

Traditional Korean Instruments:

A Practical Guide for
Composers

Traditional Korean Instruments: A Practical Guide for Composers

Author Kim Hee-sun, Kim Hae-sook, Kim Joon-young,
Kim Jeong-seung, Park Chi-wan, Kim Sung-ah,
Kim Sang-hun, Kea Sung-won,
Donald Reid Womack

Published on December 19, 2018

Publisher Lim Jae-won
Executive Editor Kim Hee-sun
Editor Kim Myung-suk, Seo Jeong-ho
English Editor Anthony Rauche
Photographer Cho Mun-sung
Videographer Shin Jung-chul
Printed by Seon-myeong Printing, Inc.

The National Gugak Center

2364, Nambusunhwan-ro, Seocho-gu, Seoul, Rep. of Korea
Tel. +82.2.580.3382 www.gugak.go.kr

© **National Gugak Center, 2018**

ISBN 9791189132286 13670

National Archives of Korea Registration Number 11-1371034-000113-01

NOT FOR SALE

Any content in this book may not be replicated without authorization.

Some content in this book may be different from the opinion of the National Gugak Center.

이 도서의 국립중앙도서관 출판예정도서목록(CIP)은 서지정보유통지원시스템 홈페이지(<http://seoji.nl.go.kr>)와
국가자료종합목록시스템(<http://www.nl.go.kr/kolisnet>)에서 이용하실 수 있습니다. (CIP제어번호: CIP2018042821)



Traditional Korean Instruments:

A Practical Guide for Composers

Gayageum Geomungo Daegeum Piri Haegeum Ajaeng



국립국악원
National Gugak Center

Text Information

1. A music piece is indicated by "title."
2. Alphabetical notation of pitch is followed by the "Scientific Pitch Notation" for easy identification, a method of using a number to identify a pitch and its particular octave. It is also called the American Standard Pitch Notation or International Pitch Notation.



3. Korean words, including instruments and genres, are transliterated following the Revised Romanization of Korean distributed by the Korean government.
4. Related videos and sound recordings discussed in the text are available at the website of the National Gugak Center (http://www.gugak.go.kr/site/compose_eng), accessed by PC and mobile.

Preface

In the history of *gugak*, *changjak gugak*—newly composed traditional music compositions—is a new performance field that appeared in the 1960s and continues to the present day. In *gugak*, “creative succession” is as important as “preservation” of the tradition. Thus it is important and necessary to create new compositions of good quality, but it is also true that it is not easy for all composers to approach Korean instruments. Fortunately, there are more and more composers with diverse backgrounds who are interested in *gugak*, and *gugak* musicians have an increasing participation on the world music stages.

The National Gugak Center has been developing various projects for the activation of *changjak gugak*. We have been organizing and presenting a list of *changjak gugak* since 1941. In 2004, we established the Contemporary Gugak Orchestra to consolidate the position of creative *gugak*. In addition, we have held the Academy of *Gugak* Composition for popular music composers and *gugak* musicians. The world's leading composers have been attending the International Gugak Workshop for the globalization of *gugak* and have begun to establish an active network within the *gugak* circle. As a result, last year the Contemporary Gugak Orchestra of the National Gugak Center was invited to present their three-year collaborations with American composers of contemporary music at the “Pan-Pacific Music Festival.” Throughout this process, we have realized the need for publications like this book and our long-standing concerns have generated this project.

I hope that this book will generate more interest in *gugak* among domestic and foreign composers, and expand the horizon and range of *gugak* throughout the world.

December 19, 2018

Lim Jae-won Director-General of the National Gugak Center

Contents	Text Information	4
	Preface	5
	Chapter 1 Introduction to <i>Gugak</i> Kim Hee-sun	9
	I . Introduction	10
	II . Context of Newly Composed Korean Traditional Music	11
	III . Category of <i>Gugak</i>	12
	IV . Musical Instruments	13
	V . Aesthetics and Means of Sound Embodiment	16
	Chapter 2 <i>Gayageum</i> Kim Hae-sook	23
	I . <i>Gayageum</i> Types and Use	24
	II . Basic Tuning of the <i>Gayageum</i>	29
	III . Tuning Changes and Melodic Structure	32
	IV . <i>Gayageum</i> Notation and Pitches	35
	V . <i>Gayageum</i> Fingering	36
	VI . Use in Practical Music	43
	VII . Instrumental Characteristics of the <i>Gayageum</i>	80
	Chapter 3 <i>Geomungo</i> Kim Joon-young	83
	I . Introduction; <i>Geomungo</i> - Crossing Point of Musical Desire and Realization	84
	II . Structure and Basic Technique of the <i>Geomungo</i>	84
	III . The Use of <i>Geomungo</i> 1: The Roles and Functional Application of Open Strings - Ornamentation and Tonal Distinction	91
	IV . The Use of <i>Geomungo</i> 2: The Fingering and Tension in Finger - Use Strings - Bringing Liveliness	112
	V . The Use of <i>Geomungo</i> 3: Expansion in Plucking Strings - For Making Diverse Tones	125
	VI . Question – Desire and Challenge Toward Composition	135
	VII . Outro – An Opening between Desire and Realization	138
	Chapter 4 <i>Daegeum</i> Kim Jeong-seung	141
	I . Material Quality and Structure of <i>Daegeum</i>	142
	II . Types and Pitch Register of <i>Daegeum</i>	143



III . Traditional Way of Playing and Music Notation 149

IV . Modern Playing and Notation Methods 168

Appendix 1. *Daegeum's* Harmonics and Multiphonics 179

Appendix 2. Table of Trills and Tremolos Used for Performance and Compositions 202



Chapter 5 *Piri* | Park Chi-wan 211

I . Fundamental Structure of *Piri* 212

II . Types of *Piri* 212

III . Embouchure of *Piri* 217

IV . Fingering and Range of *Piri* 218

V . Performing Method of *Piri* 223



Chapter 6 *Haegeum* | Kim Sung-ah 237

I . Introduction to *Haegeum* 238

II . Understanding the Basics of *Haegeum* 242

III . Playing Techniques of the *Haegeum* 248



Chapter 7 *Ajaeng* | Kim Sang-hun 267

I . Types of *Ajaeng* 268

II . Performance Method and Notation of *Ajaeng* 275

III . Consideration of the Unique Characteristics of *Ajaeng* 292

Thoughts on Composing Korean Music 297

Notes on Composing for Traditional Korean Instruments | Kea Sung-won 299

Thoughts on Korean Instruments, from a Western Composer's Perspective 302

| Donald Reid Womack

Korean Musical Instruments 309

List of Scores & Videos 321

Contributors 334

Musicians in the Video Files & Photos 335

Chapter 1

Introduction to *Gugak*

Kim Hee-sun

I. Introduction	10
II. Context of Newly Composed Korean Traditional Music	11
III. Category of <i>Gugak</i>	12
IV. Musical Instruments	13
V. Aesthetics and Means of Sound Embodiment	16

I . Introduction

Gugak is the Korean term to indicate traditional music. Usually it is known that the very first modern composed piece in traditional music was written around 1940 and now newly-composed *gugak* has almost reached 80 years. After a group of early *gugak* composers emerged during 1960s, the arena of creative composition has expanded – from the *gugak* orchestra in contemporary style to *sin-gugak* (lit. new *gugak*), to *gugak-gayo* (*gugak* in a popular music style) and *gugak dong-yo* (*gugak* children songs), and to *gugak sillaek* (*gugak* ensemble) and fusion *gugak*. These are now all called *changjak gugak*, newly-composed Korean traditional music. In addition, composers of “Western” music as well as musicians abroad have been producing new compositions in which they use various features (or the “musical grammar”) and instruments of Korean traditional music. Composition has played a key role in the expansion of the *gugak* scene. However, access to *gugak* for composers who work outside of *gugak* has not been easy, and the National Gugak Center has been concerned about the ways in which those who wish to employ traditional instruments in their composition find the information they need. Thus, since 2010 the Center has held the International Workshop and encouraged more composers to participate, especially after 2014. In addition, the Center held the Academy for Gugak Composition for composers in the pop music industry (2015) and *gugak* artists (2016). In October 2017, the Contemporary Gugak Orchestra of the Center participated in the Pacific Rim Music Festival in California and premiered several works by contemporary composers from the United States, reflecting the expansion of the international contemporary composition network. In addition, since 1996, the Center has archived a list of newly composed *gugak*, currently listing *changjak gugak* pieces from 1941 to 2016 (<https://www.gugak.go.kr/site/program/board/basicboard/list?boardtypeid=22&menuid=001003002004>), with updated information constantly being added. This volume is part of the National Gugak Center’s long involvement with *changjak gugak*.

There are previous publications on this topic including *Understanding of Traditional Musical Instruments for Composition and Arrangement* [*Jakgok · pyeonggogeul wihan gugakki ihae*] (Bak Beom-hun, 1992) and *Introduction to Gugak Composition* [*Gugak Jakgok ipmun*] (Jeon In-pyeong, 1997). However, these were published 20 or more years ago and now is the time to reflect on the changes in *gugak* since they appeared. There are also some textbooks aimed at understanding traditional instruments, with the purpose of composition, which documents the public need for information about *changjak gugak*. Other books on Korean musical instruments for composers, written in both Korean and English, have published including *Contemporary Gayageum Notations for Composers* (Yi Ji-young, Kim Hee-sun, 2011), *Korean Haegeum: A Practical Guide* (Yoo Chung-yeon, Kim Hee-sun, 2011), *Modern Geomungo for Composers: Introduction and Application* (Kim Joon-young, Chang Yoon-hee, 2016), and *Advanced Techniques of Piri* (Gamin, Ha Ju-young, 2016). Other major English publication on *Korean Traditional Music is Korean Musical Instruments-A Practical Guide* (Keith Howard, 1988, 2015), not to focus on composition though. All of these were helpful in the process of planning and writing of this book. However, these previous publications did not cover some instruments, and also they focused on selected instruments. This book will cover representative melodic instruments in *gugak*, and try to systemically introduce related works previously composed.

The writers who would cover *gayageum*, *geomungo* (pronounced "geonun-go"), *daegeum*, *piri*, *haegeum* and *ajaeng* were chosen in 2017. Based on our discussions, we decided to focus on the structure, features,

pitch, ways of tuning, and usage of instruments in this book in order to help understand the “grammar” of *gugak* as well as of how to use these instruments creatively. There is a focus on the introduction of “traditional” music style rather than a “how to” for contemporary-style composition. Performers were chosen as writers because we thought that their experience of performing traditional and contemporary *gugak* would give practical advice to composers. Also we included comments from composers from a different cultural background who has been working with *gugak* instruments in order to make this book a guide for composition based on *gugak* rather than simply an introduction of the instruments. However, there are several attitudes and methods of composition in *changjak gugak*. Thus, it would be inappropriate to introduce a single way of composition. Rather, the composer has written about issues, concerns and advice related to the process of composition with *gugak* instruments from the compositional perspective rather than “how to compose *gugak* pieces.”

This book begins with a brief introduction covering the context of newly composed Korean traditional music, the categories of *gugak*, musical instruments, aesthetics of *gugak*, and the means of sound embodiment in *gugak*. The chapters on each instrument include photographs and scores for better understanding, and video clips related to the scores are given to help readers understand performance practice and the sound of a respective instrument. The last two chapters are essays from composers, one Korean and one a non-Korean, on the topic of *gugak* composition.

II . Context of Newly Composed Korean Traditional Music

There are several types of music produced in traditional society: collective creation; creation through transmission; personalization of transmission-process; derivation through variation; melody-borrowing from other genres; improvisation; etc. All of these, related with the expressions such as “melody weaved,” or “pieces constructed,” differ from the concept of “composition” in “the West.” Basically, these were the processes of music creation through playing variations within the grammar and features of a given genre, rather than new pieces written in a score before being played. In the contexts in which western music was introduced and *gugak* became institutionalized, the notion of *gugak* composition emerged, embracing the concept and methodology of Western compositional practice. There may be some tension between the concepts of *gugak* composition and traditional music, but they are not incompatible nor in opposition to one another.

It can be said that the first contemporary *gugak* composition was Kim Ki-su (1917-1986)’s pieces for orchestra. With his early compositions like "*Se U Yeong* (細雨影)"(1941), he continued to compose a number of pieces for solo, orchestra, and dance accompaniment during the 1950s. His early pieces employed a Western-style score but were based on *gugak*'s melodic and rhythmic structures. Needing a new focus for *gugak*, Seoul National University made a new *gugak* composition sub-major in the *Gugak* Department within the College of Music in 1959. The National Gugak Center started the competition of “*sin gugak*” in 1962. These paths allowed several *gugak* composers to emerge in the 1960s. In 1965, the Seoul Municipal Gugak Orchestra(*Seoul sirip gugak gwanhyeonakdan*), was founded. The emergence of *gugak* orchestras, contemporary-style performance groups with composers and performers who studied in universities, yielded a new environment for *gugak* compositions and became a viable way to expand the *gugak* repertoires, producing various *changjak gugak* pieces including orchestral, solos, duets, ensemble and concerto with

gugak orchestra and more. In the 1970s, the Award for Composers of Korea (*Daehanminguk jakgoksang*), initiated an award for *gugak* composition. In the 1980s, ten *gugak* orchestras, including KBS Gugak Orchestra (1985) as well as nine *gugak* departments in universities, were established. Six more *gugak* departments and six *gugak* orchestras were founded during the 1990s. After the turn of the 21st century, four new *gugak* departments were established.

The increase in the number of *changjak gugak* pieces was due to the expanse of *gugak* within the public sphere and *gugak* orchestras fueled the modification of traditional instruments. Many of the modified *gugak* instruments that are used actively emerged during the 1980s, and composers and performers participated in this modification process.

More musicians became interested as the realm of *gugak* composition expanded and Korean instruments and *gugak* in general were used more and more within Western classical, pop, and contemporary music. New pieces for *gugak* instruments were produced through many festivals and theaters, and composers and performers were invited to participate. In sum, *changjak gugak* has been expanding from the “typical” kind of *changjak gugak* based on *gugak* “grammar,” to a new *gugak*—fusion *gugak*, avant-garde, contemporary, world music, jazz, digital music, etc., and in recent years performers’ creative energies have also been increasing.

III. Category of *Gugak*

Gugak is mainly divided into several categories: court music, *pungnyu* (lit. wind and flow, music of the literati) music, folk-art music, folk music, religious music, and newly-composed music. Court music includes music for court events and ceremonies, banquets and marches (*jeryeak*, *yeonhyangak*, *haengak*). *Jul-pungnyu* (string ensemble music) and *gagok* (classical long lyric song cycles) are part of *pungnyu* music. Folk music includes *minyo* (folk songs) and *pungmul* or *nongak* (farmers’ band music), whereas *pansori* (narrative singing), *sanjo* (solo instrumental music), *sinawi* (improvisational ensemble music), *jappa* (professional folk songs) are categorized as part of folk-art music. Religious music is divided into shamanic and Buddhist music. In general, court music and *pungnyu* music are called *jeongak* (lit. proper music), whereas folk music and folk-art music are categorized *minsogak* (folk music). In this section, features of *jeongak* and *minsogak*, specifically focusing on *sanjo*, will be introduced. *Jeongak* and *minsogak* differ by aesthetics as well as musical characteristics due to the difference in the socio-cultural contexts in which these genres existed in Joseon Dynasty (1392-1910).

The repertoires of *jeongak* currently performed are *jeryeak*, court ritual music (*Jongmyo jeryeak*, Royal Ancestral Ritual Music, *Munmyo jeryeak*, Confucian Ritual Music), ceremonial music (*Sujecheon*, *Jajinhanip*, *Daechwita*, *Nakyangchun*, *Boheoja*, *Yeomillak Man*, *Yeomillak Ryeong*, *Haeryeong*), and *pungnyu* music, which was enjoyed by *yangban* aristocrats or *seonbi*, intellectual literati (*Yeongsanhoesang*, *Pyeongjohoesang*, *Gwanak Yeongsanhoesang*, *Boheosa*, *Dodeuri*, *Cheonnyeonmanse*, *Gajeunhoesang*, *Yeomillak*, *Chwita*, *Gilguak*, instrumental accompaniment for *gagok*). *Jeongak* literally means “proper music,” which is related to notions of Confucian practice. This concept of *jeongak* is also a name of a “meta-genre,” that refers to a bundle of transmitted repertoires through Music Bureau in the Office of

Royal Yi Family, *Yi Wangjik Aakbu* and its educational institute during the Japanese colonial period. Court music included musical genres for performance of banquets but mostly for official rituals. These genres were constructed based on *ye-ak* (etiquette and music) philosophy of Confucianism in the Joseon Dynasty. *Pungnyu* music was of *seonbi*, the intellectual literati who practiced the ideals of Confucian ethics. In this sense, aesthetic features of *jeongak* music differ from of art music or folk music. The major features are slowness rather than speed, moderation rather than overly decorated, solemnity rather than joyfulness, as well as peacefulness and gracefulness.

Sanjo, instrumental music in *minsogak* category, is a solo performance influenced by the features of *pansori* and *gut*, shaman music. This expresses well the aesthetics of folk-art music and the artistic characteristics of specific instruments. *Minsogak* is the musical expression of various kinds of human emotions. *Sanjo*, in particular, focuses on displaying artistic techniques. *Sanjo* attracts listeners by constructing speed and slowness in a piece or by elaborately arranging nuanced notes; joyfulness and colorfulness are pursued. *Sanjo* begins with the slowest rhythmic cycle of *jinyangjo* and gradually uses faster rhythms of *jungmori*, *jungjungmori*, *jajinmori* and *hwimori*. Various scales are employed in a single piece, and the respective sections in *sanjo* use the name of the *jangdan* (rhythmic cycle or structure) used in that section. The length can be controlled flexibly, but a full-length performance (called *gin sanjo* lit. long *sanjo*) covers around 40-60 minutes. This is “professional artists’ music,” because it requires a performer’s training over a long period of time. *Sanjo* may be improvised, but in contemporary performance the melodies and other elements are generally fixed.

Minyo, a singing folk music genre, has a crucial role in labor, entertainment, and ritual. *Minyo* can be divided into “*hyangto*, local” *minyo* and “*tongsok*, popular” *minyo*. Local *minyo* has relatively simple structures, and is transmitted through community members who are non-expert musicians. Therefore, in the contexts of industrialization and urbanization, many of these were lost except a few recorded examples. Popular *minyo* means folksongs that were chosen by professional singers and/or circulated in public. These songs have been systemically transmitted through education and performance during the process of modernization in the 20th century.

Minyo performances are conducted with a group of instrumental players called *danjaebi* (lit. one musician on each instrument). Instruments used generally include *daegeum*, *piri*, *haegeum*, *ajaeng*, *gayageum*, and *janggu*. Instruments generally follow the main melody that is sung, a performance style called *suseong garak*. In playing *minyo* accompaniment with instruments, musicians need to understand the musical features of *minsogak* including *sanjo*, *sinawi*, *pansori*, and *minyo* with improvisational components.

IV. Musical Instruments

The existence of instruments in Korea is evidenced by data from the prehistoric period. Drawings of percussion instruments like the *buk*, a barrel drum and *jing*, a hanging gong, parts of string instruments including the *geomungo*, a six string zither, and *gayageum*, a 12 string zither, and wind instruments including *piri*, made of animal bone, have been found. Many instruments outside of the Korean peninsula were also introduced due to cultural exchanges within the Eurasian continent. *Piri*, *janggu* and *haegeum*

were originally from Central Asia, and *aak* ritual instruments were from Chinese in origin. Of the six instruments which are the focus of this volume, *gayageum*, *geomungo* and *daegeum* are those that have existed from the ancient period, whereas *haegeum*, *ajaeng* and *piri* were imported in the long history of Korea. These musical instruments were used in the performance of rich genres of music in various contexts throughout history.

Often, a musical instrument was employed in different ways (in terms of shape, performance practice, etc.) in different genres. For example, three types of *piri* (*dangpiri*, *hyangpiri*, and *sepiri*) are used in different contexts. In the case of *gayageum*, *jeongak gayageum* and *sanjo gayageum* are different from each other in terms of size and design. Place and context also affect the way an instrument is used in performance. How one plays *janggu* depends on the location, either outdoor or indoor performance. When it is performed outdoors or for an orchestra, it plays loudly, playing the center of the drum head; but for indoor or small ensemble, it plays softly, playing the rim of the drum head.

Currently, the *jeongak* ensemble is comprised of *geomungo*, *gayageum*, *haegeum*, *ajaeng*, *yanggeum*, *piri*, *daegeum*, *sogeu*, *janggu*, *jwago*, *bak*, and *danso*. In ritualistic music, *pyeonjong*, *pyeongyeong*, *geum*, *seul*, *eo*, *chuk*, *teukjong*, *teuggyeong*, *jeolgo*, *hun*, *so*, *ji*, *jeok*, *yak*, *jingo*, *bu*, *nogo*, *nodo*, *banghyang*, *jeolgo*, and *taepyeongso* are employed. (See page 309) Court music has a grandeur orchestra, whereas *pungnyu* music is played with a small ensemble. The composition of the orchestra or ensemble depends on the main melodic instruments. In a wind-string orchestra, *hyangpiri* leads the melody, and *sogeu*, *daegeum*, *geomungo*, *gayageum*, *haegeum*, *ajaeng*, *janggu*, *jwago*, and *bak* (clapper) are employed. In the typical wind ensemble setting, *daegeum*, *haegeum*, *janggu*, *jwago* and two *hyangpiri* are used. This setting is called *daepungnyu* or *samhyeonjukgak*. In contrast, in the grandeur style court music orchestra, several of each musical instrument are employed and *sogeu*, *ajaeng* and *bak* are also included. Wind ensemble in which *dangpiri* leads also includes *dangjeok*, *daegeum*, *haegeum*, *janggu*, *banghyang*, *buk* and often *pyeonjong*, *pyeongyeong* and *jwago*. In *pungnyu* music in which *geomungo* leads, *geomungo*, *gayageum*, *haegeum*, *sepiri*, *daegeum*, *janggu* are used, however, often *yanggeum* and *danso* are added. This setting is called *julpungnyu* or *se-ak* ensemble. There are other types of instrumentation, such as *saengso byeongju* (*saenghwang*, mouth organ and *danso* duet, or *yanggeum* and *danso* duet), and *gayageum*, *geomungo* and *yanggeum* trio.

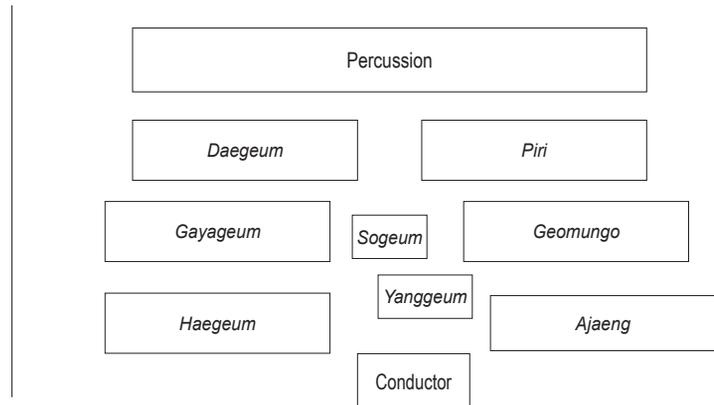
There are several types of performance formats in *minsogak* including *sinawi*, shaman ritual accompaniment, *minyo* accompaniment as well as solo performance for *sanjo*. *Sanjo* is performed by *gayageum*, *geomungo*, *haegeum*, *ajaeng*, *piri*, or *daegeum* with *janggu* or *buk* providing the rhythmic cycle accompaniment.

Sinawi and *minyo* accompaniment generally includes *daegeum*, *piri*, *haegeum*, *ajaeng*, *gayageum*, *geomungo*, *janggu* and *jing*. In the case of shaman ritual music, various kinds of percussion instruments are added depending on region, type, size, occasion and location of the ritual.

In *changjak gugak*, a composer can flexibly chose instruments for solo, ensemble or orchestra, or fusion with other Western, pop or ethnic musical instruments. Most often composers employ the six musical instruments which are the main subject of this volume and *taepyeongso*, *yanggeum*, *saenghwang*, *sogeu* are often used as the melodic instruments. In the case of the Gugak Orchestra, there are generally three parts—strings, winds, and percussion. Currently, the Contemporary Gugak Orchestra of the National Gugak Center, as shown in <Figure 1> below, includes *gayageum*, *geomungo*, *haegeum*, *ajaeng*, *daegeum*, *piri*, *sogeu*, *yanggeum*, and percussion.

<Figure 1>

Example of instrumentation and arrangement of the *gugak* orchestra



<Photo 1>

Contemporary Gugak Orchestra of the National Gugak Center



The emergence of the Gugak Orchestra and contemporary *gugak* required the modification of traditional instruments. Since the 1960s, the National Gugak Center and individual performers and composers have attempted experiments for modification. The purpose of the modification was mainly to increase the sound volume and to reshape the pitch to adjust to equal temperament. However, it was difficult to modify instruments and retaining their original timbres. Compared to China, Japan, and North Korea in which modification of musical instruments was a huge part in contemporary music, in South Korea there was a relatively conservative attitude toward the modification of traditional instruments.

In the case of *gayageum*, the number of strings was increased to cover an expanded octave range, and the resonance body became bigger to increase the sound volume. Also, the material for the strings was changed to polyester or synthetic strings and the tension of strings was also increased. Steel-*gayageum*, and *gayageum* with 13 and 15 strings emerged during the 1960s. In the 1980s, high- and low-ton *gayageum*,

electronic *gayageum*, and the 17-, 18-, and 21-string *gayageum* were introduced. New compositions for these modified instruments emerged and new ensemble groups with these new instruments called *Gayageum* trio or *Gayageum* quartet appeared. One of the most contemporary type of modified instruments is the 25 string *gayageum*. It has 7 pitches per octave and a total of 4 octaves. Most contemporary *gugak* orchestras uses this modified 25 string *gayageum* instead of the traditional 12 string instrument.

In the case of the *geomungo*, the structure of the instrument limited a wide range of experiments and modifications. There were attempts to increase the number of strings to cover a wider range. *Hwahyeongeum* and *hoehuihyeongeum* are the examples of the modified *geomungo* which added more strings and *gwae*, frets. There are also 9-, 11-, and 14-string *geomungo*. In addition, there were attempts of reshape the structure of instrument in order to increase volume and *yeoem* (resonance and reverberation). There are also electronic *geomungo* and restructured *geomungo* with new performance practice techniques.

Haegeum was also modified with the purpose of expansion in terms of volume, timbre and range. By changing the size of the body and the thickness of strings, the treble and bass *haegeum* were developed. The bass *haegeum* is actively embraced by several current *gugak* orchestras. The four-string *haegeum* and electronic *haegeum* have been introduced as well.

Like other instruments, the purpose of modification of *daegeum* was to play contemporary pieces. In the case of *daegeum*, size and the shape of the instrument remained while new finger holes as well as an auxiliary key were added to ease playing 12 semitones in contemporary music.

Modified *piri* focused on the expansion of range, and convenience in performance, especially playing high notes. The modified *daepiri* for playing lower notes was also developed. The “North Korean *Daepiri*” and *jangsaenap* (modified *taepyeongso*), developed in North Korea, are often used by few players in *gugak* orchestras in South Korea.

Whereas the main purpose of modification of other instruments are its use in *changjak gugak*, *ajaeng*'s modification was made to play various types of music including *jeongak* and *sanjo* and these modified *ajaeng* are most widely used. During the 1950s, *sanjo ajaeng* emerged. This was a variation of the traditional *jeongak ajaeng*. *Sanjo ajaeng* differs from the *jeongak ajaeng* in terms of shape, size and the number of strings. After the emergence of the *gugak* orchestra, *ajaeng* took the role of supporting the bass. In this context, the 9 string *ajaeng* (in contrast to the traditional *jeongak ajaeng* has seven strings) with two additional strings for lower notes emerged, and the 10- and 12-string *ajaeng* were introduced in this context.

V. Aesthetics and Means of Sound Embodiment

The aesthetic features of Korean traditional music are often explained with freedom and unhurriedness in the midst of rules and standards. Also silence and metaphor, beauty of melodic silhouette, emptiness, dynamic power and energetic vitality are the terms referring to its characteristics. While Western music is structured in a vertical concept centering on the harmonic structure, the melody in Korean traditional music is composed of tonal thickness, as shown in Oriental ink drawings and wash paintings. Each sound in this regard is a living tone which focuses and displays the vitality of the music. Therefore one side of music allows melody, and at the same time, the other side accepts the emptiness of music constructing musical

spaces which consequently allow the audience to appreciate timbre, thickness, and movement of the melody. This emptiness differentiates *gugak* with Western music in which several different pitches sound at the same time creating a harmonic structure.

The living tones also produce detailed sound and vivid tone colors as the musician manipulates them sliding down, gliding up, vibrating, shaking, and performance techniques. These technical changes provide artistic variety and musical charm for the audience.

In order to render these aesthetic features through musical sound, a variety of melodic construction as well as rhythmic combinations are used. This chapter briefly introduces the ways of rendering the values in Korean traditional music through examples of mode (*jo*), scale (*tori*), and rhythmic patterns (*jangdan*).

The term “*jo*” embraces multiple concepts and is used to explain different functions and ideas in musical theory, and so there is sometimes confusion in understanding the specific meaning. *Jo* can be explained using two concepts: key and mode. The term refers to the key as in “*pyeong-jo*” and “*u-jo*.” The former refers to the mode with a tonic as the lower pitch, while the latter refers to the mode with the tonic perfect fourth above the lowest pitch.

Mode implies the system that assembles several tones constituting a scale. The tones in a scale are related to one another, and each has a role or specific feature. Different systems or relationships among the tones are commonly associated with a regional or genre basis. The musical expression of this implicit engagement among the tones is one of the unique features of *gugak*, and thus, this concept of mode and scale is often called “*akjo*” distinguishing it from the previously explained concept of key.

More concepts of *jo*, such as *gyemyeonjo*, *pyeongjo*, *ujjo*, and *gyeongjo*, appear in *pansori* and *sanjo*, two representative artistic music genres of Korea. Moreover, orally transmitted terms, such as *gyeongdeureum*, *seolleongje*, *hogeoljo*, *chucheonmok*, and *seoreumjo* are used to instruct musical styles. As applied to music, these terms describe musical feeling and mood, for example, *seoreumjo* for a sorrowful melody, and *hogeoljo* for a heroic mood. *Gyemyeonjo* and *ujjo*, the mode and scale, are often used by musicians to refer to a specific mood in the music.

Regional folksongs effectively express the different musical styles and features in mode and scale. The musical system constituting the distinct melody of different regions is called “*tori*,” which can be compared to dialect in language. *Tori*, as a term meaning comprehensive ideas, uses a unique musical expression, such as vibrato, ornamentation, and melodic lines, to show its peculiarity as a systemic mode, not merely a scale. On a regional basis, the *tori* for each folksong group has a name: *gyeong tori* for central region folksongs, *yukjabaegi tori* for southern folksongs, *menari tori* for eastern folksongs, and *susimga tori* for north western folksongs.

The rhythms in Korean traditional music are managed through regularly repeated rhythmic patterns called *jangdan*, literally meaning “short and long.” The concept of *jangdan* is not merely the rhythm itself, but a rhythmic pattern or rhythmic cycle with an embedded tempo which flows through the music. Thus *jangdan* becomes the basis of a piece of music. However, there may be variations to the basic rhythmic cycle creating several different patterns, unless the given framework changes. The production of variation raises the artistic level and musically completes a performance.

As the most important concept and feature of *gugak*, *jangdan* are rendered differently depending on the music, following a unique system appropriate for each genre. Buk or janggu is used to play *jangdan*. In *sanjo*, especially, the music begins with the slowest 24 beat *jinyangjo* rhythmic pattern and gradually

proceeds to faster and shorter patterns, such as the 12 beat *jungmori*, *jungjungmori* and *jajinmori* pattern. The music ends with the fastest *jangdan*, *hwimori*, a 4 beat pattern.

<Score 1>

Basic rhythmic patterns in *sanjo*

① *Jinyangjo* $\text{♩} = 30$

② *Jungmori* $\text{♩} = 84$

③ *Jungjungmori* $\text{♩} = 60$

④ *Jajinmori* $\text{♩} = 68-132$

⑤ *Hwimori* $\text{♩} = 208$

Preceding this volume, a Korean version, especially targeting composers who are not *gugak* specialists but interested in *gugak*, was published. Thus, this book offers introductory information on instrumentation and is a practical guide on the use of *gugak* for foreigners.

This book only explores six main melodic instruments. However, more volumes in this series may be published in the near future with sufficient demand. Perhaps we will expect other publications dealing with *gugak* orchestration. The more the composers create new *gugak* music, the more chances *gugak* musicians will have to play, and larger repertoire in traditional music will enlarge the limits of musicians and composers. We can only wish that more creative works for *gugak* come into being so that the profile of Korean traditional music blossoms more and more. I hope Korean traditional music can actively cooperate on the global stage, participating in international musical communication. Thus *gugak* will contribute to a diversified global culture. I believe this volume is a step forward to that future.

