# Some Issues in the Study of Chinese Poetic Prosody

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This paper begins by defining poetic prosody and discussing various building elements of Chinese poetic prosody, such as rhythmic grouping, tonal assignment, and rhyming patterns. It then distinguishes between poetic prosody itself and the performance of metered texts in order to provide a better understanding of tonal prosody and the nature of rhyming.

Key words: Chinese poetry, prosody, rhythmic pattern, tonal assignment

## 1. Introduction

Poetic prosody, *shilü* 詩律 in Chinese, has been a point of discussion in the fields of both literature and linguistics. Both literary scholars' and linguists' interest in this topic can be explained by the fact that prosody as seen in human poetry is indeed both literary and linguistic: certain sound properties in human language are utilized in creative literary architecting and result in distinctive patterns. While literary scholars often focus on the esthetic beauty of the patterns or poets' personal creations and choices,[1] linguists direct their attention more towards researching the linguistic materials that build these patterns. Questions such as what linguistic elements are chosen to form the patterns, to what degree they are subject to creative literary manipulation, and what is universal or language specific in the formation of the patterns used in different poetic traditions around the world all interest us enormously because linguists believe that the answers to these questions bear significant importance on our understanding of language itself. We have approached the subject covered in this paper from the standpoint of linguists and our scope of study is in Chinese poetry.

In this paper, we will not take on specific questions about meter, such as the formation of *lüshi* 律詩, the rhythms of *Shijing* 詩經, or the patterns in Shen Yue's 沈約

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[1] This is not to say that poetic prosody studies in literature do not concern the regulation of patterns. Rather such studies do not necessarily refer to linguistic principles and properties.

poems, which of course are fascinating and deserving of scholarly endeavor. The reason for this is that we feel, in the study of poetic prosody, there currently remains much confusion and inconsistent usage of basic concepts, hindering the advancement of our research at present and in the future. Therefore, this paper has been written in an effort to clarify confusion, define concepts, and lay common ground for future discussions of interesting topics in this area.

We will start this paper by defining poetic prosody, and will then discuss various building elements of Chinese poetic prosody, including rhythmic grouping, tonal assignment, and rhyming patterns. Afterwards we will distinguish between poetic prosody itself and the performance of metered texts, such as chanting, reciting, and singing. Finally, we will take a detailed look at tonal prosody and the nature of rhyming.

## 2. Linguistic elements in poetic prosody

In most literature on this topic, there are several English terms that are often used very interchangeably: poetic prosody, meter, and rhythm. In Chinese, we also find words that have very closely related meanings, such as *shilü* 詩律, *yunlü* 韻律, *jielü* 節律, *yinlü* 音律, and *shenglü* 聲律. What further confuses readers is that the English words are often translated into the different Chinese terms by different scholars, some assume that these words have the same denotation while others distinguish them in one way or another. We start our discussion here by doing some philological analyses of these English and Chinese terms. First, let's start with the word "prosody". Several definitions of this word are given in (1):

(1)  a.  Merriam-Webster
      i.   the study of versification; especially the systematic study of metrical structure;
      ii.  a particular system, theory, or style of versification;
      iii. the rhythmic and intonational aspect of language.

    b.  The American Heritage Dictionary of the English Language
      i.   the study of the metrical structure of verse;
      ii.  a particular system of versification.

    c.  *The English Prosody* by Asa Humphrey (1847)
      i.   prosody is the fourth and last part of grammar, and treats the construction of verse, and comprises all connected with poetical composition, in distinction from that of prose (p.1);
      ii.  prosody treats of versification, and teaches the rules for poetical composition, and all pertaining thereto; viz. the elementary and

component parts of verse; the different orders or kinds of verse, with their different forms and metrics; also, reading and scanning of verse, description of poems (p.2).

These definitions of prosody share at least one point: poetic prosody is the study of some linguistic forms of verse. To some these forms include the metrical structure only, to others, the forms include other formal properties of verse as well.

The term meter refers to something more specific as compared to prosody. Meter can refer to the systematically arranged and measured rhythm in verse. It can be the rhythm that continuously repeats a single basic pattern, e.g. iambic meter; it can also be a complex rhythm that is composed of several basic beats, e.g. a pentameter that contains five strong-weak beats. It is obvious that meter is only one of the elements studied in prosody.

Rhythm compared to the first two terms is not as technical. In daily language, rhythm is used often on various occasions, such as the rhythm of a song, the rhythm of city life, and the rhythm of a novel. Among these usages, the concept of rhythm always involves the fluctuation or variation of a certain element and the contrast of the different levels of this element. In languages with stress, words' rhythm is created by the strong and weak beats of the stress. In poetry, rhythm often is the acoustic effect of the meter. Fabb & Halle (2008) argue that rhythm and meter are different. Their observation is given in the following example:

(2)  Fabb & Halle (2008:8)
     Pléasure néver is at hóme
     (*   *   (*   * (*  *  (*              0 ⇒
     (*        *      (*     * (             1 ⇒
     (*                  * (                 2 ⇒
      *                                      3
     At a tóuch swéet pléasure méltech
     (* * (*        *   (*  *   (*  * (0 ⇒
     (*    *             (*        * (    1 ⇒
     (*                      * (          2 ⇒
      *                                   3

Fabb and Halle point out that the stressed syllables do not always fall in the strong positions of the trochaic tetrameter, nor do the unstressed syllables always appear in the weak positions. The overall effect of the beat is a combination of both the word stress and the regular week-strong alternation of the meter.

After briefly introducing the English terms, we are back to the Chinese terms, which share one morpheme *lü* 律.

(3) 律

《說文解字・彳部》：“律，均布也。從彳，聿聲。”

[In *Chi* radical of *Shuowen jiezi*: "*lü* 律 means to completely cover. It follows the form of 彳, and is pronounced as 聿."]

段玉裁注：“律者，所以範天下之不一而歸於一，故曰均布也。”

[Duan Yucai's annotation: "*lü* 律 is by which we set a model for what is not unified in the world to be unified. Therefore, *Shuowen jiezi* says it means completely cover."]

《爾雅・釋詁》：“律，常也，……法也。”

[In *Gu* explanation of *Erya*: "*lü* 律 means constancy…means law."]

《廣韻・術韻》：“律，法也。”

[In *Shu* rhyme of *Guangyun*: "*lü* 律 means law."]

The most prominent meaning of *lü* 律 is "regulation". Therefore *shilü* 詩律 is often defined as "the rules of versification". However, in this broad definition, the rules are not necessarily the prosodic rules. Often Chinese literary critics include the requirement of *duizhang* 對仗 [parallelism] in the scope of *shilü* 詩律. Besides the rules for *duizhang* 對仗, there are other subsets of rules in *shilü* 詩律. These rules regulate other linguistic elements, which are the building blocks of the prosody of a poem. Some of these elements are used in Chinese as well as in other literary traditions, some are found only in Chinese. The first type of element is rhythm, which is closest to the Chinese term *jie* 節.

(4) 節

《爾雅・釋樂》：“和樂謂之節。”

[In *Yue* explanation of *Erya*: "Harmonizing music is called *jie* 節."]

邢昺疏：“節，樂器名，謂相也。”

[Xing Bing's annotation: "*jie* 節 is the name of a musical instrument. It refers to *xiang* 相."]

*Jie* 節 was used as a musical term before it was used in poetry or linguistics. The *Erya* 爾雅 entry refers to it as the musical instrument that controls the rhythm (beat and tempo) of music. The word also referred to the action of rhythm control in a musical performance. The rules of rhythm, or meter, is *jielü* 節律.

In the scope of prosody, there is also a set of rules that regulate rhyming. These rules stipulate which vowel or coda consonant a rhyming word should have when a line

is supposed to end with a rhyming word and when to change to a different rhyme. We would like to use the Chinese word *yun* 韻 for rhyme or rhyming and, for the rules of rhyming, naturally *yunlü* 韻律.

(5) 韻
宋本《玉篇》引《聲類》：“音和曰韻也。”
[Song edition *Yupain* quotes *Shenglei*: “Sounds that are harmonious are called *yun* 韻.”]
《文心雕龍‧聲律》：“異音相從謂之和，同聲相應謂之韻。” “雙聲隔字而每舛，疊韻雜句而必睽。”
[In *Shenglü* chapter of *Wenxin diaolong*: “Different sounds follow each other. This is called harmony. Identical sounds echo each other. This is called *yun* 韻.”]

However, in the modern Chinese language, *yunlü* 韻律 also has the meaning of prosody in general.

(6) 韻律
《漢語大詞典》：“聲韻和節律。指詩詞中的平仄格式和押韻規則。”
[*Hanyu da cidian*: “*Shengyun* 聲韻 and *jielü* 節律 refer to the *ping-ze* tonal patterns and the rules for rhyming in poetry.”]

We suggest that scholars studying poetic prosody ought to be cautious when they use the term *yunlü* 韻律, because of the ambiguity that it has here. In fact, we are reluctant to use *yunlü* 韻律 as prosody in our studies. It is very hard to find a better word than *yunlü* 韻律 for the rules of rhyming, and therefore the term should be given to this concept as a priority.

In the study of Chinese poetic prosody, we should not forget the rules that regulate the assignment of tonal categories. This unique prosodic characteristics represented by the Chinese regulated verse *lüshi* 律詩 are the most studied elements in Chinese prosody. We would like to term the rules that govern the arrangement of tones in Chinese poetry *shenglü* 聲律. Notice we avoid the term *ping-ze* 平仄, because dividing the four ancient tones into the two *ping* and *ze* categories is only one way of manipulating tones in verse. Theoretically and practically in versification there are other tonal manipulations and *ping-ze* rules are only one set of rules among all *shenglü* 聲律 rules.

In most Chinese scholars' work on Chinese poetic prosody, the number of characters or syllables is a separate topic, distinct from rhyming, tonal assignment, and parallelism. This is a practice inherited from the traditional way of categorization using

*yan* 言 (number of characters). It is not hard to observe the fact that in a particular verse type the lines mostly consist of a certain number of syllables. For example, *Shijing* 詩經 is characterized by its four-syllable lines, and the regulated verses have five-syllable and seven-syllable lines. Should there be a set of rules that regulate the number of syllables in a line among the rules of prosody? To answer this question, we have to ask: is the number of syllables in a line essential in creating prosody? If the answer is yes, then there should be a set of distinct rules. On the other hand, if the answer to this question is no—the position that we are taking here—then there is no need for any separate rules for *yan* 言. We argue that the concept of *yan* 言 is not a primary element of poetic prosody because it can be determined by the rules of rhythm. The examples in (7) illustrate that *yan* 言, or the number of syllables in a line, is an outcome of a particular rhythm. Describing a particular line of verse in terms of its *yan* 言 is neither precise nor sufficient and it would be more accurate to describe it using rhythm.

(7)  a.  郭李紛爭爲非，          (Kong Rong 孔融, *Liu yan shi*《六言詩》)
          遷都長安思歸。
          [Guo and Li keep struggling with each other and commit wrong deeds.
          The capital city was moved to Chang'an and people are longing to return.]

     b.  靈連蜷兮既留，          (Qu Yuan 屈原, *The Nine Songs*, "Yun zhong jun"
          爛昭昭兮未央。              《九歌・雲中君》)
          [The god has halted, swaying, above us, shinning with a persistent radiance.][2]

The two couplets in (7) each consists of six syllables per line, and therefore can both be called *liu yan* 六言. In fact in many works discussing the development of the so called *liu yan* 六言 poems, the lines in *Chuci* 楚辭 such as the couplet in (7b) are often said to be the origin of the *liu yan* 六言 style, represented by the lines like (7a). However, upon closer examination of the rhythm of the two couplets, it is not hard to detect a difference. In (7a), there are three groups of syllables in each line, with two syllables in each group, while in (7b) the first three syllables obviously form one group. This analysis is supported by the fact that in the second and third position of the second line of (7b), there is reduplication word *zhaozhao* 昭昭 . Rhythmically it is unlikely that the reduplication would straddle two groups. Fabb & Halle (2008) point out that the meter primarily controls the number of rhythmic groups and therefore indirectly controls the number of syllables. The rhythm of the two couplets in (7) can be roughly (and non-technically) represented in (8):

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[2]  The translation is from David Hawkes' 1959. *Ch'u Tz'u: The Songs of the South*, Oxford University Press.

(8)  a.  (XX) (XX) (XX), (XX) (XX) (XX)
     b.  ((XXX) X) XX), ((XXX) X) XX)[3]

The rhythmic grouping in (8) is sufficient to provide the information of total syllable count per line. The meter in (8a) contains three complete binary groups. A simple calculation will thus show the total line length to be six syllables. Therefore, once we have described the setting of the primary prosodic element, rhythm, we can derive the number of syllables. Meanwhile a description of the rhythm carries much more information about the line than the syllable counting method.

On the other hand, the *yan* 言 counting method could hinder analysis of poetic prosody because it might blind us from detecting similarities between poetic forms. Lines of different length in terms of syllable count might have similar or exactly the same meter. This is shown by the example in (9).

(9)  = (2) Fabb & Halle (2008:8)
     Pléasure néver is at home
     (*   *   (*   * (*  *  (*                0 ⇒
     (*        *     (*      * (               1 ⇒
     (*              * (                       2 ⇒
      *                                        3

     At a tóuch swéet pléasure méltech
     (*  *  (*       *   (*  *  (*  * (        0 ⇒
     (*      *              (*       * (       1 ⇒
     (*                     * (                2 ⇒
      *                                        3

These two lines have exactly the same meter because they are from the same poem. The difference in the number of syllables is explained by the setting in the meter that allows incomplete groups at the right edge of the lines. We suggest that in Chinese poetry, poems with lines containing different numbers of syllables would be better understood if we were to start seeking similarities in their rhythmic structures.

So far, we have recognized three linguistic elements that build prosody: rhythm (meter) *jie* 節, rhyme *yun* 韻, and tone *shengdiao* 聲調. It is not true that these three elements are all present in any poem's prosody. It is also incorrect to exclude other linguistic elements playing a role in the prosody. Moreover, these three elements can interact in building a poem's prosody. For example, tonal alignment in the Chinese

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[3] The rhythmic parsing is adapted from the suggestion of an anonymous reviewer.

regulated verse interacts with both rhythm and rhyme. Tonal requirements are put on certain rhythmic positions, e.g. the second, fourth or the sixth syllables in a line. In the regulated verse *ping* tone words also rhyme only with *ping* tone words.

Poetic prosody manifests itself as patterns existing in individual poems. The patterns are built by the elements including rhythm, rhyme, and tone according to certain rules. Although we call them rules, they are not rules in the sense of pure human stipulation or manipulation. Because the elements are linguistic, the rules that built the patterns have to follow the linguistic principles of the elements. The reason why the esthetic beauty of a poem's prosody is appreciated by not only the poet but by all those readers who are speakers of the language, is that the prosody has been constructed with unconscious linguistic knowledge shared by the poet and the readers. On the other hand, poets do have room to creatively play with the elements, as long as the manipulation is within the range that linguistics allows. That is why a poet can choose to rhyme every line, every other line or every three lines but the poet cannot violate the linguistic principles that decide which words rhythm with each other.

## 3. Poetic prosody and performance factors

Poems are written and performed in various forms. Many poems in *Shijing* 詩經 are said to have been lyrics from folk songs before being collected, edited, possibly transformed and made into an anthology. In the Spring and Autumn Period and the Warring States Period, the poems were also performed at court with musical accompaniment (see Gu 1926, Qu 1962, and Wang 1974, among others.). Moreover, in the "Great Preface" to *Shijing*, the relationship between poetry and music is explained as "言之不足, 故嗟歎之, 嗟歎之不足, 故歌詠之." (If words are not sufficient, then sigh them forth; if sighing is not sufficient, then sing them.) Thus, poetry and music have been inseparable in history. Besides singing, poems in Chinese history have other forms of performance, including chanting and reciting (Zhu 1935). However, these forms of performance each have their own prosody and, therefore, individual rules of prosody. The rules governing chanting prosody may be called *songlü* 誦律, and the rules for reciting *dulü* 讀律. It goes without saying that music has its own rhythm, melody and other building elements that function according to their own rules. One common error in the study of Chinese poetic prosody is to confuse the prosody of the poem with the prosody of its performance. In this section, we will try to prove that these different prosodies are distinct although often interacting systems.

## 3.1 Rhythm in poetic prosody itself and rhythm in performance

It is often the case, in the discussion of poetic rhythm, that the question of the music that once accompanied it or is assumed to have accompanied the poems is brought up. For example, in the study of the four-syllable *Shijing* 詩經 prosody, many scholars claimed that the rhythm should be slow and elegant because the music was so (Ge 1956, Yuan 1999, Guo & Guo 2003, Beijing Normal University Department of Chinese 2008, etc.). And some people further hypothesize that the music must have had the (XX) (XX) rhythm as well (Guan 2007, He 2009, Zhou 2009, etc.). We believe, however, that there is no such compulsive correlation between the two rhythms. Our viewpoint is supported by evidence from modern songs. The song in (10) below is only one example that contains many mismatches of the rhythmic grouping between the lyrics themselves and the music.

(10)　噢嘿媽媽　　　　　　　　　　　[Oh, hey mom

那天你再次為我悄悄流下淚　　You shed tears for me quietly that day

你可知道它已(化 ‖ 作)(傷痛)‖　You should know they already turned into wounds

滴滴落在我心扉　　　　　　　Every drop fell in my heart

永遠都不會忘記　　　　　　　I will never forget

你看我時那難捨的眼神　　　　Your eyes that couldn't bare my leaving

我不會　　　　　　　　　　　I will not

……　　　　　　　　　　　　……

我愛他　　　　　　　　　　　I love him

他是我心中的(那 ‖ 只)(蝶)‖　He is the butterfly in my heart

飛呀　　　　　　　　　　　　Flies

飛到我心裡面(化 ‖ 成)(繭)‖　Flies into my heart and becomes a cocoon

不知道　　　　　　　　　　　I don't know

還要多久才能(叫 ‖ 醒)(我)‖　How long I will wait until it wakens me up]

(Wang Rong 王蓉, *Father and Mother* 《爸爸媽媽》)

The parentheses in the text above mark the rhythmic grouping of the lyrics themselves. This grouping exists on its own and can be detected by reading the words only. The double straight lines in the text indicate a major break in the rhythm of the music that accompanies the lyrics in the song. The rhythmic misalignment is proven by the misalignment of the parenthesis and the double straight lines.

In reciting and chanting performances of poems, rhythms of the performance also have their own distinctive characteristics that are not necessarily a part of the rhythm of

the poems. For example, in Chinese poem chanting tradition, the *san yan* 三言[4] poems have often been recited and chanted at a faster tempo with a ballad or folksong-type overtone. This tradition started very early as *san yan* folksongs date back to the Han 漢 and Six Dynasties.

(11) a. 舉秀才，不知書。舉孝廉，父別居。
[Someone is promoted as a *Xiucai* (excellence in knowledge and talent), but he does not know the Book of Documents. Someone is promoted as *Xiaolian* (outstanding filial piety and integrity), but his father lives separately from him.]
(Ge Hong 葛洪, *Baopuzi* 抱朴子)

b. 我府君，道教舉。恩如春，威如虎。
[My lord promotes the principle and teaching. His kindness is like the spring and his might is like a tiger.]
剛不吐，弱不茹。愛如母，訓如父。
[He does not fear the powers, nor does he take advantage of the weak. He loves (the people) like a mother and disciplines (them) like a father.]
(*Yuefu shiji* 樂府詩集, "Jingzhao yao" 京兆謠)

Even in modern chanting practices, such poems are often chanted in this rhythm.[5] Despite the strong tradition of chanting and reciting, researchers should be discouraged to conclude that the fast tempo rhythm is inherent in the rhythm of the poem itself. Rather, the chanting and reciting practice is only one possible cultural choice of the interpretation of the poem. The poems can logically be chanted with a slow and elegant rhythm, which in the Chinese tradition is used to perform the *Shijing* 詩經 poems or five-syllable regulated verses.

## 3.2 Tone in poetic prosody itself and melody in performance

In the scholarly works on the origin of the Chinese regulated verse (Jiang 1982, Zhu 1984, Chu 1990, Zhang 2003 and 2006, and Goh 2004), a music-origin argument has been made for the introduction of tonal manipulation in poetry: in the post Han era, music and poetry started to become separate art forms, then tonal manipulation was introduced into the composition as a compensation for the loss of acoustic beauty that

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[4] Strictly speaking, a lot of such poems are *san yan* 三言 and *qi yan* 七言 mixtures.
[5] We have recordings of different peoples' chanting of such poems, e.g. Li Bai's famous *Jiang jin jiu* 將進酒.

used to accompany the poems. Whether that argument is strong or not goes beyond the scope of this paper. But it is clear that tones and musical melody have been associated in the tradition of poetic composition and literary criticism. Y. R. Chao (1956) introduced the practices of tonal chanting, singsong and the tonal composition of music, in each of which ancient tonal pitch values serve as a basis for the pitch melody of the performance. For example, in the tonal composition tradition the rule is for the even tones to go with long notes or to extend over descending notes of small range, while oblique tones go with the shorter and higher notes as well as quickly changing or widely skipping notes. However this tradition has led some researchers to believe tonal manipulation in Chinese poetry and music melody are just two sides of the same coin.

The position of this paper is that the prosody of poetry and the prosody of its performance are distinct systems. Tonal manipulation and music melody are distinct as well. First, tonal manipulation in Chinese regulated verse is based on the bifurcation of four tones. In other words, the four tones are divided into two categories: even tones and oblique tones. This bifurcation might have a phonetic and or phonological basis, however the reason why the four ancient tones were divided into two groups and not three groups deserves some thought. If we were to take a survey of the world's metrical verses, we would easily find that despite the very different languages, the specific prosodic rules, and the literary traditions of these verses, there is always a bifurcation of syllables. Fabb & Halle (2008) also observe that most metrical systems not only group the syllables but also impose conditions on the groups. "For the purpose of stating the conditions, the syllables that compose the lines are always partitioned into two classes." In the Chinese regulated verse, the partition is done according to the tonal classes, namely even versus the other three tone groups. In languages that have word stress, then stressed versus unstressed may be the condition, knowing that the bifurcation is not unique to Chinese but a rather universal principle in poetic prosody. On the other hand, the pitch variation in music melody does not follow the same principle of bifurcation or binary contrast. The music notes are not divided into two groups, nor does the organization of the notes in forming a melody make crucial reference to the binary grouping of the notes.

Another piece of evidence against the tonal composition is that when lyrics written in Chinese are sung in a certain musical melody, the lexical tones are lost and the musical melody is the only pitch that is perceived. The acoustic realization of tones is pitch; the acoustic realization of music melody is also pitch. When a singer is singing a song with Chinese lyrics, the expression of the two pitches must be adjusted because the singer can only sing one frequency. The result of the adjustment logically can have many possibilities. However, in reality the lexical tones will not continue to be perceivably distinct. In order to test this, we created two sets of lyrics for the same melody in Chinese. These two sets of lyrics have the exact same segmental material, meaning the same

consonants and vowels. The syllables in the two sets of lyrics differ only in tone. We randomly asked Chinese native speakers to sing the two lyrics, then randomly played the recordings to other native Chinese speakers. Example (12) shows these two lyrics sung to the melody of the French song *Frère Jacques*:

(12)  a.  lyrics 1:

1=F  4/4

1   2   3   1  |  1   2   3   1  |  3   4   5   -  |  3   4   5   -  |
打  倒  列  強   打  倒  列  強   救  中  國     救  中  國
[Down with the invading powers. Down with the invading powers. Save China. Save China.]

5 6   5 4   3   1  |  5 6   5 4   3   1  |  1   5   1   -  |  1   5   1   -  |
殺盡  一批  軍  閥   殺盡  一批  軍  閥   震  世  界     震  世  界
[Kill all the warlords. Kill all the warlords. Shock the world. Shock the world.]

b.  lyrics 2:

1=F  4/4

1   2   3   1  |  1   2   3   1  |  3   4   5   -  |  3   4   5   -  |
大  刀  獵  槍   大  刀  獵  槍   酒  中  過     酒  中  過
[Big knives and hunting guns. Big knives and hunting guns. Spend time with wine. Spend time with wine.]

5 6   5 4   3   1  |  5 6   5 4   3   1  |  1   5   1   -  |  1   5   1   -  |
紗巾  一披  俊  髮   紗巾  一披  俊  髮   真  士  傑     真  士  傑
[Cover the beautiful hair with a veil. Cover the beautiful hair with a veil. Real heroes. Real heroes.]

The Chinese speakers who heard the recordings of the songs could not distinguish lyrics 1 from lyrics 2. This result shows that the distinctive lexical tones in Chinese lose their distinctiveness when musical melody supersedes them.

Tonal composition might be a real tradition in Chinese poetry and music, but it is very wrong to assume tonal rules and music melody rules to be the same in any theory about poetic prosody. Besides singing, Y. R. Chao also introduced other forms of performance, including chanting and reciting. These forms of performance were taught by masters to students orally from generation to generation. Meanwhile, in these performances, improvisation was allowed and was very frequent. As a result, today many people chant and recite the same poems very differently. We should take the rules of these forms of performance as separate prosodic systems from the prosody of the poems themselves. Tones are linguistic elements that are manipulated within the range that all human poems fall in, while pitch change in chanting is not subject to this limitation.

# 4. Rules for tonal assignment in Chinese poetic prosody

One feature that has been closely associated with Chinese metrical verse is tonal prosody, or a set of rules that assigns tones to different prosodic positions in a poem. The rules for the regulated verse, or *lüshi* 律詩, are the most well studied among all tonal prosodic rules. Because of the classic status of the regulated verse, its *ping-ze* tonal rules and the related terms used in the tonal prosody (e.g. *ba bing* 八病 "the eight defects") have been assumed to have existed not long after the discovery of the four tones and the first movement for metrical verse in Chinese literary history (Mair & Mei 1991, Zhang & Luo 1996, Yuan 1999, Fu 1999, Lin 1999, etc.). In this section, we will argue against this position.

As argued in §3.2, metrical systems bifurcate syllables and this bifurcation is used in the statement of metrical conditions. For example, in a stress language, stressed and unstressed syllables are two natural classes, and metrical rules in a particular prosody will first form metrical grouping in a line, and then require stressed and unstressed syllables to appear in certain metrical positions respectively. The bifurcation is largely universal while the particular nature of the binary distinction is language specific. The Chinese *ping* 平 versus *ze* 仄 binary tonal grouping is one realization of the bifurcation requirement in metrical systems. However, historically the development of this specific bifurcation required the time as well as ingenuity and creativity of poets. The ancient four tones did not readily form two groups as did the stressed and unstressed syllables. However, the bifurcation of *ping* versus *ze* tones is so influential that many scholars oversimplified the process through which the bifurcation or the tonal prosody in the standard regulated verse was finally developed and formulated. It was mistakenly assumed that Shen Yue, who advocated the four tones and the tonal manipulation in poetry, was also the founder of the *ping-ze* rules. For example, Wang Li (1979) attributed the idea of *ping-ze* to Shen Yue. However, studies of Shen's own poetic composition show that he did not follow the prosodic regulations of the classical regulated verse, including the simple *ping-ze* rules. It was sometimes argued that Shen was not capable of complying with the prosodic theories that he advocated very earnestly. Shen's own writing unmistakably promotes tonal manipulation in metrical poems:

(13)　"欲使宮羽相變，低昂互節，若前有浮聲，則後須切響，一簡之內，音韻盡殊；兩句之中，輕重悉異。"
[One would want to alternate the *gong* and *shang* notes, making the low and high pitches tempering with each other. If in the previous lines, there is a floating sound, then in the later lines there must be a cut-off echoing sound. In the same stanza, sounds and rhymes should be completely different. In a

couplet, the choices of heavy and light should be distinct.]
(Shen Yue 沈約, *Song shu* 宋書, "Xie Lingyun zhuan lun" 謝靈運傳論)

However, the interpretation of the sentences in (13) is often extended to including the *ping-ze* rules. A more conservative and literary reading of the text only supports the manipulation of sounds, including tones, and a pursuit of acoustic "contrast", which is represented by the words like *shu* 殊 and *yi* 異, both meaning "difference". As for the content of such contrasts, the text itself does not provide concrete evidence. It was not found in Shen's other writing that he clearly argued for the contrast between the *ping* tone on the one side and the other three tones on the other side. In sum, Shen intuitively felt the principle of contrast in poetic prosody, but did not design the particular *ping-ze* bifurcation that we see in the regulated verses. Therefore, the belief that Shen's own poetic composition failed to embody his poetic prosody theory should never have existed in the first place, if this theory was different from the known *ping-ze* rules. Rather, a careful examination of Shen's poems gives strong support to his primitive ideal of "contrast" that lacks *ping-ze* bifurcation. Example (14) is a poem that illustrates the principle of contrast and not the principle of *ping-ze*.

(14) 漢池水如帶　　[Alone the Han moat, water [stretches] like a girdle[6]
　　　*去平上平去*

　　　巫山雲似蓋　　Above Shamanka Mountain, clouds are like a canopy
　　　*平平平上去*

　　　瀄汩背吳潮　　Up rolling rapids, you will leave behind the tides of Wu
　　　*入入去平平*

　　　濎濴橫楚瀨　　And, swirling smoothly, cross the shoals of Ch'u
　　　*平平平上去*

　　　一望沮漳水　　Once having gazed upon the waters of Chu and Chang
　　　*入去平平上*

　　　寧思江海會　　You will then miss this gathering besides the Chiang and sea?
　　　*平平平上去*

　　　以我寸草心　　With all my heart, that measures but an inch
　　　*上上去上平*

　　　從君千裡外　　I will follow you beyond a thousand *li*]
　　　*平平平上去*

　　　(Shen Yue 沈約, *Farewell Banquet for Hsieh Tiao, on the Eve of Departure* 餞謝文學離夜)

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6　Translation by Richard Mather. 2003. *The Age of Eternal Brilliance: Three Lyric Poets of the Yung-ming Era*, Brill Academic Publisher.

In (14) we have marked the tonal category of each syllable. If we apply the standard tonal rules in the classic regulated verse, then the poem apparently has defects. For example in the first line, the second and the fourth syllables are both *ping* tone and thus violate the *ping-ze* alternation rule. If we forgo the *ping-ze* rules, and examine the tones, we find that the poem has a very well designed, intricate tonal pattern. First of all, the second, fourth, sixth and eighth lines have exactly the same tonal arrangement, namely *ping-ping-ping-shang-qu*. If we conduct a statistical analysis, we can easily obtain a significant test result, which underpins the conclusion that such an arrangement is extremely unlikely to be the result of chance. In other words, Shen must have intentionally manipulated the tones in these four lines. Secondly, in each line, the second and fifth syllables have different tones. This is not a binary contrast but it is undeniable this is a contrast, or *yi* 異.

The poem in (14) is one example from Shen Yue's compositions, and a thorough study of all his poems would yield more patterns and generalizations based on the patterns. Before doing that, it is already clear that Shen's tonal prosody was different from the regulated verse's, which only emerged after Shen's time and after the experimentation of various poets. Returning to the universal principle of bifurcation in metrical poems, we can at least give one reason why Shen's tonal prosody did not become the standard practice and was to be changed and replaced by the standard rules for regulated verse that rely on the contrast between the *ping* and *ze* tones: if binary contrast, or the bifurcation approach to syllables, is universal or at least preferred, then after this period of experimenting with various possible manipulations, we find that the trend moved towards the approach of bifurcation, which has a sufficient phonetic and phonological basis.[7]

## 5. The nature of rhyming

In §1 of this paper, when we clarified the linguistic elements that are utilized in poetic prosody, we touched upon rhyming. In this section, we will delve further into this

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[7] Although we take the position that the binary contrast is universal in metrical poetry, we also admit the existence of various types of non-metrical poetry, some of which are based on line length, some on syntactic parallelism, and some on other formal features. One anonymous reviewer brought up the question about possible metrical contrast before the development of the tonal prosody system, for example in the poems in *Shijing* 詩經 or the *Book of Change* 易經. Although the question deserves more research, in this paper we would like to refrain from making strong assertions about the metrical nature of these earlier poems. In other words, it could be the case that the earlier poems are non-metrical and thus do not utilize any metrical binary contrast. It is also possible that they are metrical and that we just have not found strong evidence supporting this yet.

issue and explore the nature of rhyming. By nature we refer to the linguistic nature of the phenomenon called rhyming. To be specific, we will discuss the linguistic conditions surrounding what can be defined as rhyme.

Most Chinese scholars argue that if two syllables rhyme, then they should have a similar main vowel and coda. This position is held by Wang Li (1980), who argues that we should not equate the *yunzhe* 韻轍 "rhyming group" with *yunmu* 韻母 "rhyme". To Wang, one rhyming group may contain several rhymes, and words that have different rhymes yet belong to the same rhyming group can rhyme with each other. This view-point holds that the similarity between rhymes is a sufficient condition for the rhyming phenomenon. Wang's position has been echoed by many scholars. Zhengzhang (2003) claims that, because words could rhyme without having identical vowels, we can reconstruct different vowels for the same OC rhyming group. Similarly, Pan (2000) assumes that phonetic similarity could be sufficient for rhyming, and therefore in his reconstruction *-ak* could rhyme with *-a*. These assumptions about rhyming come from certain observations in modern languages. For instance, Zhengzhang (2003) points out that in modern Chinese Mandarin *yin* 因 [in] belongs to the *renchen zhe* 人辰轍 rhyming group and therefore rhymes with words like *ren* 人 [ʐən] and *chen* 辰 [tʂən]. This observation is certainly valid. Based on such observations, Zhengzhang argues that rhyming does not require identity in vowel quality. He also insists that in order to follow the "one vowel one rhyme group" principle, we would have to stipulate *yin* 因 as [iən] in Mandarin, which is definitely not how the word is pronounced today.

However, at the theoretical level, the similarity condition for rhyming is not very desirable, because the term "similarity" lacks scientific definition and therefore is often subject to a very subjective interpretation. Besides the theoretical consideration, the "similarity condition" also faces challenges from rhyming facts. Below, we investigate some rhyming facts. Example (15) shows some rhymed texts:

| (15) a. | | *Pinyin* form | *SR* form[8] | *UR* form |
|---|---|---|---|---|
| 紅軍不怕遠征難 | | nan | [nan] | /nan/ |
| 萬水千山只等閒 | | xian | [ɕiɛn] | /ɕian/ |
| 五嶺逶迤騰細浪 | | | | |
| 烏蒙磅礴走泥丸 | | wan | [uan] | /uan/ |
| 金沙水拍雲崖暖 | | nuan | [nuan] | /nuan/ |
| 大渡橋橫鐵索寒 | | han | [χan] | /χan/ |
| 更喜岷山千里雪 | | | | |
| 三軍過後盡開顏 | | yan | [iɛn] | /ian/ |

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[8]  See the following page for SR form and UR form.

[The Red Army does not fear the difficulty of a long march
Taking the thousands of waters and mountains as nothing
The Five Ridges wind their way, like tiny surging waves
The Wumeng Mountain is majestic, (but to us) is a rolling mud ball
The Jinsha River whips the misty cliff, which is warm
A bridge lies across the Dadu River, and its iron chain is cold
The boundless snow peaks of the Min Mountain make us even happier
Every soldier in the army smiled with joy after we passed the Min
Mountain]
(*Long March* 七律・長征, 毛澤東 Mao Zedong)

b.

|  | ***Pinyin* form** | ***SR* form** | ***UR* form** |
|---|---|---|---|
| 我的兒汾河灣前去打雁 | yan | [iɛn] | /ian/ |
| 天到了這般時，不見回還 | huan | [χuan] | /χuan/ |
| 將身兒坐置在窯門以外 | | | |
| 等我兒他到來同把飯餐 | can | [tsʰan] | /tsʰan/ |

[My child went to hunt the geese in front of Fenhewan
It is so late now, but I haven't seen him back
I am sitting outside of the house gate
Waiting for my child to come home and eat dinner together]
(Traditional Peking Opera 傳統京劇, *Fenhewan* 汾河灣)

The first example in (15) is a traditional regulated style poem composed by Mao Zedong using the standard traditional rhyming schema. The second sample is an extraction from a traditional Peking opera, and the rhyming schema follows the traditional *yanqian* group or 言前轍. *SR* stands for surface form, and *UR* stands for underlying form. In (15) we listed the surface forms as well as the underlying forms of the rhyming syllables. The surface forms are "similar" while the underlying forms are identical. Past arguments for the similarity condition for rhyming, as in Zhengzhang (2003), are made on the surface values of the rhyming syllables. These syllables are similar but the similarity is very hard to define. In other words, it needs to be explained why [a] and [ɛ] and [i] and [ə] are similar enough to rhyme. If similarity is only defined in an ad hoc way, then scholars supporting the similarity condition need to provide an explanation for the consistent rhyming intuition of native speakers. On the other hand, the underlying forms of the rhyming words given in (15) seem to point to a more promising solution. The main vowels and codas of these rhyming words are identical at the underlying level. Can we therefore argue that the nature of rhyming is "identicalness at the underlying level"?

Before we rush to accept the hypothesis that the nature of rhyming is "identicalness at the underlying level", more rhyming cases indicate the truth isn't as simple as we expected. Let's look at the English poem given in (16) below:

(16)  (Rhyming pattern [Rhyme Royal]: ababbcc)    **SR**      **UR**
      Out of the air a voice without a face
      Proved by statistics that some cause was *just*     [dʒʌst]     /dʒʌst/
      In tones as dry and level as the place
      No one was cheered and nothing was *discussed*     [diskʌst]   /diskʌs-*d*/
      Column by column in cloud of *dust*
      They marched away enduring a belief
      Whose logic brought them, somewhere else, to grief
      (*The Shield of Achilles*, Wystan Hugh Auden, 1907-1973)

In this English poem, *just* and *discussed* rhyme with each other. Their surface forms have identical vowels and coda, and their underlying forms don't. Therefore this poem is a counter example to the hypothesis that the nature of rhyming is "identicalness at the underlying level". Should this discrepancy be attributed to the language specific difference between Chinese and English? Our answer is no, because examples of the same nature such as (16) can also be found in Chinese. These are rhyming examples in the *erhua* 兒化 categories. In (17), we show two *erhua* rhyming groups, namely the *xiao yanqianr zhe* 小言前兒轍, and the *xiao renchenr zhe* 小人辰兒轍.
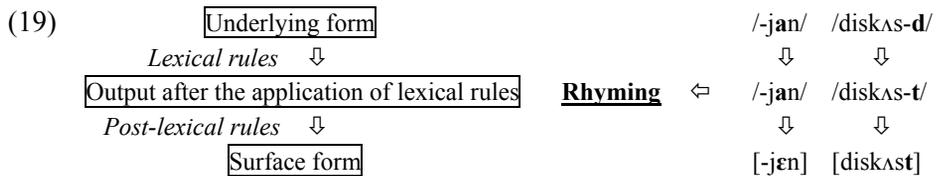
(17)  a.  *xiao yanqianr* 小言前兒 includes
          /a/ /ua/ /ia/ /ai/ /uai/ /an/ /uan/ /yan/ /ian/ + /er/

      b.  *xiao renchenr* 小人辰兒 includes
          /o/ /e/ /i/ /u/ /y/ /ie/ /ye/ /ei/ /uei/ /en/ /in/ /uen/ /yen/ + /er/

Below are several examples to support the two rhyming groups given in (17).

(18)  a.  小言前兒        **UR**           **SR**
          白蓋兒        /-ai/ + /er/      [-ar]
          白干兒        /-an/ + /er/      [-ar]
          大褂兒        /-ua/ + /er/      [-uar]
          撒歡兒        /-uan/ + /er/     [-uar]
      b.  小人辰兒        **UR**           **SR**
          雞兒         /-i/ + /er/       [-ie:r]
          今兒         /-in/ + /er/      [-ie:r]

In the examples given in (18), the rhyming syllables have different underlying forms, but identical surface forms. The generalizations made based on these examples and the examples given in (15) seem incompatible.

The solution to the contradiction lies in the intermediate levels of representation that are between the underlying form and the surface form. Kiparsky (1985) argues that rhyming reflects the information in the output of lexical rules and before the application of postlexical rules. Example (19) shows Kiparsky's model:

(19)              Underlying form                         /-j**a**n/   /disk∧s-**d**/

               *Lexical rules*   ⇩                                 ⇩        ⇩

Output after the application of lexical rules   **Rhyming**   ⇐   /-j**a**n/   /disk∧s-**t**/

         *Post-lexical rules*   ⇩                              ⇩        ⇩

                     Surface form                           [-jɛn]   [disk∧s**t**]

The model in (19) explains the rhyming examples in (15), (16) and (18). In (15), the rule that changes an underlying /a/ to an /ɛ/ applies as a postlexical rule while in (16) and (18), the English past tenses "ed" concatenation rule and the Chinese *erhua* rule are both lexical rules. Lexical rules apply to the underlying forms while the postlexcial rules apply to the output after the application of lexical rules. In the rhyming example given in (15), because the rule is postlexical and there is no lexical rule, the underlying forms are identical to the output after the application of lexical rules. In the cases of (16) and (18), because the rules are lexical, surface forms are identical to the output after the application of lexical rules. Putting aside these differences, in all three examples, rhyming words share the same forms at the output after the application of lexical rules. In Chinese, where lexical rules are few, it is very easy to mistake the underlying forms for the level which rhyming makes crucial reference to.

Kiparsky's model resolves the controversy between the "one vowel one rhyme group" and the "multiple vowels in one group" positions. Judging from the surface forms, of course we see similarities between the vowels, since they are in fact allophones and allophones usually display phonetic similarity. Judging from the lexical level, the vowels do have to be identical. This model shows that the so-called "similarity" is not random or subjective, but rule-governed, and this renders the rhyming data more linguistically interpretable and usable. Kiparsky's model can also be used to evaluate current reconstructions of Middle and Old Chinese, which relied on interpretations of rhyming data.

## 6. Conclusion

In this paper, we touched upon a few basic and also very important questions in the study of Chinese poetic prosody, not hoping to provide absolute answers but rather

hoping to clear the road for future research. Our goal is to strengthen the research of poetic prosody by isolating and analyzing the various linguistic elements, which are the building materials of poetic prosody. Eventually, studies on various Chinese metrical poems will test the correctness of our claims here, and these studies and their results are exactly what we wish this paper to stimulate.

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