Shang Dynasty Musical Instruments Excavated in the Central Plains of China

Wenran Wang

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Doctor of Philosophy in Music
April 2025

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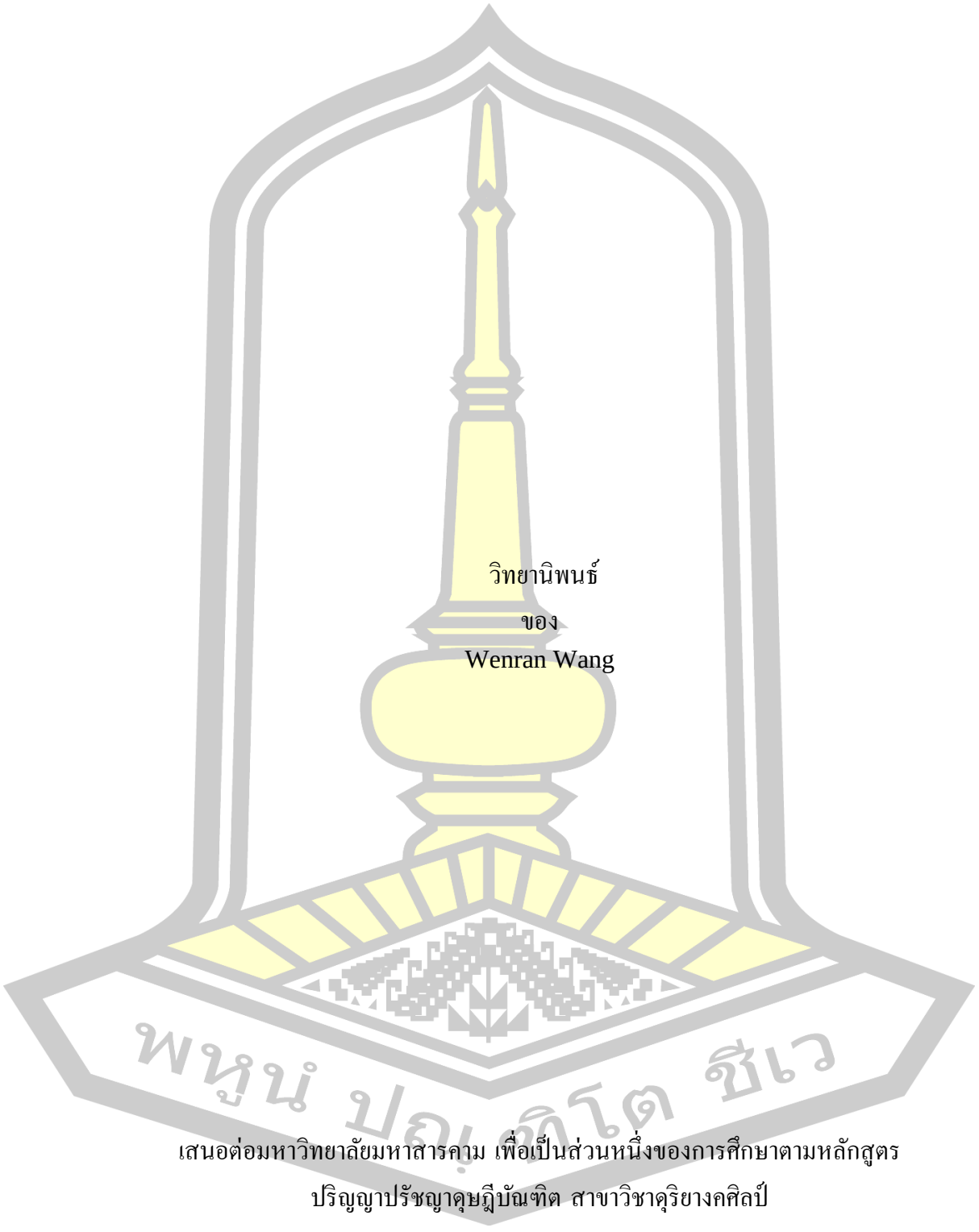

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ของ

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ABSTRACT

This study has three main objectives: (1) To describe the distribution of musical instruments excavated in the Central Plains during the Shang Dynasty. (2) To analyse the musical characteristics performed on Shang dynasty instruments.(3) To study the functions of musical instruments of the Shang Dynasty.

The research findings are as follows: (1) A total of 158 musical instruments have been excavated, with 128 from Henan Province, 15 from Shanxi, 11 from Shandong, 3 from Hebei, and 1 from Shaanxi. (2) The musical piece Shang Song – Xuan Bird features a four-part structure, alternating between the G Gong and E Yu modes. It is solemn in tone, with a steady four-beat rhythm and contrasts between fast and slow sections. Liu Shui consists of six sections that transition between C Gong and A Yu modes, characterized by cascading intervals and a blend of free and metered rhythms. Ai Ying comprises three sections in the D Zhi mode, marked by a slow, mournful melody and a free rhythmic style. (3) In terms of function, musical instruments were used in rituals to communicate with deities, in entertainment to enhance banquets and display the host's social status, and in politics to symbolize power and reinforce hierarchical structures.

Keyword : Excavated Musical Instruments, Functions of Musical Instruments, Musical Characteristics

ACKNOWLEDGEMENTS

I have traveled a long and arduous journey, enduring countless hardships to present this doctoral dissertation. The pursuit of academic excellence has been fraught with challenges, akin to navigating storms and rough terrain. Looking back, it feels like a fleeting dream so vivid, as if it were just yesterday.

Established in 2007, Mahasarakham University College of Music is a distinguished institution dedicated to excellence in music education. Since the launch of its doctoral program in 2008, the college has nurtured doctoral students worldwide for 17 consecutive years. With a well-structured curriculum, distinguished faculty, and a commitment to academic rigor, the college has remained steadfast in its mission to provide a premier education in music.

As this dissertation reaches completion, I extend my sincere gratitude to the professors of Mahasarakham University for their guidance and critical feedback. Special thanks to Assoc. Prof. Dr. Manop Wisuttipat (Chairman), Asst. Prof. Dr. Pittayawat Pantasri (Committee), Dr. Kritsakorn Onlamul (Committee), Acting Capt. Awirut Thotham (Co-Advisor), and Dr. Arsenio Nicolas (Advisor).

Dr. Arsenio Nicolas, a distinguished scholar from the Philippines, specializes in musicology, philology, and the history of performing arts, with a focus on Southeast Asian musical traditions and instruments. He pursued his studies at the University of the Philippines and Cornell University, majoring in English and Comparative Literature, Music, Anthropology, and Musicology. His interdisciplinary background has significantly contributed to his expertise in the region’s diverse musical heritage. I first met Dr. Arsenio Nicolas in 2018 at the 10th Annual Conference on East Asian Music Archaeology and the Advanced Forum on Music and Cultural Anthropology. During a Pearl River night cruise organized for conference attendees, I had the opportunity to converse with him. His gentlemanly demeanor left a lasting impression. In 2022, when I applied to Mahasarakham University, I was delighted to find that he would be one of my professors, and I immediately sought his mentorship.

My master's advisor, Professor Kong Yilong, a board member of the Chinese Music History Society and Vice President of the East Asian Music Archaeology Society, spoke highly of Dr. Arsenio Nicolas and encouraged me to learn from him. He

emphasized the significance of music archaeology, reinforcing my determination to dedicate my studies to this field. Throughout my doctoral years, I spent most of my time in the library, diligently completing each research task.

Despite my limited proficiency in English, Dr. Arsenio Nicolas has been exceptionally patient, simplifying complex concepts to facilitate my understanding. His invitations to academic gatherings and social events have also provided a sense of belonging in a foreign environment. Meeting him has been a great privilege.

During my research, extensive reading of books and scholarly articles has laid a solid foundation for my future studies. These three years have strengthened my academic resolve and deepened my confidence in my chosen path.

Lastly, I express my heartfelt gratitude to my parents, whose unwavering support has been my greatest strength. Though I may not be the most gifted, they know I am the most determined. Achievements that come effortlessly to others have required immense effort from me, yet the opportunity to accomplish them is, in itself, a blessing.

My aspirations are simple. Even after half a century, I hope to retain the curiosity and passion of my younger self. I seek to rediscover the world, ensuring that the hardships I have endured hold meaning. And if, in the end, I can contribute to making life better for others, I will consider my journey truly worthwhile.

Wenran Wang

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

Introduction

1.1 Research Background and problem of the research

The study of excavated Shang Dynasty musical instruments began in the 1920s, encompassing regions such as Northeast China, Sichuan Province, and the southeastern areas. Professor Wang Zichu emphasized the significance of research on Shang Dynasty musical instruments, noting that many aspects remain to be explored by scholars (Wang Zichu 2004).

The Shang Dynasty (c. 17th century BCE – 11th century BCE) lasted for nearly six centuries and has long been shrouded in mythology. Although it is recognized as the earliest archaeologically verifiable dynasty, it has traditionally been considered a legendary era, with its centuries-long history often regarded as part of a broader mythological narrative. Understanding of the Shang Dynasty was largely limited to myths and folklore until the early 20th century, when the discovery of oracle bone inscriptions and tombs at the Yinxu (殷墟) archaeological site brought Shang history into the realm of academic research (Wang Xiuping 2014).

The study of excavated musical instruments from the Central Plains during the Shang Dynasty serves as a crucial entry point for understanding Shang society and its broader cultural framework. By systematically categorizing and mapping the distribution of these excavated instruments, scholars can provide updated ethnographic records and identify patterns in regional distribution. Given the Central Plains' significance in the historical and cultural development of China, a systematic analysis of the musical instruments excavated from this region is of great importance in filling gaps in Chinese music historiography. Moreover, such research enhances our understanding of Shang society.

As tangible carriers of musical activity, musical instruments served not only as entertainment but also fulfilled religious, ceremonial, and social functions. Since most Shang Dynasty instruments have been discovered in tombs, they offer valuable insights into the ritualistic and hierarchical nature of Shang society. These instruments reflect the distinctive musical culture of the Shang Dynasty, shedding light on its belief

systems, funerary practices, and sociopolitical structures. Their archaeological significance is indispensable for reconstructing the functions, purposes, and evolution of Shang music. The study of the functions of musical instruments excavated from the Central Plains during the Shang Dynasty provides contemporary scholars with the latest ethnographic records and theoretical foundations for further in-depth and multidimensional research.

Additionally, this research offers valuable experience to cultural institutions and conservation organizations, contributing to more effective strategies for the preservation and transmission of excavated musical instruments.

The Central Plains played a pivotal role in China's historical development, serving as the cultural and political center of early Chinese civilization. The musical instruments excavated from this region were frequently used in Shang court music and were closely tied to the sociocultural, political, economic, and ideological structures of the time. Their design, construction, playing techniques, manufacturing methods, and functions reflect the technological advancements and ritual traditions of the Shang Dynasty (Wang Zichu 2021).

Throughout the development of Chinese music history, the musical landscape of the Shang Dynasty remains obscure due to the scarcity of ancient textual records. Researchers face significant challenges in reconstructing the actual state of Shang music. By examining the excavated musical instruments through textual analysis, this study contributes to the field of musicology, deepens our understanding of Shang musical culture, and provides valuable insights for further academic exploration.

1.2 Research Objectives

1.2.1 To describe the distribution of musical instruments excavated in the Central Plains during the Shang Dynasty.

1.2.2 To analyse the musical characteristics performed on Shang dynasty instruments.

1.2.3 To study the functions of musical instruments of the Shang Dynasty.

1.3 Research Questions

1.3.1 What is the distribution of musical instruments excavated in the Central

Plains during the Shang Dynasty?

1.3.2 What are the musical characteristics performed on Shang dynasty instruments?

1.3.3 What were the functions of musical instruments during the Shang Dynasty?

1.4 The importance of the Research

1.4.1 To sort out the distribution of musical instruments excavated in the Central Plains of the Shang Dynasty, which can provide other scholars with up-to-date information and fill in the gaps in the history of music in the Shang Dynasty.

1.4.2 The study of musical instruments excavated in the Central Plains of the Shang Dynasty can provide experience for other cultural institutions or conservation organizations, and the conservation and inheritance of musical instruments excavated in archaeological excavations can provide more effective ideas.

1.4.3 To study the functions of musical instruments excavated in the Central Plains of the Shang Dynasty, which can provide other scholars with the latest ethnic field records and theoretical basis for their more in-depth and diversified studies.

1.5 Definition of Terms

1.5.1 The Shang Dynasty refers to the Shang ruling dynasty, which lasted from approximately the 17th century BCE to the 11th century BCE.

1.5.2 The Central Plains refers to the middle and lower reaches of the Yellow River, with Luoyang and Kaifeng in Henan Province as its core. It also extends to eastern Shaanxi Province, southern Hebei Province, southeastern Shanxi Province, and parts of Shandong Province.

1.5.3 Distribution refers to the geographical distribution of Shang dynasty musical instruments excavated in the Central Plains, including Henan Province, Shaanxi Province, Shanxi Province, Hebei Province, and Shandong Province.

1.5.4 Musical Instruments refers to musical instruments that have been excavated in the Central Plains of China.

1.5.5 Music Characteristics refers to Structure, Tonality, Melody, Rhythm.

1.5.6 The heptatonic mode refers to a scale or mode consisting of seven pitch classes, formed by adding the altered Gong (Qingjue) and altered Zhi (Run) to the pentatonic scale.

1.5.7 Functions refers to Ritual Functions, Entertainment, Political Function.

1.5.8 Ritual refers to in the Shang dynasty, major court events such as meals, rituals, funerals, military operations and banquets involved offering wine to ancestral gods and communicating with them by playing musical instruments.

1.5.9 Entertainment refers to the use of musical instruments during meals.

1.5.10 Political refers to the rulers of the Shang Dynasty maintaining their political power by implementing specific regulations on musical privileges and the scale of music usage based on the social status of different individuals.

1.6 Conceptual Framework

This paper examines musical instruments excavated during the Shang Dynasty in China, with data obtained through the following four research methods: fieldwork, interviews, and observation using Ethnomusicology, Musicology and Music Archaeology.

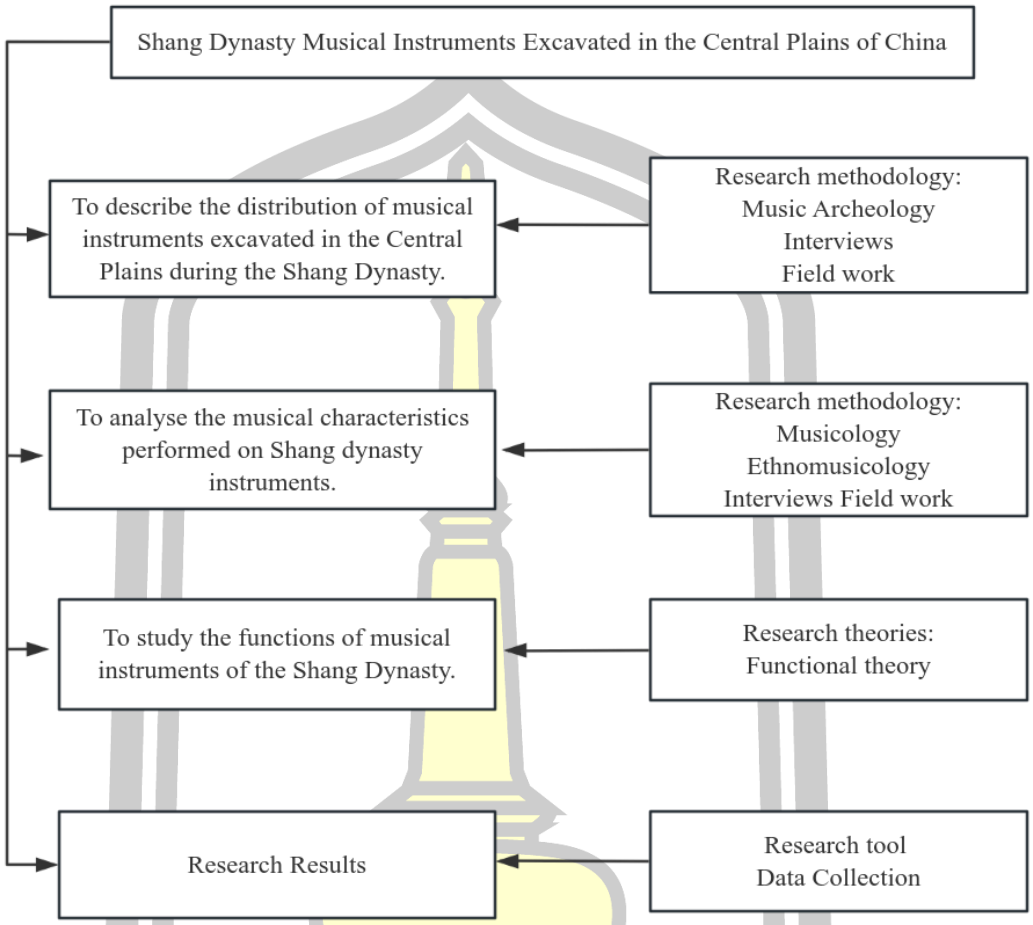

Figure 1. Conceptual Framework

Source: Wenran Wang 2024

CHAPTER II

Literature Review

In the study, "Shang dynasty musical instruments excavated in the Central Plains of China", the researcher reviewed the relevant literature in order to obtain the most comprehensive information for this thesis.

The research framework of this chapter is as follows:

2.1 General Knowledge of the Central Plains of China

2.2 General knowledge of the society and culture of the Shang Dynasty

2.3 General Knowledge of Musical Instruments Excavated in the Shang Dynasty

2.4 General Knowledge of Musical Instrument Functions

2.5 Theoretical Frameworks Used in Research

2.6 Research Related

2.1 General Knowledge of the Central Plains of China

The Shang culture was distributed across the modern-day middle and lower reaches of the Yellow River, the Huaihe River basin, and parts of the middle and lower reaches of the Yangtze River, roughly between latitudes 28°–42°N and longitudes 107°–120°E. Its center was located in the present-day Central Plains region, encompassing parts of northern and central China. The Central Plains is situated in the middle and lower reaches of the Yellow River and covers areas across five modern provinces, including Luoyang and Kaifeng in Henan Province, eastern Shaanxi Province, southeastern Shanxi Province, southern Hebei Province, and Shandong Province (Kuttner 1989).

2.1.1 Henan Province:

Henan Province (豫, yu), located in central China within the middle and lower reaches of the Yellow River, is a provincial-level administrative region of the People's Republic of China. Its capital is Zhengzhou. Henan Province is a major producer of agricultural products, a hub for mineral resources, and a center for transportation, logistics, and information flow. Henan's climate ranges from warm temperate in most

areas to subtropical in the south, with a continental monsoon climate. Historically, Henan Province served as the cradle of Chinese civilization, particularly during the Xia, Shang, and Zhou dynasties, where it formed the cultural and political core of ancient China. Over 200 emperors from more than 20 dynasties established their capitals in Henan Province, which remains a treasure trove of underground and aboveground cultural relics (Böber 2012).

2.1.2 Shaanxi Province:

Shaanxi Province (shan or qin, 陕或秦), located in northwestern China in the middle reaches of the Yellow River, spans 205,600 square kilometers. It has a diverse natural environment, with the Qinling (秦岭) Mountains forming a natural boundary. The southern region, including the Han River Valley (汉江流域), has a warm and humid subtropical climate, while the northern Shaanbei Plateau (陕北高原) features a semi-arid climate with annual precipitation of 300–600 mm. Agriculture is well-developed, with rice and wheat grown in the south and wheat, corn, and millet cultivated in the north. Shaanxi Province has abundant natural resources, including coal, petroleum, and natural gas. Major cities include Xi'an, Yan'an, and Baoji, with Xi'an serving as a historic and cultural hub of ancient China (Xia Zhengnong and Chen Zhili 2009).

2.1.3 Shanxi Province:

Shanxi Province (晋, jin), located west of the North China Plain and east of the middle reaches of the Yellow River, covers 156,000 square kilometers. The region is part of the Loess Plateau (黄土高原), featuring mountains such as Taihang (太行), Lüliang (吕梁), and Hengshan (恒山). Major agricultural areas include the basins of Datong, Taiyuan, and Linfen. Shanxi Province has a temperate semi-arid monsoon climate, with annual precipitation decreasing from southeast to northwest. Rich in historical significance, the province was home to the state of Jin (晋, jin) during the Spring and Autumn period and later formed part of the states of Han (韩, han), Wei (魏, wei), and Zhao (赵, zhao). Key cities include Taiyuan, Yangquan, and Datong, the latter being a renowned historical city (Böber 2012).

2.1.4 Hebei Province:

Hebei Province (冀, ji), located in the northern part of the North China Plain and along the coast of Bohai Sea (渤海, bohai), covers an area of approximately 187,000 square kilometers. The topography of Hebei Province gradually descends from west to east, with the Taihang Mountains (太行山, taihang) in the west, a central plain region, and the Bohai Sea (渤海, bohai) to the east. The climate is classified as a temperate monsoon climate, with most of the annual precipitation concentrated in the summer. Hebei Province has a long history and was an important territory of the Yan State (燕国, yan), the Zhao State (赵国, zhao), and the Zhongshan State (中山国, zhongshan). Major cities include Shijiazhuang, Tangshan, and Baoding. Due to its significant historical status and geographical location, Hebei Province played an essential role in the formation and development of ancient Chinese civilization (Böber 2012).

2.1.5 Shandong Province:

Shandong Province (鲁, lu), situated on the eastern coast of China and downstream of the Yellow River, covers 157,000 square kilometers. The province is historically significant as the land of Qi (齐, qi) and Lu (鲁, lu) during the Spring and Autumn period. The western region consists of the alluvial plain of the Yellow River, while the eastern Shandong Peninsula (山东半岛) features rolling hills and a rugged coastline. The climate varies between the eastern and western regions, with a humid monsoon climate in the east and less precipitation in the west. Key cities include Jinan, Qingdao, and Zibo, with Jinan recognized for its historical and cultural heritage. (Xia Zhengnong and Chen Zhili 2009).

From the study of the documentation above, the researcher concluded that:

The Central Plains of China, encompassing the modern middle and lower reaches of the Yellow River (黄河), the Huaihe River (淮河) basin, and parts of the Yangtze River, served as the cultural and economic heartland of the Shang Dynasty from approximately 1600 to 1046 BCE. This region, particularly centered around Henan Province, is characterized by its rich ecological environment, which includes

high precipitation, abundant lakes and rivers, and diverse flora and fauna. These environmental features contributed significantly to agricultural productivity. Other provinces that played pivotal roles during the Shang Dynasty include Shaanxi Province, Shanxi Province, Hebei Province, and Shandong Province. Each possesses distinct geographical features and climatic conditions. Shaanxi Province is notable for its varied topography, ranging from fertile plains to mountainous regions, while Shanxi Province is distinguished by its Loess Plateau (黄土高原) and historical significance as part of the ancient state of Jin (晋, jin). Hebei Province, situated near the Bohai Sea (渤海, bohai), boasts a rich history associated with numerous ancient states. Shandong Province, known as the land of Qi (齐, qi) and Lu (鲁, lu), is home to significant cultural sites.

2.2 General knowledge of the society and culture of the Shang Dynasty

The Shang Dynasty was an important ancient period in Chinese history, spanning from about 1600 BCE to 1046 BCE. During this historical period, the society and culture of the Shang Dynasty presented many unique features, which not only influenced the social patterns of the time, but also had a profound impact on the development of later generations. The characteristics of the society and culture of the Shang Dynasty mainly include the following five aspects:

2.2.1 Characteristics of the social system of the Shang Dynasty

The Shang Dynasty (approximately 1600 BCE–1046 BCE) , also known as Yin Shang (殷商, yinshang). It was the first dynasty in China with contemporaneous written records. The Shang Dynasty underwent three major phases: the "Pre-Shang" (先商, xianshang) phase, the "Early Shang" (早商, zaoshang) phase, and the "Late Shang" (晚商, wanshang) phase. Over a span of more than 500 years, the dynasty saw the rule of 31 kings across 17 generations. During the reign of Cheng Tang (成汤, cheng tang), the foundational framework of state power was established, and the social order under the slave system was stabilized. The ruling class consisted of slave-owning aristocrats who established a vast bureaucratic apparatus and a powerful military force. Within and beyond the Shang's sphere of influence, many subordinate and less developed regional states, referred to as "fang" (方,

fang), located in the northwest and northern regions. Archaeological evidence indicates that Shang Dynasty sites were distributed not only in the middle and lower reaches of the Yellow River (黄河), but also extended southward beyond the Yangtze River and northward into the vast areas beyond the Great Wall (Shelach 1996).

2.2.2 Prosperity of bronze ware culture

The Shang Dynasty, a pivotal period in ancient Chinese history, is renowned for its highly developed bronze culture. The bronzes from this era are not only numerous and intricate but also exhibit exceptional craftsmanship, reflecting various aspects of Shang society, including politics, economics, military affairs, and religion. These bronzes are indispensable artifacts for studying the Shang civilization (Salvemini 2023).

The bronzes of the Shang Dynasty can be categorized primarily into ritual objects, weapons, household utensils, and musical instruments. Among them, ritual objects hold the greatest significance, as they were primarily used in religious rituals and ceremonial activities among the nobility. These include tripods, gui, jennets, goblets, and other vessels, often adorned with elaborate patterns. These objects served not only practical functions but also held aesthetic and symbolic meanings. Weapons such as daggers, spears, halberds, and axes reflect the military culture and warrior activities of the Shang Dynasty. Household items like pots, mirrors, and other utensils provide insight into the daily life of the Shang people. Musical instruments, such as Tongling (铜铃, bronze bell) and Gu (鼓, drum), offer a glimpse into the music culture of the time (Chen Mengjia 1956).

Shang bronzes were not only essential for daily life and religious activities but also served as symbols of power and status. Large bronze ritual vessels were typically owned by kings and nobles and used in ceremonies to honor heaven, earth, ancestors, and gods, expressing reverence and invoking divine blessings (Salvemini 2023).

2.2.3 The use of writing in the Shang Dynasty: Oracle Bone Script (甲骨文, Jiaguwen)

The discovery of Oracle Bone Script (甲骨文, jiaguwen) can be traced back to the late 19th century, with initial findings at Yinxu (殷墟) in Anyang, Henan Province. The script was primarily inscribed on turtle shells and animal bones, hence its name. These inscriptions document approximately 120 years of late Shang Dynasty history (14th to 11th century

BCE), covering a wide array of topics, including politics, economy, astronomy, geography, religion, military affairs, law, and daily life. The forms of Oracle Bone Script are diverse, ranging from simple and intuitive characters to more complex and intricate ones. These inscriptions reflect the evolution of ancient Chinese characters from pictographs to more sophisticated forms such as ideograms, associative compounds, and phonograms. A significant portion of the inscriptions is closely related to religious and ritual practices, particularly divination. The Shang royal family and aristocracy employed divination by heating turtle shells or animal bones to produce cracks, which diviners interpreted to predict outcomes and fortunes. The records cover a wide spectrum of daily concerns, including weather, warfare, agriculture, diseases, and progeny, and they illuminate the religious beliefs and conceptualizations of the relationship between humans and the cosmos in Shang society (Allen 1991).

2.2.4 Development of Religion and Ritual Culture

The Shang Dynasty (approximately 1600 BCE to 1046 BCE) was a pivotal period in ancient Chinese history, characterized by unique religious beliefs, sacrificial practices, and significant social, economic, and cultural developments. These factors not only defined Shang society but also had a profound impact on the subsequent civilization of China. Shang religious ideas permeated all aspects of politics, economy, and culture, with sacrificial activities deeply embedded in daily life as an essential medium for expressing reverence and seeking divine blessings (Thorp 1985).

The Shang people's religious worldview centered on ancestor worship (祖先崇拜, zuxian chongbai) and the veneration of natural deities (自然神灵崇拜, ziran shenling chongbai). They believed that the souls of ancestors continued to exist after death and could influence the fate of their descendants, making ancestor worship the cornerstone of Shang religious practice. Additionally, the Shang worshipped natural deities and various totems, including gods associated with mountains, rivers, and the sky. These natural gods were believed to control natural phenomena and human destiny. At the top of the Shang religious hierarchy was the supreme deity "Shangdi" (上帝, god), who was considered to rule over all realms. The Shang people held deep reverence for Shangdi and conducted elaborate sacrificial ceremonies to seek his blessings (Song Zhenhao 1994).

The sacrificial practices of the Shang were highly complex and served multiple functions, including religious expression, political consolidation, and social integration (Thorp 2005).

From the study of the documentation above, the researcher concluded that:

The Shang Dynasty operated under a hereditary and patriarchal system, with the king holding supreme power. The aristocratic class served as the ruling elite, and the land was distributed through a feudal system that reinforced social hierarchy. The Shang Dynasty is renowned for its advanced bronze culture, with ritual vessels, weapons, daily-use items, and musical instruments that embodied multiple social, religious, and political functions. Bronze items became symbols of power and status. The Shang's unique contribution to the development of writing, namely oracle bone script (甲骨文, jiaguwen), was primarily used for recording divination inscriptions and sacrifices, covering various aspects of politics, economy, religion, and daily life, reflecting the religious beliefs and social structure of Shang society. The Shang's religious faith, centered on ancestor worship and the veneration of natural gods, was intertwined with complex sacrificial rituals that had political and social integration functions, reinforcing the authority of the ruling class (Edward 1969).

2.3 General Knowledge of Musical Instruments Excavated in the Shang Dynasty

This study investigates musical instruments excavated from the Shang Dynasty (c. 1600–1046 BCE) in the Central Plains of China, focusing on their significance within the cultural and social framework of the time. Musical instruments, as essential components of Shang court life, cannot be analyzed in isolation but must be contextualized within the broader political, economic, social, and ideological landscape of the period. Factors such as governance, social systems, religious beliefs, funerary customs, and technological advancements profoundly shaped the design, construction, performance, and utilization of these instruments, thereby influencing the region's musical culture (Wang Xiuping 2014).

In Shang society, musical instruments held a central role in rituals and ceremonies, particularly in religious and sacrificial activities as well as royal rites. These instruments symbolized the veneration of ancestors and deities and the affirmation of political authority, reflecting the close interconnection between music,

religion, and politics. The use of music in such contexts contributed to strengthening social cohesion, maintaining order, and expressing reverence for kingship (Reinhart 2015).

Music also served as an integral form of entertainment within the Shang court. Archaeological evidence and oracle bone inscriptions indicate the presence of musicians responsible for performances aimed at entertaining the royal court and creating a harmonious atmosphere in daily life. Beyond entertainment, music was deeply intertwined with religious beliefs, often accompanying ritual practices as a medium for communication with the divine. Through music, the Shang people conveyed prayers and admiration, emphasizing its sacred role within society. This religious function elevated the status of music and highlighted its cultural and spiritual significance (Von Falkenhausen 1994).

The musical instruments of the Shang Dynasty were not merely tools for performance but also carried profound cultural symbolism. The use of Shiqing (石磬, stone chime) reflects a reverence for natural materials and a pursuit of harmony in musical expression (Marks 1932).

The study of musical instruments excavated from the Shang Dynasty reveals the unique characteristics of ancient Chinese musical culture while offering insights into the religious beliefs, political systems, and artistic achievements of the era. By examining these artifacts, we can gain a deeper understanding of the complexity and diversity of Shang society and the pivotal role of music in shaping its cultural identity. This rich musical heritage not only provides valuable historical evidence but also offers important perspectives for studying ancient Chinese music and social history(Wang Xiuping 2014).

Currently, archaeological findings have identified six types of musical instruments from the Central Plains region: Nao (铙, suspended or hand-held bell), Tongling (铜铃, bronze bell) , Taoxun (陶埙, ceramic ocarinas), Shiqing (石磬, stone chime), and Gu (鼓, drum), Gupaixiao (骨排箫, bone paixiao)). These instruments exemplify the richness and intricacy of Shang musical culture, illustrating its aesthetic values and technical innovations. The investigation into these instruments highlights their cultural and symbolic significance. By exploring their connection to rituals, social

structures, and belief systems, this study demonstrates how these instruments served as expressions of identity and ideology. The analysis of these artifacts will enhance our understanding of Shang technological advancements and cultural dynamics, contributing to a broader appreciation of ancient Chinese music and its historical importance.

From the study of the documentation above, the researcher concluded that:

Shang dynasty musical instruments from the Central Plains highlight their cultural and social significance. Archaeological discoveries of these musical instrument artifacts demonstrate the musical complexity, aesthetic value, and technological advances of the era, providing insights into Shang society and its artistic achievements.

2.4 General Knowledge of Musical Instrument Functions

Musical instruments, as crucial material carriers of human musical activities, embody rich cultural and social functions. They are not only tools for musical expression but also serve as cultural media for specific social groups, reflecting the social life and values of particular historical periods. Therefore, through archaeological research, we can use excavated Shang dynasty instruments to gain deep insights into various aspects of Shang society, especially in understanding the musical life of the Shang period and the multifaceted functions and uses of Shang music. The archaeological discoveries of these instruments provide a unique and critical perspective. These instruments are not only components of material cultural heritage but also serve as key evidence for interpreting ancient social life, religious beliefs, ceremonial systems, and political structures (Fang Jianjun 2006).

Compared to traditional documentary materials, archaeological discoveries of musical instruments offer irreplaceable advantages. Documents are often limited by the subjective views and historical context of the recorders, making it difficult to present a comprehensive picture of ancient musical life. In contrast, musical instruments, as direct material remains, can reflect the specific practices of Shang music activities and their social functions. By analyzing the excavated instruments, we can not only understand their forms of performance and the contexts in which they were used but also glimpse their roles and symbolic meanings in religious rituals, royal ceremonies, and folk entertainment (Wang Xiuping 2016).

Based on current archaeological findings, Shang instruments are predominantly found in the tombs of Shang nobility, with a few discovered in sacrificial pits related to religious activities. This distribution pattern indicates the close connection between Shang instruments and the religious beliefs and social hierarchies of the time. In Shang society, instruments were not only important ceremonial objects for the noble class but also concrete symbols of religious rituals and political power. The instruments found in tombs suggest that they played an important role in the funerary rites of the Shang people, potentially used for spiritual communication or to express reverence for the deceased. Instruments found in sacrificial pits more directly reflect the central role of instruments in religious rituals.

In this paper, by analyzing the archaeological findings of Shang instruments, we can gain a more comprehensive understanding of Shang society's musical culture, ceremonial systems, and social structure. These instruments not only provide specific records of Shang musical life but also serve as important pathways for revealing the cultural connotations, religious ideas, and social customs of the Shang dynasty.

From the study of the documentation above, the researcher concluded that:

Through the archaeological analysis of Shang musical instruments, we can gain a more comprehensive understanding of the musical culture, ritual system, and social structure of the Shang Dynasty.

2.5 Theoretical Frameworks Used in Research

In applying music theory, the researcher primarily utilizes the research methodologies of Music Archeology, Musicology and Ethnomusicology.

2.5.1 Music Archeology

The book Chinese Music Archaeology (中国音乐考古学), Wang Zichu, (2022) serves as a fundamental resource for understanding and researching the field of Chinese music archaeology. It provides essential knowledge by systematically introducing musical artifacts from various historical periods in China. The book follows the historical trajectory of Chinese music development, using the successive transformations of ancient Chinese musical forms as its structural foundation.

In the 1980s, the academic community began discussing the definition of music archaeology. One of the earliest scholars to define music archaeology was Ellen Hickmann. Hickmann (1985) stated that music archaeology begins with the analysis of newly discovered archaeological findings and traces the history of music and musical life in connection with the socio-cultural contexts of historically related ethnic groups. She further argued that music archaeology seeks to identify traces of ancient musical cultures that persist in contemporary musical practices within the same geographical region.

In 1988, Hickmann further elaborated that music archaeology primarily investigates musical traditions and attempts to reconstruct past musical practices and their socio-cultural environments. It aims to identify remnants of ancient music within present-day musical activities in the same geographic area. This definition aligns closely with her earlier perspective but places additional emphasis on the study of the socio-cultural contexts related to music. Hickmann's later definition extends beyond the material remains of musical artifacts and delves into the exploration of intangible cultural aspects of music.

Fang Jianjun (1990) defined music archaeology as the scientific study of the development and underlying principles of human musical culture, based on material evidence of ancient musical traditions left behind by past civilizations.

In the fourth chapter of this study, The researcher adopt the research methodology and theoretical framework of music archaeology. Through the systematic collection, organization, classification, and analysis of musical instruments excavated in the Central Plains of China during the Shang Dynasty, this research integrates relevant archaeological remains and historical records to explore the functions and significance of musical instruments in the social and cultural context of the Shang Dynasty. Furthermore, it examines the development and evolution of these instruments and their influence on the broader history of Chinese music, providing new academic perspectives for the in-depth understanding of Shang Dynasty Music culture.

2.5.2 Ethnomusicology

Ethnomusicology emerged from comparative musicology in the late 19th century. In 1950, Dutch musicologist Jaap Kunst integrated musicology with cultural identity and introduced the term ethnomusicology (Bruno 2005).

This new term replaced comparative musicology to reflect the field's shift from comparative analysis to descriptive studies. Over time, its scope expanded to encompass both Western and non-Western musical traditions, examined through specific methodological and ethnographic perspectives (Alan 1960).

Ethnomusicological research generally follows two main approaches: anthropological and musicological. The anthropological approach focuses on understanding people and cultures through music, whereas the musicological approach examines people and cultures to gain insight into music itself. Charles Seeger distinguished between the two by defining the anthropology of music as the study of music as an integral part of culture and society, while musical anthropology explores social life as a performance, analyzing how music constructs and reflects social and conceptual structures (Seeger 2004).

Additionally, fieldwork is a fundamental research method in ethnomusicology. Bruno Nettl, Emeritus Professor of Musicology at the University of Illinois, describes fieldwork as "direct observation [of music, culture, etc.] at its source." He highlights that the significance of fieldwork closely aligns ethnomusicology with anthropology. The ethnomusicologist's field experience, including oral traditions (e.g., tales, myths, proverbs), societal structures, and the "imponderabilia of everyday life," serves as crucial data for their research (Bruno 2005).

In chapters four and six of this study, The researcher adopt the research methodology and theoretical framework of ethnomusicology. Beyond focusing on the material properties of musical instruments, it incorporates archaeological data and historical documents to investigate their functions and symbolic meanings within rituals, sacrificial ceremonies, and the ceremonial music system (礼乐制度, liyue zhidu). Moreover, by comparing the types, distribution, and musical characteristics of instruments excavated from different sites, this research traces the developmental trajectory of Musical Instruments of the Central Plains of the Shang Dynasty and explores their interactions with surrounding cultures. Ultimately, this study aims to further reveal the transformations of Music Culture in the Central Plains during the Shang Dynasty and its lasting impact on the history of Chinese music.

2.5.3 Musicology

Mention that musicology is the study of certain musical styles deeply, including all of the musical contents, including music performance, composition, and music resources. The contents are about the theory of music, such as music elements, harmony, and melody (Ammer 1987).

Musicology is the general term for the academic study of music and related matters. Music disciplines include music performing arts, composition and

composition techniques theory, and musicology. Not only that, in musicology, the subject branch should include music creation and music performing arts (Yaohua Wang and Jianzhong Qiao 2005).

In traditional Chinese music theory, scales (see "five-tone scales" and "Heptatonic scales" in this chapter for details) are composed of the names of the scales with different names such as "Gong, Shang, Jue, Zhi, Yu" and so on. The names of the scales are divided into the "zheng sheng" (正声) and the "bian sheng" (变声), with the "zheng sheng" (正声) referring to the "Gong, Shang, Jue, Zhi, and Yu" (Do, Re, Mi, Sol, and La), and "zheng sheng" (正声) refers to "Qingjue (清角), Bianzhi (变徵), Qingyu (清羽), and Biangong" (变宫) (Fa, ♯Fa, bSi, Si) (Tong Zhongliang 2004).

In traditional Chinese music, if only the "Zheng sheng (正声)" - Gong (宫, gong), Shang (商, shang), Jue (角, jue), Zhi (徵, zhi), and Yu (羽, yu) - are used, a pentatonic scale (五声音阶, wusheng yinjie) can be formed. By adding two different Bian Sheng (变声, biansheng) to the pentatonic scale, a heptatonic scale (七声音阶, qisheng yinjie,) can be constructed (Tong Zhongliang 2004).

There are three types of heptatonic scales (七声调式, qisheng diaoshi):

2.5.4.1 Yayue scale (雅乐音阶, yayue yinjie): This scale is formed by adding 变徵 (bianzhi, bianzhi) (a minor second below zhi (徵, zhi) and biangong (变宫, biangong) to the five traditional pentatonic scales.

2.5.4.2 Qingyue scale (清乐音阶, qingyue yinjie): This scale is created by incorporating qingjue (清角, qingjue) and biangong (变宫, biangong) into the five traditional pentatonic scales.

2.5.4.3 Yanyue scale (燕乐音阶, yanyue yinjie): This scale is derived by adding qingjue (清角, qingjue) and run (闰, run) (a major second below gong (宫, gong)) to the five traditional pentatonic scales.

In contemporary Chinese musical practice, the Qingyue scale (清乐音阶, qingyue yinjie) holds a dominant position and is widely employed, while the Yayue scale (雅乐音阶, yayue yinjie) and Yanyue scale (燕乐音阶, yanyue yinjie) are used only in specific regions and particular compositions.

In this study, The researcher will apply music analysis methods to examine the collected music. Through a comprehensive analysis of the pieces, the researcher will explore their structure, tonality, melody, and rhythm from multiple perspectives. This multidimensional interpretation aims to uncover the deeper cultural connotations of the music, providing valuable references for the composition of traditional music.

2.6 Review of Related Research

Through a review of the relevant research findings, the author believes that the study of Shang Dynasty musical instruments excavated from the Central Plains began in the 1930s, alongside the archaeological excavation and research on oracle bones. This research can be divided into four stages. These four stages refer to Wang Xiuping's division.

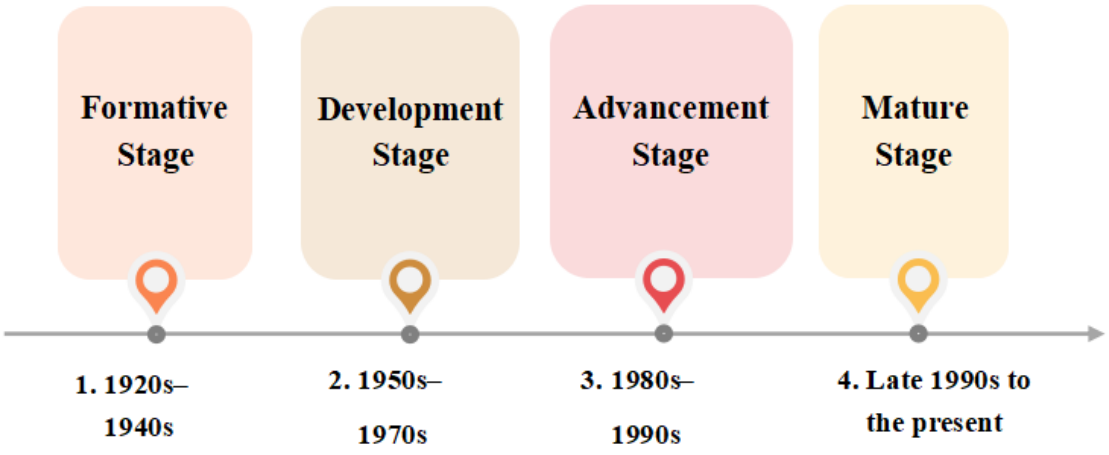

Figure 2. The Four Development Stages of Research on Excavated Musical Instruments in the Central Plains during the Shang Dynasty

Source: Wenran Wang 2023

2.6.1 1920s–1940s

This marks the initial stage of research on excavated musical instruments from the Shang Dynasty in the Central Plains. In 1937, Gibson published an article titled Music and Musical Instruments of the Shang Dynasty in The Journal of the Asiatic Society, Issue 68. This article remains one of the most representative works available before the founding of the People's Republic of China. During this period, a series of musical instruments were successively excavated from large aristocratic tombs at Houjiazhuang (侯家庄) in Yinxu (殷墟), such as Tombs 1217 and 1083. These discoveries included Biannao (编铙, multiple bronze Nao), Shiqing (石磬, stone chime), Taoxun (陶埙, ceramic ocarina), and Gu (鼓, drum). marking the beginning of scientifically excavated musical artifacts from the Shang Dynasty in the Central Plains.

To sum up, at this stage, the organisers and participants of the scientific excavation of Yinxu (殷墟) were mainly concerned with the oracle bones excavated at the site. As a result, academics paid relatively little attention to the musical instruments excavated in these excavations (Wang Zichu 2022).

2.6.2 1950s–1970s

This represents the developmental stage of research on excavated musical instruments from the Shang Dynasty in the Central Plains. A significant feature of the

Yinxu (殷墟) musical instrument research during this period is the participation of several prominent figures in musicology, such as:

Lv Ji (born 1909), a renowned Chinese composer, theorist, and music educator; one of the pioneers of the New Music Movement in China; and Honorary Chairman of the Chinese Musicians' Association (Li Chunyi 2005).

Yang Yinliu (born 1899), a distinguished music educator and a founding figure of Chinese ethnomusicology; a researcher and professor at the Research Department of the Central Conservatory of Music; former deputy director and later director of the Music Research Institute; and an executive member of the Chinese Musicians' Association.

Li Chunyi (born 1921), a prominent Chinese music historian and a researcher at the Music Research Institute of the Chinese National Academy of Arts.

All of these scholars contributed to the research on musical instruments excavated from Yinxu (殷墟). Moreover, during this period, a limited number of foreign scholars also published studies related to Chinese Shang civilization, although their output was very modest. For example, Mr. Lv Ji (born 1909, a renowned Chinese composer, theorist, and music educator; one of the pioneers of the New Music Movement in China; and Honorary Chairman of the Chinese Musicians' Association.)'s work, "Exploration of Several Taoxun (陶埙, ceramic ocarina) from the Primitive Clan Society to the Yin Dynasty (从原始氏族社会到殷代的几种陶埙的探索)", primarily examines the Taoxun (陶埙, ceramic ocarina), reflecting the contemporary understanding of a specific musical scale. His study underscores that the production of any musical instrument must invariably evolve to a higher stage in tandem with the development of social practice (Lv Ji 1978).

In terms of foreign scholarship, David N. Keightley's "The Oracle Bones of China's Bronze Age" divides its content into five chapters. The first chapter discusses the Shang Dynasty's divination process, the inscriptions used in divination, the deciphering of epigraphy, and the chronological dating of inscriptions, including relative chronology. The fifth chapter examines oracle bone inscriptions (甲骨文, jiaguwen) as a historical source (Keightley 1978).

Kwang-Chih Chang's "Shang Civilization" is divided into two parts. The first part examines Shang society through the lens of Anyang (安阳), addressing topics such as the royal capital, natural resources, economic resources, the Shang Dynasty's governance structure, and the political order of its state economy. The second part offers a detailed discussion of Shang Dynasty archaeology in Chengzhou (成周, chengzhou) and Anyang (Kwang-Chih Chang 1980).

To sum up, these studies have had epoch-making significance, enriching the scope of research on musical instruments excavated from Yinxu (殷墟). They have broadened the research framework, enabling the academic community to promptly access foundational knowledge about the musical instruments excavated at Yinxu (殷墟). Furthermore, these works have fostered an environment conducive to more extensive and in-depth research, laying a solid foundation of resources for subsequent studies.

2.6.3 1980s–1990s

This marks an in-depth research stage on the excavated musical instruments from the Central Plains during the Shang Dynasty. Foreign scholars have also shown increasing interest in Shang Dynasty musical instruments excavated in China, leading to the emergence of numerous related studies.

The book: The Shape of the Turtle: Myth, Art, and Cosmos in Early China, Sarah Allan asserts that in order to examine the nature of meaning in Shang bronze art, it is essential to first address the broader issue of meaning in myth and primitive art (Allan 1987).

In Fritz A. Kuttner' s book The Archaeology of Music in Ancient China: 2,000 Years of Acoustical Experimentation, 1400 BCE - CE 750, Fritz A. Kuttner examines two millennia of acoustical experimentation in ancient China, focusing on percussion instruments such as Tongling (铜铃, bronze bell) , Shiqing (石磬, stone chime), and Gu (鼓, drum). By integrating precise measurements with historical documentation, the study traces the evolution of musical scales and tuning systems, revealing how the manufacture of these instruments reflects the broader cultural dynamics of early Chinese civilization (Kuttner 1989).

Kwang-chih Chang, On the meaning of Shang in the Shang dynasty, argues that the word Shang (商) initially referred to the act of offering sacrifices to ancestors, and that the meaning was later expanded to include the ancestral temples of the Shang dynasty, the malls where the ancestral temples were located, and finally that the Shang dynasty may have originated from a group of rulers (Kwang-chih Chang 1995).

To sum up, during this period, scholars concentrated on analyzing the physical characteristics of excavated instruments and categorizing them by type. Building on these findings, they explored topics such as court music and dance of the Shang Dynasty, the development of ancient Chinese musical scales, and cultural exchanges between the Central Plains and other regions during the Shang Dynasty.

2.6.4 Late 1990s to the present

As the field of Chinese music archaeology (中国音乐考古学, zhongguo yinyue kaogu xue) gradually matures, the research on the musical instruments excavated from the Yinxu (殷墟) has entered an unprecedented period of prosperity. Scholars abroad have gradually developed an interest in Chinese Shang Dynasty civilization, resulting in the publication of numerous papers related to the Shang Dynasty.

Robert L. Thorp, in his article: in China in the Early Bronze Age Shang Civilization, provides a detailed account of the Shang Dynasty civilization during the early Bronze Age in China (Thorp 2005).

Fang Jianjun (Doctoral supervisor, Chinese music archaeologist), in his article: The Relationship between Shang and Zhou Musical Instruments and Ritual Activities as Seen from Their Excavated Situation (从商周乐器出土情况看其与祭祀活动之关系) examines the relationship between Shang-Zhou (商周, shangzhou) musical instruments and sacrificial activities by analyzing their excavation contexts and burial conditions (Fang Jianjun 2006).

Wang Xiuping (Ph.D., Professor, Master's Degree), in her article: A New Exploration of the Combination Pattern of Bronze Nao from the Fu Hao Tomb at Yinxu (殷墟出土音乐文物综论), systematically reviews and comprehensively analyzes the available materials. It preliminarily concludes that the five Nao (铜铙, suspended or hand-held bronze bell) excavated from the Fu Hao Tomb at Yinxu (殷墟) are arranged

in two sets, and it further investigates and analyzes the reasons why one of these sets comprises only two pieces (Wang Xiuping 2012).

In 2007, the article The Shang Dynasty, 1600 to 1050 BCE was published, providing a concise overview of the Shang Dynasty through four aspects: oracle bone inscriptions (甲骨文, jiaguwen), the dynasty itself, religion, and the dynasty's contributions to Chinese civilization.

Kin-Woon Tong (Archaeologist), in the article Shang Musical Instruments: Part One, states that due to the cultural continuity across the three dynasties, the study of Zhou dynasty musical instruments must first be preceded by an understanding of earlier instruments. Therefore, the author focuses on Shang dynasty musical instruments while also referencing prototypes found at Xia dynasty sites and earlier Neolithic sites. Although Shang dynasty musical instruments are not numerous, their variety makes them suitable for specialized research. Shiqing (石磬, stone chime), Tongling (铜铃, bronze bell), Tonggu (铜鼓, bronze drum), and Taoxun (陶埙, ceramic ocarina) provide crucial insights into the development of Shang music. While wooden and bamboo instruments have not been preserved, their existence can be indirectly verified through oracle bone inscriptions (OBI). The study primarily relies on excavated artifacts, OBI records, and classical texts. The author categorizes the instruments and provides a detailed analysis of their form, function, and performance practices to systematically reveal the characteristics of Shang musical culture (Kin-Woon Tong 2014).

In Shang Musical Instruments: Part Two, Kin-Woon Tong (Archaeologist) divides the discussion into two sections. Chapter Five primarily introduces prehistoric bells and classifies them, while Chapter Six focuses on wind instruments. Several pre-Shang wind instruments are mentioned in Zhou dynasty classical texts, and this chapter separately examines these issues. Whenever possible, examples of pre-Shang instruments are described to trace their development. Since no bamboo or wooden wind instruments have been preserved, most of the research relies on information derived from classical texts and oracle bone inscriptions (Kin-Woon Tong 2014).

Kin-Woon Tong (Archaeologist), in his article Shang Musical Instruments: Part Three, Kin-Woon Tong divides the discussion into three sections: Chapter 7 examines

stringed instruments (弦乐器, xian yueqi) and other types of instruments; Chapter 8 explores music and performers; and Chapter 9 presents the conclusions. By analyzing musical instruments excavated from the Shang Dynasty, the author demonstrates how Zhou culture inherited characteristics from the Shang (Kin-Woon Tong 2014).

To sum up, these studies have moved beyond mere descriptions of musical instruments excavated from the Yinxu (殷墟). They now extend to higher-level investigations into the origins, ornamentation, and symbolic meanings of motifs, as well as the ownership and performers of instruments and their connections to Shang sacrificial activities. Based on systematic surveys, classification, and pitch analysis of the Yinxu (殷墟)'s instruments, researchers are exploring their combinations, historical chronology, musical connotations, cultural structures, social functions, and the development of Shang ritual music systems. The scope of research continues to expand, with increasingly diverse methods and approaches.

From the study of the documentation above, the researcher concluded that:

This thesis takes the musical instruments excavated from archaeological excavations of the Shang Dynasty in the Central Plains as its primary research focus. By meticulously comparing and analyzing these excavated instruments, the aim is to clarify their names, types, chronological periods, regional distributions, cultural divisions, manufacturing materials, and production techniques. Through this investigation, the study seeks to outline the basic landscape of musical exchange and development between different regions during the Shang Dynasty.

By incorporating records from transmitted texts and excavated documents—such as oracle bone inscriptions (甲骨文, jiaguwen) and bronze inscriptions (金文, jinwen)—regarding Shang musical instruments from the Central Plains, the research delves into the functions of these instruments and examines their roles and historical impacts on the development of China's "ritual and music" (礼乐, liyue) civilization. Furthermore, this study seeks to uncover the social phenomena behind the forms and sounds of the instruments, thereby enriching the field of Chinese musical instrument history.

CHAPTER III

Research Methodology

This thesis takes the musical instruments excavated in the Central Plains as the research object. This thesis uses the qualitative research method to study the distribution of musical instruments excavated in the Central Plains of the Shang Dynasty in the Central Plains on the basis of literature research and fieldwork methods. On the basis of literature research and fieldwork, the functions of Shang dynasty musical instruments and the musical characteristics of Shang dynasty musical instrument performance are studied and analyzed.

The research framework of this chapter is as follows:

3.1 Research scope

The research scope is the foundation of academic research and an important basis for formulating research programmes and making decisions. Only by accurately grasping the scope of the study can the focus of the study and the applicable methodology be clarified, so that the established research objectives can be effectively achieved. Therefore, this section will provide a detailed definition of the content, location and relevant elements of the study. This process will provide a clear direction

for the subsequent study and ensure that the study can be conducted in an in-depth and focused manner.

3.1.1 Scope of content

The research includes: describing the distribution of musical instruments excavated in the Central Plains during the Shang Dynasty, the musical characteristics performed on Shang dynasty instruments and the functions of Shang Dynasty musical instruments.

3.1.2 Scope of time

I studied from October 2023 - February 2025

3.2 Research Process

3.2.1 Selection research site

Selection research site: Central Plains, China

The research site delineation in this study is shown in Figure 3 below. Figure 3 is the administrative map of the People's Republic of China, with the circled area representing the Central Plains region. As shown in the figure, the Central Plains region includes eastern Shaanxi Province, southern Hebei Province, southeastern Shanxi Province, and parts of Shandong Province.

Figure 3. The map of Central Plains in China

Source: Wenran Wang 2023

3.2.2 Selection of the informants

Informants

Among the objectives of the study, the dissertation researcher chose five individuals as respondents for the field study.

Five people served as respondents for the field study. They are: key informants and general informants. The criteria for selecting key informants are:

They have more than 30 years of research experience, " Chinese Music Archaeology " research experts and scholars.

- Key informant:

They have won important awards above the provincial level.

They are experts and scholars in the field.

- General informant:

They have a deep understanding of the history of " ancient music"

They are actors with 10 years of acting experience or workers.

Table 1. Displayed statistical data of scholars, including name, age, occupation, interview location, and time.

Name	Sex	Occupation	Location	Time
Kong Yilong	Male	Music archaeologist	China Academy of Art	2023.11.20
Fang Kejie	Male	The famous Chinese composer	Henan Museum	2024.03.01
Cui Zongliang	Male	Vice President, Anyang City Institute of Cultural Relics and Archaeology	Anyang City Institute of Cultural Relics and Archaeology	2024.04.14
Huo Kun	Male	The head of the Huaxia Ancient Orchestra of Henan Museum	Li Zhengjun's home	2024.04.06
Cai Ke	Female	Staff of the Chinese Character Museum	The Chinese Character Museum	2024.05.03

Source: Wenran Wang 2024

- Key informant:

Key informants: Mr. Kong Yilong, Mr. Fang Kejie and Mr. Cui Zongliang

Mr. Kong Yilong:

He is a music archaeologist and music historian. He holds a Ph.D., is a professor, doctoral supervisor, the Dean of the School of Music at South China Normal University, and the convener of the Music and Dance Discipline (音乐与舞蹈学) at the university. He concurrently serves as a council member of the Chinese Music History Society (中国音乐史学会), vice president of the East Asian Music Archaeology Society (东亚音乐考古学会), a member of the Seventh Academic Committee's Research Evaluation and Social Services Subcommittee at South China Normal University, and the chairperson of the Academic Committee of the School of Music.

In this thesis, certain relevant material information regarding musical instruments excavated in the Central Plains region was provided by Mr. Kong Yilong.

Figure 4. Mr. Kong Yilong (Key informant)

Source: Wenran Wang 2023

Mr. Fang Kejie:

He is a famous Chinese composer. Born and grew up in Henan Province, a native of Henan Province, a native of Henan Province, he is the only musician in China that can be proficient in Musical Music works that can be proficient in the instrument

of the Shang Dynasty.

The musical works in this thesis were adapted by Mr. Fang Kejie.

Figure 5. Mr. Fang Kejie (Key informant)

Source: Wenran Wang 2023

Mr. Cui Zongliang:

Archaeologist, Ph.D., Vice President, Anyang City Institute of Cultural Relics and Archaeology, China.

In this thesis, certain relevant material information regarding musical instruments excavated in the Central Plains region was provided by Mr. Cui Zongliang.

Figure 6. Mr. Cui Zongliang (Key informant)

Source: Wenran Wang 2023

General information provider:

Mr. Huo Kun:

The head of the Huaxia Ancient Orchestra of Henan Museum (河南博物院华夏古乐团, henanbowuyuan huaxia guyuetuan), vice chairman of the Henan Musicians Association (河南省音乐家协会, henansheng yinyuejiax xiehui). Secretary -General of Henan Province Ancient Music Culture Research Association (河南省古代音乐文化研究会, henansheng gudai yinyuewenhua yanjiuhui). Inspector of the contribution of ancient music and culture transmission. Specializes in the translation of ancient musical scores.

The musical works in this thesis were transcribed from ancient scores by Mr. Huo Kun.

Figure 7. Mr. Huo Kun (General informant)

Source: Wenran Wang 2023

General information provider:

Ms. Cai Ke:

Staff of the Chinese Character Museum.

The instrumental features in this thesis were partly provided by Ms. Cai Ke

Figure 8. Ms. Cai Ke (General informant)

Source: Wenran Wang 2024

3.2.3 Selection of the music

The researchers chose the musical piece 'Shang Song - Xuan Bird'. The musical instruments used in this piece were all excavated in the central plains of the Shang Dynasty, and it mainly describes ritual scenes of the Shang Dynasty.

The musical piece 'Liu Shui' is based on the Guqin piece 'High Mountains and Flowing Water', which is meant to express the mood of a gurgling stream and the momentum of an oceanic river. It is mainly used by the elite class for dinner and entertainment.

The piece 'Ai Ying' is based on the guqin piece 'Li Sao' and shows the poet's deep feelings of worrying about the country and the people.

In addition, these three pieces of music were all recommended to me by Professor Fang Ke Jie, the composer of the Huaxia Ancient Orchestra.

3.2.4 Research tools

The researcher mainly used interviews and observations.

Process of making Interview form and observation form:

(1) Make questions based on research objective.

(2) Bring it to the advisor to examine.

(3) Revise them following the advisor's suggestions.

(4) Send it to an expert for inspection before using.

(5) Adjust them based on the specialist's feedback before applying them in fieldwork.

3.2.5 Data collection

When the researcher decides to write this thesis title, the researcher will use the following steps to collect data:

3.2.5.1 Field survey

The researcher personally went to the Huaxia Ancient Orchestra (华夏古乐团, huaxia guyuetuan) in Zhengzhou, Henan Province to conduct an inspection on the spot to watch the most representative musical instruments of the ancient times of the Central Plains.

3.2.5.2 Visit investigation

Firstly, prepare questions in advance and conduct interviews with archaeologists and composers. Secondly, attend the orchestra's performance events with

other audience members and record them.

3.2.5.3 Literature

Search for books, newsthesiss, journals, and academic papers related to excavated musical instruments from the Central Plains region during the Shang Dynasty. Acquire knowledge and historical records of these instruments through libraries, online databases, and other research channels.

3.2.5.4 Video, recording records

Use a video recorder and a recorder to record the access process, which is convenient for subsequent release and finishing. It is necessary to obtain the consent of the interviewer first, and respect their privacy.

3.2.5.5 Observation record

In the process of interviews, we must use tools such as notebooks, mobile phones, etc. to record all the details you see, such as your own feelings, ideas, and so on.

3.2.6 Data management

Collect excavated musical instruments from the Central Plains region during the Shang Dynasty. Once researcher have gathered all the musical data, researcher will process the collected materials using the following methods:

3.2.6.1 Organization and Classification: Conduct a statistical analysis of the number of excavated musical instruments from the Central Plains region during the Shang Dynasty and their classification.

3.2.6.2 Digitization: Digitize the collected musical performances played on excavated Shang Dynasty instruments, including converting and storing video formats into electronic formats, scanning and transforming paper documents into digital files, and other processes to facilitate storage, analysis, and sharing.

3.2.6.3 Data Analysis: Analyze the collected data on excavated Shang Dynasty musical instruments and the musical materials performed with these instruments, focusing on aspects such as classification, function, and usage.

3.2.6.4 Storage and Sharing: Store the collected musical data of Shang Dynasty excavated instruments in a reliable database and establish an effective data management system to facilitate future retrieval and sharing, thereby promoting research on these instruments.

3.2.6.5 Data Backup: Regularly back up the collected data on excavated Shang Dynasty musical instruments and related musical materials to ensure data security and prevent potential data loss.

3.2.7 Data analysis

During the field survey, when researcher has completed the collection and sorting of the information, the researcher will analyze the following analysis of the information on me:

3.2.7.1 Data Organization: The artifacts of musical instruments excavated from the Shang Dynasty in the Central Plains region will be systematically organized and categorized to ensure the completeness and accuracy of the data. The researcher will use mind maps, electronic spreadsheets, and platform database tools to structure and arrange the data.

3.2.7.2 Data Description: A statistical description of the musical instruments excavated from the Shang Dynasty in the Central Plains region will be conducted, with an analysis of the music performed using these instruments.

3.2.7.3 Data Comparison: A comparative analysis will be made of the musical instruments excavated from different cultural zones within the Shang Dynasty, identifying their commonalities and distinct characteristics.

3.2.7.4 Data Interpretation: Based on the analysis results, the researcher will make inferences and provide rational explanations and hypotheses using theories such as music archaeology and ethnomusicology, offering appropriate evidence for these interpretations.

3.2.7.5 Presentation of Results: The results of the analysis will be presented in a clear and concise manner, such as through charts and tables, with detailed descriptions of the presentation methods used.

3.2.7.6 Conclusion and Discussion: Through the collection and analysis of the musical instruments excavated from the Shang Dynasty in the Central Plains region and the music they were used to perform, the researcher will draw conclusions and discuss the findings. The answers to the research questions will be summarized, internal relationships or trends will be identified, and effective suggestions for future research will be proposed.

3.2.8 Data presentation

In this article, the researcher will introduce seven chapters:

Chapter I: Introduction

Chapter II: Literature review

Chapter III: Research Methodology

Chapter IV: The distribution of musical instruments excavated in the central plains of the Shang dynasty

Chapter V: Analysis of musical characteristics performed on Shang Dynasty instruments

Chapter VI: The functions of musical instruments of the Shang dynasty

Chapter VII: Conclusion, Discussion and Suggestions

CHAPER IV

The Distribution of Musical Instruments Excavated in the Central Plains During the Shang Dynasty

The musical instruments excavated from the Central Plains during the Shang Dynasty are primarily distributed across the provinces of Henan Province, Shanxi Province, Shandong Province, Hebei Province, and Shaanxi Province in China. Through literature research. Through literature research, field surveys and interviews, researcher have found that a wide variety of Shang dynasty musical instruments have been excavated, Gu (鼓, drum), Shiqing (石磬, stone chime), Nao (铙, suspended or hand-held bell), Taoxun (陶埙, ceramic ocarina), Gupaixiao (骨排箫, bone paixiao), and Tongling (铜铃, bronze bell).

This chapter is structured as follows:

4.1 Archaeological Discoveries of Shang Dynasty Musical Instruments in Henan Province

4.2 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shanxi Province

4.3 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shandong Province

4.4 Archaeological Discoveries of Shang Dynasty Musical Instruments in Hebei Province

4.5 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shaanxi Province

4.6 Summary

4.1 Archaeological Discoveries of Shang Dynasty Musical Instruments in Henan Province

The archaeological excavation of Shang Dynasty musical instruments in Henan Province is primarily concentrated in Yinxu (殷墟), where the highest number, greatest variety, and densest distribution of instruments have been discovered. Beyond Yinxu

(殷墟), Shang Dynasty musical instruments have also been excavated in Zhengzhou, Xinxiang, and other locations, though in significantly smaller quantities.

The primary types of Shang Dynasty musical instruments excavated in Henan Province include:

4.1.1 Idiophones

Idiophones include the Shiqing (石磬, stone chime), Nao (铙, suspended or hand-held bell) and Tongling (铜铃, bronze bell).

4.1.1.1 Shiqing (石磬, stone chime)

The Shiqing (石磬, stone chime), a percussion instrument with a profound historical background and diverse forms, holds an indispensable place in ancient Chinese musical culture. Its history can be traced back to the matrilineal clan society of prehistoric times, when people would strike stones for entertainment after labor. Over time, these struck stones evolved into the percussion instrument known as the Shiqing (石磬, stone chime).

Field investigations have revealed that a considerable number of Shiqing (石磬, stone chime) from the Shang Dynasty have been excavated. A total of 39 Shiqing (石磬, stone chime) have been excavated, primarily concentrated in Yinxu (殷墟), Anyang, Henan Province, dating to the late Shang period. The earliest known Shiqing (石磬, stone chime) in China appeared during the Neolithic period, with the currently earliest identified specimen excavated from the Dongxiafeng site in Xia County, Shanxi Province, dating back approximately 4,000 years. Insights obtained through interviews with archaeologist Professor Cui Zongliang corroborate these findings (Cui Zongliang, personal communication, April 14, 2024).

Informant Huo Kun, director of the Henan Huaxia Ancient Music Ensemble, said Shiqing (石磬, stone chime) from the Shang Dynasty can be classified into two categories: Teqing (特磬, a single chime), which are Teqing (特磬, a single chime) found in excavations, and Bianqing (编磬, multiple bronze chime), which are sets of three or more Shiqing (石磬, stone chime) used together (Huo Kun, personal communication, April 6, 2024).

Furthermore, based on interviews with Professor Cui Zongliang, Shang Dynasty Shiqing (石磬, stone chime) diverse shapes, including (1) rectangular, (2) fish-shaped Shiqing (石磬, stone chime) with zoomorphic features, and (3) polygonal Shiqing (石磬, stone chime) (Cui Zongliang, personal communication, 20 November, 2023).

4.1.1.1 Rectangular

Figure 9. Shiqing (石磬, stone chime) Excavated from Yinxu (殷墟) in Anyang, Henan Province

Source: Wenran Wang 2024

4.1.1.2 Fish-shaped Shiqing (石磬, stone chime) with zoomorphic features

Figure 10. Fish-shaped Shiqing (石磬, stone chime)

Source: Wenran Wang 2023

4.1.1.3 Polygonal Shiqing (石磬, stone chime)

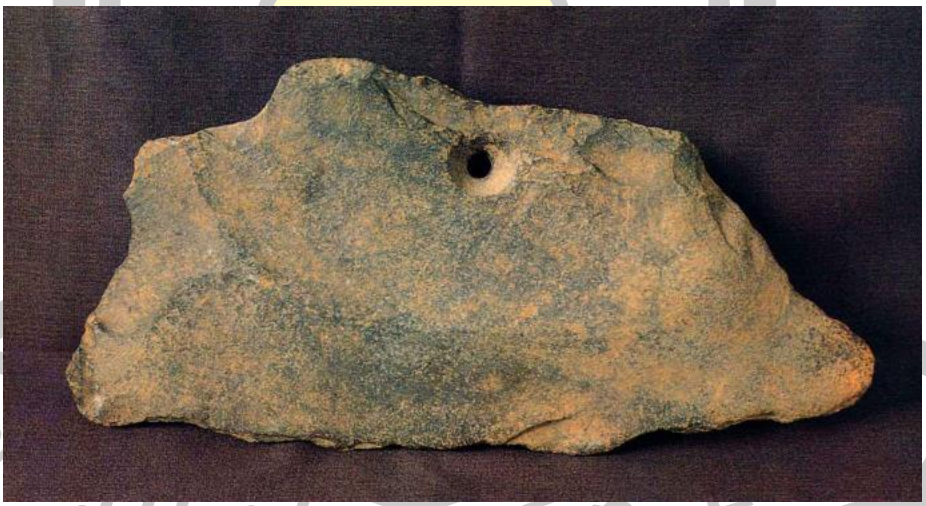

Figure 11. Zhengzhou Shiqing (石磬, stone chime)

Source: Wenran Wang 2023

The Shiqing (石磬, stone chime) is played by suspending it on a wooden frame and striking it with a small wooden mallet, producing a crisp and resonant sound.

Based on field investigations and an interview with archaeologist Professor Cui Zongliang, it has been determined that both surviving and excavated Shiqing (石磬, stone chime) specimens indicate that their production during the Shang Dynasty was in a transitional phase from irregular to more standardized forms. The shapes of these instruments were not yet uniform, and no standardized specifications or production criteria had been fully established.(Cui Zongliang, personal communication, 3 April, 2024).

However, by the late Shang Dynasty, instrument makers may have begun to recognize the impact of the Shiqing (石磬, stone chime)'s shape and structure on its pitch and acoustic properties. They gradually developed an understanding of its musical characteristics and sought to achieve more refined and effective sound production. Consequently, the manufacturing of Shiqing (石磬, stone chime) evolved towards greater structural consistency and standardization (Cui Zongliang, personal communication, April 14, 2024).

4.1.1.2 Nao (铙, suspended or hand-held bell)

Figure 12. Henan Nao (铙, suspended or hand-held bell)

Source: Wenran Wang 2023

The Nao (铙, suspended or hand-held bell) evolved from the Tongling (铜铃, bronze bell). Field investigations have revealed that a total of 66 Nao (铙, Suspended or hand-held bell) have been excavated in the Central Plains, with the majority concentrated in Henan Province, particularly around Yinxu (殷墟), Anyang.

Additionally, 9 Nao (铙, Suspended or hand-held bell) have been excavated in Shandong Province and 2 Nao (铙, Suspended or hand-held bell) in Shanxi Province. Interviews with archaeologist Professor Cui Zongliang corroborate these findings (Cui Zongliang, personal communication, April 14, 2024).

Professor Cui Zongliang said that, by the middle to late Shang Dynasty, a Biannao (编铙, multiple bronze Nao) had become widespread, particularly within the ruling elite of the Shang polity. Excavations have uncovered Biannao (编铙, multiple bronze Nao) not only in the Shang capital region but also in surrounding areas such as Shandong Province and Shanxi Province. However, the largest and most representative assemblage of Biannao (编铙, multiple bronze Nao) has been discovered at Yinxu (殷墟), Anyang (Cui Zongliang, personal communication, April 14, 2024).

Field investigations further indicate that Nao (铙, Suspended or hand-held bell) in the Central Plains were primarily excavated from Shang Dynasty tombs. Based on this evidence, Professor Cui Zongliang hypothesizes that Nao (铙, Suspended or hand-held bell) were interred as grave goods, serving as part of Shang Dynasty funerary practices (Cui Zongliang, personal communication, April 14, 2024).

The Nao (铙, Suspended or hand-held bell) was played by inverting three instruments with their mouths facing upward, inserting their handles vertically into a specially designed base. The performer would then strike the drum-shaped body with a small stick or mallet to produce sound. See in Figure 13.

Figure 13. How to Play the Nao (铙, Suspended or hand-held bell)

Source: Wenran Wang 2023

4.1.1.3 Tongling (铜铃, bronze bell)

The Tongling (铜铃, bronze bell) is the earliest known copper-alloy musical instrument in China, with its origins tracing back to Taoling (陶铃, pottery bell) from the Paleolithic period. Based on field investigations and an interview with archaeologist Professor Cui Zongliang, it has been determined that Tongling (铜铃, bronze bell) were widely used during the Shang Dynasty (Cui Zongliang, personal communication, April 14, 2024).

4.1.2 Membranophones

4.1.2.1 Gu (鼓, drum)

Through an interview with Mr Cai Ke, a staff member at the Chinese Character Museum (中国文字博物馆), researcher have discovered that drums existed as early as the prehistoric period, with the earliest form referred to as the "tu drum" (土鼓, a drum made of clay.). The drum frame was likely made of clay, and its history can be traced back more than 4,000 years. It is believed that this early drum evolved from a cooking vessel (Cai Ke, personal communication, May 3, 2024).

In the Shang Dynasty, drums in the Central Plains region were primarily made of wood. However, only three drum artifacts have been excavated. Archaeologist Professor Cui Zongliang said that, due to the poor preservation properties of wood, no original wooden drums have survived to the present day. The existing example is merely a replica (Cui Zongliang, personal communication, April 14, 2024).

Figure 14. Henan Gu (鼓, drum) (replica)

Source: Wenran Wang 2023

4.1.3 Aerophones

4.1.3.1 Taoxun (陶埙, ceramic ocarina)

Figure 15. Henan Taoxun (陶埙, ceramic ocarina)

Source: Wenran Wang 2023

The Taoxun (陶埙, ceramic ocarina) was originally used as a hunting tool in ancient times and is considered China's oldest wind instrument, dating back approximately 7,000–8,000 years to the Neolithic period.

Through field investigations, researcher have found that the use of the Taoxun (陶埙, ceramic ocarina) became more widespread during the Shang Dynasty. A total of 21 Taoxun (陶埙, ceramic ocarina) have been excavated from sites in the Central Plains region. Shang Dynasty Taoxun (陶埙, ceramic ocarina) were predominantly flat-bottomed and ovoid in shape, though other forms also existed. By this period, the Taoxun (陶埙, ceramic ocarina) had already developed into a well-established melodic instrument, with its structure tending toward standardization. Interviews with archaeologist Professor Cui Zongliang confirmed these findings (Cui Zongliang, personal communication, April 14, 2024).

Additionally, Professor Cui Zongliang noted that commoners during the Shang Dynasty occupied the lowest social stratum and had no rights in ritual music. The Taoxun (陶埙, ceramic ocarina) was a popular folk instrument used for personal entertainment and later gradually made its way into the imperial court. Consequently, while Taoxun (陶埙, ceramic ocarina) have been excavated from high-ranking

aristocratic tombs, a smaller number have also been found in the burials of middle-ranking nobles and some commoners (Cui Zongliang, personal communication, April 14, 2024).

The Shang people placed great emphasis on ancestor worship and spiritual rituals, with ceremonial music and dance playing a crucial role in these religious practices. Mr Huo Kun, director of the Huaxia Ancient Music Ensemble in Henan Province, said the Taoxun (陶埙, ceramic ocarina) was widely used in ritual ensembles as a sacrificial instrument (Huo Kun, personal communication, April 6, 2024).

In Henan Province, the Taoxun (陶埙, ceramic ocarina) has been excavated from Shang royal tombs, with the highest number of such findings compared to other regions. The researcher conducted fieldwork and interviews with informant Cui Zongliang, who believes that the Taoxun (陶埙, ceramic ocarina), as one of the oldest wind instruments in China, originated in the Neolithic period and flourished during the Shang dynasty (Cui Zongliang, personal communication, April 14, 2024).

Through literature review and fieldwork, the researcher found that the origin of the Shang people is associated with a woman named Jian Di, who is regarded as the mother of the Shang lineage. The Shang progenitor, Qi, was said to have been born after Jian Di swallowed an egg left by a xuanniao (the "dark bird"). This origin myth was passed down through generations among the Shang people, and the xuanniao (玄鸟) subsequently became a totem and ancestral deity of the Shang lineage. The shape of the Taoxun (陶埙, ceramic ocarina) resembles that of a bird's egg, leading the Shang people to associate it with their ancestral origins. Therefore, this instrument was exclusively found in Shang royal tombs.

4.1.3.2 Gupaixiao (骨排箫, bone paixiao)

Figure 16. Henan Gupaixiao (骨排箫, bone paixiao)

Source: Wenran Wang 2023

Based on a review of existing sources, researcher have identified multiple historical accounts regarding the origins of the Paixiao (排箫). One tradition attributes its invention to the sage-king Shun (舜), who allegedly used it in the performance of Shao music (韶), while another ascribes its creation to Fuxi (伏羲) and Nüwa (女娲). Although these accounts lack definitive historical evidence, they reflect a characteristic feature of ancient Chinese literature—the tendency to attribute the invention of certain musical instruments to mythical figures, a phenomenon particularly evident in early societal structures. This perspective was confirmed in an interview with archaeologist Professor Cui Zongliang (Cui Zongliang, personal communication, April 14, 2024).

In 1997, the excavation of a Gupaixiao (骨排箫, bone paixiao) from the Changzikou tomb in Luyi County (鹿邑 "长子口"墓) significantly advanced the understanding of the instrument's history.

Through field investigations and an interview with Professor Cui Zongliang, researcher have determined that the previously recognized earliest paixiao (排箫) in China was a Gupaixiao (骨排箫, bone paixiao) excavated from Tomb No. 1 at Xiasi, Xichuan (淅川下寺 1 号墓), dating to the Late Spring and Autumn period. However,

the discovery of the Changzikou Gupaixiao (骨排箫, bone paixiao) pushes back the documented history of this important wind instrument to at least the Late Shang Dynasty. The Changzikou paixiao (排箫), crafted from avian leg bones, currently represents the earliest known physical evidence of the Paixiao in China, dating back over 3,000 years (Cui Zongliang, personal communication, April 14, 2024).

Additionally, Ms Cai Ke, a worker at the Chinese Character Museum (中国文字博物馆), said oracle bone inscriptions from Yinxu (殷墟) contain a character referring to the Paixiao (排箫). The discovery of the Changzikou Gupaixiao (骨排箫, bone paixiao) provides material evidence that corroborates these inscriptions, thereby filling the gap in the archaeological record regarding the existence of Paixiao (排箫) during the Shang Dynasty (Cai Ke, personal communication, May 3, 2024).

Gupaixiao (骨排箫, bone paixiao) were made from the bones of birds and animals, which are relatively durable and resistant to decay. In contrast, those made of wood have decomposed over time.

To sum up, through field research, the investigator found that the Henan region in the Central Plains of the Shang Dynasty yielded a significant number of musical instruments, with a total of 128 items excavated. These included all the types of instruments found in the region during the Shang Dynasty. The investigator obtained the same information after interviewing Professor Cui Zongliang, a archaeologist (Cui Zongliang, personal communication, April 14, 2024).

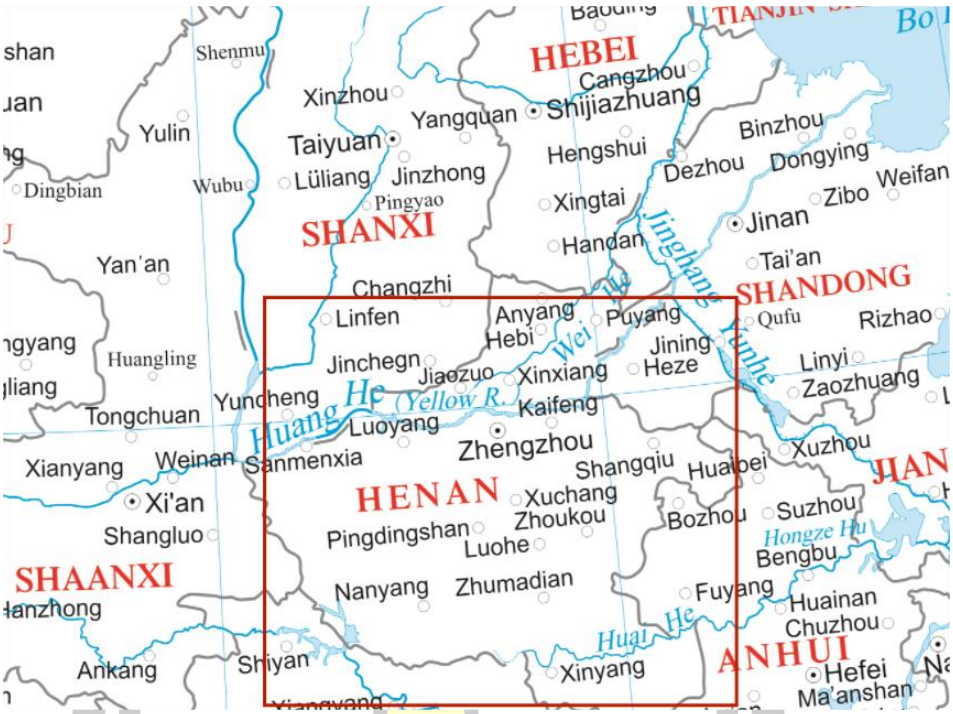

Figure 17. Map of Henan Province, China

Source: Wenran Wang 2023

Through field research, the investigator learned from Cui Zongliang, Director of the Anyang Archaeological Institute of Cultural Relics, that Henan Province is an important cradle of Chinese civilization and the birthplace of the Xia, Shang, and Zhou dynasties. The civilization of these three dynasties laid the foundation for the continuous development of Chinese civilization. The cultural core formed between the Yellow River (黄河, Huanghe) and Luoshui rivers, where a mature civilization took shape, creating a radiating political structure centered around the capital cities. Over the course of more than 20 dynasties and 200 emperors, Henan Province served as the capital region. Henan Province is located in the Central Plains of China, an important transportation hub and a populous province, making it one of the key birthplaces of Chinese civilization (Cui Zongliang, personal communication, April 14, 2024).

Through an interview with Cai Ke, a staff member of the Chinese Writing Museum, the researcher found that during the Shang Dynasty, musical instruments were primarily used by the elite classes. After the death of these elites, their descendants would bury them with a large number of instruments in the hope that they could continue to enjoy the same status and privileges in the afterlife. Since Henan Province

was also the primary region where capitals and businesses were established throughout various Chinese dynasties, it is therefore the region in the Central Plains with the highest number of Shang Dynasty musical instruments uncovered (Cai Ke, personal communication, May 3, 2024).

4.2 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shanxi Province

Three types of musical instruments have been excavated in Shanxi Province: the Shiqing (石磬, stone chime), the Nao (铙, suspended or hand-held bell), and the Gu (鼓, drum).

4.2.1 Idiophones

4.2.1.1 Shiqing (石磬, stone chime)

Through literature review and fieldwork, the researcher found that eight Shiqing (石磬, stone chime) have been excavated in Shanxi Province, ranking second only to Henan Province.

Informant Cui Zongliang believes that the relationship between Henan Province and Shanxi Province during the Shang Dynasty was extremely close, which is not merely a coincidence. Shanxi Province was significantly influenced by Henan Province (Cui Zongliang, personal communication, April 14, 2024).

4.2.1.2 Nao (铙, suspended or hand-held bell)

Through the researcher's fieldwork, the researcher found that two Nao (铙, suspended or hand-held bell) have been excavated in Shanxi Province.

The researcher obtained accurate information through fieldwork and interviews with informants such as Cui Zongliang, who believes that the most representative example is the Nao (铙, suspended or hand-held bell) from Caojiayuan, Shilou County (Cui Zongliang, personal communication, April 14, 2024).

Through literature review and fieldwork, the researcher found that a bronze bell-shaped instrument exhibits distinctive structural and decorative features. It has a cylindrical handle, is hollow inside, and features three encircling ring knobs. The body is round and tubular, with the upper half decorated with square grid patterns and string

motifs, while the lower section remains plain. The instrument measures 29.0 cm in total height, with a handle length of 11.0 cm and a mouth diameter of 6.0 cm, and is well-preserved.

Informant Cui Zongliang believes that the instrument's mouth exhibits significant wear, suggesting that it was a functional musical instrument, possibly used in ancient northern ethnic group dances (Cui Zongliang, personal communication, April 14, 2024).

4.2.2 Membranophones

4.2.2.1 Gu (鼓, drum)

Through literature review, the researcher found that the Tuogu (鼉鼓, a drum made of crocodile skin) is a type of drum with a crocodile skin membrane. In 1976, one tuo gu was excavated from a Shang Dynasty tomb in Jiexiu, Lingshi County, Shanxi Province. No photographs of the drums have been found, and the museum collection is open to the public.

Both Shanxi Province and Henan Province have yielded tuo gu in archaeological excavations. Informant Cui Zongliang believes that the relationship between the two is highly significant, suggesting that the cage drum (long gu) from the Taosi cemetery may have been influenced by the Tuogu (鼉鼓, a drum made of crocodile skin) from Henan Province (Cui Zongliang, personal communication, April 14, 2024). However, this remains a hypothesis, as the current archaeological materials are insufficient to provide definitive proof. Further archaeological discoveries are required to verify this assumption.

To sum up, this section summarizes the archaeological discoveries of Shang Dynasty musical instruments in Shanxi Province, with a focus on the excavation of idiophones and membranophones. A total of eight Shiqing (石磬, stone chime) have been found, second only to Henan Province, reflecting the close cultural connections between the two regions during the Shang period. The number of Nao (铙, suspended or hand-held bell) discovered is relatively small, with only two specimens. Among them, the Nao (铙, Suspended or hand-held bell) from Caojiayuan, Shilou County, is particularly representative, characterized by its cylindrical shape, square grid patterns,

and string motifs. Its mouth exhibits significant wear, suggesting that it may have been used for dance accompaniment.

Regarding the Tuogu (鼉鼓, a drum made of crocodile skin), a specimen was excavated from a Shang tomb in Jiexiu, Lingshi County, Shanxi Province, exhibiting similarities to those found in Henan Province. It is hypothesized that there may have been a cultural transmission between the two regions, particularly in the influence of the Henan Tuogu (鼉鼓, a drum made of crocodile skin) on the long gu from the Taosi cemetery. However, due to the limitations of existing archaeological data, this hypothesis requires further validation.

In summary, the archaeological discoveries of Shang Dynasty musical instruments in Shanxi Province reveal its close connections with Henan Province, highlighting the significant role of musical culture in Shang society. Because the Chinese alligator drum was a wooden instrument, it has long since rotted and is now impossible to find.

4.3 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shandong Province

Shandong Province has yielded three types of musical instruments through archaeological excavations: the Shiqing (石磬, stone chime), the Nao (铙, Suspended or hand-held bell), and the Taoxun (陶埙, ceramic ocarina).

4.3.1 Idiophones

4.3.1.1 Shiqing (石磬, stone chime)

Through literature review and fieldwork, the researcher found that the Shiqing (石磬, stone chime) was made from metamorphic limestone slabs, naturally shaped by water erosion. The instrument retains its original water-formed surface, with only minimal processing and no extensive modifications. The perforations were created using a tube-drilling technique, resulting in inner and outer diameters of equal size.

This Shiqing (石磬, stone chime) closely resembles those excavated in Henan Province. Informant Huo Kun believes that this similarity is not coincidental. He suggests that during the Shang Dynasty, Henan Province—particularly the Yinxu (殷墟) site in Anyang—served as the political, economic, and cultural center of the Shang

court. Given Shanxi's geographical proximity to Henan Province, it was deeply influenced by Central Plains culture. The two regions likely engaged in cultural exchanges, particularly in ritual music systems and musical instrument craftsmanship. Consequently, the shiqing excavated in both regions share significant similarities in form, production techniques, and functional use (Huo Kun, personal communication, April 6, 2024).

4.3.1.2 Nao (铙, suspended or hand-held bell)

Through literature review and fieldwork, the researcher found that the Nao (铙, Suspended or hand-held bell) excavated in Shandong Province exhibit similar shapes and decorative patterns. The body of the Nao (铙, suspended or hand-held bell) is semi-cylindrical, with a curved mouth and bifurcated flanges at both corners. The tubular handle is connected to the internal cavity, while the central striking area features a protruding square section. The decorative motifs on both sides are identical, adorned with simplified taotie (饕餮) patterns. The overall form of the instrument is well-preserved.

4.3.2 Aerophones

4.3.2.1 Taoxun (陶埙, ceramic ocarina)

Figure 18. Shandong Taoxun (陶埙, ceramic ocarina)

Source: Wenran Wang 2023

Through literature review and fieldwork, the researcher found that archaeological data indicate that in the winter of 1979, the Dezhou Regional Cultural Relics Work Team excavated artifacts from the Xingzhaiwang site in Liangjia

Township, Yucheng City. The cultural layers at this site encompass the Longshan culture, Shang culture, and Han culture. The excavated artifacts are characterized by a fine and dense texture, shaped by hand molding.

Through research, it was found that the Taoxun (陶埙, ceramic ocarina) excavated in Shandong Province and Henan Province exhibit identical forms. Informant Cui Zongliang believes that their close relationship can be attributed to the fact that during the Shang Dynasty, Henan Province served as the political, economic, and cultural center of the Shang kingdom, while Shandong Province—particularly southwestern and western Shandong Province—was geographically adjacent to Henan Province and profoundly influenced by Shang culture. During the expansion of the Shang Dynasty, the Shang court maintained close interactions with regional states in Shandong Province, such as the State of Yan and the State of Ju. These cultural exchanges facilitated the dissemination of the Taoxun (陶埙, ceramic ocarina), resulting in the similarity of excavated specimens from both regions in terms of shape, finger hole structure, and manufacturing techniques. (Cui Zongliang, personal communication, April 14, 2024).

To sum up, through literature review and fieldwork, this study found that three types of musical instruments—Shiqing (石磬, stone chime), Nao (铙, suspended or hand-held bell), and Taoxun (陶埙, ceramic ocarina)—were excavated from Shang Dynasty sites in Shandong Province. The significant similarities among these instruments can be attributed to the geographical proximity between Shandong Province and Henan Province, as well as the profound influence of Shang culture. The interactions between regional states facilitated the transmission of ritual and musical instruments, leading to a high degree of similarity in form, finger hole structure, and manufacturing techniques between the excavated instruments from both regions.

4.4 Archaeological Discoveries of Shang Dynasty Musical Instruments in Shaanxi Province

The only type of musical instrument excavated in Shaanxi Province is the Shiqing (石磬, stone chime).

4.4.1 Idiophones

Through literature review and fieldwork, the researcher found that the Shiqing (石磬, stone chime) was excavated in July 1973 in Huaizhenfang Village, Lantian County. The Shiqing (石磬, stone chime) was discovered by a farmer during land leveling, approximately 100 meters southeast of the village. The Shiqing (石磬, stone chime) dates back to the late Shang Dynasty. It is made of limestone and features an uneven surface with varying thickness.

Informant Cui Zongliang believes that Shaanxi Province, located in the middle reaches of the Yellow River (黄河), was home to several vassal states of the Shang Dynasty, which had close ties with the Shang royal court (Cui Zongliang, personal communication, 3 April 2024).

In summary, the Shang Dynasty Shiqing (石磬, stone chime) from Shaanxi Province was excavated in Huaizhenfang Village, Lantian County, made of limestone, with an uneven surface and varying thickness. The research suggests that Shaanxi's location in the middle reaches of the Yellow River, surrounded by numerous vassal states of the Shang Dynasty, facilitated cultural exchange that may have contributed to the use and spread of the Shiqing (石磬, stone chime).

4.5 Archaeological Discoveries of Shang Dynasty Musical Instruments in Hebei Province

Only one musical instrument has been excavated in Hebei Province: the Shiqing (石磬, stone chime).

4.5.1 Idiophones

4.5.1.1 Shiqing (石磬, stone chime)

Through literature review and fieldwork, the researcher found that in October 1972, a Shiqing (石磬, stone chime) was excavated at the Taixi site in Gaocheng County, in Tomb No. 112. The Shiqing (石磬, stone chime) was broken into four pieces, but it could still be reconstructed. It is made of light grayish-white limestone.

Informant Cui Zongliang believes that the tomb contained various bronze items, including a tripod, a rhinoceros-shaped vessel, a goblet, and a bronze axe with

an iron blade, as well as some jade and stone artifacts (Cui Zongliang, personal communication, 3 April 2024).

4.6 Summary

From the analysis and fieldwork, the researcher found that:

A wide variety of Shang dynasty musical instruments1 have been excavated in the Central Plains, including Gu (鼓, drum), Shiqing (石磬, stone chime), Nao (铙, suspended or hand-held bell), Taoxun (陶埙, ceramic ocarina), Bone paixiao (骨排箫, gupaixiao), and Tongling (铜铃, bronze bell). These musical instruments were primarily concentrated in Henan Province, with their distribution extending to surrounding regions, including Lantian (蓝田, Lantian) in Shaanxi Province, Gaocheng (藁城, Gaocheng) in Hebei Province, Caojiayuan (曹家垣, Caojiayuan) in Shanxi Province, and Qianzhangda (前掌大, Qianzhangda) in Shandong Province. The presence of musical artifacts in these areas suggests that under the governance of the Shang Dynasty, musical culture was not confined to the capital and central regions but was also widely disseminated to peripheral areas.

4.6.1 Temporal Continuity

From the analysis and fieldwork, the researcher found that:

among the excavated musical instruments, Nao (铙, suspended or hand-held bell) were the most numerous, totaling 66 pieces, followed by Shiqing (石磬, stone chime) with 38 pieces, including 12 sets of three-piece ensembles. Additionally, Tongling (铜铃, bronze bell) numbered 28 pieces, Taoxun (陶埙, ceramic ocarina) totaled 22 pieces, and drums (gu, 鼓) were found in four instances.

The analysis of these findings suggests a certain continuity in the development of musical instruments during the Shang Dynasty in the Central Plains, gradually forming a more comprehensive sequence of musical evolution. The chronological span of the excavated instruments extends from the Early Shang period to the second and third phases of Yinxu (殷墟) culture, reaching the fourth phase, covering a significant portion of Shang Dynasty history. However, musical instruments from the first phase

of Yinxu (殷墟) are relatively rare, with only a limited number discovered. This scarcity may be attributed to the frequent capital relocations during the early Shang period, which led to an uneven distribution of cultural remains. Consequently, gaps exist in the chronological sequence, and certain instrument types, such as sets of Biannao (编铙, multiple bronze Nao), have yet to be excavated in tangible forms.

Nevertheless, the existing excavated instruments provide valuable insights into the musical culture and development of Shang society. With continued archaeological efforts, future discoveries may further bridge these gaps and enhance our understanding of the musical and cultural characteristics of the early Shang Dynasty.

4.6.2 Solo Performance as the Primary Mode of Playing

From the analysis and fieldwork, the researcher found that:

Most musical instruments excavated from the Shang Dynasty were discovered as individual pieces, with 45 documented cases. These include Shiqing (石磬, stone chime), Taoxun (陶埙, ceramic ocarina), Gu (鼓, drum), Biannao (编铙, multiple bronze Nao), Gupaixiao (骨排箫, bone paixiao), and Tongling (铜铃, bronze bell). Although these single-piece finds do not constitute complete instrumental ensembles, they fulfill the fundamental requirements for solo performance.

This suggests that in the musical culture of the Shang Dynasty, solo performance was not only an important form of musical expression but may have been the predominant mode of instrumental execution at the time.

4.6.3 The Consistency of Musical Culture in the Central Plains During the Shang Dynasty

From the analysis and fieldwork, the researcher found that:

Henan Province, as the political and cultural center of the Shang Dynasty, has yielded the largest number of excavated musical instruments. Extending outward from Henan Province, the distribution of excavated instruments includes Shandong Province, Hebei Province, Shanxi Province, and Shaanxi Province, demonstrating that the influence of Shang musical culture transcended the jurisdiction of the central government and reached various regional political entities under its rule.

Although these vassal states were politically subordinate to the Shang Dynasty, they actively emulated the musical traditions of the Shang cultural center and maintained cultural

consistency with it. This uniformity in musical practices reflects the institutionalization and standardization of Shang Dynasty music, highlighting its role in the dissemination of musical traditions and the formation of a shared cultural identity.

4.6.4 Innovation and Improvement of Musical Instruments

From the analysis and fieldwork, the researcher found that:

Innovations and refinements in musical instruments during the Shang Dynasty primarily focused on two key areas:

1) Enhancements to traditional instruments – For instance, the Shiqing (石磬, stone chime) evolved from single-piece instruments into Bianqing (编磬, multiple bronze chime). Additionally, sets of three variably sized Shiqing (石磬, stone chime) were developed for ensemble performances, signifying advancements in orchestration and tonal range.

2) Structural modifications for improved functionality – The Taoxun (陶埙, ceramic ocarina) underwent a transformation, shifting to a flatter, egg-shaped design with additional sound holes. Earlier versions with one to three holes were replaced by five-hole variants, significantly expanding the instrument's tonal range and playing versatility.

These innovations reflect the progression of musical craftsmanship and suggest that the Shang Dynasty was actively engaged in refining musical instruments to enhance their expressive potential.

4.6.5 Lack of wooden instruments

From the analysis and fieldwork, the researcher found that:

The lack of wood-based musical instruments from the Shang Dynasty is closely related to the inherent decay susceptibility of wood. Wood is highly sensitive to environmental factors, particularly variations in humidity and temperature, which significantly affect the preservation of wooden objects. The physical structure of wood is another reason for the difficulty in preserving wood-based instruments. Compared to materials like stone and bronze, wood has a more porous and fragile structure, making wooden instruments more vulnerable to physical damage. During burial, especially in areas with high groundwater levels or moist soil, wood may become compressed or damp, leading to breakage or deformation, thus making it difficult for the instruments to retain their original shape.

4.6.6 Henan has the highest number of Shang dynasty musical instruments excavated in the Central Plains region

From the analysis and fieldwork, the researcher found that:

Henan has yielded the highest number of excavated musical instruments from the Shang Dynasty in Central China, a phenomenon closely tied to its political, cultural, and economic significance during that period.

1) As the political center of the late Shang Dynasty, Henan was home to the Yinxu (殷墟) (modern-day Anyang), the capital of the Shang royal court. With a concentration of aristocrats, the region developed an advanced ritual and musical system, leading to a high frequency of musical instrument usage. Archaeological discoveries from royal tombs, noble burials, and sacrificial pits at Yin Ruins have revealed a significant number of musical instruments, underscoring their importance in the upper echelons of Shang society. Additionally, other Shang sites in Henan, such as the Zhengzhou Shang City site, have also yielded numerous musical instruments, reinforcing the notion that Henan was not only the political nucleus but also a major hub for musical and cultural development.

2) The Shang ritual and musical system was closely linked to religion, sacrificial rites, and social hierarchy. As the administrative center, Henan saw frequent aristocratic burials and ancestral temple ceremonies, where musical instruments were often interred as burial objects. This prevalence highlights the integral role of music in state rituals. Furthermore, Henan's central geographical location made it a cultural transmission hub, exerting a broad influence on neighboring regions. This strategic position facilitated extensive cultural exchanges, promoting the widespread use and preservation of musical instruments.

3) Henan’s historical significance in the Shang Dynasty has drawn considerable archaeological attention. Early and systematic excavations in the region have been more extensive and in-depth than those conducted elsewhere, leading to a significantly higher number of excavated musical instruments.

In conclusion, Henan’s dominance in excavated Shang musical instruments can be attributed to a combination of factors, including its political status, cultural development, ritual system, geographical advantage, and extensive archaeological research. These findings provide invaluable material evidence for the study of Shang Dynasty music culture.

Table 2. The Number, Types, and Proportions of Excavated Musical Instruments in the Central Plains Region.

No.	Province	Types of Excavated Instruments	Number of Instrument Types	Number of Excavated Instruments	Percentage
1	Henan (河南, henan)	Taoxun (陶埙, ceramic ocarina), Gu (鼓, drum), Shiqing (石磬, stone chime), nao (铙, Suspended or hand-held bell), Tongling (铜铃, bronze bell), Gupaixiao (骨排箫, bone paixiao)	6	128	78.5 %
2	Shanxi (山西, shanxi)	Gu (鼓, drum), Shiqing (石磬, stone chime), nao (铙, Suspended or hand-held bell), Tongling (铜铃, bronze bell),	4	15	9.2%
3	Shandong (山东, shandong)	Taoxun (陶埙, ceramic ocarina), Shiqing (石磬, stone chime), nao (铙, Suspended or hand-held bell)	3	11	6.7 %
4	Hebei (河北, hebei)	Gu (鼓, drum), Shiqing (石磬, stone chime)	2	3	1.8 %
5	Shaanxi (陕西, shaanxi)	Shiqing (石磬, stone chime)	1	1	0.6 %
Total		158			

Source:Wang Wenran. 2025

CHAPTER V

Analysis of Musical Characteristics Performed on Shang Dynasty Instruments

In this chapter, the researcher selects three representative musical pieces for analysis. The first piece, Shangsong - Xuanbird (商颂·玄鸟), represents ritual music; the second piece, Liu Shui (流水) , embodies entertainment music; and the third piece, Ai Ying (哀郢), reflects political music. Through literature review and field investigations, the researcher has found that there is relatively little research on the performance contexts of musical instruments in this field, with a lack of systematic documentation and analysis.

Ancient Chinese music that has been preserved to the present day is limited. Modern interpretations of ancient music are largely based on scholarly research and reinterpretations of historical records, incorporating diverse perspectives to create new musical compositions. These contemporary reconstructions provide insights into the possible characteristics of ancient music. Analyzing the compositional features of these musical pieces can offer valuable guidance for contemporary music composition and serve as a reference model for the recreation of ancient music.

In this chapter, the researcher will conduct an in-depth analysis of four key aspects: structure, tonality, melody, and rhythm. Additionally, fieldwork and ethnomusicological methods will be employed to document and analyze certain processes and musical pieces, further enhancing the comprehensiveness of this study.

The research framework of this chapter is as follows:

5.1 Shangsong - Xuanbird (商颂·玄鸟)

5.2 Liu Shui (流水)

5.3 Ai Ying (哀郢)

5.4 Summary

5.1 Shangsong - Xuanbird (商颂·玄鸟)

The work the ShangSong-Xuan bird (商颂·玄鸟) is an adaptation based on the 'Shang Song' in the Imperial Commissioned Complete Book of Musical Scores for the Shijing (钦定诗经乐谱全书, qinding shijing yuepu quanshu) from the Qing dynasty. This poem praises the Shang dynasty ancestor Wuding (武丁, a king of the Shang dynasty) and expresses reverence for ancestors and the Mandate of Heaven, showcasing the legitimacy and sacredness of Shang rule under divine mandate. The poem is rich in religious symbolism, depicting the solemnity of ancestral blessings and the divine bestowal of ruling authority.

The "Xuan Bird" (玄鸟, xuan bird is regarded as the ancestral totem of the Shang dynasty and is a mythical bird with profound symbolic significance) in the ShangSong-Xuan bird (商颂·玄鸟, shangsong·xuanniao) is a symbolic entity representing the sacred mandate of heaven. During the Shang dynasty, the Shang people believed that Xuan Bird (玄鸟, xuan bird is regarded as the ancestral totem of the Shang dynasty and is a mythical bird with profound symbolic significance) conveyed the will of Tian (天, heaven) or Di (帝, emperor), bringing blessings and protection to the Shang clan.

Prof. Fang Kejie is a famous Chinese composer. Born and raised in Henan Province, he is the only Chinese musician proficient in Shang dynasty instruments. The researcher concluded from an interview with Prof. Fang Kejie that he considers this piece to be a musical composition that represents a ritual function, and he highly recommends it. (Fang Kejie, personal communication,1 March, 2024).

5.1.1 Structure

The piece is divided into four parts, the first part (A) sections 1-13, the second part (B) sections 14-31, the third part (C) sections 32-40, and the fourth part (D) sections 41-50. 4/4 time. The first part is slower, the second and third parts gradually increase in tempo, and the fourth part returns to a slower tempo.

The structure of this musical composition is a multi-sectional form. A total of four bell instruments are used: three Taoxun (陶埙, ceramic ocarina), Biannao (编铙, multiple bronze Nao), two Teqing (特磬, a single chime), and a drum.

Table 3. The Musical Formal Structure of the ShangSong-Xuan bird (**商颂·玄鸟**)

Composer: Fang Kejie

The Musical Formal Structure of Shangsong - Xuan bird (商颂·玄鸟)				
Parts	A	B	C	D
Sections	1-13	14-31	32-40	41-50
Number of sections	13	18	9	10
Chinese mode	G Gong mode	E Yu mode	G Gong mode	G Gong mode

Source: Wenran Wang 2024

5.1.1.1 Part I A (1-13)

This part of the melody has a function similar to that of an introduction. It describes the solemn and serious scene when the king of Shang and his important ministers sacrificed to heaven and earth together. The Shang Dynasty attached great importance to sorcery, and the music of the Shang Dynasty belonged to the part of the sorcery culture; the Shang Dynasty was in the stage of ignorance, and the music was very simple and primitive, and we can also feel a kind of eerie feeling in this piece of music. Legend has it that "Zuo Zhuan (左传, zuozhuan)", Duke Xiang of Song, a descendant of the Shang Dynasty, held a banquet for the Marquis of Jin in Chu Qiu, and the Marquis of Jin proposed to see the traditional music and dance of the ancestor of Song, "Sang Lin (桑林, sanglin)", which was performed by the dancers dressed as Xuan Bird with bird feathers and the witch dressed as Jian Di (简狄, jiandi), the mother of Qi, the founder of the Shang Dynasty, with music, which is exactly in line with the words. This dance was performed by a dancer dressed as a bird and a witch dressed as Jian Di (简狄, jiandi), the mother of Qi, the founder of the Shang Dynasty, and the music was even more eerie than this piece of music. In addition, the Yin and Shang

dynasties used to use animals or living people to sacrifice. The Shang dynasty with human sacrifice is a major historical fact of the period, and from there onwards for many years, until the Qin dynasty, the phenomenon of human sacrifice has basically disappeared, and instead of the use of ceramic maids, the use of human sacrifices of the barbaric practices can be brought to an end.

The first part of the G gong mode, slower, similar to the introduction of the melody in the 1-5 bars by the Nao (铙, suspended or hand-held bronze bell) played do, re, mi, fa scale, to the second degree interval upward, the pitch slowly upward, to give people a kind of can not see clearly divided into, as if to tell you, there is a very important thing is going to happen, but you don't know what's going to happen, mainly for the sake of setting up the eerie have a solemn atmosphere of the sacrifice. As in Figure 19.

Measures 4-5, which are the soprano fa and sol, respectively, the soprano fa is a quarter note, followed immediately by a quarter rest, and a short rest followed immediately by another quarter note soprano fa and quarter rest. The second voice of the Nao (铙, suspended or hand-held bronze bell) fills in the rest of the first voice, and the first and second voices of the Nao (铙, suspended or hand-held bronze bell) alternate minor thirds in these two measures. Emphasis. The average of the two quarter notes in measure 5, the high sol, the repetition of this tone, is emphasising the musical atmosphere, underlining it, continuing to emphasise it, and finally stabilising it on the dominant G and forming a short stop, is to set the stage for the Taoxun (陶埙, ceramic ocarina) section that follows, and at the same time to lay down the basic style for the ambience of the whole piece. As in Figure 19.

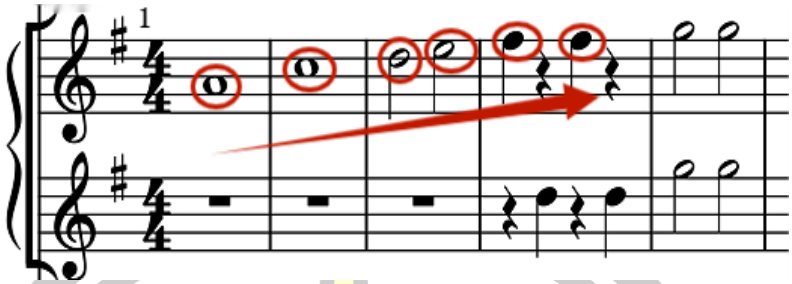

Figure 19. Measures 1-5, Nao (铙, suspended or hand-held bronze bell) Section

Source: Wenran Wang 2024

After the Nao (铙, suspended or hand-held bronze bell) played a step up the scale, the two Teqing (特磬, a single chime) before and after respectively played eighth notes. These two eighth notes appeared very suddenly, as if to tell everyone: do not make any noise, the ceremony will soon begin, everyone be quiet, the king of the Shang Dynasty is coming. At the same time, the drum enters, alternating between the two hands, the speed from slow to fast, the intensity from weak to strong. The Teqing (特磬, a single chime) holds a whole note and lasts for 4 beats. The atmosphere is very tense. As in Figure 20:

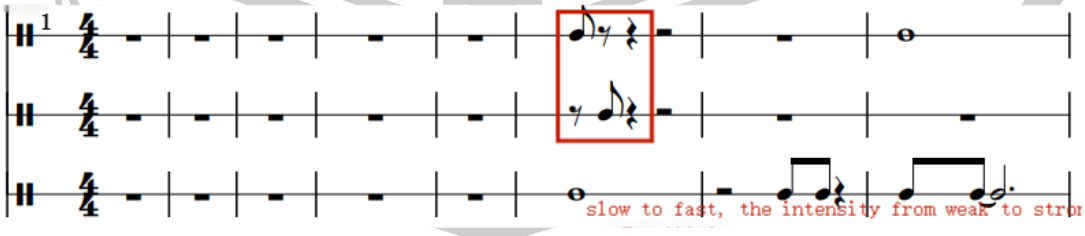

Figure 20. Measures 1-8, Teqing (特磬, a single chime) and Gu (鼓, drum) Section

Source: Wenran Wang 2024

The Nao (铙, suspended or hand-held bronze bell) plays the quarter note la, the Gu (鼓, drum) follows, and the Taoxun (陶埙, ceramic ocarina) makes its official appearance. The Taoxun (陶埙, ceramic ocarina) is the main character of this piece. The researcher thinks the reason why the Taoxun (陶埙, ceramic ocarina) occupies an important position in this piece is that the Taoxun (陶埙, ceramic ocarina) was itself an important ceremonial instrument for royalty in the Shang Dynasty, symbolising the status of the royalty. Moreover, in the development of the Taoxun (陶埙, ceramic ocarina), it only reached its peak in the Shang Dynasty. Why is that so? The researcher thinks it is still because of the importance of the royal family to the Taoxun (陶埙, ceramic ocarina), an important instrument that can not be missing in the ritual. In the first part, the three voices of the Taoxun (陶埙, ceramic ocarina) use almost all of the seventh chords formed on the II scale. The researcher thinks it is mainly because this piece is a piece with the theme of sacrifice, and the kind of eerie and gloomy atmosphere expressed during the sacrifices of the Shang Dynasty, the use of the II scale seventh chords is very suitable to express such an atmosphere.

The atmosphere of this part is emphasised by the entry of the Taoxun (陶埙, ceramic ocarina) in the second voice in bar 8, and the entry of the Nao (铙, suspended or hand-held bell) , who form the first harmony of the piece at level II. As in Figure 21:

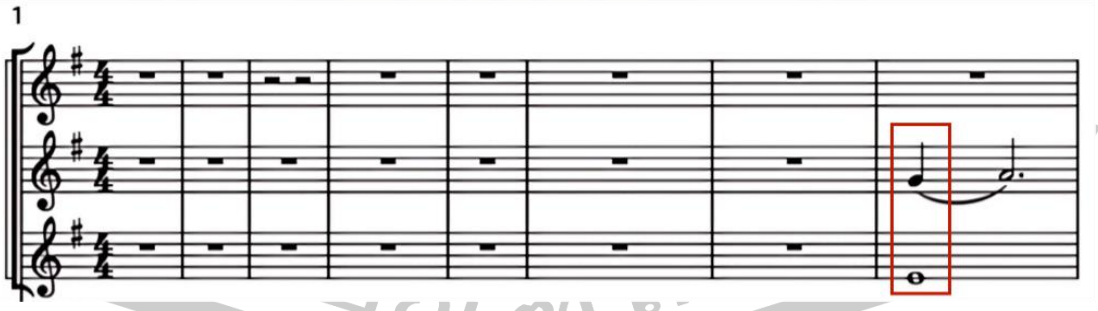

Figure 21. Measures 1-8, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

Measures 10 and 12, the Taoxun (陶埙, ceramic ocarina) repeats this harmony for emphasis. It is followed immediately by a dominant G on, which solidifies the

stability of this melody. The first part (A) is all over. The two parts of the Biannao (编铙, multiple bronze Nao) alternate eighth notes, as if they were "waiters" in a ritual, moving quickly, standing in their proper places, ready for the appearance of the King of Shang. The second part (B) opens. As in Figure 22:

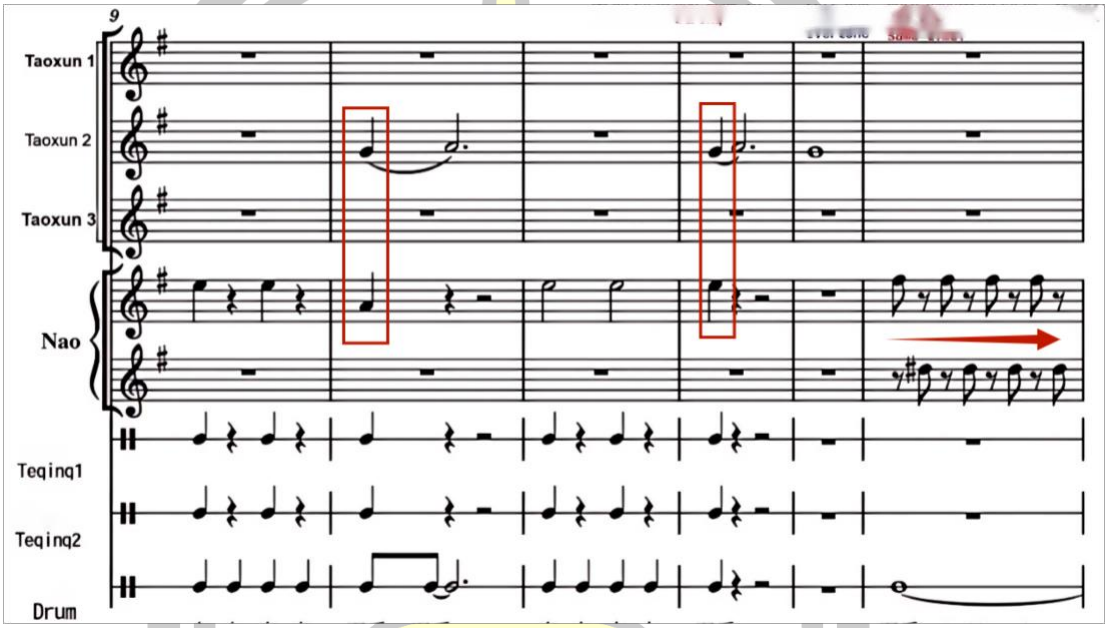

Figure 22. Measures 9-14, All Instrumental Sections

Source: Wenran Wang 2024

5.1.1.2 Part II B (14-31)

The atmosphere in this part is a bit more tense compared to the first part, and when the tension is intensified, the speed is a bit faster, and the overall mood is more tense and intense than the first part, as if describing a scene to the people: the sorcerer dances and plays music, calling out to heaven and earth and the ghosts and deities, as if telling heaven and earth and the ghosts and deities, and all the creatures in the world, that the king of the Shang Dynasty is about to start a large-scale sacrificial activity.

This part has a total of 18 bars and is the most extensive of the four parts. Measures 14-15 are played on the Nao (铙, suspended or hand-held bronze bell), with alternating eighth notes, and in the melody, in measures 14-15, sixteen eighth notes are

played on the Nao (铙, suspended or hand-held bronze bell) , which serve as an interlude, similar to the interlude. As in Figure 23:

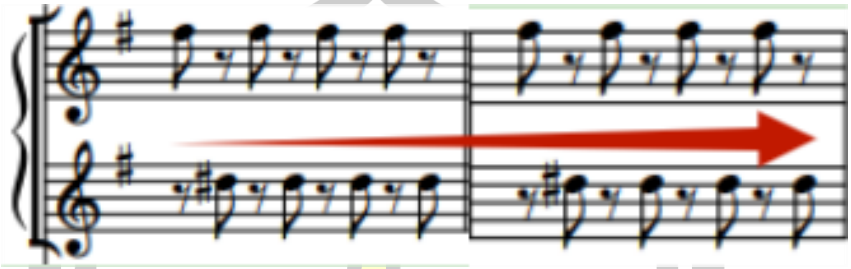

Figure 23. Measures 14-15, Nao (铙, Suspended or hand-held bell) Section

Source: Wenran Wang 2024.

At the same time, the Gu (鼓, drum) enters in bars 14-15, struck quickly with both hands and weakly, and the tonality of the part contrasts with that of the second part, which goes directly into the minor third below the dominant G, that is, the E yu seven tone mode, which has to some extent the harmonic colouring of alternate modes. As in Figure 24:

Figure 24. Measures 14, Gu (鼓,drum)Section

Source: Wenran Wang 2024.

The Nao (铙, suspended or hand-held bronze bell) continues to sustain the eighth notes in measure 16, and the Taoxun (陶埙, ceramic ocarina) 1 and Taoxun (陶埙, ceramic ocarina) 3 enter in this measure as well. The melodies in this part of measures 16, 17, and 19 are repetitive, just as they were in measures 8, 10, and 12 of the first part, and this is still mainly for emphasis. Although the musical material used is still that of the first part, the mood of the whole part has changed considerably. At the same time, the Teqing (特磬, a single chime) enters together with the Taoxun (陶

埙, ceramic ocarina) as a rhythmic instrument, and the Teqing (特磬, a single chime) has been continued using quarter notes up to the 21st bar, and the player strikes the Gu (鼓, drum) with its weak strength and very fast speed, with both hands striking continuously.

Measures 22, the first voice of the Nao (铙, suspended or hand-held bronze bell) plays a fixed pattern of quarter notes repeated over and over again, mi, sol, fa, mi, a fixed pattern derived from the theme and sustained over a long period of time, emphasising the tonality of the key of E. The first voice of the Nao (铙, suspended or hand-held bell) plays a fixed pattern of quarter notes repeated over and over again, mi, sol, fa, mi, si, sol, fa, mi. It is as if the king of the Shang Dynasty enters the sacrificial arena with solemn steps, and all wait respectfully. At the end of the section, the work adopts more colourful chords, and the harmony contains a major seventh, which enhances the sense of dissonance and prepares the way for the climax of the latter section. As in Figure 25 and 26:

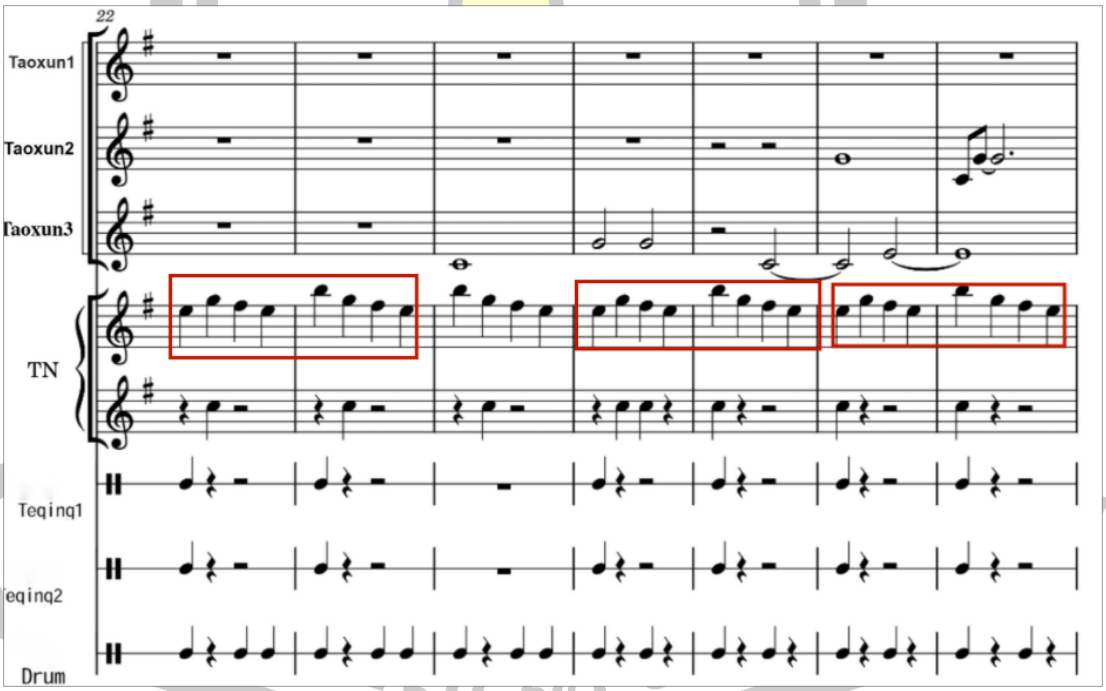

Figure 25. Measures 22-28, All Instrumental Sections

Source: Wenran Wang 2024.

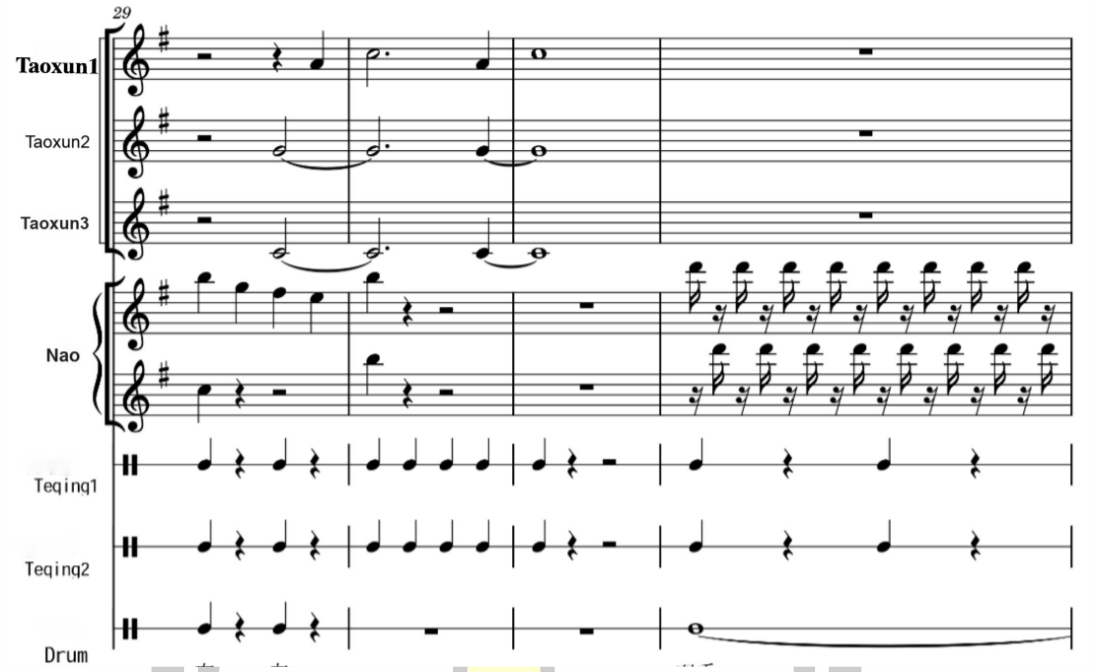

Figure 26. Measures 29-32, All Instrumental Sections

Source: Wenran Wang 2024.

5.1.1.3 Part III C (32-40)

The mood of the work reaches a climax in that part, which is the culmination of the whole piece, expressing the official start of the sacrificial ceremony of the Shang king, who is in charge of the sorcerers, who in the Shang dynasty played a crucial role in the rituals. They were not only the presiders of religious ceremonies, but also bore the important responsibility of communicating with the gods and ancestors. The role of sorcerers was mainly reflected in the following three aspects: the first aspect, such as communicating with the gods and ancestors, sorcerers were believed to have the special ability to communicate with the gods and ancestors.

Measures 32-33, the Nao (铙, suspended or hand-held bell) continually plays a mean-time V in the key of G. The first part of the register is noticeably high, and the Nao (铙, suspended or hand-held bell) alternates continuously with 16th notes in a high mood, but instead of resolving to G, this melody returns to the key of E via a semitone, forming a half-diminished seventh chord with the three Taoxun (陶埙, ceramic ocarina) , the seventh chord formed over the fa in the key of E. As in Figure 27.

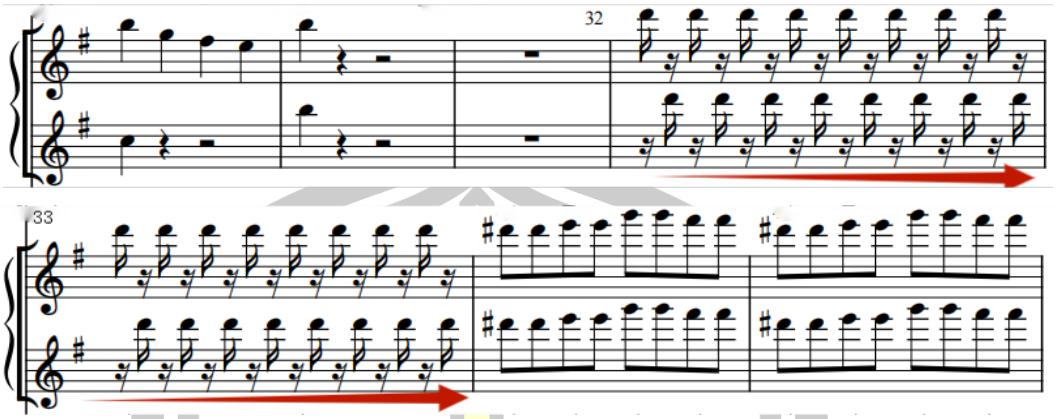

Figure 27. Measures 32-33, Nao (铙, suspended or hand-held bell) Section

Source: Wenran Wang 2024.

The Biannao (编铙, multiple bronze Nao) play 16th note re in bars 32-33, and after constant alternating strikes, they begin to shift to eighth note playing, with bar 35 being a repetition of bar 34, while the two voices of the Teqing (特磬, a single chime) and Gu (鼓, drum) parts, responsible for the rhythmic part of the section, are repeated over and over again in quarter notes. As in Figure 28.

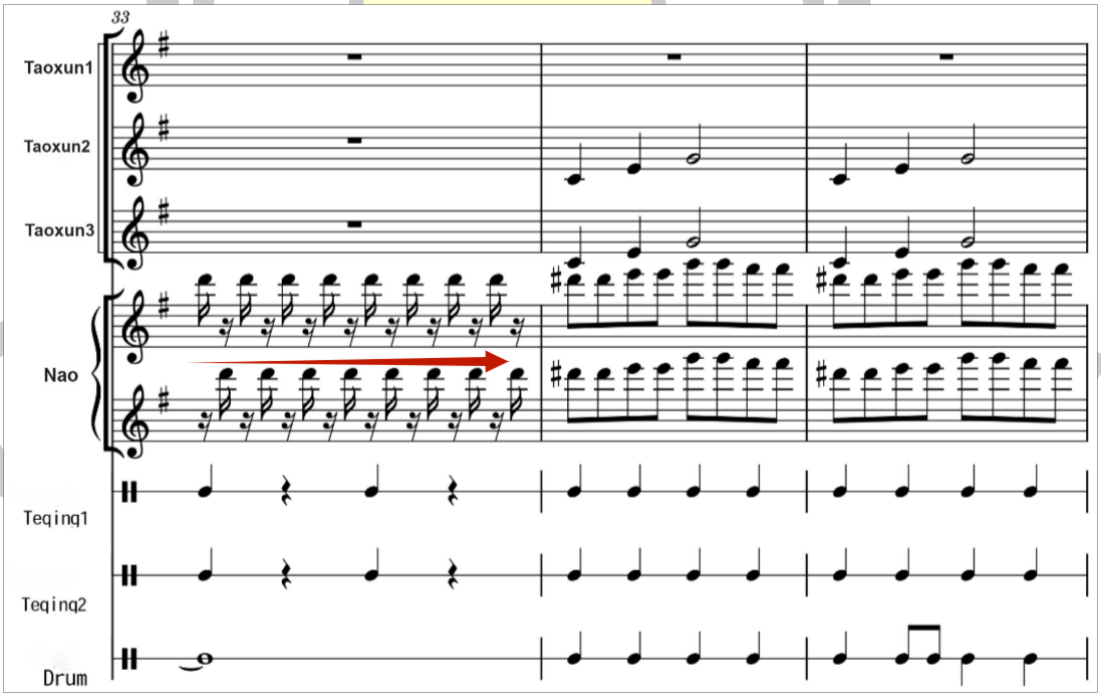

Figure 28. Measures 33-35, All Instrumental Sections

Source: Wenran Wang 2024

Measures 36, the piece returns to the G Gong Heptatonic tonic through the preceding seventh chord (a II seventh chord in the key of E, and a seventh chord on the VII note in the key of G), emphasising the centrality of the dominant G.

Measures 36-37. The melodic parts played by each instrument are repeated over and over again, mainly for emphasis, and after constant emphasis on the fixed melody returning to the dominant of the G mode, the ritual comes to an end. Preparation for the coda section of the final rite. As in Figure 29:

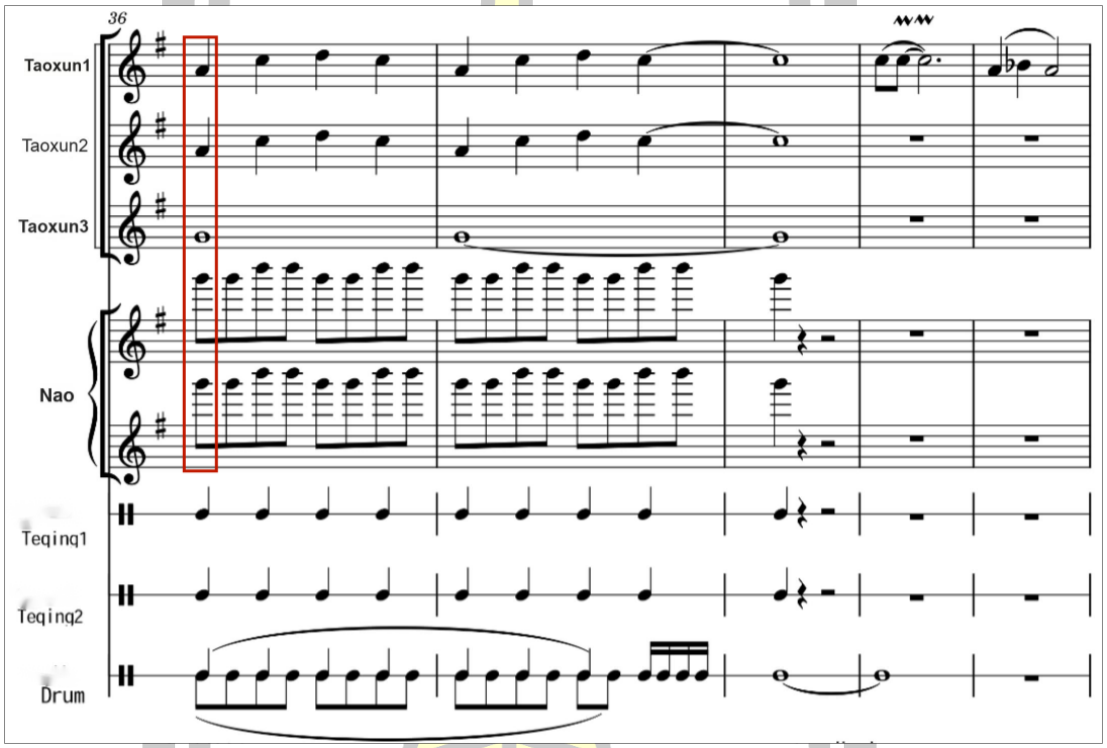

Figure 29. Measures 36-40, All Instrumental Sections

Source: Wenran Wang 2024

5.1.1.4 Part IV D (41-50)

This section mainly describes the epilogue of the ritual, which is usually the most symbolic stage of the whole event, aiming at completing the communication with the gods or ancestors through a series of ritual actions and words, and ensuring the success of the ritual. In the Shang Dynasty, the closing part of the ritual usually included the following important measures: First, farewells and thanks. At the end of the ritual, the shaman or ritualist conducting the ritual will make a farewell to the gods or ancestors to express gratitude. This farewell is the formal end of the ritual and is a

symbolic gesture to inform the spirits or ancestors that the ritual has been completed. Secondly, burning or burying the offerings, some rituals will burn or bury some of the offerings in the closing stages, which is seen as an important way of delivering the offerings to the spirits or ancestors. Through this action, the worshippers believe that they can ensure that the spirits or ancestors have received their offerings and honourings. Thirdly, the sending off of deities. In some rituals, the shaman or ritualist performs a "sending off" ceremony, which is a symbolic gesture to return the deity from the earthly world to the celestial world or the world of the ancestors. This may include ritual acts such as burning incense and offering wine. Fourthly, the participants will retire. At the end of the farewells and prayers, all participants will retire in a certain order. The process of retiring also usually follows certain rules of etiquette to ensure respect for the gods or ancestors. This process marks the official end of the ritual. These ritual acts in the epilogue section not only mark the completion of the ritual, but also ensure the sanctity and solemnity of the whole process, so that the religious significance of the ritual can be fully expressed and continued.

Measures 41 - 45, the Taoxun (陶埙, ceramic ocarina) stops playing. The Shiqing (石磬, stone chime) keeps playing quarter notes in a continuous repetition, and the Gu (鼓, drum) plays four consecutive eighth notes and four rests in four repetitions, constantly emphasising the note and the rhythmic pattern. As in Figure 30:

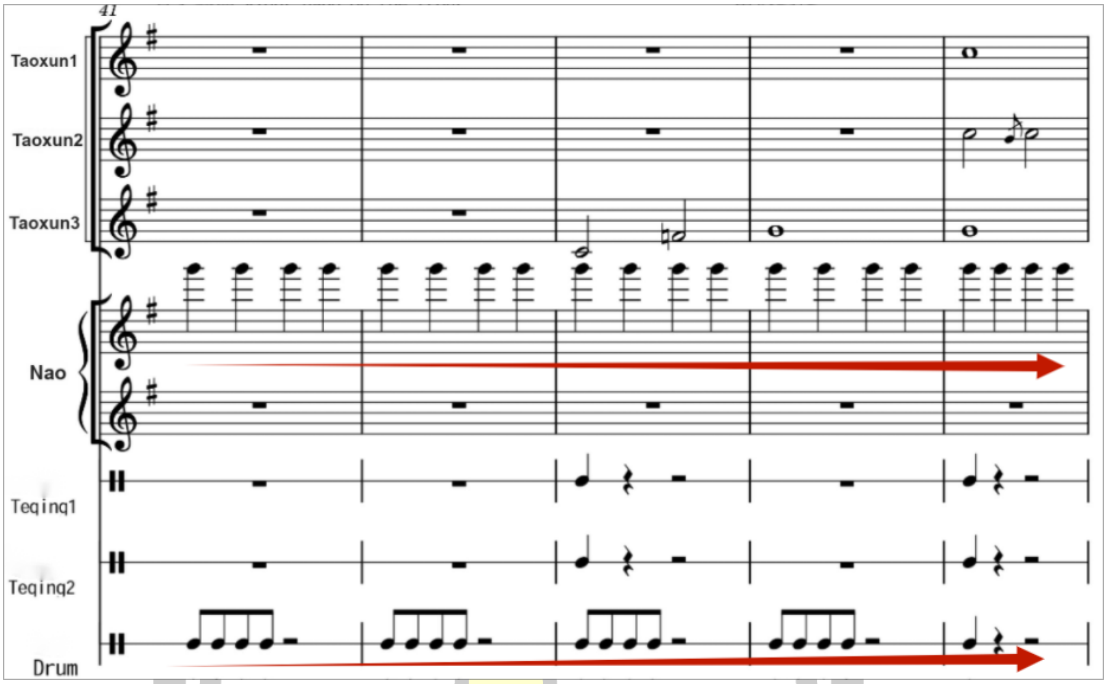

Figure 30. Measures 41-45, All Instrumental Sections

Source: Wenran Wang 2024

This passage is almost entirely supported by a sustained tonic pedal in G mode, reinforcing the tonal center of the piece. However, at the end of the composition, after a prolonged emphasis on G, it ultimately resolves to the tonic G, bringing the piece to a conclusion. As in Figure 31:

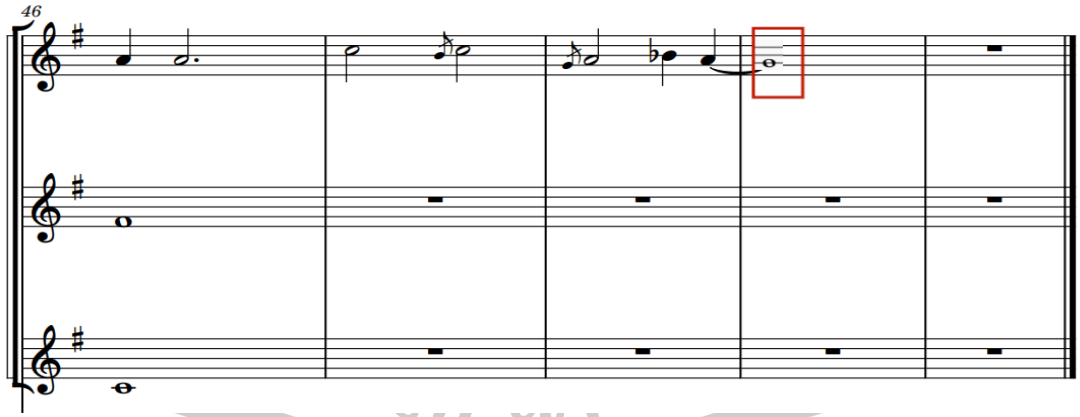

Figure 31. Measures 46-50, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2004

5.1.2 Tonality

The ShangSong-Xuan bird (商颂·玄鸟) is in G Gong mode, the traditional Chinese tuning is used.

The piece is divided into four parts, the first part (A) Measures 1-13, the second part (B) Measures 14-31, the third part (C) Measures 32-40, and the fourth part (D) Measures 41-50. 4/4 time. The first part is slower, the second and third parts gradually increase in tempo, and the fourth part returns to a slower tempo.

Table 4. The Musical Formal Structure of The ShangSong-Xuan bird (商颂·玄鸟).

Composer: Fang Kejie

The Musical Formal Structure of The ShangSong-Xuan bird (商颂·玄鸟)				
Parts	A	B	C	D
Sections	1-13	14-31	32-40	41-50
Chinese mode	G Gong mode	E Yu mode	G Gong mode	G Gong mode

Source: Wenran Wang 2024

5.1.2.1 Part I A (1-13)

The first section in the G gong mode exhibits typical characteristics of Chinese national modes, making it one of the more commonly used modal structures in traditional Chinese music. Functioning similarly to a melodic introduction, measures 1–5 feature the Nao (铙, suspended or hand-held bronze bell) playing a do-re-mi-fa ascending scale in seconds, with a gradual and steady rise in pitch.

The passage concludes in measure 5 on the tonic G, at which point the Taoxun (陶埙, ceramic ocarina) enters. The tonic G ascends by a major second to A, maintaining an unchanging rhythmic pattern and pitch structure, with continuous repetition that reinforces the prominence of G. This section concludes on G, highlighting the defining characteristics of the G gong mode and establishing the fundamental stylistic atmosphere of the piece.

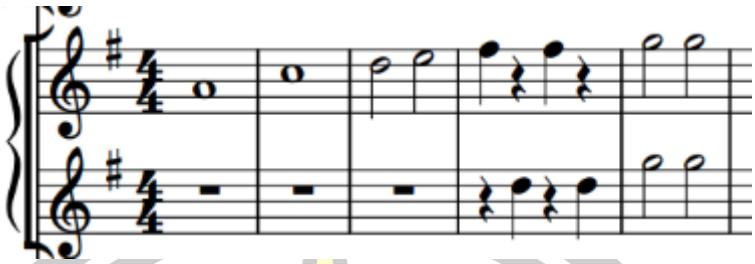

Figure 32. Measures 1-5, Nao (铙, suspended or hand-held bronze bell) Section

Source: Wenran Wang 2024

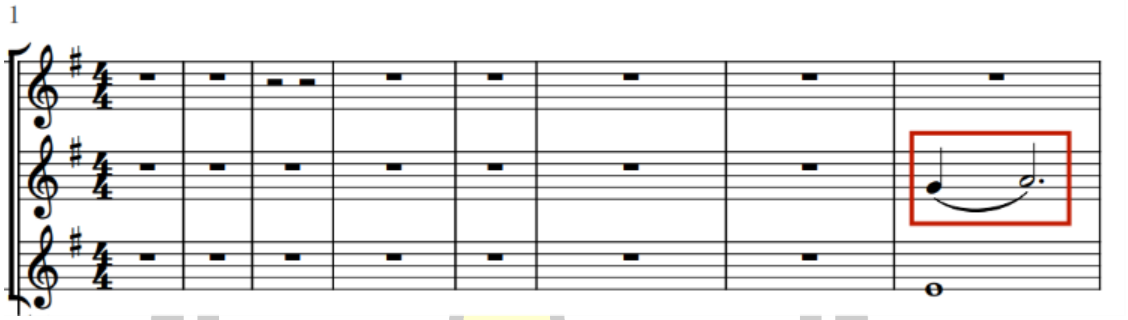

Figure 33. Measures 1-5, Taoxun (陶埙, ceramic ocarina) playing parts.

Source: Wenran Wang 2024

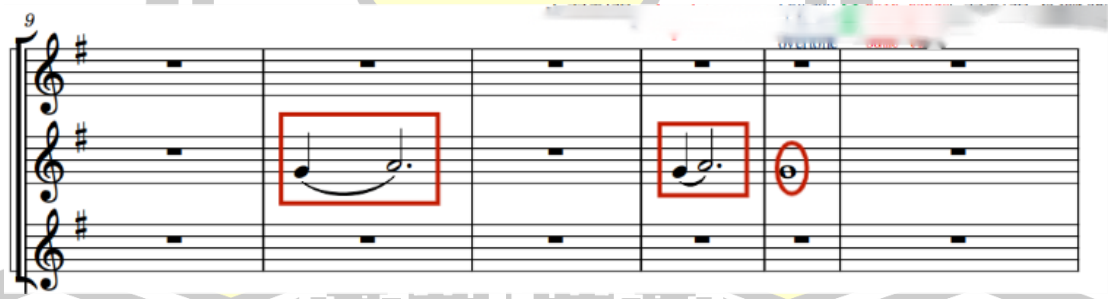

Figure 34. Measures 9-14, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

5.1.2.2 Part II B (14-31)

This section modulates to the E seven-tone mode. Informant Professor Fang Kejie said that the musical atmosphere in this segment is more intense than in the first section, with a slightly faster tempo. Spanning 18 measures, it is the longest of the four sections.(Fang Kejie, personal communication, March 1, 2024)

Professor Fang Kejie, one of my interviewees, noted that this passage incorporates Western modal thinking. In measures 20–21, an F–♭A–G minor triad appears, which aurally reflects a Western harmonic approach. This harmonic progression contributes to an eerie and somber atmosphere.(Fang Kejie, personal communication, March 1, 2024)

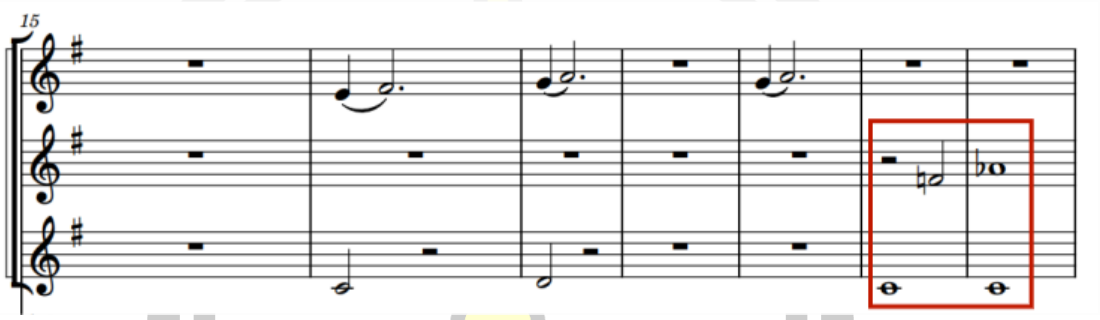

Figure 35. Measures 9-14, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

At the end of this passage, the piece employs more diverse and colorful chords. The harmony introduces major sevenths, enhancing the sense of dissonance and effectively preparing for the climax in the following section. See in Figure 36.

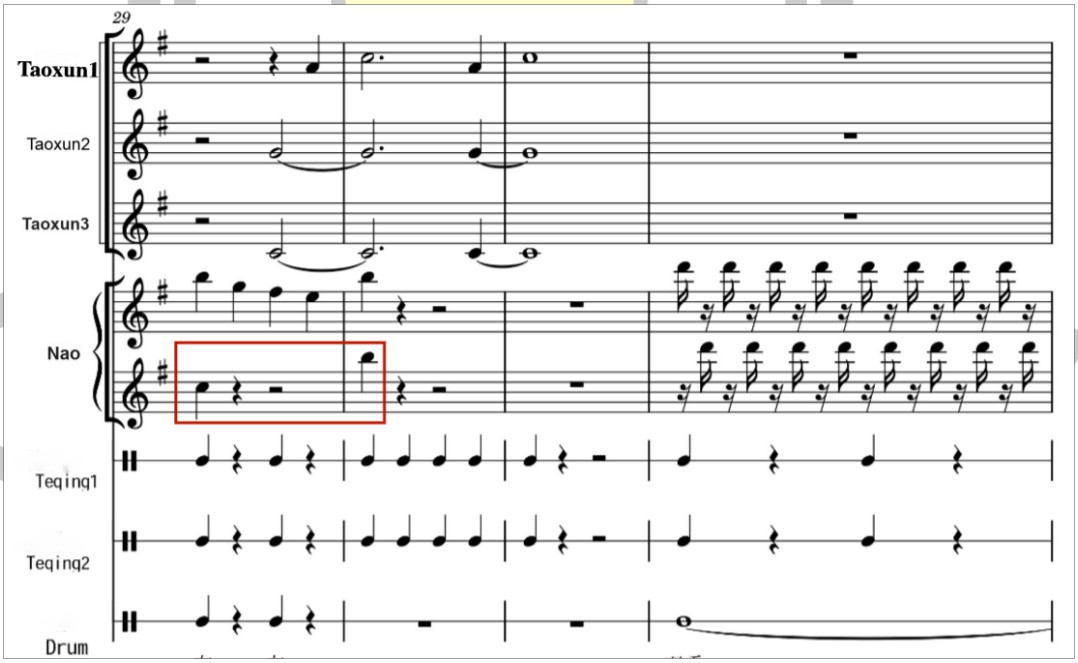

Figure 36. Measures 29-32, All Instrumental Sections

Source: Wenran Wang 2024

5.1.2.3 Part III C (32-40)

The emotional intensity of the piece reaches its climax in this section. In measures 32–33, rather than resolving back to G major, the progression modulates by a semitone to E major, forming a half-diminished seventh chord with the three Taoxun (陶埙, ceramic ocarina), creating a dominant seventh chord on the *fa* of E major. As in Figure 37:

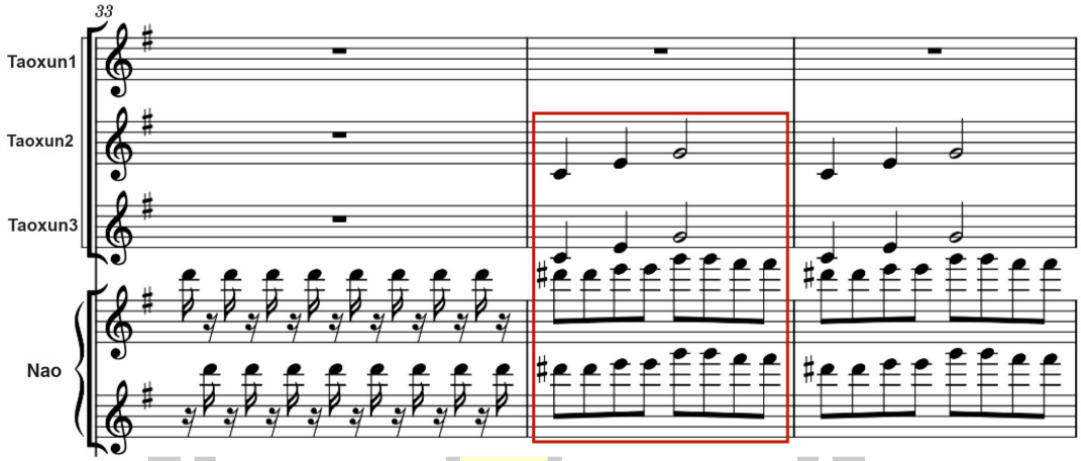

Figure 37. Measures 32-33,Nao (铙, Suspended or hand-held bell) and Taoxun (陶埙, ceramic ocarina) Sections

Source: Wenran Wang 2024

Measures 36, the piece returns to the G Gong Heptatonic tonic through the preceding seventh chord (a II seventh chord in the key of E, and a seventh chord on the VII note in the key of G), emphasising the centrality of the dominant G.

Measures 36-37. The melodic parts played by each instrument are repeated over and over again, mainly for emphasis, and after constant emphasis on the fixed melody returning to the dominant of the G mode, the ritual comes to an end. Preparation for the coda section of the final rite. As in Figure 38:

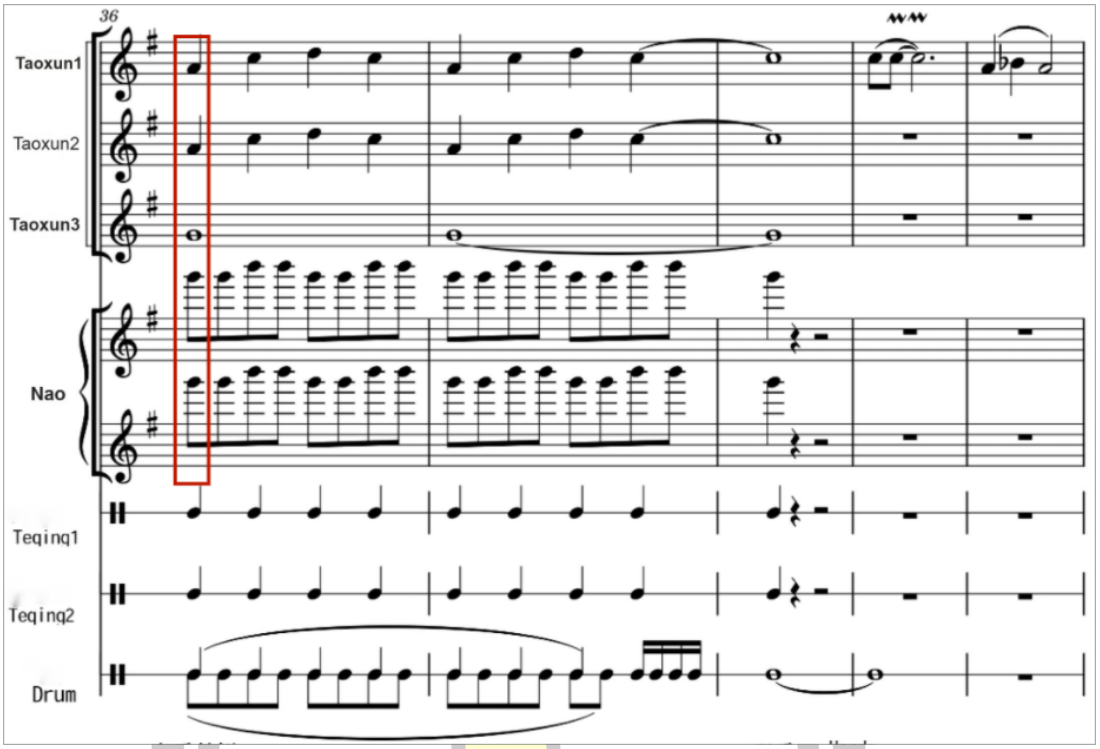

Figure 38. Measures 36-40, All Instrumental Sections

Source: Wenran Wang 2024

5.1.2.4 Part IV. D (41-50)

This passage is almost entirely supported by a sustained tonic pedal in G mode, reinforcing the tonal center of the piece. However, at the end of the composition, after a prolonged emphasis on G, it ultimately resolves to the tonic G, bringing the piece to a conclusion. As in Figure 39.

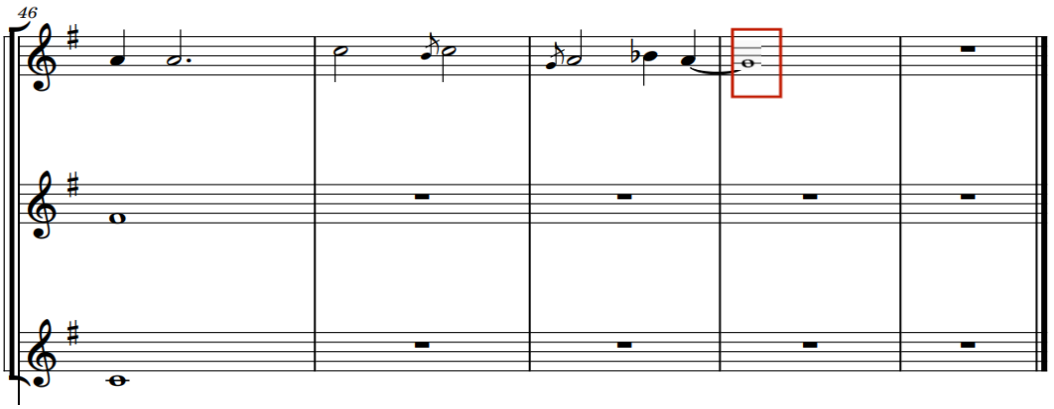

Figure 39. Measures 46-50, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2004

5.1.3 Melody

5.1.3.1 Part I A (1-13)

This melody serves as an introduction, depicting the solemn scene of the Shang king and high-ranking officials performing a ritual to worship Heaven and Earth.

In measures 1–5, the first section is in the G mode, with a relatively slow tempo. The bronze cymbals play a do-re-mi-fa scale, ascending by a second interval, with the pitch gradually rising, creating a sense of mystery, as if foreshadowing a significant event about to unfold, yet remaining elusive. This melody accentuates the eerie yet solemn atmosphere of the ritual.

In measures 4–5, the high notes of fa and sol alternate, with the high fa being a quarter note, followed by a quarter rest, creating a brief pause before the high fa and rest alternate again. The second voice of the bronze cymbals fills the rest period of the first voice, alternating in a minor third interval over two measures, enhancing the musical effect. In measure 5, the high sol is repeated as a half note, intensifying the musical atmosphere and ultimately stabilizing on the tonic note G, forming a brief pause that paves the way for the following section featuring the Taoxun (陶埙, ceramic ocarina), while also establishing the overall tone of the composition. See in Figure 40.

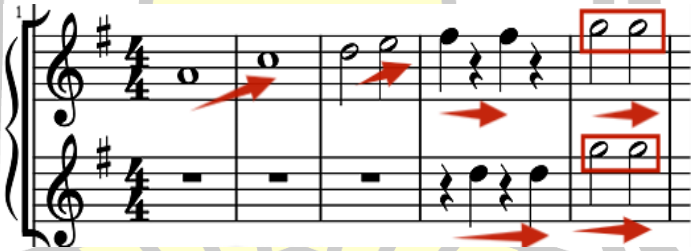

Figure 40. Measures 1–5, Nao (铙, suspended or hand-held bell) Section

Source: Wenran Wang 2024

After the Nao (铙, suspended or hand-held bell) plays a stepwise ascending scale, two Shiqing (石磬, stone chime) strike eighth notes in succession, appearing suddenly and unexpectedly. Simultaneously, the Gu (鼓, drum) enters, with alternating strokes between both hands. The tempo gradually increases from slow to fast, while the intensity builds from soft to strong. Meanwhile, the Shiqing (石磬, stone chime)

sustains a whole note for four beats, maintaining tension throughout. The atmosphere becomes highly dramatic. See in Figure 41.

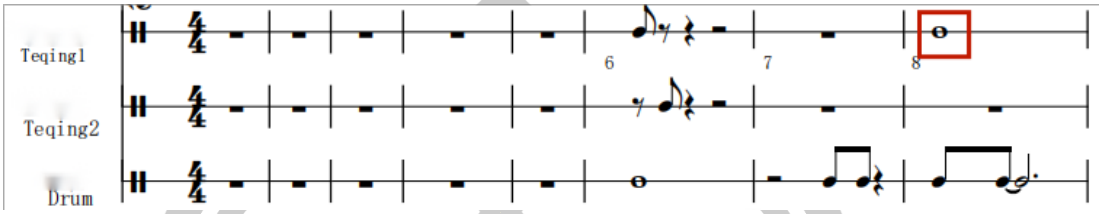

Figure 41. Measures 1–8, Shiqing (石磬, stone chime) and Gu (鼓, drum) Section

Source: Wenran Wang 2024

In this section, the entrance of the Taoxun (陶埙, ceramic ocarina) in the second voice, along with the Nao (铙, suspended or hand-held bell), occurs in measure 8. Together, they form the first harmonic structure of the piece on the II degree, reinforcing the atmosphere of this passage. See in Figure 42:

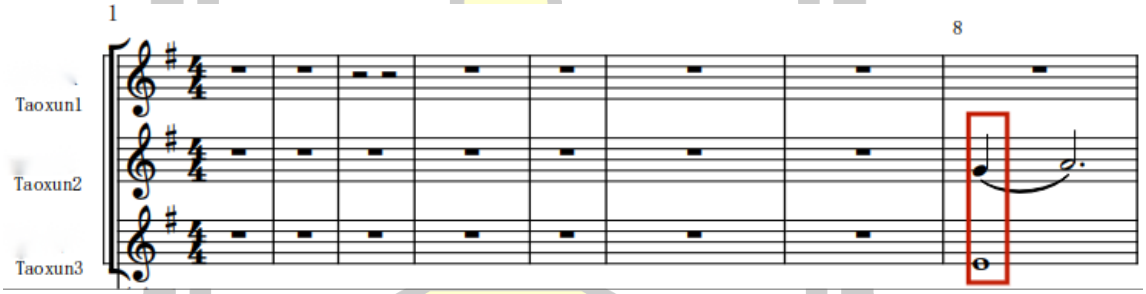

Figure 42. Measures 1–8, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

In measures 10 and 12, the Taoxun (陶埙, ceramic ocarina) reiterates this harmonic structure, serving an emphatic function. This is followed by a tonic G, reinforcing the stability of the melodic phrase. With this, Section A comes to a complete conclusion.

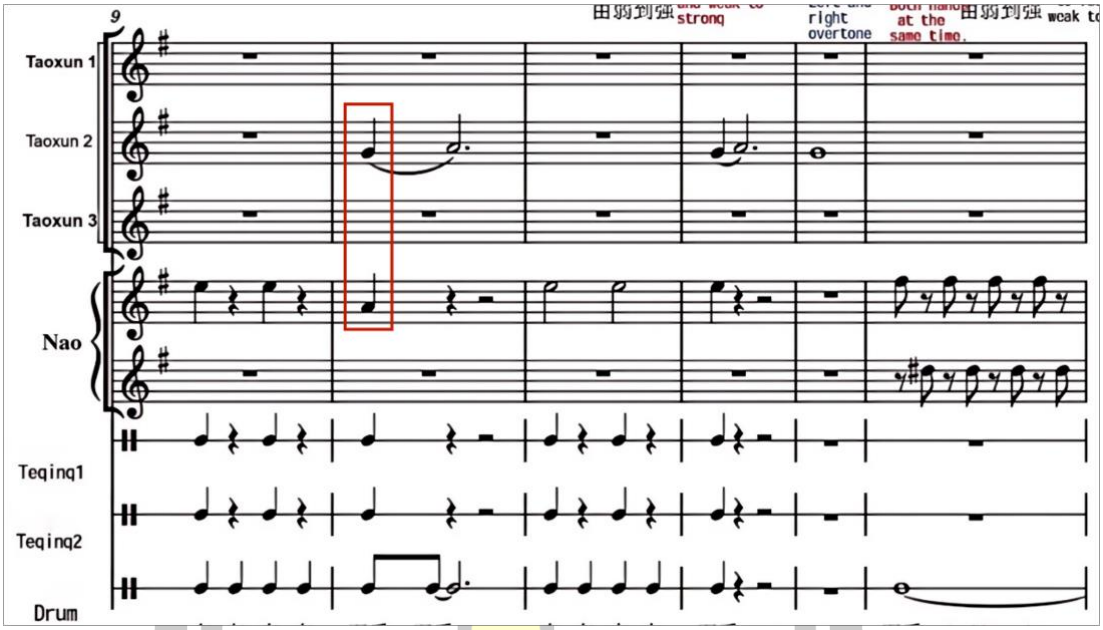

Figure 43. Measures 9–14, All Instrumental Sections

Source: Wenran Wang 2024

5.1.3.2 Part II B (Measures 14–31)

This section consists of 18 measures, making it the longest among the four sections. In measures 14–15, the Nao (铙, suspended or hand-held bell) plays a sequence of 16 eighth notes, serving as a transitional passage that bridges the preceding and subsequent musical ideas, functioning similarly to an interlude. See in Figure 44:

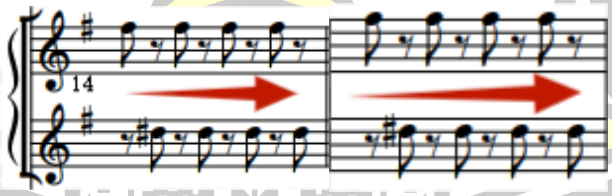

Figure 44. Measures 14–15, Nao (铙, Suspended or hand-held bell) Section

Source: Wenran Wang 2024

In measure 16, the Nao (铙, suspended or hand-held bell) continues playing eighth notes, while Taoxun (陶埙, ceramic ocarina) *1* and Taoxun (陶埙, ceramic ocarina) *3* enter. The melodic material in measures 16–19 is identical to that in measures 8–12 of the first section, functioning as a repetition intended for emphasis. In measure

22, the first Nao (铙, suspended or hand-held bell) voice repeats a fixed rhythmic pattern of quarter notes—E, G, F, and E. This motif is derived from the main theme and is sustained for an extended duration, reinforcing the tonal center of E and preparing for the upcoming climax.

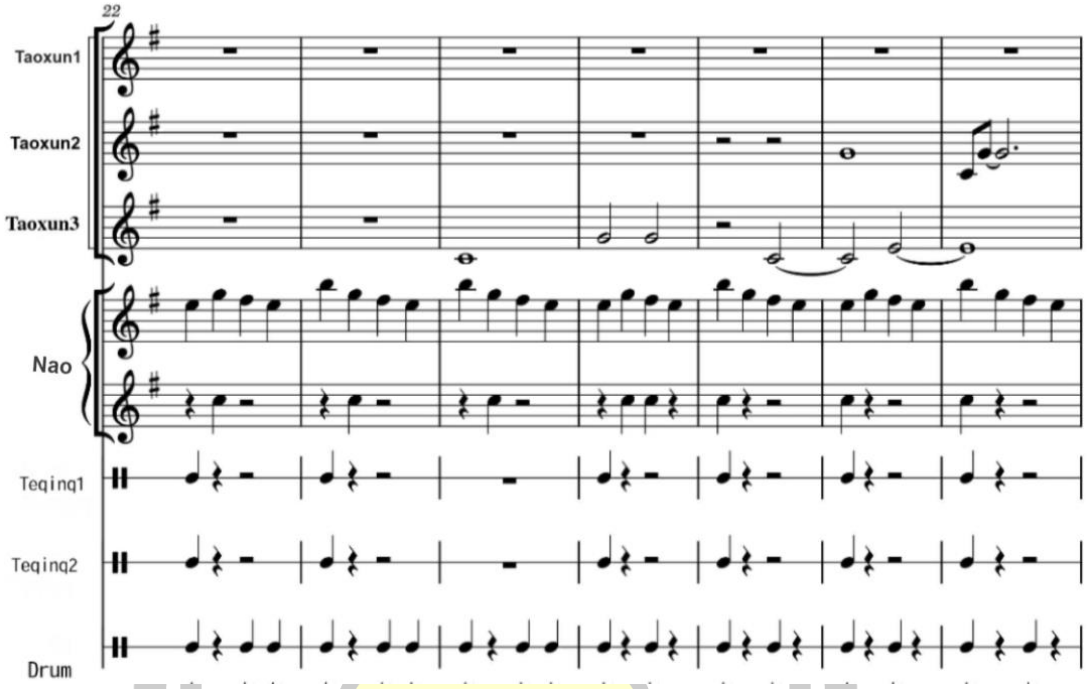

Figure 45. Measures 22–28, All Instrumental Sections

Source: Wenran Wang 2024

5.1.3.3 Part III C (32–40)

The emotional climax of the composition is reached in this section.

In measures 32–33, the Nao (铙, suspended or hand-held bell) repeatedly plays the dominant (V) chord of the G major scale, with alternating sixteenth notes sustained continuously. The melodic mood is elevated and intense. See in Figure 46:

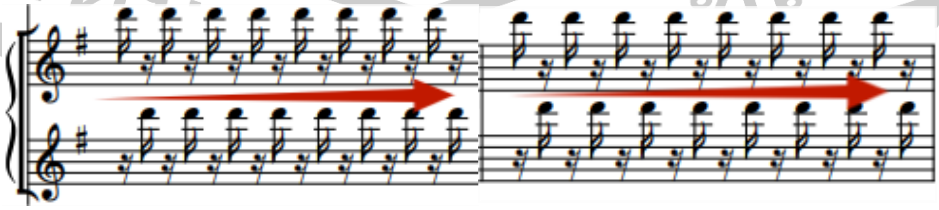

Figure 46. Measures 32-33, Nao (铙, suspended or hand-held bell) Section

Source: Wenran Wang 2024

Measures 36-37, the melody is repeated for all instruments, aiming to constantly emphasise the fixed melody.

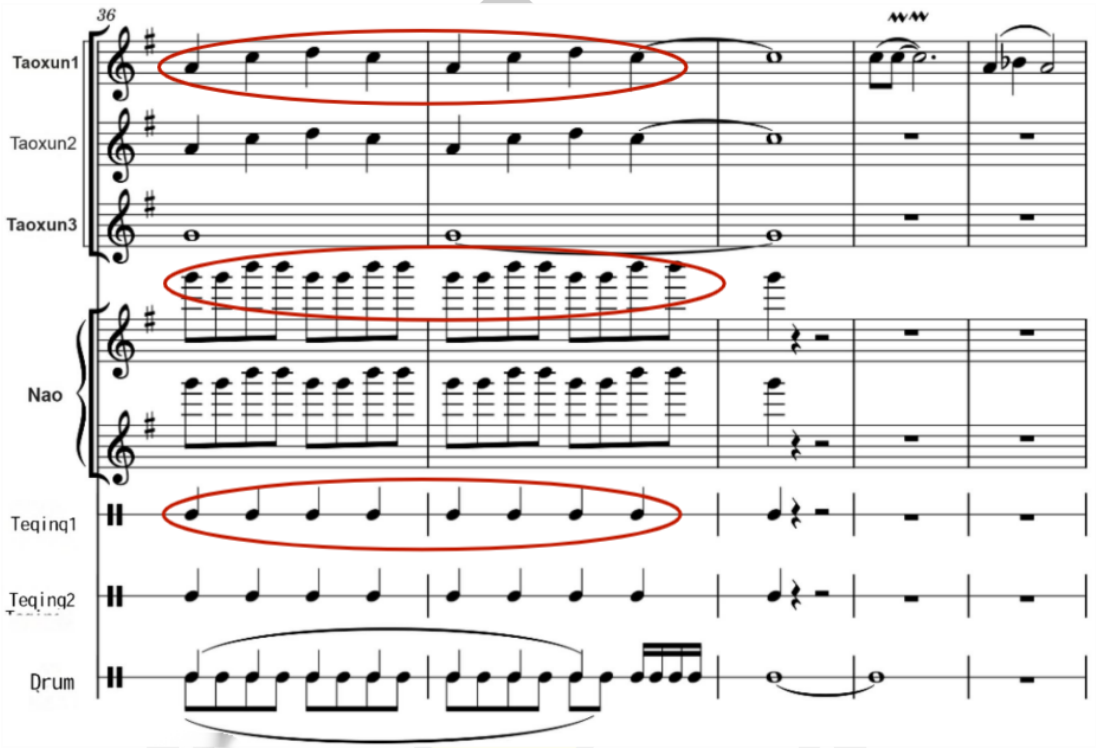

Figure 47. Measures 36-40, All Instrumental Sections

Source: Wenran Wang 2024

5.1.3.4 Part IV D (1–50)

In measures 41–45, the Taoxun (陶埙, ceramic ocarina) ceases, while the Nao (铙, suspended or hand-held bell) continues to play quarter notes, with the melody repeating. The Gu (鼓, drum) alternates between a series of four eighth notes and a quarter-note rest, repeating this pattern four times. See in Figure 48:

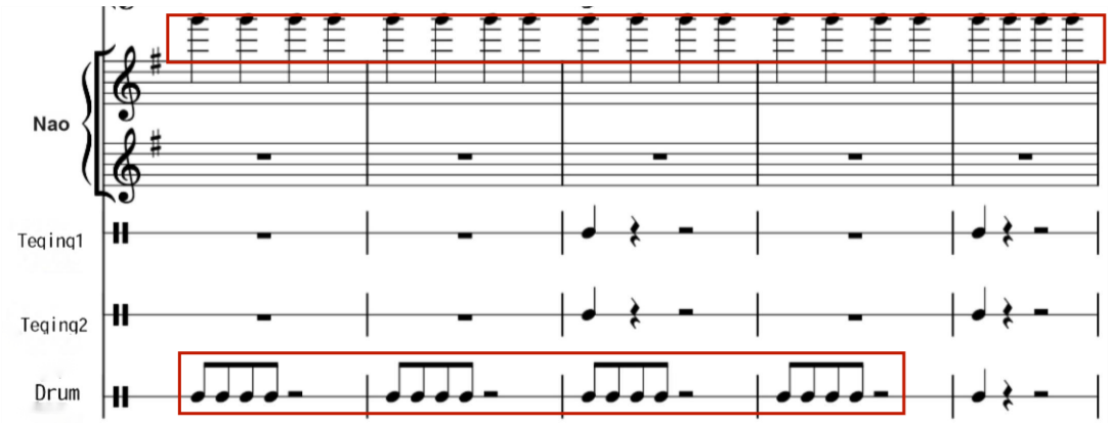

Figure 48. Measures 41-45, Shiqing (石磬, stone chime), Nao (铙, Suspended or hand-held bell) and Gu (鼓,drum) Sections

Source: Wenran Wang 2024

In measures 46–50, the Taoxun (陶埙, ceramic ocarina) exhibits a repeated stepwise motion, with the melody ascending before gradually descending in register. Simultaneously, the Nao (铙, suspended or hand-held bell) repeatedly plays the high G. In measure 48, the melody consists of quarter notes B–G–F–E–B–G, initiating a stepwise descent that ultimately returns to the tonic. The piece concludes with this resolution.

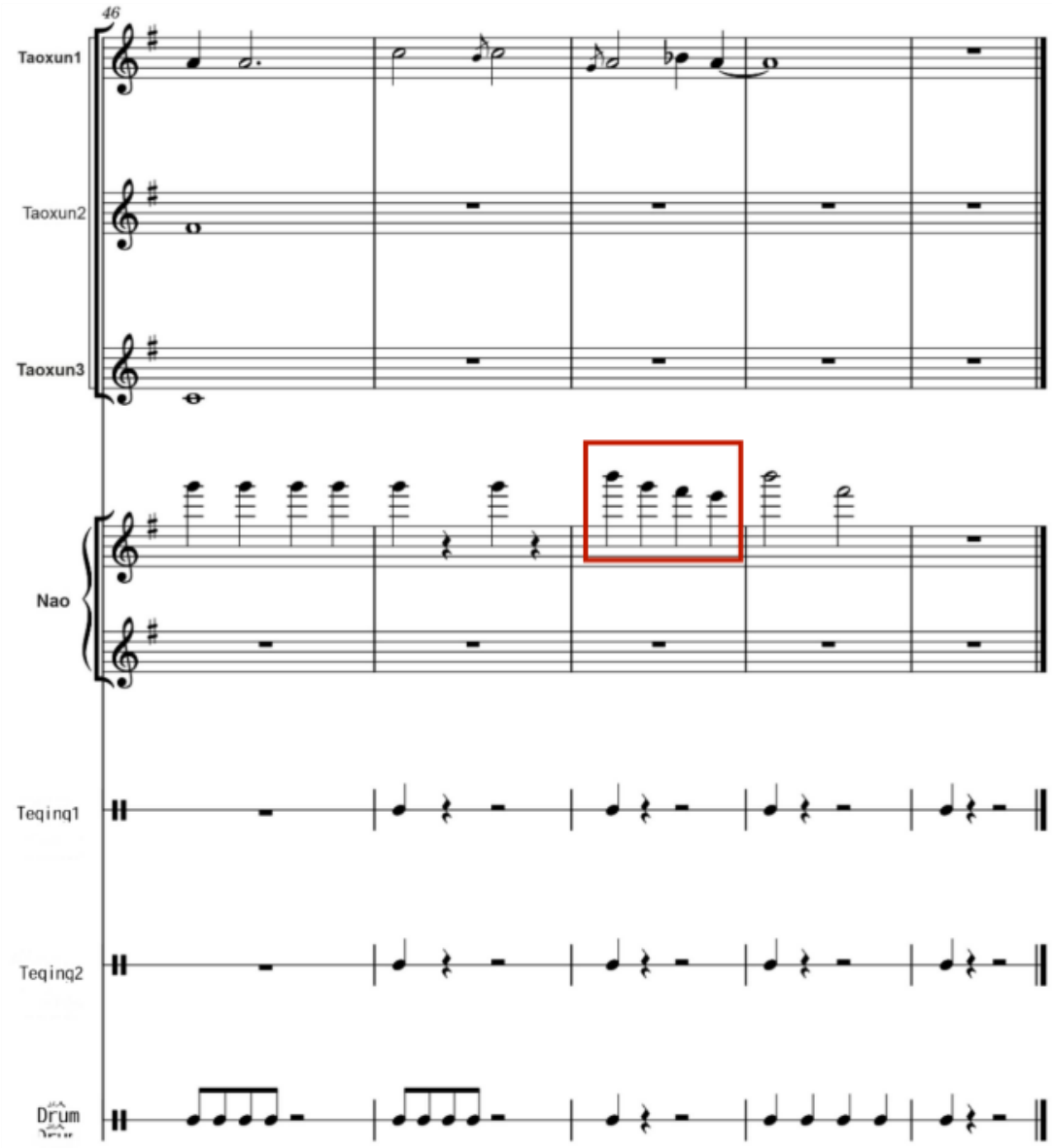

Figure 49. Measures 46-50, All Instrumental Sections

Source: Wenran Wang 2024

5.1.4 Rhythm

5.1.4.1 Part I A (1–13)

This section features a relatively slow and balanced rhythm, establishing a solemn and dignified tone for the entire composition. The rhythm follows a consistent four-beat pattern, emphasizing a ceremonial pace that aligns with the norms of Shang dynasty ancestral temple rituals. Predominantly using long-duration notes, such as dotted whole notes, the section is interspersed with a few shorter notes, such as quarter

notes, which serve as decorative accents. This combination gives the melody a sense of gravity while also adding depth. The stability of the rhythm and the use of long-duration notes create an impression of a solemn ritual procession, evoking a sense of reverence.

5.1.4.2 Part II B (14-31)

Taoxun (陶埙, ceramic ocarina) section gradually unfolds rhythmically, offering a richer texture compared to the first section, symbolizing the descent of divine will and the flourishing of the Shang dynasty. It utilizes a four-beat rhythmic pattern, with the incorporation of dotted rhythms and syncopation enhancing the melodic sense of rhythm, reflecting the dynamic imagery of the mystical bird bringing divine mandate.

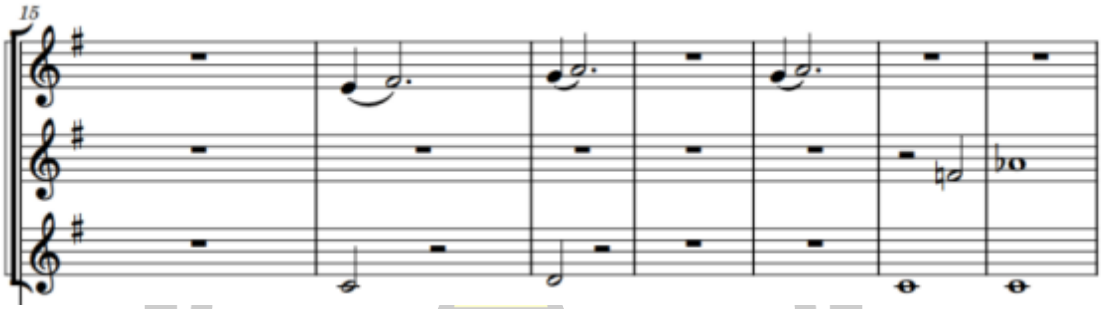

Figure 50. Measures 15-21, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

The Nao (铙, suspended or hand-held bell) plays light eighth notes, while the Taoxun (陶埙, ceramic ocarina) takes the lead with the main melody, primarily using quarter notes and half notes. This choice of rhythm at the beginning of phrases reinforces the ceremonial feel, while also enhancing the flow of the music. The variation in rhythmic patterns introduces a progression of emotions, adding a stronger narrative quality to the music.

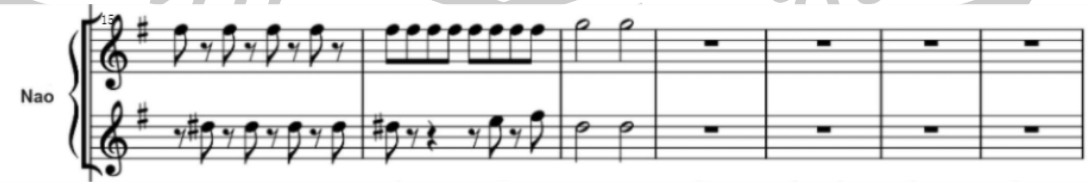

Figure 51. Measures 15-21, Nao (铙, suspended or hand-held bell) Section

Source: Wenran Wang 2024

5.1.4.3 Part III C (32-40)

This section represents the rhythmic climax of the entire composition, with significant rhythmic variation, portraying the sacred moment of ancestral protection and the king's receipt of divine mandate.

Short-duration notes, such as sixteenth notes, are employed to heighten the sense of rhythmic tension. Accentuated beats are introduced, and the accelerating tempo drives the music to its emotional peak, symbolizing the formal establishment of royal authority. The intense rhythmic movement enhances the ceremonial nature of the piece, amplifying the grandeur of the scene.

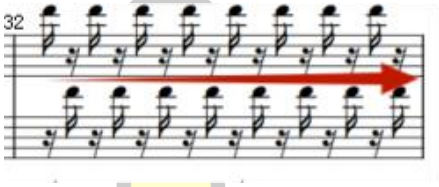

Figure 52. Measures 32, Nao (铙, suspended or hand-held bell) Section

Source: Wenran Wang 2024

5.1.4.4 Part IV D (41–50)

This section features a more stable rhythm, mirroring the opening section and symbolizing the completion of the sacrificial ritual. It adopts a 4/4 time signature, returning to a steady and solemn rhythmic pattern.

The inclusion of long notes, such as whole notes, along with rests, allows the music to settle emotionally. The slowing down of the tempo brings the music back to a solemn and profound state, symbolizing the conclusion of the ritual.

The overall rhythmic design of the composition not only aligns with the dignified style of ancestral temple rituals but also, through rhythmic variation, shapes the sacred process of divine mandate being revealed. This enhances the music's sense of depth and expressiveness. See in Figure 53:

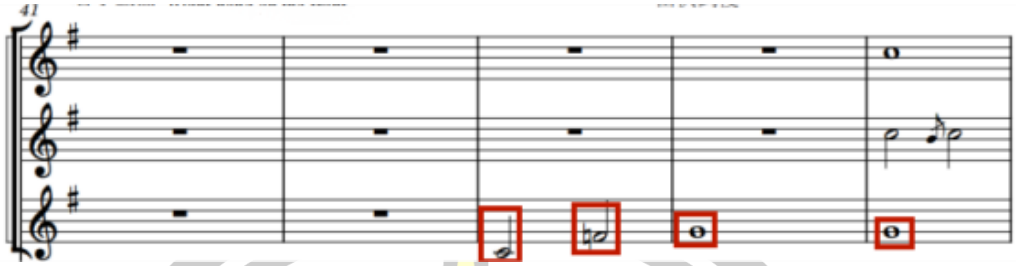

Figure 53. Measures 41-44, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024.

5.2 Liu Shui (流水)

The music is adapted from the Guqin piece 'High Mountains and Flowing Water', which is intended to express the mood of a babbling brook and the momentum of an oceanic river. It is often used in entertainment activities such as court banquets and music.

5.2.1 Structure

Table 5. The Musical Formal Structure of Liu Shui

Composer: Liu Mingang

The Musical Formal Structure of Liu Shui							
Parts	**Prelude**	**A**	**B**	**C**	**D**	**E**	**F**
Sections	1-3	4-14	15-23	24-30	30-48	49-68	69-87
Number of sections	3	11	9	7	19	20	19
Chinese mode	C Gong mode	C Gong mode	C Gong mode	C Gong mode	A Yu mode	C Gong mode	C Gong mode

This piece follows a multi-sectional form and consists of six parts. It is a solo composition specifically written for the Shiqing (石磬, stone chime).

5.2.1.1 Part I Prelude (1–3)

Serving as a prelude, this section is concise yet effectively establishes the musical groundwork. The rhythm is relatively free, with possible changes in meter to

create a sense of fluidity. The Shiqing (石磬, stone chime) presents single tones or minimalist melodic patterns, emulating the initial state of a gently flowing stream.

This effect resembles water droplets lightly striking the surface of a stone, producing an auditory impression of distant resonance. See in Figure 54:

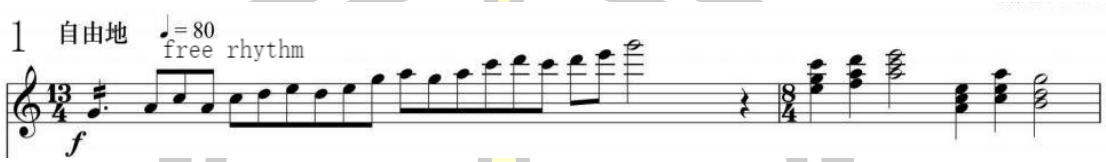

Figure 54. Measures 1–3， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.1.2 Part II B (4–14)

As the piece transitions into the main section, the rhythmic structure becomes more stable, gradually forming an organically flowing melodic pattern. The rhythm predominantly follows a subdivided four-beat or six-beat structure, which, combined with the Shiqing (石磬, stone chime)'s distinctively clear timbre, evokes the image of a stream gathering and flowing with lightness and rhythmic vitality. In measures 8–10, the addition of short, accented rhythmic figures introduces greater melodic variation, enhancing the sense of fluid motion. See in Figure 62:

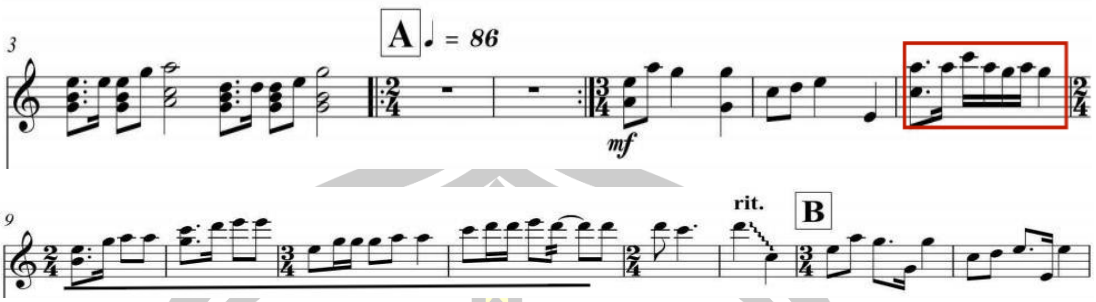

Figure 55. Measures 3–16， Shiqing (石磬, stone chime)Section

Source: Wenran Wang 2024

5.2.1.3 Part III C (15-23)

The melodic lines in this section are more fluid, with more legato and sustained rhythms, making the water flow in a more coherent pattern, creating a slow and far-reaching echo effect.

Measures 18-20, there is an increase in rhythmic density, including arpeggio effects, suggesting the tiny fluctuations of the water as it encounters obstacles. See in Figure 56:

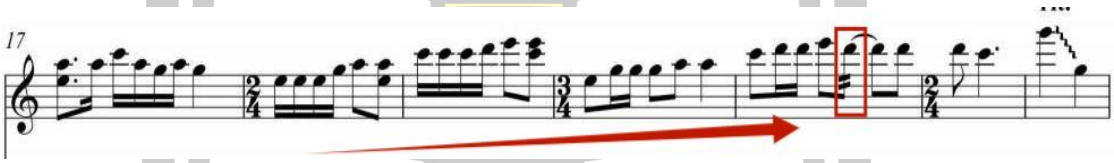

Figure 56. Measures 17-23， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024.

5.2.1. 4 Part IV D (30-48)

The tonality shifts to the A major seven-tone scale in this section, accompanied by corresponding changes in rhythm. The use of longer note values increases, giving the phrases a sense of pause, simulating the brief moments of tranquility formed during the flow of rivers. This rhythmic variation not only adds depth to the music but also sets the stage for the further development in subsequent sections. See in Figure 57:

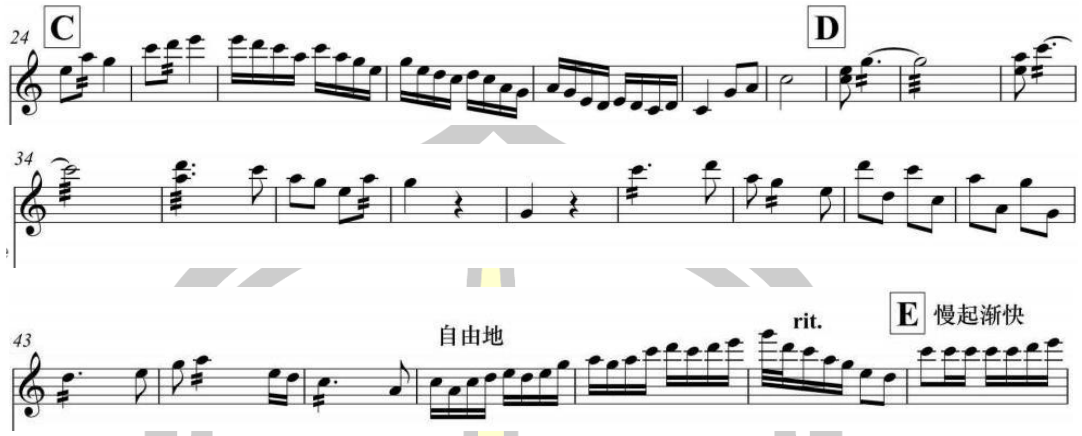

Figure 57. Measures 24–49，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.1.5 Part V E (49-68)

This section returns to the C major seven-tone scale, with a rhythm that is more restrained than before, representing the gathering of water into a wider river surface. In measures 52–56, a repetitive rhythmic pattern appears, possibly indicating a form of melodic sequence, which gives the music a dynamic sense of gradual progression. The rhythmic contrast is particularly striking in measures 60–64, where a more rapid rhythmic figure may be used, simulating the effect of rushing rapids. See in Figure 58:

Figure 58. Measures 50–69，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.1.6 Part VI F (69-87)

In the final section, the rhythm slows once again, depicting the image of water flowing into calmness. The Bianqing (编磬， multiple bronze chime) part becomes sparser, preserving the lingering resonance and enhancing the auditory sense

of space. In measures 84–87, the rhythm gradually decelerates, creating a closing effect for the coda, suggesting that the water ultimately merges with the vast sea. See in Figure 59:

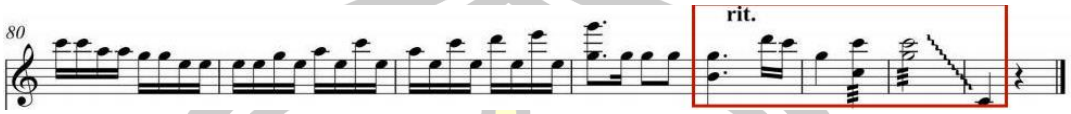

Figure 59. Measures 80-87， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Overall, the structure of Liu Shui is clear, with the rhythm progressing from free to regular, then shifting to dynamic variations, and finally returning to stability. This progression portrays the complete imagery of water flowing from a trickling stream to a rushing river, before ultimately returning to calmness. The unique timbre of the Shiqing (石磬, stone chime) is skillfully utilized in the rhythmic layers, allowing the entire piece to blend the elegance of court music with a natural, picturesque quality.

5.2.2 Tonality

5.2.2.1 Prelude (1–3): C Gong Seven-Tone Scale

The prelude is short and concise, based on the C major seven-tone scale, creating a clear and stable sonic space.

Measure 1: The tonic C of the C major seven-tone scale is firmly established, and the melodic pattern unfolds through stable stepwise motion, setting the tonal foundation for the entire piece.

Measures 2–3: The intervallic framework is shaped by relationships of perfect fifths and fourths, reflecting the distant, resonant quality of guqin music, while also hinting at the initial state of flowing water—serene and gentle. See in Figure 60:

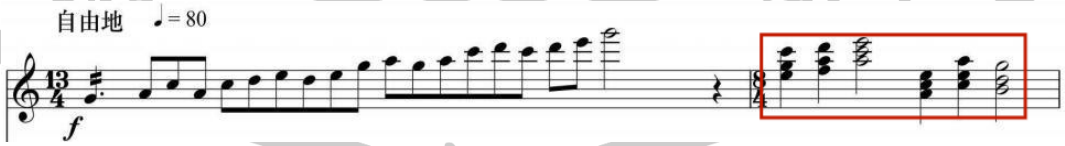

Figure 60. Measures 1–3，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.2.2 Part II B (Measures 4–14): C Gong Seven-Tone Scale

This section continues in the C Gong scale, with progressively richer pitch layers that evoke the rhythmic movement of flowing water.

Measures 4–7: The melody revolves around the notes C and G, maintaining tonal stability and showcasing the elegance of the major scale.

Measures 8–10: More ascending stepwise intervals are introduced, and the melody becomes more active, symbolizing the acceleration of the water flow.

Measures 11–14: The frequencies of the notes G, A, and D in the seven-tone scale increase, making the melody smoother while subtly hinting at potential dynamic tonal shifts. See in Figure 61:

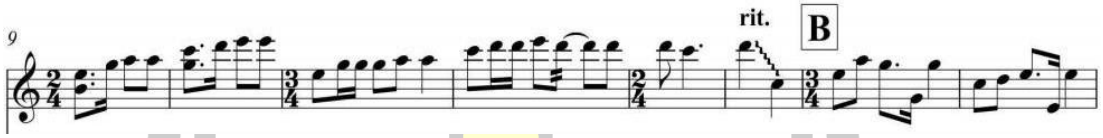

Figure 61. Measures 9–16， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.2.3 Part III C (15–23): C Gong Seven-Tone Scale

This section continues within the framework of the C Gong seven-tone scale, but the expansion of the pitch range makes the music more free-flowing.

Measures 15–17: The melody features increased leaps, alternating between fourths and octaves, which makes the depiction of flowing water more vivid. See in Figure 62.

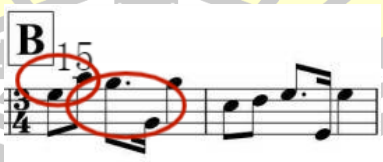

Figure 62. Measures 15-16， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 21–23: The frequent use of the note G as a pivot point in the melody helps maintain tonal stability, ensuring the coherence of the musical structure.

5.2.2.4 Part IV D (30–48): A Yu Seven-Tone Scale

This section represents the emotional climax of the entire piece. The tonality shifts to the A minor seven-tone scale, bringing a strikingly different color to the music.

Measures 31–33: The tonic A is firmly established, and the melody oscillates from D to A, marking the completion of the tonal shift.

Measures 34–38: The melodic focus moves upward, with an increased prominence of the A-C-G-E note group, making the characteristics of the minor scale more evident. See in Figure 63:

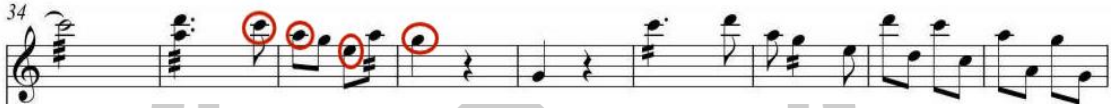

Figure 63. Measures 34–42，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 41–42: The progression of octaves broadens the melody, symbolizing the water breaking free from constraints and rushing forward. See in Figure 64.

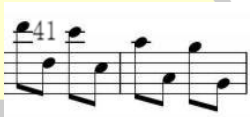

Figure 64. Measures 41–42，Shiqing (石磬, stone chime) section

Source: Wenran Wang 2024

Measures 45–48: The melody gradually ascends, with a free rhythm, setting the stage for the return to tonality in the next section. See in Figure 65.

Figure 65. Measures 17–23，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.2.5 Part V E (49–68): C Gong Seven-Tone Scale

This section returns to the C Gong seven-tone scale, with the rhythm becoming more stable.

Measures 49–53: The melodic focus returns to the note C, stabilizing the tonality and depicting the water flowing back into a calm state. See in Figure 66:

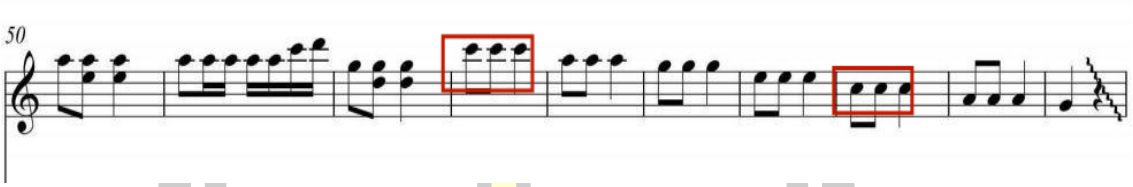

Figure 66. Measures 50–59，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 53–57: The unison interval is repeatedly played, with each measure descending by a second or third, reflecting the flow of water in a wide river. See in Figure 67:

Figure 67. Measures 53–57，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 59–68: The melodic patterns become more balanced, with the tonality steadily unfolding within the framework of the C Gong seven-tone scale, laying the groundwork for the final section. See in Figure 68:

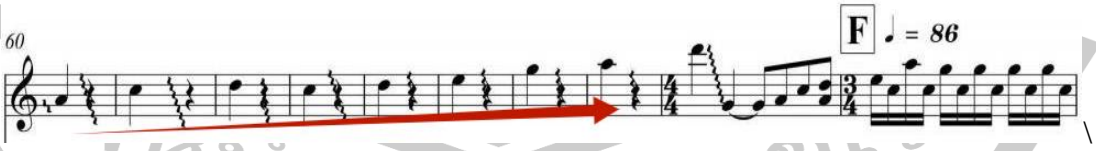

Figure 68. Measures 60–69，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

5.2.2.6 Part VI F (69–87): C Gong Seven-Tone Scale

In the final section, the C Gong seven-tone scale is maintained, with the music returning to a stable and calm state, creating a lingering, resonant conclusion.

Measures 69–84: The intervals between the notes are wide, contributing to a sense of expansive space. See in Figure 69:

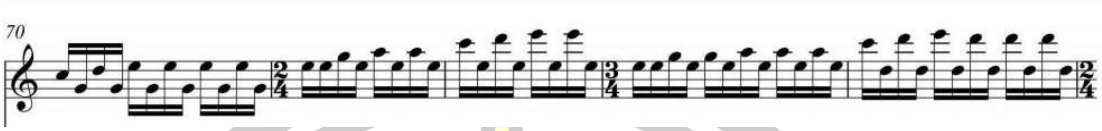

Figure 69. Measures 70–74，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 85–88: The piece culminates with a return to the tonic C, stabilizing the music and returning to a calm state, symbolizing the water fading into the distance.

The tonal design of Liu Shui highlights the unique tonal beauty of the Shiqing (石磬, stone chime) and uses tonal shifts to depict the multi-layered dynamic development of flowing water. Overall, the piece's tonal structure not only aligns with the performance characteristics of the Shiqing (石磬, stone chime) but also captures the transformation of water from a small stream to a river, making it an expressive and evocative solo work for the Shiqing (石磬, stone chime).

5.2.3 Melody

5.2.3.1 Prelude (1–3):

The melody in the prelude is free, offering a section for improvisation, while the C Gong seven-tone scale establishes the tonal foundation for the entire piece.

Measure 1: The melody starts on the note A, with intervals of seconds or thirds, creating a classical and dignified sound.

Measures 2–3: The melody unfolds using stepwise motion with small interval spans, reflecting the initial calm and tranquil flow of water.

5.2.3.2 Part II B (4–14):

This section sees the rhythm of the melody become more lively, illustrating the dynamic movement of the flowing water.

Measures 4–7: The melody revolves around the notes C and G, with moderate leaps between intervals, maintaining the stability of the major scale.

Measures 8–10: The melody ascends, with the intervals gradually expanding to a fifth (C–G) and even a sixth (C–A), making the music more fluid.

Measures 11–14: The increased frequency of the notes A and B enhances the flow of the melody, suggesting potential dynamic changes in tonality.

5.2.3.3 Part III C (15–23):

This section features a rich layering of melodies, with the pitch range gradually expanding to heighten the dramatic effect.

Measures 15–17: The melody alternates between fifths (C–G) and fourths (D–G), making the image of flowing water more vivid. See in Figure 70:

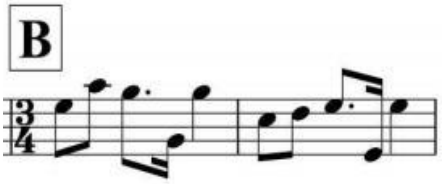

Figure 70. Measures 15-16，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 18–20: The melody descends, contrasting with the ascending motion of the previous section, symbolizing the changes in the water as it flows through different terrains.

Measures 21–23: The note G becomes the focal point of the melody, maintaining the stability of the tonality while enhancing the coherence of the music.

5.2.3.4 Part IV D (30–48): A Yu Scale

In this section, the melody reaches its climax, with a tonal shift to the A Yu scale, conveying a sense of intense and powerful emotion.

Measures 30–33: The melody establishes A as the tonic note, making the characteristics of the Mixolydian mode more distinct. See in Figure 71:

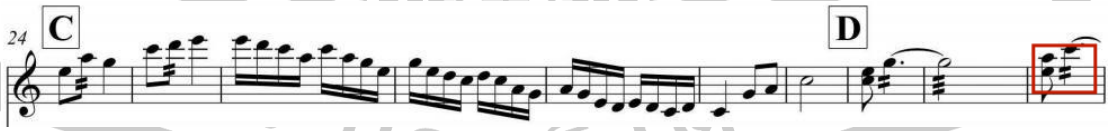

Figure 71. Measures 24-33，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 34–38: The melody employs more ascending intervals, creating the image of water breaking through obstacles and rushing forward.

Measures 39–44: The melody expands widely, utilizing leaps of fourths and fifths to enhance the musical tension.

Measures 45–48: The melody descends, becoming more stable, with A returning as the dominant note, setting up the tonal resolution.

5.2.3.5 Part V E (49–68):

This section returns to the C Gong scale, with a descent in pitch, depicting the gradual calming of the water's flow.

Measures 49–53: The melody centers around C, exhibiting a sense of stability and return.

Measures 54–60: The melody becomes more balanced, with increased use of fifths, creating a more expansive musical texture.

Measures 61–68: The melody gradually winds down, symbolizing the water flowing into a wide river, settling into a calm state.

5.2.3.6 Part VI F (69–87):

The final section sees the melody unfold steadily, returning to a sense of tranquility.

Measures 69–72: The melody moves down in fifths, evoking the imagery of the water flowing into the distance.

Measures 73–78: The melody becomes more static, with C and G forming a stable tonic-dominant relationship.

Measures 79–87: The melody concludes with a final stable resolution on C, creating a long-lasting, resonant ending. See in Figure 72:

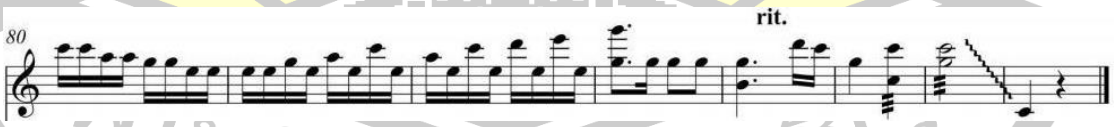

Figure 72. Measures 80-87，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

The melodic design of "Liu Shui" demonstrates the expressive power of the Shiqing (石磬, stone chime) solo, depicting the multi-layered dynamic development of the water flow through the progression of melodic layers and tonal shifts.

6.2.4 Rhythm

6.2.4.1 Prelude (1-3):

The prelude is concise and refined, with a rhythmic design that emphasizes the clear timbre of the dulcimer. It combines evenly distributed notes with free rhythm,

creating an ethereal atmosphere. The primary time signatures are 14/4 and 8/4, with a free triple meter.

Measures 1: In 13/4 time, eighth notes alternate continuously, with an ascending scale. The rhythm is steady, providing a sense of solemnity, symbolizing the beginning of the water flow, gently moving forward.

Measures 2: In 8/4 time, the time signature changes, and quarter notes become the dominant rhythm, See in Figure 73:

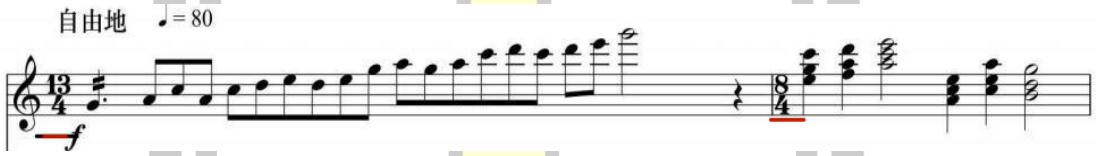

Figure 73. Measures 1-2，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 3: Dotted rhythms are gradually introduced, adding elasticity to the melody and creating a sense of layered progression. This enhances the rhythmic movement, suggesting that the water flow is about to transition into a more complex rhythmic expression. The mood becomes more cheerful. See in Figure 74:

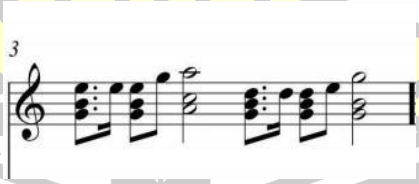

Figure 74. Measures 4-8，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Overall, the rhythmic structure of the prelude is relatively regular, primarily employing long-duration notes to create a cheerful atmosphere, thereby setting the tone for the subsequent sections.

6.2.4.2 Part II B (4-14):

The rhythm gradually becomes more intricate, depicting the imagery of a meandering stream. Measures 4-5 are in 2/4 time, conveying a lively and cheerful mood. Measures 6-8 shift to 3/4 time, with the triple meter evoking a swaying sensation, perfectly suited for the festive ambiance. Measures 9-10 return to 2/4 time, followed by measures 11-12 in 3/4 time, and measures 13-14 revert to 2/4 time, concluding this section. The rhythm in this part is more dynamic than in the prelude, with alternating 2/4 and 3/4 meters creating a naturally flowing rhythmic sensation.

6.2.4.3 Part III C (15-23):

This section further develops the ideas introduced in Part II, with a similar musical mood, illustrating the acceleration of the water flow. Measures 15-28 are in 3/4 time, dominated by short-duration notes, with dotted eighth notes combined with sixteenth notes, creating a sense of rapid water movement and rhythmic undulation. Measures 29-30 feature longer note values, signaling the approach of the section's conclusion. The rhythm in this part reflects the changing terrain of the water flow, transitioning from a gentle stream to a turbulent current, paving the way for subsequent emotional contrasts.

6.2.4.4 Part IV D (31-48):

This section represents the emotional climax of the piece, with the rhythm becoming more vibrant as the mode shifts. Measures 31-37 feature syncopated rhythms combined with consecutive short-duration notes, with prominent dotted rhythms enhancing the musical tension, portraying the water's surging momentum. It evokes the image of water encountering obstacles and creating turbulent waves.

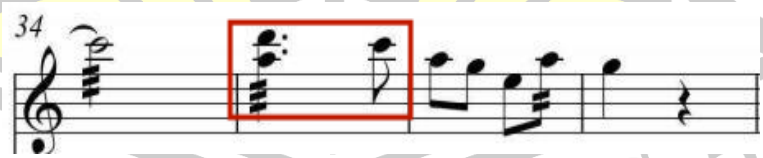

Figure 75. Measures34-37，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measure 75: This measure employs continuous sixteenth notes, creating a highly dynamic rhythm that vividly portrays the image of water rushing and surging rapidly. See in Figure 76.

Figure 76. Measures 46-47，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measure 48: The rhythm gradually slows down, returning to a more stable form, preparing for the transition to the next section. This part features striking rhythmic contrasts, with the variability of rhythmic patterns reflecting the dynamic evolution of the flowing water and creating a strong narrative tension.

6.2.4.5 Part V E (49-68):

This section returns to the C Gong heptatonic mode, with the rhythm shifting from rapid to gradual, depicting the water flow returning to a calm state. Measures 49-58 continue with short-duration rhythms, but the density decreases, allowing the music to gradually expand. Measures 59-68 feature an increasing number of quarter notes, with ascending scales and a more subdued rhythm, ultimately portraying the water flow settling into tranquility. See in Figure 77.

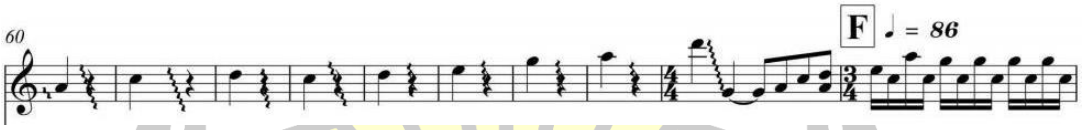

Figure 77. Measures 60-68，Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

This section's rhythm portrays the water flow transitioning from turbulence to tranquility, forming a complete narrative cycle.

6.2.4.6 Part VI F (69-87):

In 3/4 time, evoking a waltz-like feel, this final section features a freer rhythm and introduces new material. The music returns to a steady and composed state, creating a lingering and resonant conclusion. Measures 69-82 alternate between 3/4 and 2/4 time, building to a climactic atmosphere with a more uniform rhythm. Continuous

alternations of sixteenth notes sustain a sense of urgency, vividly depicting the scene of rushing water and conveying heightened emotions. Measures 83-84 introduce dotted notes, reducing the use of sixteenth notes. See in Figure 78.

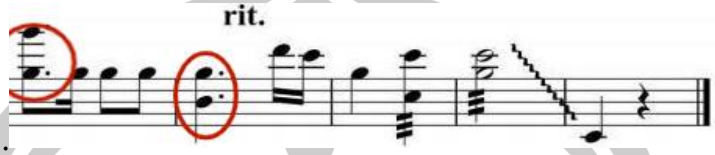

Figure 78. Measures 83-84， Shiqing (石磬, stone chime) Section

Source: Wenran Wang 2024

Measures 85-87: The piece concludes with a gradual slowing of the rhythm, as if the water flow disappears into the distance, leaving behind a tranquil resonance. The rhythmic design of this section brings the music to its finale, depicting the ultimate destination of the water flow and evoking a profound aftertaste.

The rhythmic design of Liu Shui showcases the unique tonal beauty of the Shiqing (石磬, stone chime) and vividly portrays the multi-layered dynamic development of water through rhythmic variations. The main rhythmic characteristics include:

1). Use of free rhythm: Enhances the agility and natural flow of the music.

2). Combination of triplets, dotted notes, and syncopation: Brings the imagery of flowing water to life.

3). Contrast between fast and slow rhythms: Creates a layered narrative structure within the music.

4). Slowing of rhythm in the final section: Concludes the music with a sense of calm and returns to tranquility.

Overall, the rhythmic design of this work not only aligns with the performance characteristics of the Shiqing (石磬, stone chime) but also precisely captures the transformation of water from a stream to a river. It is a highly expressive solo piece for the Shiqing (石磬, stone chime), embodying both technical mastery and aesthetic depth.

5.3 Ai Ying (哀郢)

The Taoxun (陶埙, ceramic ocarina) is one of China's oldest clay instruments, with a history spanning over six thousand years. The piece Ai Ying, based on the ancient guqin composition Li Sao, expresses the profound sorrow and patriotic sentiments of the poet Qu Yuan.

5.3.1 Structure

The Taoxun (陶埙, ceramic ocarina) solo Ai Ying is composed based on the guqin piece Li Sao. Through the alternation of the D Shang and C Gong modes, combined with the Taoxun (陶埙, ceramic ocarina)'s uniquely desolate timbre, it portrays the poignant emotions of Qu Yuan, who grieved for his nation and its people. The structure of the piece is concise, with its tonal arrangement and timbral design closely aligned with the literary imagery.

Table 6. The Musical Formal Structure of Ai Ying

Composer: Gong Guofu

The Musical Formal Structure of Ai Ying			
Parts	Prelude	A	B
Sections	1-7	8-36	37-42
Number of sections	7	29	6
Chinese mode	D Zhi mode	D Zhi mode	D Zhi mode

Source: Wenran Wang, 2024

5.3.1.1 Part I (Prelude) (1-7)

The D Zhi heptatonic mode, with D as the zhi note and G as the gong note, emphasizes the zhi note (D).

In this section, the Taoxun (陶埙, ceramic ocarina) does not carry the melodic line; instead, it is accompanied by other instruments, preparing for the Taoxun (陶埙, ceramic ocarina)'s entrance later in the piece. Emotionally, this part resembles a sigh echoing through the long river of history, evoking memories of past glory and mourning the fall of the capital city of Ying.

5.3.1.2 Part II A (8-36)

This section introduces the main theme, with the music still unfolding in the D Zhi mode. The rhythm becomes more stable compared to the introduction, and the dynamic layers gradually intensify, creating a slow yet resolute progression. In measures 12-14, the melody employs extensive ornamentation, enriching it with an ancient charm.

Notably, the Taoxun (陶埙, ceramic ocarina) fully utilizes its timbral characteristics in this section, producing a sound that is simple yet emotionally charged. The melody alternates between descending phrases, evoking a weeping and lamenting quality, and ascending phrases, seemingly expressing the poet's deep concern for the fate of his nation. This undulating melodic movement imbues the music with a strong sense of internal monologue.

5.3.1.3 Part III B (37-42)

This section remains in the D Zhi heptatonic mode but introduces modal ambiguity by raising the "do" (in measure 40), enhancing the sense of sorrow. It returns to a free rhythm, concluding with an indefinitely sustained (fermata) final note D, whose resonance naturally decays within the Taoxun (陶埙, ceramic ocarina)'s chamber, creating an "echoing valley" effect. The musical texture becomes richer, expressing the ultimate release of emotion. The melody retains the Taoxun (陶埙, ceramic ocarina)'s characteristic distant and ethereal quality, with a slightly reduced range and a freer rhythm, akin to the poet's final sigh.

In terms of sound treatment, the timbre in this section becomes more ethereal. The use of sustained notes adds a floating quality to the music, immersing the listener as if standing by the riverbank, listening to a fading lament.

Ai Ying transforms the literary imagery of Li Sao into musical language through meticulous tonal design and the Taoxun (陶埙, ceramic ocarina)'s unique timbre:

The Taoxun (陶埙, ceramic ocarina)'s clay material and desolate sound naturally embody a sense of "originating from the earth and ultimately returning to it," aligning perfectly with the emotional core of this musical work. This piece is not only a demonstration of the Taoxun (陶埙, ceramic ocarina)'s ancient craftsmanship but also

an exemplary representation of the Chinese literati music tradition of "conveying philosophy through sound." It carries strong political undertones, as well as class implications, as the Taoxun (陶埙, ceramic ocarina) was an instrument reserved for the elite during the Shang Dynasty, accessible only to members of the upper class.

5.3.2 Tonality

5.3.2.1 Part I (Prelude) (1-7) D Zhi Heptatonic Mode

The introduction unfolds in the D Zhi heptatonic mode, with the solo instrument, the Taoxun (陶埙, ceramic ocarina), not yet making its appearance.

5.3.2.2 Part II A (8-36) D Zhi Mode

Upon entering Section A, the melody centers around the note D, the fifth degree of the mode, and employs scalar ascending patterns to clarify the tonality. The first half (measures 8-20) focuses on the note D and its fifth, A, combined with subtle shifts within the Zhi mode scale, creating a progressively intensifying musical tension. See in Figure 79:

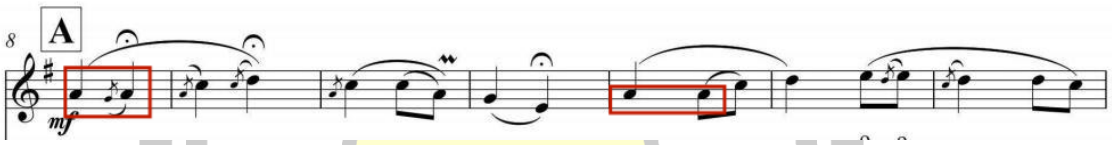

Figure 79. Measures 8-14, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

Measures 28-36: Through the alternation of the zhi note (A) and the "gong" note (D), the melody returns to a stable state, concluding on the note D, which lays the foundation for the development of the next section.

5.3.2.3 Part III B (37-42) D Zhi Heptatonic Mode

Although Section B remains within the D Zhi heptatonic mode, the tonal color leans more toward melancholy, reflecting the piece's sorrowful character. In

measures 37-39, the melody alternates between the "zhi" note (D) and the "yu" note (E), creating a sense of hesitation that evokes unease and contemplation in the listener.

In measures 40-42, the melody gradually returns to the tonic note (D). Through the resolution of the melodic patterns, the tonality stabilizes, concluding on the note D. This reinforces the integrity of the D Zhi heptatonic mode while providing a somber and profound conclusion to the emotional expression of the entire piece.

To sum up, the tonal structure of Ai Ying is strictly centered around the D Zhi heptatonic mode. By skillfully utilizing the relationship between the tonic note D and the shang note A, the piece achieves melodic variation within a stable tonal framework, enhancing its emotional depth. The unique acoustic effect of the D Zhi mode imbues the entire work with a mournful and profound atmosphere, closely aligning with the themes of the poem Li Sao. This creates a strong sense of historical resonance and intellectual space for the listener. The piece carries significant political undertones.

5.3.3 Melody

5.3.3.1 Part I (Prelude) (1-7):

The introduction of the piece is concise yet features a distinct melodic motif, establishing the emotional tone for the entire work. In this section, the Taoxun (陶埙, ceramic ocarina) melody does not yet appear.

5.3.3.2 Part II A (8-36):

The main theme is further developed in this section, with the melodic range gradually expanding to express richer emotional layers.

Measures 8-11: The melody revolves around D and A, forming a stable modal framework. The use of appoggiaturas and ornamentation enhances the fluidity of the melody. See in Figure 80:

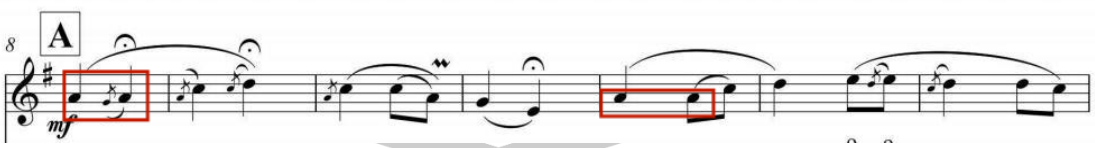

Figure 80. Measures 8-14, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

Measures 12-27: In this section, a rhythmic pattern consisting of a quarter note followed by two eighth notes (la-la-do) is repeatedly emphasized, highlighting this melodic motif. The melodic development here is rich, with high-register extensions expressing cries of anguish and low-register passages evoking contemplative reminiscence, intensifying the emotional depth.

5.3.3.3 Part III B (37-42):

The concluding section gradually brings the melody to a close, returning to a more introspective expression.

Measures 37-39: The melody revolves around D-E-D, with a slow rhythm and the use of sustained notes to enhance a lingering aftertaste. See in Figure 81.

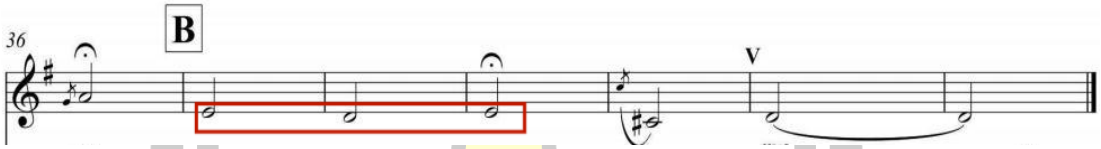

Figure 81. Measures 37-39, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

Measures 40-42: The melody introduces a raised do (#do) to increase tonal tension, ultimately resolving on the note D. The piece concludes with a gradual diminuendo, allowing the music to fade away with a lingering resonance.

This section features a concise melodic structure but carries an intense emotional weight, akin to the poet's final sigh.

5.3.4 Rhythm

5.3.4.1 Part I (Prelude) (1-7)

The Taoxun (陶埙, ceramic ocarina) does not perform in this section.

5.3.4.2 Part II A (8-36)

The rhythmic layers in the thematic section gradually intensify, creating a stark contrast in emotional expression compared to the introduction.

Measures 8-11: The Taoxun (陶埙, ceramic ocarina) employs ornamentation in the melody, lending a playful and delicate quality to the music, while enhancing the fluidity of the melodic line. See in Figure 82.

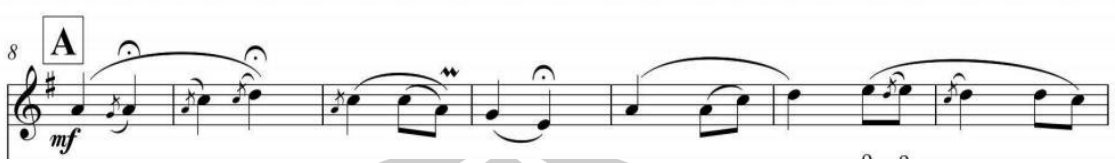

Figure 82. Measures 8-11, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

Measures 12-33: The rhythm in the Taoxun (陶埙, ceramic ocarina)'s performance remains relatively stable, with alternating quarter notes and eighth notes.

In measure 33, a ritardando marking appears, signaling a return to a slower tempo and indicating the approach of the section's conclusion, preparing for the transition to the next part. Overall, this section features minimal rhythmic variation, balancing smooth continuity with moments of urgency, enriching the emotional expression.

5.3.4.3 Part III B (37-42)

The rhythm in the concluding section becomes more subdued.

In measure 39, a fermata (free prolongation) appears, and the tempo gradually slows, guiding the music into its final resolution. See in Figure 83.

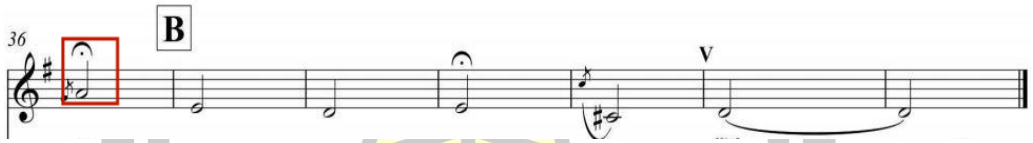

Figure 83. Measures 36-42, Taoxun (陶埙, ceramic ocarina) Section

Source: Wenran Wang 2024

The melody in this section echoes the introduction, with both dominated by half notes and a steady rhythm, evoking a sense of reminiscence and contemplation. The piece concludes with a whole note, allowing the music to fade away with a distant resonance.

The rhythmic analysis of Ai Ying reveals the richness and layered complexity of its rhythmic design. From the free rhythm of the introduction to the varied thematic section and the subdued conclusion, the overall rhythmic structure is tightly woven and aligns with the performance characteristics of the Taoxun (陶埙, ceramic ocarina). The rhythm is

predominantly free, emphasizing the fluidity of breath. Elements such as dotted rhythms, syncopation, and triplets are employed to enhance the melodic cadence. Variations in tempo create distinct emotional layers, while the alternation between long and short notes adds a narrative quality to the music.

In summary, the rhythmic design of this work not only enhances its expressive power but also profoundly conveys the poet's sorrow and concern for his nation and its people. This makes the Taoxun (陶埙, ceramic ocarina) solo piece "Ai Ying" a deeply moving and artistically compelling composition.

5.4 Summary

From the analysis and fieldwork, the researcher found that:

This chapter analyzes the structural, tonal, melodic, and rhythmic characteristics of Shang Song: Xuan Niao, Liu Shui, and Ai Ying, highlighting their exemplary role in ancient music composition.

5.4.1 Shang Song: Xuan Niao follows a four-part structure, using G Gong mode with occasional shifts to E Yu mode for tonal contrast. The ascending second intervals and high notes create a solemn and mysterious atmosphere. The rhythm is steady in four beats, accelerating with sixteenth notes at the climax to heighten the ritualistic effect.

5.4.2 Liu Shui consists of six sections, depicting water's flow from a stream to a river and then calming. It primarily uses C Gong mode, transitioning to A Yu mode at the climax. Stepwise motion and occasional leaps create fluidity and dynamism, while the rhythm alternates between triple and quadruple time with syncopation and dotted notes.

5.4.3 Ai Ying has a three-part structure, expressing Qu Yuan's sorrow. Set in D Zhi mode, it emphasizes D and A to evoke a mournful tone. Slow, ornamented melodies and free rhythm reflect grief, ending with a sustained note for a lingering resonance.

To sum up, these musicians created works in the style of body ancient music, established the main principles of Shang music composition, and provided a good model for ancient music composition.

Table 7. Musical Characteristics of Three Musical Pieces

Name	Structure	Tonality	Melody	Rhythm
ShangSong • Xuan Niao	Four parts	G Gong mode-E Yu mode-G Gong mode	The melody is dignified and solemn, with a clear hierarchy.	Rhythm is a four-beat structure with prominent heavy beats and a combination of fast and slow.
Liu Shui	Six parts	C Gong mode-A Yu mode-C Gong mode	Cascading intervals dominate, with rich melodic layers	Combination of fast and slow, alternating loose and tight, free rhythms to tight and coherent fast patterns
Ai Ying	Three parts	D Zhi mode	A slow, steady cascade unfolds with a bleak, mournful melody	Free and loose, soothing and long, combined with the local rhythm of compact changes and the use of white space

Source: Wenran Wang 2025

CHAPTER VI

The Functions of Shang Dynasty Musical Instruments

Most of the excavated musical instruments from the Shang Dynasty in the Central Plains region were discovered in the tombs of the elite class, closely associated with various aspects of Shang society. These findings provide valuable insights into different dimensions of social life, particularly the functions of music. However, a review of existing literature and field investigations indicate that research on the functional aspects of these instruments remains relatively simplistic and lacks systematic analysis.

This study, based on excavated musical instruments from the Central Plains of the Shang Dynasty, conducts a detailed analysis of their roles in three primary contexts: Ritual, Entertainment, and Politics. Among the elite, these functions served as powerful tools for consolidating political authority. This investigation not only highlights the multifaceted role of Shang Dynasty musical instruments in social life but also underscores their cultural and historical significance.

In addition, researcher will employ field investigation and documentary research methods to study the Shang Dynasty musical instruments excavated in the Central Plains region. This approach will enhance the comprehensiveness of the study.

The research framework of this chapter is as follows:

6.1 Ritual

6.2 Entertainment

6.3 Politics

6.4 Summary

6.1 Ritual

Musical instruments serve as the material medium of human musical activities, catering to specific social groups while also reflecting the realities of their respective societies. During field investigations, researcher interviewed Mr. Cui Zongliang, Director of the Anyang Institute of Cultural Relics and Archaeology, who emphasized that in ancient China, musical instruments were not merely tools for producing sound

but also fulfilled additional functions in certain contexts. In the Shang Dynasty, significant court activities such as banquets and sacrificial rituals involved offerings of wine to ancestral deities, with music serving as a medium for communication with the divine. Thus, instrumental performances became an indispensable component of ritual ceremonies. (Cui Zongliang, personal communication, April 14, 2024)

Furthermore, field research interviews with Ms. Cai Ke, a staff member at the Chinese Writing Museum, revealed that oracle bone inscriptions contain numerous records of musical performances and dances in sacrificial rituals. Mr. Cui Zongliang also informed the researcher that 211 sacrificial names have been identified in Shang Dynasty oracle bone inscriptions. However, this classification remains in the preliminary screening stage and may include misinterpretations or omissions. (Cui Zongliang, personal communication, May 3, 2024)

Informant Ms. Cai Ke believes that these names were derived through meticulous analysis of oracle bone inscriptions, supplemented by previous research findings. Although the actual number of sacrificial names recorded in oracle bone inscriptions may fluctuate, the major ones are unlikely to have been overlooked. Therefore, it can be inferred that the Shang Dynasty oracle bones contain approximately 211 sacrificial names. (Cai Ke, personal communication, May 3, 2024)

I will explain the names of these 4 rituals in the following:

6.1.1 Gu Ji (鼓祭):

The word "Gu" in the Oracle looks like this: "  "、"  ". The researcher found through a review of the literature that in oracle bone inscriptions, the character "Gu" can function as the name of a musical instrument, a sacrificial ritual, a place name, or a personal name. When used as a verb, "Gu" refers to a specific sacrificial rite, meaning "to perform a drum ritual." The term "Gu" was associated with sacrifices dedicated to figures such as Tang (唐) and Zuyi (祖乙), with recorded ritual occurrences in the first, ninth, and tenth months. Oracle bone inscriptions contain numerous references to "Gu Ji" . After an interview with Mr. Cui Zongliang, Director of the Anyang Institute of Cultural Relics and Archaeology, the researcher reached the same conclusion. (Cui Zongliang, personal communication, April 14, 2024)

Figure 84. Oracle Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

6.1.2 Wu Ji (舞祭):

Figure 85. Oracle Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

Figure 86. Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

After reviewing the literature and fieldwork, the researcher found that “Wu" oracle bones were shaped like this in the time of Wuding (武丁, names of Shang Dynasty Kings) —, It became after the Linxin kangding (廪辛康丁, names of two kings of the Shang Dynasty), the former looks like two people dancing with their hands holding up the tail of an ox, and the latter looks like a person dancing in the rain. After interviewing archaeologist Mr. Cui Zongliang, the researcher arrived at the same conclusion. (Cui Zongliang, personal communication, April 14, 2024)

The practice of dancing as a form of sacrificial ritual was primarily intended to invoke rain. The Erya Shixun (尔雅·释训, erya shixun) states: Wu, hao yu ye (舞, 号雩也), meaning "dancing is a call for rain." The researcher found through an interview with Ms. Cai Ke, a staff member at the Chinese Character Museum, said that in oracle bone inscriptions (甲骨文, jiaguwen), the dance sacrifice (舞祭, wuji) corresponds to the later yuji (雩祭, yuji), in which ritual dances were performed to summon rain. The primary deities worshipped in these ceremonies were often mountains (岳, yue) and rivers (河, he), with yue in this context referring specifically to high mountains.(Cai Ke, personal communication, May 3, 2024)

The researcher found through an interview with Ms. Cai Ke, a staff member at the Chinese Character Museum, that dance priests prayed for rain, and the sacrifices were usually made in the spring and autumn of the year, for example, in January, February, March, April, June, August and October.(Cai Ke, personal communication, May 3, 2024)

6.1.3 Zou Ji (奏祭):

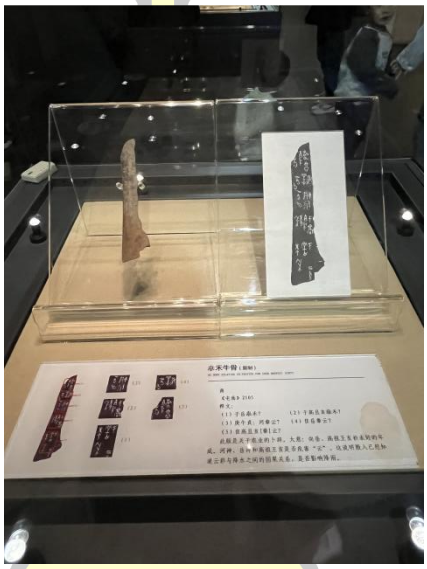

Figure 87. Oracle Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

After reviewing the literature, the researcher found that oracle "奏" is like this: "  ", "  " form, "Shuowen (说文)": "Zou (奏), is the meaning of playing to carry out. " Under the character "gao" (皋), it is written: "to sing and play." Duan note: "dengge (登歌), is singing on the stage. It is also called ge, or yue, or zou, which is actually called Zou (奏)." After interviewing Ms. Cai Ke, a staff member at the Chinese Character Museum, the researcher arrived at the same conclusion. (Cai Ke, personal communication, May 3, 2024)

The sacrifice with play includes nature gods and ancestor gods, and the nature gods mainly refer to the emperor, mountains, the four earths, Yue, and the river. Ancestor deities include the ancestor deities Kui, Shangjia, and Shiran, the ancestor

deities Da Yi (大乙), Zu Yi (祖乙), Zu Ding (祖丁), Wu Ding (武丁), and Zu Geng (祖庚), the ancestor deities Mother, Mother Non, and Mother Geng, and the ancestor deities, Scorn, and so on.

The researcher interviewed Ms. Cai Ke, a staff member at the Chinese Character Museum, who argued that there is no clear pattern as to when the Sacrifice with play is held, such as March, April, June, July, November, December, and Imaichi.(Cai Ke, personal communication, May 3, 2024)

6.1.4 Yong Ji (庸祭):

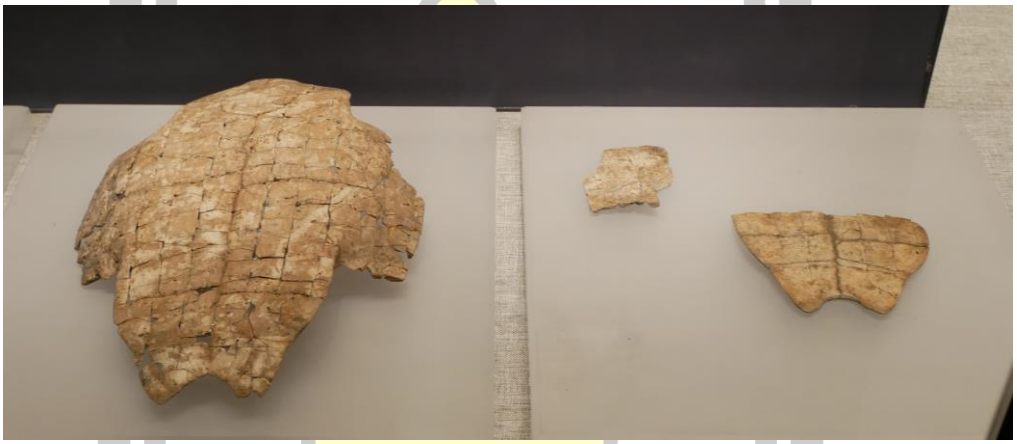

Figure 88. Oracle Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

The researcher interviewed Ms. Cai Ke, a staff member at the Chinese Character Museum, who argued that the oracle bone character for Yong is "", which original meaning was a musical instrument called a big bell, and it was sometimes used as a verb to make a sacrificial name. (Cai Ke, personal communication, May 3, 2024).

To sum up, sacrificial rituals are not only an essential component of contemporary Chinese ceremonies but were also of great significance in the Shang Dynasty, perhaps even more so. In Shang ritual practices, music played a central role throughout the ceremonies, encompassing singing, dancing, and instrumental performance. Among these, instrumental music was an indispensable element of Shang sacrificial rites.

6.2 Entertainment

The entertainment function of Shang dynasty musical instruments was mainly reflected in the process of eating and drinking. Diet is one of the fundamental material conditions for human survival and reproduction. Zhunanzi Zhushuxun (淮南子·主术训, zhunanzi zhushuxun) records that food is a basic necessity for people. Shiming Shiyinshi (释名·释饮食, shiming shiyinshi) states that food serves the purpose of sustaining and propagating life, as the act of eating enables the continuation and reproduction of human existence.

In the Shang dynasty, large-scale banquets had diverse appellations, reflecting different social functions and ritual norms. Through a review of the literature, the researcher found that the term xiang (飨, xiang) was the most formal, with its script depicting two people sitting together at a dining table, emphasizing the solemnity and ceremonial nature of this type of banquet. The researcher found through an interview with Ms. Cai Ke, a staff member at the Chinese Character Museum, that such banquets had clearly defined hosts and honored guests, accompanied by designated ritual vessels and fixed procedures, creating a dignified and grand atmosphere. This type of banquet was also referred to as yan (燕, yan) or yin (饮, yin), which were comparatively more relaxed in tone. The invited participants included members of the royal family, close ministers, and foreign guests, with relatively simplified etiquette. The primary purpose was to foster relationships, making it structurally similar to later bian yan (便宴, bian yan), which allowed for flexible arrangements depending on circumstances. Another type of banquet was known as shi (食, shi), characterized by an even more relaxed protocol. These gatherings focused on fostering family harmony or serving as occasions for ritual education, resembling modern si ren yan hui (私人宴会, si ren yan hui) or private banquets in nature. (Cai Ke, personal communication, May 3, 2024)

Overall, the banquet forms in the Shang (商, shang) dynasty ranged from the highly formal xiang (飨, xiang) to the more casual shi (食, shi), reflecting varied social objectives and ritual styles.

In the Shang Dynasty, the ruling elite not only emphasized harmonious interpersonal relationships and cultural refinement but also placed significant importance on distinctions of class and hierarchy. This hierarchical differentiation was

a fundamental aspect of the concept of "rituals embodying official status." Based on an interview with Mr. Cui Zongliang, Director of the Anyang Institute of Cultural Relics and Archaeology, the researcher found that this hierarchical ideology was reflected in the ritual vessels used for banquets. On the one hand, great attention was paid to the quality and texture of dining utensils when entertaining guests. The ruling class prioritized the use of various specialized vessels, including cooking utensils, serving dishes, and wine containers, employing luxurious materials to hold exquisite delicacies. The differentiation in material composition of these vessels provided psychological gratification to the elite. On the other hand, high-ranking nobles placed significant emphasis on the atmosphere and grandeur of dining occasions. During meals, aristocratic rulers often used music and dance performances to enhance the dining experience. By incorporating musical accompaniment into banquets, they sought to create a harmonious ambiance, strengthen relationships between rulers and subordinates, and ultimately stimulate appetite. (Cui Zongliang, personal communication, April 14, 2024).

The researcher found through a review of the literature that in addition to the tombs of the royal family, in the late 1970s, archaeologists excavated a large number of high-quality food and drink containers made of white earthenware and porcelain pottery in a tomb numbered M701 excavated in the western part of the Yinxu (殷墟) site, and a Shiqing (石磬, stone chime) and 14 Tongling (铜铃, bronze bell) were also excavated in the tomb. These 14 Tongling (铜铃, bronze bell) and a chime came out with the tomb, and there were 12 other people buried in the tomb, one of whom wore a bronze mask with a bull " s head on it, suggesting that not only did the owner of the tomb lead an extravagant life of love for food and music, but also had to be buried by the dancers who carried musical instruments for them even after their deaths. The researcher arrived at the same answer after interviewing archaeologist Prof. Cui Zongliang. (Cui Zongliang, personal communication, April 14, 2024).

The researcher found through a review of the literature that the M160 tomb in Guojiazhuang, Yinxu (殷墟), excavated in 1990, and the M54 tomb in Huayuanzhuang, excavated in 2001, are both high-ranking aristocratic tombs and general-grade tombs,

but like the tomb of Muhao, they both contain examples of food and drink utensils and musical instruments excavated together, as well as other tombs where food and drink utensils and musical instruments are found together. Some of these tombs are the tombs of high-ranking aristocrats, while others are the tombs of middle-ranking dignitaries. It is evident that the custom of accompanying meals with music was not confined to high-ranking aristocrats, but was also prevalent among middle-ranking dignitaries. The researcher arrived at the same answer after interviewing archaeologist Prof. Cui Zongliang. (Cui Zongliang, personal communication, April 14, 2024).

To sum up, the food culture of the elite class during the Shang Dynasty exhibits distinct characteristics of hierarchy and politics. Food was not only a basic need for survival but also a symbol of power and ritual. The extensive use of music within the food culture reflects the ruling class's high regard for ceremonial practices, social order, and political authority, laying the foundation for the banquet rituals of future aristocratic societies.

6.3 Politics

The Shang Dynasty already had the awareness of using music governance and management to assist in the arrangement and implementation of government affairs. Among these instruments, percussion and wind instruments are predominant, while string instruments are not represented, possibly due to their susceptibility to damage and difficulty in preservation. Researcher, after consulting with Cai Ke, a staff member at the Chinese Writing Museum, have arrived at the same conclusion (Cai Ke, personal communication, May 3, 2024).

Researcher, through literature review and field investigations, have discovered that musical instruments in the Shang Dynasty were not only found in the royal city and noble settlements but also in the tombs of monarchs from small vassal states, the graves of high-ranking dignitaries across different regions, and the burial sites of the general aristocracy. The excavated instruments from these sites exhibit significant similarities in form and variety to those found in the tombs of nobles residing in the royal city or aristocratic settlements. After consulting with archaeologist Professor Cui Zongliang, researchers arrived at the same conclusion. Furthermore, Professor Kong hypothesized that the enjoyment of music, including the scale and rights associated with musical

performances in Shang Dynasty cities and towns, was strictly regulated among different social classes. In particular, distinct differences existed in the types, configurations, and quantities of musical instruments available to each stratum. The Shang Dynasty's musical system thus reflected a rigid hierarchical structure, wherein the use of musical instruments symbolized varying social statuses. (Cui Zongliang, personal communication, April 14, 2024).

First and foremost, Gu (鼓, drum) were exclusive to the Shang royal family and regional rulers, serving as a powerful emblem of authority and status. Their association with the highest echelon of Shang society underscores their ritualistic and political significance.

Researcher have also identified the critical role of Taoxun (陶埙, ceramic ocarina) in the Shang Dynasty through extensive literature review. Ancient texts record that the origins of the Shang people are closely linked to a woman named Jian Di, who was regarded as the matriarch of the Shang lineage. Legend has it that Jian Di gave birth to Qi (契), the Shang progenitor, after consuming a dark bird's egg. This mythological narrative was widely embraced by the Shang people across generations, and the dark bird (玄鸟, xuanniao) became both the totem and ancestral deity of the Shang lineage. The resemblance of the Taoxun (陶埙, ceramic ocarina) to a bird's egg suggests that its inclusion in Shang tombs served not only as a musical instrument but also as a symbolic representation of the mythological origin of life. This may explain why Taoxun (陶埙, ceramic ocarina) have been excavated in numerous elite burials. After interviewing Professor Cui Zongliang, Director of the Anyang Institute of Cultural Relics and Archaeology, researchers confirmed this interpretation. (Cui Zongliang, personal communication, April 14, 2024).

Through an interview with Mr Huo Kun, head of the Huaxia Ancient Music Ensemble in Henan Province, have confirmed that Shiqing (石磬, stone chime) and Biannao (编铙, multiple bronze Nao) were commonly used by the Shang royal family, aristocrats, and middle-ranking nobles. These instruments were frequently employed in significant ceremonies and ritual events, demonstrating the vital role of music in both political and social life. Additionally, Biannao (编铙, multiple bronze Nao) were often used by the general aristocracy in royal cities or noble settlements, symbolizing cultural

identity and social status. Meanwhile, Tongling (铜铃, bronze bell) were shared among the royal family, aristocracy, and lower-ranking nobles, appearing on major occasions and reflecting distinctions in social hierarchy. The distribution and use of these instruments provide valuable insight into the hierarchical organization of Shang society. (Huo Kun, personal communication, April 6, 2024).

The allocation and usage of these musical instruments reveal the clear stratification of Shang society. In this period, music was not merely a form of entertainment or artistic expression but also a crucial means of asserting political authority and social status. High-ranking aristocrats enjoyed greater musical privileges, granting them access to a wider range of instruments and more elaborate musical ensembles, whereas lower-ranking commoners were limited to simpler instruments. This phenomenon indicates that the ritual and music system (liyue zhidu, 礼乐制度) in the Shang Dynasty was not merely a product of cultural development but also a reflection of the political structure and social hierarchy.

As an integral component of ritual ceremonies, music was closely intertwined with social stratification and political power, manifesting in various forms and scales across different social classes. The structured allocation of musical instruments and performance rights suggests that the Shang Dynasty had already established a systematic musical hierarchy, which reinforced the rigid social stratification and political order of the time. The researcher concluded through an interview with Mr. Cui Zongliang, director of the Anyang City Institute of Cultural Relics and Archaeology, that music played a fundamental role in shaping and maintaining the sociopolitical framework of Shang society.(Cui Zongliang, personal communication, April 14, 2024)

To sum up, musical instruments played a crucial role in political activities during the Shang Dynasty. Different social classes used distinct types of musical instruments, which were employed on various formal occasions such as imperial audiences, military campaigns, and major ceremonies, symbolizing power and prestige. In terms of political function, musical instruments were not only integral to rituals but also served as a means of conveying commands and demonstrating authority.

6.4 Summary

From the analysis and fieldwork, the researcher found that:

Musical instruments excavated from the Central Plains during the Shang Dynasty served three primary functions: ritual, entertainment, and politics.

6.4.1 Rituals – Instruments played a vital role in sacrificial ceremonies, serving as mediums for communication with deities and ancestors. Oracle bone inscriptions document their use in various rites, where different instruments were employed to pray for blessings, avert disasters, or express gratitude.

6.4.2 Entertainment - Music was an integral part of the entertainment program of banquets, and was sometimes used to show respect to guests and to symbolize the status of the host. Reflecting the hierarchical and ceremonial culture of Shang society, it reinforces the status of musical instruments as cultural symbols.

6.4.3 Politics – Instruments were essential in court ceremonies, military events, and state functions, symbolizing power and social hierarchy. Access to specific instruments varied by class, emphasizing the stratification of Shang society.

Archaeological discoveries reveal that these instruments were frequently found in tombs and sacrificial pits, often alongside ritual vessels, underscoring their cultural and religious significance. Instruments in tombs signified the deceased's status and beliefs, while those in sacrificial pits were used in religious rites. Court music played a crucial role in state rituals, particularly in facilitating communication between shamans and deities.

Beyond entertainment, Shang Dynasty instruments were embedded in religious and political frameworks, reflecting their deep cultural significance. Their discovery provides valuable insights into the musical traditions, social structures, and religious practices of the Shang civilization.

Table 8. The three functions and functional content of musical instruments

Name	Content
Ritual	Mainly used in sacrificial ceremonies.
Entertainment	Mainly used when eating.
Politics	Different classes use different instruments.

Source:Wang Wenran 2025

CHAPTER VII

Conclusion, Discussion and Suggestions

This chapter consists of three parts: conclusion, discussion and suggestions.

The concluding part summarises the research results of the three objectives: the distribution of musical instruments excavated in the Central Plains during the Shang Dynasty. Analyse modern musical characteristics performed on Shang dynasty musical instruments. Study the functions of Shang dynasty musical instruments.

The discussion section describes the research views of other scholars and the similarities and differences with the researcher's views.

The Recommendations section focuses on recommendations for the future development of musical instruments excavated and excavated in the central plains of the Shang Dynasty.

7.1 Conclusion

7.2 Discussion

7.3 Suggestions

7.1 Conclusion

7.1.1 The distribution of musical instruments excavated in the Central Plains during the Shang Dynasty. In Henan Province, 128 pieces were excavated, in Shanxi Province, 15 pieces were excavated, in Shandong Province,11 pieces were excavated, in Hebei Province, 3 pieces were excavated, and in Shaanxi Province, 1 piece was excavated.

7.1.2 Analysis of Musical characteristics Performed on Shang Dynasty Instruments. "Shang Song - Xuan Bird" has a four-part structure, with a transposition from G Gong mode to E Yu mode, then back to G Gong mode. The melody is solemn, with a steady four-beat rhythm and a contrast between fast and slow sections. "Liu Shui" consists of six parts, moving between C Gong mode and A Yu mode. It features cascading intervals, layered melodies, and a mix of free and structured rhythms. "Ai Ying" is in three parts, set in D Zhi mode. The melody is slow and mournful, with a free-flowing rhythm, pauses, and compact variations that enhance its emotional depth.

7.1.3 The functions of Shang musical instruments. Ritual: Musical instruments are used in rituals to communicate with the gods and ancestors. Entertainment: Music at banquets was used to entertain guests, reflecting the status of the host and highlighting the cultural and hierarchical concepts of Shang society. Politics: Musical instruments symbolized power, and different classes could use specific instruments, reinforcing the social hierarchy.

7.2 Discussion

7.2.1 The Distribution of Musical Instruments Excavated in the Central Plains During the Shang Dynasty

The researcher's viewpoint on the distribution of musical instruments excavated from the Central Plains during the Shang Dynasty is largely consistent with that of Fang Jianjun's (2006). In his study on the geographical distribution of Shang Dynasty musical instruments and the division of musical cultural regions, Fang primarily focused on seven musical cultural regions. However, this does not represent the entirety of the musical cultural zones, nor does it provide a detailed examination of the distribution of musical instruments in the Central Plains during the Shang Dynasty. Notably, in the past decade, newly excavated instruments have emerged in the public domain, leading to changes in their distribution patterns. In response to these gaps, the researcher has conducted further investigations and supplemented the data accordingly.

7.2.2 Analysis of the Musical Characteristics Performed on Shang Dynasty Instruments

The analysis results of the musical characteristics of Shang Dynasty instrumental compositions are largely consistent with the theoretical insights of Wang Qingqing's (2016) and Huo Kun 's (2015) regarding the performance characteristics of Shang Dynasty instrumental music. From the perspective of musical features, previous studies have lacked specific musical analyses of these compositions. Through field investigations, the researcher has meticulously documented these musical works and conducted an in-depth exploration of their intrinsic musical characteristics.

7.2.3 The Functions of Shang Musical Instruments

The research conclusions on the functions of excavated Shang Dynasty musical instruments are largely consistent with the studies of Wang Xiuping 's (2014) and Fang

Jianjun's (2006), which focus on the functions of these instruments in the Shang Dynasty of the Central Plains. Previous studies have often examined the functions of Shang and Zhou Dynasty instruments together, lacking an in-depth and comprehensive analysis specific to Shang Dynasty instruments in this region. In contrast, the researcher has conducted a detailed investigation specifically on the functions of excavated Shang Dynasty instruments in the Central Plains.

7.3 Suggestions

7.3.1 Suggestions for further research:

7.3.1.1 To collect and integrate archaeological information on Shang dynasty musical instruments in a more systematic way, and to establish a centralised database or information platform using modern digital technology. This will help researchers to obtain relevant information more efficiently and promote the further development and deepening of the study of Shang dynasty musical instruments and music.

7.3.1.2 In future research, more should be done to classify and study Shang Dynasty excavated musical instruments from all over the world from the perspective of musical instrument taxonomy, which is of great academic significance in understanding the development and evolution of the types of musical instruments and materials in the pre-Qin period.

7.3.2 Suggestions for application of research results

7.3.2.1 Government departments can make use of the results of this research to strengthen and enlarge the brand of musical instruments excavated during the Shang Dynasty, carry out the dissemination of the music culture of the Shang Dynasty in the Central Plains and combine it with tourism culture, and create a rich tourism brand of the music culture of the Shang Dynasty in the Central Plains.

7.3.2.2 Music education institutions in universities, middle schools and primary schools can make use of the results of this research to carry out a series of teaching activities, so that students can understand the music culture of the Shang Dynasty.

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APPENDIX

Appendix I: Relevant table about the excavated musical instruments of the Shang dynasty

Table 1. Number of excavated musical instruments from the Shang Dynasty in the Central Plains and details of the excavations

No.	Date of excavation	Sites	Excavated Musical Instrument	Cultural Staging
1	1935	HPKM1550 Houjiazhuang (侯家庄) NW Gon, Anyang, Henan	Stone Xun (石埙 Shi Xun) 1	Yinxu Phase I
2	1935	HPKM1001 Houjiazhuang (侯家庄) NW Gon, Anyang, Henan	White Ceramic Xun (白陶埙, Bai Tao Xun)1、Bone Xun (骨埙)1	Yinxu Phase II
3	1935	HPKM1217 Houjiazhuang (侯家庄) NW Gon, Anyang, Henan	Gu (鼓,drum) 1、Teqing (特磬, a single chime)1	Yinxu Phase III
4	1935	HPKM1004 Houjiazhuang (侯家庄) NW Gon, Anyang, Henan	Shiqing (石磬, stone chime) 3	Yinxu Phase III
5	1935	M1083 Houjiazhuang (侯家庄) NW Gon, Anyang, Henan	Nao (铙, suspended or hand-held bell) 4	Late period of the Yinxu
6	1950	WKGM1 Wuguan Village, Anyang, Henan	Tiger Pattern Special Chime (虎纹特磬, hu wen a single chime) 1	Yinxu Phase II
7	1950	M150 Liulige, Hui County, Henan	Taoxun (陶埙, ceramic ocarina) 3	Yinxu Phase II
8	1953	TSKM312 Dasikong Village (大司空村, dasikongcun), Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Late period of the Yinxu
9	1957	M8 Gaolouzhuang,	Biannao (编铙, multiple	Yinxu Phase III

		Anyang, Henan Province	bronze Nao) 3	
10	1958	TSKM51 Dasikong Village, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase III
11	1959	GM237 Xiaotun Xidi, Anyang, Henan	Taoxun (陶埙, ceramic ocarina) 1	Late period of the Yinxu
112	1959	GM263 Xiaotun Xidi, Anyang, Henan	Taoxun (陶埙, ceramic ocarina) 2	Late period of the Yinxu
113	1959	GM258 Xiaotun Xidi, Anyang, Henan	Teqing (特磬, a single chime) 1	Late period of the Yinxu
14	1966	ASM66 Dasikong Village, Anyang, Henan	Nao (铙, suspended or hand-held bell) 1	Yinxu Phase IV
15	1966	ASM288 Dasikong Village, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase IV
16	1968	Xiaonanzhang Tombs Wen County, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase II
17	1971	47 Hougang, Anyang, Henan	Shiqing (石磬, stone chime) 11 (dilapidated)、Chime Shelf (磬架, qing jia)	Yinxu Phase I
18	1973	South Bank of Suan River, Xiaotun, Anyang, Henan	Dragon Pattern Special Chime. (龙纹特磬 long wen a single chime) 1	Yinxu Phase III
19	1974	M699 West Yinxu, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase IV
20	1976	AXTM5 (Fu Hao), Xiaotun, Anyang, Henan	Nao (铙, suspended or hand-held bells) 5、Set of Chime (编磬 multiple bronze chimes) 3、Teqing (特磬, a single chime) 2、Taoxun (陶埙, ceramic ocarina) 3	Yinxu Phase II
21	1977	M93 West Yinxu, Anyang, Henan	Shiqing (石磬, stone chime) 5	Yinxu Phase IV
22	1977	M701 West Yinxu, Anyang, Henan	Teqing (特磬, a single chime) 1、Bronze bells (铜铃 Tong Ling) 14	Yinxu Phase IV
23	1978	AHBM1 Houjiazhuang	Shiqing (石磬, stone	Yinxu Pre-period

		(侯家庄) Beidi, Anyang, Henan	chime) (Number not known)	
24	1980	ASM539 Dasikong Village, Anyang, Henan	Teqing (特磬, a single chime) 1	Yinxu Phase II
25	1982	AGM765 West Yinxu, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase IV
26	1983	ASM663 Dasikong Village, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase II Late
27	1984	AQSM269 qijiazhuang, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase III Late
28	1984	M260 Wuguan Village, Anyang, Henan	Shiqing (石磬, stone chime) (dilapidated) 1	Yinxu Phase II
29	1987	AGM1769 West Yinxu, Anyang, Henan	Special Chime.(特磬, a single chime) 1	Late period of the Yinxu
30	1988	M121 Liujiazhuang, Anyang, Henan	Taoxun (陶埙, ceramic ocarina) 4	Yinxu Phase II
31	1990	M991 West Yinxu, Anyang, Henan	Teqing (特磬, a single chime) 1	Yinxu Phase II
32	1990	M160 Guojiazhuang, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3、Teqing (特磬, a single chime) 1	Yinxu Phase III Late
33	1997	Site of Taiqing Palace, Luyi County, Henan Province	Bone Paixiao (排箫,) 5, Biannao (编铙, multiple bronze Nao) (编铙) 6, Shiqing (石磬, stone chime) (dilapidated) 1	late Shang dynasty
34	1991	M12 Hougang, Anyang, Henan	Taoxun (陶埙, ceramic ocarina) 1	Yinxu Phase II
35	1995	M26 Southeast of Guojiazhuang, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3	Yinxu Phase II Late
36	2001	M54 Huayuanzhuang, Anyang, Henan	Biannao (编铙, multiple bronze Nao) 3、Teqing (特磬, a single chime) 1	Yinxu Phase II
37	2003	M1 Xiaotunxi, Yinxu, Anyang, Henan	Chime (磬 Qing) 1、鼓	Yinxu Phase IV Late
38	Not in	YM333 Xiaotun,	Bone Xun (骨埙) 1	Yinxu Phase I

	detail	Anyang, Henan		
39		M1125 West Yinxu, Anyang, Henan	Bronze bells (Tong Ling) 10	
40	1952	Erligang, Zhengzhou	Taoxun (陶埙, ceramic ocarina) 1 (dilapidated)	Erligang Upper
41	1955	Shang Dynasty Pottery Site, Minggong Road, Zhengzhou, China	Taoxun (陶埙, ceramic ocarina) 1 (dilapidated)	Erligang Upper
42	1974	Zhangzhai South Village, Zhengzhou	Taoxun (陶埙, ceramic ocarina) 1 (dilapidated)	Erligang Upper
43	1990	Xiaoshuangqiao Site, Shifo Township, Zhengzhou	Teqing (特磬, a single chime) 1	Erligang Upper
44	1973	Daguo Village, Huimin County, Shandong	Bronze Nao (铜铙, suspended or hand-held bronze bell) 1	Late Shang dynasty
45	1976	M8 Subutun, Qingzhou, Shandong	Bronze Nao (铜铙, suspended or hand-held bronze bell) 3、Teqing (特磬, a single chime) 1	Late Shang dynasty
46	1984	Dong'an Village, Yiyuan County, Shandong	Bronze Nao (铜铙, suspended or hand-held bronze bell) 3	late Shang dynasty
47	1985	Tomb No. 4, Qianpangda, Tengzhou	Teqing (特磬, a single chime) 1	Late Shang dynasty
48	1987	M213 Qiangzhangda, Tengzhou	Bronze Nao (铜铙, suspended or hand-held bronze bell) 2	Late Shang dynasty
49		Xingzhaiwang Site, Yucheng, Shandong	Taoxun (陶埙, ceramic ocarina) 1	
50		East Shimofeng Culture Site, Xiaxian, Shanxi	Teqing (特磬, a single chime) 1	Early Shang dynasty
51		Wenxi County, Shanxi	Teqing (特磬, a single chime) 1	Early Shang dynasty
52		Xuanyang county, Shanxi	Teqing (特磬, a single chime) 1	Early Shang dynasty
53		Wutai country, Shanxi	Teqing (特磬, a single chime) 1	Early Shang dynasty
54	1976	Tomb No. 3, Jingjie, Lingshi, Shanxi	Teqing (特磬, a single chime) 1	
55	1958	Guide Village Tombs,	Biannao (编铙, multiple	

		Shilou, Shanxi	bronze Nao) 1	
56	1976	Caojiahuan tombs, Shilou, Shanxi	Biannao (编铙, multiple bronze Nao) 1	
57	1985	M1 Jingjie, Lingshi, Shanxi	Alligator Drum(鼍鼓, Tuo Gu) 1	
58	1970	Zheyu, Baode country, Shanxi	Double-ball Bronze bells (双球铜铃 shuang qiu tong ling) 4	
59		Yangcheng county, Shanxi	Teqing (特磬, a single chime) 1	Shang dynasty
60		Lucheng county, Shanxi	Teqing (特磬, a single chime) 1	Shang dynasty
61		Pinglu county, Shanxi	Teqing (特磬, a single chime) 1	Shang dynasty
62	1973	Huaizhenfang, Lantian, Shaanxi	Teqing (特磬, a single chime) 1	Erligang Upper
63	1972	Tomb 112, Taisi, Gaocheng, Hebei	Teqing (特磬, a single chime) 1	Erligang Upper
64	1973	West of Gao Cheng Tai, Hebei	Drum-shaped Pottery (鼓形陶器 gu xing tao qi) 1	
65	1972	Houliu Village, Licun Township, Qiaoxi District, Xingtai, Hebei	Special Chime (特磬, a single qing) 1	
Totals	158			

Source: Wenran Wang, 2024

This table is based on the data presented in Professor Wang Xiuping's article, A Study of Archaeologically excavated Musical Instruments of the Shang Dynasty from the Perspective of Organology. The information has been reclassified and summarized from the charts and tables provided in the original work, focusing on the musical instruments excavated in the core cultural region of the Central Plains during the Shang Dynasty.

Table 2. Gu Ji (鼓祭)

Ancient Texts and Explanation

Divinatory Records	Explanation
癸丑卜，史贞，其尊鼓，告于唐，一牛.（《甲骨文合集》1911/1）	On the day of Guichou (癸丑, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), Shi Zhen performed divination and asked whether a bull should be sacrificed to Tang (probably referring to a deity or ancestor) with a ritual of beating drums and sacrifices. (Collection of Oracle Bone Inscriptions 1291/1, 1999)
庚辰卜，鼓王奏.（《甲骨文合集》1911/1）	On the day of Gengchen (庚辰, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), a divination was performed. The divination inquired whether music should be played on drums. (Collection of Oracle Bone Inscriptions 1911/1, 1999)
辛亥卜, 出贞, 庚辰卜, 鼓王奏.其鼓彡告于唐, 九牛.一月.(《甲骨文合集》22749/1)	On the day of Xinhai (辛亥, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), a divination was performed and the results showed that further divination was needed. Then, on the day of Gengcheng, I did the divination again and decided to have the king of drums to play music. At this time, the drums used to play "pang, pang, pang" ("彡" means "pang, pang, pang", see "Sacrifice with shan" later), and the result was reported to Shang. ("彡" means "pang, pang, pang, pang", see "Sacrifice with shan" in the following section), and reported the result to the king of the Shang Dynasty, "Tang". Nine bulls were used in the ritual and the sacrifice took place in January. (Collection of Oracle Bone Inscriptions 22749/1, 1999)
其将祀鼓.(《甲骨文	This is foreshadowing or planning the beating of a drum for

合集》30763/3)	a sacrificial ceremony. (Collection of Oracle Bone Inscriptions 30763/3, 1999)
庚辰卜，贞:鼓勿奏.(《英国所藏甲骨集》1911/1)	The results of divination on the day of the Gengchen show that it is advisable not to perform drumming or related rituals. (Collection of Oracle Bones in the British 1911/1, 1999)

Source: Wenran Wang 2024

Table 3. Wu Ji (舞祭)

Ancient Texts and Explanation

Divinatory Records	**Explanation**
贞:亡舞河，亡其雨.(《甲骨文合集》14197/1)	The word "亡" means "no, not" in the oracle bone inscriptions. The Chinese character "其" means "about to (即将)", and "河舞" is a musical dance used to worship the "river god", the god of the earth. The "river dance" is the music and dance used in sacrifices to the "river god", the god of the earth. Taken together, these words mean that the results of the divination show that there is no need to dance to the river god, and that it will not rain in the future. (Collection of Oracle Bone Inscriptions 14207/1, 1999).
贞:舞岳  雨.(《甲骨文合集》14207/1)	The result of the divination is: It will rain if you dance for the mountains and the rivers. (Collection of Oracle Bone Inscriptions 14207/1, 1999).
卜，今日...舞河暨岳...从雨.(《甲骨文合集》34224/4)	Today, it will rain when a dance is used to honour the river god (河神) and the yue god (岳神). (Collection of Oracle Bone Inscriptions 34224/4, 1999).
贞:...蔑于  ，舞于父乙.(《甲骨文合	The results of divination showed that it was sacrificed to King Wuding (武丁, a king of the Shang dynasty) of the Shang Dynasty by making him submissive through killing.

集》795 正/1)	(Collection of Oracle Bone Inscriptions, 795 Zheng/1, 1999).
乙卯卜:出, 贞王宾龠, 不𠦂雨.(《合集》24833 正/1)	Divination was performed on the day of Yimao (乙卯, In ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), and the results of the divination showed that there would be no rainfall when the musical instrument Yue was used to sacrifice to King Wuding (武丁, a king of the Shang dynasty) of Shang. (Collection of Oracle Bone Inscriptions 24833, Zheng/1, 1999).
甲辰卜, 翌乙巳我奏舞, 至于丙午"雨"	A divination on the day of Jiachen (甲辰, In ancient China, this system was known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa") shows that on the second day of the month, the host of the festival, "I", organises the festival by performing dances or celebrations, and the result of the divination tells us that on the third day of the month, there will be rain. (Collection of Oracle Bone Inscriptions 24833 Zheng/1, 1999).

Source: Wenran Wang 2024

Table 4. Zou Ji (奏祭):

Ancient Texts and Explanation

Divinatory Records	**Explanation**
王作庸, 奏.(《甲骨文合集》3256/1)	The festival host, the "King", plays a musical instrument like the yong (庸, yong bell) to offer sacrifice. (Collection of Oracle Bone Inscriptions 3256/1, 1999).
癸亥, 其奏鞉.(《甲骨文合集》14125/1)	On the day of the guihai (癸亥, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), this instrument is played for the festival. (Collection of Oracle Bone Inscriptions 14125/1, 1999).

贞:帝示若, 今我奏祀．四月.(英藏1286/1)	The results of the divination showed that the emperor (or god) had given some instructions, and we played the musical instrument "yong (庸, yong bell)" for the ritual, which was scheduled for the month of April. (Collection of Oracle Bones in the British Collection 1286/1, 1999).
壬午卜, 扶, 奏山, 日南雨.(《甲骨文合集》10975/1)	On the day of renwu (壬午, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the host of the festival, Fu, divines that rain will fall in the south on the day of the sacrifice to the mountain god. (Collection of Oracle Bone Inscriptions 10975/1, 1999).
丙午卜, 奏成.十月.(《甲骨文合集》1352/1)	Divination on the day of bingwu (丙午, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa") reveals that in the month of October, songs and dances are dedicated to the ancestor god "Cheng (成)".(Collection of Oracle Bone Inscriptions 1352/1, 1999).
戊戌卜, 奏蔑.(《甲骨文合集》12843 正/1)	On the day of wuxu, the results of the divinations show that the song and dance were dedicated to the god of the forefathers, "Mie (蔑)". (Collection of Oracle Bone Inscriptions, 12843 Zheng/1, 1999).
乙未卜, 王宾奏, 自上甲入乙多毓, 亡尤.(《甲骨文合集》22625/2)	On the day of Yiwei (乙未, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the result of divination shows that King Wuding (武丁, a king of the Shang dynasty) of the Shang Dynasty used the Dengge Dance to offer sacrifices, and the process of this sacrifice from "Shangjia (上甲)", the god of the ancestors, to "Yiwei (乙未)", the god of the ancestors, will have a lot of factors of change, but no unfavourable factors. (Collection of Oracle Bone Inscriptions 22625/2, 1999).
酉卜, 今日勿奏, 其雨.(《甲骨文合	On the day of You (上甲, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian

集》12825/1)	fa"), the results of divination indicate that one should not perform rituals by ascending songs and dances today because there is rain today. (Collection of Oracle Bone Inscriptions 12825/1, 1999).
己亥卜, 贞:今日夕奏母庚.六月.(《合集》460/l)	On the day of Yihai (己亥, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the results of divination indicated that activities or rituals related to the sacrifice of the late mother and goddess Geng could be carried out on the nights of these recent days, and the time of the sacrifice was set in the month of June. (Collection of Oracle Bone Inscriptions 460/l, 1999).
乙卯卜, 出贞:今夕奏…(《甲骨文合集》26012/2)	On the day of the Yimao (乙卯, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the results of divination show that it is currently possible to play musical instruments and dedicate songs and dances for rituals in the evening. (Collection of Oracle Bone Inscriptions 26012/2, 1999).
癸亥, 其奏靶, 鞉, 子  其…(《甲骨文合集》14125/l)	On the day of Guihai (癸亥, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the results of divination indicate that the use of a ba (靶: musical instrument) or tao (鞉: musical instrument) is required for ritual playing activities. (Collection of Oracle Bone Inscriptions 14125/l, 1999).
庚辰卜, 贞;鼓勿奏.(《英藏》1911/l)	On the day of Gengchen (庚辰, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the results of divination indicated that drums should not be played for rituals. (Collection of Oracle Bones in the British Collection 1911/l, 1999).
王作甫, 奏.(《甲骨文合集》	The king of Shang performed the playing of music or rituals associated with vegetable fields (Collection of Oracle Bone

3256/1)	Inscriptions 3256/1, 1999).

Source: Wenran Wang 2024

Table 5. Yong Ji (庸祭)

Ancient Texts and Explanation

Divinatory Records	Explanation
戊子卜…贞:今日其庸，不遗雨．八月.(《甲骨文合集》126n/1)	On the day of Wuzi (戊子, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), the result of divination shows that it will not rain when the recent sacrifice by playing the musical instrument yong (庸, yong bell) is made, and the time can be arranged in August. (Collection of Oracle Bone Inscriptions 126n/1, 1999).
庚申卜，岁其庸?弱庸?(《屯南》1022/4)	On the day of Gengshen (庚申, in ancient China, this system is known as the gan zhi ji nian fa "干支纪年法, gan zhi ji nian fa"), divination reveals that the musical instrument yong (庸, yong bell) is used to celebrate plants that thrive. The intensity of playing the yong (庸, yong bell) must be gentle. (Xiaotunan 1022/4, 1999).

Source: Wenran Wang 2024

Appendix II: The Photos from the Fieldwork

Figure 1: The researcher and Mr Tang Jigen (Mr Tang Jigen is an archaeologist specialising in the Shang Dynasty)

Source: Mi Xue 2024

Figure 2: The First Symposium on Archaeological Remains of Music, with the Researcher and Professor Fang Jianjun

Source: Zheng Xiaolong 2023

Figure 3: The researcher and music archaeologist Professor Kong Yilong

Source: Wenran Wang 2023

Figure 4: The researcher at the event "Rituals of China, Ritual and Music Civilisation of the Shang Dynasty and Zhou Dynasty".

Source: Mi Xue 2024

Figue. 5: The researcher with the replica of the bianzhong (编钟) of the Wangsun Grant by the Huaxia Ancient Orchestra

Source: Mi Xue 2024

Figue. 6: Group photo of the researcher and Mr Li Shuo

Source: Mi Xue 2024

Figue 7: The researcher at the Zhouyi Museum

Source: Kang Zheng 2023

Figure 8: The researcher at the event "Rituals of China, Ritual and Music Civilisation of the Shang Dynasty and Zhou Dynasty".

Source: Mi Xue 2024

Figure 9: The researcher at the event "Rituals of China, Ritual and Music Civilisation of the Shang Dynasty and Zhou Dynasty".

Source: Mi Xue 2024

Figue 10: Huaxia Ancient Orchestra Performance

Source: Wenran Wang 2024

Figue 11: Huaxia Ancient Orchestra Performance

Source: Wenran Wang 2024

Figue 12: Huaxia Ancient Orchestra Performance

Source: Wenran Wang 2024

Figue 13**:** Huaxia Ancient Orchestra Performance

Source: Wenran Wang 2024

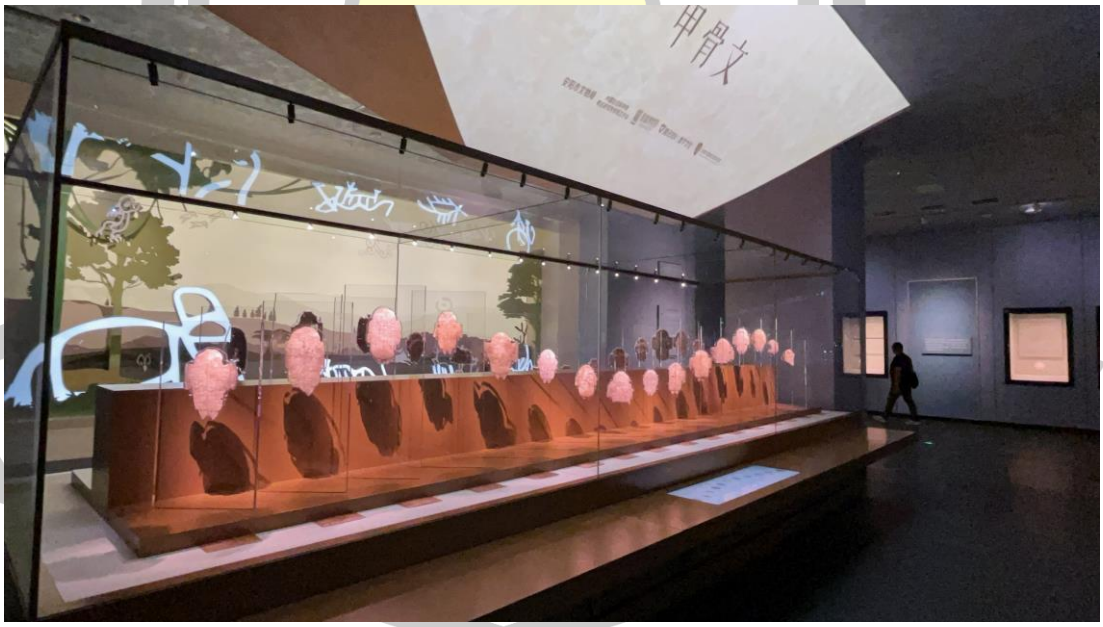


Figure 14. Oracle Bones at the Chinese Character Museum (中国文字博物馆)

Source: Wenran Wang 2024

Figure 15. First Symposium on Archaeological Remains of Music

Source: Wenran Wang 2024

Figure 16. Archaeological Activities in Yinxu, Anyang City, Henan Province, China

Source: Wenran Wang 2024

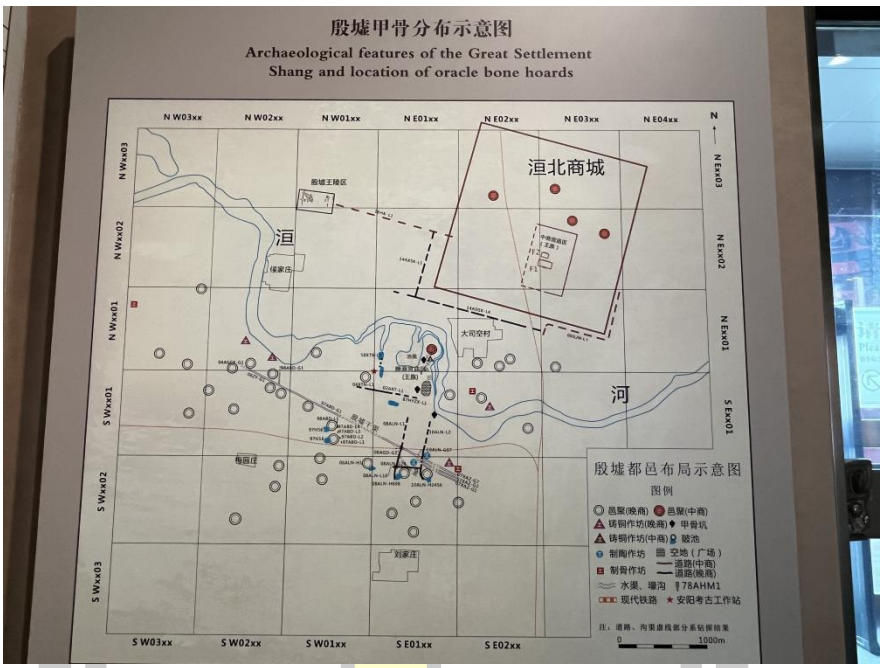


Figure 17. Schematic Distribution of Yinxu Oracle Bones

Source: Wenran Wang 2024

Figure 18. Archaeological Activities in Yinxu, Anyang City, Henan Province, China

Source: Wenran Wang 2024

Figure 19. Archaeological Activities in Yinxu, Anyang City, Henan Province, China

Source: Wenran Wang 2024

Figure 20. Dayi Shang Museum

Source: Wenran Wang 2024

Figure 21. Chinese Character Museum

Source: Wenran Wang 2024

Figure 22. Henan Museum

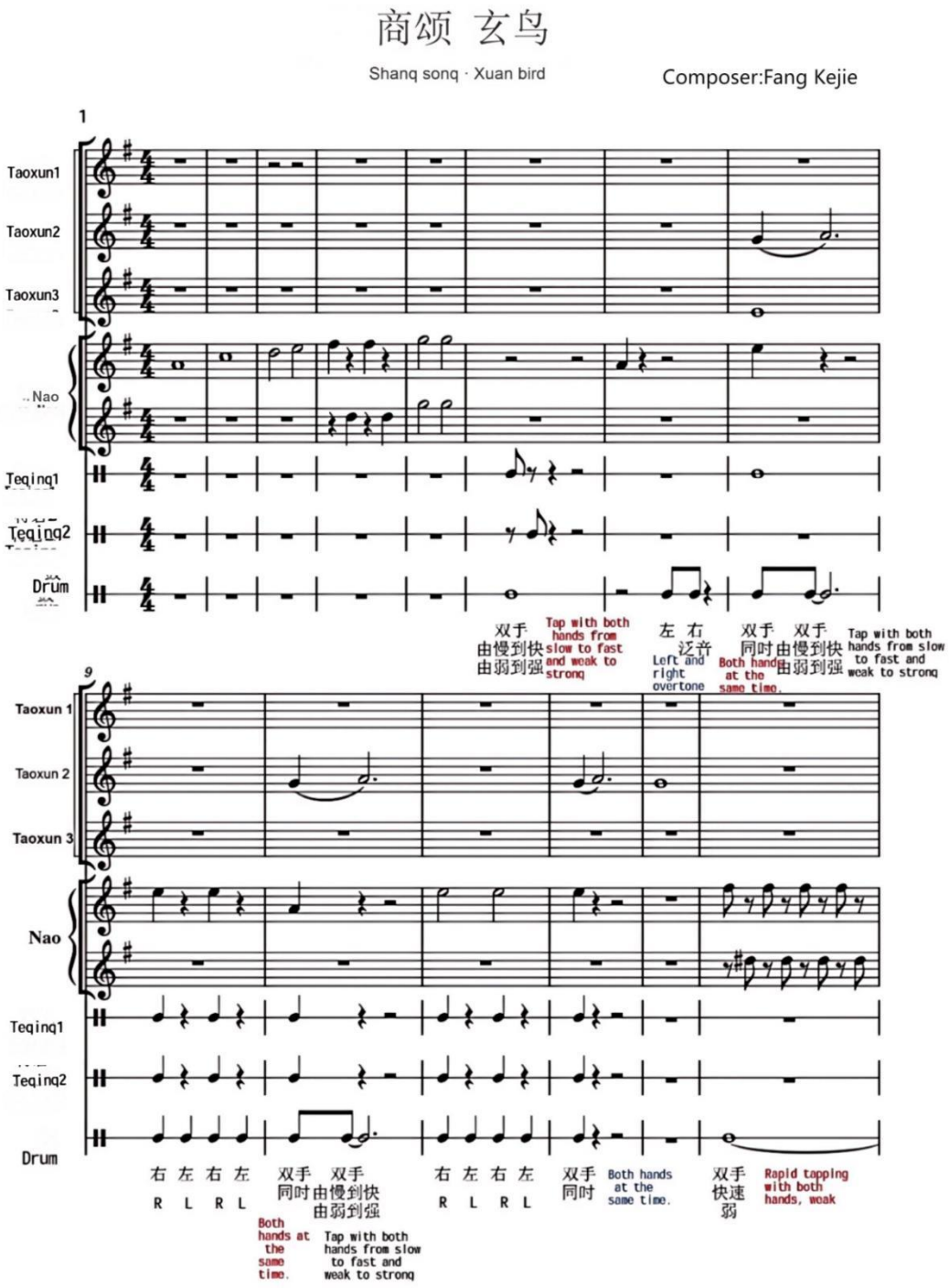
Source: Wenran Wang 2024

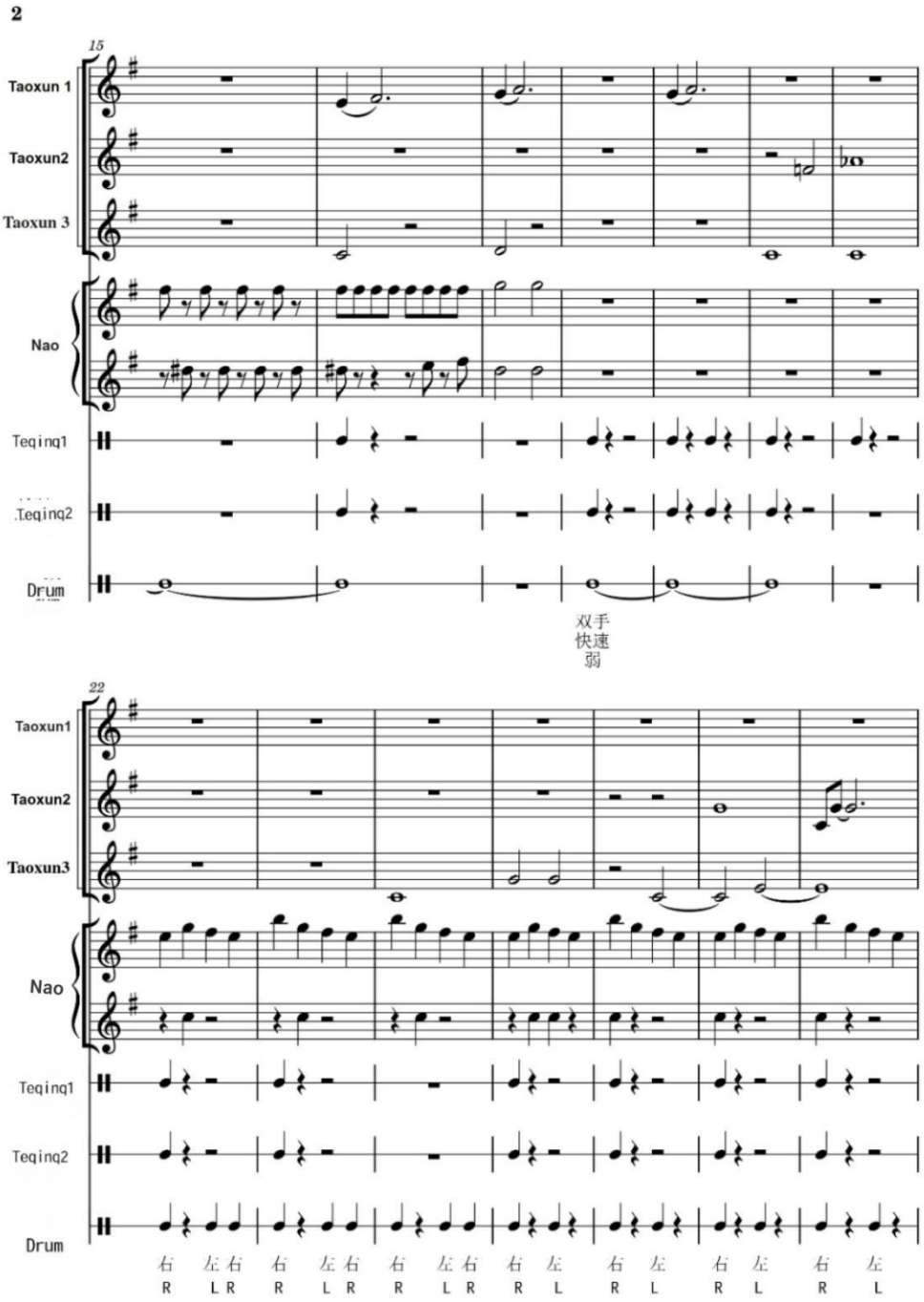
Figure 23. Dayi Shang Museum

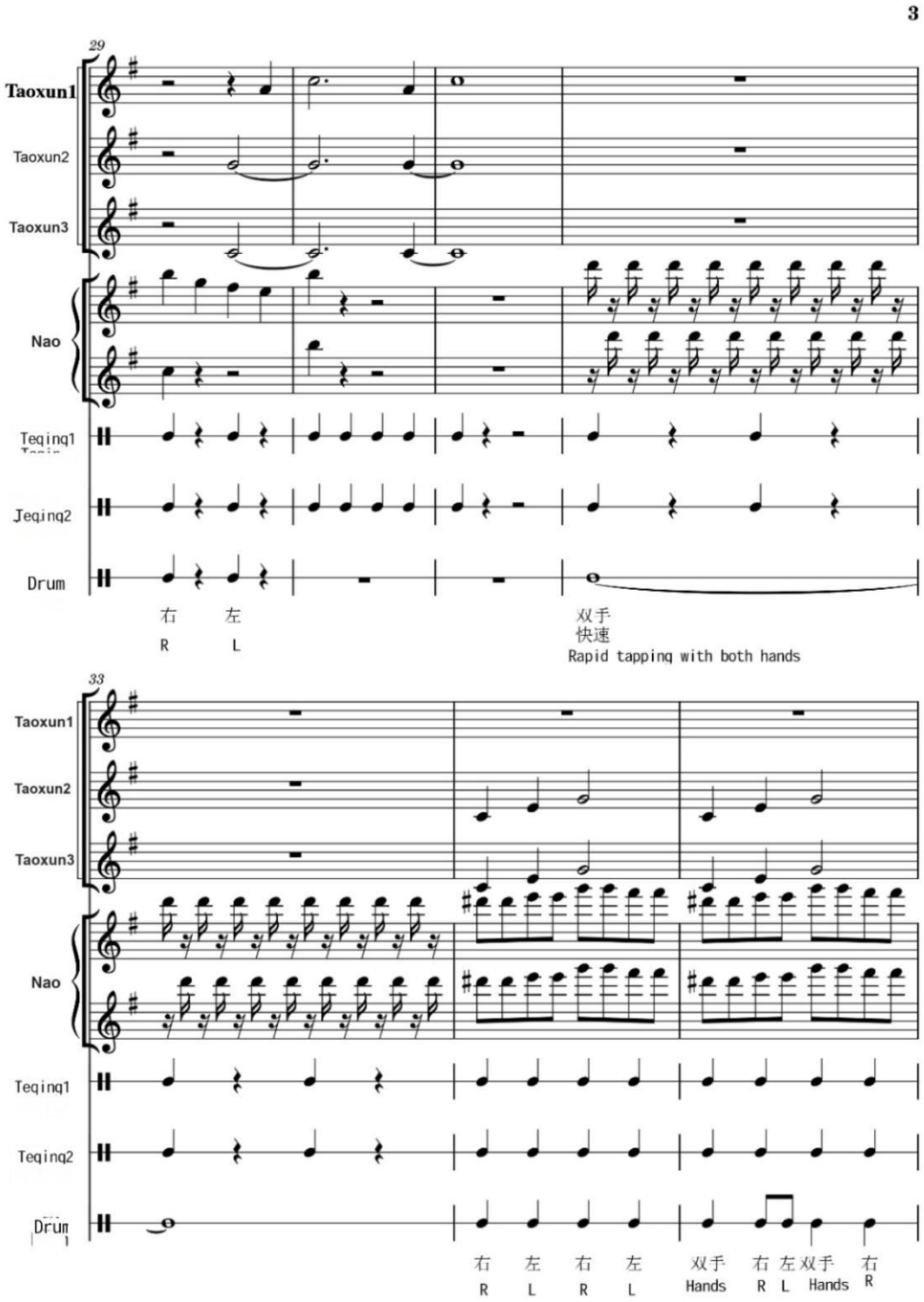
Source: Wenran Wang 2024

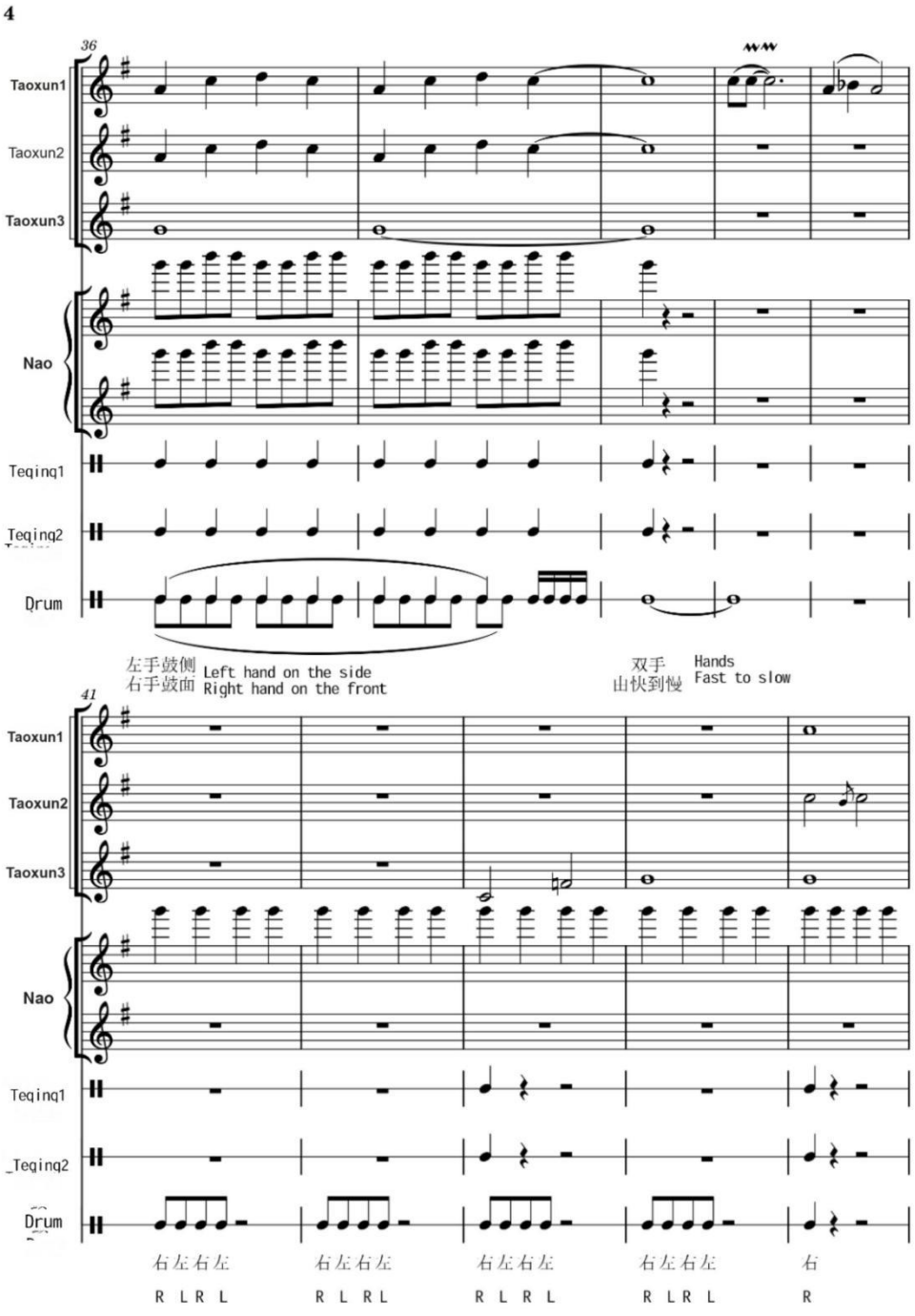
Appendix III: Score

Shang Song - Xuan Bird (商颂·玄鸟)




2
15
Taoxun 1
Taoxun2
Taoxun 3
Nao
Teqinq1
Teqinq2
Drum
双手
快速
弱
22
Taoxun1
Taoxun2
Taoxun3
Nao
Teqinq1
Teqinq2
Drum
右 左 右 右 左 右 右 左 右 右 左 右 左 右 左 右 左
R L R R L R R L R R L R L R L R L


3
29
Taoxun1
Taoxun2
Taoxun3
Nao
Teqinq1
Jeqinq2
Drum
右
R
左
L
双手
快速
Rapid tapping with both hands
33
Taoxun1
Taoxun2
Taoxun3
Nao
Teqinq1
Teqinq2
Drum
右 左 右 左 双手 右 左 双手 右
R L R L Hands R L Hands R


4
36
Taoxun1
Taoxun2
Taoxun3
Nao
Teqinq1
Teqinq2
Drum
左手鼓侧
右手鼓面
Left hand on the side
Right hand on the front
双手
山快到慢
Hands
Fast to slow
41
Taoxun1
Taoxun2
Taoxun3
Nao
Teqinq1
_Teqinq2
Drum
右左右左
R L R L
右左右左
R L R L
右左右左
R L R L
右左右左
R L R L
右
R

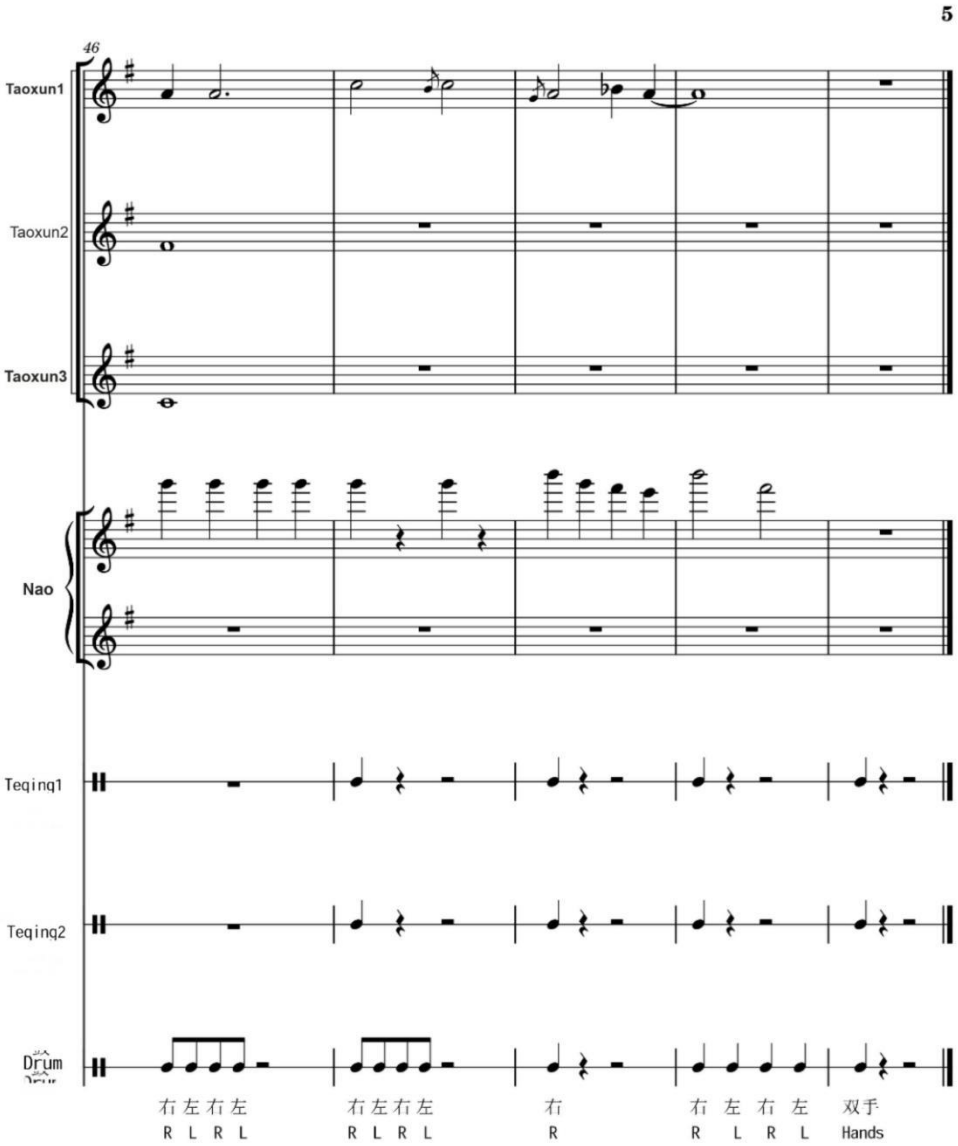


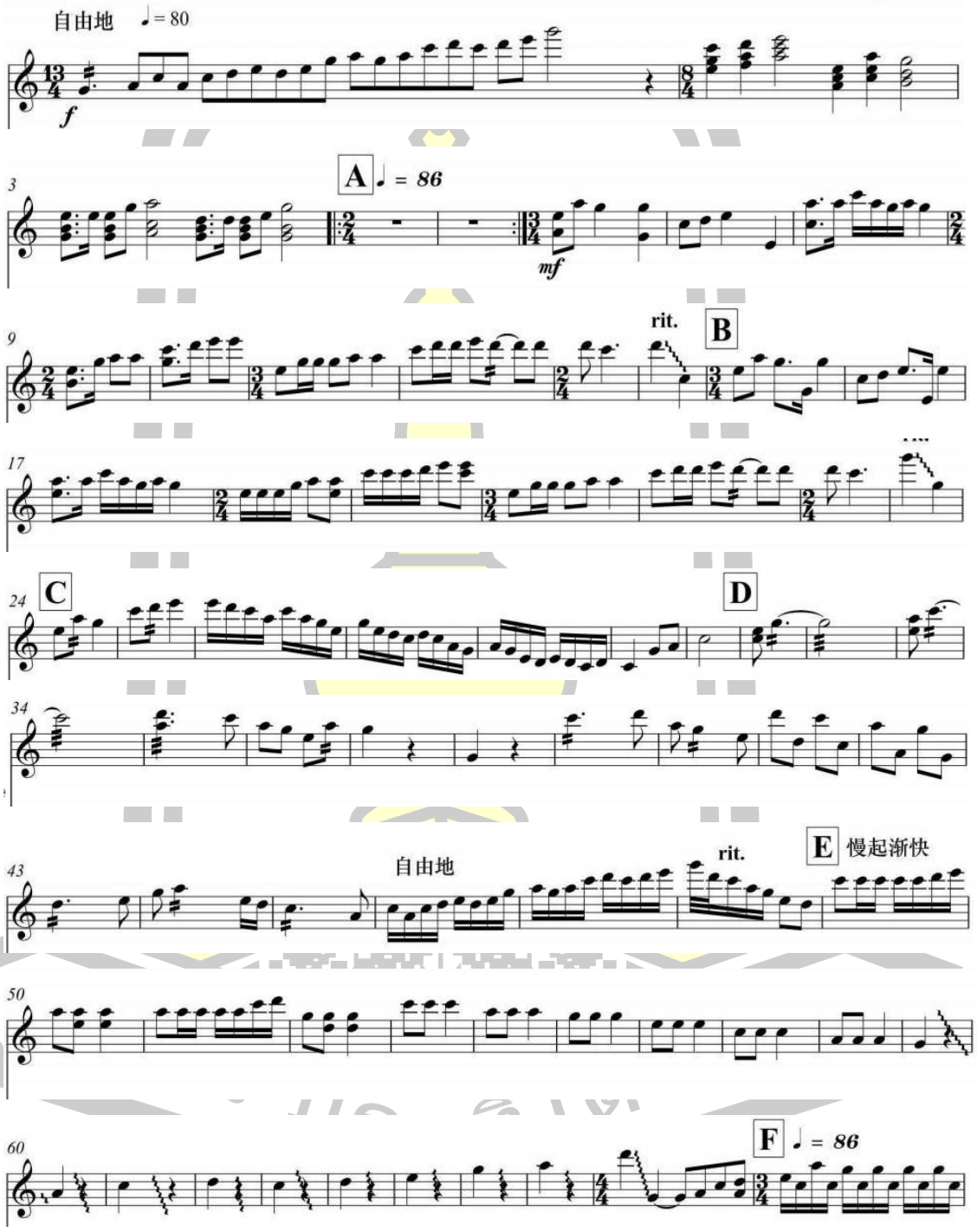
Figure 1. Shang Song - Xuan Bird

Source:Wenran Wang 2024

流 水 Liu Shui

（编磬独奏）

刘民则 作曲
胡国庆 整理



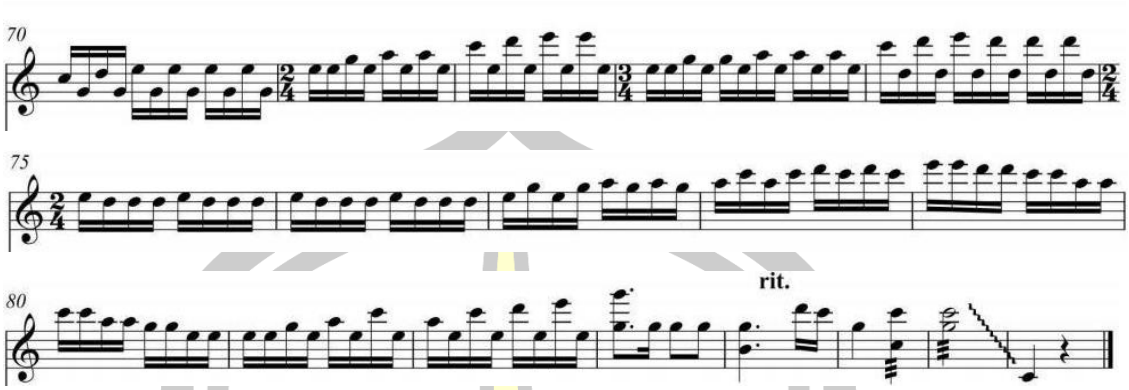


Figure 2. Liu Shui

Source: WenranWang 2025

Figure 3. Ai Ying

Source: Wenran Wang 2025

BIOGRAPHY

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