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The Sounds of the State: An Archaeological Study of the Bianzhong bells Excavated from the Zheng State Sacrificial Site in Xinzheng, Henan Province, China

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Abstract

Zhenghan Gucheng (Zhenghan Ancient City) was the capital city of the Zheng and Han states for over 5 centuries throughout the Spring and Autumn and Warring States periods. It was during this time that the music of these states reached its zenith, with the so called “music of Zheng and Wei” becoming popularised in courts and households alike across China. In the years since bronze bianzhong (chime bells) were first discovered in the tomb of the duke of Zheng in 1923, more than 10 further batches of bianzhong, totaling over 300 pieces, have been excavated from Zhenghan Gucheng, contributing greatly to the study of Chinese musical archaeology. This article focuses on the 206 bronze bianzhong from 9 sets that were excavated from the Zheng state’s sacrificial pits between 1996 and 1998. Through considering examples from other sacrificial sites, such as Jincheng Road and the Urban Credit Co-operative, and through applying typological and archaeo-musical methods, this study systematically examines the morphology, tonal structures and arrangements of these bianzhong as well as the broader musical traditions they represent. The results show that the sets of bianzhong are all configured in a layout of four bo and twenty niu, with a sonic range of over 3 octaves in a complete seven-note structure, a significant development from Western Zhou practice. This “bo+niu” arrangement became the standard in the Eastern Zhou yellow river basin, also significantly influencing the bells of Chu. The discovery of these sets of bianzhong provides vital physical evidence for the study of the long-lost “Sounds of Zheng” and further contributes to our understanding of the interactions and developments of regional musical cultures during the Spring and Autumn Period.

Key Words

Zheng sacrificial pits, Zhenghan, bronze chime-bells, boniu arrangement, musical archaeology

1. Introduction

The state of Zheng was one of the first vassal states to prosper during the Spring and Autumn Period. In the 22nd year of King Xuan of Zhou (806 BCE), Duke Huan was awarded a fief in Zheng (in the east of modern Hua County, Shaanxi). Following King Ping of Zhou’s relocation eastward to Luoyi (modern Luo-

yang), dukes Wu and Zhuang of Zheng successively assisted the royal family. Taking this opportunity, the State of Zheng expanded its territory east into the heart of the Central Plains and established its capital in Xinzheng. This would remain the capital of Zheng from the 11th year of duke Wu (760 BCE) until the state was conquered by marquis Ai of Han during the second year of his reign (376 BCE)

some 390 years later. After defeating Zheng, Han would also use Xinzheng as their own capital city for a further 145 years before their state was ultimately conquered by Qin (230 BCE). This period of over 5 centuries of continuous rule under Zheng and Han had resulted in a rich cultural heritage, its location today known by archaeologists as “Zhenghan Gucheng” or “Zhenghan Ancient City”.

The music of Zheng has an important place in China’s musical history. The Shiji’s Zheng Shi Jia records that the state of Zheng had “love bell music”, and the same book’s Yueji (Treatise on Music) reads “The music of Zheng and Wei is the music of turbulent times” (Sima, 1982; Zhu, 2026). This so called “music of Zheng and Wei” is representative of the so-called “new music” (Xinsheng) that developed during the Spring and Autumn Period, breaking the confines of Western Zhou court music with fresh and lively melodies with rich and varied modes that were eagerly emulated by other states. Despite its success, this music was not left untouched by the passing of time and would eventually become lost to the tides of history. Archaeological research, however, has made it possible for this ancient tradition to be reconstructed (Xu, 1937).

Over 300 bronze bianzhong “chime-bells” dating from the mid Spring and Autumn to the early Warring States Period (ca. 8th-4th centuries BCE) have been unearthed from Zhenghan Gucheng, the most archaeologically significant of which include the 206 examples from 9 sets unearthed in the ritual area towards the city’s southwest between November 1996 and October 1998, as well as the two sets of bells found under Jincheng Road and the Urban Credit Co-Operative. These bianzhong are finely crafted, cast to standard specifications and form complete sets. As such, they provide systematic archaeological evidence for the study of the forms, performance and systems of Zheng’s ritual music during the Spring and Autumn Period.

Building off previous archaeological reports and acoustic studies, this paper aims to conduct a comprehensive examination of the Zheng bianzhong from Xinzheng. Focusing on the analysis of forms, arrangement and tonal character, this study will further explore the status and significance held by these bells

within Chinese musical history.

2. The Discovery and Academic Background of Zhenghan Gucheng’s bells

2.1 A century of discovery: from the tomb of Duke Zheng to the sacrificial sites

Zhenghan Gucheng is located in and around the vicinity of modern Xinzheng city in Henan province (fig.1). It is the site of the former capitals of Zheng and Han during the Spring and Autumn and Warring States periods. The past century of bronze bianzhong discoveries can be summarised into the following major assemblages:

The tomb of Duke Zheng

In 1923, one set of bianzhong were discovered in the tomb of Duke Zheng, located in modern village of Lijialou in Xinzheng, marking the first discovery of Zheng bianzhong in modern history. This set contained a total of 23 bells, with 4 bo and 19 yong. Today, 1 bo and 6 yong can be found in Henan Museum, whilst the National Museum of China and the National Museum of History (Taipei) each have a single Bo. The location of the rest has since been lost. One bo is of great size, measuring 93.5cm tall and 66cm in diameter with a weight of 105.8 kilograms. The wu section features a handle made of 5 *kuilong* (a dragon-shaped mythical figure associated with music), with 36 coiled dragons adorning various sections of the body (fig.2). Its fine design makes it stand out as a masterpiece among all Zheng *bianzhong* (Wang & Zhao, 1996).

Jincheng road Sacrificial Site

In June 1993, 24 bianzhong were excavated from the Spring and Autumn Period sacrificial site under Jincheng Road in Xinzheng city, consisting of 4 bo and 20 niu bells. This was the first scientific excavation to uncover ritual bianzhong from the state of Zheng, providing a reliable basis for future research.

Urban Credit Co-operative ritual Site

In 1995, one further set of Spring and Aut-

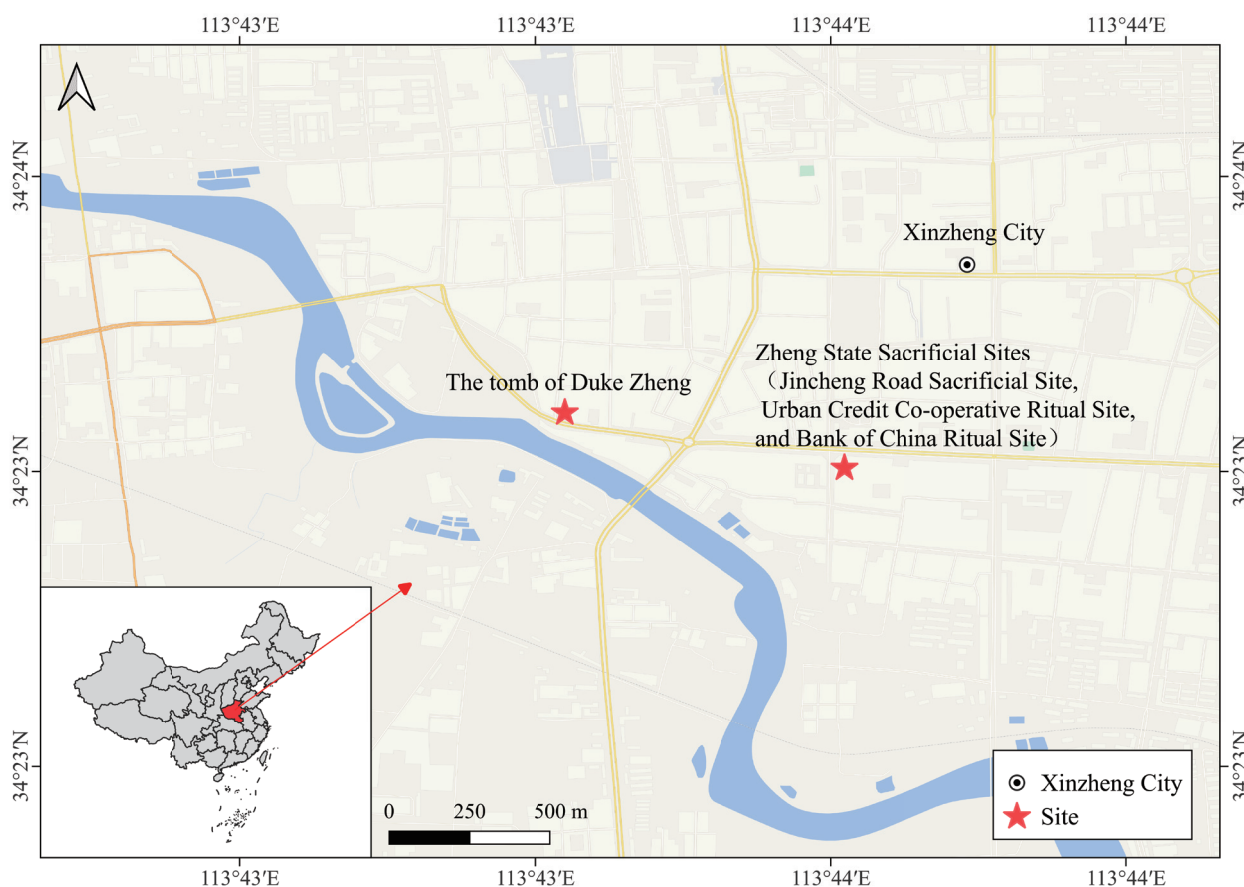


Fig.1 Location of the sites

umn Period bianzhong was excavated from the ritual site below the Urban Credit Co-operative in Xinzheng. It consisted of 4 bo and 20 niu bells arranged in the exact same fashion as those from Jincheng.

Bank of China ritual site

Between late 1996 and October 1998, an impressively large-scale ritual site was discovered on the construction site of a Bank of China building, located in the southwestern part of Zhengnan City nearby the former eastern city wall. Eyewitnesses record that the site was discovered unexpectedly when the technical archaeologist Niu Huamin exposed the edge of a bronze artifact whilst digging a test pit, leading to the discovery of 9 sets of Zheng bianzhong, totaling 206 items. The form and designs of these bells are largely identical to those of Jincheng Road and the Urban Credit Co-operative sites, with high-grade

craftsmanship cast to standard specifications, and all are dated to within a relatively short period. The hanging arrangement is also consistent across all sets, each consisting of 20 niu and 4 bo (fig.3). This assemblage of Zheng bianzhong is the most concentrated and complete of the type currently known.

2.2 Academic value and current scholarship

The above discoveries indicate that the arrangement of bianzhong had become highly standardised in Zheng by the mid-Spring and Autumn Period (Sun, 2007; Yang et al., 2008; Zhang, 2019). The tonal structure and tuning of these bells have been previously studied by Wang Zichu, who used precise pitch analysis to analyse bells from pits Nos. 1-4 from the Zhengnan Gucheng ritual site (Wang, 2005), and a further comprehensive archaeo-musical investigation into these bells was conducted by Huang Jinggang (Huang,



Fig.2 The Bo bell in Taipei History Museum



Fig.3 Bianzhong excavated from Zhenghan Gucheng (Archaeology, 2006) (Color Edition 4)

2017). The development of ritual and musical reforms during the Eastern Zhou Period has been studied by Qu Wenjing using decorative patterns as a medium (Qu, 2020a, 2020b), whilst Sun Haining has specifically reconstructed the chronology and musical suspension systems of bianzhong (Sun, 2022, 2025). A systematic typology and pitch-analysis of Eastern Zhou niu from Henan has also been conducted by Yan Jin (Yan, 2014).

However, existing research largely consists of reports either concerning individual assemblages of bianzhong or exploring niche topics thereof, leaving a lack of broader systematic studies simultaneously considering the various assemblages of bells uncovered in the past century of excavations at Zhenghan Gucheng. To this end, this paper builds on previous research to conduct a comprehensive archaeological analysis of the various bian-

zhong excavated from Zheng's ritual sites, also considering the contemporary revitalisation and utilisation of these instruments.

3. Chronological Overview of Zheng State Sacrificial Site

3.1 Location and excavation

The Zheng state ritual site is located in an area of around 22,000 square meters to the Southeast of the "Eastern city" within the Zhenghan Gucheng site, bordered by Xinhua Road to the north, the Xinzheng experimental secondary school to the south, Zhonghua road to the west and Xiaogaozhuang village to the east. The site was successively excavated between 1993 and 1997 by the Henan Provincial Institute of Cultural Relics and Archaeology, during the course of which over

8,000 square meters of land were excavated and three ritual sites belonging to the state of Zheng were uncovered, namely the aforementioned Jincheng Road, Urban Credit Co-operative and Bank of China sites. The bank of China site, excavated between September 1996 and October 1998 was the largest of the three, containing 18 pits of bronzeware and musical instruments from the Spring and Autumn Period (4 of which had been looted). A total of 142 ritual bronze vessels and 206 bianzhong were excavated therefrom. An additional 45 Spring and Autumn Period horse burials were also uncovered, alongside numerous other features from the Shang, Eastern Zhou and Western Zhou periods (Archaeology, 2006). The 18 pits of ritual bronzeware were similar in form, mostly rectangular or almost square in plan and oriented east-west. The pits with musical instruments contained wooden crossbeams for the suspension of bells as well as wooden stands for the bianzhong located at opposite sides, indicating that these instruments were made for practical use and buried in-state.

3.2 Nature and chronology

The nature of the site can be confirmed by three aspects: Firstly, the quantities and characteristics of the bronzeware are consistent with those of other feudal lords during this period, demonstrating that this site was used for worship by the Zheng royal court. This is supported by the second aspect, the horse burials, whose large quantity follows the standards recorded in historical documents for the so-called “grand animal sacrifices” (Shengyong tailao), which were conducted by feudal lords. Finally, the sites position in the southwest of the city corresponds to the location of the sheji, a royal altar used for sacrifices to the gods of earth, which is recorded in the historical record. To this end, this site can be determined to be the remains of Zheng’s sheji during the Spring and Autumn Period (Archaeology, 2000, 2006; Cai, 2005).

The bianzhong and other bronzewares excavated from this site can be dated to the mid to late Spring and Autumn Period on account of their form, decoration and tuning. Acoustic analysis on the bells as well as typological analysis of associated pottery can

date the majority of these items to between 620 and 570 BCE, contemporary to the reigns of dukes Mu and Dao, with Sun Haining further suggesting that their production is unlikely to predate 600 BCE. These chronologies are all consistent with the mid to late Spring and Autumn Period proposed by Zhu Fenghan (Sun, 2022). Excavations have also revealed a total of 791 features from the Shang and Zhou periods, including 98 wells, 3 mold-firing kilns from the Warring States period, and 80 small graves. These discoveries reveal a continuous cultural stratigraphy from the Shang period through to the Warring States, testament to Zhenghan Gucheng’s longstanding status as a political and cultural center. In 1997, the site was named as one of the “Top 10 New Archaeological Discoveries in China”.

4. Typological Analysis

4.1 Classification of bo bell

A total of 11 bo bells were discovered in the Zheng State Ritual Site, all with extremely similar appearances, they can be divided into two sub-types based on differences in the knob and gu sections (fig.4) (Qu, 2020b):

Type A bo: The knob is shaped like a protruding dragon head with an “𪛗” shape and a relatively intricate design, the body is plain and the neck is adorned with stylised “cloud and thunder” patterns. The gu section features symmetrical rear-facing dragons. Bells of this type were found in most pits in the Bank of China site, and some examples were also excavated from the duke of Zheng’s tomb in 1923, making it the predominant type of bo in Zheng ritual sites.

Type B bo: The knob is shaped in a convex squared ring, simpler in design to that of type A. The wu section features coiled serpents that are flat-carved in, whilst the gu also features coiled serpents but in a curled pattern. A recessed border is engraved at the boundary between the rim and the zhuan section. This type of bell is found in the former collection of the Xinzheng Cultural Relics Management Committee. Since its dimensions are extremely similar to those of Type A bo, it was likely used in the same series and cast in the same region during the same period.

4.2 Classification of niu bell

Each set of niu consists of two subsets of 10 bells, called A and B, both of which have are very similar in design with a “gabled roof” shaped body, a flat wu section, a pronounced curvature in the mouth area and a slightly square-shaped ring. 36 niu would have been arranged in a spiral pattern, with one low, flat, sound bar on each of the four sides of the gu. The main differences between the two types lie in their decoration as well as certain small details (fig.5) (Archaeology, 2006; Yan, 2014).

Type A niu: The knob is adorned with rope patterns, the wu and zhuan sections with cloud patterns and the gu section with triangle and cloud patterns. With such a regular shape and fine craftsmanship, these bells must have been a central component of ritual music.

Type B niu: These niu feature squared-ring shaped knobs with relatively simple patterns on the wu and zhuan sections. The gu features a serpent motif, which marks the section which would produce the main tone when struck. The presence of this motif suggests that type B niu may have been used to indicate fixed striking points for use in specific rituals, reflecting a more pragmatic approach taken by Zheng’s music officials towards the identification of musical instruments.

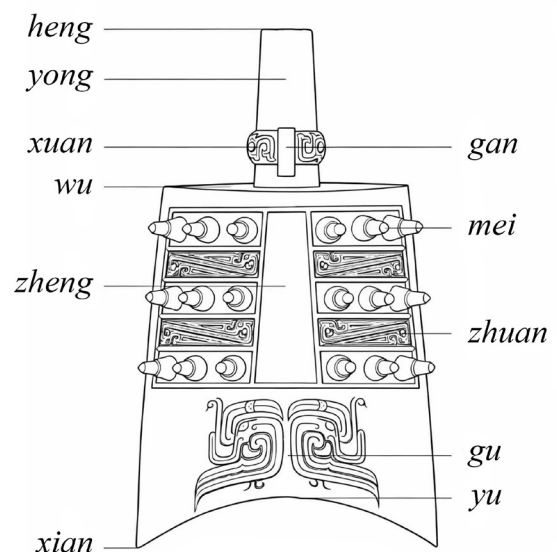
5. Design Features

This section will use the bells excavated from the Zheng State Sacrificial Site excavation square T595K1 as an example, a full set of 24 bells, consisting of 4 bo and 20 niu that is preserved relatively well, making it an ideal example for studying the form and design of Zheng bianzhong.

(1) Bo

The four bo bells are essentially identical in form and decoration, ordered in a decreasing size sequence. Their characteristic features are as follows: A hollow body shaped like a gabled roof, with a flat wu and mouth. The knobs are in the form of a dragon head in a “凸” shape, a rather ingenious design. Their body is plain with 36 knob-shaped protrusions whilst the upper section is adorned with stylised “cloud and thunder” patterns, and the gu section has a symmetrical looking back dragon pattern. The rim features a relatively wide yet thin inner lip, which gradually thickens from the edge to towards its base, giving it an acute triangular cross section. It is worth noting that the inner lip often bears traces of filing and grinding that were made for tuning purposes, demonstrating that the bells were carefully tuned. The bo bell

Fig.4: Bo bells excavated from the Zheng State Sacrificial Site (Left: Type A, Right: Type B) (Archaeology, 2006) (Left: Color Edition 35, Right: Color Edition 32)



has a height of between 34.40 and 25.80 cm, and a wu length of between 27.30 and 20.70 cm, with body diameters ranging from 18.70 to 14.40 cm (fig.6) (Archaeology, 2006).

(2) Niu

The 20 niu bells are divided into types A and B, with ten bells each, suspended on the upper and lower levels respectively. The two groups are largely identical in form and decoration. Their general characteristics are as follows: the wu sections are relatively thick and strong, with a gabled roof shape, the side is flat but with a pronounced curvature towards the rim, and the knobs are slightly squared with flattened-cylindrical bodies and adorned with rope patterns. There are 36 spiral-shaped protrusions on each side of the body whilst the wu and zhuan sections are decorated with cloud patterns and the gu sections are decorated with cloud and triangular patterns. The inside of the gu section features a single low, flat tone bar and the rime has a triangular inner lip, often with tuning marks which are also usually more pronounced on the two central gu surfaces and corners. The two types of niu are essentially identical but do differ slightly in decoration, the gu sections of type B niu distinctively feature a coiled serpent pattern designed to mark the striking spot, with plain, square-ringed handles. The height of type A niu ranges from 29.10 to 14.10 cm and their length ranges from 23.70 to 11.20 cm, the wu width ranges from 13.50 to 6.30 cm. (fig.7) (Archaeology, 2006).

6. Musical Character and Performance

6.1 Audio Measurement Methods and Basic Data

A systematic pitch analysis of the bianzhong from Jincheng Road, Urban Credit Co-Operative and the Sacrificial Site was conducted by Wang Zichu and his colleagues at the Institute of Music in China's National Academy of Arts (Wang & Zhao, 1996). The results show that each set of bianzhong can cover a range in excess of 3 octaves, with a complete 7-note structure, harmonic tonality and a pleasant timbre. Characteristics that render them capable of performing a wide



Fig.5 Type A niu excavated from the Zheng State Sacrificial Site (Archaeology, 2006) (Color Edition 33)

variety of modes and melodies.

In one example, the bells from excavation square 93ZHIIJ2 in Jincheng Road consisted of 20 niu located at the top of the set, which were used to play melodies, and 4 bo underneath which provided the bass harmonies. This expressive 7 note pitch sequence of the niu broke with the ceremonial-focused Western Zhou tradition of the “four tones”, representing not a mere expansion of the former system, but rather a seismic shift in musical thinking (Wang, 2003).

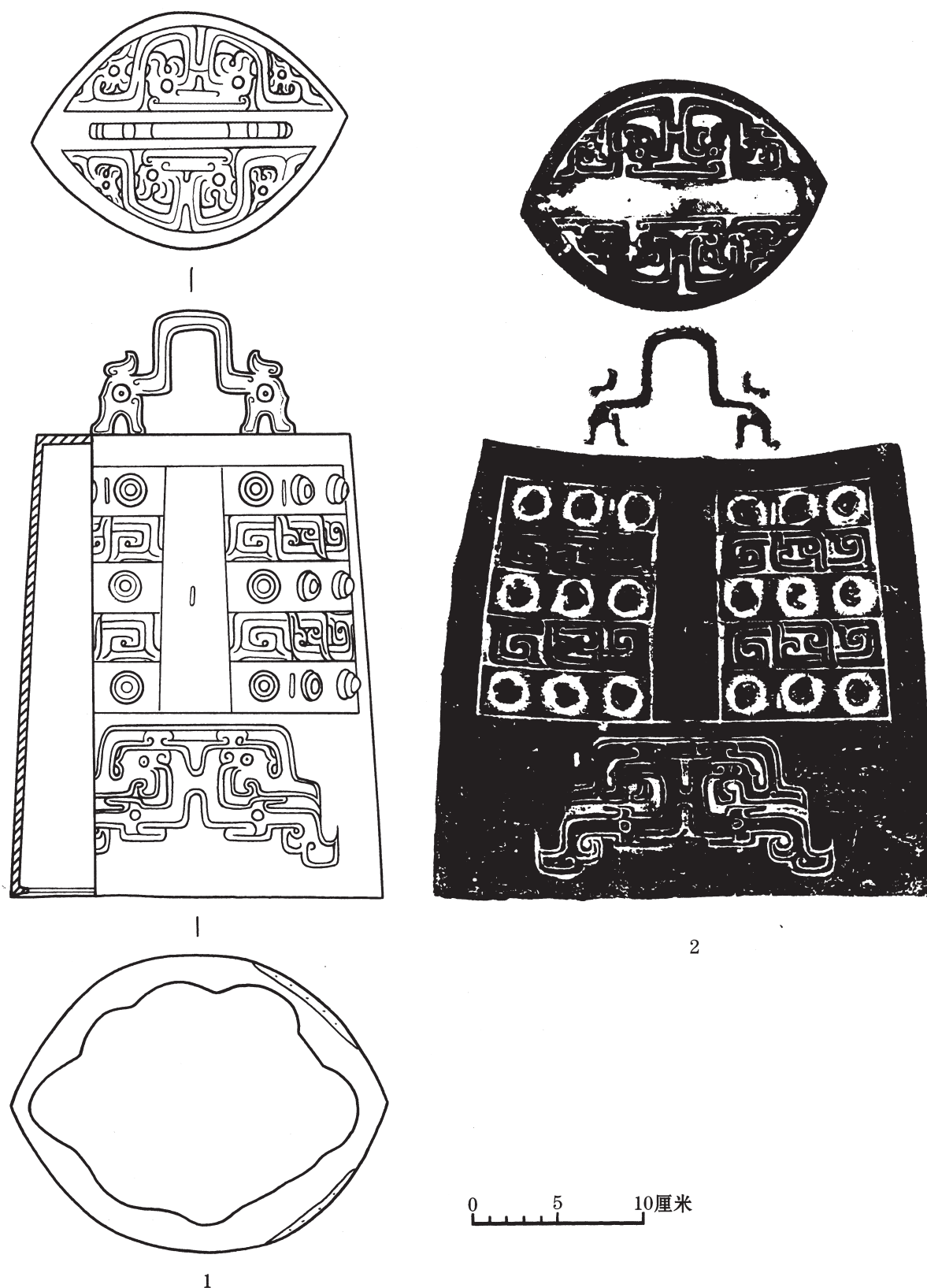


Fig.6 A bo bell excavated from the Zheng State Sacrificial Site (T595K1:1) with rubbings of its patterns. (Archaeology, 2006) (pp. 217)

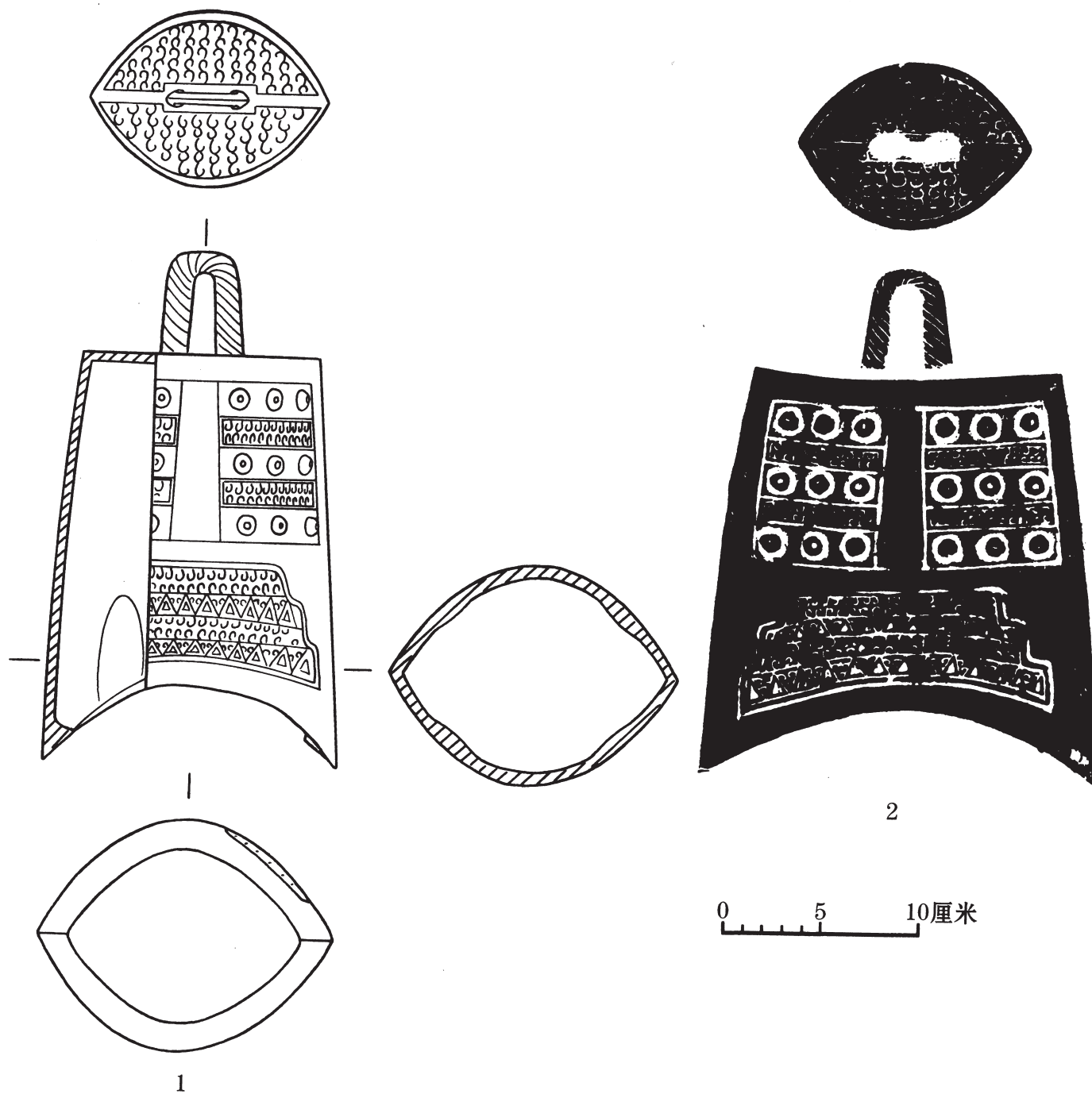


Fig.7 A niu excavated from the Zheng State Sacrificial Site (T595K1: A2)with rubbings of its patterns. (Archaeology, 2006) (pp. 221)

6.2 A Great Stride in Musical Performance

Zheng bianzhong represent a huge advancement in musical performance, as evidenced by the following aspects:

(1) Bitonal capabilities

The two striking points of every bianzhong can produce two distinct tones, with regular intervals calibrated by meticulous filing and polishing. This stands testament to the mastery of acoustics and tuning by the bell-casting craftsmen of Zheng, resulting in this so-called “one bell, two tones” principle. Zheng bianzhong were cast from high-tin bronze, containing around 14% tin and small quantities of lead, resulting in an alloy that was well-optimised for both tonality and durability (Shen, 2019).

(2) A revolution in the structure of scales

Western Zhou bells were based around the four tones of Jiao Zhi Yu and Gong, with no Shang tone or variable tonality. The Zheng bells, in contrast, possessed a complete seven-note scale which allowed for more dynamic music. Li Shaohua has observed that the “incompleteness” of the tones system limited the scope of Western Zhou era ritual music. However, during the Eastern Zhou Period, large ensembles of bronze and stone instruments capable of playing more diverse modes became widely used across the various states of China, resulting in the emergence of a movement of so-called “varied styles” (Bianfeng), of which Zheng music was an exemplary example (Li, 1996; Li, 2022; Wang, 2021).

(3) Expanded performance capabilities

The dense arrangement of notes on the upper tier of the Zheng bell arrangement made it possible to perform pieces with a strong melodic character and fast tempo. This is precisely the material reason why the music of Zheng was labelled as “excessive” (yin, meaning very ornate, intricate and changeable) at the time. This doesn’t mean that musicians at this time wanted to produce “decadent” music, but rather that the enhanced musical capabilities of these bells allowed for more forms of musical expression. Experimental performances by Wang Zichu using replicas

confirmed that such a set of bianzhong are capable of rendering complex pieces involving modulations and key changes, making them much more expressive than their Western Zhou counterparts (Wang, 2005). This research provides crucial evidence to understanding the technological driving forces behind the emergence of such “new music” during the Spring and Autumn Period.

7. Types of Bianzhong and their Arrangement

7.1 The establishment of “Bo + Niu”

The highly standardized arrangement of “four bo and twenty niu” is one of the most notable features of the bianzhong from the Zheng ritual site. This configuration did not necessarily emerge by chance; it was symbolic of the maturity of Zheng’s ritual and musical systems during the mid-Spring and Autumn Period. In this configuration, the four large bo bells produce a deep, resonant tone used for bass harmonies, which provides harmonic support to the overall sound in much the same way a double bass section does in a modern orchestra. The twenty niu bells are divided into two groups of ten, with the upper one dedicated to the higher notes and the middle one used for the middle notes, providing distinct pitch ranges to facilitate the performance of fluid and varied melodic progressions. This design balances harmonics across the register with melodic flexibility, making it possible to perform pieces at slightly faster tempos and to modulate between modes on the bells.

7.2 The origins and influence of Zheng bianzhong

This configuration used in Zheng bianzhong did not emerge in isolation, but rather was rather part of a clear developmental sequence:

(1) Local traditions. The bianzhong from the tomb of Duke Zheng discovered in 1923 had a configuration of four bo and nineteen yong bells, exhibiting elements of the so-called “bo + yong” configuration. The bo + niu configuration appears to be an evolution of this, with the niu replacing the yong to

achieve greater uniformity and facilitate more

(2) Influences on the Central Plains. Sets of bianzhong containing bo and niu have been excavated from Eastern Zhou tombs at Liulige in Huixian, Henen Province (namely, tomb A and tomb No.60) as well as other sites in Shanxi amongst other locations (Team, 2002). “Bo + niu” became the most typical bianzhong configuration in the Central Plains during the Eastern Zhou Period.

(3) Influence on the Chu. Similar arrangements of bianzhong are common finds in Spring and Autumn period tombs in Southern Henan, for example the eight “Heigan” bo and nine “Heigan” Niu unearthed from tomb 10 at Xiashi in Xichuan County are in a similar configuration of bo and niu bells to those found in Zheng (Archaeology et al., 1991; Li, 2010; Zheng, 2005). Similar sets of bo and niu bells have been found in the Spring and Autumn Period tomb of Marquis Gushi, the Chu noble tombs at Changtaiguan in Xinyang, tomb No.4 at Jiuxian in Ye County, and the Pengbo tomb in Nanyang. This demonstrates that the bianzhong configurations of Zheng crossed political borders, exerting profound southward influence on the Chu.

Conclusion

The excavation of bronze bianzhong from the Zheng ritual site in Xinzheng was a major achievement in the field of Chinese musical archaeology. Based on the analyses presented in this paper, the following conclusions can be drawn:

Firstly, the bianzhong from the Zheng ritual site consist of fixed sets of “four bo and twenty niu bells”. With standardised forms and high-quality craftsmanship, they stand as a tangible testament to the maturity of Zheng’s ritual and musical system during the Spring and Autumn Period.

Secondly, the tonal range of each set of bianzhong can span more than three octaves with a complete seven note structure, a huge advancement over the previous bells of the Western Zhou Period. The functional arrangement featuring upper tiers of niu bell

for melody and a lower tier of bo for harmony formed the foundation of the rich and varied styles that constituted the “music of Zheng”.

Thirdly, the “bo + niu” arrangement was the typical model for Eastern Zhou bianzhong in the Yellow River Basin, originating from the state of Zheng and spreading across the Central Plains and into Chu, where it exerted profound influence on the development of bianzhong systems across the region during the Eastern Zhou Period.

Fourthly, a distinction must be drawn between the “elegant music” of Zheng and the secular “Zheng-Wei” music. As instruments of elegant music, the strict regulations around bianzhong demonstrate that the “excessive” character attributed to Zheng music was not one limited to elegant music, but rather a characteristic of “new music” in general (Dai & Wang, 2001).

Since the bianzhong from the tomb of Duke Zheng was first excavated in 1923, and following the subsequent excavation of nine sets of two-hundred and six chime bells from the Zheng sacrificial site between 1996 and 1998, the number of bronze bianzhong discovered in Xinzheng is in excess of three-hundred, giving this region one of the largest and most complete assemblage of excavated bianzhong in all of China. These discoveries have not only rewritten the pre-Qin music history in China but have also provided invaluable physical evidence for investigating musical character and stylistic features of the “music of Zheng and Wei”. Through these ancient instruments, we can glimpse at the flourishing music scene of the Central Plains during the Spring and Autumn Period, appreciating how such beautiful, magnificent, vivid and distinctive musical culture has been passed down and promoted throughout the very lifeblood of this nation.

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REFERENCES

1. Archaeology, H. P. I. o. C. H. a. (2000). Excavation of a Sacrificial Site of the Zheng State at the Ruined Zheng-and-Han City in Present Xinzheng City, Henan Kaogu, 2, 61-77.
2. Archaeology, H. P. I. o. C. H. a. (2006). The Zheng State Sacrificial Site in Xinzheng. Daxiang Chubanshe.
3. Archaeology, H. P. I. o. C. H. a., Team, H. P. D. R. A. E., & Museum, X. C. (1991). Xichuan Xiasi Chu Tombs of the Spring and Autumn Period. Wenwu Chubanshe.
4. Cai, Q. (2005). Research on the Sacrificial Sites and Bronze Ritual Vessels of the Zheng State. Wenwu, 10, 76-80. <https://doi.org/10.13619/j.cnki.cn11-1532/k.2005.10.005>.
5. Dai, S., & Wang, W. (2001). Translation and Interpretation of the Book of Rites. Zhonghua Shuju.
6. Huang, J. (2017). Archeological Research on Musical Instruments from Sacrificial Relic in Zheng State in the Spring and Autumn Period. Journal of Linyi University, 2, 21-32. <https://doi.org/10.13950/j.cnki.jlu.2017.02.003>.
7. Li, C. (1996). A Comprehensive Study on Ancient Chinese Excavated Musical Instruments. Wenwu Chubanshe.
8. Li, H. (2010). Echoes of Huaxia: Ancient Musical Artifacts from the Central Plains. Zhongzhou Guji Chubanshe.
9. Li, S. (2022). A Special Study on Zhou Dynasty Ritual and Music from the Perspective of Unearthed Materials Northeast Normal University].
10. Qu, W. (2020a). Function, Metaphor and Concept: The Function of Bronze Objects Engraved with Designs in the Study of Music Archaeology—Exemplified by the Bells of Zheng State Sacrificial Site. Jiaoxiang (Journal of Xi'an Conservatory of Music), 2, 27-35.
11. Qu, W. (2020b). Rational Pursuit and Paradigm Shaping: A Study on the Chime Bells of the Sacrificial Sites in the State of Zheng. Journal of Nanjing University of the Arts (Music & Performance), 4, 44-51.
12. Shen, J. (2019). The Sound of Crossing Thousands of Years — Bronze Bianzhong of Zheng State. Wenwu Tiandi, 8, 26-28.
13. Sima, Q. (1982). Records of the Grand Historian (Vol. 72, Twelfth Family Zheng). Zhonghua Shuju.
14. Sun, H. (2022). On Age of Chime Bells Unearthed from Sacrificial Site Discovered in Capital of Zheng and Han States, and Relevant Issues. Huaxia Kaogu, 4, 97-102. <https://doi.org/10.16143/j.cnki.1001-9928.2022.04.009>.
15. Sun, H. (2025). Archaeological Study of the Eastern Zhou Suspended Musical Instrument System. Kaogu, 6, 81-93.
16. Sun, M. (2007). A Preliminary Study on the Bronze Bianzhong from the Zheng State Sacrificial Site. Chinese Music, 4, 67-69.
17. Team, L. C. R. W. (2002). Excavation Report of the Warring States Period Burial Pit on Jiefang Road, Luoyang. Kaogu Xuebao, 3, 359-380, 387-400.
18. Wang, Y. (2021). The Note Series Combination of Combined Chime Bells in the Pre-Qin Period. Huangzhong (Journal of Wuhan Conservatory of Music), 1, 112-124. <https://doi.org/10.19706/j.cnki.cn42-1062/j.2021.01.010>.
19. Wang, Z. (2003). Chinese Music Archaeology. Fujian Jiaoyu Chubanshe.
20. Wang, Z. (2005). Musicology Research on Bronze Carillons Unearthed at No.1 and No.4 Pits of the Site of Eastern Zhou in Xinzheng City. Wenwu, 10, 81-91. <https://doi.org/10.13619/j.cnki.cn11-1532/k.2005.10.006>.
21. Wang, Z., & Zhao, S. (1996). The Compendium of Chinese Musical Relics (Vol. Henan). Daxiang Chubanshe.
22. Xu, J. (1937). A Discourse on Bianzhong and Bianqing. Henan Museum Journal, 9.
23. Yan, J. (2014). The Musical Archaeological Research on Niu-Bell of Eastern Zhou Dynasty in Henan Chinese National Academy of Arts].
24. Yang, W., Li, X., & Han, Y. (2008). A Discussion of Zheng State Bronze Ritual Vessels and Musical Instruments, Sacrificial Pits and other Problems. Huaxia Kaogu, 2, 110-120. <https://doi.org/10.16143/j.cnki.1001-9928.2008.02.012>.
25. Zhang, W. (2019). On the Reform of Chinese Music Bell Funeral Rules in the Spring and Autumn Period: Taking Zeng State and Jin State as Center. Musicology in China, 4, 41-51. <https://doi.org/10.14113/j.cnki.cn11-1316/j.2019.04.005>.
26. Zheng, Z. (2005). A Musical Analysis of the Chime Bells from Chu Tomb No. 2 at Xiasi, Xichuan, Henan, Attributed to Wangsun Gao. Yinyue Yishu (Journal of the Shanghai Conservatory of Music), 2, 45-52. <https://doi.org/10.19359/j.cn31-1004/j.2005.02.007>.
27. Zhu, Y. (2026). Rehabilitating “the Music of the States of Zheng and Wei”—A Historical Interpretation of the Musical Archaeological Principle of “Zhou Music Avoiding the Shang Note”. Henan Shehui Kexue, 3, 85-96.