

Practice of Knowledge

Overview of the First Advanced Workshop on the Archaeology of Chinese Music

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Abstract—From August 2 to 9, 2019, the first advanced workshop on the archaeology of Chinese music was successfully held in the Institute of Music Archaeology of Zhengzhou University. This workshop was planned by Institute of Music Archaeology of Zhengzhou University. More than 20 experts, scholars and graduate students from Chinese National Academy of Arts, Central Conservatory of Music, Shenyang Conservatory of Music, Xinghai Conservatory of Music, China University of Mining and Technology, and South China Normal University attended the workshop. The workshop conducted in-depth discussions and exchanges on the current development of music archaeology, with topics including the study of ancient musical instruments, music history, music iconography and experimental methods. In addition, the workshop also arranged a three-day field trip, mainly to observe the sites (remains) of the late Neolithic period and the Spring and Autumn Period, especially the field investigation and study of the musical archaeological materials, such as chime bells, stone-chime, bronze bells, etc. This event will also strengthen the academic exchanges and mutual visits between Chinese universities and research institutions, further improve the academic level of the Institute of Music Archaeology of Zhengzhou University, promote the development of the characteristic discipline of the university under the "double first-class" construction, and lay a solid foundation for the further construction of this discipline. Finally, the Institute of Music Archaeology of Zhengzhou University presented books such as *Series of Archaeology of Chinese Music* to all members in the workshop. The workshop was a great success.

Keywords: *archaeology of Chinese music, fieldwork, "double first-class" construction*

I. INTRODUCTION

The Institute of Music Archaeology of Zhengzhou University successfully held the "first advanced workshop on the archaeology of Chinese music" from August 2 to 9, 2019. Planned and hosted by the Institute of Music Archaeology of Zhengzhou University, the workshop gathered more than 20 participants from Chinese National Academy of Arts, Central Conservatory of Music, Shenyang Conservatory of Music, Xinghai Conservatory of Music, China University of Mining and Technology, and South China Normal University. In addition to regular classroom lectures, the workshop also

arranged musical practice and fieldwork, providing a variety of discussion conditions.

At the opening ceremony of the workshop, Wang Zichu, Distinguished Professor of Zhengzhou University and Dean of the Institute of Music Archeology, delivered a speech. On behalf of the institute, he welcomed the members of the workshop, and introduced the work of the institute in recent years and the significance of the seminar. He pointed out that this advanced workshop focused on the academic discussion of the archaeology of Chinese music, aimed at preaching and clearing up the confusion of the participants, and wished the workshop a complete success. Dr. Guowei Ma of Institute of Music Archeology of Zhengzhou University, associate researcher Feng Zhuohui of Chinese National Academy of Arts, and Ph.D. student Wang Kun, who represented the organizer, lecture expert and student team, also made speeches. The workshop conducted in-depth discussions and exchanges on the current development of music archaeology.

The opening ceremony was followed by a lively academic discussion. Both the teaching experts and the graduate students have made speeches on the topics they are concerned with, including the study of ancient musical instruments, music history, music iconography, and experimental methods, which are summarized as follows.

II. STUDY OF ANCIENT MUSICAL INSTRUMENTS

The study of ancient musical instruments is the most common and important aspect of music archeology. There are 7 articles on the study of ancient musical instruments in this forum. Among them, there were two comprehensive studies on musical instruments, two articles on the konghou, an ancient plucked stringed instrument, one on Gu Se, one on ancient zhu, and one on chime bells.

One of the two essays on ancient musical instruments is *Study on Chu Musical Instrument* by Shao Xiaojie of Chinese National Academy of Arts. Chu culture is an important part of Chinese civilization. Shao Xiaojie made a classified statement on the musical instruments involved in "Chu culture", including the form, decoration, shape, music and acoustics, combination form, usage standard and occasion of Chu instruments. Then a series of discussions were carried out on the relationship between music and "regional culture". Shao Xiaojie pointed out that the Chu

instrument has a very high status and role in the ceremonial and musical life of the Chu people. The rich and outstanding Chu musical instruments benefit from the ancient Chu people's imitation and innovation of their predecessors. It is also the blend crystallization and the highest embodiment of the music culture of wu history. Another paper on the comprehensive exploration of musical instruments was written by Zu Chenghuiling, a graduate student of Zhengzhou University. She turned her attention to Japan's Shoso-in, which is known as the treasure house of Tang Dynasty musical instruments in China today. There are a large number of Tang musical instruments here, and they are well preserved, which is an important way for scholars to study the music of the Tang Dynasty. Mr. Huang Xiangpeng once said: "The study of Chinese traditional music is inseparable from the study of its two ends — the Mesopotamia in the west and the east." At present, Institute of Music Archaeology of Zhengzhou University has done restoration research on pipa, banjo and other musical instruments of Shoso-in. Chengcheng Huiling's *Study on the Music Archaeology of Wind Music in Shoso-in* took bamboo flute, shakuhachi and other wind music collected in Shoso-in as research objects, explored the connection between wind music in Tang dynasty and gagaku, and incorporated the ancient instruments of Shoso-in into the cultural exchange of eastern and western music.

There are two articles on konghou. In recent years, a batch of konghou relics has been unearthed in Xinjiang, which has filled the blank of "konghou" in the field of cultural relic archaeology. The study of konghou has become a hot topic in music archaeology. At present, there are more than 20 physical objects of konghou unearthed and more than 50 sets of relevant image data. According to the date of excavation, konghou existed in Xinjiang in the 8th century BC and continued to the 10th century AD. The workshop also included two articles on konghou in Xinjiang. He Zhiling, associate professor of Shenyang Conservatory of Music, made a detailed analysis of the unearthed konghou in Xinjiang in his article *Xinjiang Konghou and the Silk Road*. By analyzing the geographical location and cultural characteristics of the unearthed konghou in Xinjiang, several clear understandings are put forward: first, the konghou on the Silk Road has various forms and rich connotations; second, Silk Road has a mainstream direction from west to east only in terms of konghou; third, the Silk Road can achieve cultural integration to a certain extent but retain its regional cultural characteristics; fourth, such integration is a voluntary and gradual process; fifth, there were many religions on the Silk Road and the konghou was very popular; sixth, the bowed konghou, introduced in the early years of Buddhism, had an irreplaceable religious reference, and was replaced by the upright konghou, which was beloved by Zoroastrianism. At the same time, he also raised two unresolved issues. First of all, why these two kinds of konghou did not succeed in succession? Second, why has the konghou not spread beyond Xinjiang? The workshop members also engaged in a lively discussion on this issue. Wang Jun, a doctoral student at the Central Conservatory of Music also discussed the role of konghou in the

communication of eastern and western musical cultures in his article *History of Konghou*. In the existing researches, the problems related to konghou are mostly discussed from the micro perspective, while the researches on the comprehensive combing of the source, flow and change of konghou from the macro perspective are few. The role of konghou in the communication of music and culture between China and foreign countries along the Silk Road is worth further discussion.

There is an article on chime bells. Among all the unearthed sacrificial sites, Zheng has the largest scale and most unearthed musical instruments. Dr. Qu Wenjing from the Xinghai Conservatory of Music applied the method of statistical standard deviation to the analysis of chime bells' shape and structure in article *Study on Chime Bells in the Sacrificial Sites of Zheng*. The measurement results show that chime bells in the state of Zheng have a uniform standard, and bianniu bells have inherited the bell-shaped specifications since the middle and late Western Zhou Dynasty. The chime bells used in the sacrificial sites of the state of Zheng were all in groups of four, and formed the fixed sound sequence specification of "la, do, mi and sol". She pointed out that Niu bells of Zheng had two characteristics: it was all in groups of ten, which adds only a "mi" sound to the 9-piece group of bells; the second is a group of 10 + 10 combination of Niu bells. She also presumed the double-tone relationship between the front and side drums of Bo bells and Niu bells, and held that Bo bells did not belong to a two-tone bell, while the double-tone of Niu bells was in a discrete state. The rhythm of Niu bells is regular, while that of the side drums are various. Therefore, it is speculated that these chime bells were used for sacrificial activities, rather than for daily musical occasions. Therefore, the bell master did not adjust the drum too much. The bell combination of Zheng's sacrifice site is the origin of large-scale combination bells. The dual combination model of Zheng's "Bo bells and Niu bells" is groundbreaking. Chime bells are ritual and musical instrument in the pre-Qin period, and what is projected from the object is the idea of the person. In the existing works on music history, when it comes to the collapse of rites and music, the state of Zheng must be mentioned. However, these understandings based on literature records cannot objectively reflect the actual situation of Zheng music. The discovery of the sacrificial sites in Zheng reflects Zheng's adherence to and maintenance of rites and music.

There is an article about the study of ancient zhu. For a long time, the ancient musical instrument "Zhu" seems to be covered with a mysterious veil because it is not visible in the real world. It was not until the excavation of Mawangdui Han Dynasty Tomb in the 1970s that the veil was slowly lifted, when the images and artifacts were unearthed. In 1993, three practical zhu were unearthed from the royal tomb of Changsha (that is, the tomb of Queen Yuyang of Changsha). At this point, there has been a breakthrough in zhu. At present, there are three ancient zhu and three unearthed objects, and many images. These data can provide clearer information for the shape of zhu. Dr. Wei Zi from

Zhengzhou University introduced the current research progress on zhu from the perspective of what is zhu in his article *Study on Ancient Musical Instruments Zhu*. According to the archaeological data, there are currently different understandings of the shape of zhu. There are two types of performances of zhu: hand-held and flat. There are many records of string numbers in the literature. It is already very clear that this kind of building is a hand-held five-string building. Judging from the archaeological objects of the Han Dynasty, the form and system of the zhu has been very clear, that is, the hand-held five-string zhu. The confirmation of the form and system of zhu of Han dynasty can lay a foundation for the research on it and provide necessary basis for its reproduction and restoration.

There's also a study of Gu Se. At present, there are nearly 200 archaeological discoveries of Gu Se, spanning from the Spring and Autumn Period to the Western Han Dynasty. At present, there are two opinions about the origin of Se, one is that it originated in the ancient times or the Xia Dynasty, and the other is that it originated in the Shang Dynasty. An article by Wang Fang, a doctoral student from Zhengzhou University, *An Archaeological Study of Gu Se Music*, analyzes the music system, shape system, decoration, instrument combination and tuning methods of Gu Se in different periods, and explores the origin, cultural value, social function, reasons for loss and playing methods of Gu Se through sorting out the current data.

III. STUDY OF MUSIC HISTORY

There are six articles on the study of the history of ancient music in this workshop. They are as follows:

There is an article on the history music of State of Wu Yue. After hundreds of years of exploration, learning and practice, music of State of Wu Yue has shown different musical features in several different periods. In his *Study on Music of State of Wu Yue in the pre-Qin Period*, Dr. Guowei of Zhengzhou University reviewed the literature on the music culture, investigated the source and vein of its cultural development, and tried to sort out the diachronic development characteristics of the Yellow River civilization and the Yangtze river civilization, and compared the synchronic differences of a certain time and space. In order to understand the historical accumulation of Wu Yue region and clarify the historical source of Wu Yue's regional culture, this article specifically examines the historical accumulation of regional culture before Wu Yue's rise, that is, to investigate the practice of "pre-Wu Yue" music, and compare the Yongzhong bell, Niu bells, Bo, Pan of State of Wu Yue with bronze musical instruments in Central China. In his opinion, Wu Yue's music and cultural exchanges are divided into two major stages: from the late Shang to the middle of the Western Zhou Dynasty, the music culture of the central plains developed and spread to the yue nationality in the south; and the music culture of Wu Yue in the Spring and Autumn Period and the Warring States Period had an impact on the music culture of the central plains. From the end of the Shang Dynasty to the middle of the Western Zhou Dynasty, Wu Yue area had cultural ties with Hunan, Hubei,

and Jiangxi areas, and Yuyue maintained close contact and exchanges with other southern Yue such as Yangyue and Ganyue during this period. With the rise, prosperity and extinction of Wu Yue, Wu Yue music has gone through a historical process of starting, developing, maturing and declining. In the years of wars and disasters, Wu Yue music not only opened a closed situation for Wu Yue cultural exchanges, but also witnessed the rise and fall of the nation. Although the national carrier of Wu Yue has disappeared successively, Wu Yue music still exerts an extensive and profound influence on Chinese culture with its distinctive cultural style and tenacious vitality, making an important contribution to the construction of the colorful Chinese civilization.

There is an article on the history of music during the Zhou and Han Dynasties. There are a lot of discussions about Zhou-Han period in the historical circles, but so far there has not been a mainstream understanding, and the perspective is also relatively single. In recent years, the excavation of several large tombs in the early Han Dynasty, combined with other Han Dynasty musical instrument materials and image data, not only provided important materials for the study of music history in the early Han Dynasty, but also pointed out a new direction for the study of the development and evolution of music throughout the Han Dynasty. *The Transformation of Music of Zhou-Han Period from the Perspective of Musical Archaeology* by Dr. Zhu Guowei of China University of Mining and Technology analyzes and demonstrates the transformation and staging of music of Zhou-Han period with empirical and micro-methods, with a view to implementing the transformation research into various forms of social music, and providing new perspectives and results for historical stages research. Many contents involved in the article can provide necessary supplements for the study of the music history of the Han Dynasty.

The graduate students at the workshop also paid special attention to music history, with four graduate articles. For a long time, the prehistory of Chinese music has been based on literature and myths. In recent years, more and more archeological evidence shows that the prehistory of Chinese music is not as described by myths and legends. Music archeology is unraveling this puzzling veil. The article *Musical Archeology and Reconstruction of Prehistory of Chinese Music* by Li Manxia, a doctoral student of the China Conservatory of Music, made a complete statistics of the prehistoric legends, summarized the previous studies, and fully interpreted archaeological evidence from time and space based on detailed data and triple evidence method. The relationship between archaeological evidence and historical records and legends is established to reconstruct the prehistory of Chinese music. Chen Nannan, a doctoral student of Zhengzhou University, discussed the origin of ritual and music system from the perspective of ritual and music system in early Western Zhou Dynasty in his article *Exploration of Ritual and Music Culture in Ancient Times*. He believes that the civilization of rites and music is one of the inherent characteristics of Chinese civilization, and the

thought of rites and music transmitted by it is an important factor of Chinese civilization. The formation of the system of rites and music should be regarded as a sign that China has entered a civilized age. The background of the formation of system of rites is the royal power politics in the patriarchal hierarchy, whose purpose is to formulate the basic social laws and regulations, so as to regulate the political, economic and social activities of the state. Therefore, in the study of the origin of rites, it's needed to take the era after the generation of classes as the research object, and explore the appearance and use of rites corresponding to classes. That is, the "rites and music" emerged after the emergence of class can only be analyzed and discussed as a factor of rites and music culture. To explore the origin and development of early rites and music culture, it's a must to first make clear what belongs to the remains of rites and music. Therefore, the archaeological discovery of musical instruments, their unearthed sites, relics and other information is an important reference for scholars to explore the early ritual and music culture. In recent years, the remains of musical instruments discovered in archaeological work provide abundant information, which makes it possible to trace the source of rites and music culture. In the article *A Brief Discussion on Song of the Yi River*, Jia Bonan, the master of the Central Conservatory of Music, analyzed the words and sentence patterns, combined it with the story of *The Emperor and The Assassin in Records of the Historian*, and concluded that it was imitating the style of Chu folk songs in Qin and Han dynasties, not by Jing Ke or Sima Qian. From the very beginning, there are two versions of *Farewell at Yi River* spread around the world. The original versions of *Records of the Historian* and *Strategies of the Warring States* are more consistent with the historical facts. However, the *Song of the Yi River* in the version of *YanDanzi* was more touching, so it was handed down and later added to the *Records of the Historian*. However, the controversial "the voice of change" did not appear in the original versions of *The voice of change* and *Strategies of the Warring States*, and only replaced "pu shangsheng" in the Tang dynasty, which will cause people to rethink the voice of change. The Song and Liao period was a transitional period in the history of ancient Chinese music, and held a very special position in the history of Chinese music development. Under the title of *Study of Song and Liao Music and Cultural Exchange in the Northern Song Dynasty*, Xue Pei, a doctoral student from Zhengzhou University, first conducted a comprehensive and systematic review of the music and culture of the Liao Dynasty, including court music, folk songs, raps, operas, and instrumental music of the Liao Dynasty. He further discussed the causes of "Liao's inheritance of Tang music", the further influence of northern Song music on Liao and the inheritance of Liao to Song music. It is pointed out that the long-term influence of central plains music culture on the Khitan people is the profound reason for the emergence of Liao music, especially court music, ensuring the stability of the regime was the direct reason for the establishment of court music in the Liao dynasty, and the relatively loose political environment between the two dynasties and the two economic modes of nomadism and farming were the basis for the further development of folk music in the Liao dynasty.

IV. STUDY IN MUSIC ICONOGRAPHY

There are two articles on music iconography. The thesis of Dr. Wang Xidan of Zhengzhou University is *The Arrangement, Analysis and Thinking of the Musical Relics of Tombs of Northern Wei Period in Datong*, Shanxi Province, which is the turning of Dr. Wang Xidan's research on the music iconography of Goguryeo to Northern Wei period in Datong. In the past ten years, Datong, Shanxi Province has published several excavation reports of the Northern Wei Tombs, and unearthed a large number of murals, showing ranks, feasts, music and dance, musical instrument performance, and music figurines. The excavation location, music content and presentation carrier of image music relics are closely related to the development of tombs, which also reflects the coexistence of different music cultures in Pingcheng period of Northern Wei Dynasty. Compared with the music information of the Northern Wei, when music gained prosperous development, and Luoyang era, it can better highlight the characteristics of music development in the Pingcheng period. Cao Xiaoqing, a doctoral student of the Central Conservatory of Music, sorts, classifies, and stages the Apsaras jiyue in ancient Qingzhou in article *Study on Apsaras Jiyue in Ancient Qingzhou Buddhist Statues*. In addition, the thesis compared the Apsaras jiyue of Longxing Temple of Qingzhou with that of Lintong, Guangrao, Zhucheng and other places in the 6th century. She compared the Apsaras jiyue in ancient Qingzhou with the grottoes along the Silk Road, deepened her understanding of Buddhist music and cultural exchanges between Qingzhou and the surrounding areas during the Northern Dynasties, and along the Silk Road, explored the source of Apsaras jiyue in Qingzhou, and deeply explored its research value.

V. RESEARCH ON EXPERIMENTAL METHODS

Music archaeology is an experimental scientific research. With the progress of science and technology, a good command of the experimental methods and means of natural science can get twice the result with half the effort. There are two articles in this area. An article by Feng Zhuohui, an associate researcher at the Music Research Institute of the Chinese Academy of Arts, entitled *Instrumental Measurement and Analysis*, pointed out that there are obvious differences between the traditional evaluation standards of Chinese musical instruments and the current industry standards. The traditional evaluation direction is not clear, and it is not consistent with the contemporary standard, which brings difficulties to the evaluation of the performance of musical instruments. Therefore, it is more necessary to popularize professional measuring tools and software in instrumental science and to unify the evaluation method. First, he took the mouth harp as an example, introduced the instrumental properties of mouth harp to the college, and discussed the classification of mouth harp in musical instruments and its classification criteria. Using the acoustic characteristics of the mouth spring as an example of instrument measurement, he explained to students the use of professional acoustic measurement and analysis software such as GMAS. In order to explore the preservation status of

the famous piano, he measured and analyzed the frequency spectrum of "caifengmingqi", "qiuHong" and "shuying". The evaluation is made from the aspects of scattered sound, overtone, pressed sound and formant. It is pointed out that the technical analysis of sound quality is not perfect, and there is no technical theory that can directly correspond to sound quality, especially timbre, which is quite different from other elements of music, such as frequency, amplitude and time length. Feng Zhuohui emphasized that such tests only analyze the sound characteristics of test samples in different states from one perspective, and although they can prove the existence of differences, they cannot be deduced in reverse. *Standard Deviation Analysis Method for Chime Bells Research — A Case Study of Bronze Chime Bells in Eastern Zhou, Western Zhou and Yue* by Sui Yu, the doctor of Zhengzhou University, starting from the concept of standard deviation, introduces the methodology and operation method of standard deviation in a simple way through the example of the research results of standard deviation on the bronze chime bells. The standard deviation analysis method can be used to observe the deviation degree of the drum sound of the music clock, so as to infer the two-tone state of the bells.

VI. PRACTICE AND INVESTIGATION

This workshop invited the couple of Huang Zhiqi and Xu Bilan from Hong Kong, to share many years of production experience in the restoration of unearthed konghou in Xinjiang. They explained and demonstrated the shape, setting and playing of the konghou, which deepened the intuitive experience and rational understanding of the unearthed konghou in the pre-Qin period. In addition, the workshop also arranged a three-day field trip, mainly to observe the sites (remains) of the late Neolithic period and the Spring and Autumn Period, especially the field investigation and study of the musical archaeological materials, such as chime bells, stone-chime, bronze bells, etc. The delegation, led by Professor Wang ZiChu visited the Jin State Museum in Shanxi, Taosi Site, Foundry Site of Jin State, Museum of Ancient Capital of Jin State, Guo State Museum in Sanmenxia City and Erlitou Site in Yanshi, Luoyang. Professor Wang ZiChu, Ji Kunzhang, an archaeologist of pre-Qin Dynasty, and experts from Chinese Academy of Social Sciences to Henan successively delivered speech on the spot. Mr. Ji Kunzhang has presided over the excavation of the Jin Guo cemetery many times, and is very familiar with the treasures in Jin State Museum. When visiting chime bells and stone-chime in the museum, Professor Wang ZiChu personally explained and performed impromptu. In Foundry Site of Jin State, the inspection team visited the whole process of the ancient copper casting in detail, and had a deeper understanding of chime bell casting. The details of the smelting bell chime unearthed from the Shangma cemetery exhibited in Museum of Ancient Capital of Jin State are clearly discernible. The investigation team carried out a heated discussion on the use of models on the site, and put forward a new insight and views on the ritual and music culture in the late Neolithic age.

On the last day of the workshop, the participants contacted the field to explore the content. On the one hand, they have sorted out and discussed the archaeological data of chime bells, stone-chime, organ and chimes and other specific music, and discussed the early ritual and music culture and regional characteristics macroscopically from the current archeological types. Du Duan, deputy curator of the Museum of the Emperor Driving Six in Luoyang, made a report about *The Excavation of Chariot Pits in the Museum of the Emperor Driving Six*, and explained in detail the system and history of Emperor's Chariot Drawn by Six Horses. Professor Kong Yilong of South China Normal University shared his more than ten years of experience in music archaeology and made in-depth exchanges of views on how to balance the pressure of scientific research and life. The workshop ended in an intense and informative session.

VII. CONCLUSION

At the closing ceremony, Professor Wang ZiChu summarized the workshop, which included innovations in methods, discoveries of new materials, or new understandings of the past. This workshop is bound to strengthen academic exchanges and exchange visits between Chinese universities and research institutions, further improve the academic level of Institute of Music Archaeology of Zhengzhou University, promote the development of characteristic disciplines of Zhengzhou University under the background of "double first-class" construction, and lay a solid foundation for archaeology of Chinese music. Finally, books such as Series of Archaeology of Chinese Music are presented as gift to all members in the workshop by the Institute of Music Archaeology of Zhengzhou University. The workshop won the desired effect.

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