Chapter Ⅵ
The Correlation between the Musical Notations of Korea and China

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Introduction

As adjoined neighbors, China and Korea have had a continuous interchange since the beginning of their histories. As many kingdoms in ancient Korea accepted rites and music of Confucianism, which had been formed in accordance with the establishment of feudal society in China, Korea, in particular, has kept this culture of music up to this day.

Dang-ak (music from the Chinese Tang Dynasty) introduced from China was performed with Hyang-ak (the native court music) in ancient Korea since the Three Kingdoms period, and the tradition has been kept alive. Aak (court ritual music), introduced from the Song Dynasty in the Goryeo Period in the 12th century, had a lot of influence on Jeryeak (court ritual music) in its formation. This is proven by Chinese musical pieces existing in Korea, such as *Munmyo Jeryeak* (Confucian Shrine music), *Boheoja* (Walking in the Void), and *Nagyangchun* (Spring in Loyang).

Ancient Korean music was also introduced to China. Although there was a difference in scale and extent, Goryeogi (Entertainment of Goryeo) and Baekjegi (Entertainment of Baekje) were performed in the court of Sui and the Tang Dynasty of China. The musicians and professional female entertainers of ancient Korea were continuously sent to China after that time.

Therefore, it can be said that Korea and China are in partnership and have exchanged their music for a long time. The exchange of music does not just include music itself but also involves the exchange of various cultures related to music. It is in the diversity of their musical cultures that the correlation between the musical notations of Korea and China can be found.

The musical notations, by which I mean the musical notations of traditional music, include Yuljabo (律字譜: music letter notation), Munjabo (文字譜: letter notation), Gamjabo (減字譜: reduced-letter notation), Yeonak banjabo (燕樂半字譜: half-letter notation of court banquet music), Gongcheokbo (工尺譜: simplified character notation) of ancient China, and Jeongganbo (井間譜: Korean mensural notation). Yuljabo, Gongcheokbo, Hapjabo (合字譜: musical tablature for string instruments) and Yukbo (肉譜: mnemonic notation) in Korea have many similarities that can be interpreted as important signs of musical and cultural exchange between the two cultures. With the shared names of Yuljabo and Gongcheokbo in both cultures, and the same format shared between Chinese Gamjabo and Korean Hapjabo, the notations of the two countries display a correlation in many ways. Since there have not been many comparative studies on the musical notations of

Korea and China, I intend to conduct a fundamental study on the correlation between the musical notations of the two cultures by comparing their characteristics.

The trace of musical notations of China[1]

The oldest musical score of the existing Chinese musical notations is the record of a percussion playing technique for Gu (鼓, a drum) and Bing (鞞, drum played riding on a horseback) used in the rite of arrow-throwing game and the rite of archery, recorded in the *Book of Rites* (禮記), which was compiled from all the relevant literature on rituals and music from the Warring States Period to the early Han Dynasty.

There are many folk songs recorded in *Yewenzhi* (藝文志), the *Book of Han* (漢書) by Bangu (班固), including the *Seven Chapters of Sheng Quzhe* (聲曲折) *of Henan* (河南) *zhouge* (周歌). *Sheng Quzhe* here could be interpreted as a score.[2]

There are 20 volumes of *Xiaoji Scores* (簫吉樂譜集) in *Yuefuzhi* (樂府志), *Jingjizhi* (經籍志) of the Sui Dynasty and 64 volumes of scores compiled by the famous contemporary musicologist Wan Bao Chang (萬寶常) in *Wanbaochangchuan* (萬寶常傳), of *History of the Sui Dynasty* (隋書). Zhao Ye Li (趙耶利) of the early Tang Dynasty invented a specialized fingering for the left and right hands, without recording the pitches, which had seemingly promoted the advancement of letter notations of ancient string instruments. Of these letter notations for ancient stringed instruments of the Tang Dynasty[3], one piece You Lan (幽蘭) remains today. According to Yuefu Zalu (樂府雜錄) by Duan An Jie (段安節), there was originally no musical score for the clapper, but Huang Ban Chuo (黃幡綽) drew two ears on a piece of paper to produce scores by which to make explicit its phrasings, upon an order of Minghuang (明皇). This seems to be a significant piece of data on the clapper score. In *Zhongxing Shumu* (中興書目), containing the records of the musical notations of the Tang Dynasty, are 30 pieces of musical scores produced by Xue Lu Lang (協律郎) and Xu Jing An (徐景安). Some actual musical scores of Tang music have been discovered. A lute score which seems to have been written in the 4th year of King Mingzong's reign of Five Dynasties (933) was found in the Dunhuang area and named *Dunhuang Pipapu* (敦煌琵琶譜). It is currently housed in the National Library of France in Paris (Bibliotheque nationale de France). A twenty-letter notation was used in this score for a lute with *sa-hyeon sa-sang* (4弦 4相: 4 strings and 4 frets).[4]

Also, many scores produced in the Song Dynasty such as *Tai Zong Qin Ruan Pu* (太宗

琴阮譜) and *Yu Zhuan Ming Tang Yue Qi Yin Fu* (御撰明堂樂曲音譜) are recorded in *Yuezhi* of the *History of the Song Dynasty* (宋史), and it says that they bestowed Aak and its notation on Goryeo. In addition to these scores from the court, there was *Sokjabo* (俗字譜: local letter notation) that was popular among people in the Song Dynasty, which can be found in the literature recorded by Jiang Bai Shi (姜白石), Zhang Uan (張炎), and Chen Yuan Liang (陳元靚). This notation is presumed to be similar to Yeonak Banjabo (燕樂半字譜).[5]

Plate 1. A Part of *Dunhuang Pipapu* (p. 3808)[6]

In the Yuan Dynasty, there first appears a Gongcheokbo which is presumed to have developed and formed from Sokjabo, in *Meong Xi Bi Tan* (夢溪筆談) by Shen Kuo (沈括). This Gongcheokbo has gone through many changes and developed into a notation that is used for most folk music of China today. Also, Yu Zai (余載) invented Bangeokbo in this period.

A kind of mixed notation first appears during the Ming Dynasty in *San Cai Tu Hui* (三才圖會) compiled by Wang Si Yi (王思義).

Other notations such as Gungsangbo (宮商譜), Yulyeobo (律呂譜), Seulbo (瑟譜), Namgwanbo (南管譜), Yisabo (二四譜), Cheon-ganbo (天干譜), Saengbo (笙譜), Hunbo (塤譜), Yanggeumbo (揚琴譜), Gokseonbo (曲線譜), and Nagobo (鑼鼓譜) were formed and used later.

The trace of the exchange of musical notations between Korea and China

It is said that Chinese music was first introduced into Korea in the 4th year of King Munmu's reign (661-681).[7] There is a record in the *Historical Record of the Three Kingdoms* (三國史記) that says, "In March, the 4th year of King Munmu's reign, 28 musicians including Seongcheon and Guil were sent to Ungjinbuseong (熊津府城: today's Gongzhou 公州) in order to learn Dang-ak."[8] This is the first historical record of the acceptance of Tang music, which was most likely a kind of Gochwiak (processional music), according to research. In addition, it seems that various tones of Tang music had been used since the Unified Silla period (618-936), as modes such as Gungjo (宮調), Chilhyeonjo (七賢調), Woljo (越調), Banseopjo (般涉調), Chuljo (出調), and Junjo(俊調) appear in the seven modes of the Daegeum (transvers flute).[9]

The Dang-ak must have been introduced to Korea with its notations. This can easily be assumed even though there is no record of the exchange of notations during the Unified Silla period. There remains a record of the exchange of musical notations between Korea and China during the Goryeo period, however.

According to *The Annals of King Taejong* (太宗實錄) vol. 22 of the Joseon Dynasty, "King Gwangwang in the previous Dynasty sent an envoy to invite the musical instruments and players of the Tang Dynasty, and he had the descendents of the envoy maintain this vocation. Kim Yeo-yeong during King Chungyeol's reign and his grandson during King Chungsuk's reign assumed these responsibilities." Therefore, it is clear that the instruments and players of China were invited to Korea during King Gwangjong's reign (947-975) in the Goryeo Dynasty.[10] Of course, it is not obvious to which dynasty of China the request for music was made, as this included the period from the collapse of the Tang Dynasty to the Five Dynasties, the Ten Kingdoms, and the Song Dynasty. However, it is obvious that the instruments and players were introduced and thus it is very likely that the musicians from China came to Korea with musical notations as well. According to the *Goryeosa Akji* (高麗史 樂志, the Music Records of the History of Goryeo), thirteen entertainers including Jingyeong (眞卿), a female entertainer of the Gyobang (Bureau of music), requested to use *Dapsahanggamu* (踏沙行歌舞) and an edict was made to permit it, in the 27th year of King Munjong's reign (1073).[11] There is also a historical record that Choyeong, another female entertainer of the Gyobang, played the newly introduced *Pogurak* and *Gujanggibeolgi* in the same year, in addition to a historical record that she played *Wangmodaegamu* in the 31st year of King Munjong's reign. In relation to the fact that Goryeo requested the Song

Dynasty for the musicians, it is recorded in the *Sok Jachitonggam Jangpyeon* (續資治通鑑長編) that the Song Dynasty decided to lend 10 artists of the Gyobang to the Goryeo Dynasty upon its request for the musicians of Song, delivered by Fu Xuan (傅旋), a merchant from Quanzhou (泉州), in the 8th year of King Hiryeong (1075).[12] It is presumed that the music of Jingyeong and Choyeong were from Song, judging by this literature. Various pieces of Tang music were used in Jeongjae (呈才: court banquet dance of Korea) performed by these entertainers.[13]

There is also a historical record that the envoys sent to Song by Goryeo had put a lot of effort into recording the scores of Dang-ak, which was popular at that time. In *Lun Gaoli Maishu Lihai Zha Zi Sanshou* (論高麗買書利害箚子三首) by Su Shi (蘇軾), there is a complaint about the copying of music scores by the courtiers saying, "According to the report from an official, the envoy of Goryeo has requested consent to copy the scores, but the courtiers believe that it will not set a good example of virtue if antipatriotic music is discharged into other countries. If the royal court consents to the copying of the music scores, it will result in a lot of inconvenience." This suggests that it was very common for the envoys of Goryeo to copy the musical scores of the Song Dynasty. Since the complaint was mainly about sending antipatriotic music, these are believed to be the musical scores of popular music, not Aak from the court, which opens up the possibility that popular music could have been introduced in addition to the exchange of the scores.[14]

In June of the 9th year of King Yejong's reign (1114), when envoy An Jik-seung returned to Korea, King Huizong of the Song Dynasty sent new instruments, scores, and fingering iconography, and this is the first record that Chinese notation was officially passed to Korea.[15] Goryeo, for a return visit, sent Wang Ja-ji and Mun Gong-mi to receive these instruments, and King Huizong again sent Tasheng Yayue (大晟雅樂), and a Royal message with them, in June of the 11th year of King Yejong's reign (1116).

Chinese musical scores were widely adopted in the court of the Joseon Period. According to *Tasheng yuepu* (大晟樂譜) in the *Sejong sillok akbo* (世宗實錄樂譜, Scores in The Annals of King Sejong), which is the earliest score collection of the Joseon Period, and *Sinje aakbo* (新制雅樂譜, newly produced Aak scores*)* in the *Sejo sillok akbo* (世祖實錄樂譜, Scores in The Annals of King Sejo), Yuljabo and Gongcheokbo were widely used. Also Hapjabo appears in the *Akhak gwebeom*, which was produced with the influence of Chinese Gamjabo. It is presumed that the unique Korean notation of Jeongganbo is related to Chinese Banggyeokbo. Joseon did not have an active interchange of musical culture with the Qing Dynasty, which took over China after the Ming Dynasty, due to an uncomfortable

relationship between the Joseon and Qing courts. Although there was musical interchange among people with the importation of the Yanggeum (deleimer) from China, there was no significant exchange of notations.

Comparison between the musical Notations of Korea and China

1) Yuljabo (律字譜) and Gungsangjabo (宮商字譜) vs. Yulyeobo (律呂譜) and Gungsangbo (宮商譜)

Yuljabo (a notation in which the pitches are recorded with the first letters of the 12 note names) and Gungsangjabo (a notation in which the pitches are recorded in a Chinese heptatonic scale) of Korea were introduced from China. Although it is not clear when they were introduced, it seems that they were associated with Korea's import of music from China and particularly Aak from the Song Dynasty.

The five notes of Gung, Sang, Gak, Chi, and U and the 12 Yul (the chromatic pitches) of Hwangjong, Daeryeo, and Taeju were used very long ago. Considering a new discussion, relevant to the formation of the 12 Yul, regarding the recent discovery of bamboo pipes from the Qin Dynasty, Yuljabo and Gungsangjabo must have been used quite long ago.[16] *Tang Kaiyuan Fengya Shier Shi Pu* (唐開元風雅十二詩譜) in *Yi Li Jingzhuan Tong Jie* (儀禮經傳通解) by Zhou Xi (朱熹, 1130-1200) is an example of typical Yuljabo, while *Yuan Ping Zhi Zhang* (元平之章) by Suo Ding (所定) written in the first year of the reign of King Jiaqing (嘉慶), which appears in *Xu Wenxian Tong Kao* (續文獻通考), is an example of typical Gungsangjabo.

Yulyeobo is called either Yulyeobo or Yuljabo in Korea. The oldest Yuljabo appears in the *Sejong sillok akbo*, but Yuljabo was not used alone but together with Gungsangjabo and Jeonganbo as well. Considering that Chinese Banggeyokbo, which is similar to Jeongganbo, was rarely used, the use of the combination of Yuljabo and Jeongganbo in Korea is very interesting.

Gungsangjabo is found in the *Aakbo* of the *Sejong sillok akbo*. In Korea, it was not only used for Aak scores but also for Hyang-ak scores such as *Yanggeum sinbo* (1610).

2) Hapjabo (合字譜) vs. Gamjabo (減字譜)

Korean Hapjabo was produced based on Chinese Gamjabo. There is a historical record in *Hyeon-geum Hapjabo Seo* (玄琴合字譜序), vol. 7 of the *Heobaekdang Munjip*[17] :

> With Park Gon and Kim Bok-geun, I have produced this notation on the basis of books such as *Shi Lin Guang Ji* (事林廣記) and *Da Cheng Yuepu* (大成樂譜) applying our own ideas with respect to the existing rules. We have made the notation by combining many musical notes according to the fingerings and the order of the frets. With their reverberations, the sounds were made and the rhythm was made using melodies. Analogizing all the string instruments, not only Geomun-go but also Gayageum and Dangbipa (唐琵琶), we have compiled and published the notation named Hapjabo.[18]

Recorded in *Oju yeonmun jangjeon sango* (Oju's Essay Collection), this historical record suggests that Seong Hyeon, together with Park Gon and Kim Bok-geun, produced Hapjabo to apply to the Geomun-go and other string instruments, based on *Shi Lin Guang Ji* and *Da Cheong Yuepu*. The above mentioned *Shi Lin Guang Ji* contains Gamjabo, the notation for string instruments used from the end of the Nansong Dynasty to the early Yuan Dynasty, when Chinese notation attained its maturity.

Gamjabo (encoded notation) generally consists of the right hand fingering, the left hand fingering, and general terms. It is called Gamjabo because it combines the fingering and terns in Munjabo (letter notation), which had been inherited. The basic fingerings in Gamjabo for the right hand are called Sajipalbeob (四指八法: 8 methods for four fingers) and include: *byeok* (劈, 尸) and tak (托, 乇) for the thumb; mal (抹, 末) and do (挑, 𠂆) for the index finger; gu (勾, 勹) and cheok (剔, 另) for middle finger; and ta (打, 丁) and jeok (摘, 扌) for the ring finger. Others can be made out of the variations of these playing styles.[19]

For the left hand, there are mainly eum (吟), no (猱), jak (綽), ju (注), jinbok (進复), toebok (退复), bungae (分開), etc. There are terms for musical tones, strings (弦名), frets (徽名), san (散: to pluck), beom (泛: to pluck and lift), aneum (按音: stopped sounds), tempo marks (速度), dynamic marks (力度), facial expression (表情), etc. Under the title of the piece are written the tones of the string instrument, and then the musical letters (譜字), written in large letters[20], with marks for the positions of the left hand at the top and marks for the names of the strings and the playing styles at the bottom.

Hapjabo is similar to Gamjabo. According to the *Akhak gwebeom* (樂學軌範:Musical

Encyclopedia), Hapjabo consists of Jipsibeop (a playing style of the right hand fingers), the fingering of the left hand, Hyeonbeop with the names of the strings, and letters symbolizing the order of frets. Jipsibeop uses the letters do (挑) and gu (勾). For the left hand fingering, the following initials are used: giyeok (ㄱ) for the thumb, siot (ㅅ) for the index finger, nieun (ㄴ) for the middle finger, seok (夕) for the ring finger and, so (小) for the little finger. For Hyeunbeop (the names of the strings), the following abbreviations are used: bang (方) for yuhyeon (遊絃), dae (大) for daehyeon (大絃), sang (上) for the fret shangcheong (上淸), u (又) for gwaecheong (岐淸), mun (文) for munhyeon (文絃), and ji (止) for muhyeon (武絃). For the frets, numbers are used in the following order, starting from the biggest: 一 , 二 , 三 , 四 , and 五 (1,2,3,4, and 5).

As examined above, Hapjabo can be considered a notation that was designed for the Korean Geomun-go, utilizing the structure of Chinese Gamjabo. What is notable here is that in Hapjabo, melodies were used to make the rhythm. Compared to Chin's Gamjabo, which does not have an absolute standard in expressing the rhythm, Hapjabo is considered an advanced form of notation.

Plate 2. Gamjabo from *Shi Lin Guang Ji*[21]

3) Jeongganbo (井間譜) vs. Bangyeokbo (方格譜)

The Korean Jeongganbo first appeared in the *Sejong sillok akbo*, in volumes 136 to 147 of the *Sejong sillok* (Annals of King Sejong).[22] With notes recorded in squares in the shape of the letter Jeong (井), it is a notation that can display the pitch and length of a note. The Jeongganbo that appears in the *Sejong sillok akbo* has 32 squares per column. Chronicling events during the thirty-three years of King Sejong the Great's reign, from August 1418 to February 1450, the *Sejong sillok* shows that Jeonganbo was produced during this period. However, notation using squares did not first appear in Korea at this time.[23] *Tang Kaiyuan Fengya Shier Shi Pu* (唐開元風雅十二詩譜) in *Yi Li Jingzhuan Tong Jie* (儀禮經傳通解) by Zhou Xi (朱熹, 1130-1200), which is a rather earlier notation, recorded the pitches in a grid and made it possible to read the beats by the squares. In this notation, there are 12 cells in each column, with lyrics of the poem Fenya Shier Shi in each cell and yulyeoja (律呂字: musical letters) corresponding to the pitch of the lyrics.[24]

Later, in *Shaoyue Jiucheng Le Bu* (韶樂九成樂補) by Yu Zai (余載, born in 1320) of the Yuan Dynasty, a special Banggkyeokbo was used. Yu Zai formed 12 cells per column with the 12 notes, connected the empty cells from the right to the left, and recorded the lyrics in one of the empty cells of the 12 to display the pitches of the lyrics. At present, this notation remains in *Wenyuange Sikuquanshu* (文淵閣四庫全書).

Plate 3. ***Tang Kaiyuan Fengya Shier Shi Pu*** **(唐開元風雅十二詩譜) in** ***Yi Li Jingzhuan Tong Jie*** **(儀禮經傳通解) by Zhou Xi (朱熹)**

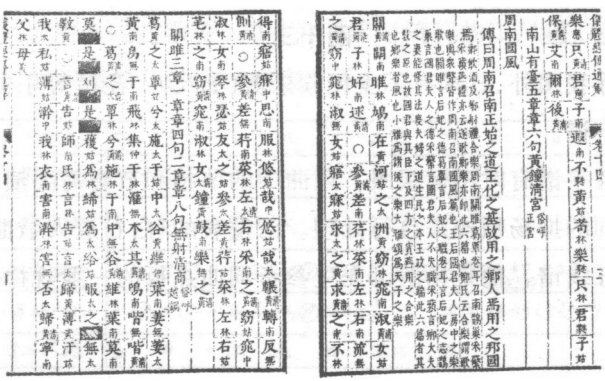
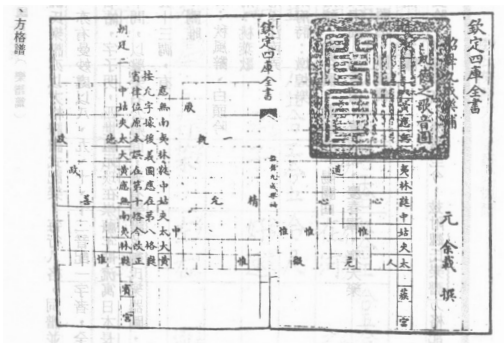


Plate 4. Notation of *Shaoyue Jiucheng Le Bu* (韶樂九成樂補)



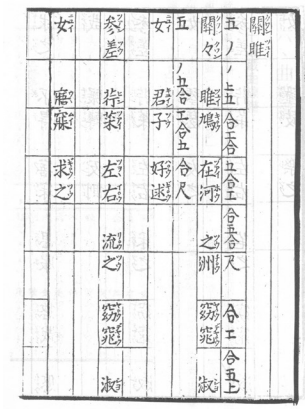
Wei Shi Yuepu (魏氏樂譜) of the Ming Dynasty is even similar to Jeongganbo. This notation contains 8 cells per column, and some column have five divided cells while the other three are not divided, which coincidently reminds one of the six parts of the three-cell Jeonggan (井間: a set of Squares in mensural notation) and 2-cell Jeonggan in Jeongganbo that appears in the *Sejo sillok akbo*.

Wei Shi Yuepu contains Ming music which was passed over to Jangi in Japan during the Edo Period (1591-1867) of Japan. It seems that Wei Shuang Hou (魏雙侯) from Fujian took it to Janggi in the end of King Chongzhen's reign of the Ming Dynasty. He attained the surname Georok (鋸鹿) when he acquired Japanese citizenship. After that, he transmitted Ming music to future generations, and his great grandson Wei Hao (魏皓) transmitted Ming music in Kyoto in 1764, when he published the notation, *Wei Shi Yuepu*. This notation had Gongcheokbo in each cell to display the pitch. In terms of time value, one gyeok (cell) is sometimes counted as one beat but is at other times counted as a half bar with two gyeok counted as one bar.[25]

As examined above, there is a clear difference between Jeongganbo of Korea and Banggyeokbo of China. It is difficult to consider Tang Kaiyuan Fengya Shier Shi Pu (唐開元風雅十二詩譜) in *Yi Li Jingzhuan Tong Jie* as Jeongganbo since a letter of the lyrics was put into each cell. Therefore, Jeongganbo did not originate from this type of notation. Formed of 32 squares in each column, which is in a full score type of notation that was unprecedented in history, Jeongganbo of the *Sejong sillok akbo* has a significant characteristic in that the music was recorded in various ways from a two line system to a six line system. As previously mentioned, the earliest full scores of China seem to be the full

score of *San Cai Tu Hui* published by Wang Si Yi (王思義) taking over from Wang Chi (王圻), and that of *Yuelu Quan Shu* which was attempted by Zhu Zai Yu (1536-1610). Furthermore, considering the context and the time when *Wei Shi Yuepu* was published, Jeonganbo could have influenced *Wei Shi Yuepu*[26]

Plate 5. Part of *Wei Shi Yuepu* of Ming Music of the Ming Dynasty[27]



4) Gongcheokbo of Korea and China

As a notation that was used to record Chinese folk music, Gongcheokbo first appeared in the *Tasheng Yuepu* made by Lin Yu in the Yuan Dynasty (元朝林宇大晟樂譜) from the *Sejong sillok akbo*, and was also used in the *Sinje aakbo* (新制雅樂譜) and *Daeak hubo* (大樂後譜) from the *Sejo sillok akbo*. The 12 Yul (the chromatic pitches) and 4 Cheongseong (pitches in the octave above the main octave), that is, 16 pitches in total are coded in 10 letters in the *Akhak gwebeom*: Hwang (黃) in Hap; Dae (大) and Tae (太) in Sa (四); hyeob (夾) and Go (姑) in il (一); Jung (仲) in Sang (上); Yu (蕤) in Gu (句); Im (林) in Cheok (尺); I (夷) and Nam (南) in Gong (工); Mu (無) and Eung (應) in Beom (凡); Cheonghwang (淸黃) in Yuk (六); and Cheongdae (淸大), Cheongtae (淸太), and Cheonghyeop (淸夾) in O (五). Displaying many notes in one letter, it is often commented on that it is impossible to know the right tone as the pitches and the lengths of the notes are not clearly displayed. With the title of the musical tone displayed, however, it is considered a

very convenient notation since the tones are determined by, and the music can be recorded with, 10 letters only. The time value is known as another problem of Gongcheokbo notation, but Gongcheokbo of the Song Dynasty is presumed to have been able to display the time value as it is determined by pan (板: the stronger beat) and an (眼: the weaker beat) today, considering *Pai Yan Pian* (拍眼篇) of Ci Yuan (詞源) by Zhang Yan (張炎), in the South song Period.[28]

In Korea, Gongcheokbo is found in *Geumbo jeongseon* (琴譜精選) which is used for the playing style of the Yanggeum, using the letters.[29] Recently the *Boheosa* score by Kim Yeong-yun for the Gayageum and Geomun-go, as abbreviated notation of Gongcheokbo, has been discovered and translated.[30]

5) Yukbo (肉譜) vs. Sangseonbo (狀聲譜)

In regard to Korean Yukbo, there is a historical record in the *Sejo sillok*:

> In the Goryeo Period . . . There was Yukbo which was made by onomatopoetic words of the sounds of the musical instruments and it was the only way that made possible to convey the sounds of musical instruments. Yukbo for the Bipa, Geomun-go, Gayatgo, Jeotdae, and Piri differed from one another, and it was not only complicated and difficult to understand, but there were also no scores for the songs yet.

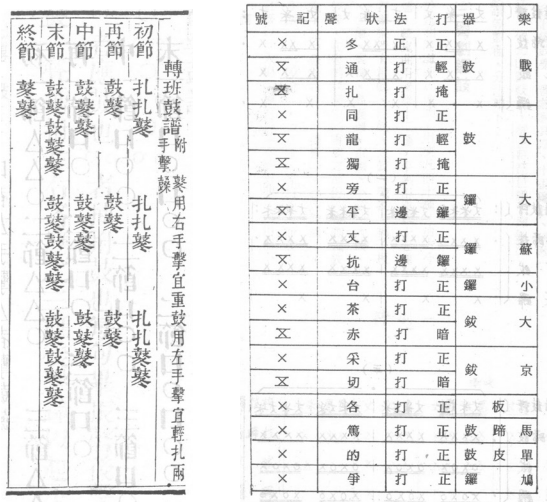
According to this record, there must have been a notation in which the sounds of musical instruments were imitated and recorded during the Goryeo Period.

Even today, it is very common to use oral mnemonics such as "deong, dung, dang, dong, ding" for the Gayaguem, "leo, ru, ra, ro, ri" for the Piri, and "ga, ge, gi, ro" for the Haegeum, which is presumed to be a trace of the Yukbo of the past.

This Yukbo was very common in Asia in the past, including in Japan with scores for shakuhachi and shamisen. It is called Sangseongbo (狀聲譜) in China. Meaning a musical notation using oral mnemonics, it was mostly used for percussion instruments. Luogupu (鑼鼓譜) is a typical Sangseongbo. It is uncertain when Luogupu was first used, but it seems that it had already existed in the Song and Yuan Periods, considering that it appeared in *Luo Gu Ling* (鑼鼓令), one of the *Nan Lu Quo Qu* (南呂過曲) pieces in the *Shishan Diao Pu* (十三調譜), which was produced around the time that *Zhuan Ci* (賺詞)[31] of the Song Dynasty was popular. Of course, some scholars believe that it emerged in the Ming and Qing Periods.

There is *Zhuan Ban Gu Pu* (轉班鼓譜) found in the *Wen Miao Sidian Kao* (文廟祀典考) published during the Qing Period, which displays the rhythms from the first phrase to the last phrase, using *sangseong* letters that symbolize the sounds such as dong (鼕), go (鼓), chal (扎), etc.

Plate 6. *Zhuan Ban Gu Pu* (轉班鼓譜) of China and *sangseong* letters in *Luo gu pu* (鑼鼓譜)[32]



轉班鼓譜 附 鞋用右手擊宜重鼓用左手擊宜輕扎兩手擊鼕

初節	扎扎鞋
再節	鼓鞋
中節	鼓鞋鞋
末節	鼓鞋鼓鞋鞋
終節	鼓鞋鼓鞋鞋鞋
	扎扎鞋
	鼓鞋
	鼓鞋鞋
	鼓鞋鼓鞋鞋
	扎扎鞋鞋
	鼓鞋
	鼓鞋鞋
	鼓鞋鼓鞋鞋

樂器	打法	聲狀	記號
戰鼓	正打正	多	×
	輕打輕	通	又
	掩打掩	扎	又
大鼓	正打正	同	×
	輕打輕	龍	又
	掩打掩	獨	又
大鑼	正打正	旁	×
	鑼邊鑼	平	又
蘇鑼	正打正	丈	×
	鑼邊鑼	抗	又
小鑼	正打正	台	×
大鈸	正打正	茶	×
	暗打暗	赤	又
京鈸	正打正	采	×
	暗打暗	切	又
板	正打正	各	×
馬蹄鼓	正打正	篤	×
單皮鼓	正打正	的	×
鴈鑼	正打正	爭	×

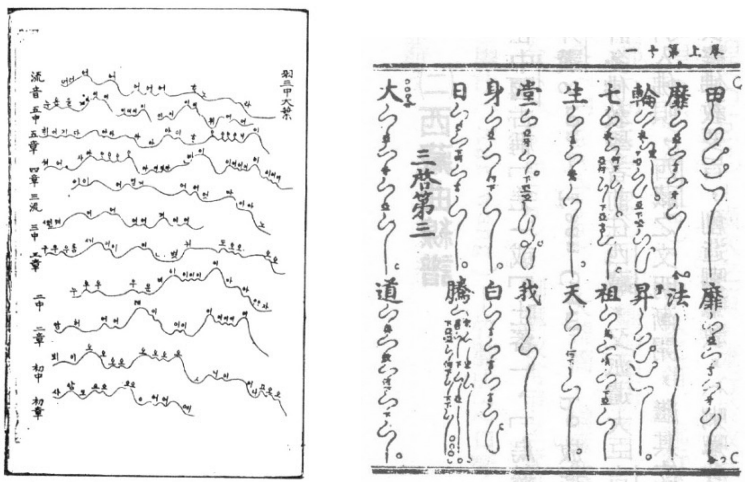
6) Seonyulseonbo (旋律線譜) vs. Gokseonbo (曲線譜)

Seonyulseonbo of Korea is similar to Gokseonbo of China. In Seonyulseonbo, which records the melodies of songs, the melody is drawn in wave-pattern lines and the lyrics are written here and there. It is seen in *Ohisang geumbo* (吳熹常琴譜) and *Hakpo geumbo* (學圃琴譜). Gokseonbo of China is largely divided into two types: one is Daozang Gokseonbo (道藏曲線譜), and the other is Xizang Gokseonbo (西藏曲線譜). Daojang Gokseonbo is found in *Yueyin Fashi* (玉音法事), the 3rd volume of *Zhengtong Dao Cang* (正統道藏). This score was made for chant hymns of Taoism, with big letters written for the lyrics, and the melody drawn vertically in curved lines at the bottom. The letters for tunes and sounds (字腔聲韻) are displayed in small letters. Similar to notations from Syria, Byzantium, Armenia, and St. Gallen, Xizang Gokseonbo seems to have been introduced to Xizang (西

藏: Tibet region) when the Syrian believers of Nestoriomism (景教, a Christian denomination) reached Persia, India, Middle Asia, and China.

Korean Seonyulseonbo advanced by being introduced to Sijo (Korean poem of three lines) notation, while Chinese Gokseonbo that was used in Taoism has been severed of transmission. Xizang Gokseonbo is still being used today.

Plate 7. Seonyulseonbo in *Hakpogeumbo* (學圃琴譜) and Gokseonbo in *Yueyin Fashi* (玉音法事) of China[33]



7) Musical notations for percussion instruments (打樂器譜) of Korea and China

There are quite a lot of scores that use marks to display the playing styles. Because of their use of marks, Janggobo and Gobo in the *Geum hapjabo* are also called Dobo (圖譜: pictorial notation). Since the *Geum hapjabo*, it has advanced to a type which displays the playing styles using symbols such as ◐, ●, ○, and 1. As was mentioned above, Sangseongbo was introduced as a notation for percussion instruments in China, and there were other types of notations to display the playing styles using symbols other than this Sangseongbo. Recording the playing styles of drums, *Bi Gu Pu* (鞞鼓譜) in the *Record of*

Rituals (禮記) is an early notation of this kind since it uses symbols such as ○ and □. *Gu Jing Yao Fa* (鼓經要法) is found in the *Wen Lin Ju Bao Wan Juan Xing Luo* (文林聚寶萬卷星羅) compiled by Xu Hui Ying (徐會瀛) in the Ming Dynasty. It contains *Gu Jing Cixu* (鼓經次序) which explains the meanings of the symbols.[34] In addition, previously mentioned *Zhuan Ban Gu Pu* (轉班鼓譜) in *Wen Miao Sidian Kao* (文廟祀典考) is re-recorded in Qin Ban Wen Miao Gu Pu (欽頒文廟鼓譜), vol. 6 (1871) of *Huangchao Jiqi Yuewu Lu* (皇朝祭器樂舞綠) of the Qing Dinasty, which changed into the style of using symbols such as ○, □, and △ from that of using letters such as dong (鼕), go (鼓), and chal (扎). In this book there also appears *Jeorakgobo* (節樂鼓譜), in which ○ is used for Eunggo (應鼓: a kind of a drum) while ○ ○ is used for Pakbugo (搏拊鼓).

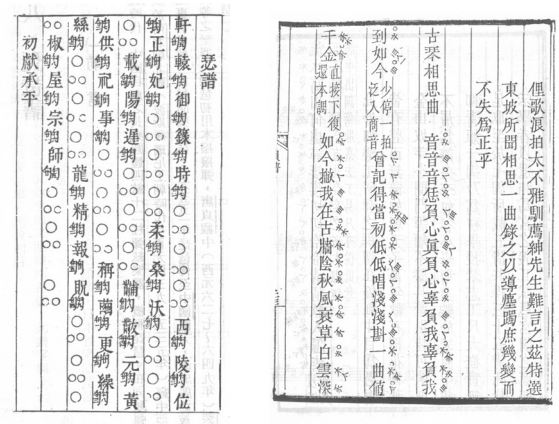
8) Musical Notations for Other Instruments

A few of the musical notations of China do not appear in Korea. These are Seulbo (瑟譜), Hunbo (塤譜), and Cheon-ganbo (天干譜), which are the scores for Seul (25-stringed half-tube zither of Chinese origin), Hun (globular ocarina) and Sanxien (three-stringed instrument).

For the 25-stringed instrument Seul, there are *Xiong Peng Lai Se Pu* (熊朋來瑟譜) by Xiong Peng Lai (熊朋來, 1246-1323), *Seulbo* (瑟譜, 1560) by Zhu Zai Yu (朱載堉), and *Seulbo* (瑟譜) of *Lu Lu Zhengyi* (律呂正義). *Xiong Peng Lai Se Pu* is a combined notation of Yulyeobo and Gongcheokbo, and Seulbo of *Lu Lu Zhengyi* uses the Gamjabo system.

Hunbo can be found in *Yuelu Quanshu* (樂律全書) by Zhu Zai Yu, *Pan Gong Liyue Shu* (頖宮禮樂疏) by Li Zhi Zao (李之藻), and *Da Cheng Yuezhang* (大成樂章) of *Nan Yong Zhi* (南雍志). *Tang Hu Xun Pu* (棠湖塤譜) by Wu Xun Yuan (吳尋源) in the 14th Daoguang (道光) year of the Qing Dynasty is said to have been produced by reducing Yulyeoja (musical letters) imitating Gamjabo for Geumbo. For example, Hwangjong was reduced to '田', while Cheonghwangjong was reduced to '1田' in the score. This is a unique notation in which Yulyeoja was symbolized.

Plate 8. Seulbo and Hunbo of China[35]



Recording the music of the three-stringed Sanxien, Cheonganbo is recorded in *Sanxian Pu Shi* (三絃譜式), vol. 17 of *Wen Lin Ju Bao Wan Juan Xing Luo* (文林聚寶萬卷星羅) compiled by Xu Hui Ying (徐會瀛) of the Ming Dynasty. It is called Cheon-ganbo, as Cheon-gan (天干: Ten Celestial Stems) was used for the scores. The four letters Gap (甲), Eul (乙), Byeong (丙), and Jeong (丁) were used for the first string of the sanxien, while the three letters Mu (戊), Gi (己), and Gyeong (庚) were used for the second string, and the three letters Sin (辛), Im (壬), and Gye (癸) were used for the third string. The three letters Jeong, Jung, and Dae(‘疋’, ‘中’, ‘大’) were also used for open string, symbolizing jahyeon, junghyeon, and daehyeon.

Plate 9. Sanxian Pu Shi (三絃譜式)

There are scores written in notations unique to Korea as well. A score from the 17th century recording music for the So (簫: Oboe-like instruments), *Sobo* (簫譜) of the *Baegunam Geumbo* (白雲庵琴譜) displays the pitches using combinations of symbolic marks and numbers, in order to describe opening and closing of the finger holes and times for the actions.[36] In *Huigeum gagokbo* (徽琴歌曲譜), a score for an ancient stringed instrument, Hui Qin (徽琴), numbers were used to display the order of the strings and the tones.

Scores for the Saenghwang are called Sheng Pu (笙譜) in China, while they are called Saenghwangbo (笙簧譜) in Korea. There is no difference except for what they are called. Chinese Sheng Pu appears in *Wen Miao Liyue Quanshu* (文廟禮樂全書) which was published in 1628, and it recorded chords using the numbers of the second to fourth holes, together with Yulyeobo and Gongcheokbo. As a Saenghwangjabo, Korean Saenghwangbo appears in *Youyeji* (遊藝志) in *Imwon Gyeongjeji* (林園經濟志) by Seo Yu-gu (徐有榘, 1764~1845). It is the same as Chinese Sheng Pu, in that it indicates the holes with numbers, but the marking system is different.

Plate 10. Chinese Sheng Pu[37]

The Classification of Musical Notations of Korea and China

There are differences in classifying musical notations between Korea and China. Lee Hye-ku has suggested the categories of Yuljabo, Gongcheokbo, Oeumyakbo, Yukbo, Hapjabo, Yeoneumpyo (連音標), and Jongganbo in "Ancient Notations of Korea." Although it was not a thesis that classifies notations, Korean notations suggested above can be said to have repreaentativeness.[38] In his thesis "Present Condition of Korean Ancient Notations," Kim Yeong-un categorized Korean ancient notations into Eumgo Gibobeop (音高記譜法: notation of the pitches), Sitga Gibobeop (時價記譜法: notation of the time value), Jubbeop Gibobeop (奏法記譜法: notation of the playing styles), and Seonyul Gibobeop (旋律記譜法: notation of the melodies), and arranged the relevant scores under each category as follows:[39]

Table 1. Categorization of Korean Musical Notations (Kim Young-woon)[40]

Notation of the pitches (音高記譜法)	(1) Yuljabo (律字譜)	*Sejong sillok akbo* (世宗實錄樂譜)
	(2) Gungsangjabo (宮商字譜)	Aakbo (雅樂譜) of *Sejong sillok akbo* (世宗實錄樂譜), *Yanggeum sinbo* (梁琴新譜)
	(3) Gongcheokbo (工尺譜)	*Sejong sillok akbo* (世宗實錄樂譜) *Imu Daeseong akbo* (林宇大晟樂譜) in the Yuan Period, *Sinje aakbo* (新制雅樂譜) of *Sejo sillok akbo* (世祖實錄樂譜), *Daeak hubo* (大樂後譜)
	(4) Oeumyakbo (五音略譜)	*Sejosillok akbo* (世祖實錄樂譜), *Daeak hubo* (大樂後譜), *Siyong hyang-akbo* (時用鄕樂譜), *Sogak wonbo* (俗樂源譜), etc.
	(5) Yukbo (肉譜)	Geomun-go yukbo, Yangeum yukbo, Gayageum yukbo
	(6) chayongbo (借用譜)	Yulmyeong chayongbo (律名借用譜), Gongcheok chayongbo (工尺借用譜), Sigu chayongbo (詩句借用譜)
Notation of time value (時價記譜法)	(1) Jeongganbo (借用譜)	*Sejong sillok akbo* (世宗實錄樂譜), *Sejo sillok akbo* (世祖實錄樂譜), *Daeseong akbo* (大樂後譜), *Siyong hyangakbo* (時用鄕樂譜), *Sogak wonbo* (俗樂源譜), etc.
	(2) Daegangbo (大綱譜)	*Sejo sillok akbo* (世祖實錄樂譜), *Yangguem sinbo* (梁琴新譜)

Notation of time value (時價記譜法)	(3) Gangyeokbo (間隔譜)	Aakbo (雅樂譜) of *Sejong sillok akbo* (世宗實錄樂譜), *Sinje aakbo* (新制雅樂譜) of *Sejo sillok akbo* (世祖實錄樂譜), etc.
	(4) Jeom (點)	Yanggeumbo of *Yuyeji* (遊藝志) and *Guna cheol geumJabo* (歐邏鐵絲琴字譜), etc.
	(5) Samjo Jangdanjo (三條長短)	Yanggeumbo of *Ilsa geumbo* (一蓑琴譜) and Hyeongeumbo of *Hiyu* (羲遺)
	(6) Jangdanbo (長短譜)	*Ageum gobo* (峨琴古譜), *Hyangyul yulbo* (嚮律譜), etc.
	(7) Munjabo (文字譜)	*Hyeon-geum dongmun yugi* (玄琴東文類記), sobo (簫譜) of *Baeguneom geumbo* (白雲庵琴譜), etc.
Notation of playing styles (奏法記譜法)	(1) Hapjabo (合字譜)	*Geum hapjabo* (琴合字譜), *Jolong Gayageumbo* (拙翁伽倻琴譜), etc.
	(2) Sutjabo (數字譜)	Saengbo (笙譜) of *Yuyeji* (遊藝志) Shaengbo (笙譜), sobo (簫譜) of *Baeguneom geumbo* (白雲庵琴譜), *Hwigeum gagokbo* (徽琴歌曲譜) and Hwigeumbo (徽琴譜) of *Chilhyeon geumbo* (七絃琴譜), etc.
	(3) Yukbo (肉譜)	*Geum hapjabo* (琴合字譜), *Yanggeum sinbo* (梁琴新譜), *Yuyeji* (遊藝志), *Samjuk geumbo* (三竹琴譜), etc.
	(4) Munjabo (文字譜)	*Baksunobo* (朴壽老譜) of *Hyeongeum dongmun yugi* (玄琴東文類記), etc.
	(5) Dobo (圖譜)	Janggobo (長鼓譜), Yeoneumpyo (連音標). etc.
Notation of melodies (旋律記譜法)	*Hakpo guembo* (學圃琴譜), *Ohisang geumbo* (吳熹常琴譜), etc.	

Many Chinese scholars have also suggested criteria for classification and I have examined those by Xue Zong Ming (薛宗明) and Chen Ying Shi (陳應時).[41]

In *The History of Chinese Music* (*Chapter of Notations*) (中國音樂史(樂譜篇)), Xue Zong Ming categorized Chinese musical notations into Subeopbo (手法譜), Eumgyebo (音階譜), Subeop Eumgye honhapbo (手法音階混合譜), Seondobo (線圖譜), Chongbo (總譜) and Ipjeon akbo (入傳樂譜). Sebeopbo includes Gobo (鼓譜), Gopanbo (鼓板譜), Nagobo (鑼鼓譜), Geumbo, and Seulbo, while Eumgyebo includes Yulyeobo, Gungsangbo, Gobipabo (古琵琶譜), Sokjabo, Gongcheokbo, Hunbo, and Cheonganbo. Subeop emgye honhapbo, emgye honhapbo, combined with the hand techniques and the musical notes, includes Saengbo, Sobo (簫譜), *Hwachupyeong Bipabo* (華秋萍琵琶譜), Namgwanbo (南

管譜), *Joak Isabo* (潮樂二四譜), and Yanggeumbo (揚琴譜), while Seondobo includes Banggyeokbo. Chonbo includes *Daehapakgubyeon Chongdo* (大合樂九變總圖) in *San Cai Tu Hui* (三才圖會) and *Hwijipbo* (彙集譜) in *Xian Suo Beikao* (絃索備考). Ipjeon Akbo is said to include other notations from foreign countries.

In his thesis "Chinese Ancient Musical Notations and Their Classification" (中國的古譜及其分類法), Chen Ying Shi (陳應時) classified Chinese notations into figure notations (圖形譜), letter notations (文字譜), and figure and letter combination notations (文字圖形混合譜). What is interesting here is that he set Gwansaekbojok within the figure and letter combination notations, classifying notations into Gongcheokbo, Banggyeokbo, Nameumbo, Sokjabo, and Seoan Goakbo. Here Sokjabo and Gongcheokbo are related to the color of the the wind instruments.

In the most recently published *The Study of Chinese Traditional Musical Notations* (中國傳統音樂樂譜學) by Wang Yao Hua (王耀華) and others, Chinese ancient notations are classified as in the table below.[42] In this classification, they are first divided into two categories of documentary notations (記譜法) and non-documentary notations (非書面記譜法). The documentary notations are then classified into figure notations (圖形譜), number notations (數字譜), and letter notations (文字譜). The letter notations are further divided into those notating the direction of the tone (音位譜) and those notating the playing styles (奏法譜).

The figure notations are notations in which the pitches are displayed by meaningful figures, while the number notations use numbers in Chinese characters or Arabic numerals to record the positions of the strings and pitches, and other marks to record the rhythm, tempo, dynamics, and feeling. The letter notations record the directions of the tones and the order of the strings with Chinese characters and simplified Chinese characters, and the rhythm, feelings, and playing and singing styles with other figures. In the letter notations, the directions of the tones are recorded in either absolute pitch or relative pitch with musical symbolic letters, while the playing styles are recorded with letters or musical symbolic letters.

Table 2. The Categorization of Chinese Musical Notations

(中國傳統音樂樂譜學 is referred to.)

Non-documentary Notations (非書面記譜法)	苗族結帶譜, 盲人扣子譜, etc.[43]			
Documentary Notations (書面記譜法)	Figure Notations (圖形譜)	玉音法事, 曲線譜, 高腔的圈腔譜式[44], 央移譜[45], 侗族蘆笙譜[46], 鞞鼓譜, 鼓板譜, 轉翎梁, 節樂鼓譜, 古琴紋譜[47], and those staff notations introduced to China since modern times. 唐傳日本之十三絃箏譜,[48] 潮州音樂二四譜[49] and those notations using Arabic numerals introduced to China since modern times.		
	Number Notations (數字譜)	Notation of the direction of the tone (音位譜)	Yulyeojabo type (律呂字譜類別)	風雅十二詩譜, 瑟譜, 棠湖塤譜 , etc.
	Letter Notations (文字譜)	Notation of the direction of the tone (音位譜)	Gongcheokb type (工尺譜類別)	白石道人歌曲, 曲譜, 西安古樂譜, 北京智化寺京音樂譜, 晉北笙管樂字譜, 崑曲工尺譜, 湖南折字譜, 魏氏樂譜, etc.
		Notation of playing styles (奏法譜)	Fixed pitch scores (固定音高譜式)	古琴 文字譜, 減字譜, 福建南音樂譜
		Notation of playing styles (奏法譜)	Non-fixed pitch scores (無固定音高譜式)	敦煌曲譜, 唐傳日本琵琶譜[50], 天干譜
		Notation of playing styles (奏法譜)	Phonotype scores (狀聲字譜式)	鑼鼓譜 from various regions..

As examined so far, there is also a difference in classifying the musical notations between Korea and China. Since neither classification is clear, I hope the notations will be arranged more specifically by referring to the categorizing systems of each other.

Conclusions

Korea and China have homogeneity and heterogeneity in their musical cultures including their musical notations. The two cultures have exchanged their musical cultures through a long history and this has left traces of an exchange of ancient musical notations. In this chapter, I have mainly examined the relationship between Chinese and Korean musical notations and the condusions are is as follows:

First of all, Yulyeobo, Gungsangbo, and Gongcheokbo of China were introduced to and used in Korea along with its formation and development in China. Of these, Gongcheokbo was hardly used in the Korean royal court, whereas it actively changed and developed in China.

Chinese Gamjabo was accepted in Korea in the 15th century. The emergence of Hapjabo, based on the constitution of Gamjabo, played a significant role in recording the music of the Geomun-go. It resulted in the production and transmission of many Geomun-go scores. Being a unique notation of Korea, Jeongganbo was revealed to have existed in the form of Banggyeokbo in China. However, the Banggyeokbo by Yu Zai of the Yuan Dynasty had a very distinctive system from that of Jeonganbo, and *Wissiakbo* published in Japan was also found to have been published later than the time when Jeongganbo was formed. Therefore, it is necessary to conduct an in-depth study about the influence of Jeongganbo on China and Japan hereafter.

Notation in Korean Yukbo style had existed in China, but it was mostly found in percussion scores, not in scores for melodic instruments as in Korea. This fact suggests that the notation culture of Korea is very unique. In addition, I have also examined and compared Seonyulseonbo and Gokseonbo, percussion scores of Korea and China, and the scores for other instruments and have found the similarities and differences between the two countries.

Translated by Cindy O Shin

[1] Sue Zong Ming (薛宗明), *中國音樂史*(*樂譜篇*) (Taipei: 臺灣商務印書館, 1983), 2nd edition. This book is highly significant in the study of ancient musical notations and influenced relevant works later. The excerpts from the preface of the book were selectively transcribed in this paper.

[2] Sheng Quzhe is sometimes interpreted as a curvilinear notation like Yuyin Fashi(玉音法事) but it is hard to prove that it can indeed be interpreted so.

[3] Munjabo is a notation of letters explaining the playing styles of the stringed instruments of China. Using the letters, the playing styles and techniques of the stringed instruments and measure dividing method were recorded. The oldest piece recorded in Munjabo, *You Lan* (*幽蘭*) was introduced by Qiu Ming (丘明, 494-590), a musician in the Southern and Northern Dynasties.

[4] Sang (相) is the same as *gwae* (*frets*) of Geomun-go.

[5] Yeonak Banjabo means a half-letter notation used in *Yeonak* (*Yanyue*), that is, a score using a half Chinese character. It is said to have two kinds, Xiansuopu (絃索譜) and Guansepu (管色譜). The former indicates scores like *Dunhuang pipapu* while the latter indicates one transformed from fingering marks for wind instruments which is so-called *Suzipu* (*俗子譜*). 杜亞雄, *中國傳統樂理教程* (上海: 上海音樂出版社, 2004), p. 181-185.

[6] Quoted from 陳應時, 敦煌樂譜解 譯 辨嶝 證 (上海: 上海音樂學院出版社, 2005), p. 6.

[7] In reference to the introduction of Dang-ak, Song Bang-song, *Hanguk Eumak Tongsa* (Seoul: Iljogak. 1984); "The Musicological Review of Dang-ak of Goryeo" *Hanguk Eumaksa Tonggo* (韓國音樂史論考) (Gyeongsang: Yeungnam University Press. 1995) is referred to.

[8] *The History of Three States* (三國史記) vol. 6. 遣星川丘日等二十人 於府城 學唐樂.

[9] Lee Jin-weon, Refer to the analysis of the 7 tones of Daegeum, "Daegeum Mije Shinhae (大笒謎題新解)", *Korean Organology* (Seoul: Hanguk Tungso Research Society. 2005). vol. 3. p. 74-105.

[10] *The Annals of King Taejong* (太宗實錄) vol, 22, 前朝光王遣使請唐樂器及工, 其子孫世守其業, 至忠烈王朝, 金呂英掌之, 忠肅王朝, 其孫得雨掌之。又按宋樂書, 元豊年間, 高麗求樂工而教之。然則吾東方之樂, 實出中國也。

[11] *The History of Goryeo* (高麗史) vol. 71 ji-25 ak-2 *Yong Sogakjeoldo* (用俗樂節度). 文宗二十七年二 月乙亥教坊奏: "女弟子眞卿等十三人所傳踏沙行歌舞請用於燃燈會." 制從之. 十一月辛亥設八關會御神鳳樓觀樂教坊女弟子楚英奏: "新傳拋毬樂九張機別伎拋毬樂弟子十三人九張機弟子十人." 三十一年二月乙未燃燈御重光殿觀樂教坊女弟子楚英奏: "王母隊歌舞一隊五十五人舞成四字或君王萬歲或天下太平."

[12] I Do (李燾), *Sok Jachitonggam Jangpyeon* (續資治通鑑長編) vol. 261. 神宗・熙寧八年 (高麗・文宗二十九年, 1075) 三月, 江淮發運司羅拯言: 泉州商人傅旋持高麗禮賓省帖, 乞借樂藝等人。

[13] Park Eun-ok, "The Introduction Channels of Tang Music in Korea". *Hanguk Eumak Yeongu* (Seoul: Korean Musicological Society. 2008), vol. 43. p. 117-140.

[14] Park Eun-ok has ascertained that this music is very likely to be Sa-ak (詞樂).

[15] This can be verified in *The History of Three States* vol.70, "曲譜一十册黃綾裝褾紫羅夾帊全" of ji-24, ak-1 Aak-Song Singwan Akgi (雅樂-宋新賜樂器: Newly presented instruments by Song).

[16] Theses by Li Mei (李玫), Fang Jien Jun (方建軍), 大學歷史學系・中央音樂學院音樂學研究所, 2010.

[17] Song Hye-jin, "The Lost *Cheonsubangmatan* (天水放馬灘秦簡) by Seong Hyeon" (Beijing: 中華書局, 2009). The process of producing Hapjabo is examined in, "Study on *Hyeongeum Hapjabo* (玄琴合字譜) " *Yonsei Eumak Yeongu* (Seoul: Yonsei Institute of Music Research, Yonsei University. 1997), vol. 5. p.145-167.

[18] *Heobaekdang Munjip* (虛白堂文集) vol. 7 *Hyeon-geum hapjabo seo* (玄琴合字譜序). 臣與典樂朴, 金福根等。依事林廣記, 大成樂譜等書。謹用前規。兼參己意。以指爪之法與絃之次第。合諸字而爲之譜。隨其攫而爲之聲。用其綱而爲之節。非獨琴也。如伽倻琴, 鄕唐琵琶凡有絃者。皆可類推而譜之。書成。名曰合字譜。

[19] The fingerings are listed with the ones for playing inwards first, and those for playing outwards second. For example, byeok of the thumb is to play inwards whereas tak is to play outwards.

[20] The letters used in the score.

[21] Quoted from 中國古代音樂史料輯要 (北京: 中華書局, 1962), vol.1, p, 715.

[22] For further explanation, please refer to *Hanguk Eumakhak Jaryo Chongseo* (韓國音樂學資料叢書): 二十 世宗莊憲大王實錄樂譜 世祖惠莊大王實錄樂譜 (Seoul: The National Guagak Center), 1989.

[23] From this fact, some Chinese musicologists claim that Jeongganbo of Korea was formed under the influence of Chinese notation.

[24] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (Taipei: 臺灣商務印書館, 1983), 2nd edition, p. 100-101. He categorizes this notation as Yulyeobo. In his book *中國傳統樂理教程* (Shanghai: 上海音樂出版社, 2004) p. 186, Du Ya Xiong (杜亞雄) he categorizes this notation as Yulyeobo and then explains Bangyeokbo.

[25] Wang Yao Hua (王耀華 等), 中國傳統音樂樂譜學 (福州: 福建教育出版社, 2006), p. 585-593.

[26] Earlier, Lee Hye-ku posed a scientific question about the origin of Jeongganbo in "Old Notations of Korea," *Hanguk Gongyeonyesul Nonmun Seonjip* (Seoul: School of Korean Traditional Arts, The Korean National University of Arts. 2002), vol. 6, p. 776. That is, he presumed that *Wei Shi Yuepu* (1768) and *Yeongseongsomubo* (16th century) are Jeongganbo, considering whether Jeonganbo existed previously and whether it was accepted in Sejong's reign. To this end, Jeongganbo should be considered a notation created in Korea, as it was published the earliest of all similar notations and is different from the form of 8 cells per line of *Wei Shi Yuepu*

[27] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (臺北: 臺灣商務印書館, 1983), 2nd edition, p. 445

[28] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (臺北: 臺灣商務印書館, 1983), 2nd edition, p. 242

[29] Gang Yeong-ae, "Interpretation and Explanation of Hyeonbojeongseon (琴譜精選)" (Seoul: Master's thesis, Hanyang University, 1985).

[30] Kwon Oh-sung, "Examination of the Abbreviations in Gongcheokbo", *Hanguk Eumak Yeongu* (Seoul: The Korean Musicological Society. 2004), vol. 36, p. 31-43.

[31] A Suite of similar tunes of Song music

[32] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (筵北: 臺灣商務印書館, 1983), 2nd edition, p.7, p. 33.

[33] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (臺北: 臺灣商務印書館, 1983), 2 edition, figure from p. 447.

[34] “圓者鼓也，点者腔也，叉者邊也，相連者急也，稀者緩也，反者板也”。

[35] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) 臺北: 臺灣商務印書館, 1983), 2nd edition, figures from p. 163, 409.

[36] Lee Jin-weon, “Decoding Pyeongjo Gyemyeonjo of So (簫) in *Baegunam geumbo* (白雲庵琴譜)” (Seoul: Master’s thesis, Seoul National University, 1997).

[37] Xue Zong Ming (薛宗明), 中國音樂史(樂譜篇) (臺北: 臺灣商務印書館, 1983), 2nd edition, figures from p. 163, 413.

[38] Lee Hye-ku (李惠求), “Old Musical Notations of Korea”, *Hanguk Gongyeonyesul Yeongunonmun Seonjip* (Seoul: The School of Korean Traditional Arts, The Korean National University of Arts, 2002), vol. 6, p. 757-781.

[39] Kim Young-woon, “Ancient Musical Notations of Korea,” *Munhwayesul* (Seoul: The Korean Culture & Arts Foundation, 1987), Issue March-April, vol. 110, p. 92-120.

[40] For details, please refer to *Hanguk Eumakhak Jaryochongseo* (The National Gugak Center).

[41] The categorization by Xue Zong Ming and Chen Ying Shi was re-quoted from Wang Yao Hua (王耀華等), 中國傳統音樂樂譜學 (福州: 福建教育出版社, 2006), p. 24-25.

[42] 王耀華 等, 中國傳統音樂樂譜學 (福州: 福建教育出版社, 2006), p. 25.

[43] The score used by Miaozu, Miaozu Jiedaipu (苗族結帶譜) displays the pitches with knots of colored strings representing 6 pitches placed on a long band called Huabian Dai (花邊帶). Mangren Kouzi Pu (盲人扣子譜), the score used by the blind, indicates the pitches by arranging and fixing 3-4 buttons onto a black cloth..

[44] As a Quan Qiang Pu Shi (圈腔譜式) used in one of the Chinese plays Gao Quiang (高腔), it displays the pitches using a triangle shape with a tadpole tail.

[45] It indicates Xizang Gokseonbo (西藏曲線譜).

[46] This score directs the harmony of Losaeng with 10 unique marks, sometimes using one mark, and other times using several marks.

[47] Wen (紋) in 古琴紋譜 means the lines of the palm. It is a score that encoded the change of the lines of the Gogeum players’ palms so that others can imitate when learning.

[48] In this score the 13 strings are named by using the numbers from one to ten and the three letters du (斗), wi (爲), and geon (巾). The pitches of the 13 strings change when tuned.

[49] It is a score which recorded the pitches using numbers from two (二) to eight (八).

[50] Also found in Japan, there are *Cheonpyeong Bipabo* (天平琵琶譜) first copied in 747, and *Ohyeon Bipabo* (五絃琵琶譜) presumed to be from the 9th century .