

A STUDY OF MUSICAL INSTRUMENT PICTOGRAPHS ON ZUOJIANG HUASHAN ROCK ARTS

Huang Yu [黄羽]

Culture and Art Research Institute of Guangxi Zhuang Autonomous Region
[广西壮族自治区民族文化艺术研究院]

Contact: 113729058@qq.com

Abstract

The Huashan Rock Arts represent the rock pictographs in the Zuojiang River Basin. They record the unique sacrificial scenes by Luoyue people from the 5th century BC to the 2nd century AD. Historical materials, unearthed cultural relics and existing folk customs all prove that the distinguishable musical instrument pictographs on the rock arts include bronze drums, sheep-horn knob bells, ling (small bells with a clapper), etc. All of these also explains why these musical instruments appear on those pictographs, further emphasizing the importance attributed to them on dividing the history of the rock arts into certain periods. This study has found out that after the Western Han Dynasty, the sheep-horn knob bells gradually lost the function of ceremonial and musical instruments due to the destruction of the rite system, thus withdrawing from the historical arena. On the other hand, the artisanship of bronze drums has become more and more exquisite, highlighting its three-fold use for rites, rituals and musical instruments. The drums also continue to occupy a significant part of the music history of the Luoyue ethnic group. Through an in-depth study of the musical instrument pictographs, the music history of the Luoyue is further, clarified and understood.

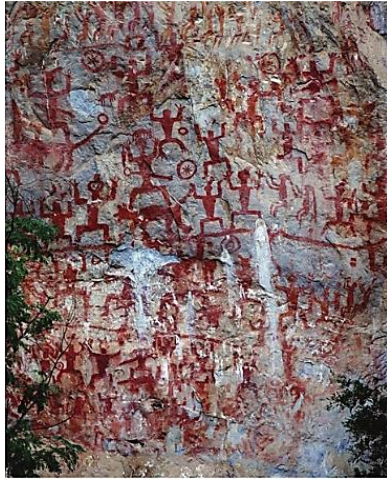
Keywords: Huashan Rock Arts, Bronze drums, Sheep-horn knob bell, Musical instrument pictographs

The Huashan Rock Arts are a typical example of the rock pictographs in the Zuojiang River Basin. They are also the largest, most abundant and well-preserved rock arts discovered in China insofar. The arts are located in Ningming and Longzhou counties, Jiangzhou district and Fusui County located in the city of Chongzuo, Guangxi province. Here, distinctive tropical karst landforms are widely distributed. The winding Zuojiang River and its tributary Mingjiang River take course through mountains on both sides, together with the ochre red rock paintings on the cliffs that form the wonder of rock art cultural landscape with its mystery and majesty. It is worth noting that around for 700 years between the 5th century BC and the 2nd century AD, the Luoyue people who lived here gave special emphasis to drawing rock arts on the high cliffs at the turning points of the river. On those huge pictographs, about 2000 years old scenes of religious rituals and sacrifices have been recorded in ochre red colour. Huashan rock arts are well-known throughout the world for their magnificent scale, spectacular scenes and diversity. In 1988, the rock arts were listed by the state council as national and valuable cultural relic's protection unit. Furthermore, they were approved to be included in the World Cultural Heritage list at the 40th World Heritage Conference in 2016. This nomination filled a gap by adding Chinese rock arts to the world heritage list. Huashan, or in Zhuang language paylaiz, means a mountain of paintings. As early as in the Southern Song Dynasty, Li Shi's *Xubowuzhi*, or *Continuation of the Natural History*, for the first time documented the rock arts at Zuojiang. Brief descriptions of such can also be found in *Yiwenlu*¹ (Qin Shengmin [覃圣敏] et al, 1987:

¹ In *Yiwenlu* or *Ibunroku* (a collection of anecdotes, also mentioned in 壮族百科辞典) it is described as this: "There are a few li (500 metres) high cliffs at Taiping Mansion in Guangxi, with (pictographs of) soldiers and horses holding swords, some having no leaders". In the *Ningming Zhou Chorography*, it is described as this: "Huashan is fifty li away from the city. There are red-coloured human figures on the cliffs, all naked, large or small, or holding weapons, or riding a horse". (Zhihong Shi, 2018).

12) or *Anecdotes* by Zhang Mu in the Ming Dynasty, and *Guangxi Tongzhi*, or *General Annals of Guangxi*, edited by Xie Qikun - the governor of Guangxi in the five years of Qing Dynasty, and *Ningming Zhou Chorography* (Qin Shengmin [覃圣敏] et al, 1987: 13) published in the nine years of Emperor Guangxu.

Nonetheless, as an important cultural relic by the Luoyue people, the rock arts delicately represent the cultural significance of their sacrificial ceremonies and its unique "squatting figure" system of symbolic expressions. The arts, firstly, have witnessed the spiritual world and social development of the local ancestors about 2000 years ago. Secondly, they display the prosperous, energetic sacrificial traditions and a unique way of human-nature communication



based on the merging of dance ritual ceremonies and abundant rock painting activities. In this sense, the cultural landscape of Zuojiang Huashan rock arts is a collaborative work of nature and human, crafted by human and completed by the use of a specific natural environment. Having said that, such a cultural landscape is undoubtedly an outstanding example as well as one of the representative works of rock arts on the global stage, mainly because of the original landscape composition model, the pictograph expression system, rare painting locations, huge frame sizes, historical uniqueness, and the human-nature communication it signifies.

Figure 1: Orthographic Image of Ning Ming Huashan Rock Arts, Group 6, Unit 1².

The Rock Arts had been drawn at the turning points of Zuojiang River, facing the upright cliff opposite the direction of the running water. The content records the sacrificial ceremonies of the Luoyue. The host body of the pictograph is a broken rock mountain with undulating peaks, 270 meters high and more than 350 meters long from north to south; its west wall facing the river is steep and inclined toward the river. When it comes to the arts, the paintings are drawn with pigments mixed with hematite, animal glue and blood, showing a rich ochre red colour. As a whole, the art is more than 170 meters wide and forty meters high, occupying an area of more than 8.000 square meters. Furthermore, in addition to some blurry spots, there are more than 1.800 parts, which can be divided into approximately 110 groups. In details, the paintings are composed of mainly portraits that are generally in front and side postures, naked and barefooted in a semi-squat posture with hands up and knees bent, supplemented by horses, dogs, bronze drums, daggers, swords, bells, boats, roads, the sun and other elements. In each group, figures in the middle or upper position are dedicated to tribal chiefs or activity leaders (several meters tall, like a giant), mostly with a sword hanging on the waist and a beast-shaped decoration on the head. These majestic figures look down on the crowd who are drumming and dancing.

In terms of different divisions and units, the rock arts are divided into three areas: heritage area I, II, and III. They include thirty-eight spots, which can also be divided into 109 places and 193 groups making altogether 4.050 individual pictographs. This comprises 3.315 human figures and 621 tools and utensils – respectively, 368 bronze drum, eleven sheep-horn knob bells, five fine knob bells, thirty-nine ring-head swords, 174 swords with handles, 1 short flat-stalk sword, 21 ferries and 2 male-female copulation paintings. There are also 114 animal images, including 113 dogs and 1 bird. The rock paintings vividly depict the spiritual world and social developments of the Luoyue communities living on the banks of Zuojiang River. Particularly,

² China National Cultural Heritage Administration. 2016. Zuojiang Huashan Rock Arts Cultural Landscape - World Cultural Heritage Zuojiang Huashan Rock Arts Cultural Landscape (declaration form, UNESCO list, page 56).

the bronze drum pictographs and other related content are highly symbolic manifestations of the time-honoured and the flourishing bronze drum culture in southern China. What's more, not only the bronze drums, but also the sheep-horn knob bells and other related paintings demonstrate a direct link with the music culture that endures through a long history and is still popular today in the same area.

MUSICAL INSTRUMENT PICTOGRAPHS ON HUASHAN ROCK ARTS

Bronze drums, bells and other pictographs on the Huashan rock arts reflect the development of the Luoyue's musical instruments. These instruments have also played a significant part in sacrificial ceremonies and religious dance activities. Regardless of types, shapes or cultural connotations of different instruments, each possesses distinctive characteristics of a particular historical period and local ethnic traits. On those arts, there are mainly three types of musical instruments that can be clearly distinguished: bronze drums, *zhong* and *ling* (both are bells; the former, e.g. sheep-horn knob bell, is generally larger and generates sound through striking and hitting, while the latter is smaller and sound is produced when shaken).

Bronze Drum Pictographs






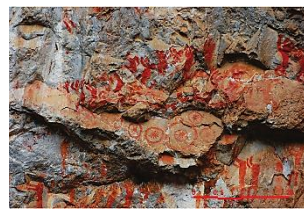
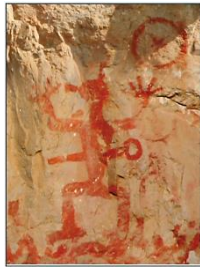
On the Huashan rock arts in the Zuojiang River Basin, there are plenty of round-shaped pictographs with single-/multiple-circle and/or star-resembled patterns inside of them. Scholars have interpreted these pictographs as symbols of the bronze drum based on the analysis of the content, the social life and the artistic style of the Luoyue. The circle on those rock paintings is the basic outline of the drum surface. The outer circle represents the drum surface and the inner circle, *riti*, the pattern that symbolizes sun. If there is a star-like pattern in the inner circle, spike-like elements attached to *riti*, it symbolises not only the sun but also beams of light reaching outwards and joined by a centre (*riti*, or in some cases, merely a point). The space between the inner and the outer circles represents the *fenyun* string, namely the halo of *riti* on the exterior, of the drum. In addition, some pictographs in this category have a semi-circular pattern outside of the outer circle, which is the lug of the drum.







These bronze drum images are either created to be on the ground or hung up on a shelf. Moreover, they can be found across different sites. At present, there are approximately 368 recognizable pictographs (Qin Cailuan [覃彩銓] et al., 2015: 406), second only to those of human figures. The forms of bronze drums are rather diverse, and can be roughly classified into five types, namely, 1) drums with no decoration on the surface; 2) drums with a *riti* on the surface and without a beam of light or *fenyun* string; 3) drums with a *riti* and beams of light (from four-pointed to eight-pointed), without *fenyun* string; 4) drums with a *riti* and a *fenyun* string but without beams of light; and 5) drums with a *riti*.








Figure 2: Topographic Image of Bronze Drum Pictographs on Huashan Rock Arts³

³ China National Cultural Heritage Administration. 2016. Zuojiang Huashan Rock Arts Cultural Landscape - World Cultural Heritage Zuojiang Huashan Rock Arts Cultural Landscape (declaration form, UNESCO list, page 56).

Shape	Pattern	Annotation
<p>Single-circle: This type of circular pictograph is a single-circle-shaped pattern, some of which have a pattern inside with beams of light reaching out. Others have hanging and support wires outside. In total, there are eleven different sub-types.</p>	<p>Simple-single-circular</p> 	<p>It is the simplest form. Some appear individually; some with a horizontal short line but not connected to the circle. Others are arranged in a horizontal row, and there is a horizontal line under the row with close distance to the circles; in some cases, the line is connected with the circles.</p>
	<p>Hanging-circle-patterned</p> 	<p>It is also a simple circle, with a curved. A horizontal short line above that is connected with a vertical line to the circle so that the circle appears hung to the line.</p>
	<p>Circle-supported-patterned</p> 	<p>Similar to the hanging-circle-patterned ones in terms of composition, the pictograph is upside-down, with the ring appearing to be supported.</p>
	<p>Dotted-circular</p> 	<p>It is also a simple circle, but there is a dot in the circle, which seems to be the centre of the circle.</p>
	<p>Star-resembled</p> 	<p>There is a Riti with beams of light in the circle, which does not reach the circle itself. The number of the outreaching light varies from 3 to 12. This type of pictograph has the largest number and the widest distribution (The picture below is an orthographic image of the rock arts, Group 6, Unit 1 in Ningming).</p> 
	<p>Hollow-star</p> 	<p>Without touching the circle, the outreaching light are joined by a point instead of a Riti as the previous example. The number of the beams is 7. There is an oblique vertical line outside of the outer circle. A horizontal line connects the vertical and the circle, allowing the circle to be supported from the side.</p>

Shape	Pattern	Annotation
	Side-supported	A Riti joins the outreaching light. The number of the beams is 7. There is an oblique vertical line on the outer side of the circle. A horizontal line connects the vertical and the circle, allowing the circle to be supported from the side.
	Spoke-resembled 	There is a Riti inside the circle, with generally seven to eight beams of light reaching the exterior circle. It resembles a wheel and its spokes inside (The picture below is an orthographic image of the rock arts, Group 13, Unit 1 in Ningming ⁴). 
	Lug-attached 	There is a Riti inside the circle with generally 7 to 8 beams of light but not reaching the outer circle. A lug is attached to the circle on the outside.
	Inner-star	No star is inside the circle but only the beams of light; these are connected to the circle with tips pointing inwards.
	Outer-star	It is a simple circle with 6 beams of light on the outside; these are connected to the circle with tips pointing outwards.
Double-circle: This type of circular pictograph is a double-circle-shaped pattern, some of which have a Riti inside the inner circle. Some have beams of light outside the inner circle while others have it inside. Again others have beams of light both on the inside and the outside. In total, there are nine different subtypes, with those having inner circle and outreaching beams of light	Simple-double-circular 	It consists of 2 simple circles with the inner circle being smaller.
	Inner-circular (with a dot) 	The form is similar to that of the simple-double-circular pattern, with a dot at the centre.
	Inner-circular (with beams reaching the circle) 	There is a Riti in the inner centre with beams of light reaching the circle. The number of beams is generally four, six, eight, etc.

⁴ China National Cultural Heritage Administration. 2016. Zuojiang Huashan Rock Arts Cultural Landscape - World Cultural Heritage Zuojiang Huashan Rock Arts Cultural Landscape (declaration form, UNESCO list, page 56).

Shape	Pattern	Annotation
being the most in number.	Inner-circular (with beams in between the two circles)	The beams of light are outside the inner circle, which are confined between 2 circles, with some reaching the outer or not. The number of beams is generally from six to nine.
	Lug-attached, double-circular 	There is a lug attached to the outer circle, mostly located on the middle of the upper part; in some cases, the lug is located on the right side of the outer circle with a traction line. There is a Riti inside the inner circle, with four, five, six or nine beams. In some pictographs, the beams reach the inner circle while others do not. In addition, there is generally no beam between two circles. In some cases, there are beams of light in both the inner circle and space between two circles; the inner part has eleven while the outer part has nine, both reaching the outer circle.
	Hanging-circle-patterned 	The pattern is the same as the inner-circle with beams between the two circles; there is a horizontal line above the outer circle connected with two parallel vertical lines.
	Circle-supported-patterned 	There are several points inside the inner circle, with a horizontal arc line under the outer circle which is connected to the upper part; it somehow seems to be supported from below.
	Inner-circular (with beams on the outer second circle and dot at the centre) 	There is a dot in the center of the inner circle, with eight beams of light between the two circles but not touching the outer one.
	Outer-circular (with beams on the outside) 	The inner circle has no central point or Riti, but there are beams of light on the lower part of the outer circle and a blurry vertical line on the right.
Triple-circular: This type of circular pictograph is composed of	Simple-triple-circular	It is composed of three circles fitting into one another with no stars or beams of light.

Shape	Pattern	Annotation
three circles that fit into one another. As a simple form, its inner circle has no Riti, while some might have beams of light on the outer. It can be divided into two sub-types.	Outer-circular (with beams on the outside)	There is no stars or beams of light inside the inner circle, but there are beams on the outer circle. Some would have two short arc lines on the right side of the beams.
Solid circle: This type has no outer circle but only one solid circle or merely a Riti. Some have no beams of light while others generally have seven.	Pie-patterned	It is a solid circle reminding of a pie without an outer circle, Riti or beams. Some have a short horizontal line underneath.
	Beam-patterned	It is pie-patterned with several beams of light attached to the outermost.
	Star-patterned	The pictograph is not perfectly round; it has beams of light pointing outwards, similar to a shining star.
	Hollow, beam-patterned	This type has no circles but only beams of light pointing outwards and around; the inner ends of the beams form a blank circle. There is only one form.

Figure 3: Bronze Drum Pictographs on Huashan Rock Arts (overview by the author).

Scholars have different views⁵ on the aforementioned five types of circular pictographs, but they are generally considered to be representations of the bronze drum. The author believes that with comparison to the unearthed bronze drum relics, most of them should be pictographs of the bronze drum. On the one hand, these pictographs have a high degree of similarity to the drum surface of the unearthed bronze drum relics; the representations of circles, stars, Fenyun string, and lugs are all identical to the actual objects. On the other hand, taking into account the present-day use of bronze drums, the bronze drum pictographs with a Riti or Fenyun string are generally found within or above those of the queues of dancers, which should then be a reflection of beating the bronze drums during the sacrificial activities to entertain the celestial gods or accompany dance. Additionally, existing bronze drums are mainly, used for sacrificial activities, festivals, and entertainment. Other than the functions to order gatherings, invite gods and celebrate, the most crucial one is to accompany singing and dancing activities, enhancing the warm, inviting atmosphere of festivals and sacrifices. Thirdly, the percussion techniques for the existing bronze drums as compared to those represented on the Huashan Rock Arts vary from place to place. The pictographs show that the technique of tapping is to ‘overlap and strike’, or to ‘hang it onto the shelf and strike’. Nowadays, the ‘overlap and strike’ technique can be occasionally seen in the Zhuang Maguai festival in Donglan. However, it is the ‘hang and strike’ technique that is mainly adopted and mostly seen.

⁵ Some regard them as representations of bronze drums, some of the sun, moon, and stars, and others of shields, gongs, and wheels. Huang Huihun of Yunnan Nationalities Institute believes (personal information) that all the circular representations on Huashan rock arts are not bronze drums, nor gongs, let alone rattan plates or wheels. They are the sun and the moon showing the primitive residents’ worshipping towards the sun and the moon.

Sheep-horn Knob Bell Pictographs

Among the thirty-eight spots of Huashan Rock Arts, the pictographs of the sheep-horn knob bell are only seen in two spots, respectively in the Gaoshan Rock Art spot and the Ningming Rock Art spot. The specific locations are: the fifth unit at the first site of the Gaoshan spot, and the fifth, sixth, and eighth groups at the first unit of the Ningming spot, with different sizes and a total of eleven (?). There are two groups with bell shelves and the rest are without. Four sheep-horn knob bells have been identified; the rest of them fail to show more identifiable and typical characteristics due to the blurry quality of the pictographs. However, with careful scholarly investigations, they are also classified as sheep-horn knob bell pictograph for further research.

The pictographs of the sheep-horn knob bell found in Group 2, Unit 5 at the first site of the Gaoshan spot are presented as something hung on a shelf framed as ‘干’ (as shown in the images below). On the left is a tall male figure with a long sword at the waist, a circular star-patterned bronze drum below the hips and a long animal below the feet. On the lower right is a row of six side-view male dancing figures, with faces facing left and representations of erected male genitals drawn under the abdomen. Above them, there are two pictographs of bronze drums with a Riti and beams of lights inside. Above these two bronze drums is a set of four bells hung on a shelf with the frame of ‘干’. The shelf itself is structured with two horizontal rows with upper and lower parts (it can be seen as a vertical stick with an upper and a lower horizontal stick tied to it, forming a wooden frame that can be used to hang a bell). The upper horizontal stick is slightly longer with two small triangular objects hung to each end, which should be bells or bell-like musical instruments. The lower horizontal stick is slightly shorter with the bells hung at each end as the longer one. However, the difference is that the two bells on this stick have double knob-like attachments on the top and a flat end below.



Figure 4: Image of Sheep-horn knob Bell Pictographs on the Gaoshan Rock Arts, Group 2, Unit 5, Spot 1⁶

On the Group 5, Unit 1 of Huashan Rock Arts (Ningming site), there are two pictographs of sheep-horn knob bell, side by side without the bell shelf. On one piece, the pattern is smaller on the upper part and larger on the lower, with an indistinct knob shape on the left and a short vertical line on the knob, which appears to be the sling of the bell. On the other piece, there is a knob shape on the top right, with one short line pointing outward, on top of which are another two shorter lines; there is a human figure on the upper left corner, facing the left, with one of its feet coinciding with the bell's knob. Seen as a whole, the pattern of the bell on the right is identical to that on the Gaoshan Rock Arts (Group 2, Unit 5, Spot 1, as shown earlier in the image). What's more, in comparison the sheep-horn knob bell pictograph at the same unit as mentioned at the beginning of this paragraph is also an individual pictograph without a bell shelf. For this one, there seems to be a missing part on the lower left, with the bell mouth slightly rounded and hunched. Also, on the upper part, there are two knobs pointing outwards in the shape of an inverted "八", one larger and the other smaller. In addition, in Group 8 of the same

⁶ China National Cultural Heritage Administration. 2016. Zuojiang Huashan Rock Arts Cultural Landscape - World Cultural Heritage Zuojiang Huashan Rock Arts Cultural Landscape (declaration form, UNESCO list, page 56).

unit, a bell shelf is found with two bells hung at both ends of the upper and lower sticks, all of which are smaller on the upper part and larger on the lower, resembling upside-down triangles.

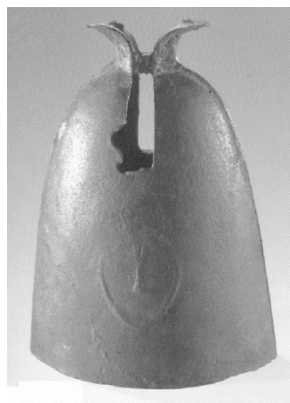


Figure 5: Sheep-horn knob Bell Unearthed at Luobowan Bay, Guigang (Jiang Tingyu [蒋廷瑜] & Peng Shuling [彭书琳], 2014: 35-39).

As shown in Image 2, the shape of the bell is similar to a tile with two lugs pointing outward in the pattern of an inverted "八". Through comparative studies of archaeological data, eleven pictographs appearing on Group 5, 6 and 8, Unit 1 of the Huashan Rock Art site, and Unit 5 of the first spot of the Gaoshan site, can be classified as pictographs of the sheep-horn knob bell (羊角钮钟). The reason is as follows: at Group 2, Unit 5 of the first spot of the Gaoshan site, this piece of rock art features a shelf at the lower part where two bells with unique knobs have been identified as identical to the unearthed actual sheep-horn knob bells. However, the original name of the sheep-horn knob bell still remains unknown; it is unrecorded in any documentation such as the *Records on Metal and Stone* or any modern literatures. Some call it Tong Duo (bronze big bell), some Tong Ling (bronze bell with a clapper); some accord it as a Bian Zhong (chime bell) in general, and scholars like Qin Xu call it Li Zhong (handle bell). Nonetheless, some scholars in Yunnan province prefer to call it sheep-horn knob chime bell (羊角编钟). The difference only lies in one character (钮 and 编) the former emphasizes the shape, while the latter the arrangement it signifies. The so-called Tong Duo and Tong Ling as suggested above give tributes to its shape and function as musical instrument, and the way it is hung up as in those pictographs is more in line with these two names.

The horn shape of the bell ears is obviously not the same type as an actually Tong Duo or Tong Ling. For another, it is called a chime bell, because the set of the bells is presented in a row and therefore is classified as chime bells by emphasizing the way they are ordered and arranged. However, neither the pictographs nor the unearthed relics suggest adequate proof that they have to be ordered or arranged; also, no regularity is found in the sound sequence, which deems them as 'unqualified' in this category as well. Last but not least, it is also inappropriate to name it a Li bell. Li in Chinese means the part of the utensil designed to be held in the hand, usually on the side of the utensil. In comparison, it can be clearly identified that the bell knob is on the upper part, which is designed so that it can be hung to a shelf. For the reason of considering the bell knob position and the way it can be hung up, more needs to be considered as to whether it is reasonable to name it Li bell. Those being said, in the early 1980s, Mr. Jiang Tingyu named it a sheep-horn knob bell based on the characteristics of its distinct bronze knob. Until present day, scholars largely have agreed upon Jiang's naming. Referring to the archaeological data, this kind of bell has been unearthed in multiple archaeological sites, among others, Luobowan Bay in Guigang, Putu in Xilin County, Dalingjiao in Guandong, Pubei County and Liuwang Longjing in Rong County, to name just but a few. The identified eleven patterns on the Huashan rock arts are in accordance with the shape and composition of these unearthed relics.

Fine Knob Bell Pictographs

The pictographs of this kind are found in group 5 and 9, unit 1 of the Ningming Huanshan site; they are also presented as something hung to a shelf framed as ‘干’. In terms of shape, the pattern is smaller on the upper part and larger on the lower without clearly showing the knob which might be rather small, or overlapping with, or even blocked out of view by the shelf. Therefore, it is called fine knob bell/ling. The bells on those pictographs that are presented as hung on the shelf in Group 9 all belong to this category, whereas in Group 5, they are drawn in the same art piece with the sheep-horn knob bells.

In addition to the above discussion, the author argues that it is more appropriate for the object on the two pictographs identified in Group 5, Unit 1 to be viewed as ling (small bell with a clapper) instead of bell. The reason is that their characteristics of the sheep-horn knob are not clearly displayed. Besides, through careful observation the one on the right has its clapper drawn. At present, in the academia it is generally agreed that knob without a sheep-horn knob pattern is viewed as incomplete pictograph. But in the same light, there is a part of the pictograph on the right that is obviously created to extend out; can it be regarded as a clapper of a small bell? There is still more to be verified.

MUSICAL INSTRUMENT PICTOGRAPHS AND THEIR IMPLICATIONS FOR DIVISIONS OF HISTORY INTO PERIODS *VIS-A-VIS* HUANSHAN ROCK ARTS

Studies of Huashan Rock Arts took shape in the late 1950s. In addition to the research on the composition of the arts, more has focused on the two issues of the arts' implications for divisions of history in periods and the ethnicity it belongs to. At present, there are several perspectives on these issues. First (Liang Renbao, 1957), divisions of history into periods are based on different styles of the rock arts. It is argued that the figures and animals in rock paintings are rather primitive in form, which is consistent with the ancient murals found in various parts of China. On the other hand, the contents that are obscure and difficult to understand are believed to be created during ancient periods or the Middle Ages.

Secondly, divisions are based on the objects or utensils identified on the rock arts. This method of divisions consists of four sub-categories adopted by different scholars, through which pictographs of bronze drums, sheep-horn knob bells, horse-riding figures, ring-head swords, etc., are compared to unearthed relics to determine the divisions that also lead to various conclusions. The following concerns the details of these conclusions. To begin with, one category combines the bronze drum with right-head sword. It determines the divisions by looking at the bronze drum to infer the earliest, and at the ring-head sword to infer the latest of the historical period of the arts. The subsequent conclusion is that the earliest does not predate the Spring and Autumn Period, while the latest does not exceed Western Han Dynasty. For details, ring-head swords have been found in the Yinshanling cemetery in Pingle, Guangxi dating back to the middle/late Warring States Period. However, because of the speculation on the exact historical period that the cemetery belongs to the Warring States Period or the Western Han Dynasty, it is advocated by its initiators that the rock arts could not exceed the Western Han Dynasty.

Furthermore, the second category combines pictographs of weapons and of bronze drums, and infers that the historical period of the Arts should be between the Warring States Period and the Eastern Han Dynasty. Judging from the horse-riding portraits, it is evident that the cavalry had already been in use in military when the Arts were created. This echoes the use of cavalry firstly promoted by Zhao Wuling Wang as ‘Wearing Hu dress and Shooting on horse’ in Warring States Period. Therefore, the earliest would not exceed this period. Also, with insights of the bronze

drums unearthed in the same area, it should be within the distribution range of the Shizhaishan-type bronze drums. That being said, the historical period of this type is set between the Warring States Period and the Eastern Han Dynasty. Given this logic, it seems that the period of the Zuojiang Rock Arts should be roughly the same as that of the Shizhaishan-type drums.

Thirdly, another category determines the division based on the pictograph of the sheep-horn knob bell. The actual relics were unearthed in some tombs in southern and southwestern areas, dating back to the Warring States, as well as the early and Middle Western Han Dynasty. Accordingly, the period of the Arts should be between the Warring States to the middle of the Western Han Dynasty. Lastly, the fourth category is concerned with the ring-head sword, which leads to two main conclusions. First, the earliest period dates back to during the period of the Warring States. According to the archaeological findings of the Guangxi region (1950s and 1960s), ring-head swords were mainly found in the tombs of the Han Dynasty. However, the time was pushed forward to the Warring States period, because of the difference between the unearthed actual ring-head swords and those on the rock arts. The second is that the period could not exceed Eastern Han Dynasty. The proof is that ring-head iron swords have been commonly found in the tombs of the Eastern Han Dynasty and of the Six Dynasties. Consequently, the arts would be confined to no later than the Eastern Han.

The third method for division of history into periods focuses on the human figures on the Rock Arts. Based on the naked human pictographs and the research results in anthropology and folklore, scholars believe that nudity culture are preserved until the end of Sui Dynasty, so it can be determined that the period should be earlier than the end of Sui Dynasty. The last method takes into account historical events, which has identified four periods, namely the Tang Dynasty (the period of Huang Qianxu, the period of Huang Shaoqing, and the period of Huang Chao Uprising); the era of Nongchigo Uprising in the Song Dynasty; the period of the Taiping Heavenly Kingdom and the period of the Sino-French War (Huang Zengqing [黄增庆]. 1957; Chen Hanliu [陈汉流]. 1961; Ling Zui [岭锥]. 1986).

Critically speaking, these could be largely subjective assumptions for the division of history into periods based on different styles of the rock arts and on historical events. Since 1980s, experts and scholars have combined social science methods based on organology, philology, ethnology, etc. with carbon-14s measurements, unveiling that the period stretched from the Spring and Autumn as well as the Warring States period, to the two Han Dynasties. Later, some scholars conducted a comprehensive investigation on the Rock Arts in Zuojiang River Basin by piecing together folklore, fine arts, religion, mythology, hydrology, geology, geomorphology, chemistry and other disciplines to corroborate with the period of those rock paintings.

To further illustrate, with musical instruments such as bronze drums, sheep-horn knob bells, fine knob bells/ling seen on the rock arts, the actual relics are found to be in a distribution area within the Luoyue, indicating that they were the main creators and users of such instruments. It also indicates that they are commonly used in sacrificial ceremonies. The musical instrument pictographs provide precious materials for studying which time periods they date back to. In particular, the set of four sheep-horn knob bells in Unit 5, Spot 1 of the Gaoshan site, proves to be extremely valuable in determining the time periods of the overall Rock Arts. The sheep-horn knob bell is a percussion instrument popular in the south that was almost simultaneously created with the bronze drum. Externally, the bell features a tile-like shape which is similar to the shape of a half olive or a half ellipsoid, smaller on the upper part and larger on the lower. It is hollow with a smooth inner wall, straight bottom edges and a vertical rectangular hole at the top; two horn-shaped knobs extend out from the hole, like the horns of a sheep.

In Guangxi, this type of bell was also found in the tombs of the Western Han Dynasty. For instance, one was unearthed from the tomb 1 of Luobowan Bay in Guigang, and two from the

tomb in Putuo, Xilin. Others were found in the cellars of Pubei, Lingshan, Rongxian, Guigang, Liucheng and Gongcheng. Subsequently, it seems that there is a close relation between the sheep-horn knob bell and the bronze drum (Jiang Tingyu [蒋廷瑜]. 1989). Moving onto a large number of archaeological discoveries, it can be determined that the two have been found together in many cases⁷. For instance, in the tomb of bronze drums in Putuo, Xilin, four bronze drums were placed on four sides and used as a burial tool. Two pieces of sheep-horn knob bells were found inside. On the rock paintings in Zuojiang River Basin, there are many scenes where the drum and the bell appear to be played together. Also, two pieces of Shizhaishan-type bronze drums were unearthed from M1 tomb at Luobowan Bay, together with one piece of sheep-horn knob bell and many other musical instruments.

This ‘accompanying’ situation of the bell and the drum is a special ritual and music compilation of the Luoyue people from the Warring States Period to the middle of the Western Han Dynasty. Such a special compilation also suggests the bronze culture in the Lingnan region. It also represents a glorious music history of the Luoyue. Up till now, no sheep-horn knob bell has been unearthed in the tombs constructed after the Western Han Dynasty, so it can be concluded that the bell in some way disappeared after the Western Han. Thus, the special musical compilation of the sheep-horn knob bell and the bronze drum, as well as the actual relics unearthed from tombs of different historical periods, have provided important evidence to determine the division of the history of the rock arts into specific periods.

Among the artefacts retrieved by archaeology, the shape of the fine knob bell and the small bell with clappers is smaller along the upper row and larger in the lower row, and the projection image is similar to those on the rock paintings in Ningming Huashan. With it hung on a shelf, the bell’s shape is indeed difficult to draw. Judging from these evidences, the bells of these two types may be the same as the actual unearthed ones. Taking into account the co-existing artefacts with these two types of bells, the artefacts appeared earlier than the sheep-horn knob bell, with which they later coexisted. For that reason, based on the time period, it can be inferred that the creating time of Ningming Huashan Rock Arts was roughly during the Spring and Autumn and the Warring States Period (Qin Cailuan [覃彩銮] et al. 2015: 406). Although the carbon-14s measurement report shows that the rock arts are 2.370 years old (420 BC), “the use of natural science to determine the age of the rock arts is a difficult problem yet to be solved” (Ibid.). Moreover, “all carbon-14s data are marked with standard deviation, meaning that there is actually only a 68% probability that the real age is within this data range” (*China Encyclopedia – Archaeology*, 1986). So, with the method of combining the studies of musical instrument pictographs with those of unearthed cultural relics, it serves for future studies by determining the creating time of the Huashan rock arts between the Warring States Period and the Western Han Dynasty.

⁷ In the M1 tomb of Wanjiaba, Chuxiong, Yunnan, a bronze drum accompanied by six sheep-horn knob bells was discovered. The drum was placed in the middle of the Yaokeng (into-the-ground space outside of the coffin and right beneath the waist of the body buried). The bells were scattered on the side of the drum. The bronze drum and bells were obviously a set of ritual instruments used by the tomb owner earlier. In the M6 tomb of the Jinning Mountain in Yunnan, a pair of bronze drums and a sheep-horn knob bell were found together.

REFLECTIONS UPON THE CIRCULATION OF MUSICAL INSTRUMENTS ON THE HUASHAN ROCK ARTS

There are in total four types of pictographs on the Huanshan rock arts that could be regarded as representations of musical instruments, respectively sheep-horn knob bell, bronze drum, fine knob bell and bell with a clapper. On the rock arts, these instruments are distributed among the dancing crowd. Although the sheep-horn knob bell and the bronze drum often appear in pairs, the latter is in fact far more enduring in terms of its circulation throughout different historical periods. As is known, sheep-horn knob bells have been unearthed in the tombs after the Western Han Dynasty but not necessarily in use, while bronze drums are still popular in the Lingnan region nowadays. Meanwhile, the Luoyue were one of the earliest peoples to craft and use bronze drums. As early as the Spring and Autumn and the period of the Warring States, Luoyue craftsmen began to make bronze drums. From the Eastern Han Dynasty to the Sui and Tang Dynasties, the craftsmanship of bronze drum reached its heyday by the efforts of Luoyue descendants, Wuhu, Li and Lao. The bronze drums at this time were not only large in number and in shape, but it also possessed exquisite and complex patterns that suggested state-of-the-arts craftsmanship.

The Luoyue and their descendants, the Zhuang people, have always been advocating the traditions and customs of bronze drum. In their social life, the bronze drum has been the sacred, noble and cherished objects, and are often used to order gatherings, sacrifices, and entertainment. In popular conceptions, the bronze drum is a symbol of authority, status, and sacredness, which also has the spirituality to communicate with celestial beings. As suggested in *Geography records of Sui Dynasty*, "The drummer is the reverent leader who is respected and honoured by the people". Therefore, the customs of upholding and honouring the bronze drum has been passed down in history. Until now, a large number of bronze drums are still preserved by the Zhuang, and many legendary stories about them are circulating in these areas. According to investigations, in Donglan, Nandan, Tian'e, Fengshan and other counties in Hechi City of the Hongshui River Basin, there are as many as 1.600 bronze drums in collection, the area being the one with the most preserved bronze drum both home and abroad. Along the Hongshui River, generally every village has a set of bronze drums, mostly a total of four consisting of two female and two male drums.

With the successful restoration of bronze drum craftsmanship, the number of privately owned bronze drums has continued to increase (Qin Cailuan [覃彩銓] et al. 2015: 406). Nonetheless, the bronze drum is a sacred instrument moulded and practiced by the Luoyue people and their ancestors. It possesses a lofty status in the social life and ideology of the people who regarded it as the most important tool to communicate with their Gods. In contrast, among the early unearthed cultural relics, those drums were usually accompanied by sheep-horn knob bells whose pictographs also appear in sacrificial scenes on the Huashan rock arts. Why do the two most valued Luoyue musical instruments have rather different development paths? What are the reasons for the disappearance of the sheep-horn knob bells in later historical periods?

As a manifestation of the bronze culture of the Luoyue people, the development trajectory of the sheep-horn knob bell ran parallel with the ups and downs of the bronze culture in the Central Plains of China. After the Han Dynasty, the importance of chime bells declined, so did the bells that circulated in the Lingnan region. Taiwan scholars Zhu Wenwei and Lv Qichang (1994) attributed the decline of the pre-Qin musical bell to three factors: the collapse of the Qin Dynasty, the change in musical traits, and Emperor Ai's deposing of Yuefu, a government office in the Han Dynasty for collecting folk songs and ballads. Meanwhile, Chen Quanyou (2005: 142) believes that the decline of the tile-shaped musical bells had begun since the middle of the Warring States period. The phenomenon surfacing during the Qin and Han dynasties was just a

remnant. The reasons of this decline lied in the intrinsic change and update of music culture, the transforming characterises of the rite system, and the infiltration and dissemination of exotic cultures. These are the internal causes of the decline. Yet, the collapse of the Qin Dynasty, changes in musical traits, and the Emperor Ai's deposing of Yuefu can only be attributed as external factors, which contributed to the decline of the tile-shaped musical bells.

The reasons for the decline of the sheep-horn knob bell also somehow run parallel to the decline of bronze instruments in general, for instance, chime bells. After the first unification of China in the Qin Dynasty, the emperor began to implement political and cultural management of the barbaric land in the southwest, disintegrating the forces of the southwest, incorporating local powers, and depriving the status of leaders. Consequently, the ceremonial instruments exclusively dedicated to the nobles also declined, with the sheep-horn knob bell gradually abandoned. Under such a social background, however, the bronze drum has co-evolved with the transformation of its shape and functions. It has developed from the smaller Shizhaishan-type to the larger Beiliu- and Lingshan-types. At the same time, the drum has also been developed to adopt the function as a musical instrument that constantly adapted to new social concepts that secularizes the drum to align with people's requirements for a/the secular music culture. Moreover, after the Han Dynasty, the bronze drum became not only a ceremonial instrument for and as a symbol of the wealthy, but also an artefact for communication between human beings and Gods, and a musical instrument for dance and entertainment. Its three-fold functionality allows it a continuous growth. In comparison, the sheep-horn knob bell as a ceremonial musical instrument has a relatively smaller body and a less salient sound volume, which would be easily covered when it is played with loud-volumed instruments. If played as a separate instrument for singing and dancing accompaniment, the sound quality is mediocre, and not competent enough for the role of a solo instrument. For these reasons, the sheep-horn knob bell could not meet the requirements as the bronze drum once could. Besides, it could not be compared with the complex and exquisite bronze drum due to its relatively mediocre artisanship and techniques, hence, gradually losing its function as a ceremonial vessel. In addition, its lack of solemn and dignified temperament deems it unqualified as a sacred artefact for communicating with gods. To sum up, the constant weakening of its functions as ceremonial and musical instruments, and its unsuitability as a sacred artefact, make it 'a withered flower of yesterday' – no longer of significant interest when it comes to the continuous development of the Luoyue's splendid music history.

REFERENCES

- Chen Hanliu [陈汉流]. 1961. The Meaning of Linguistic Signs on Huashan Rock Arts. *Guangxi Daily*, 8 September.
- Chen Quanyou [陈荃有]. 2005. *Research on Chinese Bronze Musical Instruments*. Shanghai: Shanghai Conservatory of Music Press.
- China Encyclopedia – Archaeology*. 1986. Beijing: China Encyclopedia Publishing House.
- China National Cultural Heritage Administration. 2016. Zuojiang Huashan Rock Arts Cultural Landscape - World Cultural Heritage Zuojiang Huashan Rock Arts Cultural Landscape (declaration form, UNESCO list).
- Dai Yan [傩艳]. 1988. Bronze sheep-horn knob bells unearthed in Dongzhai, Gongcheng County. *Guangxi Cultural Relics*, 1: 11-16.
- Guangxi Cultural Relics Preservation Team [广西文物工作队]. 1978. Bronze Drums in Tombs in Putuo, Xilin County, Guangxi. *Cultural Relics*, 9: 12-35.
- Huang Zengqing [黄增庆]. 1957. On the Ancient Rock Arts and Their Historical Periods, *Guangxi Daily*, 9 March.
- Jiang Tingyu [蒋廷瑜]. 1989. Complementary study of sheep-horn knob bells. *Guangxi Ethnic Studies*, 4: 12-31.
- Jiang Tingyu [蒋廷瑜]. 2001. Sheep-horn Knob Bronze Bells. *Forbidden City Culture (Taiwan)*, 2: 27-23.
- Jiang Tingyu [蒋廷瑜] and Peng Shuling [彭书琳] 2014. Overview of Musical Relics Found by Archaeology in Guangxi. *Collected Works of Guangxi Museum*, 1: 35-39.
- Liang Renbao [梁任葆]. 1957. A Preliminary Study of Huashan Rock Arts. 3rd edition. *Guangxi Daily*, 10 February.
- Ling Zui [岭锥]. 1986. Summary of Meeting for Field Study and Academic Discussion on Rock Arts in Zuojiang River Basin. *Guangxi Ethnic Studies*, 1: 16-17.
- Liu Jian [刘建] and Zhang Bin [张斌]. 2007. Religious Dance on Cliff Paintings: Report on Huashan Rock Arts in Guangxi. *Journal of Beijing Dance Academy*, 3: 21-24.
- Pang Zanwu [庞攢武], Li Shihong [李世红] and Gong Dechun [龚德纯]. 1985. Acoustic Characteristics of Pubei Sheep-horn Knob Bell. *Thesis of the First National Laboratory Archaeology Symposium*.
- Qin Cailuan [覃彩銮], Yu Ruyu [喻如玉] and Qin Shengmin [覃圣敏]. 1992. *Exploring Zuojiang Cliff Rock Art*. Nanning: Guangxi People's Publishing House.
- Qin Cailuan [覃彩銮] et al. 2015. Research on the Connotation and Uniqueness of Music and Dance on Guangxi Huashan Rock Arts. *Zuojiang Huashan Rock Arts Research Report Collection (Part 1)*. Edited by Cultural Department of Guangxi Zhuang Autonomous Region, Cultural Relics Bureau of Guangxi Zhuang Autonomous Region Nanning: Guangxi Science and Technology Press.
- Qin Shengmin [覃圣敏], Qin Cailuan [覃彩銮] and Lu Minfei [卢敏飞]. 1987. *Investigation and Research of Cliff Paintings in the Zuojiang River Basin in Guangxi*. Nanning: Guangxi Nationalities Publishing House.
- Qin Shengmin [覃圣敏] et al. 1987. Investigation and research of cliff paintings in the Zuojiang River basin in Guangxi. Nanning: Guangxi Nationalities Publishing House.
- Qiu Zhonglun [邱钟仑] 1996. Re-examination of Zuojiang Rock Arts Portraits in Guangxi. *Journal of Yunnan University for Nationalities: Philosophy and Social Sciences Edition*, 4: 18-25.
- Wang Kerong [王克荣], Qiu Zhonglun [邱钟仑] and Chen Yuanzhang [陈远]. 1988. *Guangxi Zuojiang Rock Arts*. Beijing: Cultural Relics Publishing House.
- Wang Kerong [王克荣]. 1986. Ancient Music and Dance in South China: Ancient Bronze Drums in the South and Music and Dance Images on Zuojiangya Rock Arts. *National Art*, 2: 23-29.
- Wu Zhao [吴钊]. 1988. Pitch Measurement and Related Issues of Bronze Musical Instruments in Tomb 1 in Luobowan Bay, Guixian County. *Appendix II of Han Tomb of Luobowan, Guixian County, Guangxi*. Beijing: Cultural Relics Press.

- Wu Zhao [吴钊]. 1987. Pitch Measurement and Related Issues of Bronze Musical Instrument of M1 Tomb in Luobowan Bay, Gui County, Guangxi. *Chinese Musicology*, 4: 72-83.
- Wu Zhao [吴钊] et al. 1986. Preliminary Study on the Tuning System of Wanjiaba and Shizhaishan Bronze Drums. *Proceedings of the Second Academic Symposium of China Bronze Drum Research Association*. Beijing: Cultural Relics Press: 56-57.
- Zhang Liqun [张利群] and Zhang Yi [张逸]. 2011. Anthropological Value and Significance of Huashan Cliff Rock Arts. *Journal of Xihua University: Philosophy and Social Sciences Edition*, 2: 13-17.
- Zhihong Shi. 2018. Agricultural Development in Qing China: A Quantitative Study, 1661-1911. Leiden: Brill.
- Zhu Wenwei [朱文玮] and Ly Qichang [吕琪昌]. 1994. *A Study of Music Bells in the Pre-Qin Eras*. Taiwan: Taipei Nantian Bookstore.
- Zhu Wenwei and Lu Qichang. 1994. *A Study of Music Bells in the Pre-Qin Eras*, Taiwan: Taipei Nantian Bookstore: 146-148.