检阅	V	B	在	留在	V	F	责	责成	V	B
阅	阅历	V	B	在	在于	V	F	责	责问	V	B
悦	喜悦	A	B	在	正在	Ad	F	责	责备	V	B
跃	跳跃	V	F	载	装载	V	F	择	选择	V	B
越	越过	V	B	簪	簪子	N	F	迮	迮狭	A	B
越	激越	A	B	咱	咱们	Pro	F	泽	沼泽	N	B
越	越国	N	F	攒	积攒	V	F	泽	润泽	A	B
云	云南	N	F	暂	短暂	A	B	泽	光泽	N	B
匀	均匀	A	F	暂	暂时	Ad	F	泽	恩泽	N	B
芸	芸香	N	B	錾	錾子	N	B	仄	歉仄	A	B
郧	郧县	N	F	赞	赞助	V	B	仄	仄声	N	B
耘	耘田	V	B	赞	称赞	V	B	增	增加	V	F
涢	涢水	N	F	赃	赃物	N	B	憎	憎恶	A	B
允	允许	V	B	脏	心脏	N	B	锃	锃亮	A	B
允	公允	A	B	葬	埋葬	V	F	赠	赠送	V	F
陨	陨落	V	B	藏	宝藏	N	B	甑	甑子	N	B
殒	殒命	V	B	藏	西藏	N	F	扎	驻扎	V	F
孕	孕育	V	B	藏	藏族	N	F	岑	岑山	N	F
孕	身孕	N	B	遭	遭遇	V	F	渣	渣滓	N	F
运	运动	N	B	糟	酒糟	N	B	札	信札	N	B
运	搬运	V	F	凿	凿子	N	B	轧	轧钢	V	F

闸	水闸	N	F	张	开张	V	B	照	照片	N	B
闸	电闸	N	F	章	章节	N	B	照	执照	N	F
铡	铡刀	N	B	章	章程	N	B	照	照料	V	B
劄	劄子	N	B	章	奏章	N	B	照	照会	V	B
眨	眨眼	V	F	章	图章	N	F	照	比照	V	B
砟	砟子	N	F	鄣	鄣国	N	F	罩	罩子	N	F
诈	欺诈	V	F	獐	獐子	N	F	罩	外罩	N	B
柞	柞水	N	F	彰	昭彰	A	B	肇	肇始	V	B
栅	栅栏	N	B	彰	表彰	V	B	遮	遮蔽	V	F
炸	爆炸	V	F	漳	漳河	N	F	遮	遮挡	V	F
溠	溠水	N	F	漳	漳江	N	F	遮	遮掩	V	F
榨	压榨	V	F	樟	樟树	N	F	折	折断	V	F
雪	雪溪	N	F	长	年长	A	F	折	折损	V	B
侧	侧歪	A	B	长	生长	V	F	折	曲折	A	B
斋	斋戒	N	B	长	增长	V	F	折	转折	V	F
斋	斋饭	N	B	掌	手掌	N	F	折	折服	V	B
摘	摘借	V	F	掌	掌握	V	F	折	折合	V	B
宅	住宅	N	B	掌	脚掌	N	F	折	折扣	N	F
窄	狭窄	A	F	掌	掌鞋	V	F	折	折叠	V	F
寨	营寨	N	B	丈	丈量	V	F	折	折子	N	F
寨	山寨	N	B	丈	老丈	N	B	蛰	蛰伏	V	B
寨	寨子	N	F	丈	丈夫	N	B	慴	慴惧	A	B
占	占卜	V	F	仗	倚仗	V	F	谪	贬谪	V	B
沾	沾光	V	F	杖	拐杖	N	B	辙	车辙	N	F
毡	毡子	N	B	账	帐簿	N	F	褶	褶子	N	F
谵	谵语	V	B	胀	膨胀	V	F	这	这时候	Ad	B
瞻	观瞻	V	B	障	障蔽	V	B	浙	浙江	N	F
展	伸展	V	B	障	屏障	N	B	浙	浙江省	N	F
展	施展	V	B	幛	幛子	N	B	蔗	甘蔗	N	B
展	展缓	V	B	瘴	瘴气	N	B	贞	忠贞	A	B
展	展览	V	B	招	招手	V	F	贞	贞节	N	B
占	占据	V	F	招	招惹	V	F	针	针剂	N	F
栈	栈道	N	B	招	招供	V	F	针	针灸	N	B
栈	栈房	N	B	昭	昭彰	A	B	侦	侦查	V	B
战	战争	N	B	爪	爪子	N	F	珍	珍宝	N	B
战	打战	V	B	沼	池沼	N	B	珍	珍贵	A	B
绽	绽开	V	F	召	召唤	V	F	珍	珍视	V	B
湛	精湛	A	B	兆	预兆	N	B	浈	浈水	N	F
湛	清湛	A	B	诏	诏书	N	B	真	真是	A	F
张	夸张	V	B	赵	赵国	N	F	真	真书	N	B
张	张望	V	B	照	照射	V	F	真	写真	N	B

榛	榛子	N	F	正	正在	Ad	F	职	职务	N	B
诊	诊察	V	B	证	证明	V	B	职	职位	N	B
枕	枕头	N	B	证	证件	N	F	职	职掌	V	B
轸	轸悼	A	B	郑	郑国	N	F	植	种植	V	F
疹	疹子	N	F	政	政治	N	B	植	植物	N	B
缜	缜密	A	B	挣	挣脱	V	F	殖	繁殖	V	B
阵	战阵	N	B	症	病症	N	B	摭	摭拾	V	B
阵	阵地	N	B	支	支撑	V	F	止	停止	V	B
振	振动	V	B	支	支持	V	F	止	截止	V	F
振	振作	V	F	支	支配	V	F	只	只有	Ad	F
朕	朕兆	N	B	支	支出	V	F	旨	甘旨	A	B
赈	赈济	V	B	支	分支	N	B	旨	旨意	N	B
震	震动	V	F	支	地支	N	B	旨	意旨	N	B
震	地震	V	F	汁	汁液	N	F	址	地址	N	B
震	震惊	A	B	芝	灵芝	N	B	祉	福祉	A	B
镇	镇定	A	B	枝	枝子	N	F	指	手指	N	F
镇	镇守	V	B	知	知道	V	F	指	指点	V	F
镇	冰镇	V	F	知	通知	V	B	指	指望	V	F
正	正月	N	B	知	知识	N	B	趾	脚趾	N	F
争	争夺	V	F	知	知己	N	B	志	志向	N	B
争	争论	V	F	肢	肢体	N	B	志	志气	N	B
征	征讨	V	B	泜	泜河	N	F	志	标志	N	B
征	征集	V	F	织	纺织	V	F	豸	虫豸	N	B
征	征收	V	F	织	编织	V	F	识	记号	N	B
征	征用	V	F	脂	油脂	V	F	厔	盩厔	N	F
征	征求	V	F	脂	胭脂	N	B	帜	旗帜	N	B
征	征候	N	B	榔	槟榔	N	F	制	制造	V	F
睁	睁眼	V	F	执	执掌	V	B	制	指定	V	B
蒸	蒸发	V	B	执	执行	V	B	制	管制	V	B
拯	拯救	V	B	执	收执	V	B	制	制度	N	B
整	完整	A	F	执	执友	N	B	质	本质	N	F
整	整齐	A	F	直	笔直	A	F	质	质量	N	F
整	整理	V	F	直	挺直	V	F	质	物质	N	B
整	整修	V	F	直	正直	A	B	质	质朴	A	B
正	正面	A	B	直	直爽	A	F	质	质问	V	B
正	正直	A	F	直	直接	Ad	F	治	治理	V	F
正	正当	A	F	直	简直	Ad	F	治	医治	V	F
正	纯正	A	F	侄	侄子	N	F	治	惩治	V	B
正	端正	A	B	值	价值	N	B	栉	栉发	V	B
正	改正	V	B	值	值得	A	F	挚	真挚	A	B
正	正好	Ad	F	值	值班	V	B	桎	桎梏	N	B

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致	招致	V	B	螯	螯厔	N	F	烛	灯烛	N	B
致	以致	Con	F	肘	肘子	N	F	祝	祝愿	V	F
致	兴致	N	B	帚	扫帚	N	B	硅	石硅	N	F
致	细致	A	B	咒	咒语	N	F	著	显著	A	B
秩	秩序	N	B	宙	宇宙	N	B	著	著名	A	B
掷	投掷	V	F	绉	绉纱	N	B	著	编著	V	F
梽	梽木山	N	F	胄	贵胄	N	B	著	著作	N	B
痔	痔疮	N	F	昼	白昼	N	B	蛀	蛀虫	N	B
窒	窒碍	V	B	皱	皱纹	N	F	蛀	蛀蚀	V	F
智	明智	A	B	骤	驰骤	V	B	铸	铸造	V	F
智	智慧	N	B	籀	籀文	N	B	筑	修筑	V	F
滞	停滞	V	B	朱	朱红	A	B	挝	挝鼓	V	B
置	搁置	V	B	朱	朱砂	N	B	转	转文	V	F
置	布置	V	B	洙	洙水河	N	F	拽	拉拽	V	F
置	购置	V	F	珠	珠子	N	B	专	专注	A	B
雉	雉鸟	N	F	株	植株	N	B	专	专门	Ad	F
稚	幼稚	A	B	蛛	蜘蛛	N	B	转	转换	V	F
潪	潪阳	N	F	潴	潴积	V	B	转	转交	V	F
中	中央	N	F	竹	竹子	N	F	传	传记	N	F
中	中国	N	F	逐	追逐	V	B	沌	沌河	N	F
中	适中	A	B	逐	驱逐	V	B	转	旋转	V	F
中	中人	N	B	烛	蜡烛	N	B	啭	啼啭	V	B
忠	忠诚	A	F	瘃	冻瘃	N	B	赚	赚钱	V	F
终	终了	A	B	主	主人	N	B	撰	撰写	V	B
终	终归	Ad	F	主	主人	N	B	篆	篆体	N	B
种	物种	N	F	主	事主	N	B	妆	化妆	V	B
种	人种	N	B	主	主要	A	B	妆	嫁妆	N	B
种	种类	N	B	主	主持	V	B	庄	村庄	N	F
众	众多	A	B	主	主张	V	B	庄	庄园	N	B
众	众人	N	B	主	主见	N	F	庄	庄家	N	F
种	种植	V	F	嘱	嘱咐	V	B	庄	庄重	A	B
重	重量	N	F	瞩	瞩目	V	B	桩	桩子	N	F
重	重要	A	B	伫	伫立	V	B	装	化装	V	F
重	重视	V	F	助	帮助	V	B	装	服装	N	B
州	自治州	N	F	住	居住	V	F	装	行装	N	B
周	周围	N	B	住	停住	V	F	装	假装	V	F
周	周密	A	B	贮	贮存	V	F	装	安装	V	F
周	周济	V	B	注	赌注	N	F	壮	强壮	A	F
周	周朝	N	F	注	批注	V	F	壮	雄壮	A	B
洲	大洲	N	F	注	注释	N	F	壮	壮族	N	B
洲	沙洲	N	F	柱	柱子	N	B	状	形状	N	B

状	状况	N	B	姿	姿势	N	B	总	总归	Ad	F
状	诉状	N	B	资	资助	V	B	纵	纵队	N	F
撞	碰撞	V	F	资	资质	N	B	纵	放纵	V	F
戆	戆直	A	B	资	资格	N	B	纵	纵身	V	F
追	追赶	V	F	淄	淄河	N	F	纵	纵然	Con	F
追	追究	V	F	孳	孳生	V	B	粽	粽子	N	B
追	追求	V	F	滋	滋生	V	B	邹	邹国	N	F
追	追加	V	B	龇	龇牙	V	F	走	奔走	V	B
椎	椎骨	N	B	髭	髭须	N	B	走	走样儿	V	F
锥	锥子	N	B	鲻	鲻鱼	N	F	奏	演奏	V	F
坠	坠落	V	F	子	儿子	N	B	奏	奏效	V	B
坠	坠子	N	F	子	子部	N	B	奏	启奏	V	F
缀	补缀	V	F	子	种子	N	F	租	租用	V	F
缀	点缀	V	B	子	铜子儿	N	F	租	出租	V	F
惴	惴栗	A	B	子	子爵	N	B	足	足球运动	N	B
赘	累赘	A	B	茈	茈湖口	N	F	足	充足	A	F
赘	赘婿	V	B	秭	秭归	N	F	足	足以	A	B
腺	腺挚	A	B	梓	梓树	N	F	卒	兵卒	N	B
谆	谆谆	A	B	紫	紫色	A	F	族	家族	N	B
准	准许	V	F	訾	訾毁	V	B	族	民族	N	B
准	标准	N	B	滓	渣滓	N	B	族	族类	N	B
准	准确	A	F	滓	滓浊	N	B	镞	箭镞	N	B
拙	笨拙	A	F	自	自己	N	B	诅	诅咒	V	B
捉	捕捉	V	F	自	自然	Ad	F	阻	阻止	V	B
桌	桌子	N	F	字	文字	N	F	组	组织	V	F
涿	涿州	N	F	字	字音	N	F	祖	祖宗	N	B
灼	烧灼	V	F	字	字体	N	F	祖	鼻祖	N	B
茁	茁壮	V	B	字	字眼	N	F	钻	钻孔	V	F
浊	浑浊	A	B	字	字据	N	F	钻	钻研	V	F
酌	斟酌	V	B	恣	恣意	A	B	钻	钻营	V	F
诼	谣诼	V	B	渍	油渍	N	B	纂	编纂	V	B
啄	啄食	V	F	枞	枞阳	N	F	钻	钻石	N	F
着	穿着	V	B	宗	祖宗	N	B	罪	罪恶	N	F
着	着落	V	B	宗	宗派	N	B	醉	陶醉	V	F
琢	雕琢	V	F	宗	宗旨	N	B	尊	尊敬	A	B
擢	擢拔	V	B	综	综合	V	B	遵	遵照	V	B
镯	镯子	N	B	棕	棕榈	N	F	撙	撙节	V	F
吱	吱吱	Ono	F	棕	棕毛	N	F	作	作坊	N	B
咨	咨询	V	B	棕	棕色	N	B	昨	昨天	N	B
咨	咨文	N	B	踪	踪迹	N	B	佐	辅佐	V	B
姿	姿色	N	B	总	汇总	V	F	佐	僚佐	N	B

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作	写作	V	F	岝	岝山	N	F	座	星座	N	B
作	作品	N	B	怍	惭怍	A	B	做	制作	V	F
作	装作	V	B	柞	柞树	N	F	做	当做	V	F
作	当作	V	F	祚	帝祚	N	B				
作	发作	V	B	座	座位	N	F				

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