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TAI CHI AND THE PHILOSOPHICAL SOUNDCAPES OF CHINESE INSTRUMENTS ON THE PIANO

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Abstract

Tai Chi (1987), a piano solo inspired by the ancient philosophy of I Ching has generated a new wave of Chinese new music, due to its ingenious compositional techniques and ideals. However, literature concerning the work mainly focuses on the structure, stochastic processes using Chinese philosophy, and serialism. Only a few of them are concerned with the demands of soundscapes intended by the composer. This paper reveals what the authors label musical code-switching between traditional instrumental discourse and Western piano vocalization in Zhao’s Tai Chi, via detailed analysis as well as an interview with the composer. In this paper, special piano techniques for executing the composer’s intentions are discussed from a performance practice perspective. Therefore, Tai Chi marked a new distinct pianistic language.

Keywords: Piano, Tai Chi, Performance, Chinese traditional instruments

Introduction

After the end of the Cultural Revolution in 1976, Chinese new wave composers (also considered third-generation composers) such as Zhu Jian’er (朱践耳), Chen Mingzhi (陈铭志), Luo Zhongrong (罗忠镕), Yang Liqing (杨立青), Jin Xiang (金湘), and Zhao Xiaosheng (赵晓生), who personally experienced the brutalities of the Cultural Revolution, realized the importance of revitalizing artistic composition and launched the “Chineseness” style in the music industry (Liu, 2009). A radical method to adapt “Chineseness” to Western instruments is the
code-switching of Chinese philosophy ideas, especially on instrumental compositions, which can be traced back to the works of Zhao Xiaosheng (Mittler, 2005).

In the 1980s, Zhao planned to hold three piano recitals upon his return to China from the United States. When they failed to materialize, he entered a bleak phase in his music career and refrained from public recitals for two years (Zhao & Mei, 2012). However, during this period, Zhao never stopped exploring a personal musical language that represented his discourse. Finally, the assimilation between ancient Chinese culture, Western contemporary music, the painting of M. C. Escher, and Bach’s fugues inspired him to create a compositional system and compose a series of works based on this system (Kouwenhowen, 1991).

Those works: the ensemble piece Yinyang Sanque (阴阳三阕, Three Sections of Yin and Yang) (1987); the concerto Yi (—, One) (1988) for erhu (二胡, two-string Chinese fiddle), gaohu (高胡, high-pitched two-string Chinese fiddle), and Chinese orchestra; the piano concerto Liaoyin (辽音, Sounds of Liao) (1990); and the chamber piece Shilou (时漏, Hourglass) (1994) for traditional orchestra. Among them, the piano solo Taiji (太极, Tai Chi) (1987) was awarded the first prize in the International Music Competition in Shanghai- East and West Cup- Chinese Piano Composition and Performance (上海国际音乐比赛·中西杯·中国风格钢琴作品创作及演奏). It became renowned for its philosophical soundscape and ingenious performance practice techniques.

I Ching (Change of Book) is a system encompassing the cosmos, meteorology, mathematics, thoughts on life and fate divination. It is rooted in the yin-yang theory that consists of broken (—) and unbroken (—) lines. By observing astronomical phenomenon, Fu Xi (伏羲), a legendary emperor in Chinese history, initiated a permutation principle of broken and unbroken lines to draw eight trigrams. During the Zhou Dynasty, King Wen and his son Jidan (周旦) superimposed the eight trigrams onto dyads to construct 64 hexagrams and translated the hexagram images into text. Confucius further developed on the ideal of I Ching in his work Ten Wings at the end of the Spring and Autumn Period. After that, the practice of I Ching circulated in Hundred Schools of Thought such as Taoism, Mohism, Yin-yang School, and it is
commonly considered a collective crystallization of wisdom in recent academia (Zeng, 2009).

According to Jou (1980), Tai Chi (the Supreme Ultimate), generated from wuji (无极, the ultimate nothingness), is the source of the universe, in which the broken and unbroken lines represent two poles (or liangyi, 两仪) with the attributes of yin and yang respectively. Referring to “change” as one of the meanings of the term I (易), yin and yang can be transformed, such as the transformations of the sun and moon as well as cold and heat (Over, 1971). Besides that, the universe is ever moving in a cyclical path from nothingness (pure yin) to myriad (pure yang), before returning to nothingness while undergoing either an increase or decrease in gradient. This process is captured in Tai Chi, as Zhao (2016a) explained in an interview:

Actually, Tai Chi is a revolving process of life as people always say; from minimum to gradual increase, to decrease and increase repeatedly. This is a tendency in I Ching, to arrive at maximum, and shrink to minimum, is considered as a progress that changes from minimum to maximum and returns back to the minimum. It also reflects an ancient Chinese philosophical idealism...
(translation by authors)

In addition, Zhao (2016e) emphasized the importance of the soundscape of Tai Chi, which is interpreted in his recital:

Tai Chi is 29 years old this year, and it will be 30 next year. Until now, I have been waiting for someone who can understand my thoughts. Many foreigners played it, some doctoral thesis even discussed it, but still, no one I have seen understands me yet, they all think it’s odd from a superficial viewpoint. Therefore, I feel disappointed, [because] people cannot see what I want to say and what I want to tell them in essence. People usually misunderstand me thinking that I use formula, sequence, calculation, I Ching, structure... and whatever you may think of, however the most important thing is its sound delivery and soundscape. (translation by authors)
As Zhao posited above, it is likely that the intellectual culture or curiosity of code-switching between ancient Chinese philosophy and Western compositional technique is his compositional origin. Many have evaluated the influence and character of Tai Chi in contemporary Chinese music (Bian, 1996; Chen, 1988; Cheng, 2009; Qian, 2001; Xin, 2013; Xue & Loo, 2017). Some scholars, in addition, mentioned it as an example to analyze Tai Chi composition system (Au, 2013; Ma, 2013; Shi, 2012), or even discussed performance (Kong, 2009; Jiang, 2013; Loo & Loo, 2012, 2013). However, being informed by Zhao (2016b), few have studied the soundscape of Tai Chi as they merely focus on the structure, tempo, tonality, and idealism, or the application of serialism, I Ching, modernism, or avant-garde. Therefore, this paper will attempt to demystify the performance of Tai Chi based on the soundscape of imitating traditional instrument on the piano, depending on the audiovisual documents of Zhao’s recitals, the recording of his performance at his home, and his monograph related to piano performance. In order to analyze the soundscape and its performance in further detail, excerpts of it have been extracted as examples, accompanied by interview passages with Zhao.

The Soundscape and Performance of Tai Chi

Chinese piano music, as a branch of Chinese new music, has been exploring mingzuxing (民族性), or Chineseness, all along since the beginning of the 20th century (Dai, 2014; Zhou, 2007). Therefore, generations of composers examined the alternations of rhyme, decoration, timbre, pedal, structure, rhythm, tone, and context, in order to make the soundscape closer to Chinese literati or traditional music (Wang, 2004). In other words, these distinct musical materials are employed to present the Chinese characters of the soundscape. Tai Chi, as one of the notable compositions in the period of Chinese “New Wave,” continues to pursue the composition of mingzuxing around the aforementioned eight aspects, and even makes them possess a manner of modernization.

During an interview with the composer, Zhao (2016b) stressed that the main consideration over soundscape was not only an imitation of Chinese musical instruments but also differentiation with adaptations that were the most modes of Chinese piano music:

I have an idea that changes the timbre from piano to
traditional instrument, each [instrument] for one piece, including after [published] etudes, about seven or eight pieces, all make piano as a traditional instrument... I did not adapt music for erhu as others, I make piano to vocalize the sound of erhu, to become zither and guqin (古琴, seven-stringed zither). Especially when the piano vocalizes the sound of guqin, audiences were really moved after the performance. [I guess] you may not imagine that the piano can vocalize this type of [sound]... (translation by authors)

Zhao (2007, p. 169) explains that music in Tai Chi mimics the playing techniques and sounds of guqin, luo (锣, gong), gu (鼓, drum), lingdang (铃铛, bell), erhu, di (笛, Chinese transverse bamboo flute), xiao (箫, Chinese vertical bamboo flute), sheng (笙, Chinese wind instrument), xun (埙, globular vessel flute) and many other Chinese musical instruments. Zhao (2006) also explains that the performance of Tai Chi is so unique and different from Western art music and contemporary piano music because of its distinct cultural embodiment and structure. Thus, the performance of Tai Chi requires an in-depth understanding of its core concepts of Chinese philosophy and culture.

Guqin

In terms of attaining the timbre of guqin that nearly covers the entire composition, an understanding of the three fundamental techniques of sanyin (散音, scattered sound), anyin (按音, changing sounds), and janyin (泛音, harmonics) (Long, 2001) is obligatory in performing Tai Chi. The major challenge for the pianist lies in the differences between the two instruments in which guqin has a diverse technique in pitch alteration on its strings while the piano is in equal temperament. Thus, Zhao invents many techniques to imitate the timbre of guqin, such as the technique of touching the key with the palm, which is commonly displayed in his post-2000 impromptus recitals, widening the expressive force with precious pedaling, and so forth.

Sanyin or kongxianyin (空弦音, sound on empty string), which is closest to the vocalization with the piano (Long, 2001), requires the player’s right hand to pluck on the string and the left hand to be tacit in delivering a lingering resonating tone, the timbre of which is solid and
dignified with deep resonance (Gao, 1989). The technique of anyin in guqin requires the player to press the string on the surface board with the left hand and then striking it with the right hand, sliding the left hand up and down to deliver a portamento, the timbre produced is a lingering sound of nihility (Qian, 1998). Fanyin requires the player to touch the hui (微) lightly and swiftly on the string with the left hand while simultaneously plucking the string with the right hand, the timbre of which is clear and pure (Qian, 1998).

Among these three kinds of techniques, the function of sanyin is to complete the phrases of the music as if it has a long and lingering sound that disappears in pace with the reduction of vibration of the string, resembling the disappearance of the mist of incense that is used in the guqin performance. Therefore, it is imitated in the long-term notes at the ends of sentences in Tai Chi, such as the G# note, F note in mm. 22 (see Figure 1), and C and D notes in mm. 93–94 (see Figure 2).

**Figure 1** Imitation of sanyin in Tai Chi, mm. 22. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

![Figure 1](image1.jpg)

**Figure 2** Imitation of sanyin in Tai Chi, mm. 93–94. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

![Figure 2](image2.jpg)
According to Zhao (2001), *anyin* is the most difficult technique to simulate on the piano because of their distinctive differentiation: the notes played on the *guqin* can “walk” (slide) one another to describe the rhyme which is the feature of Chinese traditional art while every key of the piano only represents one definite pitch that is never changed to other notes. In *Tai Chi*, the imitation of *anyin* is mainly expressed by ornaments. The pitch classes of C and Db at the commencement is an example of *anyin* (see Figure 3).

**Figure 3** Imitation of *anyin* in *Tai Chi*, mm. 1–2. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

The best understanding of the technique of *fanyin* may be in reference to the representative repertoire of *Mehua Sanmeng* (梅花三弄, *Three Stanzas of Plum-blossoms*). When listening to the performance of Gong Yi (2010), one of the prominent masters of *guqin*, the technique of *fanyin* is usually utilized in the phrase with short-term notes that consist of melodies, due to its relatively short and lingering sound by blocking vibration, such as the replicas of *fanyin* in mm. 62–63 (see Figure 4), mm. 11–12 (see Figure 5), and mm. 17 (see Figure 6). According to the timbre character of *fanyin*, Zhao’s three methods to perform *fanyin* can be employed, which are *tui* (推, pushing), *tian* (舔, licking), and *rou* (揉, rubbing). As described by Zhao (2007), *tui* is a way by which fingers push the key horizontally and the power of fingers from outside to inside. This method can lead to the effect of a mellow sound. *Tian* indicates that the fingertip is flat to touch the key, similar to licking with the tongue, while *rou* implies kneading the key after vocalizing to create an effect of vibrato. In general, *tian* is always used to represent the *legato* among the notes that describe the soft melodies, while *rou* is commonly applied to long-term notes.
There are a few separated simulations of *sanyin*, *anyin* and *fanyin* in *Tai Chi*, most of them being fusions, and thus differentiations and playing methods will arouse the player’s attention during the performance, of which an example is employed for further explanation. In mm. 27–28 (see Figure 7), with reference to the convention and aesthetic of *guqin* music, nearly all ornaments imitate the timbre of *anyin* marked by “*” in Figure 7. However, the last three beats of mm. 28 and all notes marked by “+” are *fanyin*, and the D note in the last two beats of mm. 27 is *sanyin* marked by “-”. Special expressions exist at the F# note with ornaments at the end of mm. 28, which are viewed as *sanyin* instead of *anyin*, even though they are also ornaments, as in the previous context. Because *sanyin* can create a lingering charm that is one of the most distinctive features of Chinese aesthetic and coincide with the artistic expression of *guqin* when it is employed at the end of
the sentence. Representation of differences among the three techniques of guqin via the piano is a trial for the player, who needs to utilize his/her keen hearing sense and imagination on the basis of the sound of guqin. According to the vocalized principle and timbre of fanyin, the notes describe the technique of fanyin in mm. 27–28, which should be played with non-legato and elasticity, touching key by finger pulp. Regarding the performance of anyin, Zhao (2007) explained that in order to achieve the effect of anyin, the pianist should strike the second note of ornament quickly and swiftly while holding down the first note of ornament, and depress the note after ornaments again in a way that the hammer does not hit the string (p. 138). In this way, Zhao believed that the imitation of anyin on the piano is closely achieved. In addition, he discussed in an interview that when additional pressure is applied to the note after ornaments that were retained from the first note of ornaments, a variant in timbre could be achieved. Compared to fanyin and anyin, the imitation of sanyin is the simplest technique due to the similarity of resonance in both guqin and piano, even though in mm. 28 there is a difference with usual imitation due to the ornaments. Therefore, the ornaments here will be played softly and slowly, rather than rapidly and sharply, especially the last two notes (G, F♯), which should be played more slowly, as if there are two eighth notes instead of ornaments.

Figure 7 The confused replica of sanyin, anyin, and fanyin in Tai Chi, mm. 27–28. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

Apart from the fanyin, anyin and sanyin, there are other techniques of guqin in the composition, such as gunfu (滚拂, similar to glissando) and silent key.

Gunfu is one of the most important techniques in guqin performance (Wang, 2009). Gun indicates plucking of the strings in
sequence from high to low register. Conversely, *fu* is plucking of the strings from low to high register (Luan, 2014). Zhao’s demonstration of *gunfu* on the piano during personal interview in his home was perhaps the most inspiring musical code-switching on a Western keyboard instrument as his fingers glided through phrases of mm. 41 (see Figure 8) in mimicking the effect of a *gliss* on a traditional Chinese zither *guzheng*. During his live performance, Zhao divided the phrase into five parts, except for the first quadruplet, which contains two small units constituted by four forty-sixth notes, and played them using both hands alternately. Regarding this arrangement, he stated “whatever methods you used to help you play well, you can choose any approach, you can also use one hand, if you can play it smoothly and swiftly” (Zhao, 2016a).

**Figure 8 Gunfu** (滚拂, similar to glissando), mm. 41. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

![Diagram of Gunfu](image)

Silent key is a common technique in modern compositions that indicates the keys are pressed with either hand or other means without any voice. The purpose of this technique is to keep the damper open in order to create a resonance that is constituted by shaking strings in higher register and overtone of the silent key (Wang, 2014). An earlier piano composition that uses silent key was *Paganini* by Robert Schuman at the beginning of the 19th century. Silence, as one of the approaches to mimic *guzheng*, became a powerful and common compositional technique in new Chinese music, which is predicted to replace “pentatonic romanticism” as a mainstream genre of new Chinese music in the 21st century (Mittler, 2005). In *Tai Chi*, silent key also exists (see Figure 9) but it is difficult to play correctly. According
to an observation of Zhao’s performance, the secret is possibly the perfect coordination between touching and pedaling. Pedaling is sustained when depressing the keys of Bb, Gb, and G♯ in silence, then releasing the pedal and continuously pressing again after the three notes are played (Zhao, 2016a).

**Figure 9** Silent keys in *Tai Chi*, mm.26. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

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**Di and Xiao**

The *di* and *xiao* have a long history in China. According to archeological research, the *di* is the oldest musical instrument and also the first wind instrument of China (Zhao, 1985). Due to the homology between *di* and *xiao*, they are always combined as *dixiao* (*Chinese transverse bamboo flute and vertical bamboo flute*). The difference between the *di* and *xiao* are the membrane and playing pattern, *di* is played vertically and has a hole affixed by membrane while *xiao* is played horizontally and has no membrane hole. Many ancient epics have described the sound aesthetics regarding the *di* and *xiao*. An example is Su Shi (苏轼), a celebrated poet in Song Dynasty, who described that the sound of the *di* can create a cliff fracture. A similar description is also presented in a poem by Li Zhao (李肇), a poet of the Tang Dynasty, who said that the sound was so sonorous and elegant that it sent rocks flying. On the sound of the *xiao*, Su Shi wrote in his significant work *Chibi Fu* (*Song of the Red Cliff*) that the *xiao* vocalized “a whining tone that sounds like complaining or adoring, weeping or narrating, lingering and persisting”. In addition, poet genius Li Bai (李白) used an imaginative metaphor: the *di* vocalized the sound
of a dragon drinking water while the xiao sounded as though a phoenix descended to the earth (Jiang, 2004). Although the metaphysical sounds of the di and xiao are reflected in the metaphors of archaic poems, the character of timbre between the di and xiao can be concluded as being melodious, hollow, elegant, chilly, and secluded. Upon listening to Zhao’s (2016a) performance, the timbre of melodies in mm. 11–16 (Figure 10) sounds exactly as the dixiao, where the far-distance registers create a spacious and chilly circumstance. To interpret this type of timbre on the piano, Zhao (2007) introduced the method of tui (pushing) that requires fingers to push the key horizontally.

**Figure 10** The replica of the di and xiao in Tai Chi, mm. 11–16. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

![Musical notation](image)

*Trill* is a common technique in playing the dixiao, which produces a clear and bright timbre by pressing and releasing the sound hole rapidly and equally (Zhao, 1985). Similarly, Zhao also uses the Western notation of *trill* to depict the timbre of the dixiao, such as in mm. 56–57 (Figure 11), where the timbre of the dixiao with two layered dynamics requires the player to play more swiftly, lithely, flabbily and equally (Zhao, 2016a).

**Figure 11** The imitation of the dixiao’s trill, mm.56–57. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.
Liyin (厉音), similar to glissando, is marked on the notation of dixiao music by ascending or descending arrow. Gan Tao, a modern ethnic musician, only uses portamento to replace liyin (Wang, 2012). Focusing on this technique, Zhao invented a solution, called *fu*. According to Zhao (2007), *fu* indicates touching the key lightly and playing glissando to lead to the effect of a soft and hazy sound, as seen at the end of mm. 36 (Figure 12).

**Figure 12** The imitation of the dixiao’s liyin, mm. 36. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

**Percussion**

In sections of Tai Chi that sound of quasi-percussion instruments, acknowledgement ought to be given to the different instruments such as the zhong (钟, bronze bell), qing (罄, singing bowl), luo, gu, bo (钹, Chinese cymbals), cha (镲, small Chinese cymbal), muyu (木鱼, Chinese wooden block), and xiangling (响铃, tambourine) that differs in rhythmic pattern, register, timbre, and dynamic (Zhao,
2006, p. 138). Due to the interweaving of several percussion instruments, this paper will assemble them as a group, to demonstrate, other than discussion about individual instrument ones by one. For example, the music in mm. 23–24 reveals an imitation of the sounds of the luo and gu, where the rhythmic modes of triplet, syncopation, quadruplet and sextuple with Zhao’s accent markings display a Chinese rhythmic feature of these two instruments (Figure 13).

**Figure 13** Rhythmic pattern of drum, mm. 23–24.

In addition, the tone clusters in mm. 49–50 and the intervals with the gradient of the rhythmic mode in mm. 51 are replicas of the sounds of the gu, ho and cha. Meanwhile, the chords and octaves that consist of dotted half notes in mm. 49–51 are imitations of the zhong and qing and are meant to create a sound field that covers the movements of chords, apart from one octave that simulates the sound of the ensemble of blowing and stringed instrument to fill the medium voice. Their fusion produces the imagination of Chinese ancient royal music that features the sounds of zhongqing guyue (钟磐鼓乐, music of bronze bells, singing bowls and drum), jinshi zhisheng (金石之声, sounds of bells and singing bowls) and zhonggu qiming (钟鼓齐鸣, bells and drums sound simultaneously) (Figure 14). According to Li Rongyou (2012), the music of jinshi and zhonggu are the necessities of yue (雅乐, formal ceremonial music) due to its function of constructing a solemn circumstance by means of brilliant sounds. Furthermore, the sounds of zhonggu and jinshi also correspond to the attribute of pure yang in Qián (乾, Hexagram for Creative Heaven). In other words, this section is the ensemble of various percussions.

**Figure 14** The replica of zhongqing guyue, jinshi zhisheng and zhonggu qiming, mm. 48–51. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.
As a requirement of mimicking the percussion sound, Zhao stressed in his book that:

1. The position of each finger must be held in a stable manner;
2. The wrist should be neither loose nor stiff;
3. The piano keys ought to be depressed vertically by using the elbow or upper arm in a direct manner;
4. The pianist must press the key vertically and rapidly, in order to achieve an exploding point of power; and
5. The attack ought to be short, leaving the key as soon as possible. This enables a sharp and solid tone that resonates with overtones similar to the way one knocks a bell. (Zhao, 2007, p. 347)
Meanwhile, the following narrates the importance of breath for performance:

During the process of preparing and reaching to the climax, especially at the moment of peak, the performer should breathe from elixir field, hold breath, and focus on the peak. After the peak, exhale slowly in order to fit for the descending, faded or relaxed music (Zhao, 2007, p. 139). (translation by authors)

The above statement is perhaps similar to the principle of the scientific application of Tai Chi to the kinematic procedure of piano performance (Loo & Loo, 2013).

The Performance of Chinese Aesthetics

In Tai Chi, the soundscape of traditional instruments is reflected not only in mimicking the timbre but also in the interpretation of Chinese aesthetics such as yijing (意境, ideorealms) and xushi (虚实, emptiness and solidity). The former presents the similarity in appearance while the latter is in spirit.

Yijing, the core of Chinese aesthetics, which originated from a poem, through generations of discussions, was established in Master of Chinese culture Wang Guowei’s monography as a terminology in literature and arts (Zhang, 2006). The earliest description of yijing in music approximately dates back to Shangshu (尚书, book of documents) in the pre-Qin period, which is:

......诗言志，歌永言，声依永，律和声，八音克谐，无相夺伦，神人以和......(Sun, 1986, p. 69)

......poetry is the expression of earnest thought, singing is the utterance of that expression, the sounds accompany with that utterance, and the temperaments resonate those sounds. [In this way], baiyin interact with each other without interference, spirit (or emotion) and body (or idealism) are brought into synthesis...... (translation by authors)

Apart from Confucianism, the concept of yijing was nurtured in other schools of thought, such as the idealism of tao in Taoism (Ren,
1956) as well as the relation between yi (idealism) and xiang (image) in I Ching (Wang, 1989). Although yijing is one of many ancient Chinese idealisms, it has been decoded in recent centuries in the philosophical ideals of G. W. F. Hegel, Immanuel Kant, and many other philosophers prospered among the Chinese scholars (Luo, 2011). Nevertheless, yijing is still a metaphysical concept rooted in Chinese classical culture that reveals a unique meaning, connotation, and spirit distinguished from Western arts (Zhang, 1999).

The performance of yijing on piano emphasizes qiyun (气韵, breath rhythm) and shengyun (声韵, phonology). When playing Tai Chi, the transfixion of qi is the premise of yun, especially in the silent sections; qi becomes a bridge that links the entire composition (Zhao, 2007).

Compared to qiyun, shengyun is more definite, Zhao interprets it as follows:

Every country’s music in the world is related to its intonation. For example, Verdi’s opera, you sing in Chinese, it is noisy, and if [you sing it] in English, it is also noisy. Because one word has one tone in foreign music. The character of Chinese is that one word has multi-tone, multi-sound, multi-rhythm, which produces much music… Playing [Chinese music], if you play every note as a shi (solidity) note, it would not coincide with the feature of heteronym, because some notes are shi notes while some are xu (emptiness) notes…

shengyun is very important when playing Chinese music, if it is unclear, the performance would be the variant of Western music, and not dynamic (Zhao, 2007, p. 359).

Therefore, the understanding of yijing is the basis of authentically playing Chinese piano music, which is the spirit of Chinese piano music.

Xushi does not only display the aesthetic character of guqin, but also reflects a sound nuance based on the performing techniques. The conception of xushi is the indispensable idealism of Chinese classical aesthetics, which is derived from the philosophy of Laozhuang (老庄). In the first chapter of Tao Te Ching, Laozi interpreted his illustrious viewpoint about nihility and existence as follows:
道可道，非常道；名可名，非常名；
无名，天地之始；有名，万物之母。
(Laozi, 2008, p. 1)
The tao that can be told is not the eternal tao,
The names that can be named are not eternal names,
It was from nameless that heaven and earth sprung,
The name is the origin of all things in particular.
(translation by authors)

As the core principle of Taoism, tao demonstrates the essence of the combination of xu and shi, which represents the binary between the yin and yang. It profoundly influences Chinese aesthetics, especially Chinese arts (Gong, 2006, p. 1). Furthermore, Laozi also implied a musical viewpoint that is daoyin xisheng (大音希声, the perfect music laying on silence), which describes the unity of xu and shi in musicology. Moreover, the timbre of many Chinese musical instruments also embodies the logical relationship between xu and shi, such as guqin, which shapes the sounds of xu and shi by way of anyin, as previously explained. In addition, the aesthetics of xu and shi is related to the tone of Chinese poetry, which constitutes a portion of lyrics in Chinese music. Therefore, it is necessary to analyze which notes are xu and shi respectively before performing Tai Chi to ensure that the player understands the Chinese style (Zhao, 2006, p. 169).

According to Liu’s (1999) paper about lingering charm of guqin and the records of guqin performances from Master Gong Yi (2010) and Zhao’s (2016) performing record of Tai Chi, there are regular patterns to distinguish between the notes of xu and shi:
1. The notes that are near each other, such as minor second or major interval distance, are always xu notes while the notes before them are shi notes. For example, shi notes are labeled with the notation of “+” while xu notes are labeled with the notation of “-”, as displayed in Figure 15.

Figure 15 Xu and shi notes displayed in the neighboring notes, mm. 13. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.
2. As the notes are melodic unisons, the first note is the shi note, followed by xu notes in general. Similarly, the shi notes are labeled with the notation of "+" and xu notes are labeled with the notation of "-" in Figures 16 and 17. As seen from these two examples, it is obvious that this type of xu note usually expresses a sound of gradual disappearance to demonstrate an effect of lingering voice and they generally appear at the end of phrases or an entire composition.

Figure 16 Xu notes at the end of phrase, mm. 84–85. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

Figure 17 Xu notes at the end of entire work, mm. 93–94. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

3. The notes at the end of phrases are usually xu notes, which create a lingering and remote effect, as displayed in the example of Figure 18.
Figure 18 Xu and shi notes in the end of phrase, mm. 17. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced with permission.

4. The performance of ornaments in Tai Chi is different from Western classical music. For example, the ornaments in mm. 14 would be played lightly and quickly, according to the interpretation of Western classical music. However, in reference to Zhao's proposition to reconstitute the timbre of traditional instruments (Zhao, 2016a), the first ornament is emphasized as a shi note while the second ornament is more lightly and closer to the timbre of anyin in guqin. The decorated note C becomes a xu note due to the requirement of Chinese unique lingering charm (Figure 19). Although the ornaments of Ab and Db are shi notes, there is a difference in dynamic. Ab is slightly more powerful than Db and that is a procedure of force transfer from Ab and Db to C: the smaller the power, the weaker the dynamic.

Figure 19 Xu and shi notes, mm. 14. Instruction added by author. Extract © 2015 Shanghai Century Publishing (Group) Co., Ltd. Shanghai. Reproduced by permission.

After distinguishing xu and shi notes, a metaphor by Zhao (2006) paves the path to performance:

Shi note is just like the skin of an animal or branch of a tree, while xu note is the fur of an animal or leaf of a tree, fur is covered with the skin and leaf is sprung from the branch. Therefore, (player) ought to find out shi note firstly, to which xu note attaches appropriately. (p. 169) (translation by authors)
According to the construction of the piano, the performance of shi note is easier than xu note due to the immutability of pitches on the piano that is distinctive with Chinese traditional instruments, especially the guqin. Indeed, the performance of the shi and xu notes depicts the alternation of dynamic to imitate the timbre of xu note from traditional instruments. For the purpose of describing xushi on the piano, a touching approach to mimic the sound of the guqin, or zither, as introduced by Zhao, is necessary, because it is yin ( vinden, chant) (Zhao, 2007, p. 357). The essence of yin is rotating in a trace of circumference to draw out xu note and produce the effect of chant on qin or zither because a weak dynamic produces an ethereal and exotic circumstance.

Conclusion

Tai Chi not only demonstrates a new musical system based on the I Ching, it is also a musical code-switching between Western and Chinese instrumental languages on the piano. Many attempts to graft Chinese traditional instrumental elements on Western musical frameworks have occurred in Chinese new music (Rao, 2002). However, Zhao’s imitation seemingly surpassed others due to his inquiry into soundscapes in order to make the piano vocalize the original sounds of traditional instruments themselves, through various performance techniques such as sliding by palm, one of his invented playing methods that is always used in his recent improvisations. Perhaps, this is his manner of exploring a soundscape that really belongs to Chinese-style piano music but simply mimics Chinese traditional instruments (Zhao & Mei, 2012).

Zhao, as a notable composer and pianist, examines a new possibility for Chinese new musical direction through Tai Chi. On one hand, as a composer, he presents excellent compositional techniques and in-depth Western musical training, which enables a fusion of the West and East in his piano solo. On the other, as an illustrious pianist, he endows Tai Chi with a new perspective on the soundscape of performance, which challenges performers to maximize their creative possibilities of timbre on piano, while inheriting Chinese traditional musical culture.

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'Hui (麾) is marked by 13 glossy white dots made of seashell, pearl or gold on the front side of the guqin, which are places of positive integer dividends of the string length.

Yang Biaozheng, a Master of guqin performance in Ming dynasty, pointed out that the guqin is a sacred instrument: the player needs to bathe, dress neatly and burn incense to signify his/her respect before playing it (2011, p. 288).

*Meihua Sannong (梅花三弄, Three Stanzas of Plum-blossoms) is one of the most illustrious repertories of guqin. As its theme is played by the technique of fanyin, it is the paradigm to practice fanyin in guqin pedagogy.

According to Li Rongyou's (2012) investigation of the pictures in the Han dynasty tomb, the orchestra of zhongying guyue (钟磬鼓乐, music of bronze bells, singing bowls and drum) consists of bronze bells, singing bowls, drums, blowing instruments such as di (笛, Chinese transverse bamboo flute), xiao (萧, Chinese vertical bamboo flute), sheng (笙, Chinese wind instrument), xun (埙, globular vessel flute), jiao (角, bugle), and so forth, as well as stringed instruments, including the guqin (古琴, seven-stringed zither), zheng (筝, zither), konghou (箜篌, ancient plucked stringed instrument), etc.

'Jinshi Zhisheng (金石之声) indicates that the sounds of the bronze bell and singing bowl symbolize the majesty in the royal musical band.

'Shangshu, or The Book of Documents, viewed as the oldest Chinese literature, is one of the classics of Confucianism.

'Bayin indicates eight types of instruments that are categorized by materials, which are jin (金, metal), shi (石, rock), tu (土, terra), ge (革, leather), si (丝, string), mu (木, wood), pao (匏, gourd), and zhu (竹, bamboo).

'Tao is a metaphysical concept in Taoism, which denotes a natural order underlying the substance and activity of the universe.

Silence in music is similar to liubai (留白, painting blank) of Chinese traditional paintings and is also commonly used in Chinese style compositions.

In Chinese history of thought, the ancient thinkers Laozi and Zhuangzi are collectively called laozhuang (老庄) on behalf of the doctrine of Taoism.
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