ICOMOS

Rock Art in East Asia

A Thematic Study

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Edited by
Jean Clottes and Benjamin Smith

문화재청
Cultural Heritage Administration

International Council on Monuments and Sites
11 rue du Séminaire de Conflans
94220 Charenton-le-Pont
France

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Director of the *Thematic Studies* collection: Regina Durighello
Editors: Jean Clottes, Benjamin Smith
Layout: Maria Gobbi
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Table of contents

Acknowledgements

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Introduction

This is the fourth volume in the ICOMOS series on the Thematic Studies on Rock Art. The three previous volumes have focused upon: Latin America and the Caribbean (2006); Rock Art of Sahara and North Africa (2007) and Rock Art in Central Asia (edited by Jean Clottes, 2011).

The idea behind the series was to provide an overall yet relatively precise view of what is known about the rock art of a wide geographical area. In the regions fortunate enough to have had a long tradition of research, in Western Europe for instance, this should not be too difficult. On the other hand, the situation is quite different in many parts of the world where such in-depth research has not (yet) taken place.

Many of the vast areas covered in this volume fall into this second category. The scope of the current volume is the Rock Art of East Asia, from Siberia in the north to Malaysia in the south and stretching as far west as needed to cover all regions lying to the east of the previous volume in this series that concerned the Rock Art of Central Asia. The countries covered by this volume are Far Eastern Russia, the Republic of Korea; Japan; Mongolia; China; Vietnam; Laos; Cambodia; Thailand and Malaysia.

The coverage of the individual countries covered in the volume is necessarily uneven because the amount of rock art and research in each country varies considerably. China, for example, has been subdivided into three different zones. This has allowed the authors to provide a wealth of details on the rock art of regions which up to now were all but unknown internationally.

ICOMOS provided each contributor with a Brief in which they were asked to cover the following topics:

Profile of Sub-Zone

Based on defined rock art traditions in relation to distribution in space and time and to archaeological context.

- Characteristic features of natural landscape and the geographical boundaries of the Sub-zone;
- Prevailing types of landscapes which are characteristic for rock art sites in this Sub-zone; types of bedrock for rock art;
- Number and extent of rock art sites in this Sub-zone;
- Dating of rock art objects;
- Rock art traditions identified;
- Archaeological context of the Sub-zone (brief description, state of knowledge on archaeological cultures relevant to the identified rock art traditions);
- Present ethno-cultural context of rock art sites; presence or absence of recorded traditions of respect and worship connected to the rock art sites.

Links with other Sub-zones

i.e. overlaps with rock art traditions in other zones.

- Extent, to which the identified rock art traditions go beyond the boundaries of this sub-zone;
- Similarities and differences in landscapes and bedrock types;
- Representativeness of these identified rock art traditions for the other sub-zones (number of images, repertoire, artistic features, similarity or exclusiveness).

Known sites

Including cultural and natural World Heritage Sites; sites on World Heritage Tentative Lists (all these already identified and listed by ICOMOS).

Significant Rock Art Sites

To include a description of each Site:

- Location (region, district, distance from the nearest villages and towns);
- Geographical area, coordinates and altitude;
- Main types of bedrock (type of rock, relief, physical qualities of surfaces);
- Characteristics of physical parameters of images (technique, dimensions, color of patina or paint, exposition);
- Total number of images;
- Area of distribution of images;
- Description of various rock art traditions identified within the site (techniques, repertoire, style), their dating and percentage;
- Archaeological context (other known archaeological objects found within the same territory, state of research and cultural-chronological attribution);
- Cultural context (absence or presence of any recorded traditions related to rock art performance and/or respect to rock art sites from the side of local communities).

Content and forms of Documentation available:

For instance:

- Archaeological maps (showing the location of rock art and other objects);
- Other special maps (geological, geo-morphological, tectonic, landscape, etc.);
- Topographic maps of separate localities of rock images;
- Indexed panoramas of separate localities of rock images (graphic and photographic);

- Photographs of individual surfaces with images;
- Rubbings of individual surfaces with images;
- Other types of documentation (aerial photos, video, 3D digital models, etc.);
- Types of inventory records;
- Location of documentation.

Research

How far have rock art sites been researched for their associations to societies both past and present, particularly significances which indigenous populations give (or have given) to the decorated sites.

Protection

- Existing laws and other official protection systems and mechanisms;
- Legal protection, protection zoning, safeguarding.

Conservation

As complete and as correct a picture as possible to include:

- Present state of conservation and affecting factors (rock art and other archaeological objects, and landscape);
- Methods and materials used in practical conservation;
- Preventative conservation methods.

Management:

To include:

- Management, maintenance, monitoring (including traditional forms of management and management of natural values);
- Main agencies involved in management;
- Whether Management plans exist;
- Links with, and involvement of, local communities;
- Modern use of the site (e.g. agriculture, pasture, hunting, recreation, etc.);
- Tourism and access;
- Limitations in resources.

Main threats

For instance:

- Changes to surrounding vegetation;
- Rock fissures/laminations/water ingress;
- Climate change;
- Limitations in funding;

- Lack of management;
- Inappropriate uses.

Conclusions for the Sub-zone

Conclusions on:

- Scope and extent of evidence;
- Documentation;
- Problems with management and conservation as well as good practice;
- Threats;
- What Pre-Nomination support might be needed;
- Potential of Zone to contribute sites to the World Heritage List;
- Recommendations for the future.

These recommendations are meant to cover all possible issues and to be useful for the contributors who are thus provided with a detailed framework. Not surprisingly, conservation problems are duly stressed, as rock art is vulnerable and more threatened than ever all over the world.

XXX

Before our work was completed we were astounded and deeply pained to be informed of the untimely demise of our colleague Ekaterina Devlet. She had sent us her contribution which we are publishing as it stands. This new volume in the series is dedicated to her memory.

Jean Clottes

Benjamin Smith

1. Rock Art in Korea, Far Eastern Russia and Japan

Rock Art in Korea

Seog Ho Jang
Northeast Asian History Foundation

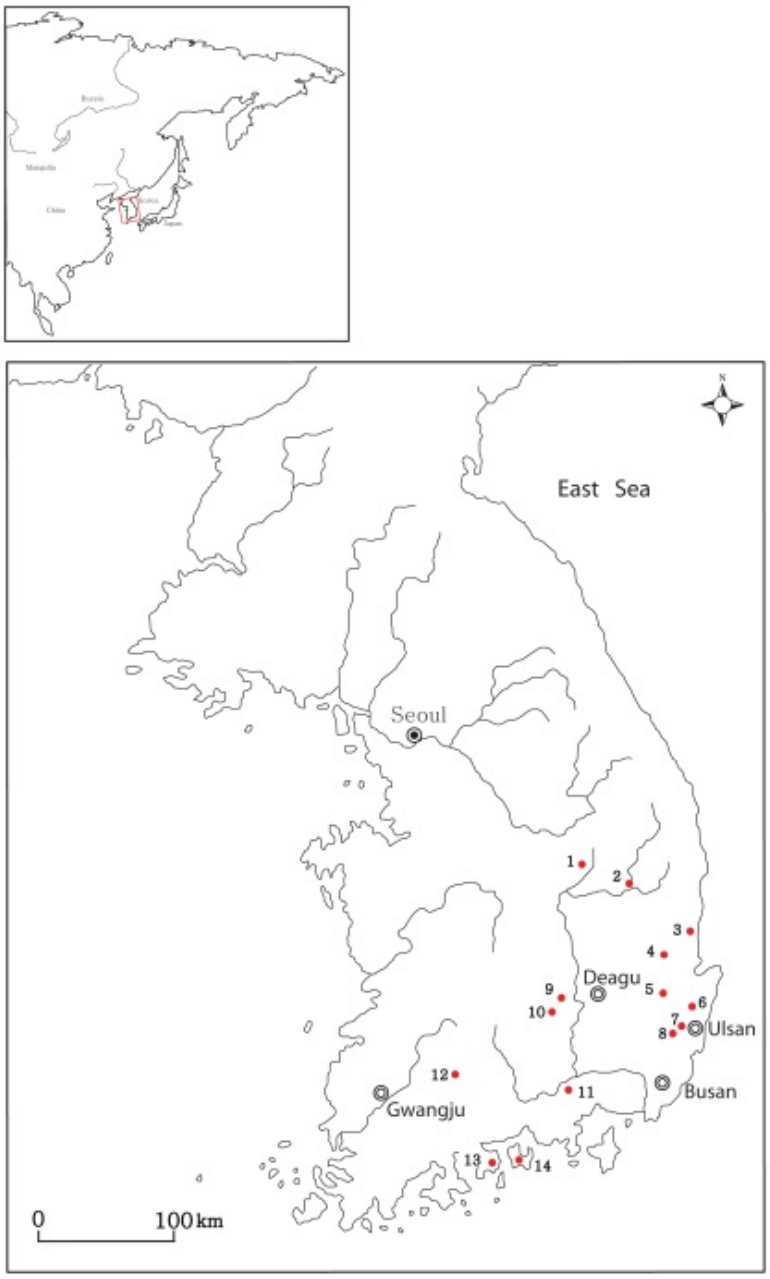

Figure 1. Maps of Rock Art Sites in Korea
©Seog Ho Jang

1.Gaheung-dong, Yeongju, 2.Sugok-ri Andong, 3.Chilpo-ri, Pohang, 4.Inbi-ri Gigye-myeon, 5.Boseong-ri Yeongcheon, 6.Seokjang-dong, Gyeongju 7.Cheonjeon-ri Ulju, 8.Daegok-ri Ulju, 9.Janggi-ri Goryeong, 10.Ahnhwa-ri Goryeong, 11.Dohang-ri, Haman, 12.Daegok-ri Namwon, 13.Orim-dong Yeosu, 14.Yanga-ri Namhae.

1. Introduction

On December 25 1970, some rock art was discovered in South Korea for the first time in its history. At that time, Dongguk University Buddhist Relics Excavation Team (Headed by Moon MyungDae) was searching for the ancient Silla temple site called Bangosa(B.C 57~A.D 935) at Bangudae Daegok-ri, Ulju District of Ulsan city. After receiving some information from a local resident, the team located the Cheonjeon-ri rock engravings[1]. Since then, rock engravings have been found at 19 different places across South Korea including stone tablets with rock art engravings from 6 burial sites.

2. Discoveries and Distribution

2-1. Discoveries

The discovery of the Cheonjeon-ri rock engravings received full media coverage on January 1 1971. Shortly after this media coverage, the Yeungnam University Museum (Lee Eun Chang) also received a report from a local resident that similar rock art existed at Janggi-ri Daegayaeup, Goryeong District, North Gyeongsang province. After making a visit to this site, Yeungnam University Museum confirmed the existence of the Janggi-ri rock engravings in January 1971. In December of the same year, Kim Jeong Bae, Moon Myung Dae, Lee Yung Jo were at the Cheonjeon-ri rock art site exploring the periphery of Daegokcheon stream and discovered the Daegok-ri rock engravings situated in Unyang, Ulju District of Ulsan City. In 1984, Gyeongju National Museum (Lee Gun Mo) was carrying out archaeological field research at Walsung district of North Gyeongsang province, and discovered a piece of rock art carved on the surface of a dolmen standing in the middle of a rice field at Inbi-ri Village. This finding became a catalyst for new surveys at the end of the 1980s, resulting in the discovery of many rock engravings in the southeastern part of the Korean peninsula.

The rock art sites discovered from the 1980s to 2000s include: Gaheung-dong, Yeongju of North Gyeongsang province (Park Heunguk), Chilpo-ri, Pohang (Pohangjecheol), Orim-dong Yeosu (Cheonam National University Museum) in 1989; Sugok-ri Andong (Lee Jin gu, Kim Young Sik), Daegok-ri Namwon (Kim Kwang, Jang Myung Su), Dohang-ri, Haman (Changwon Cultural Heritage Research Institute) in 1991; Boseong-ri Yeongcheon (Song Hwa Sup) and Ahnhwa-ri Goryeong (Choi Gang Sik) in 1993; Seokjang-dong, Gyeongju (Kim Gil Woong) in 1994; Ansim-ri, Gyeongju (Silla Culture and literary coterie) in 1995; Jinchoen-dong, Daegu(Kyungpuk National University Museum) Gwangryeong-ri Aewol, Jeju island (Jeju Foundation for Arts and Culture) in 2004; Cheonnae-ri, Daegu (Lee Ha woo) in 2007; Bongpyeong-ri Goryeong (Daegaya Museum) in 2009; Ungok-dong, Naju (Mahan Culture Research Center) in 2009. As of now, a total of 19 rock art sites have been discovered.

Furthermore, in 1994, a piece of rock engraving was found on the surface of an ancient tombstone at Jisan-dong, Goryeong-gun (Yeongnam Buried Cultural property Research Institute). An image of a concentric circle was also found on a stone block of an ancient tomb at Bokcheon-dong,

[1] Soo Young Hwang and Myong Dae Moon., Bangudae Rock Art, Seoul, Dongguk University Museum, 1984.

Gobun-gun, Busan in 1994 (Busan City Museum). In 1995, an image of a sword (or spear) was found on a triangular shaped stone tablet excavated from the Bronze age settlement site situated in Bonchon-ri, Sacehon (Gyeonsang National University Museum), while in 2002, 2003, and 2010, whetstones and stone blocks carved with images of concentric circles were found in Salnae and Shinan of Miryang and Uiryeong during the excavation process of ancient settlements and tombs (Gyeongnam Development Institute).

2-2. Distribution

South Korea's northern rock engravings are mostly concentrated in Gaheung-dong of the Yeongju region. There are also sites in North Korea at Jicho-ri Musan in South Hamgyeong province.[2] In the south, a number of rock engravings are found in Daegok-ri of the Namwon region. Other rock engravings are concentrated in the southeastern part of the country in the Chilpo-ri region, on Jeju Island and at Naju in south Jeolla province. Rock engravings are still being discovered in Korea and the chances of finding new rock art remains high.

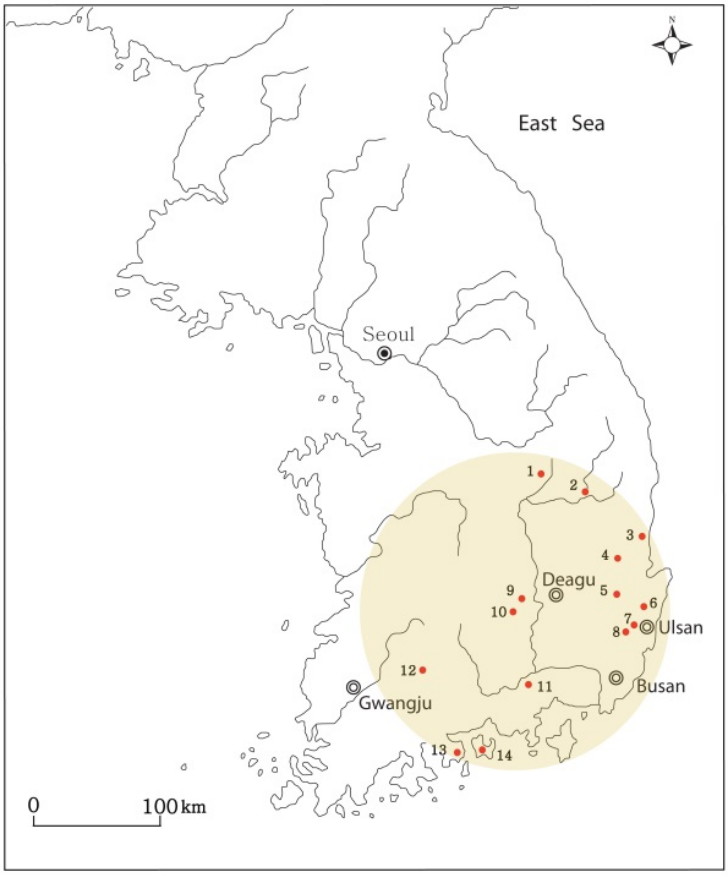

Figure 2. Geological Distribution of Rock Art in Korea
©Seog Ho Jang

[2] Kuk-Tae Seo, 'The Rock Mural in Jicho-ri, Musan-gun, Hamgyeonbuk-do, Rock engravings of the World: Their Interpretation and Preservation', Seoul, Northeast Asian History Foundation, 2010, pp. 112 – 117.

Most of the rock engravings in Korea are found on three different types of surfaces: rocks located near brooks or in valleys at the end of a mountain range; on the rocks located along a mountain ridge; on a dolmen standing in open terrain. Two of these are on natural rocks (shale or hornfels) while the last is on Bronze Age buildings (shale or granite). The first type of rock engravings can be seen at Cheonjeon-ri, Janggi-ri, Ansim-ri, Bongpyong-ri, Gaheung-dong, Seokjang-dong, and Daegok-ri. The second type of rock engravings is found in the regions of Namhae Yanga-ri and Sugok-ri. The last type of rock engravings is found in the Inbi-ri Village, Chilpo-ri, Ansim-ri, Dohang-ri, and Orim-dong.

The rock engravings of Daegok-ri, Gaheung-dong, and Seokjang-dong are located in isolated mountain-top areas. In general, the images are carved on rock surfaces on the southeastern side of the mountain. The visibility of images changes depending on the position of the sun and the angle of light. In addition, it is notable that the Daegok-ri and Cheonjeon-ri rock art sites seem to trap and amplify sounds. Except for dolmens, most of the rock art sites are located at the outskirts of villages, thus not easily seen or reached by people.

3. Classification and Major Type of Rock Art

3-1. Classification

Rock paintings have not yet been discovered in South Korea. All of the art so far identified is engraved and made by pecking, grinding and incision. Some images used only pecking, some used fine-line incision, while others used both pecking and grinding methods. A few rock engravings used all three methods. Some researchers have claimed that these methods evolved throughout time starting with pecking (Bronze Age) and shifting to grinding and then incision (Iron Age).[3] However, the use of multiple methods at some sites makes it more likely that prehistoric artists used different methods in accordance to different intentions and needs.

The rock art in South Korea can be divided into three different types on the basis of the choice of motifs and the forms of expression. The first type is dominated by images of nature. Daegok-ri provides examples of this type. The second type is composed of geometrical images and an example is Cheonjeon-ri. Finally, the third type is the coat-of arms-symbols found in Janggi-ri, Ahnhwa-ri, Chilpo-ri, Daegok-ri, Seokjang-dong, and Ansim-ri sites.

[3] Yong Hun. Hwang, 'The technique of rock engraving in the pre-historic period on the Korean peninsula and the classification of its form', Korean Journal of Art History vol. 127,1975, pp. 2-13.

3-2 Major Types and Contents of Rock Art

3-2-1. Images of Nature: Daegok-ri rock engravings

Daegok-ri is the largest rock art site found in the Korean peninsula. The rock engravings are carved on a siltstone surface, a type of sedimentary rock. Most of the images are carved into the surface of a single large vertical rock that reaches up to 4 meters high and is 8 meters wide. The rock engravings stretch onto neighboring rocks both on the left and on the right, creating a total site length of about 30 meters.

Figure 3. Daegok-ri Rock engravings
©Seog Ho Jang

A total of 257 images have been found, including 200 images carved onto the main rock surface. Among these images, 16 figures of human, (excluding sailors on ship) have been found. The depicted images of humans include 2 magicians, 2 whalers, 2 faces and 2 men using blowguns. 77 depictions of marine animals were found: they include 63 whales, 6 turtles, 2 penguins and 2 seals. In addition, a total of 95 figures of land animals were found: 44 deer, 23 tigers and 18 wild boars. Images of tools and equipment include: 10 ships, 2 fishing nets, 1 harpoon, 5 floating devices and 17 fishing tools.

Whales are the most frequently used motif in the Daegok-ri rock art site, making up about one quater of the total rock art images. In addition, the images of whales are usually accompanied by figures of ship, fishing net, harpoon, floating devices, whalers, implying that whale is the major theme of the rock art. By analyzing the details of 63 images of whales, such as water vapor coming out from their blow hole, the shape of their head and mouth, chest, back, tail fin, pattern on belly, 11 species of whales were identified in the Daegok-ri site.

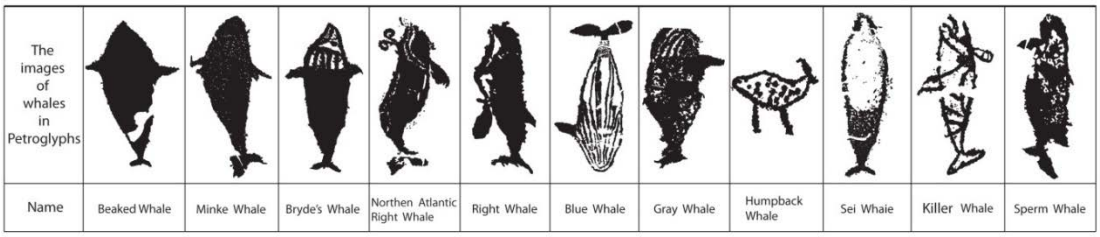

Figure 4. Various Species of Whales
©Seog Ho Jang

In particular, were found whaling scenes such as: dragging of a whale by boat; two men positioned in the nose of different ships and throwing harpoons at a whale; man chasing after a whale; a whale embedded with harpoon; a mother whale and her young; a whale with fish on top of its body; a whale swimming with a penguin; and a whale's body carved with sharp lines. Other marine animals such as turtles, sharks and seals were also identified, implying that the creators of this rock art were seafarers.

Two human images are notable. One shows a person in profile, with bent knees, and putting his hands together as if he is praying. The second shows a person spreading their body with exaggerated fingers and toes. Both figures were found at the periphery of the rock. These images correspond with the prehistoric artists' depictions of magicians or shamans. Another interesting characteristic of this rock art is the 23 images of tigers. One of the tigers has a lifeline on its body.

A superimposition analysis of the panel has shown that the figures were drawn over a considerable period of time. In some places the images show up to four layers of superpositioning. The images that were engraved first are whaling scenes and images of land animals were carved some time later.

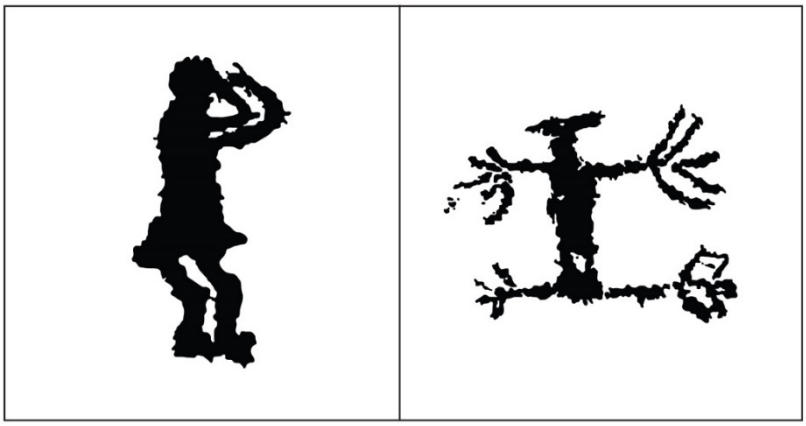

Figure 5. Depictions of Human figures
©Seog Ho Jang

3-2-2. Images of Geometric Shapes: Cheonjeon-ri rock engravings

Geometric shapes are carved on the surface of a rectangular shaped purple shale rock. Its size is 2.8 meters high and 9.8 meters long. This rock overhangs by about 15 degrees at the front thus creating a natural rock shelter. The rock engravings stretch to its neighboring rocks making the total length of the rock art in Cheonjeon-ri about 20 meters. The major motifs include geometrical shapes such as diamonds, concentric circles, and zigzags. Some figures stand independently while others are superimposed creating continuous patterns in vertical or horizontal lines. Sometimes they combine with different shapes to make more complex patterns.

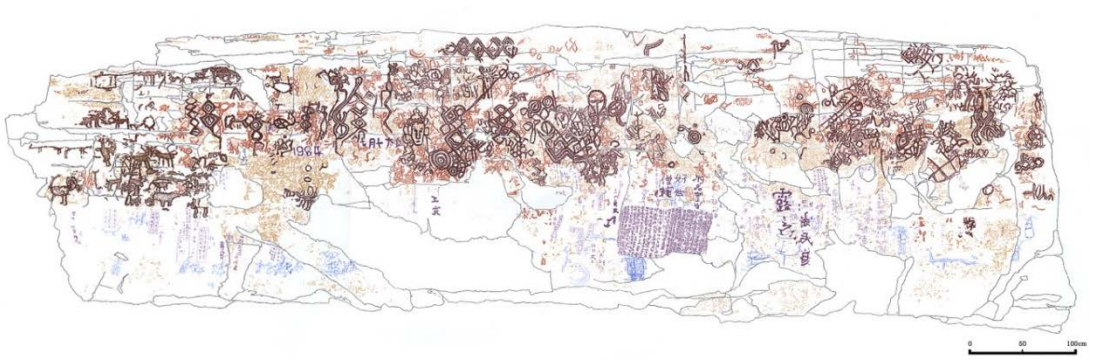

Figure 6. Cheonjeon-ri Rock engravings
©Seog Ho Jang

At the bottom of the rock, images of dragon, men, a cavalcade and Chinese inscriptions (First inscription 原銘-year 525 and Second inscription 追銘- year 539) are jumbled together. Some of the line drawings were intentionally ground smooth in order to create a smooth canvas for inscriptions. This implies that the line drawings were carved before the inscriptions. In addition, one can find the names of monks and Hwarang (6th century male youth group) from the Silla dynasty between the line engravings and inscriptions. Three layers of superpositioning have been recorded at Cheonjeon-ri.

The discoverer of the rock art site, Moon Myung Dae, made copies of these images and analyzed them carefully. As a result, he came to a conclusion that the images reflecting nature were made first, then they were followed by the geometric shapes, and lastly by line drawings and letters. Moon's claims have been generally accepted by most South Korean researchers. However, on inspecting the rock art site closely, I noticed that some images depicting nature, for example deer, are actually transformed geometric shape.[4] The chronology of the site has therefore become controversial.

[4] Seog Ho Jang et al, Survey Report on National Treasure No.147 Cheonjeon-ri Square Stone, Ulsan, Korea's Prehistoric Art Research Center, 2003, p.1.

Figure 7. Damaged Part in Cheonjeon-ri Rock engravings
©Seog Ho Jang

Perhaps because the geometric images are more difficult to interpret, there has been less research carried out at this site than at Daegok-ri. Rather than paying attention to the geometric shapes, scholars have focused more on the inscriptions found in the bottom part of the panel. Detailed research has been conducted into the meaning of the epigraphs and into historical facts regarding the royal families members of the Silla dynasty. Research has explored their succession to the throne and the historic reasons for their visits to this area.[5]

The Cheonjeon-ri rock art site is located 2 km upstream of the Daegokcheon River that also flows to Daegok-ri but the engravings at the two sites are distinctly different. By studying them, one can compare different ways of thinking, different types of cultural transmission, and changes in engraving techniques through time. Research into the meaning and motivation behind these rock art sites is still in its infancy.

[5] Woo Tae Lee, 'Re-evaluation of Ulsan Cheonjeon-ri Original Epigraph', Kuksagwan Nonch'ong No. 78, 1997.

3-2-3. Images of Coat-of-arms: Janggi-ri rock engravings

'Coat-of-arms' refers to the major rock art motif found in the Janggi-ri (Yangjeon-dong) region. These are images of modified rectangles, slightly broader at the top than the base. Inside the rectangles are inverted triangles or U-shaped drawings. The rectangle is divided into two or three columns, and within the columns, symmetrical dots are carved. Short lines radiate outwards from selected sides of the rectangles.

Figure 8. Yangjeon-dong Style Rock Art
©Seog Ho Jang

This type of rock art was first found in 1984 at Inbi-ri. Similar relics have since been found in Gaheung-dong, Chilpo-ri, Orim-dong, Daegok-ri, Boseong-ri, Ahnhwa-ri, Seokjang-dong and Ansim-ri. Some researchers have named this rock art "Korean style rock art" or "Yangjeondong Rock Art," since it is absent from neighboring countries, such as China, Russia and Japan.

Although the images share comparable iconography, the shape of the rectangles and their inner parts are all slightly different. The original researcher of the Janggi-ri rock engravings, Lee Eun Chang, claimed that these images portrayed 'masks,' based on the fact that they resemble images of masks found in the Sikachi Alyan region in the vicinity of the Amur river, In-shan and Ordos of Mongolia.[6] However, Lee's claim have started to lose support as other scholars have put forward alternative explanations.

[6] Eun Chang Lee, 'Short Report on Goryeong Yangjeon-dong Rock Art', Korean Journal of Art History vol. 112, 19 71, pp. 25-40.

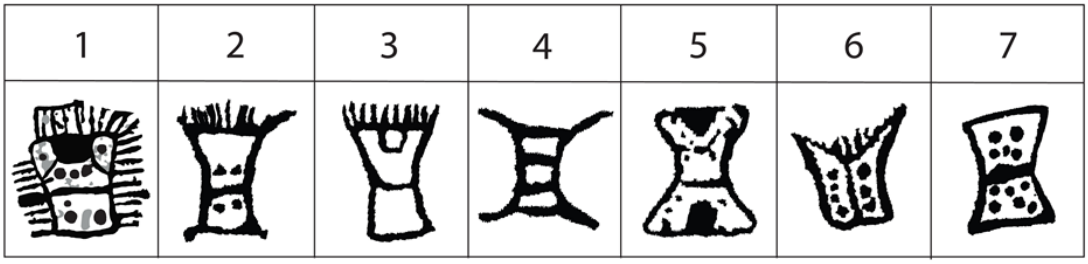

Figure 9. Modification of Yangjeon-dong Style Rock Art
©Seog Ho Jang

1.Janggi-ri Goryeong, 2.Boseong-ri Yeongcheon, 3.Ahnhwa-ri Goryeong, 4.Gaheung-dong, Yeongju, 5.Chilpo-ri, Pohang 6.Daegok-ri Namwon, 7.Seokjang-ri, Gyeongju.

Some researchers have argued that these images are the depictions of a shield, reflecting their creator's intention to defend his tribe in wartime. Some have argued that they portray stone daggers because of their resemblance to dagger handles. Others have claimed that the images are religious signs, pointing out that similar patterns can be found on shamans' accessories. Finally, it has been claimed that the images reflect the sacred part of the human body. My point of view is that we need to focus on the fact that a structural similarity exists among these rock engravings despite their minor differences. Furthermore, I note the fact that their distribution areas correspond closely with the territory of the historical 'Silla' dynasty. This suggests to me that these could be the symbolic coat-of-arms belonging to the native force that established the Silla dynasty.[7]

4. New Directions and Preservation of Rock Art

4-1. New Directions

As mentioned earlier, Moon Myung Dae, the founder of rock art research in Korea, was a researcher of Buddhist studies who was searching for the ruins of ancient temples. When he encountered Cheonjeon-ri rock art, Korean academia did not know its significance. Instead of paying attention to the rock art, researchers paid more importance to the Chinese inscriptions. This was why the site was termed the "Rock writings"[8]글씨바위) instead of "rock art".

One year later, Moon initiated a research project by taking photographs, making rubbings of the rock art and undertaking image analysis. However, it is important to note that the Daegok-ri rock

[7] Seog Ho Jang, 'Comparisons and researches between Facial shapes of rock engravings in Inner Mongolia and main icons of the "Yangjeun-dong"-Style rock engravings in South Korea', Dongguk Historical Studies, vol. 53, 2012, pp. 353~391.

[8] In this case, the Korean expression, 'Geul Si Bawi (rock writing) was used. This was to recognize rock images as 'writings' which contain certain meanings. Similar examples can be found in Russian word pisanitcha (gerund of pisat ('write') and Chinese word 書畵同體論.(To consider art and writing having same origin).

art was discovered when the Sayeon Dam was still supplying fresh water to Ulsan city. This dam was built from 1965 to 1968 3 km downstream of the site along the Daegokcheon River and it caused the flooding of the site. For this reason, Moon could not properly investigate his finds, except for taking rubbings.

Lee Eun Chang, a researcher at Yeungnam University Museum, analyzed the Janggi-ri rock carvings while carrying out an archaeological excavation project in the surrounding area. However, he could not find any connection between the excavated relics and the rock art images. Although he discovered a rock engraving carved on the surface of a dolmen standing in the Inbi-ri village, he could not apply any of his archaeological findings to the rock art studies.

The year 2000 saw a change in the direction of Korean rock art research. An active attempt was made to find a connection between excavated relics and rock art images. For example, the images of deer and fishing net were found in the Neolithic Dongsam-dong Shell Midden site. In the meantime the images of bore, woman torso, wooden boat, paddle and whale bones stuck with harpoon tip[9] were found from other Neolithic shell Midden sites. By studying these images, it became possible to find a relationship between the Neolithic culture and the Daegok-ri rock engravings. As a result, it was argued that the rock art was created before mid-Neolithic times.[10] A more detailed chronological study of rock art will be important in future research.

Figure 10. Whale bones stuck with Harpoon tip
©Hong Jin Geun, Director General of Daegu National Museum

[9] Eun Hee Choi, Sanghyun Kim, Gyeung Hee Ma, 'The images of deer and fishing net carved on the surfaces of p ottery found in the Ulsan Hwangseong-dong Neolithic site', Neolithic Relics found in Ulsan Hwangseong-dong, Ul san, the Korea Archeology & Art History Research Institute, 2012, pp 397.

[10] Seog Ho Jang, The Magical Power of Images – Figurative Art from Ulsan Daegok-ri Rock engravings, Seoul, Y eoksa Gongaan, 2017, pp. 293-318.

4-2. Preservation of Rock Art

Until the early 1990s, shamans and local residents secretly performed Gut (exorcism) near rock art sites. However, after 2000, the Cultural Heritage Administration and the local governments cleared the entrances and surrounding areas of rock art sites and built management offices to protect the sites. As a result, 'cultural heritage guides' are employed at the sites to guide people to those relics and to help to preserve them. Nowadays, shamanistic activities along with drinking, singing, and dancing rituals have disappeared.

Nevertheless, one can still find many recently carved names on the surfaces of rocks near the rock art sites. People have carved the names of family members on rocks wishing for their descendants' success. In addition, cremation activities used to be performed in front of the rock art half a century ago. Still now, Gut-dang (places where Gut are performed), temples, and prayer houses are concentrated in the vicinity. Likewise, rock art sites are regarded as sanctums by both ancient and contemporary people.

Unfortunately, the Daegok-ri rock art site is undergoing frequent flooding due to the Sayeon Dam. In order to solve this problem, several solutions were suggested by experts early in 2000.[11] However, this has sparked a fierce dispute between the local government, the Cultural Heritage Administration, and rock art conservation experts. The local government's position was to establish a water gate or to use water diversion methods to prevent flooding. On the other hand, the Cultural Heritage Administration and the rock art conservation experts both recommended the lowering the dam's water level or the removal of the dam. Fortunately, the head of the local government who was elected in June 2018 has expressed his willingness to lower the water level.

5. Unique Characteristics of Rock Art in Korea

As mentioned earlier, the rock art in Korea can be categorized into three different types. In the older art of nature, none of the images of whales and whaling activities that are seen in Korean rock art have been found in the northeastern part of China, Primorsky Krai of Russia, nor Japan. Such motifs have only been found in the Pegtimel rock engravings located in the northern bay of Pevek, Bering Strait and in the Zalavruga rock engravings located in the Karelia region of the northwestern part of Russia.

Furthermore, there is no rock art similar to the Cheonjeon-ri geometric rock engravings in neighboring countries. Of course, independent figures of diamonds and concentric circles do exist in neighboring countries, but not in a group. In the case of Cheonjeon-ri, as we have seen, the entire rock is covered with geometric figures. However, similar images have been found in the Rashan Khad rock engravings located in the northeastern part of Mongolia.

Likewise, the so-called 'Yangjeon-dong style' rock art exists only in Korea and cannot be found in neighboring countries. This is why it is called 'Korean style' rock art. Considering the fact that similar patterns of geometric images are found in certain areas, one can presume that these rock

[11] Soojin Kim et al., Damage Diagnosis on the Bangudae Rock engraving and Its Conservation Scheme, Ulsan, 2003.

engravings were created by groups of people who shared a similar culture, but the unique selection of these images was a local expression of identity.

It is true that the rock art production techniques and the geological landscapes of Korea are similar to those of China, Russia and Japan. However, with regards to the subjects and motifs in the rock art, Korean rock engravings bear little resemblance to those of neighboring countries. Therefore, one should be very careful when discussing direct cultural exchange between the prehistoric rock artists who lived in the Korean peninsula and people from other regions.

The rock art of Korea is a living record of the people who once lived in the Korean peninsula. Some were fishermen who caught whales in the open sea, some expressed their world in abstract figures, and others were powerful native warriors who ruled certain regions of Korea. These are the unique characteristics of the Korean rock art that stand out.

References

Choi, Eun Hee; Kim, Sanghyun; Ma, Gyeung Hee, “The images of deer and fishing net carved on the surfaces of pottery found in the Ulsan Hwangseong-dong Neolithic site”, Neolithic Relics found in Ulsan Hwangseong-dong, Ulsan, the Korea Archeology & Art History Research Institute, 2012, pp. 397.

Hwang, Soo Young and Myong Dae, Moon, “Bangudae Rock Art”, Seoul, Dongguk University Museum, 1984.

Hwang, Yong Hun, “The technique of rock engraving in the pre-historic period on the Korean peninsula and the classification of its form”, Korean Journal of Art History vol. 127, 1975, pp. 2-13.

Jang, Seog Ho, “Survey Report on National Treasure No.147 Cheonjeon-ri Square Stone”, Ulsan, Korea’s Prehistoric Art Research Center, 2003.

Jang, Seog Ho, “Comparisons and researches between Facial shapes of the rock engravings in Inner Mongolia and main icons of the "Yangjeun-dong"-Style rock engraving in South Korea”, Dongguk Historical Studies, vol. 53, 2012, pp. 353-391.

Jang, Seog Ho, “The Magical Power of Images – Figurative Art from Ulsan Daegok-ri Rock engravings”, Seoul, Yeoksa Gongaan, 2017.

Jang Seog Ho, "Yangjeun-dong Daegok-Ri (Bangudae) Rock engravings in Ulsan”, in “Rock Art Studies: News of the World V”, Oxford, Archaeopress Archaeology, 2016. pp.179-186.

Lee, Eun Chang, “Short Report on Goryeong Yangjeon-dong Rock Art”, Korean Journal of Art History vol. 112, 1971, pp. 25-40.

Lee, Woo Tae, “Re-evaluation of Ulsan Cheonjeon-ri Original Epigraph”, Kuksagwan Nonch'ong, vol. 78, 1997.

Seo, Kuk-Tae, “The Rock Mural in Jicho-ri, Musan-gun, Hamgyeonbuk-do, Rock engravings of the World: Their Interpretation and Preservation”, Seoul, Northeast Asian History Foundation, 2010, pp. 112-117.

Soojin Kim et al., “Damage Diagnosis on the Bangudae Rock engraving and Its Conservation Scheme”, Ulsan, 2003.

Rock Art in Far Eastern Russia

Ekaterina Devlet

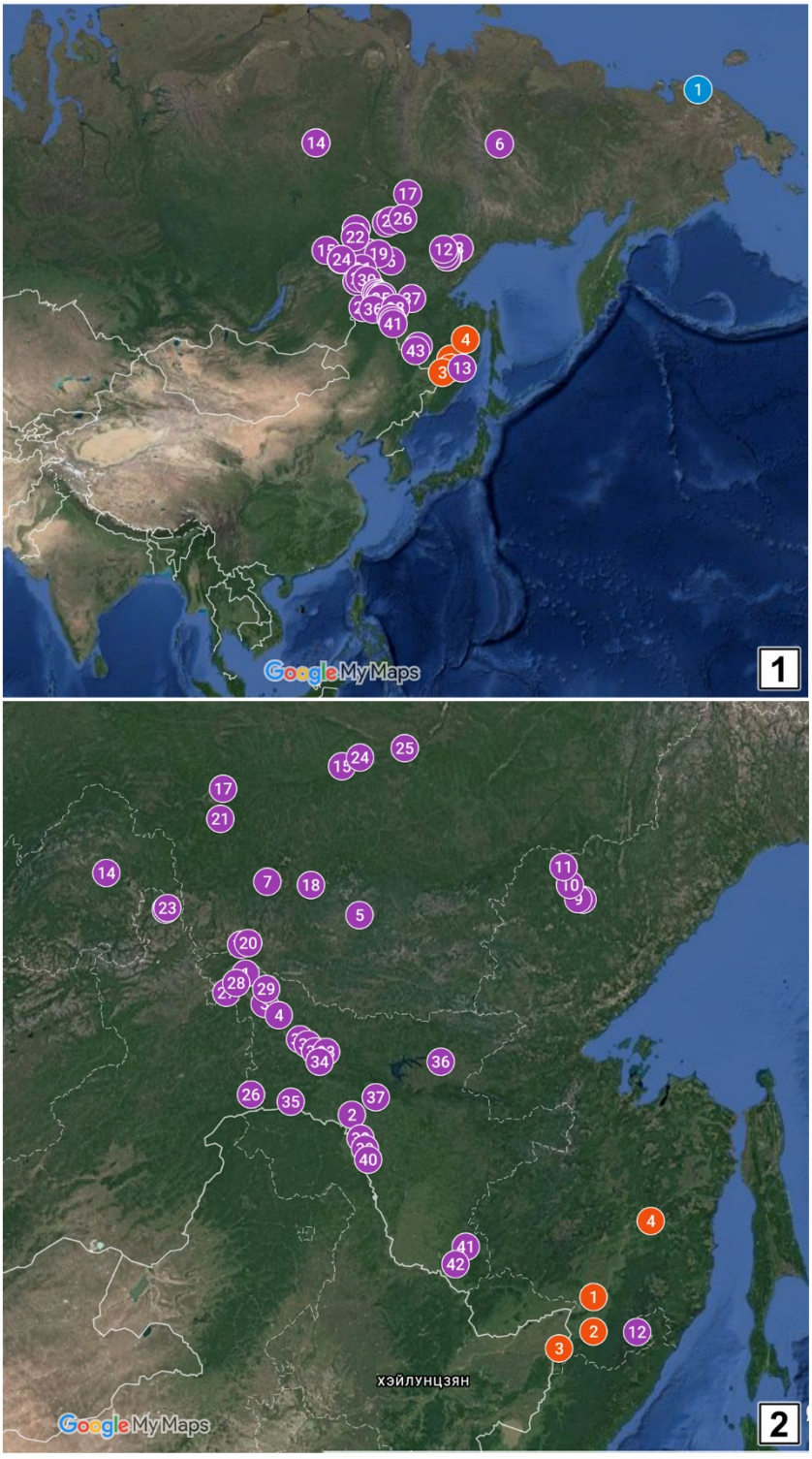

Figure 1.

Profile of Sub-zone

The Russian Far East rock art sites have a specific iconography and style. They are located in the Far Eastern Federal District. This is a huge territory, covering more than six million square kilometers and is composed of 10 federal divisions. In the north is the Arctic rock art province (III) with sites along the Pegtymel river (Figure 1., dot in blue). The south has two different traditions or two neighbouring rock art provinces - the Lower Amur and Ussuri rock art province (I) and Forest paintings province (II). Their boundaries fluctuated through time.

The most important area for rock art is the Lower Amur and Ussuri rock art province (I) with 4 main sites of rock engravings located in Khabarovsk Kray (Figure 1., dots in red). These sites are homogenous in style and belong to similar cultural and chronological periods. Most of the rock engravings are made using deep grooves. Also numerous are relief images made at the point where two or three surfaces of natural boulders intersect. A very special feature in the local tradition is an intensive use of stone materiality.

The second southern rock art province, Forest paintings (II), comprises sites with schematic simple images located alongside the tributaries of the Middle Lena river (i.e. the Aldan, Olekma and other smaller rivers) and the left bank of the Middle and Upper Amur Basin. One of the most important art concentrations is on the Maya River, the right tributary of the Aldan River. Paintings are scarce in Khabarovsk Kray, but they are more numerous and scattered in the Republic of Sakha and in the Amur Oblast (Figure 1, dots in violet).

Environmental context

Far Eastern Russia is typically forested with spruce-fir and larch-birch forests, but there are a few rare broad-leaved forests with oaks. On the gentle slopes and along the river valleys coastal strip bushes and grass are common. The rivers are abundant with fish and common animals include elks, bears, foxes, etc. The region has a monsoon climate. In winter, the western winds prevail, while summer winds are easterly.

The rock engravings in the Lower Amur and Ussuri province are concentrated on riverside basalt boulders, and on rock outcrops along the bank terrace facing the river (Figure 2).

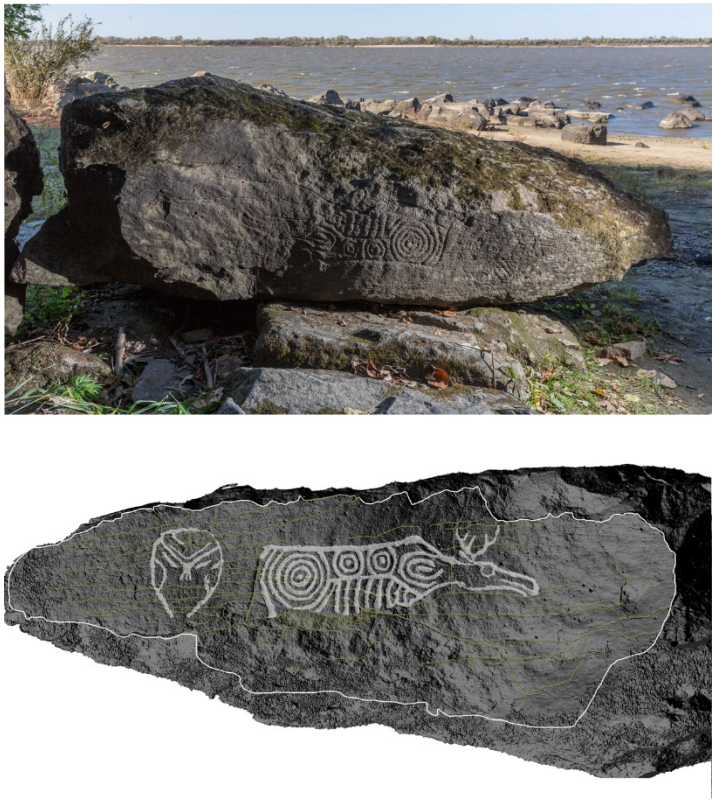

Figure 2.
©The Russian Academy of Sciences, Institute of Archaeology

The Forest paintings (II) are located mainly on vertical red sandstone rock outcrops as well as schist panels facing into rivers.

The water-side location of most sites is crucial for their preservation and they have a strong susceptibility to changing water level in the rivers. The most dramatic is the impact of the Amur. The average long-term depth of the Amur in Khabarovsk is 35cm; for the entire summer period this level increases to around 270 cm. At the end of summer, typhoons from the Pacific arrive at the lower reaches of the Amur causing summer-autumn floods. From 1896 to the present time, the levels of 106 floods have been measured, their average being 446 cm. Anomalous floods have also been recorded on the Amur: in 1897: 642 cm, and in 2013: 808 cm. In 2013, the Sikachi-Alyan rock engraving sites were completely flooded (Figure 3). Water levels in the Amur and its tributaries have fluctuated more greatly in recent years due to extreme weather events and the effects of the activities of the Bureyskaya Hydroelectric Power Plant.

Figure 3.
©The Russian Academy of Sciences, Institute of Archaeology

Number and extent of rock art sites

In the Lower Amur and the Ussuri rock art province there are 4 rock engraving sites which share the same cultural characteristic: Sikachi-Alyan (with 6 locations), Sheremetievo (with 8 locations), and Kiya are located relatively close to each other, while the Kalinovka stone with rock engravings is at a considerable distance (now it is not available). The Medvezhye Shcheki shelter with a single image is now considered to be lost. In total, since the 1950s, 652 rock engravings have been recorded, of which 173 are no longer visible – this does not mean that they are destroyed – some have been submerged or moved by rivers and not yet relocated.

There are at least 150 rock art sites with paintings and simple engravings in the Forest zone along the banks of the Middle Lena River and its right tributaries (e.g. the Sinaya, Olenek, Aldan, Amga, Olekma, Markha, Indigirka) as well as along the left bank of the Basin of the Central Amur. Schematic art is mainly made with ochre of various shades or with incisions. Sites tend to be quite large; for example, the Suruktakh-Khaya rock art site has about 800 images in 16 locations.

New forms of rock art studies commenced in the early 2000s. Innovative methods and techniques for studying rock art, including photo documentation of rock art within the landscape (conventional photography, UVF and IR imaging, photogrammetry, RTI, UAV documentation) as well as 3D models of boulders and sites. This has allowed for a detailed understanding of how boulders are moved by water and by ice.

Dating the rock art

The rock art is attributed to a number of chronological periods from the Stone Age to the Medieval period. The chronology of rock art is based on a typology of motifs and their comparison with archaeological materials and a similarity of particular depicted motifs with material culture items.

Rock engravings in the Amur-Ussuri province belong to different periods from the Epi-Palaeolithic to Medieval times. This dating is based on archaeological finds (flint and clay figurines and decorated ceramics) as well as a typology of styles. The oldest phase of art is said to include images of horses, elks, forest birds and simple face masks with pronounced eyes, mouths and noses (around 14,000-13,000 BP). The height of the rock art tradition occurred in the Neolithic, judging by a comparison with ceramics from the area (Figure 4). Many sites are also dated to the Early Iron Age (there was no Bronze Age period in the area). The final phase of rock art is Medieval. Stone and Iron Age rock engravings are made with deep grooves pecked and abraded with a stone tool. Medieval engravings look very different; they were incised using iron tools.

Figure 4.

Among Forest paintings some images are attributed to the Stone Age (bison, rhinoceros, other extinct animals); in the Maya river rock art site (Aldan Basin) images of three ceramic vessels and a Bronze Age knife provide evidence that some of the art is more recent. Excavations of Forest painting sites are rare, but radiocarbon dates 9739 (±137) BP, 9926 (±130) BP, 9597 (±131) BP have been derived from Neolithic layers at Kalinovka-1 (on the left bank of the Upper Amur).

Rock art traditions

Stylized imagery predominates in the province of the Lower Amur and Ussuri rock art (I). This is characterized by abstraction and ornamentation with elaborated elements such as spirals, concentric circles, etc. A majority of the art is figurative: 478 (73%); abstract signs:122 (19%); unidentified images: 52 (8%). Within the figurative art, anthropomorphic masks (187) and human figures (41) prevail. Human faces (anthropomorphic mask-images) are central. They may be horned or framed with radiating lines which resemble beams forming a kind of crown or hair. Common zoomorphic motifs are horse (63), elk (35) and deer (22). Among ornithomorphs, there are waterfowl (26) and forest birds (8). The main material culture item represented is boats (42) (Figure 5). This rock art displays certain similarities with the rock art of eastern Inner Mongolia (particular Chifeng and surroundings), as well as with art in the Yinshan mountains, Ningxia and Gansu in the People's Republic of China.

The Forest rock art tradition (II) includes schematized contoured zoomorphic figures, shown static and in profile. Forest rock art has much in common with the art on the right bank of the Amur (Heilongjiang province, People's Republic of China).

Figure 5.

Archaeological context

All periods of human settlement in this region have had access to rich natural resources. Most of the cultures in the Middle reaches of the left bank of the Amur show similarities or affinities with those located in the nearby territories of Trans-Baikalia, the Lower Amur, Primorye, Northeast China and Manchuria.

There are several main archaeological cultures in the Amur region. For the Lower Amur Basin (I) the earliest evidence of stone decoration and flint figurine production comes from the Osipovkskaya culture (13,300-10,300 BP) in the Epi-Paleolithic. The Malyshevo Middle Neolithic culture (5300-4350 BP) has a distinctive form of pottery comprising curvilinear ornamentation and with red pigment decoration. It also has some pottery sherds embossed with simple face-masks (Figure 6). In the Voznesenovskaya culture of the Late Neolithic (4300-3700 BP) these face-decorated pottery vessels became even more elaborate (earlier Gorinsky and later Udylsky stages).

Figure 6.

For the Upper and Middle Amur the cultural sequence is: Upper Paleolithic Selemdzha culture (25,000-10,000 BP); Neolithic cultures: Gromatukha culture (15,000-9000 BP), Novopetrovka, Central Amur (11,000-8000 BP), Osinooserskaya culture (5000-3000 BP); and Iron Age: Urilskaya (3200-2300 BP) and Talakan cultures (2300-1700 BP). In the Middle Ages, new ethnic groups brought in new skills, traditions and beliefs. There was complex interaction between the Priamurye and surrounding states and empires such as the Liao, Bohai, Jin, Mongolian empire, etc.

To the north, in Sakha, Neolithic cultures emerged in the late 5th to early 4th millennia BP. The Bronze Age cultures (3500-2500 BP) are closely related to and show broad cultural contacts with Cis-Baikalia, Trans-Baikalia, Northern China, Central Asia and South Siberia. The Iron Age is extends from the 5th to13th centuries AD and from the 6th it was much influenced by the South Siberia Turks. Rock art of a particular style accompanied with inscriptions is dated to the 9th—10th century AD.

Intangible Heritage

For many Far Eastern Russian cultures, mountains were places of special semiotic status; they were connected with landscape spirit-masters, patrons of certain areas and later even with saints. Rock art is often seen as a marker of important spiritual places and, even today, one may see gifts left near rock art.

The site of Sikachi-Alyan is located in the village territory of the Nanai indigenous population. Motifs similar to Sikachi-Alyan and nearby rock engravings continue to be used in the traditional rituals and ornaments of the indigenous peoples of the Amur region.

Major rock art concentrations

Sikachi-Alyan

Sikachi-Alyan is one of two major rock art sites in the Amur-Ussury rock art province. It is located about 60 km south of Khabarovsk (135°39' and 48°45'), on the right bank of the Amur River and in the territory of a traditional Nanai village. It has 438 rock engravings in 6 locations. In 2003, it was placed onto the UNESCO Tentative World Heritage Site List.

The sites all comprise rock engravings and are concentrated along 6km of riverside. They are frequently impacted when the Amur floods. A trait that makes Sikachi-Alyan unique is that the rocks are frequently moved under the impact of the mighty Amur River. During the ice-drift huge chunks of ice can displace and overturn the boulders lying on the river bank. As a result of this natural rearrangement some of the images disappear and some get revealed. Stones embedded into the sand can become entirely submerged.

The rock engravings contain many decorative elaborated elements such as spirals, concentric circles and ornaments and some of these are indicative of different chronological periods. Face-mask images are common. These are abstract, conventionalized images of human faces, yet each possesses an individual, characteristic shape. They may have been created to portray the spirit world. The outlines of the mask-images are diverse: some have oval, round, heart-shaped, even trapezoidal or square shapes. A particular group comprises partial or incomplete masks having no external outline or internal filling. Ape-like or skull-shaped examples can be found. The eyes are elongated, almond-shaped or round.

Anthropomorphic figures drawn in a conventionalized manner are extremely rare and not typical of the Amur-Ussuri art. The few X-ray style anthropomorphic figures that exist are interpreted as the shamanic view of the initial trance state connected with the dismemberment of a shaman's body by spirits, with mystical experience of flesh loss and contemplation of his own skeleton, and 'out-of-body' travel. Two images of elk in X-ray style are noteworthy (Figure 7).

The dating of the Sakachi-Alyan rock engravings suggested by A.P. Okladnikov is based on a comparison of image styles with archaeological finds. The earliest Epi-Paleolithic and Early Neolithic images are dated to about 13,000 BP. These are simple images of horse, elk, bird figures and some faces. According to Okladnikov, at the height of the Neolithic epoch of the Lower Amur (the 4th–3rd millennia BP facemasks with complicated geometric patterns were typical. This stylistic trend continued through the final Neolithic and the early Iron Age (the 2nd – the beginning of the 1st millenium BP). It is to that stage that the images of elks in an X-ray style are attributed (Figure 7). The medieval images of the first half of the first millennium BP were made using incisions.

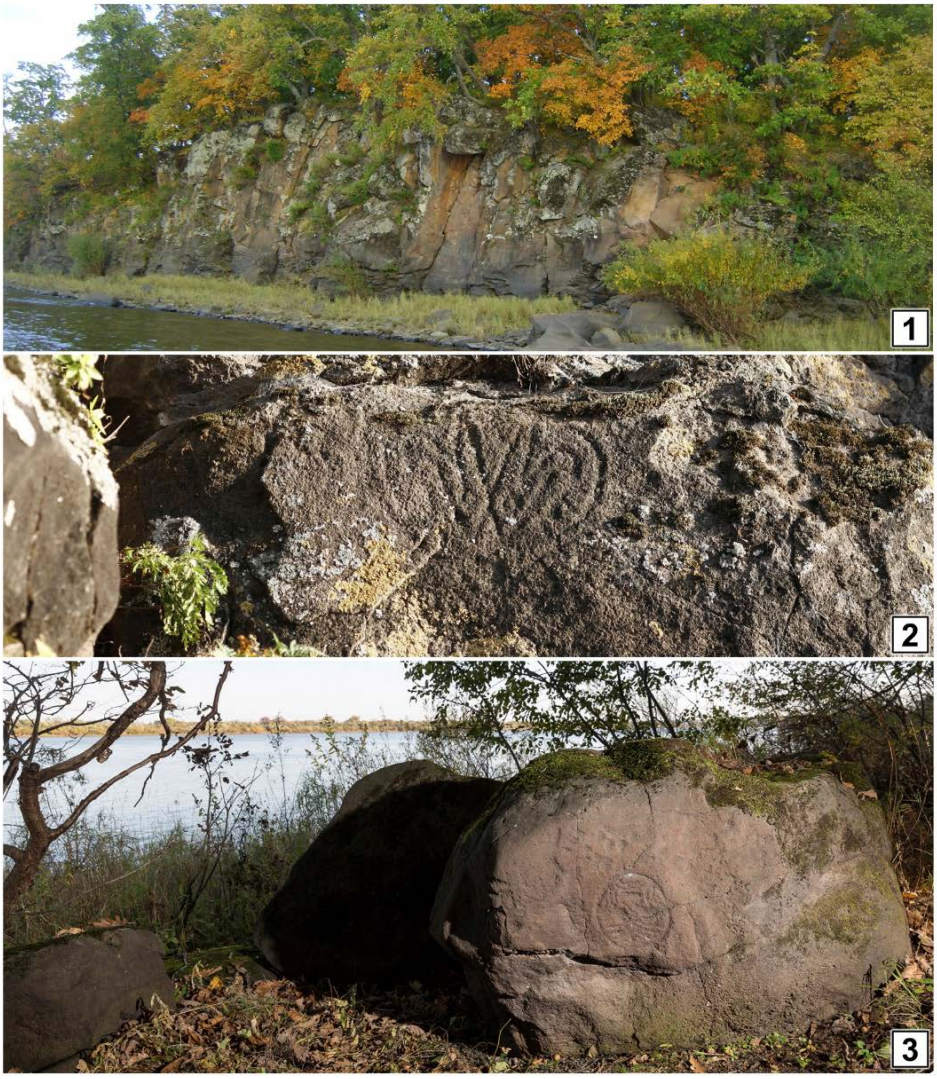

Figure 7.

Sheremetyevo

The second major site in the Amur-Ussury rock art province is near Sheremetyevo village (134°15' and 47°23'). It contains 95 rock engravings in 8 locations. The images comprise many elaborate, stylized and ornamented images of human faces. They are located on vertical outcrops and boulders. The sites are all on the right bank of the Ussuri, the right tributary of the Amur River, 130 km south-southwest of Khabarovsk.

Forest art zone sites

In the second rock art province, the Forest art (II) there is no single major site. Instead, the province consists of a series of relatively small painted sites. Any nomination of these sites would need to be a serial listing. Located mainly in remote places, the images are generally simple and lack the dynamics and expression of the best examples of taiga rock engravings as seen in the Tom or Angara Rivers basins. The images of the Aldan river are remarkable for their elk figures painted in a peculiar style: parabolic outlines, often with rounded feet. There is also a unique figure of a fantastic animal with a massive trunk and conspicuous bristling fur. Many sites include anthropomorphic images with stretched hands, sometimes arranged in rows accompanied with geometric figures. Common geometric figures are: circles, triangles, rectangles, crosses, round and oval spots, lines, tridents (some connected with cosmic symbolism). There is a strong tendency amongst the artists to treat all subjects schematically. In some cases sanctuaries are located near the rock art sites; this is is particularly the case for the painted cliffs in southern Sakha, the region of Trans-Baikalia grasslands and the Amur river.

At the Byrka rock paintings site in the Forest zone, solar symbols in the form of circles with radiant beams have been recorded. Two of the circles contain schematised anthropomorphic facemask images. Profile images of deer, using the same smooth outline, were found together with solar symbols and human figures near Srednyaya Nyukzha. One depicts a shaman with a drum and a drumstick, lunar and solar signs, stars and a person with a rifle. These images are dated to the 17th to 18th centuries. There are also animals, people, boats with oarsmen, numerous geometrical symbols and lines arranged in rows. Sacrificial places have been identified near the rock art panels.

The rock paintings in the Olekma river basin, Upper and Middle Amur region are located in a contact zone and the rock art has much in common with the paintings of the Aldan, the east Trans-Baikalia and the Lower Amur as well as the north-eastern forest zone of China. They should be considered as part of a broader Asiatic Forest rock art zone.

Site Management and Conservation

Most of the sites are in remote areas and they are rarely visited. In recent decades, a modern cultural centre was built in the Sikachi-Alyan village and this has started to bring greater local recognition of the rock art as unique cultural heritage. Although local people leave gifts at boulders with rock engravings, especially those on important crossroads or other notable landscape positions, the sites do not get any great attention. The landscape around the art is still used for subsistence activities and this influences the state of preservation of the rock art.

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References

Devlet, E.G, “Rock art studies in Northern Russia and the Far East”, in Rock art studies: News of the World, Bahn P., Franklin N., Strecker M. (eds), Oxbow, 2012, pp.124-148.

Devlet, E.G., “Conservation or Destruction: Attitudes toward Rock Art Sites (The Case of Russia)”, Conservation and Management of the World’s Rock engraving Sites (World Rock engravings Research II), Seoul, 2014, pp. 51-90.

Devlet, E. G., “Rock art from the Russian Far East: The Sikachi-Alyan Tentative World Heritage Site”, Human Origin Sites and the World Heritage Convention in Eurasia, World heritage series, Paper 41, Heads 4, Volume I, Nuria Sanz (ed), Paris, 2015, pp.128-141.

Devlet, E.G.; Devlet, M. A., “Myths in stone. World of Rock Art in Russia”, Moscow, 2005.

Devlet , E.G.; Laskin, A.R., “Rock engravings of Khabarovsk territory: the impact of the 2013 Amur and Ussuri flooding”, Archaeology, Ethnology and Anthropology of Eurasia. № 43 (4), 2015, pp. 94-105.

Devlet, E.G.; Pakhunov, A.S. “Rock art studies in Northern Russia, the Urals and the Far East 2010-2014” , Rock Art Studies: News of the world V, Bahn P., Franklin N., Strecker M., Devlet E. (eds), Oxford: Archaeopress, 2016, pp. 97-114.

Kochmar, N.N., “Rock-drawings of Yakut”. Yakutsk-Novosibirsk, 1994, 263 p. (In Russian).

Okladnikov, A. P.; Mazin A.I., “Pisanitsy Reki Olekma y Verchnego Priamuria”, Novosibirsk, 1976, 152 p.

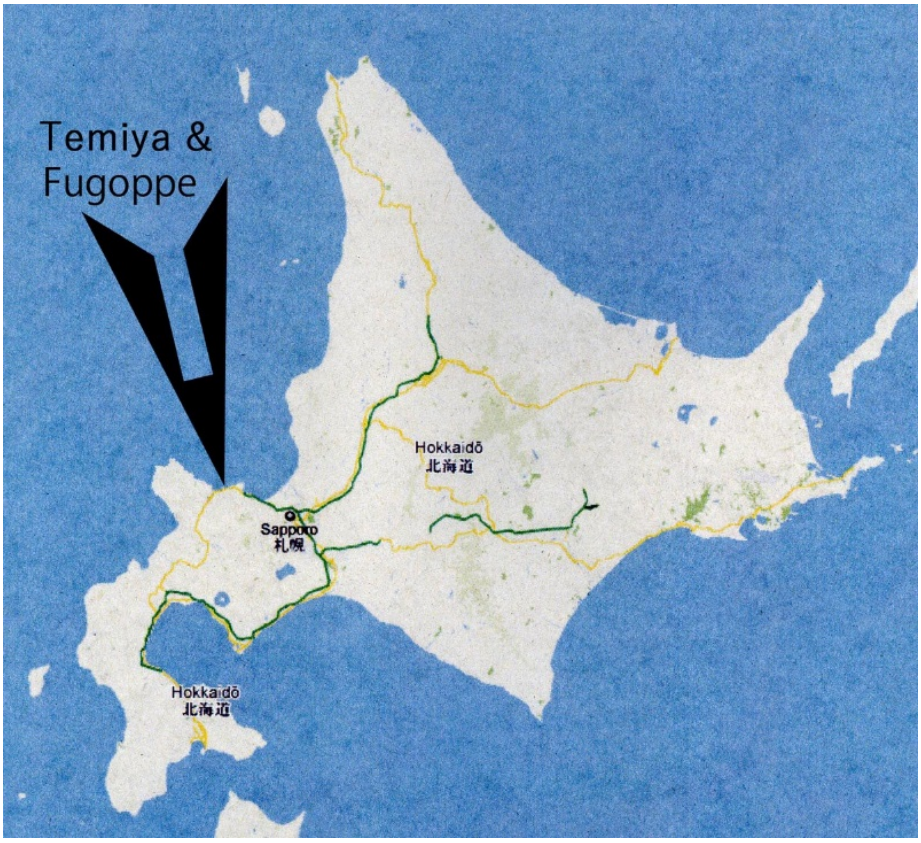
Okladnikov, A. P., “Petroglify Nizhnego Amura”, Leningrad, 1971 (In Russian).

Okladnikov, A. P., “Ancient Art of the Amur Region”, Leningrad, 1981.

Zabiyako A. P., “Wang Jinglin. Rock Art in Northeast China”. Amur State University, Blagoveschensk, 2015, 310 p.

Rock Art in Japan

Masaru Ogawa
Naruto University of Education, Japan



Map Indication Temiya and Fugoppe in Hokkaido
©Google map

There are only two significant rock art sites in Japan, both at Hokkaido (see map): Temiya Cave and Fugoppe Cave. These are on the west coast of the Japanese northern big island. We call them caves; however, both are truly rock shelters and the art is exposed to daylight. No paintings have been found, only rock engravings. The rock at Temiya is andesite, and the art is made by pecking. The images extend to 1 m long and 50 cm high. At most, there are 30 artworks, and all of them appear to depict human figures. This focus on human figures is a special feature of Japanese rock art.

Ten kilometres away from Temiya, is Fugoppe Cave. It is a shallow rock shelter with a depth of 7 m. More than 800 figures have been found on the rock wall. Almost all of them appear to depict human figures. Unlike Temiya, Fugoppe is made up of an extremely soft rock called underwater pyroclastic rock (Hyaroclastite), and the artists employed a unique technique of abrasion with scraping and polishing. Consequently, extremely sharp forms have been realized, and the resulting appearance is spectacular and unprecedented in world rock art.

Temiya cave was recognized in 1868, 11 years earlier than the first parietal art of Altamira in Spain. However, the significance of the engravings was initially not understood by the people, leading to improper preservation of the cave. The rock strata in Temiya is robust and so, even in the absence of protection, the rock art site has survived until today. It is possible that other sections of the rock shelter were originally engraved with art but that these have since been destroyed; we therefore cannot know the exact original number of Temiya rock engravings. In contrast, Fugoppe was discovered accidentally by a junior high school student in 1950. At that time the rock shelter was filled with debris and the artworks were covered with soil deposits. For this reason, the rock art has not been weathered so much and has maintained an excellent state of preservation even though the rock surface is soft. Immediately after the site was discovered, a wooden defensive fence was installed, but the artworks themselves were still exposed to the elements, so preservation was urgent.

In Hokkaido freezing continues throughout the winter and the rock walls also freeze. Snowstorms are also intense; if they hit the figures directly, they can seriously weather them. To improve the situation, in 1970, state-of-the-art equipment at that time was used: a capsule. The site was encapsulated within a building that sealed the rock shelter and the rock engravings. The air inside was air conditioned, providing a stable temperature and humidity. The building helped the site's preservation to some extent, but moss and bacteria flourished due to the heat of lighting, and the figures themselves turned greenish. In 2004, the building was renovated and this upgraded version is still in place today. A new system to control temperature and humidity was installed, and new forms of lighting were used that did not emit heat. The effect of the renovation has been excellent.

We argue that the age of both sites is best placed at about 100 A.D., that is, around 1900 years ago. Temiya was discovered early and direct dating has not proven possible. Fugoppe was scientifically excavated when the rock engravings were found, and these excavations showed that the dominant period of habitation at this site was around 300-400 A.D. This means that the people who produced and used earthenware of the type known as Ko-Hoku (Koki-Hokkaido, late Hokkaido) C2D lived there in the era named the Post-Jomon period. Many archaeologists believe that these people were also the makers of rock art in the site, and that the rock art was made between 300-400 A.D., at the same time of as Ko-Hoku C2D. But, our conclusion is different.

We recognize the fact that fragments of some rock art figures had already spalled from the brittle rock walls by the time of the Ko-Hoku C2D occupation and thus, we think that the artworks are an earlier production. Our investigation conducted in 1998 showed that the current walls of the Fugoppe Cave were created as a marine cave during a period of global warming period about 2000 years ago. We judge that it would have taken about 100 years for the rock quality inside the cave to stabilize to the point where it would have been possible to make the rock engravings. At around this time, a small number of earthenware fragments were excavated that are considered to come from the Eurasian Continent. We propose that the makers of these fragments were also the makers of rock engravings at both of the Japanese rock art sites. The fact that these people were only temporary residents in Japan explains the limited number of Japanese rock art sites and the common style of art found both at Fugoppe and Temiya.

Research on this rock art is still in its early phases and there is much more to debate. We need to obtain new data to be sure both of the age of the art as well as the identity of its makers. In terms of comparative art, we have been considering rock art sites across East Asia for a number of years, but we have not been able to identify anything similar in style to the Japanese rock art. Comparing the art to other sites described in this volume, its proposed age and style is distinctive from other East Asian sites, and therefore the origin of Japanese rock art remains mysterious.

We now introduce some examples of rock engravings from Fugoppe and Temiya.

Figure 1 shows a typical human figure made by abrasion. It has a deeply scraped voluminous torso and sharp contours. The head looks like two horns. Several lines that look like arrows sticking into the torso are probably parts of another image because of the different notches.

Figure 1. Human figure by abrasion 27cm high
©Masaru Ogawa

Figure 2 illustrates another artwork made by abrasion. It is a human figure with short legs and an elongated torso. Its most characteristic feature is two "wings" extending from its shoulders. Generally referred to as the "winged human figure", it raises important interpretation questions. Some researchers have suggested that it could depict a shaman similar to those known in neighboring Siberia. Certainly shamans recorded in Siberia 200 years ago took on similar forms, but we are cautious of linking 1900 year old Japanese rock art to recent Siberian customs.

In addition, we believe that rock art should not be seen as depictions only of real world scenes, it is a medium that may express imaginary things as well. It is therefore better not to launch into hasty interpretations.

Figure 2. Human figure with ‘wings’ by abrasion 36cm high
©Masaru Ogawa

Also in Figure. 3, abraded human figures can be seen. The right figure, in particular, seems to have many arm-shaped objects extending out from the body on both left and right sides.

Figure 3. Human figures by abrasion 20cm high
©Masaru Ogawa

Figure 4. illustrates a Fugoppe human figure made using a rare pecking technique. This figure seems to have been weathered considerably, probably for hundreds of years before it was covered with sediments and then during the ten plus years that was exposed to the elements after its discovery in 1950. The comparatively poor preservation means that we cannot exactly determine the original intended form. We suggest that, at the time of production, the makers had not yet abandoned the pecking technique and shifted to abrasion as the technique of preference we see used on most other parts of the soft rock surface. This suggests that this is one of the first images made at Fugoppe.

Now we examine the pecked engravings at Temiya.

Figure 4. human figure by pecking 46cm high
©Masaru Ogawa

Figure 5 was taken through the hermetically sealed capsule and is as clear a picture as is now possible of the panel. Here, you can just see a human figure made by pecking.

Figure 5. Human figures by pecking 50cm high
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The figure is clearer in the tracing provided by Otaru City (Figure 6). This is an "angled human figure", two horny protrusions have been added to its head, branched like the horns of deer. In Siberia, shamans have been recorded wearing deer horn costumes, which might suggest a magical interpretation. However, our interpretation is not based in a simple ethnographic analogy but on a consideration of the intention of the Japanese artists based on the characteristics of the selected motifs and the unique features of both sites.

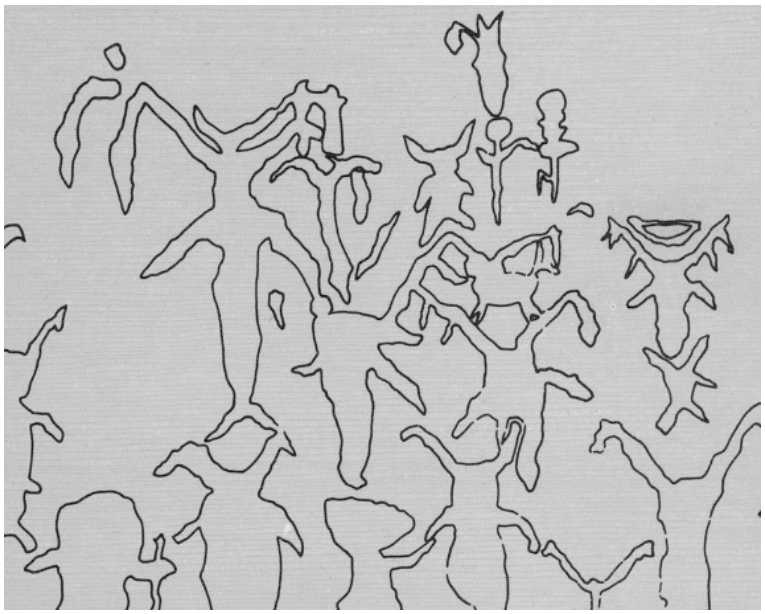

Figure 6. Detail of tracing
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First, we would like to emphasise the dominant presence of human figures in both sites. Worldwide, rock art sites dominated by human figures are comparatively rare, and we start our interpretation using this observed unusual characteristic. Judging by the fact that we cannot find any superimposition in either sites, we suppose that a single group of people made their art intensively over a short period. We explain this, as discussed above, by explaining the art of the work of a seafaring people who, judging by the excavated evidence, only stayed in Hokkaido for a short time.

We gain additional insights from the Ainu people, the indigenous people of Hokkaido. The Ainu recognized the small hill at Fugoppe cave as a taboo place. They avoided going to the place and for this reason they did not know of Fugoppe cave itself. That fact that this avoidance is an old taboo helps to explain why the rock engravings remained so well preserved. The connection between the Ainu and the makers of rock art in Fugoppe is not clear, and we know nothing about the maritime people who were temporary residents at Hokkaido. Notwithstanding these uncertainties, we try to interpret the prehistoric art works in the context of East Asian beliefs of indigenous groups such as the Ainu.

In Hokkaido and other places in Japan, there are shell middens. These are the archaeological remains of shellfish and other seafood refuse. There are various reasons in Japan why seashells were abandoned intensively by indigenous groups. Among the Ainu, there is a concept of a ‘sending place’.

The concept of ‘sending’ for the Ainu was that every living creature was a gift from Nature. Even after consuming it, the remnants should not be just randomly discarded, but should be returned to Nature. Consequently, shells and all other food remains were deposited in specific places and created shell middens.

Traditionally the Ainu conducted a renowned ritual called Iomante. For this ritual they caught a baby bear, separating it from its mother and caring for it in the village for several years. Then, at the Iomante ritual, they killed it and ate its meat. Finally, they sent back the soul of the bear to Nature. The depiction of human figures concentrated in the rock art could therefore be a similar kind of midden, representing the ‘sending’ of humans back to Nature: a kind of funeral rite. Of course, we need to be cautious of interpreting the prehistoric art using ethnographical testimonies, and we know that the idea of human funerals being associated with the rock art, is simply a hypothesis that can be criticized.

In conclusion, we have avoided focusing on the superficial resemblance between the engraved human figures at both sites and recent photographs and drawings of Siberian shamans. In contrast, we have chosen to employ the rituals and beliefs of local indigenous people to interpret our prehistoric rock art. Our interpretation is intended as a challenge. We feel it is important that we attempt to consider the question of why our ancestors made rock art. On the other hand, we hesitate to jump to hasty conclusions about the meanings of the art, but we hope that considering the rock art of Japan may have provided us with important glimpses into the minds of the people of East Asia some 1900 years ago.

References

Ogawa, M., “Rock Engravings in Fugoppe Cave, Japan, Rock Art and Ethnography”; Morwood, M.J., Hobbs, D.R., eds.; Australian Rock Art Research Association: Melbourne, Australia, 1992, pp. 71–74.

Ogawa, M., “Integrated Studies of rock engravings from Fugoppe Cave, Japan”; (only in Japanese) Ogawa, M., ed.; Chûô-Kôron Bijutsu Shuppan (art publisher): Tokyo, Japan, 2000, pp.1-285.

Ogawa, M., “Dating rock engravings from Fugoppe Cave”, Japan Arts 3, Bednarik, R. ed. doi:10.3390/arts3010046 (www.mdpi.com/journal/arts), 2014, pp.46-53.

Ogawa, M., “Rock Art from Temiya and Fugoppe Caves, Japan Rock Art: when, why and to whom?”, Anati, E. ed. Atelier, Capo di Ponte, Italy, 2015, pp.169-170.

Ogawa, M., “Interpretation of Rock Art from Fugoppe Cave, Japan”, paper read at The Eighth World Archaeological Congress Kyoto, Japan (T14A05), 2016.

2. Rock Art in Northern China, Eastern China and Mongolia

Rock Art in Northern China

Zhang Wenjing
China Rock Art Academy
Zhang Jiaxin
Rock Art Research Association of China
Zhang Xiaoxia
Rock Art Research Association of China
Zhang Yasha
Rock Art Research Association of China, Minzu University of China

Introduction

Chifeng city in Inner Mongolia of northeast China, is the intersection of northern and eastern rock art systems in China (Fig. 1). The eastern rock art is scattered over a very large area. There are only 4-5 rock art regions with more than ten rock art sites; and the number of images in each site is limited. In comparison, the northern rock art areas are concentrated in a relatively small area in Inner Mongolia and the Ningxia provinces. The number of rock art in both provinces are over tens of thousands, making the two provinces the areas with the largest number of rock art sites in China.

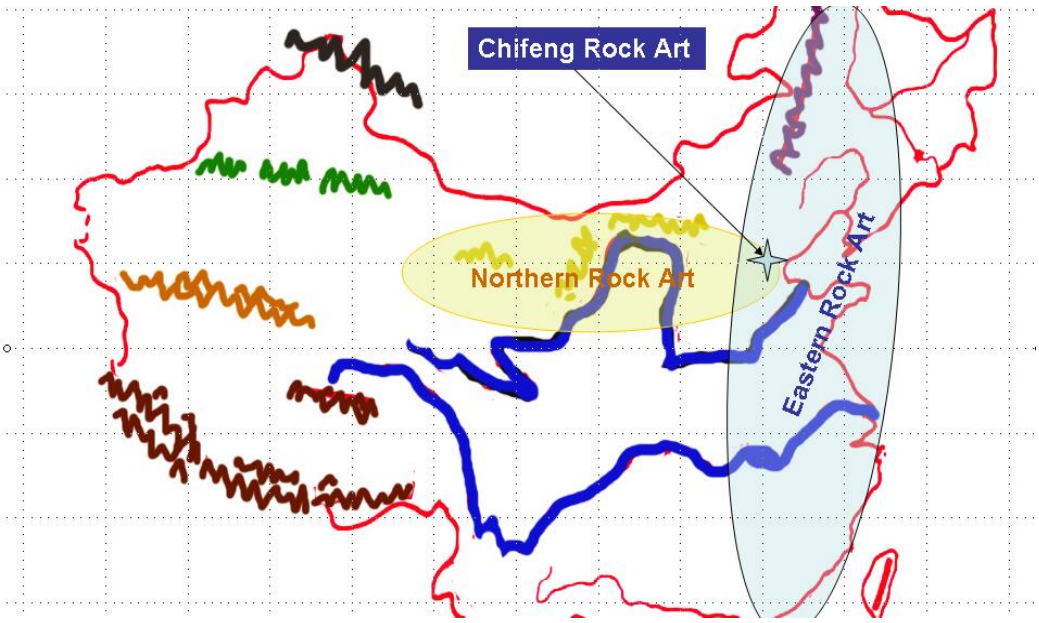

Figure 1. The northern and eastern rock art area in China
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Rock art sites in the two areas have their distinct themes and contents. Their environment, history, economy and culture also manifest obvious differences. However, rock art in both areas shared similar chiseling engraving methods; and there are a considerable number of human face (mask) images in both regions as well (the two regions are the main regions with human face rock art in China). The northern rock art area is located in the nomadic region of northern China, which is also reflected by the appearance of numerous animal images, as well as of hunting and herding activities.

The variety of rock art patterns in the east is related to different geographical and ecological environments and subsistence patterns, including depictions of human figures, human faces and cupules which are important subjects of eastern rock art.

Rock art in northern China

From the map, we can see the Alashan league in the western part of Inner Mongolia neighboring with the Helan Mountains rock art in Ningxia; and the north end of the Helan mountains turning to the Yinshan Mountains which are ranging across the central part of Inner Mongolia, together forming a triangle zone in the north of China: this is the region with the highest density of rock art in northern China.

It should be noted that human faces representations are concentrated in the eastern part of Alashan, the northern and central part of Ningxia Helan mountains and the western part of Yinshan mountains. Human face rock art is a characteristic theme of ancient Chinese rock art. There are various kinds of strange faces and masks, which convey mysterious and ancient symbolic meanings.

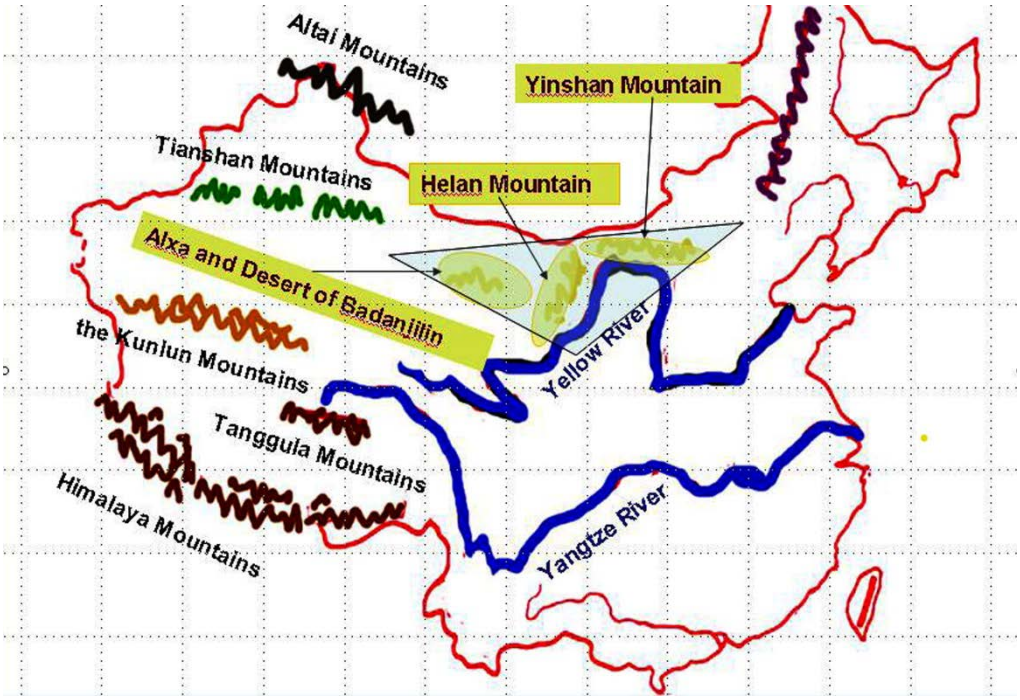

Figure 2. The distribution area of northern rock art in China
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Rock Art in Inner Mongolia

Inner Mongolia is located in the northern part of China. It extends from the northeast to the southwest, elongated in shape. The elevation of the whole area is relatively high, with an average of 1,000 meters above sea level. The landform is dominated by plateaus and has a variety of natural landscapes such as mountains, grasslands, plains, basins and deserts including the Gobi. Grasslands cover about 80% of the plateau area as part of the temperate Eurasian Steppe. Greater Khingan Mountains, Yinshan Mountains and Helan Mountains are in the middle of the plateau and form the backbone of the plateau. The Hetao Plain, Ordos Plateau and Liaonen Plains are distributed on the outer edge of the plateau. The climate is subject to temperate continental monsoons. Winters are long and cold with low levels of uneven precipitation. From the east to the west, it gradually transits from the humid and semi-humid areas to semi-arid and arid areas.

Inner Mongolia is one of the birthplaces of Chinese civilization and has long been inhabited by humans. From the "Dayao Man" in the Palaeolithic Age to the "Hongshan Man" in the Neolithic Age, and then to the "Xiajiadian Man" in the Bronze Age until the later Beidi, Xiongnu, Xianbei, Turkic, Uighur, Khitan, Jurchen, Mongols and other ethnic groups, these grassland people have left an abundant archaeological and historical record behind them and created a series of broad and profound steppe cultures through generations of exchanges and integrations.

The steppe culture of Inner Mongolia can be dated back to the Palaeolithic Age, and it is an important center in the development of human history. So far, more than 30 Palaeolithic sites have been discovered. Among them, the Dayao site, the Salawusu site, the Jinsitai cave site, and the Zhalainuoer site in the eastern suburbs of Hohhot are the locally representative ones. Also, more than 2,000 Neolithic sites have been discovered in the Inner Mongolia Autonomous Region. They are mainly distributed in the West Liaohe River Basin in the southeast, the Yellow River Basin and the Daihai Lake region in south-central Inner Mongolia. The Hongshan culture named after the Hongshan site in the Chifeng region was the core of the steppe culture in that period. A series of steppe archaeological cultures such as the Xinglongwa culture, the Zhaobaogou culture, the Fuhe culture, and the Xiaoheyan culture, have been identified in the eastern part of Inner Mongolia.

The Neolithic cultures in the Yellow River Basin and the Daihai Lake region in central and southern Inner Mongolia are part of the Yangshao culture and the Longshan cultural sequences in the Central Plains region; the number of Bronze Age sites found in Inner Mongolia exceeds 7,000, of which the Lower Xiajiadian culture, the Upper Xiajiadian culture, the Dakou Phase II culture and the Zhukaigou culture are locally representative. The Qin, Han, Wei and Jin dynasties are important historical periods when all ethnic groups in China developed toward an integrated unity. Up to 100 cities and towns of different sizes in the Qin and Han dynasties have been discovered archaeologically. They were still inhabited during the period of the Wei, Jin, Southern and Northern Dynasties and became important springboards for the southward migrations and Sinicization of the Xianbei. The first capital city, Sheng Le Town, located in today's Tuchengzi Ancient City of Horinger, was built by the Tuo Ba Xianbei. It was the biggest city site in central and southern Inner Mongolia. In addition, up to six Northern Wei military fortresses are found in this region. Till now, there are more than 3,000 cultural sites discovered in Inner Mongolia dated to the Qin, Han, Wei and Jin periods.

Furthermore, Inner Mongolia has many sites from the Liao, Jin and Yuan periods, perhaps as many as 11,000. Chifeng in eastern Inner Mongolia was historically the political center of the Khitan and the Qingzhou region of the Liao Dynasty. There are two capitals in that area: Liao Shangjing and Liao Zhongjing. There are also three royal tombs: Liao Zuling Mausoleum, Liao Huailing Mausoleum, and Liao Qianling Mausoleum. Xanadu, the Yuan Dynasty's founding capital, was an international metropolis at that time.

Inner Mongolia abounds with ancient rock art distributed in the Chifeng, Xilin Gol, Ulanqab, Bayan Nur, Alxa and Wuhai regions. About 30,000 ancient rock art images have been discovered, among which the rock art in the Yin Mountain, Mandela Hill and Zhuozi Mountain is the most representative ranging over 10,000 years in chronology. These rock art sites are centered over the Yinshan Mountains and they extend for thousands of kilometers, making them amongst the longest ancient art galleries in the world and the richest in terms of content in the region. We divide Inner Mongolia rock art into five large areas from east to west: 1) Chifeng; 2) Xilinhot; 3) Yinshan Mountains; 4) Zhuozishan Mountain; and 5) Alxa in western Inner Mongolia.

1. Rock Art in Chifeng

In the eastern part of Inner Mongolia, rock engravings are mainly distributed in the Hexigten Banner of Chifeng, the middle and lower reaches of the Yinhe River expanding into the Songshan District, Baarin Right Banner, Arhorqin Banner, Jarud Banner and Ongniud Banner, with longitudes of 118° to 121° E and latitude of 42° to 44°N. This area covers the south part of the Greater Khingan Mountains and the north foothills of the Yanshan Mountains. Also, it is surrounded by mountains on three sides with higher elevations in the west, covering a variety of landscapes such as plateaus, mountains, hills and plains. Rock art is mostly distributed on the cliffs and rocks on both sides of the river or on slopes. For example, there are hilly landforms in the middle and lower reaches of the Yinhe River in the Songshan district with narrow and meandering valleys. Rock art is distributed on cliffs on one side of the river and steep slopes. The rocks are mainly basalt.

Rock art surveys in Chifeng began in the 1980s. In 1981 and 1982, surveys in the Baichahe River Basin and in the middle and lower Yinhe River were successively conducted. They continued until 2004. A total of 185 panels were found with over 460 individual images. The main types of rock art include human faces, animals, geometric designs, and pastoralist paintings. Most of the images are of human faces, accounting for about 52% of the total. The second most common subject is animal images, accounting for 30%, including deer which is the most common animal represented. Geometric images are mostly circles and concentric circles. The main technique used to make human faces is grinding while for other types of rock art it is mostly chiseling. The rock art is mostly outline in style. Animal images are realistic and figurative, focusing on the major features of animals. Human face depictions are abstract. The basic feature of this type of image is that it does not portray the outline of the head but only highlights the eyes to represent entire human faces. And eyes are mostly concentric circles. This kind of face engraving is also found in the Yinshan Mountain area.

Chifeng is one of the most important birthplaces of Chinese ancient civilizations. The archaeological cultural sequence in the region is rich, and the entire historical development process is

continuous, which makes it possible to use the archaeological data to determine the period in which the rock art was made. For example, in 1997, two small pottery figurines were unearthed from tombs of the Xinglongwa culture in Hongelt, Baarin Right Banner. The figures' faces are oval in shape with fold lines on the forehead, which have many formal similarities with the human faces in the rock art. In addition, a rock art image discovered on the base of a channel in the middle of the Lower Xiajiadian cultural period site of the Sanzuodian site in the Songshan District of Chifeng, was made by a grinding technique. It can be inferred that the age of this rock art was no later than the Lower Xiajiadian cultural period (2300 BP to 1600 BP). All these can provide evidence for the dating of rock art.

2. Rock Art in Xilinhot

Rock art in Xilinhot is mainly distributed in the Abag Banner, Sonid Left Banner, Sonid Right Banner and Xilinhot City in the Xilingol League, Inner Mongolia. The Xilingol League is located in the central part of the Inner Mongolia Plateau. The area is mostly hilly in the east and south and gently rolling in the west and north. Rock art was discovered on flat rocks, distributed on the tops of the mountains and on the mountainside. These rock art sites are far from where people are now living.

In 1982, the Sunite rock art was spotted by local Mongolian herdsmen. In 2016, the Archaeology Department of Renmin University of China and the Xilingol League Cultural Relics Management Station formed a joint archaeological team to systematically investigate and record the remains of rock art in the Xilingol League, and collected a large amount of important rock art data. More than 1,400 rock art panels with about 3,700 individual images were recorded in that area. The types of rock art mainly include animals, human figures, geometric designs, handprints, hoof prints, and pastoralist scenes. Animal figures are the most abundant, accounting for 50% of the total, followed by geometric designs, human figures, and pastoralist scenes. Human faces are also numerous and account for about 6% of the total. The most common technique of rock art is chisel-cutting, followed by grinding. Images are usually in outline and fully engraved style. The rock art is also realistic and figurative in style. The fact that horses are the most frequent subjects, accounting for about 40% of all animals, followed by sheep and dogs, suggests that most of the art was made during the period of animal husbandry.

3. Rock Art in the Yinshan Mountains

The Yinshan mountain range is located in the central part of Inner Mongolia and the northernmost part of Hebei Province. It extends east to west and is an ancient fault block mountain. What is more, it is an important geographic demarcation line in northern China. Based on the differences in terrain, roughly in the boundary of Hohhot, the Yinshan Mountains can be divided into two sections. The mountains in the east of Hohhot are relatively low, with an average elevation of 1,500 meters above sea level and are covered by a large amount of basalt; in the west of Hohhot, the Yinshan Mountains are higher in elevation with an average of 1,800 to 2,000 meters. From west to east, there are the Langshan Mountain, the Serteng Mountain, the Wulashan Mountain and the Daqing Mountain. The main geological body of the mountain range consists of granite.

In terms of administrative divisions, the research areas involved in Yinshan rock art mainly include Bayannur, Baotou and Ulanqab in Inner Mongolia. Rock art is mostly distributed in mountainous and highland areas, and the rock engravings are generally chiseled on flat rocks. From a geographical point of view, Yinshan rock art can mostly be found in the valleys between the mountains where there are abundant water resources and transportation lines for inter-regional communication between north and south. However, the rock art is usually far away from where people live now.

From written records, the discovery of Yinshan Rock art can be traced back to the Northern Wei Dynasty, when the famous geographer and writer Li Daoyuan recorded the animal rock art of the Langshan in the western part of Yinshan in his book Shui Jing Zhu (《水经注》). The investigation on Yinshan Rock Art began in 1927, conducted by the Sino-Swiss Scientific Mission to North-Western China. From 1976 to the 1990s, Mr. Gai Shanlin from the Inner Mongolia Heritage Team inspected most of the rock art in the Yinshan area, and he included these copies of rock art and research results in his monograph. In October 2007, the third census of cultural relics in Bayannur was initiated and lasted for more than three years. 152 rock art conservation areas were investigated and 9,986 panels with more than 50,000 individual images were recorded. At the same time, a database was founded; and the book Petroglyphs in the Yinshan Mountains was published. At present, a total of about 11,000 rock art sites with over 60,000 individual images in the Yinshan area have been discovered.

The motifs of rock art in the Yinshan area are mainly animals, hunting, grazing, people, carriages, geometric designs, human faces, footprints and other scenes. Humans include dancers, riders, and shamans. Among all the rock art, animals are the most abundant, accounting for about 50%. Animals include sheep, horses, deer, camels, eagles, dogs and tigers, but sheep are dominant. They are statistically followed by human figures, pastoralist and hunting scenes, accounting for about 20%. In the Yinshan area, human faces, carriages, and foot prints are also common. The number of human faces is also relatively large, concentrated in the Langshan, and most of the shapes are abstract.

The making of rock art is mainly by chiseling and grinding. Animals were mostly engraved with chisel and human faces by grinding and incision. The styles of expression are mainly outlines and fully engraved. Animal rock art style is characterized by realism and is figurative, depicting the main characteristics of the animal. For example, claws are long and bent backwards; horsetails are long and naturally drooping; and the tails of dogs are short and tilt slightly. The overall style of Yinshan rock art is comparatively rough and simple.

4. Rock Art in the Zhuozishan Mountain

The Zhuozishan Mountain is located in the eastern part of Wuhai City, Inner Mongolia, on the western edge of the Ordos Plateau. Its geological structure belongs to the Ordos platform edge belt along with Helanshan Mountain. The Zhuozi Mountain consists of two parallel mountain ranges about 10 kilometers apart extending from north to south. The rocks are mainly composed of gneiss, limestone and shale. The Zhuozishan Mountain develops "V" shaped valleys. Rock art is mainly distributed in the mouth of the valley where the terrain is open.

In 1973, the Zhaoshaogou Rock art in the Zhuozishan Mountain was discovered by local herdsmen. Afterwards, Mr. Gai Shanlin investigated the Zhuozishan Mountain rock art and recorded his results in the book Petroglyphs in the Yinshan Mountains. In 1989, the local cultural relics department conducted a survey and discovered two new rock art sites. They were included in Rock Art in Zhuozishan Mountains.

The Zhuozishan Mountain rock art consists of six sites, namely Zhaoshaogou, Kucaigou, Maoergou, Subaiyingou, Subaiyingou and Subaiyinhougou. 119 rock art panels with more than 360 individual images were identified. The contents of the Zhuozishan Mountain rock art are mainly human faces, accounting for about 80% of the total number. The production techniques are mainly based on grinding, and some are combined with chiseling and grinding. Human face rock art is mainly distributed in Zhaoshaogou. In addition, there are animals, human figures, cupules, footprints, and buildings (tents) depicted in the rock art in this area. Animals include sheep, horses, deer, tigers, and dogs, among which sheep are dominant. Human rock art includes horse riders and dancers. Rock art is mainly represented by outline styles. A prominent feature of the engraved faces is that most of the head circumference has lines similar to the sun's rays.

5. Rock Art in the Alxa area in western Inner Mongolia

Alxa League is located at the westernmost point of Inner Mongolia. The landform types include deserts, Gobi and low hills. The rock art in that area is mainly distributed in the Alxa Right Banner and the Alxa Left Banner.

In 1978, Gai Shanlin surveyed the rock art of Alxa Left Banner. In 1984, seven painted handprints were found in the caves of Yabulai Mountain in the Badan Jaran Desert in Alxa Left Banner. From 1986 to 1987, the cultural relics staff of Alxa Right Banner discovered a large number of rock engravings in the Mandela Mountain. From 2007 to 2009, the Inner Mongolia Cultural Relics Joint Expedition Team conducted three comprehensive investigations of the Badan Jaran rock engravings.

The Alxa Right Banner rock art is concentrated in the southeast of the Badan Jaran Desert. Among them, the Mandela Rock Art Group has the largest number of images, more than 6,000. The motifs of rock art are mainly animals, hunting, life scenes and human figures. Animal rock art mainly includes sheep, camels and horses. Scenes are generally large and beautiful. The main technique is chisel-cutting, and rock art is mainly represented by realistic and figurative outline and fully engraved styles. Hand-prints with brushed pigment, like those found in the Yabulai Cave, are rare in northern China.

The rock art of Alxa Left Banner is located at the junction of Inner Mongolia and Ningxia, in the western section of the Helanshan Mountain. It is believed to be in the same rock art system as the Zhongwei rock art of the Helanshan Mountain. The subjects of the engravings are mainly animals, with sheep, camels, horses, dogs and tigers. In addition, there are rock art types such as hunting, pastoralist, human figures and footprints. The technique is mostly chiseling in realistic outline style.

The number of rock art sites found in Inner Mongolia is the largest in China. Since the 1980s, the famous archaeologist Mr. Gai Shanlin began a large-scale survey of rock art. He traveled throughout the eastern and western regions of Inner Mongolia and published classic academic works

such as Petroglyphs in the Yinshan Mountains and Petroglyphs in the Ulanqab Grassland. After Mr. Gai's efforts over many years, the investigation, research and protection of rock art in Inner Mongolia have increasingly been valued by local governments. The protective measures included the installation of video monitoring equipment and the construction of flood control dams, diversions, fences and rock protection signs. In 2004, Bayannur City built the first museum of rock art paintings—Yinshan Rock Art Museum.

The Bayannur Museum, which was opened in 2016, has an individual rock art exhibition hall. Baotou Museum is also one of the first institutes that realized the importance of rock art protection. In the 1990s, under the leadership of Mr. Liu Huanzhen, Baotou Museum planned an exhibition of rock art entitled "Earth-shattering and Heaven-battering: Exhibition of Ancient Rock Art in Inner Mongolia". This exhibition was awarded "National Top Ten Boutique Exhibitions" in 1999 by the State Administration of Cultural Heritage.

In 2013, the Zhuozishan Mountain Rock Art Group in Wuhai City was inscribed on the National Heritage List. In the same year, the Wuhai Municipal Government formally approved the construction of the Zhaoshaogou Rock Art Museum. In 2014, the frame of the conservation hall of the Zhaoshangou Petroglyph Site in the Zhuozi Mountain was completed for exhibition. In 2013, the Mandela Mountain rock art in Alxa Right Banner was listed as an important heritage site under state protection. In 2017, the government of Alxa Right Banner approved the construction of the Rock Art Museum which is located 14 kilometers southwest of the Mandela Mountain. The civil work has been done and the museum is expected to be officially completed and opened to the public in May 2019. In addition, Inner Mongolia Museum, Ulanqab Museum, Xilingol Museum and other institutes have also put on rock art exhibitions. These museums together will plan on rock art displays, education, communication, research, and tourism bases, and will play an active role in promoting and protecting the rock art of Inner Mongolia.

The Rock Art of Ningxia Hui Autonomous Region

Brief Introduction to the Area

Ningxia is located in the middle reaches of the Yellow River in Northern China, which borders Inner Mongolia Autonomous Region, lies to the west of the Shaanxi province, and is connected with the Gansu province in the south. The landform of Ningxia is short from the east to the west and long from the south to the north. Taking Tongxin county in the center of Ningxia as the axis, the southern and northern regions belong to different archaeological cultural systems in the Neolithic Period. Subsistence patterns in the north part are mainly hunting and gathering with microlithic tradition in the early Neolithic period. The southern part was under the influence of Neolithic Majiayao and started a sedentary agricultural living mode earlier.

Rock art is mainly distributed in the Helan Mountains in the northern area. The Helan Mountains are made up of granite. Overall, they run in northeast and southwest directions (north by east 30°). The average altitude of the mountains is around 2000m. Rock art sites in Ningxia are mostly in the mountains, with few in other areas. The rock art of Zhuozishan Mountain in Inner Mongolia is the stretching branch of the Helan Mountains in the north, while the southern branches extend to

Zhongwei in the middle part of Ningxia. There are around 40 passes in the eastern foothills of the Helan Mountains in Ningxia, including 37 large passes, and the rock art is distributed inside and outside these passes and on the desert plains of the alluvial fans.

Rock art in Ningxia is an important component of northern rock art in China, characterized by its quantity, rich variety of motifs and exquisite production techniques. The number of individual rock art images in Ningxia has now reached 35,000 (22,144 images in 2003; approximately 10,000 more have been found in the past 10 years). 19,752 images have been discovered and recorded 3.7km eastward and westward of the Helan Mountains. According to Professor Emmanuel Anati this is a “major rock art area” with “over 10,000 images within an area less than 1000 km2”. The Helan Mountains are undoubtedly one of the “major areas” of world rock art. In general, Ningxia rock art consists of human faces, animals, vegetation, human figures, life scenes and geometric designs. Animal rock art reaches around 60%, including sheep, cows, horses, donkeys, deer and tigers. Compared to rock art in other areas on the northern grassland, the production of animal images in the rock art of Ningxia is more meticulous and exquisite, and the shapes and style are more original.

The Helanshan area is also the area where the largest number of vegetation rock art motifs have been found. For a long time, Ningxia rock art has been characterized by its large number and various types of human face images, particularly along the Helan Pass, with 80% of all the human face images in the Helan Mountains. Besides, geometric designs are also important motifs. There are human reproductive symbols, celestial symbols, utensil symbols, vehicles, tools, etc. Comprehensively speaking, animals make up the main part of rock art in Ningxia. The ways of producing rock art there can be generally classified into four types: a) chiseling by taking a piece of blunt and sharp tool as a chisel and then hitting the chisel with a stone to make spots and finally form an image; b) grinding by incising the frame of images, and then grinding with large stone tools; c) engraving rock surfaces with sharp tools, leaving slim and sharp traces on rocks, ascribed to relatively late periods; d) pigment painting, present in Baiji Groove and Shizuishan in Ningxia.

Distribution of Rock Art

Rock art sites in Ningxia include Shizuishan rock art sites, Helan Pass rock art sites, East Lingwu Mountain rock art sites, Qingtong Gorge rock art sites and Zhongwei rock art sites.

1. Shizuishan Rock Art

Figure 3. Shizuishan Rock Art
©Zhang Xiaoxia

Shizuishan rock art is located at altitudes between 1090m to 3475.9m, in the northernmost part of Ningxia. It is also a part of the Helan Mountains. The rock art is mainly found on meadows and mountains. The former ones are on the surfaces of small rocks on alluvial fans in front of mountains, while the latter ones are mostly concentrated in mountains and gully cliffs.

More than 1000 examples of rock art have been discovered in 14 places and recorded in an investigation on Shizuishan rock art in 2015. Images of rock art in Shizuishan include animals, figures, vegetations, stupas, abstract patterns and geometric designs, etc. Animals remain the main subject depicted in the rock art of the area. Currently, distinguishable animals include: sheep, camels, horses, tigers, deer, cows, wolves and dogs, etc. The most numerous are sheep which can almost be found at every rock art site with a total number of 473. Horses (99 images), horse riding (22 images with riders), tigers are also common in Shizuishan rock art. These images are concentrated in Daxifeng Ditch where 23 tiger and 19 cow images have been discovered. Some animal species cannot be identified. There are also 93 examples of rock art with human figures (24 with the image of archers), 33 with faces and 16 with vegetation. Different from rock art in other parts of Ningxia, the rock art in Baiji Ditch in Shizuishan is in color and almost all the images are in red, except for a few black traces that are coated and painted with ochre.

2. Helan Pass Rock Art

Helan Pass is an important pass in the Helan Mountains where spring water forms a creek after being exposed to the surface of the land of the gully. Alluvial fan desert prairie was formed outside the opening of the gully. The rock art protection area covers 11.06 km2 where 5681 rock art images are densely distributed in 2326 groups. The number of rock art images reaches one third of the recorded rock art in the Helan Mountains with an average density of 513 rock art images per square kilometer.

Figure 4. Helan Pass Rock Art Zhang
©Shaozhi & Xia Liangliang (eds). *Marks of Civilization: The Rock Art from Gaofugou to Small Helankou in Helanshan.*

According to the natural environment and the topography of its location, rock art can be divided into mountain rock art and mountain meadow rock art. Mountain rock art is mainly distributed on the rock walls inside and outside the ditch on the eastern foothill of the Helan Mountains. Most of the rock art in the Helan Pass is located on both south and north sides of the mountain pass and on the cliffs 1160m away in the gully. Most of them are panels of associated images, while only a few are individual images. The most concentrated area of rock art is generally on the cliffs at a height of between 10 and 20m above the ground. Mountain meadow rock art is distributed on the desert meadow on the alluvial fans in front of the Helan Pass, where a large area of bare rocks and erratic boulders with black varnish are exposed on the ground. A total of 1594 engraved rocks were located, mainly with animal images. 2768 geometric designs account for 48.6% of all the rock art. The most distinctive feature of Helan Pass rock art is human faces: 364 in all, making Helan Pass the area with the densest and largest number of human faces in Chinese rock art.

3. Rock art in East Lingwu Mountain

Lingwu city is in the southeast of the Central Ningxia province, with an altitude ranging from 1107 to 1647m. The natural landform can be divided into an eastern mountainous area and a western river area. Different from other rock art distributed on the rock walls in the mountains and gullies in other parts of Ningxia, rock art in the east Lingwu Mountains is mainly distributed on the hills of the eastern mountainous area and the rocks on the gentle slopes. Rock art in all other parts of Ningxia is on the west bank of the Yellow River; but the rock art in Lingwu was first found on the eastern bank of the Yellow River. The rock art covers an area of roughly 25 km2. Over 500 rocks are engraved with over 1565 individual images. The motifs include animals, human figures, geometric designs, human faces and prints, etc. Most of the rock art in the east Lingwu Mountain consists of animals, with 1002 sheep and 157 horses. It is worth noticing that 138 human figures have been found in this area. Only 16 similar human figures were seen in other sections of the Lingwu area. There also are 77 spiral patterns.

4. Rock art in Qingtong Gorge

Qingtong Gorge is located in the southern part of Ningxia. It is the main grain-producing area of the Yinchuan plains. The Qingtong Gorge rock art is mainly distributed in the Guangwu village of Qingtongxia city. It borders with the Zhongning county in the south. The rock art in that area mainly consists of animals such as sheep, horses and deer. Hunting images, wheels, plant depictions and concentric circles also exist.

5. Zhongwei Rock Art

Zhongwei is in western Ningxia. The Yellow River runs across and brings flooding soils. The Zhongwei rock art is in the North Weining Mountain and Fragrance Hill. It is scattered in an area stretching 50km from east to west and 8km from south to north. Over 6000 groups of rock art, with 20,000 individual images have been discovered. The Damaidi rock art site is the most concentrated area with nearly 2000 panels of rock art in an area of 6 km2. The motifs of Zhongwei rock art are rich and varied. Animals are the most frequently depicted, reflecting reproduction and fertility worship.

Archaeological Culture and the Age of Ningxia Rock Art

A large number of ethnic minority groups have lived in the region of the Helan Mountains through time. River valleys provide water for desert oases and serve as natural passes in the desert. These were not only migration passages for ethnic groups in ancient times, but also important channels for cultural interaction between ethnic groups. There are many prehistoric cultural relics in Ningxia. Cultural relics of the late Palaeolithic Age can be found in Shizuishan, Lingwu and Zhongwei in central and northern Ningxia. The Dove Mountain site is located in the basin in front of the Helan Mountains around 20km to the southeast of Qingtongxia city, Ningxia.

Fifteen sites have been discovered and dated to between 12,700 to 8000 years before present. Artifacts unearthed from those sites vary in category, reflecting diverse cultural activities in that region. The Shenmu Shimao site is also near Ningxia. Close relations between the culture of the

two places can be discerned from artifact styles. The Shenmu Shimao site is dated to the Longshan Period. In an investigation during 2009, over 20 stone sculptures were unearthed, most of which are human heads or faces. The large number of fine stone implements unearthed from the Shimao site show that hunting and pastoralism were abundant at that time. Within 12 km2 of the Helan Pass, stone axes, stone knives, stone sticks and stone rasps have been discovered. In the Helan Pass, 1.5km from the opening of the gully and 300m from the opening, two kilns have been found.

The rock art in the Helan Mountains was not all produced by the same group of people in the same period. It was made by different tribes over a long period of time. The first phase can be dated back to the late Neolithic, around 4000 years before present. The rock art from that period was mainly human figures. The second phase was between 3000 years to 2000 years ago, these remains belong to northern ethnic groups such as the Hun and Donghu. The depictions were mainly of animals and show examples of both animal husbandry and hunting. The diversified styles suggest that these motifs were created by different nomadic ethnic groups. The fourth phase of the rock art can be dated back to 1200 years to 800 years ago, during the West Xia Dynasty, judging from the characters of West Xia.

Museums and Protection

As a large number of rock art sites were found in Ningxia in the 1980s, two annual meetings of the International Federation of Rock Art Organizations (IFRAO) and the Ningxia International Rock Art Seminars were held in Yinchuan in 1991 and 2000. In 1999, the Ningxia Rock Art Research Center was set up, focusing on discovery and research of rock art in Ningxia, collecting and reorganizing relevant material and information. At the end of 2003, 27 households that used to live on the Ningxia rock art site were removed to protect the site. At the same time, the General Plan of Protecting Rock Art in Helan Pass of Helan Mountains, Yingchuan City was formulated to protect rock art in the Helan Mountains. In 2008, the World Rock Art Museum of Helan Mountains, as the first museum dominantly exhibiting rock art in China, was set up. The work undertaken to protect and develop Ningxia rock art has made a difference, providing a model for rock art protection in China. Further protection and research on rock art and keeping a balance between protection and tourism are the challenges facing us for the future.

Rock Art in Eastern China

Zhang Wenjing
China Rock Art Academy
Zhang Jiaxin
Rock Art Research Association of China
Zhang Xiaoxia
Rock Art Research Association of China
Zhang Yasha
Rock Art Research Association of China, Minzu University of China

The Greater Khingan Mountain area in Northeast China is located in the northernmost part of China. It borders Russia and North Korea. In recent years, a large number of rock art sites in the Greater Khingan Mountains area have been found, making the Greater Khingan Mountains area a new zone of Chinese rock art. The rock art of the Greater Khingan Mountains area is mainly painted in red and occasionally yellow. It reflects the forest culture and nomadic culture in this area.

In the southeastern coastal region of China and Central China, rock engravings are the

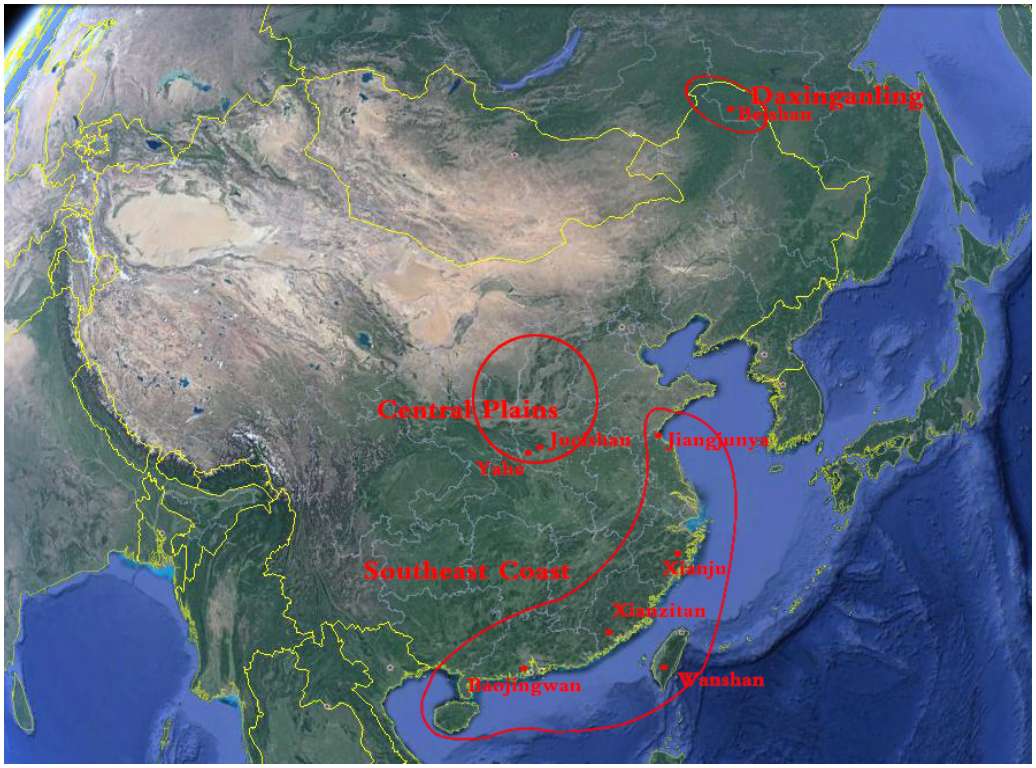

Figure 5. Distribution area and main rock art sites
©Zhang Jiaxin

primary rock art form, with dominant subjects being human face masks and cupules. Central China has the most concentrated area of cupules so far discovered in China. Masks, cupules and ship-shaped and fish-shaped rock art symbolizing marine culture can be found along the southeastern coast of China. That style of rock art contains elements of Austronesian art and also has been

considered as a part of the Pacific Rim mask rock art system. At the same time, they are closely related to cupules in Central China, presenting complex forms of several cultural patterns. It seems that rock art in the Greater Khingan Mountains area, southeastern coast and Central China reflects forest and nomadic cultures, agricultural cultures, marine and agricultural cultures respectively.

1. Rock Art of the Greater Khingan Mountains in Northeast China

1.1 Regional Profile

The Greater Khingan Mountains in the Heilongjiang province are located at the northeast end of China. The geographical coordinates are between 121°12’ E and 127°00’ E, 50°10’ N and 53°33 N. The Greater Khingan Mountains stretch from Heilongjiang in the north to the upper reaches of the Xar Moron River valley in the south. They stretch 1200 km from northeast to southwest in range and about 200 km to 300 km in width. The mean height of the mountain peaks is between 1100 m to 1400 m. They are also the watershed of the Inner Mongolia plateau and the Songliao plain. The forests in the Greater Khingan Mountains are luxuriant. Under the influence of a cold temperate continental monsoon climate, the mountains are cold in winter and warm in summer, with a large temperature difference between day and night. The average annual temperature is -2.8℃; while the lowest temperature is -52.3℃. The main types of rock are granite and magmatic rocks. As the birthplace and habitat of the ancient Xianbei, Mongolia and other ethnic groups in China, there are 28 ethnic groups living in this area now, including Manchu, Daur, Oroqen, Ewenki and others.

A total of 38 sites with 2,000 panels of rock paintings of portable rock art have been found in the Greater Khingan Mountains. The rock art found in the area only consists of paintings. The depth of the reddish-brown patina, the direction of the exposure and the degree of weathering are all different. Rock art sites are widely distributed on sheltered rock faces in the mountains.

1.2 Concentration Area of Major Rock Art

In 2014, archaeologists from the Archaeology Institute of the Heilongjiang Province excavated the Beishan Cave (52°05’50’’E, 123°14’05’’N) in the north part of Bishui Town, Huzhong District, Greater Khingan Mountains and found various cultural layers from the Neolithic Age to the Xianbei period. On the rock walls under cultural layers, residual reddish-brown pictographs were unearthed. Blades, scrapers and stone adzes were unearthed that are typical of the Neolithic Age. According to the stratigraphic relationship of the cultural layers, those reddish-brown pictographs were drawn no later than the Neolithic Age. In addition, there were other cultural remains excavated from the cave, such as exquisite lithic cores, fragments of stone container, rim parts of pottery, agate beads and other beads.

Figure 6. Rock art in Beishan Cave and the unearthed stones
©Zhang Jiaxin

The patterns of the rock art in the Greater Khingan Mountains can be divided into three categories, dominated by human figures and animals. The first category includes single persons, two people, three people and multiple people, some of them showing gender. Some figures have been found wearing a three-winged headdress. The second category is animals, including wolves, dogs, horses, wild boar, deer, tigers, birds (and animals similar to tortoises). Also in the category are dragon-shape creatures with four horns on their S-shaped upper torso. The third category is abstract images of the sun and the moon.

The rock art in the Greater Khingan Mountains area is a new type in China, reflecting forest culture, Shamanism and hunting-gathering lifestyles. It is also closely connected with the art of neighboring countries, especially with sites east of Lake Baikal. The silhouette-like monochrome flat painting method, crouched figures and comb-like images are also found in eastern Siberia, particularly in the Baikal region in Russia. There are some incredible similarities between these regions regarding the details of the images.

2. The Rock Art of Central China

2.1 Regional Profile

Central China is surrounded by mountains like the T'ai-hang Mountains, Funiu Mountains, Xionger Mountains, Waifang Mountains and Ta-pieh Mountains in the north, west and south respectively. In the central and eastern parts, there is the broad North China Plain with the Yellow River running through it from west to east. The mainstream of the Huaihe River system, the Haihe River system, Danjiang River, and the tributaries of the Yangtze River system, also cut through that area. Central China lies between a warm temperate zone and the subtropics, with monsoon climate ranging from humid to semi-humid. The Central Plain Culture has its heart in the Henan province, with the middle and lower reaches of the Yellow River as the hinterlands and impacting outwards.

Central China is one of the birthplaces of Chinese civilization as well as the origin of the Yan Emperor and the Yellow Emperor. Historically the place has always been dominated by the Han

culture and Han people. At present, rock art sites found in this area are all rock engravings, with cupules as the main ones, sometimes associated with grooved lines, checkerboards, spirals and circles. Most of them are distributed in the Juci Mountain, Xinzheng, and Yahe Industrial District, Nanyang in the Henan province, and also in Suizhou, Hubei province; while some of them appear in Yexian, Miyang, Qixian, Zhenping, Xichuan, Nanzhao, Wugang and other places. Most of the rock art has been carved on granite rock in mountains, especially on the horizontal surfaces of large rocks. In the vicinity of the rock art, there are often stone shelters, stone circles and overlapped stones.

2.2 Major Rock Art Concentrations

Rock art in the Juci Mountain is located at 34°21' N, 113°32' E, covering Yuzhou, Xinzheng and Xinmi. All rock art is distributed around the Juci Mountain in an area of about 400 to 600 square kilometers with about 2000 pieces of rock art.

Figure 7. Cupules of Yahe Industrial District in Henan province
©Zhang Jiaxin

The rock art of the Yahe Industrial District in the Yahe District, Nanyang is located at 33°00' N, 112°52' E. The district known as "Nandu New District", and covers an area of 113.3 square kilometers centered on the Yahekou reservoir. More than 1000 images have been found. The Huangshan Neolithic site, a Neolithic Yangshao and Qujialing site, is more than ten kilometers from the Yahe Industrial District and is characterized by the Yangshao culture.

Shapes and styles of rock art in the two sites are similar. The shapes of rock art are mainly cupules, grooves and chequers; while some rock art also contains geometric designs and pictures of female genitals. Most cupules are shallow. Cupules have different shapes, including single cupules, scattered cupules, double-row cupules, plum-blossom-shaped cupules. Connected by grooves, some cupules form vertical or chequered motifs. Cupules were mainly made by direct percussion techniques, while some of them were carved by metal tools; chequered images were almost all carved by metal tools.

Since this is the place where the Chinese nation originated and the hometown of the Yan Emperor and the Yellow Emperor, local people often relate rock art to the mythology of the two emperors, and regard the place as a ritual site of the Yan Emperor and the Yellow Emperor period 5000 years ago. They also connect rock art with reproduction worship and agricultural worship.

3. Rock Art of the Southeastern Coast of China

3.1 Regional Profile

The term 'Southeastern coast of China' usually refers to the coastal area of the south Shandong peninsula, Jiangsu, Zhejiang, Fujian, Guangzhou, Taiwan, Hong Kong and Macau. The vast southeastern coast is influenced by warm, humid subtropical maritime and tropical monsoons, so the climate there is mild. Rock art along the southeastern coast of China mainly consists of rock engravings, dominated by cupules and images of masks, grooves and chequers and ships.

3.2 The Major Concentration of Rock Art

1. The Rock Art of Lianyungang, Jiangsu

Rock art in Jiangjunya, located in the Jinping Mountain, Taohua Village, Jinping County, Haizhou District, is representative of rock art in Lianyungang. There are five groups of rock art in Jiangjunya: the first four groups are on the raised semi-circular rock mass on the south side of the Jinping Mountain. The rock mass is mixed granite, 23 meters long from south to north and 15 meters wide from east to west. The location is at 34°53′26.995″N, 119°13′11.999″E. The elevation is 23 meters above sea level. The fifth group is located at 34°53′16.048″N, 119°13′25.456″E, with an altitude of 47 meters. The distance between the fifth group and the first four groups is 180 meters; and the vertical altitude difference is 24 meters. The images of the first group are mainly masks and rice; the second group mostly includes cupules and masks; the third group is mostly masks; the fourth group is mostly cupules and stone clusters; the fifth group is basically masks and cupules.

The fifth group of rock art in Jiangjunya is the oldest among the five groups. It can be dated back to 8000 years ago. The second, third and fourth group can be traced back to 5000 years ago. The first group is considered 3000 years old. So rock art has been continuously created over the past 8000 years. Those rock engravings reflect reproduction, agricultural and celestial worship, as they are the product of an agricultural civilization. Especially, the rice patterns in the first group are related to early rice agriculture in that place, recalling that ancient people worshipped their ancestors or gods with rice.

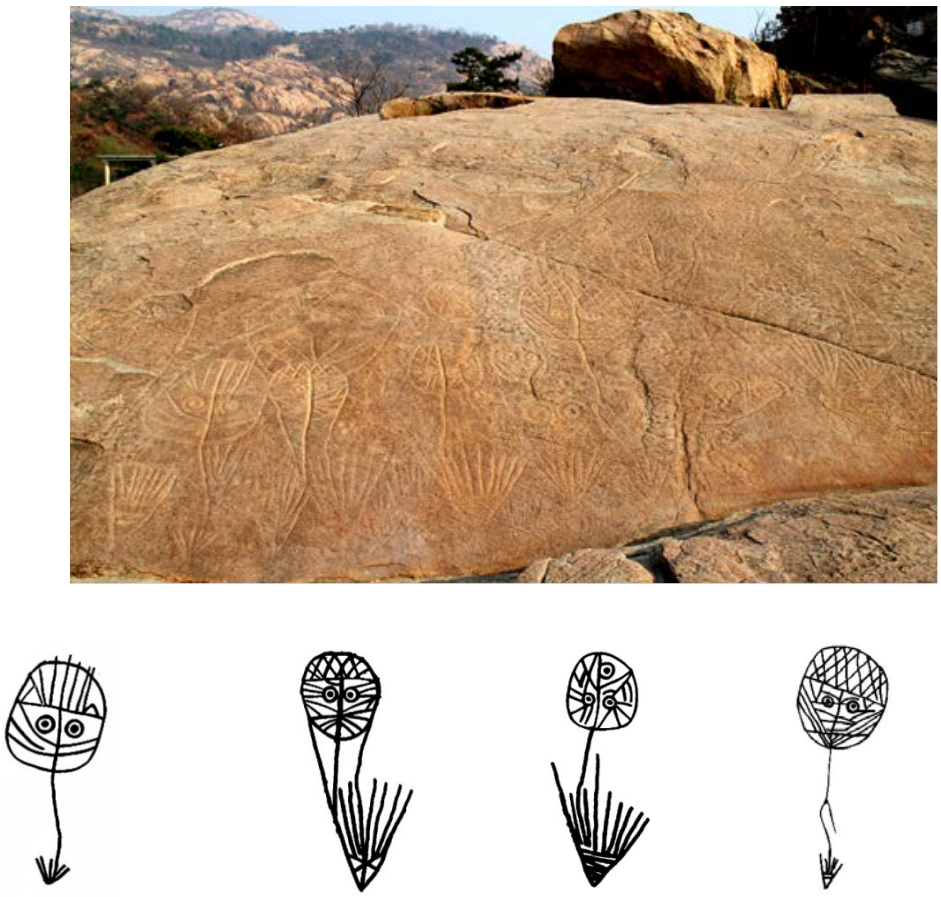

Figure 8. Panorama of The First Group of Jiangjunya Rock Art
©Zhang Jiaxin

The rock art of Jiangjunya is typical of rock art throughout Lianyungang. Before it was discovered, the main rock art sites known were in Zhizhu Mountain, Liuzhizhou Mountain, Dayi Mountain, Yu Mountain, Mo Mountain and Lion Mountain. Whereas cup-shaped cupules are mainly in Jiangjunya; and other cupules are mostly “shallow cupules”. In the Liuzhizhou Mountain and Dayi Mountain, there are many sites with ship-shaped images. Due to the high density, complicated arrangement, developed agriculture and phenology of ancient times, cupules in Lianyungang are often explained as astrological features by local people. In the past, Lianyungang was mainly inhabited by the Dongyi people recording their observation of stars and agricultural activities. Rock art in that area is often regarded as having been made by the Dongyi people.

Rock art and prehistoric sites can be found around the Jinping Mountain, Maling Mountain and Dayi Mountain. 19 Stone Age sites were found in the region, such as Palaeolithic sites of Jiangjunya, Taohuajian Moutain Stream and Erjian discovered in the vicinity of the Jiangjunya and Liuzhizhou Mountains.

2. The Rock Art of Taizhou, Zhejiang

Xianju is located in the west of Taizhou, southeast of Zhejiang, about 28.5° N-29° N, 120° E-121° E. A 7000 year old Neolithic site, known as Xiatang site, was found in that region. A total of 13 rock art groups were found in 9 sites in Xianju. The rock art is carved on volcanic rocks, including the rock art of the Songlong Mountain, Xiaofangyan, Xitang and Zhongyang Pit Rock Carving. Typical subjects are snakes, birds, animals with bird heads and fish shapes, horses, the sun, human figures, choppers, hoes, rakes and checkerboards. There are more than 220 images in total, among which snakes, hoes and rakes are the most common. On the hillside of the Xitang village, various patterns were carved on the flat rocks in an area of 1000 square meters. More than 100 of them were discerned, including flowers, snakes, chequers, the sun, choppers and human figures. Generally, the rock art of Xianju is considered as belonging to ancient Yue peoples and it reflects their agricultural and religious activities.

3. The Rock Art of Xianzi Pit in Zhangzhou, Fujian

Zhangzhou is one of the birthplaces of the Minnan culture. It is located at 24°42'26.37'' N, 117°34'57.18'' E, in the Xutian Village of Hua'an County in Fujian. It is downstream of Tai Stream, a branch of the Chiu-lung River, 34 kilometers from the downtown of Zhangzhou. There are 6 rock engravings at Xianzi Pit, stretching more than 30 meters from east to west. Apart from one Chinese character inscription, there are 36 geometric designs found at 5 sites. The largest is 0.74 meter long and 0.35 meter wide; and the smallest is 0.13 meter long and 0.1 meter wide. The geometric designs were engraved on a volcanic rock surface facing southwest. Around the rock art of Xianzi Pit, the Lianhuachi Mountain Old Stone Age site was found. Not far from the rock art site, is the cave site of Qihedong dating back to between 7000 years and 17,000 years. In addition, carbonized rice grains were unearthed from the Nanshan site in Mingxi.

4. Wanshan Rock Art in Kaohsiung, Taiwan

Wanshan rock art (120°19'32'' E, 22°37'29'' N) in Taiwan is located in the west side of the central mountain range and the upstream of Zhuokou Stream in Maolin District, Kaohsiung, with an altitude of 900 to 1400 meters. It is the only rock art found in Taiwan so far. The mountain has a dense vegetation and multiple terrains. Wanshan rock art is on an Eocene Bilushan layer of sandstone. At present, there are four rock art sites found in the area, including Kopaca'e (TKM1), Kopaca'e (TKM1), Sanaginaeh (TKM3) and Takalravoe (TKM4).

Subjects are mainly masks, human figures, grids, spirals, cupules, concentric circles and snakes, with a majority of cupules. Among the masks and human figures, there are masks with rhombic heads, crouched figures and pregnant figures. According to local scholars, Wanshan rock engravings are located in an area suitable for sedentary farming. Therefore, the rock art may be related to agricultural activities. In addition, coarse terra-cotta objects have been found in the vicinity of the rock engravings. The ethnic groups that made the Wanshan rock engravings should have the same origin as the Lukai and Paiwan ethnic groups. It should be during the Metal Age when the rock

art authors arrived. The purpose of making rock engravings was related to agriculture and religious belief.

5. Baojing Bay Rock Art in Zhuhai, Guangdong

Bojing Bay rock art sites are located in the southwest of the Pearl River estuary of the Guangdong province, which borders Macau on the south, and faces Hong Kong on the east across the sea. The specific location is 22°00'12.99'' N, 113°14'22.21'' E. Hundreds of ethnic groups are living in that region. Baojing Bay rock art is on Gaolan island at Baojing Bay. 6 panels of rock art were found at 4 sites at Genuine Stone, Baojiang Stone, Daping Stone and Treasure Cave and all are within 200 meters of the mountains. The largest rock art panel is 5 meters long and 3 meters high. Rock art images are engraved on large rock surfaces, with dense and complicated depictions, such as ships, waves, snakes and dancers. Those subjects are related to distinct "Baiyue" groups. Several archaeological sites were found at the mountain foot and sand beach, including burnt daubs and kiln sites. A large number of adze and double-shoulder stone axes were excavated and related to the ancient Yue ethnic groups. According to the styles of stone tools and pottery, the Baojing Bay site is dated back to the late Neolithic Age period of 4000 years ago.

The rock art of Baojing Bay can be divided into an early stage and a later stage. Rock art from the early stage was ground by stone tools from sun stones and moon stones. Rock art on the east and west wall of the Treasure Cave from the later stage was carved on huge rocks with complex patterns reflecting marine navigation. The rock art of Baojing Bay was made by ancient Yue groups, also known as "Baiyue", who used to live in the southeastern and southern part of China.

4. Authorship and Style

4.1 Authorship

A considerable amount of rock art has been discovered in the Greater Khingan Mountains area, Central China and Southeastern China in recent years. These sites extend in a broad area with varied natural environments, historical cultures and rock art styles. The Greater Khingan Mountains area is a relatively independent forest zone; its cultural traditions are closely related to early forestry. The main Neolithic cultures discovered in Northeast China include the Xinglongwa Culture, the Zhaobaogou Culture and the Hongshan Culture. The Greater Khingan Mountains area in the north end of Northeast China is not the center of these cultures and is more closely related to cultures in the Russian Far East. But the aforementioned cultures might have had some influence on that area.

Central China is the center of the Yangshao Culture and the Henan Longshan Culture strongly related to Neolithic Central Plain agricultural life as well as to the Erlitou Culture (Xia culture), Erligang Culture (early Shang culture) and Xiaotun Culture (late Shang culture). It has proved to be difficult for scholars to attribute the cupules of Central China to a culture at a particular stage. The production of cupules may have lasted from the Neolithic Age to early dynasty periods.

Among the rock art sites in the southeastern coast of China, Lianyungang, represented by rock art in Jiangjunya, is an area with the clearest archaeological sequence. The Lianyungang rock art and prehistoric remains are distributed in the vicinity of the Jinping Mountain, Maling Mountain

and Dayi Mountain. Erjian Palaeolithic sites follow the distribution of Erjian rock art. The rock art in Jiangjunya, for example, is only 150 meters away from the Jiangjunya Palaeolithic site. But, the rock art in this area was not restricted to a single phase, it was linked to dense and continuous human occupation. The main cultural sequences in the place are the Fengguangling Culture from the Mesolithic Age, and the Houli Culture, Beixin Culture, Qingliangang Culture, Dawenkou Culture and Longshank Culture from the Neolithic Age. The region and its cultures can be classified as “Dongyi Culture” in general. Rock art in Jiangjunya was made by the Dongyi groups. Dongyi people’s worship of the sun and their achievements on phenology, astrology and agriculture are reflected in the rock art in Jiangjunya, such as motifs of telling the people seasons by observing celestial phenomena and stone shrine worship.

The southern coasts of Zhejiang, Fujian, Guangdong and other places have been active areas of Baiyue goups since ancient times. The Baiyue culture is closely related to marine navigation and snake worship. Around 5,000 to 7,000 years ago, residents of the Hemudu culture lived on rice farming and fresh water fishing, as well as marine fishing. Archaeological cultures in that area are the Keqiutou Culture, Tanshishan Culture and Huangguashan Culture. Ancient cultures in Taiwan are the Changbin Culture of the late Palaeolithic Age and the Dabenkeng Culture, Yuanshan Culture, Zhishanyan Culture, Dahu Culture, Beinan Culture and Qilin Culture of the Neolithic Age. In short, the prehistoric cultures of southeastern coastal China are mainly related to Austronesian marine cultures.

In conclusion, the rock art in the Greater Khingan Mountains reflects an early forestry culture; the rock art in Central China demonstrates agricultural culture; the rock art in the southeastern coast of China indicates marine culture and agricultural culture. Lianyungang was made by ancestors of the Dongyi Culture; and the south coastal region was made by ancestors of the Baiyue Culture. The southeastern coast of China was dominated by an Austronesian Culture.

4.2 Style

Cupules are mostly concentrated in Central China. They are also widely distributed in the southeastern coastal area of China represented by rock art in Lianyungang and Xianju. The Central Plain rock art motifs are more diverse than those in other areas.

Masks are mainly distributed along the southeastern coast of China, including Lianyungang in Jiangsu, Xianzi Pit in Zhangzhou, Fujian and Wanshan in Kaohsiung, Taiwan. The Jiangjunya site is the most important mask rock art site in China. In addition, there are a large number of mask motifs with diverse styles in the Helan Mountains in Ningxia and the Yinshan Mountains in Inner Mongolia. Mask patterns of North China and the southeastern coast of China together form a part of the “Pacific Rim Masks” circle.

The rock art of the southeastern coast of China is a part of the Austronesian cultural circle. Rock art in the Liuzhizhou Mountain in Lianyungang, the ship-shaped rock art in the Baojing Bay of Zhuhai, and crouched figures, snakes, eddies and broken lines in the southeastern coastal area are all related to Austronesian culture.

5. Management and Protection of Rock Art Areas

The Greater Khingan Mountains area, Central China and the southeastern coast of China all pay special attention to protecting their rock art. The main institutes involved in rock art management are the local Cultural Relics Bureaus or the Cultural Relics Protection Institutes. The Jiangjunya rock art in Lianyungang, the rock art of Xianzi Pit in Zhangzhou, the Xitang rock art in Xianju and the rock art of Baojing Bay in Zhuhai are all national cultural heritage sites. Wanshan rock art in Taiwan is one of the seven cultural heritage sites in Taiwan. The Greater Khingan Mountains area and Lianyungang Jiangjunya have built an archaeological geographic information system through 3D scanning. The rock art of the Jiangjunya in Lianyungang and the rock art of Xianzi Pit in Zhangzhou have been made into rock art scenic spots. The wooden walkway around Jiangjunya rock art has been repaired for visitors. To prevent further damages from landslides, the phosphate mining in the mountain system has been stopped by local government. The rest of the rock art sites are regularly inspected by cultural relics preservation institutes. Rock art has been protected by installing iron railings or protective nets to prevent uncontrolled access by humans and animals and destruction caused by falling rocks.

With strengthened rock art protection awareness, vandalism and graffiti is becoming increasingly rare. On the one hand, rock art in the Greater Khingan Mountains area is well preserved due to its inaccessibility within thick old-growth forest and tall mountains; on the other hand, it is subject to damage from natural factors, such as wind and rain erosion and rock fracturing caused by temperature changes. Rock art in central China is more subject to human damage. The main damage to the rock art of the eastern coastal areas is caused by erosion, moss as well as salt and alkalinity from seawater.

References

Gai, Shanlin, “Rock Art of Yinsha”. Beijing: Cultural Relics Publishing House, 1986.

Liang, Zhenhua, “Rock Art of Zhuozishan Mountain”. Beijing: Cultural Relics Publishing House, 1998.

He, Jide, “Research on Rock Art in Helan Mountains”. Yinchuan: Yinchuan People’s Press, 2012.

Ningxia Institute of Cultural Relics and Archaeology (edit), “Shuidong Gully—Report on the Excavation”. Beijing: Science Press, 2003.

Ningxia Institute of Cultural Relics and Archaeology (edit), “Report on the Investigation of Shizuishan Rock Art in Ningxia”. Yinchuan: Ningxia People’s Press, 2015.

Gao, Wei, “Research on Rock Art with Ancient Oriental Star Images”. Nanjing: Nanjing Press, 2009.

Gao, Yerong, “Wan Shan Rock Carvings”. Taiwan: Preparatory Suboffice of Cultural Asset General Administration Office, Taiwan Executive, 2011.

Ou, Tansheng; Lu, Meisong, “An investigation on rock art in Xianzi Pit, Huaan, Fujian”. Archaeology, 1994, 02:152-158.

Zhang, Xun, “Introduction to rock art in Xianju”. Southeast Culture, 2009, 06: 75-80.

Rock Art in Mongolia

Altad Saranhuu Terguunbayar / Terigenbayaner
Inner Mongolia Museum, Anthropology and Archaeology Department, National University of Mongolia

Khukhuu Kharuul Ankhsanaa
National Centre for Cultural Heritage, Anthropology and Archaeology Department, National University of Mongolia

Discovery and research of Mongolian rock engravings

More than 1,000 rock engraving sites have so far been discovered, and the number is still increasing each year. Although Mongolia is a landlocked country, investigations and studies on ancient cultural heritage in the territory started relatively early, due to its natural landscape, political, military, cultural, historical as well as other factors combined.

1. The Initial Discovery and Scientific Reports of Rock engravings (from the late 19th to early 20th century)

The earliest report on the rock engravings of Mongolia was written by the famous Russian scholar and Inland Asia (Central Asia) expert G.P. Potanin, after he investigated the western part of Mongolia in 1876-1877. Rock engravings were found in Suhait in the east of the Mongol Altai Mountain. However, from an archaeological perspective, N.M. Yadrintsev is the first person who carried out scientific research on Mongolian rock engravings. In 1891, the Russian Academy of Science dispatched an investigation team directed by V.V. Radlov to the Orkhon River valley. In 1892, the Orkhon River investigation team published two papers entitled “Stones with the images of animals on the Khanui River” and “Stone at Ulaan Khad with the representation of animals and unknown marks” as well as several sketches of rock engravings in a Russian version of the Atlas of Mongolian Antiquities.

2. General Investigation and Early Studies on Rock engravings (From the early 20th Century to the early 1990s)

From the beginning to the end of 20th century, it was a golden age for the investigation and research on rock engravings in Mongolia. Scientific research started to be conducted then and the overall distribution of the rock engravings became clear to researchers. Moreover, on the basis of previous joint research by Russian and Mongolian scholars, research by independent Mongolian scholars also matured.

In 1925, three rock engraving sites were discovered by G.I. Borovko and others in the middle reach of the Tuul River, in Undurshireet soum, Tuv Province. From 1948 to 1949, engraved images of bharal (goat, pseudois nayaur) in the Uvurkhangai province were identified by the Historical-Ethnographic Expedition Team directed by S. V. Kiselev and Kh. Perlee. At the same time, the Palaeolithic Archeology Sub-Team led by A.P. Okladnikov and Jargalsaikhan also found large rock

engraving sites with images of bharals, horses, and human figures in the Uvurkhangai province. In 1955, nearly 300 rock engravings were discerned along the Tsagaan River at the border of Naran soum and Tseel soum in the Govi-Altai province by a Mongolian archeologist T.S. Dorjsuren. In 1968, the Bronze and Early Iron Age Expedition Team reported the rock engravings of Yamaan Us at the border between Uyench soum and Altai soum in the Khovd province and of Khairkhan Uul in the vicinity of the Khovd province. These two sites were initially discovered and reported by Amgalan, a painter of the Khovd provincial Theatre. From 1977 to 1978, in the Uvurkhangai province, K.H. Perlee located rock engraving images including more than 50 tamgas (clan symbols) in Naran Tolgoi, and rock engravings depicting foxes, antelopes, bharals and bulls in Nuramtiin Us. In 1980, the Bronze and Early Iron Age Research Team of the Team for the Mongolian-Soviet Historical and Cultural Expedition discovered many rock engraving sites in Ikher Khoshuu of Noyon soum, Umnugobi province. In 1985, the Palaeolithic Sub-team of the Team for the Mongolian-Soviet Historical and Cultural Expedition discovered more rock engraving sites in the Bayankhongor province and Umnugobi province. In 1989, many rock engravings were located by the Uvs province Archaeology Mapping Team of the Institute of History of MAS/Mongolian Academy of Sciences. In 1989, D. Bayar, D. Erdenebaatar and other members of the Bayan-Ulgii province Archaeology Mapping Team of the Institute of History of Mongolian Academy of Sciences found rock engraving sites in the Bayan-Ulgii province.

3. The Massive Discovery of Rock engravings and the Expansion of Research Horizons (From the 1990s to the Present)

After the 1990s, the nature and approach to research on ancient Mongolian history and culture greatly changed. More ancient rock engravings, reflecting the wisdom and ideological development of the people of Mongolia, were discovered by fieldwork. Cultural interpretation and theoretical studies on rock engravings also made great advances in knowledge.

In 1991, the Rashaan Khad rock engravings in the Khentii province were studied again by the Mongolia-Japan project “The Origin of Three Rivers” built up to look for the grave of Genghis Khan. In addition, ochred rock paintings were found on the stone panels of a rectangular stone-circled grave near Dugana Khad and Bichigt Khad of Binder soum by the same team. From 1995 to 1996, ochred rock paintings in the Bayankhongor province were found by a Mongolian-Russian-American joint expedition in search of Palaeolithic sites led by D. Tseveendorj, A. P. Derevyanko and J. Olsen. The team also discovered some rock engravings on the Khar Uul mountain. From 1994 to 1998, the team of Mongolia-Russia-US Joint Project of “Altai” directed by D. Tseveendorj, D. Kubarev and E. Jacobson discovered a massive number of rock engraving sites in the Bayan-Ulgii province, at the west end of the Mongolian Altai Mountain.

It is because of these efforts that several rock engraving sites have been inscribed on the UNESCO World Heritage List, including Tsagaan Salaa, Baga Oigor, Shiveet Khairhan (Tsagaan Gol), Aral Tolgoi, etc. In addition, investigations and research into rock paintings in the territory of Mongolia have continued since 2000; and there have been many new findings. Prior to the year 2000, there were only around 20 rock painting sites known in Mongolia. Now more than 70 sites are known. These

new discoveries make it necessary to re-examine the age and significance of rock paintings in Mongolia.

Since the 1990s, with the increasing numbers of rock engravings discovered in much larger areas, the understanding of the cultural connotations and symbolic significance of rock engravings have been more and more studied. This is paving the way for social interpretations of the art and for work on the chronology of the art. There is also an urgent need to bring the richness of Mongolian rock engravings to the attention of the public through the production of pictures and video materials, setting up websites and other effective outreach measures.

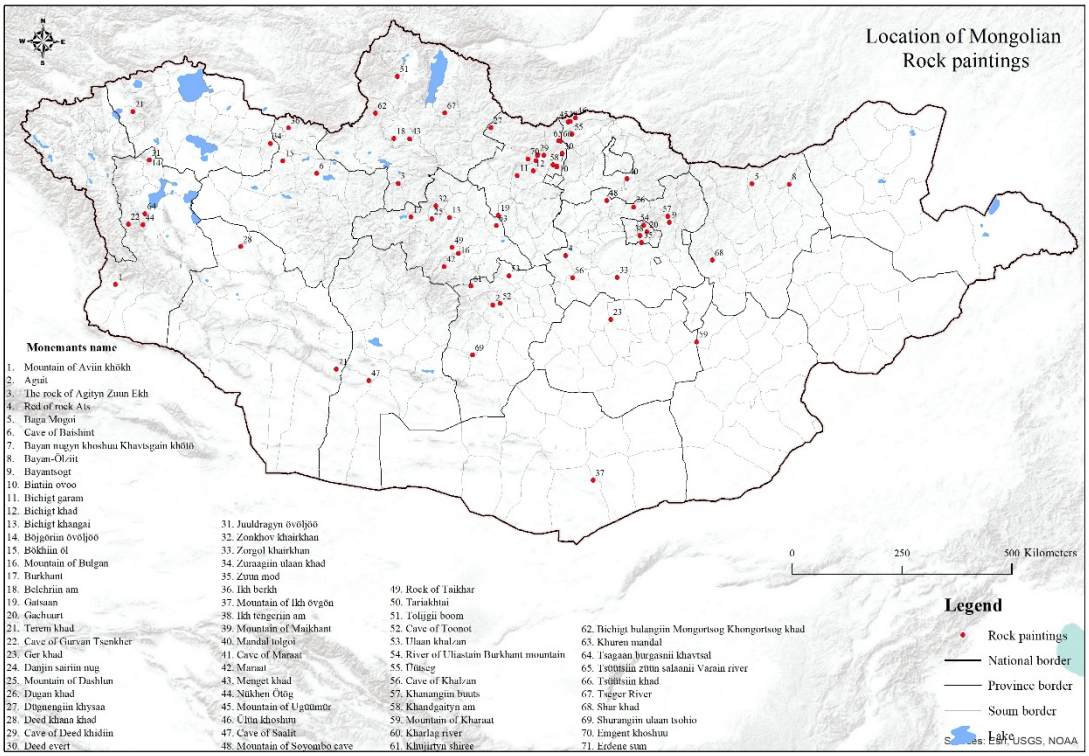

Figure 1. Distribution of Rock engravings in Mongolia
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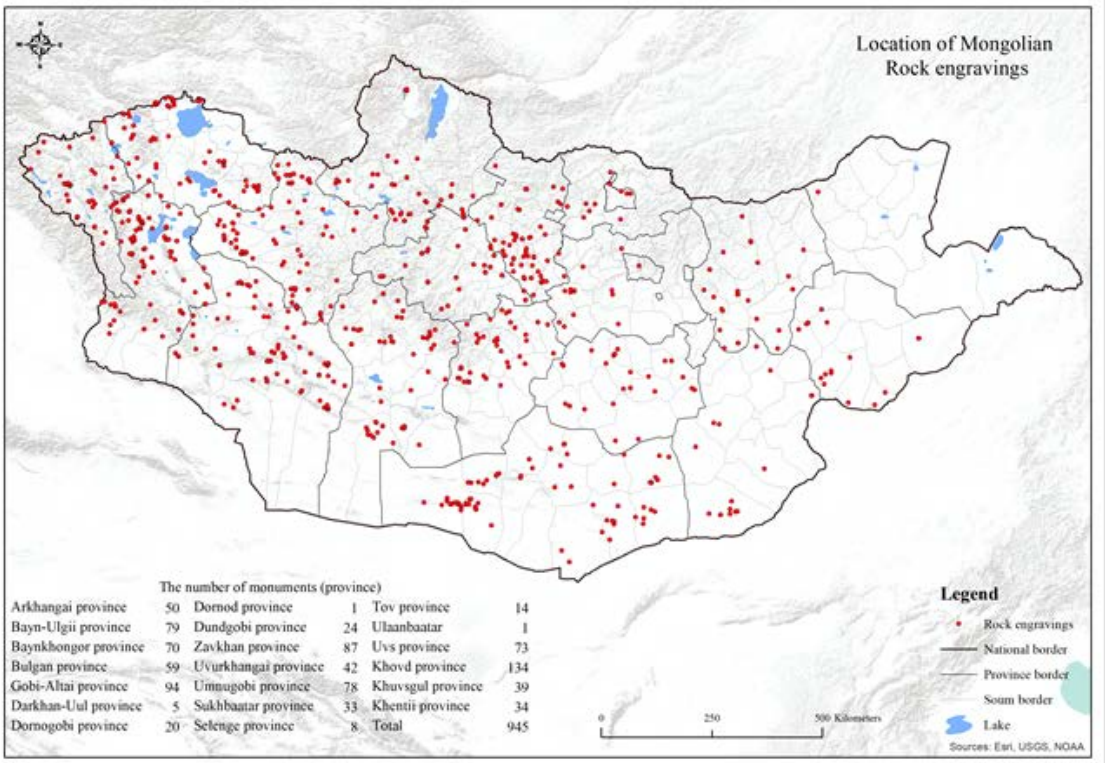

Figure 2. Distribution of Rock paintings in Mongolia
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The cultural interpretation and dating of the Mongolian rock engravings

1. The Distribution Areas and Production Methods of Mongolian Rock engravings

The Distribution Areas of Rock engravings

Mongolia is located in the hinterland of Asia. The altitude of the western region is relatively high. The Altai Mountains, Gobi Altai Mountains, Khangai Mountains, Sayan Mountains, and Tannu Uul Mountains are all situated in the western part of the country; while the eastern part is mostly covered with low-lying Gobi grassland. The majority of rock engravings in Mongolia are distributed in: i) the Altai Mountains and the Khangai Mountains in the west and in the Gobi Altai Mountains and Gobi hills in the south. There also are some rock engravings in the Sayan Mountains and Khentii Mountains Khentiyn Nuruu in the north. Just a few rock engraving sites have been found in the east up to now.

According to the data reported by Mongolia's National Centre for Cultural Heritage in 2017, there are 1016 identified rock art sites across the country, including 945 rock engraving sites and 71 rock painting sites. The provinces with the most abundant rock engraving sites include Khovd and Govi-Altai, while only a small number of sites have been found in provinces or cities such as Ulaanbaatar, Selenge. More specifically, 50 of sites are in the Arkhangai province; 79 in the Bayan-Ulgii province; 70 in the Bayankhongor province; 59 in the Bulgan province and Gobi-Altai province; 94 in the Govi-altai province; 0 in the Gobisumber province; 5 in the Darkhan Uul province; 20 in the Dornogobi province; 1 in the Dornod province; 24 in the Dundgobi province; 87 in the Zavkhan province; 0 in the Orkhon province; 42 in the Uvurkhangai province; 78 in the Umnugobi province; the 33 in Sukhbaatar province; the 8 in Selenge province, 14 in the Tuv province; 1 in Ulaanbaatar; 73 in

the Uvs province; 134 in the Khovd province; 39 in the Khuvsgul province; and 34 in the Khentii province.

Production Methods of Rock Art

From the perspective of production methods, the Mongolian rock art can be divided into two categories: rock engravings and rock paintings:

Rock engravings: The vast majority of Mongolian rock art consist of rock engravings, found throughout the entire territory of Mongolia. Among them, the rock engraving sites in the Altai Mountains and Khangai Mountains in central and western Mongolia and those in Gobi grassland in the south of Mongolia are numerous, concentrated and rich in content. By contrast, eastern regions such as the Dornod province and Sukhbaatar province have relatively fewer rock engravings, and their density and images are far less impressive than in the west. For Mongolian rock engravings, various production methods are recognized, including pecking, grinding, incision, and so forth.

Rock paintings: The number of rock paintings found in Mongolia is not very large. Except for the multi-coloured rock paintings in the Khoid Tsenkher Cave, most of them are painted in red ochre pigments. Ochre painting is mainly distributed in the forest-steppe zone along the Grand River basin in central and northern Mongolia, such as the Khuvsgul province and Bulgan province.

2. The Subjects, Styles and Dating of the Mongolian Rock engravings

In terms of the subjects of Mongolian rock engravings, they generally belong to the Eurasian Steppe type. Their main themes contain animals, hunting, animal husbandry, warfare, production tools, means of transport, tamgas (clan symbols), and masks of gods (or human faces) that may represent a certain kind of worship. The overwhelming majority of the rock engravings are from the Bronze or early Iron Age. In terms of subjects, the rock engravings in Mongolia fall into five categories: i) wild or domestic animals; ii) production activities and daily life of humans; iii) beliefs, worship, funeral customs, and so forth; iv) tamgas; v) unrecognized motifs. The rock paintings vary in age judging from the subjects, techniques and styles of specific images. The rock paintings of Mongolia are of three types: i) animals and tamgas; ii) “X” symbols (dominant); iii) square or circular fences with multiple dots inside and humans, animals, and birds with wings spread out.

In general, the dating of the rock engravings and rock paintings found in Mongolia still relies on cultural interpretation based on archaeological data. In 1975, Mongolian archeologist D. Dorj published his book Rock engravings of Mongolia in collaboration with E. A. Novgorodova. In the book, they categorized Mongolian rock engravings thus: i) Stone Age: for example, the rock engravings of the Khoit Tsenkher Cave, Arshaan Khad, and so on; ii) Bronze Age (the 15th-12th century BC) and Early Iron Age: for example, the rock engravings of Yamaan Us, Bichigt Khad, Tolijgii Boom, and so forth; iii) Xiongnu Period: from the 1st century BC to the 1st to 2nd century AD, for example, side-viewed horses and tamgas in the Yamaan Us rock engravings; iv) The Turkic Period: from the 7th to the 8th century, such as the image of bharals (goats) on the Kul Tegin monument and the like, and the rock engravings of Mukhur, Ikh Asgat, etc.; v) The Kirghiz Period: at the end of the 9th century AD, for

example, rock engravings of horse riding in East Govi ; vi) The Mongolian Period: 13th-14th century, for example, the inked rock paintings in Ikh Tengeriin Am.

Preservation and Management of Rock engravings in Mongolia

In Mongolia, a large number of immovable cultural properties are scattered on grasslands without being destroyed by excessive human activities. It is mainly because Mongolians have always been very respectful of the cultural heritage left behind by their own ancestors and that of other ethnic groups, and use various ways to protect it. According to Mongolian literature, “Anyone who is caught robbing or damaging ancient tombs or Khrgisuur will be subject to having a certain amount of cows, horses, sheep or other livestock confiscated.” At the national level, in 1941, Mongolia formulated the National Ordinance on the Preservation of Ancient Cultural Heritage (according to the 79th Chairmen Session of State Baga Khural of Mongolia). The Ordinance states: “All the ancient cultural heritage in the territory of Mongolia is national property owned by the state.” At present, of the 452 cultural heritage under preservation by the government, there are 81 rock engravings sites (refer to the State Great Khural document No. 175, 2008). Moreover, some of these rock engraving sites that have particular historical, cultural or scientific significance are also conserved through copying, rubbing, fencing, reinforcing of the rock face, and other protective measures.

Since Mongolia joined UNESCO in 1990, it has strictly complied with the basic ideas, principles and demands of the Convention Concerning the Protection of the World Cultural and Natural Heritage, with which it has updated relevant laws and regulations to preserve cultural heritage in the country. In 2011, the “Petroglyphic Complexes of Mongolian Altai" were inscribed on the World Heritage List. Among rock engraving sites that have been given special protection, the Mongolian government now is making another effort to apply for the status of World Cultural Heritage for the rock engraving complex of Gobi, exemplified by the Bayanlig rock engravings, the Gurvan Saihan rock engravings and the Del Uul rock engravings.

In recent years, with the further development of rock art investigation and research, the number of rock engraving sites found in Mongolia has been increasing. For instance, over 300 rock engraving sites in the beginning of the 21st century were identified, more than 500 after 2010, and more than 1,000 by 2017. Comprehensive measures have been taken to push rock art research agendas forward. The latest work includes investigations and counting of rock engraving sites, promoting economic growth by combining tourism, protecting rock engravings from social and natural factors, applying advanced technology like 3D scanning in rock engraving research, etc.

Introduction of Important Rock engravings Sites in Mongolia

1. Rock engravings of Tsagaan Salaa

The Tsagaan Salaa rock engravings, also known as rock engravings of Baga Oigor, are located in the Ulaanhus soum of the Bulgan province, the westernmost province of Mongolia. The site was originally discovered by archaeologist D. Tseveendorj in 1979. From 1994 to 1998, the Team of Mongolia-Russia-US Joint Project of “Altai” conducted a systematic study of the rock engravings in the

area and published an investigation report. The Tsagaan Salaa rock engravings are mainly distributed at the southern foot of the Baga Oigor Mountains, which stretch southward for approximately 15 kilometres. Rock engravings in that region have images of animal husbandry and hunting activities. In addition to individual images, most of them appear as flocks of hundreds of animals. About 10,000 rock engravings were found in that area, and the researchers believe that their chronology ranges between the Neolithic and the Bronze Age, reflecting a livelihood shift from hunting to animal husbandry, and then to modern animal husbandry. Although similar rock engravings are also distributed in Central Asia, Southern Siberia, the Chinese Altai Mountains and Tibet, the rock engravings of Tsagaan Salaa are important in their distribution scale, quantity and artistic expression.

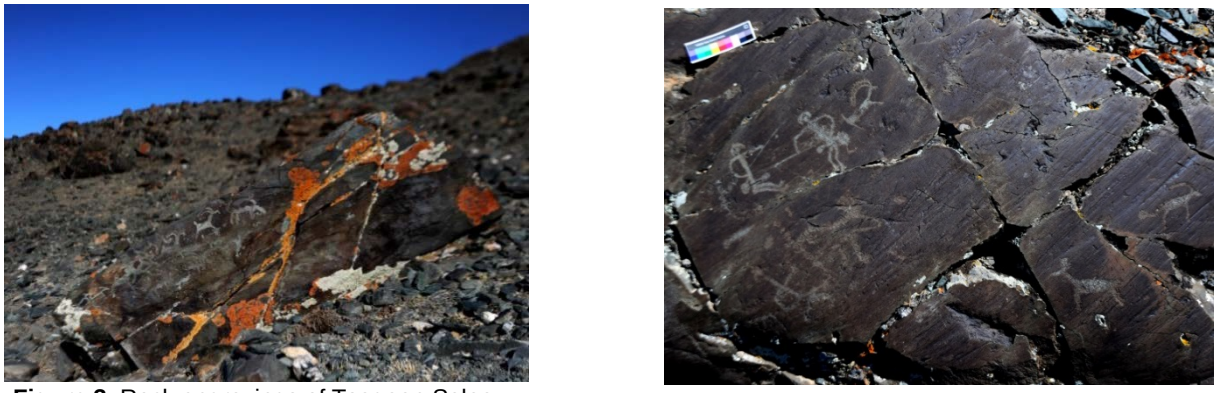

Figure 3. Rock engravings of Tsagaan Salaa
©A.S.Terguunbayar

2. Rock engravings of Yamaan Us

In 1975, according to reports by D. Dorj, E.A. Novgorodova and colleagues, there is a valley of sedimentary rocks in Yamaan Us of Uyench soum in the Khovd province. A great many rock engravings were located on cliffs in the valley. The engraved motifs include deer, wolves, antelopes, and Mongolian gazelles, as well as hunters in a squatting posture with bows (their hands and their legs slightly bent). The most notable of depictions are chariots. In the top right corner of a war scene, there is an image of a chariot pulled by three horses. It is a two-wheeled caravan with 8 spoked wheels in side view, with one person sitting in the compartment and people riding horses behind and in front of the car. Apart from this image, there is another chariot found on a different rock in the valley, though not in side view, but in vertical view. This one is a two-wheeled chariot. Scholars hold that most of the rock engravings, including those depicting cars from a top view, were made in the Bronze Age. The age of the chariots engraved in vertical view could be dated back to the Bronze Age; while the chariots and horse-riding image in side view might have been made during the Xiongnu period or later.

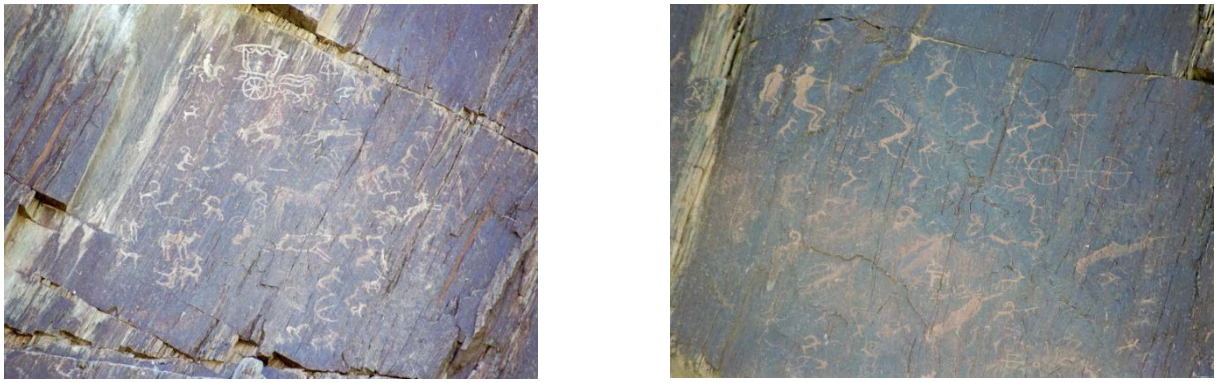

Figure 4. Rock engravings of Yamaan Us
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3. Rock engravings of Khoid Tsenkher Cave

The rock engravings of the Khoid Tsenkher Cave are located by the Tsenkher River in Mankhan soum of the Khovd province. It contains numerous rock paintings. In 1953, the Mongolian geologist O. Namnandorj reported the site to academia for the first time. After that, archaeologists N. Ser-Odjav, A.P. Okladnikov, A.P. Derevyanko and others performed in-depth research in it. The images consist of ostriches, mammoths, bharals (goat) and so on, reflecting the living conditions of people living at the site at that time. The rock paintings here were created about 15,000 to 20,000 years ago (Palaeolithic period). The height from the ground to the dome of the cave is 20 metres. A steep rock shelter forms a natural cave entrance. A 2.5 metre high rock wall in the cave is covered with all kinds of rock paintings. The rock paintings were mainly painted in two colours: one is with light red pigment, and the other with a clay pigment of a dark colour. A standing stag is depicted on the wall of the cave. Not far away is a large bison with huge horns. There are mammoths, bharals, bulls and ostriches on the adjacent rock face. Some of those animal figures are also overlapped with some unknown symbols. At the entrance of the cave, there are Bactrian camels, trees, and a variety of

tamgas on a rock surface that is 8 metres high and 10 metres long. The style of rock paintings inside the cave is similar to that of the Palaeolithic caves in the Franco-Cantabria region of Western Europe. Archaeological excavations have uncovered stone tools and some human skeleton remains in the cave.

Figure 5. Rock paintings of Khoid Tsenkher Cave
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4. Rock engravings of Tevsh Uul

Tevsh Uul rock engravings are located in the Bogd soum of the Ugurkhangai province. Not far from the downtown Bogd soum, there is the Tevsh Uul mountain. On the black top of the mountain, enormous rock engraving sites have been located. Most of the images are animals, including horses, deer, dogs, bharals and camels. Bharal images depict pregnant animals with a bulging abdomen and mature animals leading baby bharals. The genitals of bulls and stallions are depicted particularly large. There are many scenes of people domesticating animals in the rock engravings, for instance, oxen seemingly wearing a nose ring being led by a person, camels with a stick in their noses, oxen towing a plow or a cart like object, and shepherds herding horses either on foot or on horseback. One can see that people who lived on the land in the past have long known the domestication skills of various animals and accumulated a great deal of production experience. There are also many images of people hunting bharals with bows or axe-like tools. In addition, an important motifs that attracts the attention of scholars are those of ancient chariots. Archaeologists A.P. Okladnikov, P.I. Kozhin, D. Dorj, D. Tseveendorj, E.A. Novgorodova and others have recorded images of four-wheeled and two-wheeled chariots with single-shaft and four horses in this region. Among those chariots, some have no spokes on the wheels, while others have several. Based on the number of spokes, A.P. Okladnikov speculated that the age was about 2700-2300 years ago; D. Dorj inferred it to be 2300-2100 years ago. Most scholars agree with D. Dorj's view that the so-called four-wheeled chariots are actually ancient four-wheeled carts. The investigation on the Tevsh Uul rock engravings continues. In 1997, G. Gongorjav, G. Enkbat discovered a number of rock engravings in Elestiin Am, north of Tevsh Uul. There is a chariot/cart with two wheels, single shaft and a square carriage pulled by three horses. Two persons are standing in the carriage, one holding reins and the other holding a rod-shaped object. Both of the wheels have eight spokes. The horses have prominent genitalia and are clearly stallions. With regard to the chariot/cart, some scholars perceive it a chariot, and some believe it to be an ancient hunting vehicle.

Figure 6. Rock engravings of Tevsh Uul
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5. Rock engravings of Ikh Tengeriin Am

The Ikh Tengeriin Am rock engravings are located at the foot of the northern Bogd Mountain in Ulaanbaatar. In Mongolian, Ikh means “big” or “great”; Tenger means “sky”; Am means “valley”. In the fall of 1960, A.P. Okladnikov and D. Dorj discovered this rock engraving site. It is made up of seven groups of engravings. The images contain: 7 squares with red dots, 29 human figures, 3 flying birds, and 2 horses moving along a road, in addition to a variety of fuzzy patterns such as parallel lines, dots, and right angles. Of all the motifs, the clearest set is a large thick-lined square with: i) about 370 dots densely engraved inside; ii) two dots outside; iii) a flying bird with its head turning sideways above the square; iv) several humans arm by arm walking to the right with a man on the left holding two horses beneath the square; v) five humans arm by arm on the left of the square with blurred animals down below (only two hind legs and half of the body has been depicted clearly so it is hard to identify which animals they are); vi) small dots near human heads. Scholars hold that the set of rock engravings represent the concept of ancient people worshipping animal reproduction and they could date to the Bronze Age. Some of the engravings are painted in red ochre and there are some inked rock engravings depicting women wearing loose robes and Bogtogs (a type of Mongolian headdress), spotted deer. There also are inked writings in Uighurjin Mongol script. A.P. Okladnikov relates the Ikh Tengeriin Am images to the Goo-Maral of Mongolian origin in the legend The Secret History of the Mongols.

Figure 7. Rock engravings of Ikh Tengeriin Am
©A.S. Terguunbayar

6. Rock engravings of Rashaan Khad

On a cliff of the Rashaan Khad mountain, southeast of the Binder mountain in the Batshireet County of Khentii province, ancient rock engravings abound. Their subjects include animals, anthropomorphs, and various tribal emblems (tamgas). There are some images of mammoths and rhinos. Scholars believe that these rock engravings might be Palaeolithic, because of the circumstantial evidence of woolly rhino (coelodonta antiquitatis) teeth unearthed from a cultural layer 1.5 metres deep at the nearby late Palaeolithic site of Rashaan Khad. The anthropomorphic images and various tribal emblems are relatively late.

Figure 8. Rock engravings of Rashaan Khad

References

1. Major References

Ankhsanaa G., “Newly discovered ochre rock engravings from Umnugobi province”. Mongolian Journal of Anthropology Archaeology and Ethnology, Official Journal of the National University of Mongolia, Volume 4 №.1 (312) December 2008, pp.156-161 (In Mongolian).

Batbold N., “Rock engravings of Mongolian”. Archaeological Relics of Mongolia, Volume 4, Mongolian Academy of Sciences, Institute of History and Archaeology, Ulaanbaatar, 2016 (In Mongolian).

Batbold N., “Research on Rock engravings of the Mongolian Gobi”. Mongolian Academy of Sciences, Institute of Archaeology, Ulaanbaatar, 2014. (In Mongolian).

Dashnyam L., Ochir A., Urtnasan N., Tseveendorj D, “Historical and cultural immovable properties in territory of Mongolia” (thematic reference book), Ulaanbaatar, 1999 (in Mongolian).

Okladnikov A.P., “Rock engravings of Mongolia. Academy of Science of USSR”. Siberian Department of History and Philosophy Institute, Leningrad, 1981.

Sanjmytav T., “Rock engravings of Mongolia”. Mongolian Academy of Sciences, Institute of Archaeology, Ulaanbaatar, 1995, (In Mongolian).

Tseveendorj D., Tserendagva Ya., Gunchinsuren B., Garamjav D., “Rock engravings of Javkhlant Mountain”. Mongolian Academy of Sciences, Institute of Archaeology, Ulaanbaatar, 2004 (In Mongolian).

2. Other References

Амартүвшин Ч. Монголын говь, тал хээрийн бүсийн хүрлийн үеийн судалгааны зарим асуудал // Монгол судлал ба тогтвортой хөгжил. Олон улсын Монголч эрдэмтэний XI их хжрлын “Монголын түүх судлал” II салбар хуралдааны илтгэлүүд. Улаанбаатар. 2017. 11-16-р талд.

Анхсанаа Г. Новые находки петроглифов и тамгов в Северо-Западой Монголии (Завхан аймак) // Древние культуры Монголии и Байкальской Сибири. [Вып. 5] Материалы V Междунар. науч. конф., Кызыл, 15-19 сент. 2014 г. Ч. I. Кызыл., 2014. С.144-149.

Батсайхан З., Эрдэнэбат У., Оюунтуяа Б., Амарбилэг Ч. Төв Азийн хүрлийн хожуу үеийн овог аймгуудын соёлын харилцаа ба Тээгийн хадны зураг // Mongolian Journal of Anthropology Archaeology and Ethnology. Official Journal of the National University of Mongolia. Volume 9 №.1(471) December 2016. Pp.27-45.

Гантулга Ж., Ерөөл-Эрдэнэ Ч., Магай Ж. Хөрөөгийн үзүүрийн хадны зургийн судалгаа “Монголын археологийн судалгаа” цуврал IV. Улаанбаатар. 2018.

Даваацэрэн Б. Монголын хадны зургийн судалгаа // Төв Ази ба Умард хятадын хадны зураг. Эрдэм шинжилгээний хурлын эмхэтгэл. Улаанбаатар. 2017. 212-223-р талд.

Дэл уулын хадны зураг. Гэрэл зургийн цомог. Эрхилсэн: Д.Сүхбаатар.

Кубарев В.Д., Цэвээндорж Д., Якобсон Э. Петроглифы Цагаан-Салаа и Бага-Ойгура (Монгольский Алтай). Новосибирск: Изд-во ИАЭт СО РАН, 2005. 640 с.

Монголын археологийн өв цуврал зурагт цомог. Монголын хадны зурагIV. Эрхлэн хэвлүүлсэн Н.Батболд. Улаанбаатар 2016. 272 тал.

Өмирбек Б. Хойд Хөлцөөтийн хадны зураг дахь тэрэгний дүр, дүрслэл, он цагийн хамаарал – Studia Archaeologica. Tom. XXXII, Fasc.6. Улаанбаатар. 2012. 91-105- р талд.

Төрбат Ц. Дорнод Монголд шинээр нээгдсэн Жаргалантын адагийн хадны зураг // Төв Ази ба Умард хятадын хадны зураг. Эрдэм шинжилгээний хурлын эмхэтгэл. Улаанбаатар. 2017. 62-71-р талд.

Цэвээндорж Д., Батболд Н. Дундговь аймгийн Дэл уулын Билүүний хадны зураг. Улаанбаатар. 2005. 96 тал.

Цэвээндорж Д., Батболд Н. Шаахар толгойн хадны зураг. Улаанбаатар. 2008. 125 тал.

Цэвээндорж Д., Батчулуун Л., Батболд Н.. Молор толгойн хадны зураг. Улаанбаатар.2004. 121 тал.

Цэвээндорж Д., Гарамжав Д., Гүнчинсүрэн Б., Цэрэндагва Я., Гантулга Ж., Амартүвшин Ч.

Мөнхбат Т. Ханбогдын хадны зураг. Улаанбаатар. 2010. 242 тал.

Цэвээндорж Д., Гүнчинсүрэн Б., Гантулга Ж., Амартүвшин Ч. Баян-Айргийн хадны зураг. Улаанбаатар. 2013.

Цэвээндорж Д., Кубарев В.Д., Якобсон Э. Арал толгойн хадны зураг. Улаанбаатар. 2005.

Цэвээндорж Д., Цэрэндагва Я. Баянхонгор аймгийннутаг дэвсгэрээс олдсон хадны зургийн зарим дурсгалаас // Studia archaeologica. Tom (III) XXIII. Fasc 2. Улаанбаатар. 2005. 16-31-р талд.

Цэвээндорж Д., Цэрэндагва Я., Гүнчинсүрэн Б., Гарамжав Д.. Жавхлант хайрханы хадны зураг. Улаанбаатар. 2004. 313 тал.

Цэцэгжаргал Ц. Хүрэмтийн хадны зураг // Mongolian Journal of Anthropology Archaeology and

Ethnology. Official Journal of the National University of Mongolia. Volume 1 №.1(242) May 2005. pp 50-66.

Цэрэндагва Я., Кортум Р., Лиу Т., Коллада Х.,.Завада М, Жаргалсайхан Б., О'Суллива Р. Хотон нуурын хөндийн хадны зургийн судалгаа // Монголын археологи -2017 Эрдэм шинжилгээний хурлын эмхэтгэл. Улаанбаатар. 2018. 282-291-р талд.

Энхбат Г., Анхсанаа Г., Даваацэрэн Б. Монгол нутаг дахь түүх, соёлын үл хөдлөх дурсгал. Х дэвтэр Архангай аймаг. Улаанбаатар. 2013. - 118х.

Jacobson E., Kubarev V., Tseevendorj D. Mongolie du Nord-Ouest: Tsagaan Salaa/Baga Oigor. Répertoire des Pétroglyphes d'Asie Centrale. Paris: De Boccard, 2001. – T.V.6. – 481 pp., 15 map., 399 pl.

Jacobson-Tepfer E., Kubarev V.D., Tseveendorj D.. Repertoire des rock engravings d'Asie central. fascicule #7, Mongolie du nord-ouest haut Tsagaan gol. T.VII – Paris. - 444 p.

3. Rock Art in Western China and Tibetan Autonomous Region

Zhang Yasha
Rock Art Research Association of China, Minzu University of China
Lv Chunxiang
Xi'an Academy Fine Arts
Pang Ying
Science and Technology University of Gansu
Weilisi
Rock Art Research Association of China, Minzu University of China

Introduction

Rock art in western China refers to the rock art distributed in the Xinjiang Uygur Autonomous Region, Gansu province, Qinghai province and the Tibet autonomous region. Except for the Gansu province, which is a pathway connecting the central plains to the Qinghai and Xinjiang, the other three provinces are all regions in which China has a concentration of ethnic minorities. In Xinjiang, the main residents are Uygur, Kazak, Hui and other Islamic peoples; in Tibet, more than 95 percent of the population are Tibetans; the Qinghai province is a place where Tibetan, Mongolian, Hui, Han and other people live together; in Gansu, the demographic pattern in the eastern part is similar to its counterpart in Qinghai, though in the western part, Mongolian and Han people are the main residents living together. Therefore, the rock art in western China also presents the characteristics of multi-ethnic cultures: Xinjiang rock art forms a system independently; Qinghai-Tibet rock art shows particular features; in Gansu, the rock art in the south and the middle regions (of the corridor) are of Qinghai-Tibet characteristics, although styles of rock art in the east, the Yellow River Basin, share similarities with the rock art in Zhongwei, Ningxia province, and the rock art in the west is more similar to that in Xinjiang and Inner Mongolia in its themes and styles. The rock art in those regions is mainly done using engraving and is typically found on mountain cliffs. Only in northern Tibet and north Xinjiang, some rock art was painted on surfaces of rocks or cave walls.

Xinjiang Rock Art

1. Introduction of the region

Xinjiang is located in the northwest frontier of China, far away from the sea, deep inland, surrounded by high mountains, so maritime airstreams from Indian Ocean are blocked by those mountains and the region has got a temperate continental climate. Xinjiang rock art is mainly distributed in the Altai Mountains and its surroundings. In the southwest, the western Junggar mountain is composed of many low mountains over 23 km: the Tarbahatai Mountains in the north, the Shawuer mountain in the east, and the Wurikexiaer mountain (in Emin county), the Xiemisitai mountain (in Hebukesaier county), the Baerluke mountain (in Yumin country), the Mayile mountain and the Zhayier mountain (both in Tuoli country) in the south. Most of these low mountains are continuous and lie in an east-west direction; and the basin valleys in these mountains all expand westward. The Shawuer mountain is an asymmetric east-west fault block, higher in the west and lower in the east, moderate in the north and steeper in the south. The front plain inclines to the northwest and southwest respectively, with wide valleys and lush green pastures, which become quite important in winter. The upper and middle mountains of the Tarbahatai Mountains are summer pastures; and the shallow hills and hills in front of the mountains are spring and autumn pastures. Winter pastures are located on the sunny slopes of the hilly and shallow mountains. As for the Baerkelu mountain and the Mayile mountain, they not only have good spring and autumn pastures and summer pastures, but also the best winter pastures of the Tacheng region in the south of the two mountains. Hundreds of thousands of livestock from Tacheng, Emin, Yumin and Tuoli counties spend the winters on those winter pastures, which have thus become one of the areas with most rock art.

Located in the northwest border area of China, Xinjiang is the geographic centre of Eurasia, neighbouring eight countries including Mongolia and Kazakhstan. Its eastern and southern parts border the Tibet Autonomous Region, the Qinghai Province and the Gansu Province. From a geographical point of view, the Tianshan Mountains divide Xinjiang into two parts: a southern and a northern part. The part in the north is called Northern Xinjiang. Most of the Xinjiang rock art is scattered in the vast mountainous area and prairie of Xinjiang. Generally, the rock art found to the south of the Tianshan Mountains in the vast mountainous area of the Kunlun Mountains, the Hargoolun Range and Pamirs is far less important than the art in the north Xinjiang area. It has a close relationship with the lushness of the water resources and vegetation. In ancient times, the nomadic livestock herders would adopt a four-season rotation in different pastures, among which winter pastures were the most significant ones. Each year, the time that the nomads spent in the winter pastures could be up to 5 or 6 months (much longer than in other seasons). However, only such a long period on winter pastures would guarantee people sufficient time to undertake religious activities and artistic creations. Therefore, some important rock art was created there, such as at Tangbaletasi in the Fuyun County, Duate in the Habahe County, the coloured paintings in Songhaer, the Baldakar rock art in the Yumin County, Carle Mae Dry rock art in the Jimunai County, the Hayingou rock art in the Tuoli County, Tangbalehuola rock art, the Kangjiashimenzi rock art in the Hutubi County, Bositan Pasture rock art in the Mulei County, and Kalayemule rock art in the Emin County. As the district with most rock art, the Altai Mountains are constituted by shales and limestones, with an average elevation

of about 3000 metres above sea level. Xinjiang rock art is centralized in this mountain range; while rock art in other regions is more scattered.

Xinjiang is one of the most significant areas for rock art in northern China; the art is numerous, with abundant themes and exquisite manufacturing techniques. Rock art has been found in more than 40 counties and cities of Xinjiang. A rough estimate of the quantity of the known Xinjiang rock art sites is more than ten thousand. There are regular new discoveries. In 2017, more than 600 panels of rock art were discovered and recorded in the Kalayemule District of Emin County. Undoubtedly, Xinjiang is one of the richest areas for rock art in the world. Common representations include running horses, deer and sheep depicted using simple outlines. There are five main subject types: animals, humans, battle images, daily activities and geometric forms. Animals make up about 60% of all representations. Among human subjects there are images of hunting, grazing, dancing, and witchcraft practice. Images of reproduction worship are mostly seen on cave walls in the Kunlun Mountains, Tianshan Mountains and Altai Mountains. Geometric forms are also an important theme with human reproduction, natural celestial designs, utensils and vehicles. The manufacture technique of Xinjiang rock art can be divided into four categories: first, direct percussion, using sharp stones or metal tools to peck or engrave into the rock surfaces. Secondly, the grinding method, using tough stone tools to chisel outlines, and then rubbing backward and forward along the line, before grinding down the whole image. Thirdly, the incision method, which involves using a sharp metal tool to incise the rock surface. The fourth one is colour painting and this kind of rock art is scattered in caves in the Habahe County, Xinjiang. There is variation in production techniques through time

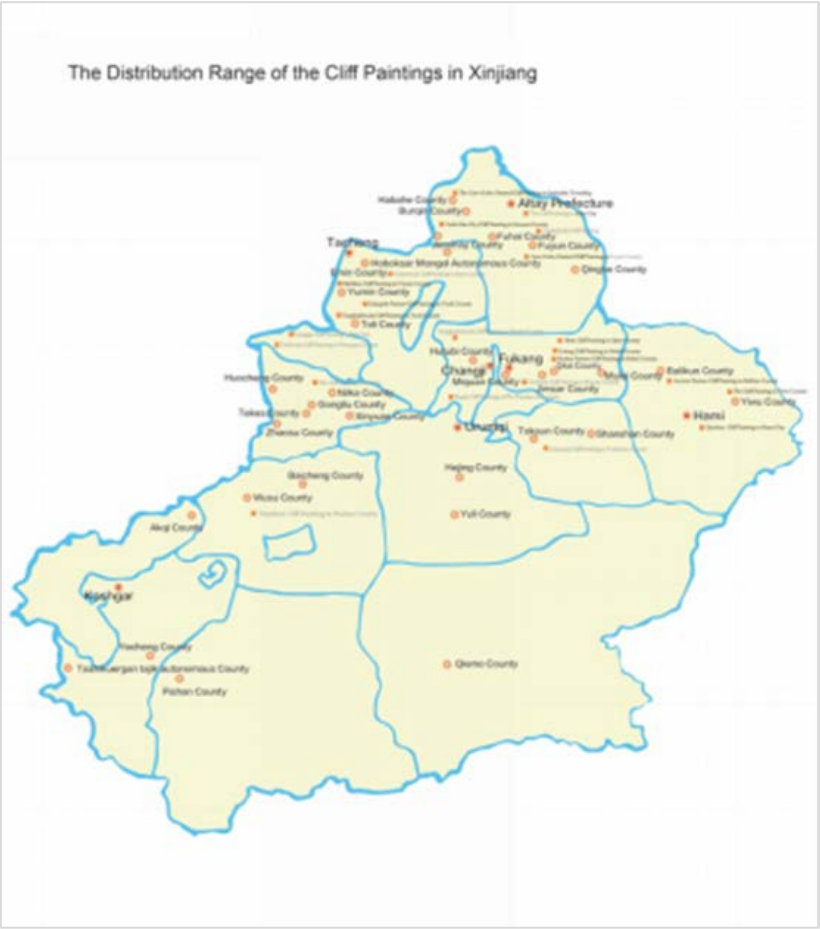

Figure 1. The Distribution Range of the Cliff Paintings in Xinjiang
©Lv Chunxiang

2. The distribution range of the rock art

The district with most Xinjiang rock art is the vast mountainous area and prairie running from the north of the Tianshan Mountains to the Altai Mountains. Most of the rock art was engraved on rocks sheltered from the wind and facing the sun, with meadows and water sources nearby. There are many intermountain basins between the Altai Mountains and the Tianshan Mountains. Sometimes, there are even some vast and level meadows, on the slopes upon which a number of rock art sites may exist. The manufacturing techniques of Xinjiang rock art are broadly the same as those used across northern China. However, several panels of exquisite and old rock paintings make Xinjiang unique. By dividing Xinjiang rock art into three big areas (the Altai Mountains, Tianshan Mountains and Kunlun Mountains), we will introduce the art from north to south successively.

2.1. The rock art in the Altai Mountains

The Altai Mountains constitute the boundary between Xinjiang and the People's Republic of Mongolia. Most of the mountain range is located in the People's Republic of Mongolia, the part within Xinjiang being their southern section. They block the cold air currents of Siberia from passing southwards through Mongolia and they form an important winter pasture for nomads. The mountains are a major distribution zone for rock art. High in the north and low in the south, the Altai Mountains have created a favourable environment for both animals and plants. The Altai Mountains contain more than 50% of Xinjiang rock art. Animals constitute the main theme. Most of the cave rock paintings discovered in Xinjiang are in the Altai Mountains. The rock painting sites are mainly scattered in 7 districts: Altay City, Fuhai County, Burqin County, Fuyun County, Qinghe County, Habahe County and Jimunai County, with a total of 154 rock art sites.

Figure 2. The rock art in the Altai Mountains
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The overall number of rock art sites in the Altai Mountains is huge and hard to calculate, but the individual images are more than ten thousand. The content is rich, but mostly depicts animals (about 90%). Sheep, horses, deer and camels are the main subjects, and scenic relationships include hunting and herding. Most of the images in the north were created by engraving. Some are exquisite in their manufacturing technique while others are rough. Some earlier images are overlapped or disturbed by later ones creating a temporal superposition sequence. The different phases of art must have been manufactured by different groups of people in different periods. Hand stencils, similar in style to those found in the Palaeolithic rock art in Europe, have been found in caves on the north slope of Ulecenkus Valley, Fuyun County and in Kelaqiaola Village, Saertuohai County, Qinghe Town. They are all stencilled in red.

2.2. The Tianshan Mountains rock art

The Tianshan Mountains extend for about 1500 miles across both the east and west parts of Xinjiang, with the western end in Kazakhstan and Kirghizia. They have many rivers, basins, valleys and water bodies, creating good mountain pasture. Scattered near the pastures, the rock art is similar to that found in the Altai Mountains to the north and it extends southward to the nearby Kunlun Mountains. The Tianshan Mountains rock art is mainly to be found in 8 areas, the Kumul District, the Hui Autonomous Prefecture of Changji, the Turpan Area, the Urumqi Municipality, the Bortala Mongol Autonomous Prefecture, the Kazak Autonomous Prefecture of Ili, the Bayingolin Mongol Autonomous Prefecture, the Akesu Prefecture, with a total of 263 rock art sites.

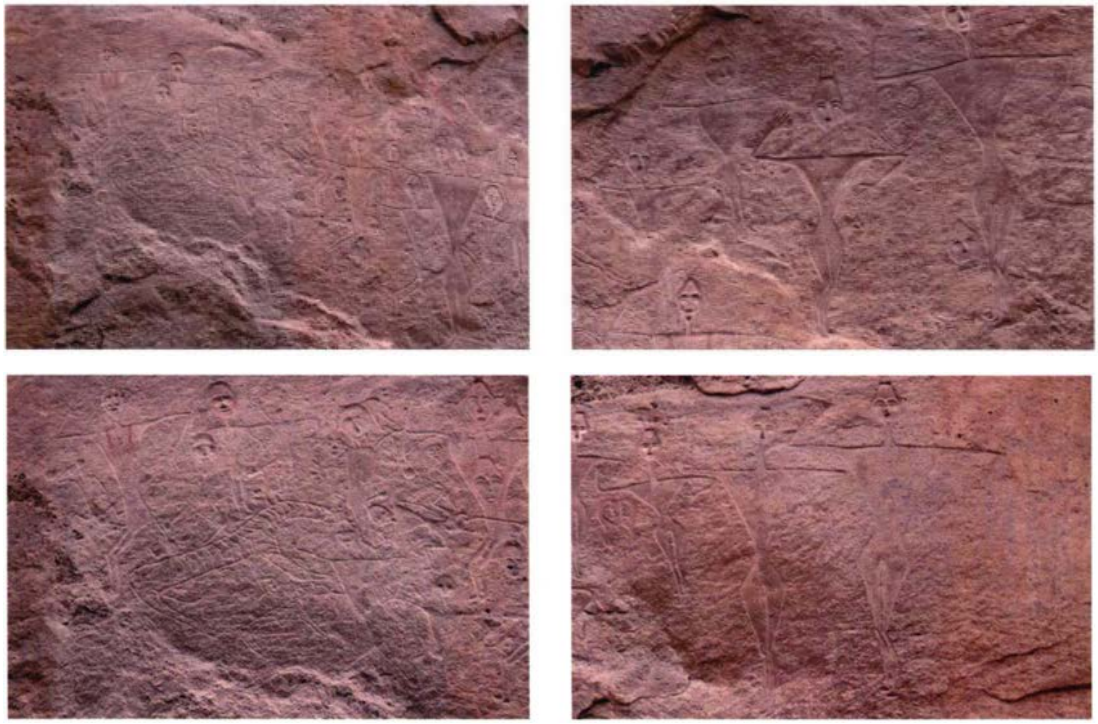

Figure 3. The rock art in the Tianshan Mountains

Compared to the Altai Mountains, the rock art of Tianshan Mountains has slightly greater variation in its subjects, although the bighorn sheep (ovis ammon) is still the main subject, dominating more than 70% of the art. It is present at almost all sites. Other images depict horses, cows, deer and birds, with also vehicles, simple geometric designs (cross, circle), script characters (Mongolian language, Tibetan language and Kazakhstan language), Buddha figures, musical instruments and trees. Since the early years of discovery, Kangjiashimenzi rock art has been a focus for people. There are more than 300 individual images in an overall area of 120 square metres. All of them have been carefully engraved and ground with metal tools and then filled with reddish brown pigments. Most of them depict humans, but there are some animals. There are some superpositions (as shown in Figure 3). One rock painting site was found in the Kelatuohai Village, Tekesi Town. It is well preserved, in black, with thick and thin strokes depicting images of humans and animals.

2.3. The Kunlun Mountains rock art

The Kunlun Mountains in the south of Xinjiang are located in the southern margin of the Tarim Desert. Due to the long distance from water sources, it is one of the few dry mountainous regions in Asia. Due to its harsh environment for human beings, the rock art here is more rare than in northern Xinjiang. The rock art in the Kunlun Mountains is similar to that in neighbouring regions. It is thinly scattered across 27 known sites in Hetian County, Pishen County, Kashen area and Kizilsu Kirghiz Autonomous Prefecture.

Figure 4. The rock art in the Kunlun Mountains
©Cultural Relics Bureau of Xinjiang, Rock Art of Xinjiang, Science Publishing House, 2011

In terms of quantity and type, the rock art in the Kunlun Mountains cannot be compared with the numerous and abundant sites in the Altai Mountains and Tianshan Mountains. However, the art shares the same main themes and manufacturing techniques. Sheep remains the main animal subject, with deer, horses, cows, camels, wolves and birds as secondary images. Geometric designs include swastikas, circles, vortexes and squares. A site with red handprints has been found in a rock crack in Taxkorgan Tajik Autonomous County. A special handprint rock painting in red and white has also been discovered in the Qipan village of Yecheng Town (see figure 4).

3. The archaeological culture and the date of Xinjiang rock art

In ancient times, Xinjiang was an important region for human activities. Besides abundant hunting, grazing, dancing and religious themes, Xinjiang rock art also emphatically expressed various human activities from matriarchal clan societies to patriarchal societies. Rock paintings rarely seen in other provinces and districts have been found in the following places: Aktas, Tex County, the west of Tianshan Mountains; Tangbaletasi, Fuyun County, the Altai Mountains area; Duate and Songhaergou in Habahe County and Aktas in Altay City. The motifs are painted on cave walls, mainly in reddish brown and sometimes in black and white. The main subjects are marks, wizard caps, the worshiped

sun, the animals as a meat-source, large-scale hunting scenes, and sacrificial dancing before or after hunting. The most extraordinary painted images are those of female genitalia suggesting female reproduction worship, perhaps in a matriarchal clan society. The tradition of pigment rock painting in caves was made from about 5,000 to 10,000 years ago in this region, or even longer. About 4,000 to 5,500 years ago, matriarchal clan societies are thought to have been replaced by patriarchal societies, and after the transition male genital worship becomes evident in the rock art to the north and the south of the Tianshan Mountains. About 1000-3000 years ago, a small number of rock art sites were also created by hierarchical societies in this region.

Ancient people engraved their rock art not for aesthetic purposes but as a consequence of their beliefs, such as witchcraft and totemism. Generally, the earlier rock art of Xinjiang is naturalistic. The younger rock art becomes more abstract and schematised. These changes no doubt have a close relationship with changes in subsistence, religious belief systems and the development of writing. Passing from true-life expression to abstract art captures important transitions in the social history of this region.

4. Management and protection

Effective protection of and research on the rock art as well as achieving a balance between preservation and tourism development are the major challenges we face today. The Kizil Thousand-Buddha cave murals are under threat from damage by a combination of natural and human factors, such as oxidation, flaking, earthquakes and tourism. In 2008, in order to prevent the biggest rock art group of the Altay Prairie-Yegenbulake group from being flooded, the paintings were cut off and moved to a local museum. In 2012, in Habahe County, an ancient rock art group was moved 80 miles from the town into the county to avoid damage by reservoir construction. In 2013, Kangjiashimenzi rock art was recognized as one of the national key cultural relic protection sites. In June of 2015, Xinjiang Hutubi rock art Protection and Research Centre was established, as the first organization to undertake rock art protection and research in Xinjiang. Registering at Hutubi Civil Affair Bureau, the Hutubi rock art Protection and Research Centre was established as an academic and non-profit organization that is constituted by the scientific research institutions, universities and colleges, and individuals that have engaged in rock art research and protection in the area.

Weathering and vandalism continue to plague rock art protection. At present, due to insufficient knowledge and technology, direct chemical and other conservation interventions are not undertaken. The approach taken is to try manage the sites in such a way that they maintain their original condition. At present, rock art sites in Xinjiang are mainly fenced and they are monitored by local herders. According to experts from Xinjiang Cultural Relics Archaeology Research Institution, although it is possible to remove rock art and place it in museums, this is not the preferred way as it damages the value of the art for academic research.

Gansu Province Rock Art

Gansu province is located in west China, in the upper and middle reaches of the Yellow River. It borders Shaanxi in the east, Xinjiang in the west, Inner Mongolia and Ningxia in the north, and separates Qinghai and Sichuan in the south along the Qilian mountains. The Mazongshan town in Subei Mongol Autonomous County, Jiuquan city, borders Mongolia.

Gansu is long and narrow in shape, winding from west to east, stretching over 1,600 kilometres. Integrating the topographies of loess plateau, Qinghai-Tibet plateau and Inner Mongolia plateau, the Gansu province is an area with a huge elevation drop from west to east and a varied climate across the area.

Rock art in north China is spread over the Altai Mountains and Tianshan Mountains in Xinjiang, Qilian Mountain in Gansu, Helan Mountains in Ningxia, Yinshan Mountains in Inner Mongolia, presenting a crescent-shaped distribution. Gansu rock art is in the middle of this crescent-shaped area, playing a crucial role in connecting the west and the east. The Qilian Mountains stretch out for nearly 1,000 kilometres. Dozens of rock art sites are scattered in them. A large number of rock art sites can also be found in the Mazong Mountains, Black Mountains as well as along the cliffs flanking the Yellow River valley in the Gansu area.

The geographical location of these rock art sites is extremely important. They are spread along the boundary between agricultural and nomadic cultures, dividing dry and sparse grassland from oasis and moist farming areas, and thus are viewed as the watershed of early nomadic production style and farming practices.

The ancient Silk Road extended along these mountains. Rock art there has a close relationship with the corridor connecting the west and east of China, and may even be regarded as the forerunner of the Silk Road. That ark is both a geographical boundary and a cultural dividing line, split by the 400 metres rainfall line. In the south and east, was an agricultural area in the humid zone; and in the west, the cattle-producing area was fostered in the arid zone. Throughout history, nomadic people have periodically moved southward across this geographical boundary but, in general, the natural barrier formed by the mountains limited the southward movement of nomadic people as well as the northward spread of agricultural subsistence patterns. Therefore, rock art in the Qilian Mountain, Mazong Mountain and Black Mountain areas was created around the theme of hunting, while in the Yellow River valley, it was primarily about farming.

There are many rock art sites within Gansu province (see Figure 1), spread over a vast area including Aksay, Subei, Guazhou, Jiayuguan, Yumen, Sunan, Yongchang, Gulang in the west, and Jingtai, Jingyuan, Pingchuan, Maqu County in Gannan and Cheng County in Longnan in the centre. At total of 83 rock engraving sites have been been discovered, with thousands of individual images. More than 50 rock painting sites are distributed in the Qilian Mountain, Mazong Mountain, Black mountain, Longshou Mountain, Yangjia Mountain in Yongchang, NiuWa mountain, Zhongbei mountain (Qingcheng) and Wujia Chuan in Baiyin. The remaining dozens of sites are found in Jingtai, Jingyuan, Pingchuan, Maqu County in Gannan (southern Gansu province), Cheng County in Longnan. Generally speaking, the rock art is more densely distributed in the Yellow River Valley than in the west river region.

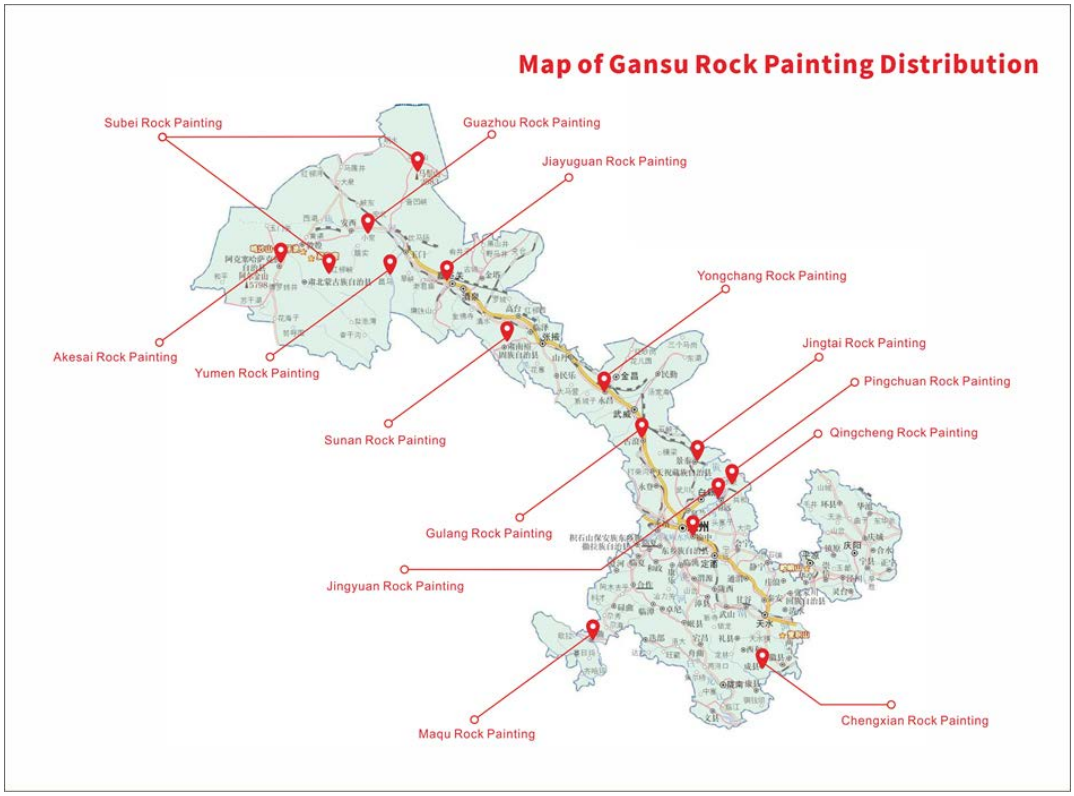

Figure 1. Distribution of Gansu Rock Art
©Pang Ying

The Qing Yazigou rock art site is located in Qing Yazigou, Da Batu village, Hongliuwan town, Aksai Kazakh Autonomous County, at a latitude of 39°21'23.9" and a longitude of 93°59'18.1" and 3,165 metres above sea level. The rock art is engraved on sandstone. On three panels there are human figures and animals, displaying scenes of ancient people hunting and domesticating animals. The engraved images are outlined by numerous lines and seem to show the living scenes of nomadic people. There are also paintings, but sand and rainfall erosion have caused damage to them. Some images have been damaged and blurred, yet their shapes can still be figured out. In general, the paintings are poorly preserved.

Subei rock art is situated in Subei Mongol Autonomous County, Jiuquan city, northwest of Gansu province. Its style belongs to the northern rock art system. Subei rock art has the widest

distribution, the largest quantity and the richest content among all Gansu province rock art. Ethnic groups like the Xirong, Qiang, Rouzhi, Wusun, Xiongnu, Tibetan and Mongolian peoples lived here, hunted and thrived on this land, and left a large amount of historical pictures of their living and activities. These valuable images reflect the economic life, religious life, ideology and aesthetic ideas of the northern nomadic people. There are 22 rock art sites in the Subei area with one national cultural heritage site (Da Heigou rock art), three Provincial-level cultural relic protection sites (Hui Wanzi rock art, Qigelv rock art and Al gree tai rock art) and two municipal cultural heritage sites (Liu Gouyan rock art and Laodao Huduge rock art). It is estimated that there are around 5,000 individual images with more than 3,000 of them being clearly visible.

The Subei rock art sites are located in two separate mountains, the north mountain and the south mountain. In the south mountain, the average altitude is above 3,500 metres. Among them, the Da Heigou site is the most representative one. It was inscribed on the list of the seventh batch of national key cultural relics protection site. It is 40 kilometres away from Dangchengwan town, Subei county, and extends for 4 kilometres. The GPS coordinates are 39°39'16.0" N and 94°46'43.7" E, with an altitude of 1899 metres. There are 55 panels with more than 340 individual images and the themes involve hunting, grazing, deer, bighorn, wild camel, elephant and tiger. The image content varies.

In addition, the rock art Site of Al-greetai, 14 kilometres away from the northeast of Yanchiwan town has 9 panels with 68 individual images. The themes include cattle, sheep, wild donkeys, deer, dogs, leopards and horse riders. The Hui Wanzi site located in the South Goukou, northeast of Shibao town, has 2 panels with 22 individual images. The Qigelv site is 18.5 kilometres away from the northeast of Shibao town, and has 5 panels with 74 images, mainly wild donkeys, wild oxen, camels, as well as hunting, grazing and other activity scenes. Furthermore, in the south mountain area, there are Hongliu Xiabei mountain rock art sites not far from Daheigou, Yueya lake rock art and Zhazigou rock art, also around the Dangchengwan town, Houhuiziwan rock art, Hanxia rock art and Dajinquan rock art around Dashicheng town.

In the Subei county, there are sharp differences in the natural environment between the north mountain and the south mountain. In the north mountain, there are mainly middle and lower mountains and a landscape with a vast Gobi desert and an extremely arid climate. The Mazong mountain rock art in the north mountain is also an important part of Subei rock art. It includes Laodao Huduge rock art in the east side of Laodao Hudugejing of Heimazong mountains, Mazong mountain town, extending over 4.5 kilometres. It is one of the largest rock art sites in terms of extent and has rich contents. The themes contain horses, wild oxen, ibexes, wild camels, dogs, wild donkeys, deer, wolves as well as horse riding, hunting, reproduction worship and various mysterious designs. Shandeer rock art is 25 kilometres away from the northeast of Mazong Shanmingshui village, and its GPS coordinates are 42°09'36.4" N in latitude and 96°24'15.5" E in longitude, with an altitude of 1927 metres. It is engraved on black gabbro slightly above the ground. The themes include images of sheep, horses, camels, donkeys, oxen, wolves, dogs, and some human figures, as well as geometric designs. In the Mazong mountains, there are sites at Cangkugou, Shengou, Tonggutu, Gegewusu, Buduhu Lusite and Liugou.

In addition to the rock art centralized in the south mountain and the north mountain there are other rock art sites that are relatively scattered, such as those in Heishanliang, Wugedun, Heran

Zhadegai, Heshangshui in the Mazong mountains; Chagan Genu, Daquan in Biegai Township; Hongkangzi, Jianquanzi and Bagexia in Yuer Hong; Xiao Aergenutai in Yanchiwan valley. All Subei rock art is well-preserved. Except for natural factors, there is barely any damage caused by human activities. Due to regular monitoring of cultural relics by the local department, Subei rock art has become the area with the best preserved art.

Guazhou county is located in the westernmost part of the Hexi Corridor, affiliated to Jiuquan city, bordering Dunhuang city in the west, Yumen city in the east and Subei Mongol Autonomous County in the south and north. It has long been regarded as a relatively important transportation location. Its rock art is in the Xinzigou, Yingzui montain, 50 kilometres away from the southeast of Nongfeng village, Suoyang town, Guazhou county. The GPS coordinates are 39°55'49.0"N in latitude and 96°24'31.8"E in longitude with an altitude of 2533 metres. It is engraved on glutenite. There is one rock art site with 14 individual images, covering 15 square metres. The themes mainly include dogs, camels and bighorn (argali) in a vivid style. Although its age is still debated, these paintings have become important historical materials to study the life and production of ancient nomadic people in this area. Rock art on Xunzigou cliffs is relatively sparse and the cliffs are subject to spalling so many of the paintings are not well-preserved.

The Changma rock art in Yumen city is located in the northwest of Gansu province, close to the Guazhou rock art in the west, Heishan rock art, Jiayuguan City in the east and bordering the rock art of Subei Mongol Autonomous County in the south and north. Its style is similar to those sites. Two rock art sites have been found: Shidunziliang and Luzigou. Shidunziliang rock art is on the Shidunziliang, 30 kilometres south of Ma village, Yumen city. The Luzigou rock art is in the east of Sanjiatai Luzigou, west of Shuixia village, Changma city. The rock art covers an area of 3 square kilometres with 14 visible animal images, including camels, leopards, sheep, oxen and deer. The rock art of both sites was engraved on stones. In 1981, it was listed as a provincial cultural heritage site in the Gansu province. Some of the stones have been moved to be preserved in the Yumen City Museum.

Heishan rock art includes 5 sites, mainly scattering in Sidao Guxinggou, southern Black mountain, west of Huangcaoying village, Yuquan town and Jiayuguan City. GPS coordinates are 39°51'40.5"N in latitude and 98°06'46.7"E in longitude with an elevation of 1907 metres. It is engraved and ground into the walls of cliffs. The rock art is primarily located in the narrow area of the main valley, approximately 1 kilometre away from the main peak of the Black mountain. The images, 1.5 to 3 metres above ground, include human figures, animals, geometric designs, dancing, hunting and other activities. The largest image is 3 metres high and 3.5 metres wide, and the smallest is 0.2 metres high and 0.25 metres wide. Among the images, the most representative one is a large-scale dancing scene (see Figure 2) engraved on a cliff, 3.5 metres above the ground (1.28 metres in height, 1.14 metres in width). It includes 32 figures dancing in three lines, 1 ox, and 6 unidentifiable objects.

Jiaohegou rock art is located in the Jiaohegou, southern Black mountain, west of Huangcao village, Yuquan town, Jiayuguan City. It is also an important part of the Black mountain rock art, engraved on a freestanding rock, approximately 3 metres above the ground. There are only two images in a 10 m² area. Rock art is also found in Mozigou and Shiguan Xiakou, on the east side of

Shiguanxia, southern Black mountain, west of Huangcaoying village, Jiayuguan City. Black mountain rock art is typical of north China's rock art and it records the lives of north nomadic people. Long-term wind and rain erosion, sunlight exposure and other natural factors have led the rock surfaces to disintegrate, causing pieces of rock to fall off and art to disappear. Mining is the major threat to rock art in this area. Tourists are also causing damage.

Figure 2. Black Mountain Rock Art in Jiayuguan
© Pang Ying

Sunan Yugu Autonomous County is the only autonomous region of the Yugu people. It is located in the south of Zhangyu City, middle of Hexi Corridor, north of Northern Qilian Mountain. It borders Qinghai in the south, Jiuquan and Jiayuguan City in the west, Gaotai and Minle in the north. The rock art is scattered with a variety of styles, primarily in the Yumu Mountain of Sunan County. The Yumu mountain is a branch of the Qilian Mountain, and its main peak is around 3,000 metres in altitude with a perennial arid climate and loess hilly landform. At present, 26 rock art sites have been found with 40,000 individual images. Yumu Mountain rock art is mainly located in Alatao, Heishitougou, Mutou Groove, Mutou Well, Yangjuan Bay, Yushu River, Yangkan Gorge, White Stone, Huangshui Groove, Songmu Groove, Gongda Well, Pandaban, Shijuli River, Shimu Groove, Chai'ebo, Bailingzi, Shitan Groove, Dashankou. Among them, Lei Mountain rock art is located on the grassland, at the foot of the Lei mountain. GPS coordinates are 38°53'47.4"N in latitude and 99°33'09.1"E in

longitude with an elevation of 278 metres above sea level. The rock art is distributed on 9 large stones (sandstone) with themes of horseshoes, handprints, geometric designs and animals. On two large stones, there are many individual images. Judging from the degree of weathering, it is believed that the rock art was made over a long time span with rich and colourful themes.

Gulang rock art is located in Wuwei City, situated in middle Gansu, the east end of Hexi Corridor and the northern Wushao Mountains. It borders Jingtai County in the east and Bairi Tibetan Autonomous County in the south. There are 2 rock art sites in Gulang, on the hillside of Dagou Gorge, Zhaozi Mountain, Huazhuang Village, Dajing Town. Altogether, 10 images with themes of sheep, totem images, human faces and other colourful images have been identified. Another rock art site is in the Langjia Groove, Peijia Village, and is well-preserved without human damage, just some damage from natural factors.

Yongchang rock art is situated in Jinchang City, at the east end of the Hexi Corridor and on the northern Qilian Mountain. It borders Sunan Yugur Autonomous County in the south. So far, four rock art have been discovered. Niuwashan Mountain rock art is on Qingshi Cliff stone, southern Niuwa ridge, south bay residential area, Mayinggou Village, Xinchengzi Town, Yongchang County, Jinchang City. The GPS coordinates are 8°12'12.2"N in latitude and 101°41'07.7"E in longitude with an elevation of 2,536 metres above sea level. There are more than 200 images with animals like deer, sheep, oxen, horses, and scenes such as riding and hunting with different and vivid postures. According to experts, they were created in the late Neolithic era by nomadic people on sandstone to record their living scenes. After years of rain and wind erosion and sunshine exposure, the rock art is vanishing; and severe oxidisation makes images obscure. In addition, locals have dug several pits on the mountain to search ore, and sheepherders have done considerable damage by trampling and climbing. Therefore, the Niuwashan Mountain rock art is not well preserved.

North Mountain rock art is located on the fractured rock surfaces of the mountain north of Chenjiazhai Village, Jiaojiazhuang Town, Yongchang County. One site there has 32 individual images. The rock art covers an area of 90 square kilometres with images of bighorns, wild oxen, tigers and scenes of hunting and grazing. There are people now living in this area with grazing activities. Overall the rock art is complete and well-preserved although natural weathering has obscured some images. Green Stone Groove rock art is north of the second district of Chenjiazhai Village, Jiaojiazhuang Town, Yongchang County. The Daquan rock art is in the Maobola Village, Hongshanyao Village, Yongchang County, and its themes are mainly about bighorns and geometric designs.

Gansu rock art along the Yellow River is primarily located in Baiyin City in the middle of the Gansu Province. In Baiyin, a considerable number of rock art sites have been found, concentrated in Jingtai County, Jingyuan County and Pingchuan District.

Jingtai is in the middle of Gansu, on the northern side at the east end of the Qilian Mountain, with the Yellow River on its east. Located on the east gate of Hexi Corridor, Jingtai has been a frontier fortress since ancient time. In terms of rock art distribution, they stretch to the Zhongquanbanxun Groove in the east, to the Xianglapai Village in the south and to the Songlin Xizha Bay in Hongshui in the north, covering the Sitan Village, i.e. 30 kilometres long from west to east and 80 kilometres wide from north to south. On the east end of the Qilian Mountains, some paintings are found on the black

purple sandstone and brown red sandstone in hilltops and gullies. The rock surfaces are usually smooth and flat. So far, nine rock art sites have been found in Jingtai County within an area of more than 100 square kilometres; and including over 100 identifiable images. The Jiangwozi Groove rock art is on the highest peak of Jiangwozi Groove, Hongshui Town. The images are engraved in sandstone with abundant themes including deer groups, bighorns, dancing people, concentric circles and hunting images. The most famous panel is of a hunting scene (see Figure 3) showing ancient ancestors hunting.

In addition, there is a worship picture of a man and a woman. Judging from the hair accessory and tailpiece, the images are dated to the earliest Qiang people. Centuries-long exposure to wind, rain and strong sunlight, and even to hailstones, have damaged the art and left serious cracking and flaking. The art is therefore under severe threat. In addition, the Lapai Groove rock art, Sanyanjing rock art and Leijiawenzhang rock art were found during the third national cultural relics survey in 2008. The Huangya Groove rock art was discovered in July 2015 and has suffered from serious vandalism. However, the Chenjiabei Groove rock art found in 2018, is well-preserved.

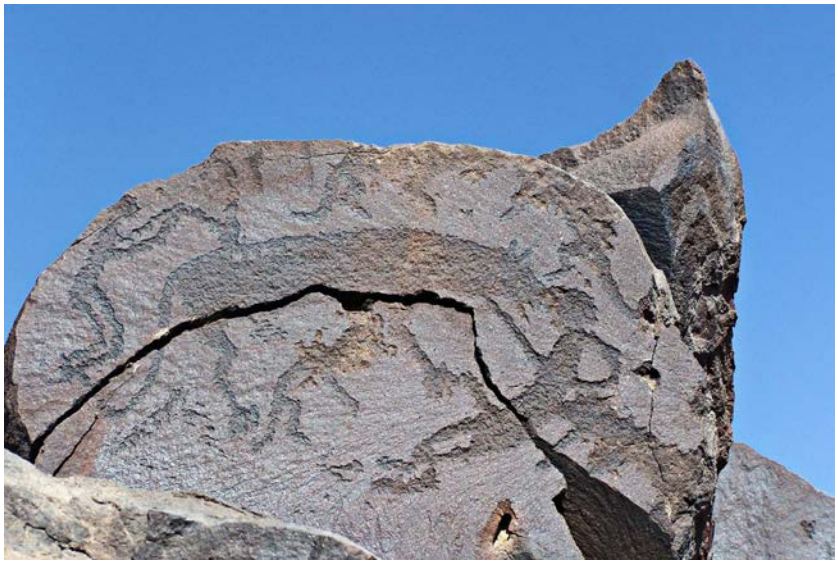

Figure 3. Jiangwozi Groove rock art in Jingtai
©Pang Ying

Jingyuan county is located in the mid-east region of Gansu and in a gullied rolling loess area of the upstream Yellow River. Currently, six rock art sites have been found in this region. Wujiachuan rock art is situated in the north and south side of Wujiachuan, Liuchuan Town, Jingyuan County, 25 kilometres away from the Yema Village rock art, Pingchuan District. Wujiachuan images were engraved on the fractured surface of red sandstone. In the south, the rock art in the Zhangjiataizi, Wujiachuan was destroyed in 2003 by highway construction. In the north, the rock art is situated in Chenjia Groove with a brick factory nearby. The environment of mountains around has been seriously impacted: two red sandstone mountains have been hollowed out. In addition, the surface of the rock art has been seriously damaged by quarrying.

These rock art sites face south and are divided into an east side and a west side. Both sides bear images with different motifs, such as deer, sheep, horses, dogs and horse riding. The images

refer to the north nomadic culture and the history of the Qiang and Rong minorities, so we can infer that they are the cultural relics of nomadic people from the western Zhou Dynasty in the Spring and Autumn Periods. Rock art has also been found in Dabingdao Groove, Shuigoudaojing Bay, Shiyang Beach of Shimen Town, Xinhou Groove and Dasha Groove around Nianwan Village of Mitan Town. The Dabingdao Groove sites are on three hills of red sandstone and are poorly preserved because of the fractured nature of the surfaces. The rock art is also obscure because of severe corrosion. The Shuigoudaojing Bay rock art is situated in the valley area, and its fractured rock surface has been severely eroded due to alkaline corrosion. The art and some engraved writings are clear. The engraved writings are in the lower section of the panel and were made in recent times. This caused some damage to the rock art. The Shiyang beach rock art in Shimen Town is located near the Yellow River; there again, its fractured rock surface has been severely eroded by alkaline corrosion. Its engravings are small in size, but have suffered greatly from natural deterioration. Without proper protection, it is at threat from vandalism.

Pingchuan District is in the north-central Baiyin City, and so far, two rock art sites have been discovered there. The first one is Yema Village rock art, situated in the west Yellow River in the Hongshan Canyon. It is in the eastern Dalangshan Mountain, Mijia Mountains, Shuiquan Town, Pingchuan District, about 40 kilometres from Pingchuan District. The rock art is engraved on red sandstone 20 metres above the ground, facing south. There are 20 individual images, all well-preserved due to their low accessibility. This rock art was listed as a municipal cultural heritage site in 2014 by the local government of Baiyin City, and listed as a provincial-level cultural relic's protection unit in 2016 by Gansu Provincial People's Government. Another is the Miansha Bay rock art, located in the north of Xia Village, Shuiquan Town and on a precipice in the Hongshan Valley along the bank of the Yellow River. The rock art is engraved on the cliffs and has suffered serious damage from quarrying. The images include goats, human figures, moon, sun, and 3 handstencils, 5 human heads and 3 tripod-shaped images, covering an area of 15 square metres. The lower part of the rock art has been damaged by weathering, so some images cannot be identified.

In addition, one rock art site was found in Qing City of Lanzhou, Taihang Village and Maqu (Huangzhu Town, Cheng County of Longnan City). Cheng County rock art includes human figures and writing. The humans have varied face types, and 5 can be clearly recognized. Since they are located in a deep forest and gorge, the rock art is well-preserved.

Different from the rock art in Xinjiang, Ningxia and Inner Mongolia, Gansu is on the boundary of farming culture and nomadic culture, and its rock art is in the middle location, stretching several kilometres and almost covering the whole Hexi Corridor. Gansu rock art has clear images, rich and abundant contents. Rock art in different areas show similar content, which indicates that the ancient peoples had some communication in regions from the Altai Mountains, Mount Tianshan, Hexi Corridor to the Helan Mountain and Yinshan Mountains. Gansu rock art not only displays similarities with that in Xinjiang, Ningxia and Inner Mongolia, but also presents its own peculiarities.

Qinghai-Tibet Plateau Rock Art

The Rock Art of the Qinghai-Tibet Plateau mainly covers Tibet Autonomous Region and the Qinghai Province, located in the core area of the plateau. The eastern margin of Qinghai Province is located in the transition area between the west of the Qinghai-Tibet Plateau and the central-eastern Loess Plateau, with an elevation below 2000 metres. From the Riyue Mountain (to the west of Xining City, the capital of Qinghai Province) westwards, most of Qinghai Province belongs to the Qinghai-Tibet Plateau. The Riyue Mountain serves as a significant dividing line between the Qinghai-Tibet Plateau and the agricultural Central Plains. The geographical environment and geological structure of the rock art sites in Qinghai and Tibet are similar, mainly consisting of cliffs, boulders and rock shelters. The cliffs are mostly of slate and granite, the boulders basically gravel or pebbles, and the caves and rock shelters limestone (i.e. karst landform).

1. Palaeoecological Environment and Ancient Human Activities on the Qinghai-Tibet Plateau

The Qinghai-Tibet Plateau is the highest and youngest plateau in the world. Around 3 million years ago, the plateau gradually rose to more than 4,000 metres. Since 10,000 years ago, it has risen by about 700 metres. The uplift of the Qinghai-Tibet Plateau plays a vital role in shaping the palaeoclimate and palaeoecological environment in China. The Himalayas have become a major obstacle to the Indian Ocean monsoon due to the general altitude of over 6,000 metres. The climate in northwestern China has gradually turned arid and the Chinese mainland has thus been divided into the Eastern Monsoon Region, an Arid Zone of Inner Mongolia and Xinjiang, and Qinghai-Tibet Plateau.

The Qinghai-Tibet Plateau is known as the “Roof of the World”, with the Pamirs Plateau in the west, the Hengduan Mountains in the east, the Kunlun Mountain and the Qilian Mountain in the north, and the Himalayas in the south. The total area is nearly 260 square kilometres. It is the highest megatectonic geomorphic unit in the world. The main physical environment features are: a) high altitude and newer physical geographical processes; b) thin air, strong solar radiation, low temperature and large temperature difference between day and night; c) well-developed modern glaciers and frozen soil, widespread periglacial processes and cold weathering; d) unique plateau flora and fauna and ecological adaptation; e) a large but thinly populated area and thus weak human influence on the natural environment. Due to such an extreme natural environment, the Qinghai-Tibet Plateau is also called the "Third Pole" of the earth, with its significant characteristics being high altitude, cold and oxygen-poor.

Since the late Pleistocene, the Qinghai-Tibet Plateau witnessed three major migrations of ancient humans towards the northeastern margin of the plateau. The first of them happened around 30,000 to 40,000 years B.P. during a warm and humid period. This early settlement of Tibet ended sometime between 30,000 years B.P. to 20,000 B.P. due to the harsh natural environment of the Last Glacial Maximum. This reduced human activities on the plateau greatly. After the last Ice Age, the natural environment quickly improved, causing people to move back onto the plateau for a second time. Archaeologists have found evidence that people of the Majiayao culture moved from the Gansu

and Qinghai area to the east of the plateau and re-entered the northeastern margin of the plateau 4,000 to 6,000 B.P.[12]. Continuous warmth and humidity guaranteed the survival and spread of people on the plateau. Their society underwent a significant change, transitioning from the Palaeolithic Age to the Neolithic Age. The results of genetic research show that about 98% of the maternal genetic components of modern Tibetans can be traced to the northern Chinese population who moved into the Qinghai-Tibet area since the Neolithic period[13]. At the end of the Neolithic there was then a third and complex wave of migrations into the area. Major immigration took place in the Qiangtang area in the northern part of the plateau. At the same time, ethnic groups now living in Lhoka of Tibet migrated in from northwestern Yunnan. They are completely different from the Tibetans of today and their genetic diversity is very low [14].

2. The Archaeological and Historical Context of the Qinghai-Tibet Plateau

Texts written in Chinese concerning the Qinghai-Tibet Plateau can be traced back to as early as the 4th or 5th centuries AD, mainly sporadic snippets about ancient states(方国) and tribes in the north and east of the plateau. Texts written in the Tibetan language began in the 7th century AD after the rise of the Tubo Kingdom and after Buddhism was introduced to Tibet. Particularly the second propagation of Buddhism after the 10th century AD left extensive religious and historical documents. However, the rock art of the Qinghai-Tibet Plateau appeared and flourished in the pre-Buddhist period (before the 8th century AD), in what is called the early Bon era and there is very little evidence from texts about this period. Archaeological evidence is therefore crucial to the study of rock art. At present, Chinese scholars are unanimous that most of the Qinghai-Tibet rock art was created between 3000 and 1000 years B.P., and a vast majority between 2500 and 1500 years B.P.. The Neolithic Age of the Qinghai-Tibet Plateau falls in the range of 7000 to 3500 years B.P., followed by the Chalcolithic age, and then the Historical Period from the 7th century on. Rock art mainly occurred in the Chalcolithic age.

Flaked stone tools were first identified on the Qinghai-Tibet Plateau in 1956. Chinese geologists found flaked stone tools and fine stone tools in several places within the hinterland of the Qinghai-Tibet Plateau, including Nagqu of Tibet, Hoh Xil of Qinghai, the riverside of Ulan Moron, the fork entry at the foot of Kunlun Mountains. Since 1956, the number of stone tool sites recorded has risen to more than 100, most distributed in the northern Tibetan Plateau and mainly belonging to a microlithic industry. A few are considered to be as early as the late Palaeolithic, specifically in: Hoh Xil, the fork entry at the foot of the Kunlun Mountains, the Wula Lake, the Cold Lake and the lakefront of

[12] Hou G L, Xu C J and Fan Q S. 2010. "Three expansions of prehistoric humans to the northeastern margin of th e Qinghai-Tibet Plateau and environmental evolution". Journal of Geographical Sciences, 1: 37.

[13] Zhao M, Kong Q P, Wang H W, et al. 2009. “Mitochondrial genome evidence reveals successful late palaeolithic settlement on the tibetan plateau”. Proceedings of the National Academy of Sciences of the United States of Amer ica, 106(50):21230; Zhang W W and Gao Y. 2009. "The modern human ancestors have settled on the Qinghai-Tib et Plateau in the late Palaeolithic period". Science Times,December 10.

[14] Qin Z, Yang Y, Kang L, et al. 2010. "A mitochondrial revelation of early human migrations to the Tibetan Plateau before and after the last glacial maximum". American Journal of Physical Anthropology, 143 (4): 555-569.

Small Qaidam Lake in Qaidam Basin in Qinghai; the Su're in Dingri County, the Hadongtang and Quedetang in Zhongmu Township of Jilong County in Tibet, as well as Zhuluole in Shenzha County, Geting of Baingoin County, Zhabu in Rutog County of Ngari Region, Duogeze in northern Tibet.

The earliest archaeological culture on the Qinghai-Tibet Plateau in the Neolithic Age was the Zongri Culture (BP 5600~4600). This appeared in the Gonghe Basin in Qinghai. It is well-known for its unique pottery, and some painted pottery shows the influence of the Majiayao culture from the upper reaches of the Yellow River. It has indigenous ornamentation, with distinctive features such as a bird-like patterns. A second Neolithic appeared slightly later in Changdu, concentrated in the alpine gorges of eastern Tibet with an average elevation of 3,000 metres. The culture is dominated by agriculture and also engaged in animal husbandry. The Changdu Karuo site is the most typical site. The characteristic features of this site are fine stone tools coexisting with pottery and polished stone tools. Carbon-14 dating indicates that this site dates from 5,000 to 4,000 years ago. Another Neolithic culture is distributed in the valley of central Tibet along its middle and lower reaches as well as along the tributary of the Yarlung Zangbo River. The altitude of the sites is in the range of 3600 and 3800 metres above sea level. Of the 8 or 9 sites that have been discovered up till now, the Qugong site in the Lhasa Valley is a typical example. Flaked stone tools are dominant. There are also a few finely polished stone tools and jade artefacts. Fine stone tools are rare and not typical. Most of the stone tools seem to have been intended for use in farming. The existence of abundant bi-shouldered shovels and millstones shows that the Qugong people were mainly living from agriculture. There are a large number of animal bones such as yak, sheep and dogs, showing that animal husbandry occupied a significant role in the life of Qugong people. Qugong's pottery displays considerable skill in both its form and craftsmanship. It shows a greater level of cultural sophistication than the late Neolithic site of Caruo. The site age is about 4000~3500 BP. A bronze arrow was also found in the Qugong site, whose raw materials were identified as the products of smelting. The age of this bronze arrow is about the same as that of the Xia and Shang cultures in the Central Plains, indicating that the Qinghai-Tibet Plateau ancestors had gained Bronze Age technology.

Most rock art has been found in the east and north of Tibet with an average altitude of 4000-4500 metres. In this vast "Qiangtang" (Tibetan language, northern grassland) area, many Neolithic sites have been discovered in the past half century. Their stone tools, found on the surface, are roughly of the same cultural type. There are only fine stone stools and large flaked stone tools but no pottery and no polished stone tools at all, suggesting a simpler level of technology. The techniques for making fine stone tools in most sites are relatively simple, and dates for the sites range from 7500 to 3500 years ago. Archaeologists generally believe that this fine stone culture that characterised the west and north of Tibet belonged to groups of nomadic people who moved widely across the plateau. Its fine stone culture indicates a level of cultural inheritance from the northern Tibetan culture of the late Palaeolithic period. It is worth noting that the remains of megalithic stone structures and stone graves coexist with these fine stone sites, and most of the rock art on the Qinghai-Tibet Plateau is distributed in these areas. Researchers argue that the fine stone sites, stone structures (including monoliths, stone columns, stone circles and stone rings), stone graves, small bronze animal

sculptures and the rock art of the Qinghai-Tibet plateau together constitute the cultural system of northern Tibet from Neolithic to the Chalcolithic.

2. Distribution, motifs and techniques of Qinghai-Tibet Plateau rock art

The rock art of the Qinghai-Tibet Plateau, as its name tells, comprises two parts: the rock art in Tibet Autonomous Region and in Qinghai Province. Generally speaking, the rock art is concentrated in the southern margin of the northern Qinghai-Tibet Plateau and consists of four densely distributed areas. The four areas, from west to east, are as follows: a) the northern Ngari of Tibet surrounding Ritu County, including Geji County, Gaize County, Salt Lake Township to the east of Ritu and the Zanda Basin to the south of Ritu, as the most densely distributed area of Qinghai-Tibet rock art; b) the Nagchu of Tibet along the Namtso Lake, including the Tashi Island on the eastern bank of Namtso and the Qiduo Mountains on the western bank, further west to Shenzha, Wenbu and other places; c) the Tongtian River Basin in Yushu Prefecture, Qinghai Province, as well as the nearby Golmud rock art area, which is another densely distributed rock art region; d) around the Qinghai Lake in Qinghai Province, including the rock art in various prefectures such as Haixi, Haibei and so forth.

The rock art around Ritu, Ngari, is known as Ngari Rock Art or Western Tibet Rock Art. Currently, nearly 50 rock art sites have been discovered, containing hundreds of rock art panels and more than 1,000 individual images in the territory of Ritu County. In the counties to the east of Ritu such as Geji, Gaize and Salt Lake, there are 5 or 6 rock art sites, with more than 100 rock art panels and over 200 individual images. In the Zanda Basin to the south of Ritu County more than 10 rock art sites have been found so far, including dozens of rock art panels with hundreds of images. The rock art was mainly engraved, and only a very small number of figures were painted in rock shelters.

The motifs of the rock art feature animals, among which wild yak are dominant, followed by sheep, deer, dogs, horses and other animals. This shows a hunting and animal-husbandry economy. Wild yak are the major game in hunting. There are more herding scenes in later periods. Chariot images appear in the Gaize county to the east and in the Zanda Basin to the south, but not in the central region of Ritu where a distinctive deer of Beautiful Style indicates a connection with the deer images in the rock art of the Eurasian Steppe.

The images are mostly Bon related, including swastika, the sun, the moon, trees and stupas. The stupas are typical of early Bon altars. It is particularly worth mentioning that the Takangba rock art site on the shores of the Bangong Lake in northern Ritu has hundreds of individual images on the cliffs, among which are over one hundred persons marching in line with bags on their backs (Figure 1).

In the north of Tibet, from the Dangrayongcuo lake to the Namtso Lake, the rock art is dominated by ochre rock paintings in lakeside caves or rock shelters. Almost 30 caves have now been found. The number of rock art images varies from site to site. Most sites have more than one hundred individual images. This area also has a few rock engravings on boulders or cliffs.

Figure 1. Human figures in queues and animal figures at Takangba Site, Ngari, western Tibet

Two famous sites are the boulder rock engravings of Jialin Mountain and the cliff rock engravings of Xia-Cang, featuring hunting scenes that are older than the ochre rock paintings. Although the overall content of northern Tibetan rock art does not change in terms of technique, the ochre rock paintings mainly represent religious symbols, such as swastikas, stupas and writing, and there are more human activities in rock paintings than in the Ngari rock engravings of western Tibet.

Figure 2. Deer Image at Saikang Site, Yushu, Qinghai
©Yasha Zhang

The rock art of the Yushu Prefecture in the west of the Qinghai Province is mainly concentrated in the Tongtian River Basin. The average elevation there is about 4,000 metres. At present, 23 rock art sites, 553 panels with 2310 individual images have been found. It is a relatively concentrated rock art area, though the density is second to the rock art in Ngari western Tibet. The rock art of Yushu is engraved, ground or inscribed. Along with the diversity in techniques, the styles are varied as well. The content is mainly animals representations. Hunting, herding and dancing images are common. Symbols typical of Bon religion also abound, such as swatiska, stupas and writing. As a corridor for cultural exchanges between many ethnic groups in western China such as Tibet (Bod), Qiang and Hun, Yushu enjoys a long history with several different settlement periods. The images both show the indigenous style of the Qinghai-Tibet Plateau and the influence of Hun ethnic groups from the north of China (Figure 2).

The rock art area around Qinghai Lake is located in the north-central part of Qinghai Province. Since the 1980s, more than 20 rock art sites have been discovered in several prefectures along the Qinghai Lake such as Haixi, Haibei and Hainan. Except for Yeniugou of Golmud, most of the rock art sites are below 3,500 metres above sea level. In 1982, an initial discovery was the Halonggou rock art site in Gangcha County, Haibei Prefecture. In 1985, after two years of investigation, 12 rock art sites with over a thousand individual images were found in Shebuqigou, Yeniugou, Lusigou, Bahamaoligou, Lushan, Huaitou Tala, Xuji, BNgarihetan of Haibei Prefecture, and Cheji, Zhongbutan, Limu and other places of the Hainan Prefecture. In 1987, there was another discovery with the rock art site of Lumanggou, Tianjun County, Haixi Prefecture, with 3 sets of images, totalling more than 80 individual images[15].

[15] Tang H S and Zhang W H. 2001. Rock Art of Qinghai. Beijing Science and Technology Press.

The dating of the Qinghai-Tibet Plateau rock art is mainly based on an integrated analysis of the metal weapons appearing in the images, with different panels of symbols during the process of Bon history, and the division of labour and social organization within ethnic groups. Researchers claim that most of the rock art belongs to the pre-Buddhist period of the Qinghai-Tibet Plateau (before the 7th century AD). There are also a small number of images created after Buddhism entered Tibet. Nowadays local people still inscribe the Tibetan Six-Words Mantra on rock walls, which is not the same thing as the ancient rock art of Qinghai-Tibet. In 2013, the Tibet Archaeological Investigation Team found a variety of relics scattered on the lakeside cliffs and slopes around Luobu Lake in the Ritu County of Ngari in the western Tibet. In addition to a large amount of rock art (618 panels and hundreds of images), the team also found 57 tombs, 24 sacrificial pits, 1 large pattern of stone pieces, 4 stone structures, 4 stone walls and so on. These discoveries are solid proof of the fact that the rock art around Luobu Lake coexisted with the ritual pits, stone structures and graves of different eras, which renders it possible to determine the age of the rock art. Among them (including the discovery of 529 panels), the rock art images consist of yak, deer, horses, dogs, birds, fish, human figures, stupas, the sun, the moon, swastikas, etc. Based on the motifs, technique, expressions and styles, one can see that they extend over a long time span. Preliminary research suggest that these rock art sites were mostly made from the Bronze Age to the early Iron Age.

There are three basic features to the Qinghai-Tibet Plateau rock art. First, the most

Figure 3. Multiple Yaks in rock art of Qinghai-Tibet
©Yasha Zhang

representative animal species is the yak. It is most numerous among all of the animal images depicted in the Qinghai-Tibet rock art (Figure 3). Second, the ethnic group who made the rock art had a hunting and herding economy. Third, the art shows frequent characteristics of the Bon culture, because the symbolic system reflected in Qinghai-Tibet rock art is closely related to that of the Bon. The yaks, the hunting-herding economy, and Bon beliefs, constitute the three pillars of the Qinghai-Tibet rock art

system. The yak is exclusive to the Plateau. It can endure hypoxia and coldness. As yak is the typical animal that can help distinguish environments, it has become the most iconic animal image in Qinghai-Tibet rock art. Whether wild yak (hunting) or domestic, the yak is a highly significant animal for the ethnic groups that made the rock art. It is also known as the Boat of Life on the plateau. On the spiritual level, yak worship, especially yak-horn worship, has deep roots in the Plateau Bon culture.

The ancient rock art of Xinjiang, Qinghai, Tibet, Yunnan-Guizhou Plateau in western China, the rock art at the east and west ends of the Qinghai-Tibet Plateau, namely around the Qinghai Lake to the east and in Ngari to the west, all show evidence of interaction and exchange with the rock art of the Hun of the north of China and the Eurasian Steppe. An obvious example of this is the chariot images. In the east, chariots are represented around the Qinghai Lake, and they also appear in Yushu to the west. However, in the west, the same style in Ritu of Ngari does not extend further into the hinterland of northern Tibet. Moreover, the rock art areas of Ngari, Naqqu and Yushu are the most traditional of Qinghai-Tibet rock art and the motifs are incredibly typical of the local region. In comparison, the rock art around the Qinghai Lake betrays more evidence of exchanges with Gansu and Xinjiang.

4. Discovery, management and preservation of Qinghai-Tibet rock art

There are two golden periods of great discoveries of rock art in both Qinghai and Tibet. The first major discovery of rock art in the Qinghai Province was in the mid-to-late 1980s. The rock art around the Qinghai Lake was found during that period. The second stage was the 2010s. The discovery of the rock art in the Tongtian River Basin of Yushu from 2012 to 2014 has attracted much attention in academia. It is likely that future findings will be concentrated in the western prefectures of the Qinghai Province, and new discoveries will continue to emerge. During the early time of discovering rock art in the Qinghai Province, the provincial cultural relics department attached great importance to the preservation of rock art and the site of Yeniugou in Golmud has been inscribed as a provincial conservation of cultural relics. In recent years, the discovery and investigation of rock art in the Yushu Prefecture was fully undertaken by the Yushu Museum. It was also highly valued by the Yushu Prefecture Government, especially its cultural department. In 2016 and 2017, domestic and international academic seminars on Yushu rock art were held, and an investigation report The Rock Art of Yushu was published as well.

In the early 1980s, in the Tibet Autonomous Region a small number of rock art sites were discovered in Ngari and Naqqu. The investigation was conducted by the Archaeology Institute of Tibet and their report, once released, attracted widespread attention in China. The great discovery of Tibetan rock art was in the early 1990s. At least 60% of the rock art in western Tibet and northern Tibet was found and investigated during that period. In 1994, the book Tibetan Rock Art published by the Department of Archaeology, Sichuan University, was the outcome of the early investigations. Rock Art of Tibet, written by Dr. Yasha Zhang, published in 2006, is a book of research upon all the Tibetan rock art discovered before 2005.

After 2012, the rock art of Ngari in Tibet witnessed another wave of discoveries. The discovery of the rock art around Luobu Lake in Ritu and in the Zanda Basin of southern Ngari

confirmed the importance of Ngari as the seat of the ancient kingdom of Shang-Shong on the Qinghai-Tibet Plateau. The history of that ancient Tibetan nomadic kingdom is rarely seen in historical literature, but it is clearly described in the abundant and diverse rock art of Ngari.

The investigation, management and preservation of the rock art in Tibet Autonomous Region has gradually taken on importance in the work of the government of Tibet, especially the department of cultural relics. More and more people have realized that the rock art of Qinghai-Tibet should be a significant source for the research of the origin and formation of the early Tibetan people.

References

Gai, Shanlin, “Rock Art of Ulanqab”. Beijing Cultural Relics Publishing House, Beijing, 1989.

Li, Xiangshi, “Research of Rock Art. Ningxia People’s Publishing House”, Yinchuan, 2014.

Su, Beihai, “Rock Art of Xinjiang. Xinjiang Fine Arts Photography Press”, Urumchi, 1994.

The Xinjiang Uygur Autonomous Region Cultural Relics Bureau, “Rock Art in Xinjiang”, Science Press, Urumchi, 2011.

4. Rock Art in Southwestern China

Wu Yun
Yunnan Provincial Institute of Cultural Relics and Archaeology
Mou Xiaomei
Normal College of Zunyi
Xiao Bo
Guangxi Museum
Ji Xueping
Department on Paleolithic archeology, Archeological Institute of the Yunnan Province

Introduction

Southwest China is one of the areas in the world which has the richest bio- and ethno-diversity. In prehistoric times, it also served as the southern corridor for the migration of anatomically modern humans from west to east in the Eurasian continent. Thus, hunter-gatherers have lived in that area since the early Pleistocene. It was also an important region for the diffusion of dryland agriculture from north to south and rice agriculture from east to west. These human activities during different periods have left rich cultural remains in the area, including rock art.

The rock art of Southwestern China mainly consists of rock paintings, but there are also rock engravings and cupules. The art provides evidence of cultural contact with other regions. The themes of the rock art include hunting, gathering, settlement, cultivation, animal husbandry, and shamanism, etc. According to dating research, the age of southwestern China Jinsha River rock art may be traced back to the late Palaeolithic period.

Rock Art in Yunnan

1. Geographical background

Yunnan is located in southwest China, bordering Vietnam, Laos and Myanmar. It is a mountainous region. The elevation drops 6 metres on average for every kilometre from north to south. The hilly eastern region, with a karst topography, has an average altitude of 2,000 metres above sea level. It is part of the Yunnan-Guizhou Plateau, which can be further divided into the East Yunnan Plateau and the North Yunnan Plateau. The western region has a very rugged topography, mainly composed of steep interlocking gorges and valleys. The tall mountains are over 5,000 metres high and are covered by snow on their peaks all the year round. They form a majestic alpine glacier topography. The northern area of Yunnan is an extension of the Qinghai-Tibet Plateau, with elevations around 3,000 to 4,000 metres. This is where the great ranges of the Gaoligong, Nu and Yunling mountains rise and the major rivers of Nu, Lancang and Jinsha flow side by side in a north-south direction. The south of Yunnan has lower mountains, such as the Ailao, Wuliang and Bangmang, with altitudes lower than 3,000 metres. The topology gets flatter towards the south and southwest, with valleys becoming broader. On the southern and southwestern borders, broad valleys and low hills no higher than 800 to 1,000 metres replace the forbidding mountains, and the valley bottoms in some regions even descend to lower than 500 metres. Much of the province lies within the subtropical or tropical monsoon climate zone, with distinguishable dry and wet seasons. There are minimal differences of temperature across the year but great difference of temperature within the day. The temperature also varies pronouncedly with the changes of altitudes.

2. Notable Archaeological Sites

Yunnan is one of earliest areas in Eurasia populated by Homo erectus and there are a number of sites dating back to the Palaeolithic and Neolithic periods. Homo erectus yuanmouensis, dated to 1.7 Ma, is one of the oldest Homo erectus occurrences in Eurasia. It was discovered on the east bank of the Longchuan River, an upper tributary of the Jinsha River, in the Yuanmou Basin. The sites from the Early to Middle Palaeolithic, including Gantangqing (Jiangchuan County) and Baishiling (Shilin County), demonstrate continuous occupation in the area. Fossils of Homo sapiens and archaic Homo sapiens have been found in Kumming, Lijiang, Pupiao (Baoshan City) and Yaoguan (Shidian County) and Red Deer Cave man (Mengzi City). The Hoabinhian Culture and Mousterian Industry have both been identified, indicating diversity in early human culture.

The arrival of the Neolithic was comparatively late in this part of China. According to the result of calibrated C14 dating, the Gedeng Neolithic Site on the east bank of the Lapu River (an upper tributary of the Jinsha River) dates back to between 4586-4056 and 3546 years. The Dadunzi Site in the Yuanmou Basin has been dated to 3225 years ago. This site, combined with other sites with similar cultural features, like Caiyuanzi in Yongren county and several sites in the Longchuanjiang drainage area, compose the “Dadunzi type” culture. Another site, Baiyang Village in Binchuan County along the Binju River, a tributary of the Jinsha River, is dated back to 3770±85 years ago and is termed the “Baiyangcun type” culture. In general, there are rich Neolithic cultural remains in Jinsha

River region. These sites reflect cultural diversity, but also connections. Some of the sites are as late as 3000BP and may be related with the ancient minority tribes “Xinan Yi” of southwestern China.

The Cangyuan rock art is located in the Lancang River drainage area. This area is rich in archaeological sites, and in particular, rock art sites. Archaeologists have found evidence of human activity dating back to more than 40,000 years ago in the Nongke Xiaodong Cave and Tanghe Cave (Zhenkang County). The region moved into the Neolithic Period around 10,000 years ago and into the Bronze Age about 3,700 years ago. The Neolithic Shifo Cave Site in Gengma County dates back to 3,500-3,000 years ago, reaching its zenith between 3,400 and 3,200 years ago. Bountiful quantities of haematite and other ochre pigments were found within its stratigraphy, and concentrated in several specific areas. Residues of ochre pigments were found on the surfaces of milling stones, sticks, grinders, gravels and axes and on the inner surface of pottery sherds. The types of ochre found in Shifo Cave is the same pigment used for most of the rock paintings in Cangyuan. Other similar archaeological sites include Nanbiqiao, Zhangcun (Nanjing), Padang Rockshelter, Xiaomangguang Painted Cave, Muchang Cave, Mangka, Dinglai (Cangyuan), Rangdelai (Cangyuan), Yangdehai (Cangyuan), Xiapaxie (Shuangjiang County), Yinjiafen (Shuangjiang), Menggong (Yongde County), Yinjiafen (Yongde) and Tanghe (Zhenkang County), most of which are small rockshelters and caves, all with short occupation spans. Their relationship with Cangyuan rock art has yet to be studied.

A diversity of cultural relics and archaeological sites have also been discovered in the Nu River (Salween River), Honghe River (Red River) and Zhujiang River (Pearl River) areas.

3. Rock art distribution and characteristics

Yunnan Province boasts some of the most important ancient rock art in South China. Over 4,000 examples of rock art have been discovered in 11 cities/autonomous prefectures since 1957. These tend to be clustered along the Jinsha River (Yangtze River), Lancang River (Mekong River), Honghe River (Red River), Nu River (Salween River) and Nanpan River (upper reach of the Pearl River). Among those sites, the Cangyuan, Dawangya and Jinsha River rock art is listed as a national-level key cultural relics protection unit, while Ta-ke and Cangshan rock art sites are listed as a provincial-level key cultural relics preservation unit. Almost all types of rock art, from painting and engraving to cupules are found in Yunnan, and a considerable proportion of the art is found in rock shelters or caves and on monoliths.

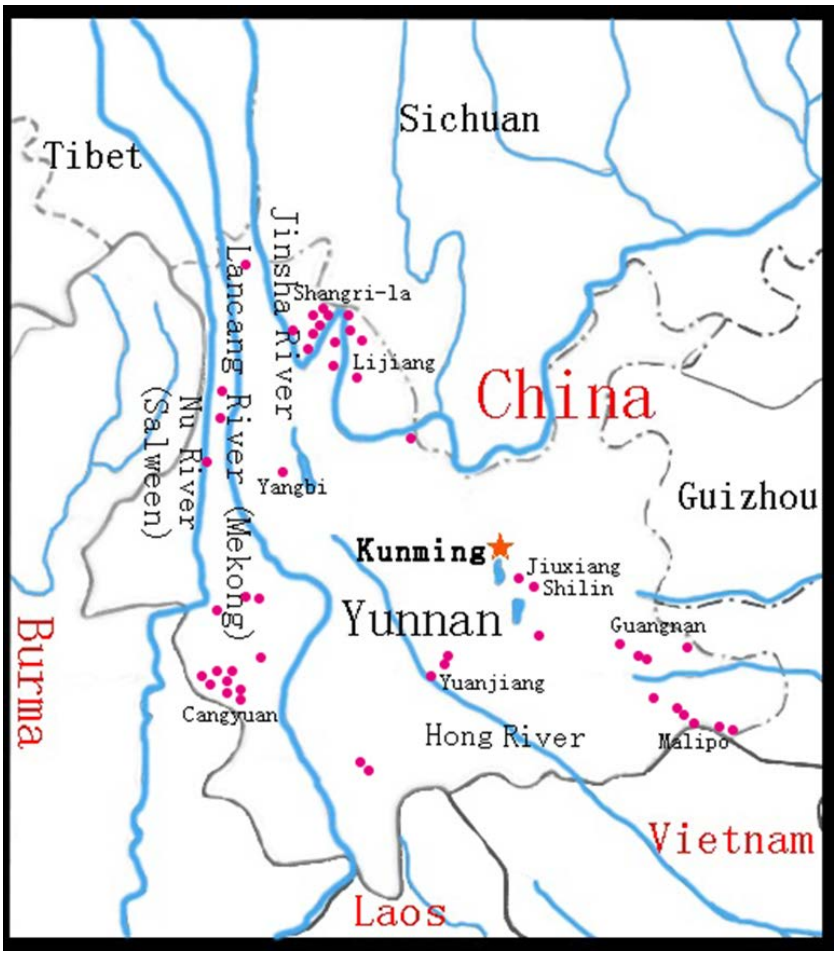

Figure 1. The main rock art assemblages in Yunnan
©Wu Yun

Most rock art in the Jinsha River region consists of paintings which reflect a hunter-gatherer's lifestyle. Their realistic style differs from the other regions of China, but is comparable to realistic style rock art paintings found in Africa, Europe and Southeast Asia. In 2008, a group of Chinese and Australian researchers sampled calcite flowstone on the Baiyunwan rock art site for U-series and AMS dating. The results show that the art works are as old as 5,400-4,170 years ago. Given the fact that Palaeolithic tools were collected at some sites and the tapir, which was painted in the rock art, is an animal that went extinct in Yunnan some 8,000 years ago, the earliest Jinsha rock art can probably date back to the Palaeolithic period. In addition, engravings and cupules are also found in that area, providing important evidence for human migration and cultural contact.

Figure 2. No. 4 site of Jinsha river rock art
©He Shiqi

Figure 3. Yudong site of Jinsha River rock art
©Chen Shuzheng

In the Lancang River region, the Cangyuan Va Autonomous County has a treasure trove of rock art, all of which is painted on cliffs. The elevation is 1,000 to 2,500 metres above sea level and the sites are located in the townships of Mengsheng, Menglai, Nuoliang, Mengjiao along the valleys of Xiaoheijiang river and its tributaries, including the Mengdong river and the Yong'an river. Usually platforms which can accommodate 20 or 30 people are found below the rock art cliffs and they are supposed to be places used for rituals. 74% of the images can be identified and they are mainly decorative feathers, horns, tails, ears and feathered humans. Other images represent animals (oxen, monkeys, bears, elephants, boars, birds, dogs and goats), tree houses, stilt houses, villages, sun, moon, trees, clouds, mountains, roads, bows, spears, shields and flying balls, covering all aspects of people's life from hunting, domesticating, fighting, sacrificing to inhabitation, migration, funerals and dancing. According to the research of Prof. Wang Ningsheng, these ancient artists painted by dipping haematite-blood paints on their hands, feathers or plant fibres. By 2017, 17 sites in Cangyuan had been discovered with more than 1,200 figures of rock art, within an area of nearly 600 m2. In 1981, the Yunnan Provincial Museum sampled the stalactites covering the rock art at Loc. 3 of the Cangyuan rock art site. The samples were radiocarbon dated by the Institute of Vertebrate Palaeontology and Palaeoanthropology, Chinese Academy of Sciences, and the result showed that the inner layer covering the painting was formed 3,030±70 years ago, earlier than the outer layer of the stalactites, which was formed 2,300±70 years ago. In 1984, Shi Punan and his colleagues took 216 diatom and sporopollen samples from the Loc.5 site for dating and the result shows it was as old as 2,500-3,500 years.

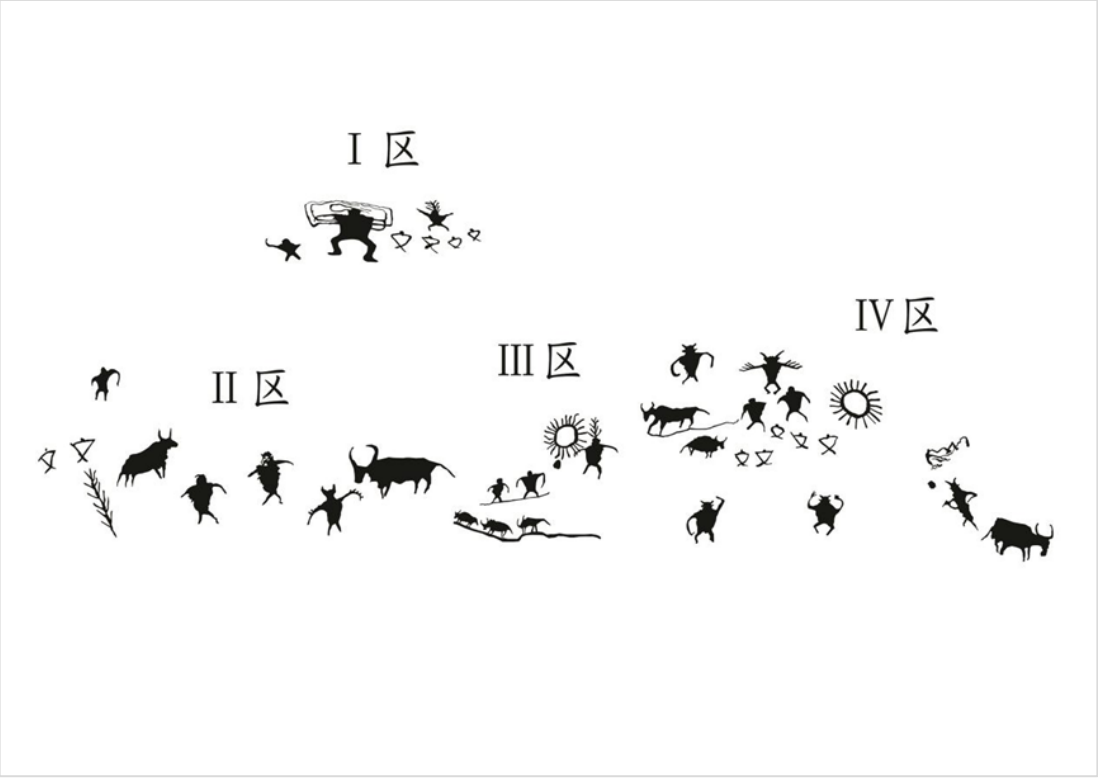

Figure 4. Computer drawing of the Lixin cave site Cangyuan rock art
©Xueping Ji

More than 10 rock art sites have been discovered in the Nu River (Salween River) region, mostly on steep riverside cliffs or in shallow caves of the Gaoligong Mountain and Nu River (Salween river) ridges with elevations of over 2,000 metres. The images are mainly human figures, animals and plants, allegedly related to folk religions. No dating analyses have been conducted.

Hong River Rock art is found in Ta-ke, Jiamola (Yuan Jiang County), Shizi Mountain (Xichou County) and Dawangya (Malipo County). The dominant themes of the images are frogs or frog-like humans, lizards and serpents. The art is very different from that found along the Jinsha, Lancang and Nu River. The paintings are estimated to range from the Neolithic to the Late Iron Age, but no direct dating analysis has been conducted.

4. Preservation and management

A number of natural factors have influenced the preservation of the rock surfaces on which the art was created. They include the features of the stratum, rock formations, groundwater, rainfall patterns, climate, earthquakes and ecology. Many paintings are faded, cracked or covered, while some cliffs with paintings have collapsed. Even paintings hidden in deep and remote gorges or valleys are no longer safe from the development of intensive infrastructure projects, including the construction of hydroelectric stations, railroads, express ways, all of which have been constructed recently. Such activities have caused direct damage to the sites and made changes to the local environments. As the fame of some rock art sites has grown, an increasing number of non-professional visitors have come to visit them and some have added paintings, scrawls and carvings, thereby further damaging the rock art. Such damage is also observed at localities near human settlements. The inhabitants in some rock art areas still practise herding and they use rock art sites as enclosures for holding livestock. The scratching or clawing activities of the livestock obscure the rock art. In recent years, increasing attention has been paid to rock art protection by the local, provincial and national governments. However, risks still exist.

Rock Art of Guizhou

1. Introduction of the rock art region

Guizhou Province is located in the eastern part of Southwest China, east of Hunan, south of Guangxi, west of Yunnan, and north of Sichuan and Chongqing. Guizhou Province is located between 24°37′N to 29°13′N and 103°36′E to 109°35′E, and the average altitude is about 1110 metres.

Guizhou Province has a typical karst geomorphology, and the area where karst is exposed is about 109,084 km2, i.e. 61.9% of the total area of Guizhou Province and forming a special karst ecosystem in that province. Rock art is located in the mountainous areas within the karst landforms. The rock art was usually painted on the limestone.

The rock art in Guizhou Province belongs to the whole system of the Southwest rock art of China. By the end of April 2018, a total of 46 rock art sites had been found. The rock art in Guizhou Province is concentrated in the Beipan and the Wujiang Basin. The two largest rock art localities are Hongyan rock art in Shizhu village, Shaping town, Zhenfeng county and the Wushan rock art localities in Gujiao town, Longli County.

The themes of Guizhou rock art are mainly hunting, herding, handprints and sacrifices, and the most commonly painted animals are horses in red pigment. The earliest rock art is thought to be from the Neolithic Age about 6000 years ago and the most recent rock art dates from the Ming Dynasty to the mid Qing Dynasty during Jiaqing and Daoguang, i.e. from 1,368 AD to 1,850 AD. The Han Dynasty (202-220 BC) and Song Dynasty (960-1279 AD) are also the periods when rock art was created most profusely.

2. Distribution of rock art

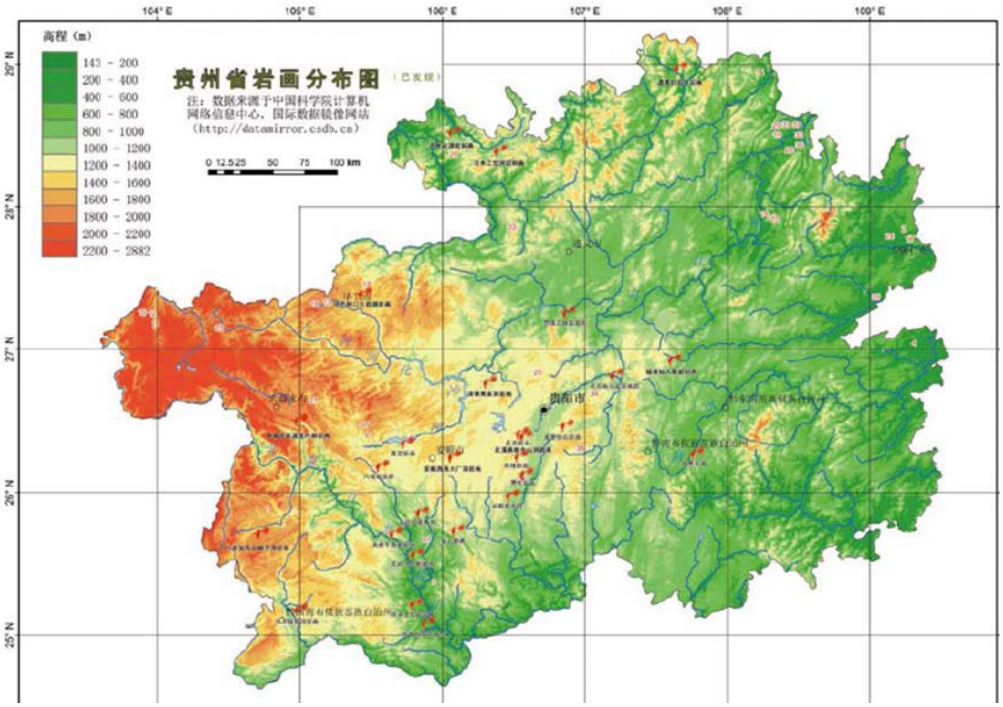

Figure 1. Map of Guizhou rock art
©Qiansheng You, Bo Cao eds. Guizhou Rock Art

The important areas of rock art in Guizhou province are Kaiyang and Longli county in Qianzhong district, the mid reaches of the Wujiang river as well as Guanling autonomous county and Zhenfeng county in the mid-lower reaches of the Beipanjiang river. Hongyan rock art in Zhenfeng county and Wushan rock art in Longli county are the two biggest rock art concentrations in Guizhou province.

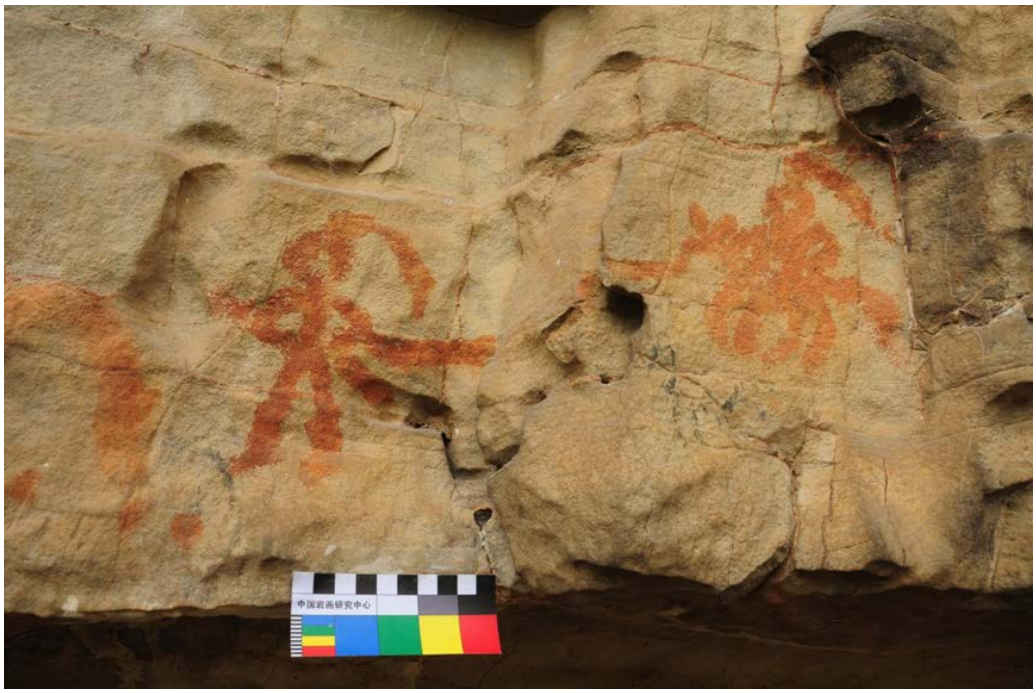

Figure 2. Longli county's Wushan rock art
©Li Dongfeng

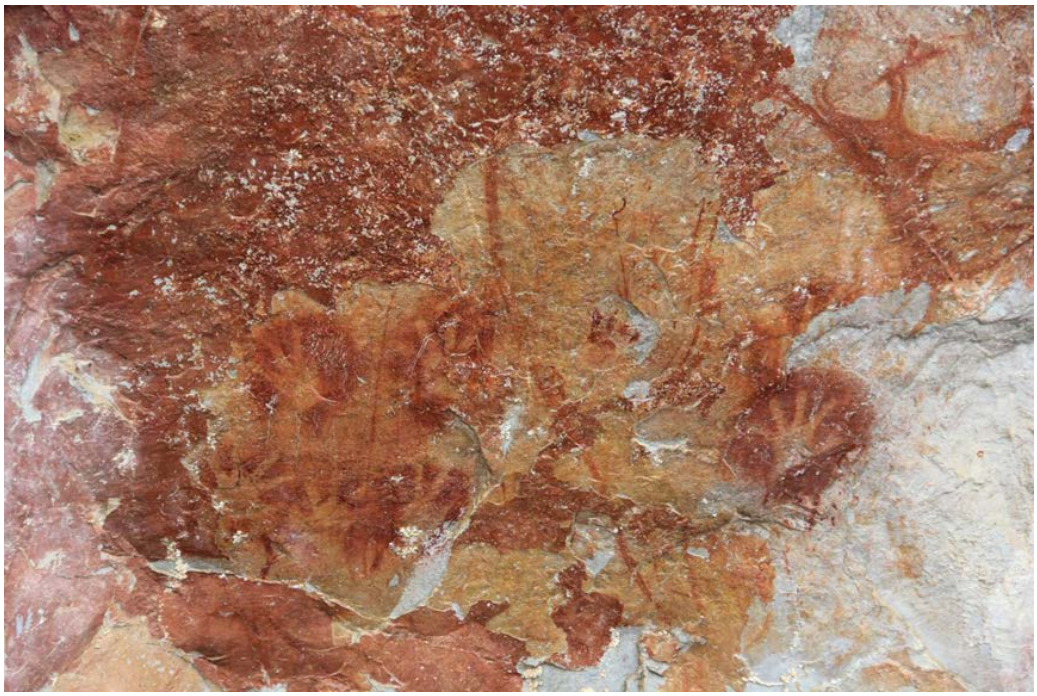

Figure 3. Zhenfeng county's Hongyan rock art
©Mou Xiaomei

Wushan rock art site is located in the Wushan mountain, Guyuan village, Gujiao town, Longli county, Guizhou province. The Guyuan village is in the middle of Guizhou province, south of Guiyang and east of Longshan town. The Wushan rock art site is about 17.3 kilometres away from the nearest Gujiao town, and about 26.5 kilometres away from Guiyang, the capital city of Guizhou province.

The Hongyan rock art site is located in Shuzhu village, Shaping town and Zhenfeng county, nearest to the town of Shaping. The Shizhu village rock art site is about 20.3 kilometres away from Shaping town, about 65.8 kilometres away from the county town of Zhenfeng, and about 290.3 kilometres away from the capital city of Guizhou province.

The geographical coordinates of the Wushan rock art locality of Longli are between 106.5° E and 26.26° N, with an altitude of about 1,332 metres. The individual size of rock art motifs is between 10 to 50 centimetres. The rock art images are painted in diverse shades of red ranging from light to dark. The main subjects of Wushan rock art are human figures, animals and implements as well as herding scene. Distinctive images include cattle, horses and human figures with long feathers mounted on their heads. There are about three hundred individual rock art images in total, made by a combination of line drawing and colour filling, coloured in red with a variety ranging from light to dark. Individual image size is approximately between 10 to 50 centimetres.

The geographical coordinates of Hongyan rock art in Zhenfeng county are 105° 51 '19″ E, 25° 08 '58' N, at an elevation of 548-555 metres. The rock paintings are mainly red and vary from light to dark. The size of the rock art figures is between 10 and 160 centimetres, most of the images being between 10 and 50 centimetres. There are no obvious inscriptions on the rock art and the main themes of Hongyan rock art are about hunting and sacrifices. Human handprints are most numerous (about 118), followed by animals and human figures. The total number of individual rock art figures is 294 and the art is both in outline and solid filled.

The human figures have distinctive ethnic features that are similar to those in Yunnan and Guangxi rock art in terms of their dress and form. The head forms and appendages in Liupanshui city rock art on the upper reaches of the Beipan River are similar to those painted by the Baiyue ancestors in Guangxi Huashan rock art, and also similar to those in Yunnan Cangyuan. The dots of earrings in Jianshan rock art are consistent with those of Yunnan Cangyuan rock art. As for Jianshan rock art, there are also images similar to the circular objects depicted in the Zuojiang River Basin in Guangxi. The two round objects are associated with human forms. The combination of these human figures and the circular images in the Longshun County of the Pearl River Basin in Guizhou resembles the shape of the round bronze drums in the rock paintings of the Zuojiang River Basin in Guangxi.

There are some connections between the Guizhou rock art and local residents. For example, the residents near Hongyan rock art tell some ancient stories about it. The residents near Wushan rock art, even those living quite far away, go to the site to make sacrifices and to people pray for the birth of children or for safety.

3. Archaeological culture and the dating of Guizhou rock paintings

The Palaeolithic sites in Guizhou province are concentrated in the middle, northwest, southwest and northern regions, especially in the central, northwest and southwest, where the Karst geomorphic development zones are more concentrated. In Neolithic times, the number of sites in Anshun, the heartland of Guizhou, as well as in the upper reaches of the Beipan river in southwest Guizhou reduced remarkably. However, the distribution of the sites along the rivers in the south and east part of the province increased. During the Shang and Zhou dynasties settlements became widely scattered, but with small concentrations in the middle and lower reaches of the eastern Wujiang river system and the Qingshui River system.

There are more than 40 Palaeolithic sites in Guizhou province where they are named the “Guanyin Cave Culture”, famously represented by the Guanyindong site in Qianxi. Neolithic sites include the Zhongshui site in Weining and the Kele site in Hezhang. 77 Bronze Age sites have been found in total in the Guizhou province. From the earlier dynasty period (from the 21st Century BC to 220 AD) the main archaeological finds include a large number of Han dynasty tombs. Archaeological excavations took place at the Hezhang Kele site. During the Sui, Tang, Song, Yuan and Ming Dynasties (from 581 AD to 1644 AD), the most famous sites are those belonging to the chieftain Yang family of Zunyi. Among them, the Hailongtun site was inscribed on the UNESCO World Heritage List in 2015.

The most concentrated areas of rock art in Guizhou, such as the middle and upper reaches of Wujiang and the middle and lower reaches of the Beipan River are also the principal areas for Stone Age sites in Guizhou. The Guizhou Longli Wushan rock art locality is located in the middle of Guizhou, where there is the Pingba Feihushan cave site (from the Palaeolithic to the late Neolithic). The Zhenfeng red rock art is located in Shaping town, Zhenfeng county of southwest Guizhou. In that region, the main sites of the Palaeolithic period are Puding Baiyan cave and Xingyi Maomao cave. Homo sapiens fossils have been found in the two sites, accompanied with abundant fossil remains of mammals. From pre-Qin to Han dynasty, the archaeological excavations in Southwest Guizhou mainly include Puding Tonggu Mountain ruins, Hezhang Kele ruins, the groups of Xingyi Wan Tun Han tombs and Xingyi Han Yue tombs etc. In that period, some scholars think that Guizhou was occupied by the ancient state of Yelang.

The oldest surviving rock art in Guizhou is thought to be from the Neolithic period. The images were mainly large animals and hunting scenes, examples include the Zhenfeng Hongyan rock art. The middle period of creation extended from the Han Dynasty to the Song Dynasty. The majority of Guizhou rock paintings belong to that period. Images show iron ware like swords, bronze drums, grazing as well as sacrificial scenes. Grazing, riding, shooting and sacrificing were represented in the rock art of Wushan, Kaiyang, Guanling autonomous county and Zhenfeng in that period. Whilst the number of rock art sites declined in later periods, distinct ethnic costumes can be identified from the late Ming until the mid Qing Dynasty periods.

4. Museum and protection

The rock art and archaeology of Guizhou are preserved by county-level departments of cultural relics. For instance, the Longli rock art has been preserved by the Longli county cultural relics management office since 2001. Their work has included the setting up of a county-level cultural relics preservation unit. They have placed wire fences around the rock art sites to enclose and preserve them. They have put up preservation signs and they conduct periodical inspections of the rock art.

The Hongyan rock art in Zhenfeng has been listed by the Provincial cultural relics preservation unit since 2015. The cultural departments in the relevant cities and counties take on the responsibility for the preservation of the rock art and they employ local villagers to monitor the sites. The villagers living in the communities near the rock art are therefore involved in its management.

Rock Art of Guangxi

Introduction

Guangxi rock art is mainly distributed in the territory of Chongzuo City. 80 rock art localities have been discovered. They share a high degree of consistency in terms of painting techniques, age, content, and distribution characteristics. Therefore, the academic community collectively referred to them as "Zuojiang Huashan Rock Art". In addition, there are also some rock art sites in Jinxiu County, Jingxi City, Lingchuan County, Mashan County, Tiandong County, and Yizhou City in Guangxi. Their ages are later than those of the Zuojiang Huashan Rock Art. As with the Zuojiang Huashan Rock Art, most of them are made of red pigment, and only a few are made by pecking and grinding with stone tools. At present, the investigation of those late rock art sites is not yet completed. Therefore, this article only gives a basic introduction of the Zuojiang Huashan Rock Art.

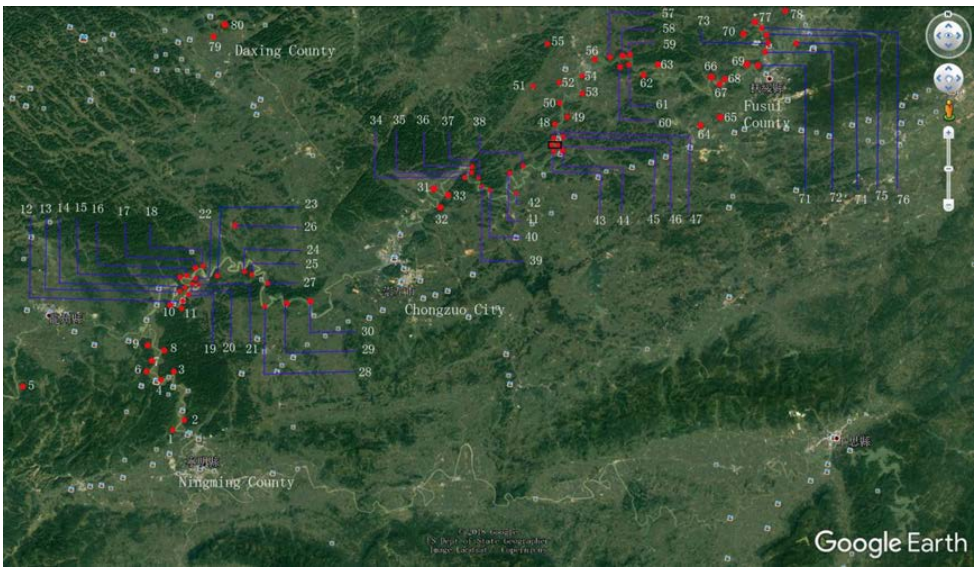

Figure 1. Distribution of Zuojiang Huashan Rock Art
©Xiao Bo, Hu Pengcheng

1. Zhushan 2. Long Xiashan 3. Gaoshan 4. Huashan 5. Yan Dongshan 6. Nong Jingshan 7. Na Bashan 8. Hongshan 9. Zi Xiadong 10. Bao Jianshan 11. Shui Yandong 12. Dui Mianshan 13. Chen Xiangjiao 14. Yan Minshan 15. Ba Pengshan 16. Wu Mingshan 17. Du Chuanshan 18. Da Zhoutou 19. Lou Tiyan 20. San Zhouwei 21. San Zhoutou 22. Chao Chuantou 23. San Jiaoyan 24. Sha Maoshan 25. Mianjiang Huashan 26. Na Huashan 27. Shuang Duijishan 28. Tuo Jiaoshan 29. Long Niangshan 30. Gaomatou Hongshan 31. Yin Shishan 32. Huang Chaocheng 33. Deng Longshan 34. Chuan Longshan 35. Tuobai Yinshan 36. Tuo Baishan 37. Ba Anshan 38. Dashan 39. Ma Bishan 40. Guan Daoshan 41. Zha Koushan 42. Ling Zhishan 43. Xiao Yingwengshan 44. Da Yinwengshan 45. Qi Xingshan 46.Kong Tuoshan 47.Yan Huaishan 48. Bai Geshan 49. Jiang Junshan 50. Da Wanshan 51. Gan Bashan 52. Da Ningshan 53. Wan Rendong 54. Nong Jiushan 55. Leng Miaoshan 56. Ba Yinshan 57. Baigui Hongshan 58. Censhan 59. Zuo Zhoushan 60. Bai Yangshan 61. Hua Lishan 62. La Zhushan 63. Tuo Nashan 64. Ba Geshan 65. Ba Laishan 66. He Toushan 67. He Xinshan 68. Gan Huaishan 69. Tuo Tanshan 70. Ba Ningshan 71. Zhen Longshan 72. Gan Zaoshan 73. Qing Longshan 74. Shi Zishan 75. Hou Dishan 76. Gong Heshan 77. Tun Pinghshan 78. Xian Renshan 79. Gang Jiaoshan 80. Huashan

1. Geographical Area Description

The Zuojiang Huashan Rock Art is located in the border regions of southwestern China. It is painted on the cliffs of the Zuojiang River and its tributary the Mingjiang River in Chongzuo City, Guangxi Zhuang Autonomous Region. The Zuojiang River area, where the rock art is, has a typical tropical karst topography, with typical clustered peaks and depressions. The altitude of the mountains is generally between 200-400 metres. They mainly consist of limestone, dolomite and other carbonate rocks, and there are shallow seabed sediments from the Carboniferous to the Triassic. The total length of the Zuojiang River, in the southwest of the Guangxi Zhuang Autonomous Region, is about 345 kilometres. It flows from southwest to northeast, and passes through counties such as Longzhou, Ningming, Chongzuo and Fusui. The Mingjiang River has a total length of 315 kilometres. It originates from the northwestern corner of the Shiwandashan Mountains, flowing through Shangsi County, Ningming County and the Shangjin township of Longzhou County and joins the Zuojiang River at a place 0.9 kilometres west of the old street of Shangjin township. There are some open and flat terraces on both sides of the Zuojiang River and the Mingjiang River. These terraces are about 15-20 metres above the water surface, and have been deposited by long-term scouring of the river. Many of the terraces have now been reclaimed as arable land, and dozens of small-scale villages have been built upon them. Those terraces are considered to be places where ancestors held ceremonies.

2. Introduction to Rock Art Sites

The Zuojiang Huashan Rock Art sites are distributed in the riverside areas of Ningming, Longzhou, Jiangzhou, Fusui, Daxin of Chongzuo City, continuing for more than 200 kilometres. Huashan, called pay laiz in the Local Zhuang language, means mountain with paintings. The places called Huashan all have painted rock art on the cliffs. In the local myths and legends, the founding ancestor of the Zhuang people is Miluojia, also known as Huapo. She is the fertility goddess of the Zhuang people. Since Miluojia is known as the goddess of Huapo and the mountains with rock art in the Zuojiang River Valley are commonly known as Huashan, the relationship between the mountain and the fertility goddess is obvious. Since 1956, after several investigations, a total of 80 rock art sites have been discovered, the largest of which is Huashan Rock Art in the Ningming county. The site of Ningming Huashan Rock Art is about 270 metres high, and about 350 metres long from north to south. The whole painted surface is about 170 metres wide, 40 metres high, and occupies the area of about 8,000 m2. More than 1,900 images have been identified, and the images divided into 110 groups. The rock art starts about 2 metres above ground level and most images are painted in the mid part of the panel, about 5-20 metres above ground level.

The rock art images were all produced in the same way. They were all painted using red pigment made from a combination of hematite (Fe2O3), animal glue, and blood. The binder used in the pigment contains a plant cement material (plant sap). The rock art was produced both by climbing upwards on scaffolding and suspended on ropes. The most commonly used method was the direct scaffolding method.

Among the 80 rock art sites in the Zuojiang River Basin, 72 are distributed on the riverside cliffs of the Zuojiang River and its tributaries the Mingjiang River, Ping'er River, and Heishui River,

accounting for 90% of the total number of rock art sites. Among them, 80% are found at turning points in the river, and there is often a relatively wide tongue-like tableland on the opposite side. The rock art sites are mostly located between 15 and 100 metres away from the river. In addition, there are 8 sites not located on the riversides which are 2.5 to 12 kilometres away from the river bank. According to Mr. Xu Haipeng's research all of the rock art localities had the same riverside geographical locations at the time when they were painted (Xu Haipeng 1988: 91). Since they were painted, climatic, hydrological and geomorphological conditions have changed, leaving some rock art locations further away from the river channels than others.

The vast majority of rock art sites face south, with a small number facing east or west. The theme of rock art is extremely uniform, and the contents are conventionalised and restricted. The most common images are human figures. Furthermore, there also are animal images and images of cultural objects. Human images are divided into two kinds: front-view human figures and side-view human figures. The front-view human figures are generally taller and show a squatting style. The side-view human figures are generally small and usually surround an image of a tall front-view human figure. Some front-view human figures are accompanied by dog images below them. The animal images are mainly dogs, and a few bird images are also known. Images of cultural objects include bronze drums, sheep-horn bells, bronze bells and swords. The type of bell depicted is mainly the goat horn knob bell. The types of swords are mainly ring-pommel broad swords and swords with slot patterns. The Zuojiang Huashan Rock Art shows us the cultural features and spiritual world of the ancestors of the Zhuang people for more than 2,000 years, and they have extremely high artistic and cultural values. In 2016, the Zuojiang Huashan Rock Art Cultural Landscape was included in the World Heritage List by UNESCO. It includes 38 Rock Art sites in Ningming County, Longzhou County, Jiangzhou District, and Fusui County, including about 105 kilometres of the Zuojiang River and the Mingjiang River, with a total area of 6621.6 hectares.

Figure 2. Panorama of Ningming Huashan Rock Art
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Figure 3. Huashan Rock Art of Ningming County
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3. Research Status and Documentation

At present, the earliest records about Zuojiang Huashan Rock Art can be traced back to the Song Dynasty (960-1276 AD). Li Shi in the Song Dynasty made records in Volume Eight of Continued Natural History, “There are ghostly shapes like paintings in light ink on the cliffs of deep valleys in Erguang area. The passengers on boat regard them as the marks of their ancestors, so they worship them piously”. According to scholars, the “deep valleys in Erguang area” in the book probably refers to today’s Zuojiang River Basin in Guangxi. The “ghostly shapes” and “paintings in light ink” probably refer to Zuojiang Huashan Rock Art. In the Ming Dynasty (1368-1644 AD), Zhang Mu stated in Collection of Anecdotes that, “There are very high cliffs in Taiping Prefecture of Guangxi. Soldiers on horses with arms loom out on them, some without head. The passengers are prohibited to point at them, because anyone will get sick if he or she even talks about them”. In the twenty-ninth year of Emperor Kangxi’s reign of the Qing Dynasty (1661-1722 AD), Volume of Siming Prefecture History recorded that, “Huashan Mountain is eighty li away from the prefecture. It is near the rivers, with weird rocks towering above, having images like horses, elephants, human figures with swords, knives, flags, drums, etc. The passengers worshipped when seeing them”. The Records of Ningming Prefecture compiled in the late Qing Dynasty (1644-1911 AD) stated, “There are red human figures on the cliffs of Huashan 25 kilometres away from the city, all naked, in different sizes, some with spears and some riding horses. They are bright in colour before the chaos, while turned slightly dark after that. Besides, there are many such images on most cliffs along both banks of the river”.

The Guangxi Zhuang Autonomous Region organized two investigation teams in 1956 and 1962 respectively to systematically inspect the Zuojiang Huashan Rock Art. They discovered more than 50 rock art localities, and analysed the distributional pattern. Based on the findings of the investigation, they edited and published the Data Collection of Huashan Rock Art in 1963. This is the first specialized publication about Zuojiang Rock Art. Later, additional investigations and studies were carried out and further rock art sites were discovered. In 1980, the Guangxi Zhuang Autonomous Region Museum organized some experts to carry out an all-round investigation into the art. They conducted advanced research into the images, periodization, date, ethnicity, nature, contents and features of the rock art. They compiled the findings in a book titled Guangxi Zuojiang Rock Art, that

was published by Cultural Relics Press in 1988. In April 1985, a further investigation was organized by Guangxi Zhuang Autonomous Region Ethnic Minorities Affairs Committee. It was carried out by the Guangxi National Institute, was on a much bigger scale, more comprehensive and in-depth. During more than three months, the expedition sailed down the river by boat from the Ping'er river in the upper reaches in Longzhou County, through Chongzuo (today's Jiangzhou District), turned to Ningming Mingjiang River and Daxin Heishui River, and then downstream to Fusui. They combed through each rock cliff on the banks along the river and copied, photographed and recorded the details of each rock art image once discovered. They collected detailed information about each site. After the investigation, the expedition made comprehensive, systematic and in-depth research on the distribution, date and periodization, ethnicity, content and social functions, art styles, and painting technology of Huashan Rock Art, and finally wrote the book Investigation and Research on the Cliff Paintings in Guangxi Zuojiang River Basin, published by Guangxi Ethnic Press in January 1987. This research achievement with abundant first-hand evidence, clear arguments, and strict logic was widely accepted by the Chinese rock art academy. It laid a solid foundation for ongoing research.

Since then, studies of Zuojiang Huashan Rock Art have never ceased. The research gradually made the site famous internationally and it was placed on the UNESCO Tentative World Heritage Site List. In order to help with the formal World Heritage nomination, the Guangxi Zhuang Autonomous Region Department of Culture organized experts in all aspects to systematically study Zuojiang Huashan Rock Art, and in 2015 published the first series of Zuojiang Huashan Rock Art collection of essays, Zuojiang Huashan Rock Art Research Reports (Volume I and II) and Archaeology of the Zuojiang and Youjiang River Basin. These volumes are the most comprehensive and systematic research results on the Zuojiang Huashan Rock Art so far. At the same time, the Ningming County Cultural Relics Management Office, Wuhan Haida Cloud Technology CO., LTD, and Guangxi Museum of Nationalities worked together to collect digital information about the 38 nominated rock art sites. They used surveying, mapping and Geographic Information Technology to record the sites, and used Surveying Geography Information Technology to collect rock art space and texture information and construct a comprehensive rock art information management system. This has provided new systems to assist in the preservation, display, and utilization of Zuojiang Huashan Rock Art.

Figure 4. Huashan Rock Art of Ningming
©Zhu Qiuping

4. Archaeological Context

There are around 130 archaeological sites from the Neolithic Age to the Han Dynasty (about 8,000 BC – 220 AD) in the Zuojiang and Youjiang river basins. In the early and middle Neolithic Age (about 8,000 BC – 4,000 BC), a relatively advanced archaeological culture emerged in both river basins. The archaeological finds include stone wares together with chipped and polished stone objects in various forms. The style of pottery wares was monotone, fine clays, mostly decorated with Jomon patterns. Varied tomb burials have been discovered in the area. In addition, many shell midden sites have been discovered that include grinding objects and grinding discs.

In the late Neolithic Age (about 4,000 BC – 2,070 BC), the quantity of sites increases gradually, and the society transitions to being more complex. The material culture of the period is characterised by big stone shovels. The distribution of shovels is concentrated in the confluence zone of the Zuojiang River and Youjiang River. The shovels are huge, flat, thin, angular and regular in shape. Most shovels are arrayed, mainly in vertical or oblique array with edge upward, and most show no signs of usage. They were probably used for agricultural rituals. Pottery wares in that period were mostly round bottom pots, kettles, and a small quantity of three-legged wares. The pottery was made with fine clay, mostly in uniform colours, and often decorated with fine Jomon patterns. Tombs were mostly pit burials. Cave burials appear for the first time.

In the pre-Qin period (about 2,070 BC - 221 BC), the degree of social complexity in the area reached a new height. There were still some pit burials, but cave burial became more important. The accompanied objects became more diversified, which indicates the polarization of wealth within the

society. Grinding stone objects prevail, and patterns on pottery became more diverse. Bronze culture in that period had obvious local characteristics. Many bronze wares have been unearthed from the tombs, mostly functional wares such as weapons, objects and containers. In the Eastern Zhou Dynasty, bronze drums and short flat-handle swords prevailed, and in the Warring States period, another special object, the sheep-horn bell, appeared.

In the Han Dynasty (about 206 BC – 220 AD), a type of local culture that had obvious indigenous characteristics still prevailed in the Zuojiang and Youjiang river basins. At the same time, some more standardised remains from the Han Dynasty were discovered in sites like Tingcheng Site, Sanjiangpo Site, Gupo Han Tomb and Putuo Han Tomb. Based on the locations of the cities, a certain level of management by central government reached the Zuojiang and Youjiang Basins at this time. Bronze drums and sheep-horn bells still prevailed. By comparing archaeological artefacts with the rock art images, we can accurately determine an upper and lower limit for the age of the art (UNESCO 2016: 155-157).

5. Dating

Over the years, researchers have carried out a large number of in-depth studies on the age of the Zuojiang Huashan Rock Art, and they have obtained a wealth of results. The current academic consensus is that the age of the Zuojiang Huashan Rock Art dates from the Warring States period to the Eastern Han Dynasty (475 BC to 220 AD). The basis for this is archaeological cross-dating and scientific materials analysis. The principle of the archaeological cross-dating method is to date by reference to diagnostic features in the art that are of known archaeological date: these include bronze drums, ring-pommel broad swords, short flat-handle swords and sheep-horn bells. Scientific materials analysis has also been conducted on the art, in particular 14C and Uranium-Thorium. 14C dating work which was done by the Dating Laboratory in the Archaeology Department of Peking University in 1985; the University of Western Australia and University of Wollongong conducted Uranium-Thorium work in 2013 (UNESCO 2016: 301-317); and the Geography Science School of the Nanjing Normal University on Chenxiangjiao and Mianjiang Huashan of Longzhou County, conducted further Uranium-Thorium work in 2014 (Shao Qingfeng 2016: 66-69). Based on the results of the above-mentioned scientific dating and the archaeological cross-dating results, the age of the Zuojiang Huashan Rock Art was fixed between the Warring States and the Eastern Han Dynasty.

6. Preservation and Management

38 of the Zuojiang Huashan Rock Art sites have been listed on the UNESCO World Heritage List under the name: Zuojiang Huashan Rock Art Cultural Landscape. They are preserved at the highest level. Zuojiang Huashan Rock Art Cultural Landscape has completed a preservation and management system for the property. The system consists of multiple administrative levels including the state, the autonomous region, the city, the county, and the township (town). The business management system for the property preservation includes the State Administration of Cultural Heritage (at state level), the Guangxi Zhuang Autonomous Region Administration of Cultural Heritage

(at provincial level), the Chongzuo City Leading Group of the Protection and Nomination of Huashan Rock Art Cultural Landscape for Inscription on the World Heritage List, the Chongzuo City Bureau of Cultural Heritage, the Chongzuo City Management Center of Huashan Rock Art (at city level), the Cultural Bureau and Administrative Bureau of Huashan Rock Art of Ningming County and other three districts/counties, and their subordinate Administrative Institutions of Cultural Heritage (at district/county level). Other rock art sites that are not included in the World Heritage list are preserved and managed by the local county-level cultural relics department.

7. Conservation and Current Status

Due to the limestone geological structure and the warm and humid natural environment, Zuojiang Huashan Rock Art is threatened by many conservation problems. The biggest current threat is the natural weathering and flaking of the rock surface that is caused by the environmental conditions. In addition, animals and plants and micro-organisms, as well as rain erosion, are also issues of concern. Rock cracking and spalling are the most serious threats.

The primary task of conservators at the site has been to reinforce and repair cracks in the rock surface close to rock art. To this end, after a series of laboratory tests of material performance and in-situ experiments, a material fitting for crack reinforcement was chosen. The Guangxi Cultural Department commissioned the Chinese Academy of Cultural Heritage and Tongji University, Shanghai, to use natural hydraulic lime as a repair material to reinforce the surface. Natural hydraulic lime (NHL) is chosen as the reinforcement material because of its unique character. At first, it is solidified by water to create H2O3 and then it is slowly solidified by carbonation, through interaction with CO2. It can adjust by itself in the carbonation solidification process. The solidified body has similar coefficient of thermal expansion to limestone, a moderate mechanical strength and contains a low content of soluble salt. It does not produce any derivative damage in the solidification process. NHL has proven appropriate for the reinforcement and preservation of the Huashan rock paintings. The cracks have been separated into several types and consolidated in different ways. For different types of cracking blocks, different repair and reinforcement techniques and material ratios have been adopted. Recently, the results of the reinforcement efforts have been evaluated by Infrared Imaging Technology (Wang Jinhua et al. 2013: 1327-1342).

Due to the difficulty of the project, only the Huashan Rock Art of Ningming County is currently preserved and reinforced, while the preservation of other rock art sites has not yet been carried out. Other decay factors faced by rock art have not been well studied.

References

He, Limin, “The discovery and preliminary research of Jinshan River rock art”. Yunnan Social Sciences, 1993, 5: 73-80.

Li, Gang, “Comprehensive summary of Jinsha River rock art study”. In Li Gang & He Limin (eds), The Discovery and Study of Jinsha River Rock Art, 2017, pp 8-20.

Wu, Yun, “Realism and Abstraction: the Archaeological cognition of Jinsha River Rock Art”. Popular Archaeology, 2015, 2: 69-74.

Wang, Ningsheng, “An introduction to rock paintings in Yunnan Province (People’s Republic of China)”. Rock Art Research, 1984, 1(2): pp 75-90.

Taçon, Paul S.C; Aubert, Maxime; Li, Gang; Yang, Decong; Liu, Hong; May, Sally K; Fallon, Stewart; Ji, Xueping; Curnoe, Darren; Herries, Andy, I.R. “Uranium-series age estimates for rock art in southwest China”. Journal of Archaeological Science, 2011, 39: 492-499.

You, Qiansheng and Cao, Bo, “Rock Art of Guizhou”. Guizhou Science and Technology Press, 2014.

He, Renzhong, “The General History of Guizhou”. Beijing: Contemporary China Publishing House, 2003.

Mou, Xiaomei, “The Study of Zhenfeng’s Hongyan Rock Art in Guizhou”. Yinchuan: Ningxia People's Publishing House, 2016.

Shao, Qingfeng, “U-series dating of Zuojiang Huashan rock art”. Chinese Cultural Heritage, 2016, 4: 66-69.

UNESCO, “Zuojiang Huashan rock art cultural landscape”. World Heritage List, 2016, pp. 155-157 & 301-317.

Wang, Jinhua, et al.. “The study for Huashan rock paintings conservation”. American Indian Rock Art, 2013, pp. 1327- 1342.

Xu, Haipeng, “A research on geographical environment of non-riverside rock art of Zuojiang River”. Guangxi Ethnic Studies, 1988, 1: 91.

5. Rock Art in Mainland Southeast Asia

Noel Hidalgo Tan
SEAMEO Regional Centre for Archaeology and Fine Arts (SPAFA)

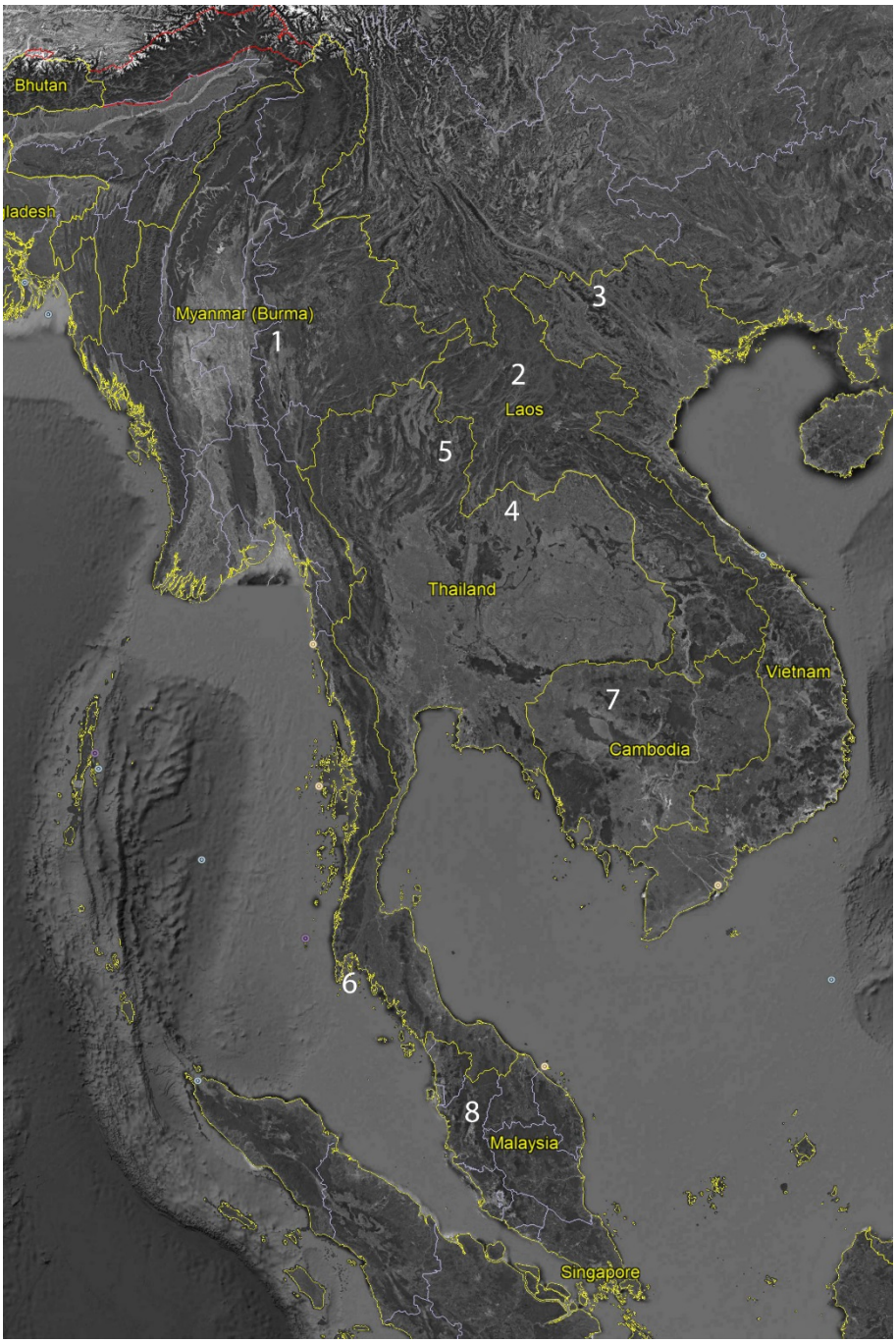

Figure 1. Map of the Mainland Southeast Asia sub-region, with the clusters of rock art mentioned in text
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Profile of Sub-Zone

This sub-zone consisting of Myanmar, Thailand, Laos, Vietnam, Cambodia and Peninsular Malaysia forms what is conventionally known as Mainland Southeast Asia. This area discussed in this study is bordered by the sea on the south and eastern borders of the region, Bangladesh and India to the west, and China to the north. The northern part of this sub-zone is dominated by the south-eastern section of the Tibetan Plateau, which forms a series of highlands and mountainous regions and where cultural links between the people of southwestern China and Laos, Myanmar and Vietnam are close. From these northern highlands a series of north-south mountain ranges and river valleys runs across the width of the region, forming the basis of borders between the countries: the Tenasserim range between Myanmar and Thailand; the Mekong River separating much of Laos and north-eastern Thailand, the Annamnite range between Vietnam and Laos, and the Dangrek mountains between Thailand and Cambodia. The southern half of this region is largely lowland, and the major rivers such as the Ayerwaddy, Salween, Chao Phraya, Mekong and Red River and their associated deltas drain into sea. Apart from the north-western areas of the sub-zone, the region is geologically stable. Some 270 million people reside in this sub-zone, mostly in the lowland areas, and belong to three major linguistic groupings: Austro-Asiatic, Tai and Austronesian languages.

Archaeological research in this zone began during the colonial period of the 17th -20th centuries and tended to focus on the major temple complexes such as Angkor, Bagan, Sukhothai and Ayutthaya. In the early 20th century, research into the prehistory of the region identified a cultural technocomplex called the Hoabinhian, after Hoa Binh province in Vietnam but extant throughout Southeast Asia. The Hoabinhian dates from the late Pleistocene to mid Holocene, and features unifacial flaked pebble tools, a preference for karstic rock shelters in upland areas, and exploitation of shellfish, fish and mammals such as pig, monkey and deer. Many rock art sites with archaeological remains contain Hoabinhian features, which suggest their antiquity.

Neolithic artefacts (polished stone tools) and earthenware can occasionally be found in rock art contexts, but as the archaeological record transitions into the metal ages we find less evidence of human occupation in rock shelters. Archaeological evidence suggests that population movements from China down to Southeast Asia also brought with them agricultural technology, and we see a shift from hunter-gatherer and foraging lifestyles to more permanent settlements with plant and animal domestication. Such settlements were also less likely to be upland karstic areas but in lowland plains near rivers and other bodies of water. Nonetheless, we see depictions in the rock art of Neolithic and metal age periods through domesticated bovids.

With the advent of Indic religions such as Shaivism and Buddhism, caves, shelters and other rocky landscapes are once again utilised, not as shelters but also as sacred spaces. Rock carvings take a more religious character, depicting the Buddha or deities such as Shiva or Vishnu. Caves and rock shelters have a particular attraction and significance for hermits and monks, who may have utilised the same rock shelters that were used by early humans in the Pleistocene and Holocene. There are several instances of Buddhist and Hindu shrines coinciding with rock art sites. Indigenous animist traditions also regarded caves as homes for nature spirits, and sometimes all three qualities

exist in the same site. It is important to note that even as populations developed into state societies and empires, some communities continued to remain in remote areas living hunter-gatherer lifestyles, and migration from permanent settlements to inhospitable upland areas also occurred, perhaps as a reaction to imperial and state influence. Some rock art can certainly be linked to these more recent times of conflict.

In Thailand, rock art is divided into the prehistoric and historic periods; while imperfect, this framework can be applied to the entire region of study. Much of rock art is undated but presumed to be “prehistoric”. There are no direct dates for rock art in the area of study, which has only been dated by the association of archaeological remains, or by iconographic identification of motifs. Sites with archaeological remains indicate Holocene-late Neolithic occupation at the Padalin Caves, Ban Rai, Doi Pha Kan and Gua Tambun. Caution needs to be exercised, however, as the remains cannot immediately be associated with rock art, although in some cases stone implements stained with red pigment have been found. Thai reports frequently place rock art sites as around 3,000-5,000 years ago, but this shorthand is based on associated dates from one site which has since been transposed to every other site. Where superimposition of paintings is found, red paintings are always found to be older than black drawings. The only known reports of rock art being created were from ethnographic reports of aboriginal Malaysians (orang asli) making charcoal drawings in the early 20th century. These examples are presently suffering from intense deterioration. Some rock art can be dated by iconography, but these tend to be from the last 1,500 years and include Buddhist and Hindu carvings, images of steamships and cars and writing. It can be at least generally said that red rock art is old and probably prehistoric.

Rock paintings are prevalent throughout most parts of the region of study in rock shelters and cliff faces, very rarely in deep caves, and Vietnam is notable for lacking in rock paintings. Thailand has the largest number of known and documented sites in Mainland Southeast Asia - over 250 in the current count while, in the rest of the region, rock art is less studied and therefore far fewer sites have been discovered. This disparity in the number of known sites is due to historical conflicts, difficulties in physical access and differing research priorities. This paper will discuss some of the main clusters of rock art in this sub-zone of Mainland Southeast Asia. Some tentative rock art traditions can be identified through the occurrence of common motifs and motif-types in small geographical areas such as Phu Phra Bat in Thailand, along the Ou River in northern Laos, northern Vietnam and in the Lenggong Valley in Malaysia. These will be discussed in turn.

Links with other Sub-zones

This sub-zone’s southern and eastern frontier is bordered by the Indian Ocean, the Straits of Malacca and the South China Sea. Unsurprisingly the rock art traditions, in particular painted rock art, do not extend to Indonesia and Borneo. The land masses closest to peninsular Malaysia, Sumatra and Java, are particularly devoid of painted rock art except for Gua Harimau in Southern Sumatra, an inland Neolithic cemetery cave site. However, it is interesting to note that the tradition of erecting

megaliths extant in Sumatra, Java and Indonesia can be found in the Malaysian states of Malacca and Negri Sembilan, which are located closest to Sumatra across the Straits of Malacca. The megalithic tradition appears to be from a pre-Islamic period, and some of the megaliths themselves contain carvings.

Painted rock art has to date not been discovered west of the Shan state in Myanmar, and while it is highly likely that rock paintings exist in the northern and western mountainous regions bordering China and India respectively, access to these areas is not possible due to internal ethnic conflicts. Relatively recent engraved rock art has been found in Mandalay and as far west as Rakhine state; and it is related to the Buddhist period of the last 500 years.

In conventional archaeological understanding, southwest China and Mainland Southeast Asia are considered as one regional block. Most of the rock art in this regional block occurs in similar landscape contexts, in upland rock shelters or on cliff faces near rivers. It should be highlighted that the research in this region is difficult because of the mountainous conditions. Research is sparse and hard to access due to the variety of languages it is published in, but a preliminary reading indicates there are some similarities in motifs between the red painted rock art in southwestern Yunnan province with that of northern Laos. This Zomian rock art tradition has a number of shared motifs found throughout the region: they are red painting cliff sites, often with hand prints and depictions of domesticated animals, particularly bovids. They are possibly connected to a Neolithic wave of expansion from southern China into Southeast Asia.

Major rock art concentrations

Shan State, Myanmar: Padalin Caves, Gabarni and Le Wun Rockshelter

The mountainous region of Shan state, the largest administrative region of Myanmar is home to most of the country's painted rock art sites. Three sites are located along the western edge of the state, bordering Mandalay region. This area has an average altitude of about 1000m, in a geological area known as the Karen Hills which runs down the southwestern region of Shan State between the latitudes of 19 and 21° N. Two of the sites, the Padalin Caves (21°8'N 96°20'E) and Gabarni (21°4'N 96°15'E) are located around the Palaung River lake formed by the Kinta Dam located between Shan State and the Mandalay Region, while the third site, the Lewun Rockshelter (19°53'N 96°55'E) is located about 150 km south near Moebyel Lake.

The sites are shallow rock shelters with generally good protection from the elements, however, all of them have evidence of modern use either as religious sites or temporary camps. The physical state of paintings varies from very good to very faded. Most rock paintings are red, about 20-30 cm at their widest, but a notable exception is the elephant at Gabarni which is life-sized and hard to discern without digital enhancement.

Figure 2. Cave 1 of Padalin Caves, showing the cement drip lines and fencing barrier to protect the rock art. Shan State, Myanmar
©Noel Hidalgo Tan

Despite their relative proximity, the three sites contain few motif overlaps, even in common elements such as handprints and human figures. Subject matter also varies widely. Padalin has painted hand designs with small depictions of quadruped; Gabarni has hand prints, linear zoomorphic figures and a depiction of a life-sized elephant surrounded by human figures, suggesting a domestication scene; while Lewun has small human figures depicted as riding horses. The suggestion of domesticates in the latter two sites suggests that they are younger than Padalin.

Of the three sites, the Padalin Caves has been the subject of several archaeological investigations, particularly in Cave 1 where the rock paintings are located. Stone tools recovered from excavations yielded dates of 7,000 years, while dates from bones go further back to 12,000 BP. The Lewun shelter has little or no archaeological remains. Formal archaeological investigations in Myanmar is relatively sparse due to recent political history which closed the country to outside scholars.

There is no known record of rock art performance by local communities, but it is important to note the presence of several ethnic groups living in Myanmar, and their relations with the official state are unstable with armed conflicts occasionally erupting. The civil unrest in these areas has been a main factor as to why research in Myanmar is difficult. In addition, some ethnic groups have attempted to claim cultural patrimony over particular rock art sites in order to legitimise their presence in certain areas.

Luang Prabang Province, Laos: Pha Taem and the Pak Ou Caves

Two recently-described rock art sites in Luang Prabang province, northern Laos, have motif and stylistic similarities worth describing here as a cluster. The Northern Laos landscape is mostly mountainous, dominated by limestone karsts cut by river valleys and the two sites are located along the Ou River, which originates from northern Laos and joins the Mekong River some 20 km north of Luang Prabang city. The Pak Ou Caves (20°3'N 102°12'E) is a sacred Buddhist cave complex along the Mekong river at the junction of the Ou river. Pha Taem (20°28'N 102°33'E) is located about 90km upstream on the Ou River. Both sites are red cliff painting sites high above and overlooking the river.

The Pak Ou Caves and Pha Taem rock art are dominated by handprints, but also share images of human figures and domesticated water buffalo. The physical landscapes of these two sites are strikingly similar, located on cliff faces high above the water level, facing foothills which may be associated with hunting activity. The shared motifs between these two sites raise the possibility that, in the future, more sites will be located along the riverways of Laos.

Figure 3. Pha Taem cliff paintings, Luang Prabang Province, Laos
©Noel Hidalgo Tan

The oldest phase of rock paintings are the red cliff paintings common to both sites; these cliff paintings contain hand prints, depictions of domesticated water buffalo and possibly dogs, and if this interpretation is correct it would make the paintings no older than 3,000-4,000 years. More recent rock art traditions can be found in the Buddhist caves located at the Pak Ou Caves; these are associated with the Buddhist period and feature a variety of styles and depictions including a green steamship, writing and floral motifs associated with Buddhism. Elsewhere in Luang Prabang, the jar burial cave of Tham Pa Ling also contains Buddhist rock art in the form of three white Buddhas.

Archaeological research in Laos is relatively underdeveloped because of difficulties in physical access. Modern human occupation has been detected as far back as 68,000 years, and Palaeolithic and Neolithic stone tools have been recovered in archaeological excavations or shown up as loots. This region is generally poorly understood archaeologically compared to the lowland areas of Mainland Southeast Asia.

Lao Cai and Ha Giang Provinces, Northern Vietnam: Engraved Boulders

A cluster of some 200 engraved boulders is located near Sa Pa in Lao Cai province, a popular town with the French colonisers as the highland environment resembled European climates. The boulders are found along the Sa Pa Valley (22°18'N 103°53'E), which is still inhabited by the highland Hmong people. The boulders are made of granite, and most rock art consist of engraved spiral or concentric patterns or figurative elements such as anthropomorphs and weapons. Some carvings are filled with white pigment. The largest of these boulders are around 10-15 m wide and 2 m tall. Concentric patterns tend to cover the entire boulder, while figurative images are smaller, ranging from 10-60 cm. The engraved boulders of Sa Pa cover an area of approximately 8 km2. The Sa Pa rock field was discovered and recorded in 1925 by French archaeologists but has been relatively under researched. Dating of such petroglyphic sites is uncertain; Vietnamese literature places them to the Iron Age but this author would put the Iron Age date as a terminal date and suggest that most engravings are likely to be more recent.

Figure 4. Engraved boulder from the Sa Pa Valley
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In the adjacent Ha Giang Province, another set of engraved boulders was discovered relatively recently by Vietnamese archaeologists. Named after the local commune, the Nam Dan rock field (22°35'N 104°28'E) in Xin Man District is similarly located in a valley, approximately 1400 masl. This area is populated by the Nung ethnic group, a Tai-language culture. The rock field is composed

of a number of megaliths and at least four carved boulders, some of which contain up to 70-80 figures. Engravings are geometric patterns such as circles, triangles and trapezoids, as well as hand- and footprints. The estimated date of these engravings is similar to the Sa Pa engravings, about 2,000 years old or the Iron Age, but there appears to be no other archaeological evidence supporting these dates.

Like other highland areas of Southeast Asia, these regions are poorly understood because of access difficulties, as well as a relative fluidity in the movements of ethnic groups. It is not possible to link the ethnic groups living in these areas with the rock art and there has been no documentation of living memory claims to these sites. However, the striking similarity of these landscapes, and the specific nature of petroglyphs on boulders should be noted as a possible indicator of an ancient rock art tradition that may have existed in the highlands previously.

Udon Thani Province, Thailand: Phu Phra Bat Historical Park

Northeast Thailand is the largest region of Thailand with numerous rock art sites along the northern and easternmost provinces. The concentration discussed here is from the sandstone plateau of Phu Phra Bat (Mountain of Buddha's footprints, 17°43'N 102°21'E). It is located at the south-eastern edge of the Petchabun range, straddling Laos and northern and north-eastern Thailand. The archaeological zone of Phu Phra Bat was designated as a historical park by the Thai Fine Arts department in 1991, and the park sits within the Phu Phra Bat Buabok Forest Park in Ban Phue district some 60 km west of the provincial capital of the same name.

The plateau has an average elevation of 200m masl and contains numerous sandstone boulder formations, some of which contain painted rock art, and others have been converted into Hindu or Buddhist shrines. There are some 100 rock art sites on the plateau, but only the presence of a few is made known to visitors through signs. Most of the rock art are red paintings, with some exceptions such as Non Sao Ae, which has both red and white paintings, as well as carvings which date back to the historical kingdoms of the last 1,000 years.

The oldest discernible style of paintings comprises red linear, non-figurative designs such as zig-zag lines. They are thought to be oldest due to their fadedness compared to the more figurative paintings which depict human figures and bovids.

Tham Khon depicts a group of human figures emerging from a crack at the rear of the rock shelter, while Tham Wua, which is located at the opposite end of the same sandstone formation, depicts a line of bovids. Despite the closeness of the two sites, they are likely to be drawn by different artists, and perhaps date back to different periods in time. More recent rock art can be more accurately dated due to art historical comparisons. Carved bas-reliefs of Hindu and Buddhist deities are associated with the Lopburi (Khmer) period of the 12th centuries, and Buddhist footprint carvings from the Lan Xang period (16-19th centuries).

Phu Phra Bat features a multi-layered cultural tradition in which the rock art plays a small role. Besides the rock paintings, some of the rock shelters have been artificially carved to form living spaces, while other shelters have been converted into sacred spaces with the addition of artificial

walls, sculpture and placement of boundary stones. Ruins of brick stupas (Buddhist reliquary towers) still remain, while some of the Buddha footprint carvings are still venerated today. The population of Phu Phra Bat is quite small, and mostly connected to the large temple located on the plateau. Several sandstone outcrops, including the archaeological sites, are named as the settings of a famous Thai-Lao folktale.

Figure 5. Tham Khon, one of the rock art sites in the Phu Phra Bat Historical Park in Udon Thani Province, Thailand
©Noel Hidalgo Tan

Lampang Province, Northern Thailand: Pratu Pha, Doi Pha Khan and Ban Tha Si

The Pratu Pha site (18°30'N 99°49'E) is one of Thailand's most spectacular rock art sites and found in Lampang province of northern Thailand. Pratu Pha is located along Highway 1 about 30 km northeast of Lampang city. The Pratu Pha valley was an important communication route between Lampang and several other northern provinces and the passage is more prominently associated with an 18th century warrior who died while defending Lampang against Burmese invaders. The shrine of the warrior, Chao Pho, which evolved into a spirit cult, was a prominent pilgrimage site in Pratu Pha, but the rock art was only reported in 1988.

The limestone cliff is easily accessible from the Chao Pho shrine by way of an access walkway. The site itself is a long cliff face, and the paintings stretch for some 400 m with seven distinct clusters. Solid infill paintings are the most common, which include depictions of humans, animals such as bovids and canids, and numerous handprints. Another set of bovids, probably water buffalo, are depicted in fine outline.

Figure 6. Pratu Pha cliff paintings in Lampang Province, Thailand
©Francesco Germi

The paintings are mostly small (> 20 cm) and sit just above human reach, although some paintings are quite high up the cliff face and are thus generally safe from human intervention. Vandalism on the lower, more accessible paintings has been noted. Over 1,800 paintings have been identified, making Pratu Pha the largest rock art site in Thailand and probably the region.

Pratu Pha was considered a spectacular but unique rock art site, and recent discoveries by a Thai-French team have reported similar rock art at two sites, Doi Pha Khan (18°27'N 99°47'E) and Ban Tha Si (18°26'N 99°45'E) some 10 km away. Like Pratu Pha, these sites are limestone massifs with red rock art found on the east-facing cliffs with similar zoomorphs (e.g. elephants and other mammals), human figures and hand prints. Owing to its size and volume of rock paintings, the Pratu Pha rock art contains a larger variety of painting styles.

All three sites are found with archaeological remains of human habitation at the base of the cliffs. Radiocarbon dates from human burials and stone tools discovered at Pratu Pha date to around 3,000 years BP while dates from the other two sites are significantly older. Prehistoric occupation from Ban Tha Si dates to 11,000-6,000 BP, and around 12,000 BP at Doi Pha Khan. It is important to note that none of the rock art has been directly dated.

Phang Nga and Krabi Provinces, Thailand: Phang Nga Bay rock art

The final Thai region for discussion is in the Phang Nga Bay area (8°18'N 98°34'E) in the southern provinces of Phang Nga and Krabi. This is a coastal area dominated by limestone karsts and mangrove forests. Most of the rock art sites are located on coastal cliff faces (eg, Koh Phra Ard Tao), rock shelters (Tham Chao Lae, Laem Chao Lae, Laem Fai Mai, Khao Khian) and caves (Tham Phi Hua To, Viking Cave). Access to most of these sites is by boat.

Paintings are generally small (< 20 cm) to medium size (~50 cm) but show little similarities between sites. Tham Chao Lae, Laem Chae Lae and Laem Fi Mai are all located along the same coastal cliff but do not carry any similarities in their imagery and have varying degrees of preservation. Several other inland sites were discovered in Krabi by the Fine Arts Department in 2015 and 2018 with similar motifs displayed on the coastal site.

All the rock art in this region is dominated by red or orange paintings and drawings, which are consistent with the Southeast Asian prehistoric tradition. The two exceptions are Tham Phi Hua To and Viking Cave, both cave sites in Krabi province. The former is a multi-chambered limestone cave located in the Than Bok Khorani National Park containing numerous rock paintings of different styles, particularly a red solid-infill painting (”prehistoric”) style, and anthropomorphs with triangular bodies which contain various designs. Unlike the red paintings which are located at the mouth of the main entrance, the anthropomorphs are found scattered throughout the cave and its many chambers. A multicoloured image of a ‘bird’ also stands out.

The Viking Cave is a large cavern in one of the smaller Phi Phi Islands located on the Andaman Sea. The rock paintings here are from this historical period, as they depict a collection of about 75 ships and watercraft, including European sailboats, Chinese and Thai junks and Malay perahu. This cave bears the least similarity to the other coastal rock art sites but is worth mentioning because of the history of maritime trade depicted on the walls. The cave fronts a shallow harbour and it is likely that the rock art was created by mariners taking shelter during unfavourable weather. In recent years, access to the cave has been restricted due to a private enterprise setting up operations in the cave to harvest birds’ nests, which is a prized delicacy amongst Chinese populations in Thailand, Southeast Asia and China.

Figure 7. Cave paintings of Tham Phi Hua To, Krabi Province
©Noel Hidalgo Tan

As with other parts of Thailand, the red rock art of the Phangnga Bay area is attributed to the prehistoric period, but no direct dating has been performed on the rock art and most coastal rock art sites do not have areas with excavation potential. Given the coastal nature of the sites and regions, many areas that would yield archaeological evidence are underwater. The oldest evidence for human occupation can be found in Lang Rongrien Shelter in Krabi province dating back 37,000 years.

The term “Chao Lae” in the names of the sites Tham Chao Lae and Laem Chao Lae refers to the sea gypsies of the Andaman Sea, who are in turn part of a larger tradition of nautical nomadism found throughout Southeast Asia between Austronesian language speakers. An initial assumption by Thai archaeologists was that the rock art was created by these sea gypsies, however, there has been little evidence for this in ethnographic investigations. It is however interesting to note that coastal rock art in eastern Indonesia is linked to the advent of Austronesian-speaking seafarers in the region, and these two regions share similarities in the physical landscape contexts.

Siem Reap Province, Cambodia: Phnom Kulen rock art

With most archaeological research focused on the temples of Angkor, rock art has been relatively poorly studied in Cambodia and was only reported in the mid-2000s. The largest concentration of sites discovered so far are in Phnom Kulen (’the Mountain of Lychees) in Siem Reap Province, some 30 km north of Siem Reap town. The sandstone plateau of Phnom Kulen (13°32'N 104°10'E) is already known as a significant archaeological site because of its status as the sacred mountain during the Angkorian period and the origin of the Khmer Empire.

Around 10 rock art sites were discovered in the rock shelters on the foothills as well as on the top of the Kulen plateau in 2010-2012, which exclude the carved boulders and riverbeds dating from the Angkorian period. The rock art consists of both red paintings and black drawings, depicting fish and fauna, human figures and geometric designs such as spirals. The red rock paintings are thought to be older due to their physical condition, superimposition by black drawings and general similarity to Southeast Asian 'prehistoric' red rock art. Black, white and multicoloured rock art are generally newer, some even dating to the recent Khmer Rouge and Cambodia-Vietnam war period when populations took refuge in these rock shelters.

Archaeological evidence indicates human occupation of Phnom Kulen from at least the 7th century, but the plateau may have been abandoned by the 15th century as the Angkor Empire established capitals in the lowland areas and was eventually pushed southwards. Several temple foundations, Buddhist boundary stones, a possible palace, roads and a kiln have been found on the plateau. Several of the rock art sites also have religious shrines established by Hindu and Buddhist hermit monks or popular animist devotion such as the case of Poeung Komnou, an 11th century shrine to Vishnu, or Poeung Takhab, a modern Buddhist shrine. There is, however, little evidence to suggest that the rock art traditions are influenced by the Indic religious practices or vice-versa. The modern population of Phnom Kulen, numbering around 4,000, is composed of recent migrants to the plateau who moved there in the last 200 years.

Figure 8. Poeung Ta Khab, a rock art site on Phnom Kulen in Siem Reap Province, Cambodia

Perak, Malaysia: Gua Tambun and the Lenggong Valley Sites

Perak is a large state in northern Peninsular Malaysia notable for two rock art locales: Gua Tambun, the single largest prehistoric rock art site in Peninsular Malaysia, and the recent cave drawings of the Lenggong Valley. Both of these locales will be discussed in turn.

Gua Tambun (4°36'N 101°7'E) is situated on a limestone karst with a prominent cliff face overlooking the Kinta Valley and Ipoh, the state capital. It is the most prominent prehistoric rock art site in Peninsular Malaysia. The rock shelter is at the base of a large cliff face situated over 50m from ground level (72 masl) and contains over 600 paintings. Most of the paintings are clustered in the centre of the shelter, between 6-10 m off the floor. The paintings are made in various colours such as red, orange and purple. Depictions include large animals such as deers and pigs, sometimes as large as one metre, various anthropomorphs and geometric figures. An analysis of the superimpositions and colours suggests that the largest and highest paintings were created first, followed by the smaller paintings closer to the ground. Most paintings are solid infilled figures with the exception of the last phase of paintings which are maroon, x-ray style paintings of mountain goats.

Figure 9. Gua Tambun in Ipoh, Perak, Malaysia

Despite its large and extensive size, no other red rock art site can be found in the Kinta valley or anywhere in the surrounding regions, which makes Gua Tambun exceptional because of its size, number of paintings, and its singularity. Gua Tambun is attributed to the Neolithic, due to the discovery of earthenware discovered in the archaeological deposits from the shelter, however, Hoabinhian stone tools and dating of kitchen wastes and riverine shell may put the site as old as 10,000 BP. The spread of archaeological evidence suggests that the shelter may have been used over a long period of time, perhaps seasonally or periodically, from the late Holocene up until the early Neolithic.

The Lenggong Valley in Perak is a UNESCO World Heritage Site listed for its evidence of occupation by humans and hominids from approximately 200,000 years BP, and several Palaeolithic archaeological sites. More recent evidence of human occupation comes in the form of rock art created by the Orang Asli, or Indigenous Peoples, of Malaysia. The Lenggong Archaeological site (5°4'N 100°58'E) sits in the Perak River valley. The lowland valley areas have been settled and transformed into oil pal plantations, but much of the karsts and primary forest still remain in the highland areas. Geological investigations have revealed the prior presence of a lake, which has dissipated in time with the changing flow of the Perak River; elements found in the soil also indicate that the area was hit by a meteorite approximately 200,000 years ago, while ash from the Toba supervolcano 76,000 years ago can also be detected in the soil layers.

The rock art of Lenggong Valley can be found in caves, rock shelters and cliff walls of the karstic formations in Lenggong. All are charcoal drawings, simple stick figures and figurative designs made in the last 200 years. Depictions include human figures, hunting and gathering activities and modern vehicles. Some of the more distinct designs are “myth bamboo” patterns found in the mats of indigenous people, domesticated monkeys used for gathering coconuts and cars and bicycles. Images are generally small, no larger than 20 cm, of varying concentrations. In rock shelters such as Gua Badak and Gua Dayak, there can be up to a hundred drawings filling up a shelter wall, while other sites such as Gua Batu Puteh have small numbers of drawings spread across different areas of a cliff wall. Some of the rock surfaces, particularly those at Gua Badak, have begun to develop some green algae on them which have begun to obscure the paintings.

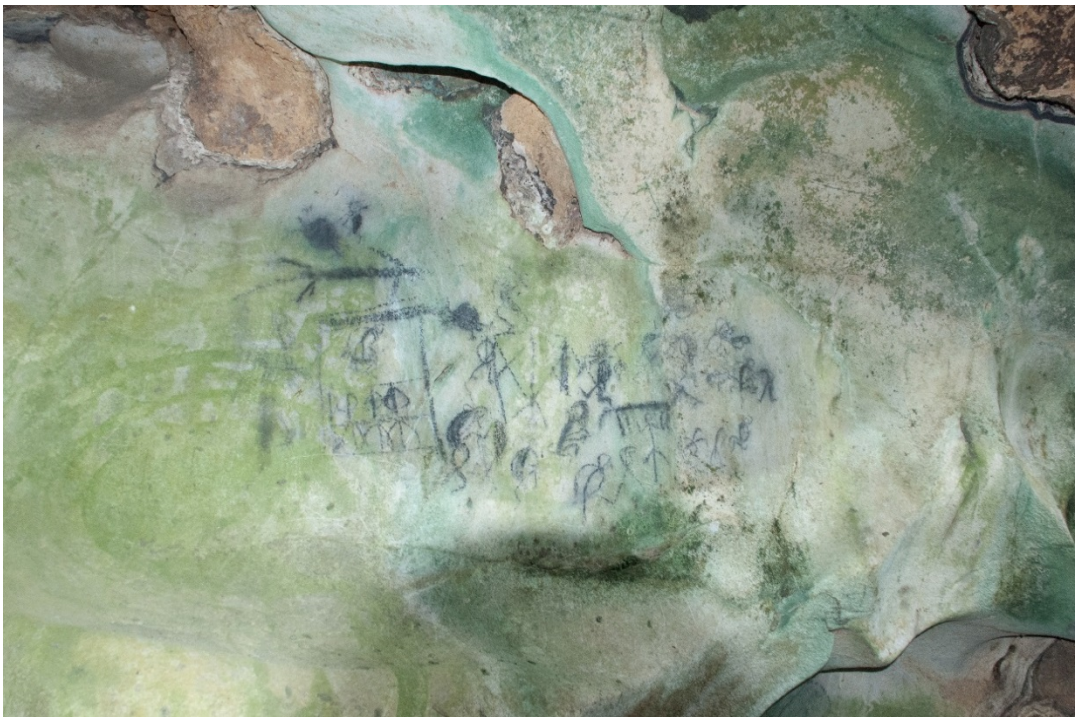

Figure 10. Recent Orang Asli drawings in Gua Badak, Lenggong, Perak, Malaysia with signs of rapid deterioration

Despite the long and deep evidence of human occupation in the Lenggong Valley, ethnographic accounts from more recent times suggest that the Orang Asli, particularly the Semai Negrito group, were the ones responsible for the creation of the rock art. The depictions of modern vehicles support the recent dates of the rock art. Among the various indigenous Malaysian populations, the Negritos are amongst the oldest, and some groups still live in the deep jungles practicing a hunter-gatherer existence. Similar black charcoal rock art has also been noted in southern Thailand. No religious or ritual meaning has been observed associated with the rock art, the drawings appear to be made as part of recreational activity.

Content and forms of Documentation available

The quality and location of rock art documentation varies widely from country to country. Most countries have some sort of inventory of archaeological sites, maintained by the Ministry of Culture or the equivalent governmental authority in charge of archaeology. Most forms of site documentation are rudimentary, with the name of the site, its location and photographs being the most common form of records kept.

Fuller records, such as archaeological maps and inventories of rock art sites and individual motifs are sporadically kept at best. To date, no standardised system for recording rock art has been adopted in Southeast Asia. The Thai Fine Arts Department is likely the state agency with the most complete record of sites amongst the countries in this sub-region, owing to a period of rock art surveys and recording during the 1980s and 1990s. Site maps, tracings and photographs were recorded and published as a series of books.

Research

Rock art research is relatively recent in this sub-zone, with most sites having been reported in the last decade. Rock art is often attributed to the prehistoric period and given the complex migration history of the populations of the sub-region, present populations often have little or no connection with the rock art. Notable exceptions include the Orang Asli rock art in Perak described earlier, and the Kanam rock shelter in Pursat Province (not discussed in this paper). This author has elsewhere discussed the reuse of rock art sites into religious shrines in this sub-region; several caves and rock shelters with red rock art have in later periods been converted into Hindu or Buddhist shrines, but there has been little evidence of interaction between the rock art traditions and the later Indic religions. Especially in the case of Thailand, red rock art sites are typically attributed to hunter-gatherer populations.

Historical rock art sites, a substantial proportion of which are rock engraving sites, are easily dated and attributed because of their subject matter, such as Hindu and Buddhist deities, or the depiction of modern objects such as vehicles. Indic carvings and inscriptions are typically discussed in the context of historical or medieval Southeast Asian (e.g., Angkor and Dvaravati period) art studies.

Conservation, Management and Protection of Sites

The conservation, management and protection of rock art sites in this sub-zone varies from country to country but by-and-large, interventions are piecemeal and usually reactionary. Despite humid tropical environments rock art sites, particularly in red paintings and rock engravings, endure relatively well if undisturbed and thus the conservation of sites is largely based on their obscurity and general inaccessibility. As with most developing economies, cultural heritage preservation does not attract a high investment of government funding or manpower, and resources tend to be directed towards the upkeep of major tourism sites, such as temple complexes. As such, direct intervention at rock art sites is rare, and often done in conjunction with the opening of rock art sites to tourists.

Direct conservation of sites is rare in this sub-zone, due to the lack of expertise in rock art conservation and also the prohibitive costs involved. Two examples where direct intervention was performed at rock art sites have been less than satisfactory. At Gua Tambun, attempts to clean and paint over modern graffiti resulted in the painting over of authentic rock paintings. At the Padalin Caves, cement drip lines were installed to prevent water from washing over the surface of the paintings, and a protective lacquer was applied over some of the rock art in the 1990s. The long-term effects of these interventions are still unknown. Comparisons with drawings of the Padalin Cave rock art from the late 1960s show considerable differences, but it is not known if the deterioration observed today was a result of the interventions. This highlights another problem for the conservation of the rock art in the sub-zone: the lack of detailed baseline recordings and inventories for most of the sites.

The location of most sites is known to the authorities and kept in a national register. However, inclusion into the register does not guarantee legal protection. There is little or no specific legislation that deals with the protection of rock art sites, although legal and official protection of rock art sites typically fall under the purview of the state archaeological authority, such as the Fine Arts Department of Thailand, the Department of Archaeology in Myanmar and the Ministry of Culture in Cambodia.

In most cases, rock art sites are protected by their general obscurity, remoteness, and difficulty of access. In Malaysia, some sites can be placed in a national heritage register and be designated with a protected status on a state/provincial or national level, as is the case with Gua Tambun. In Myanmar, access to the Padalin Caves and the Gabarni Rock Shelter rock art is protected through the erection of physical barriers. In Thailand, several rock art sites, usually those developed for tourism, have signs and walkways to inform and educate visitors. Additionally, some sites are protected under the natural resource or park authority, as is the case for the Pha Taem cliff paintings and the Phu Phra Bat Historical Park, which encloses the sites in a protected natural heritage buffer area.

Rock art sites are also not capable of generating significant income by themselves, and so the development of sites is largely limited to an “open-air museum approach”: low-maintenance interventions that offer easy access to visitors while limiting visitor impact through the strategic placement of barriers and walkways to promote non-interference. Management plans often do not exist, and monitoring of sites is minimal often due to manpower constraints.

An informal layer of protection to rock art sites is also observed in the Theravada Buddhist countries of Myanmar, Thailand, Laos and Cambodia, as rock shelters have also been used by hermit monks as temporary or seasonal shelters. In some cases, rock art and religious shrines can be found in the same shelter. Often, the religious activity is indifferent to the pre-existing rock art at the site (such as the case of Khao Chan Ngam in Nakhon Ratchasima Province, Thailand) but in some cases the religious activity can spur renovations to the cave and obliterate the rock art, as in the case of the famous Batu Caves in Selangor, Malaysia. These famous limestone caves are a major Hindu pilgrimage site and a major tourist attraction. However, it was reported in the early 19th century that some of the caves used to contain rock art. These are now destroyed, since all the caves have been extensively decorated, painted and paved during their conversion into Hindu shrines.

Sites enjoy the most protection when they are associated with UNESCO World Heritage, due to the international commitments attached to such listing. Thus, the rock art sites in the Lenggong Valley of Perak are covered with legal protections and protective zoning and access to the shelters is facilitated by local custodians. There are no other sites directly protected by World Heritage Listing, although three sites deserve to be mentioned because of their connection to UNESCO World Heritage. The Padalin Caves in Shan State, Myanmar, have been listed on the UNESCO World Heritage tentative list since 1996; since this time access to Cave 1 has been restricted by the construction of a barrier wall, and the site has been investigated by archaeologists several times in the last two decades. Moreover, recent research in the Phnom Kulen plateau just north of the Angkor Archaeological Park indicates widespread archaeological evidence, including the remains of temple complexes, roads, and rock art sites. It is expected that the World Heritage area of the Angkor Archaeological Park will be extended to include Phnom Kulen in the coming decade. Finally, the Phu Phra Bat complex was nominated for inclusion into the UNESCO World Heritage list in 2014. While the site has not been listed at the time of this report, the requirements for nomination stipulate that the site has been given the appropriate legal and physical protections.

Main Threats

Rock art research is still relatively new in this sub-zone and the main threats to rock art sites come from human action by way of infrastructure development, local land use, tourism, and lack of management.

Infrastructure development in the form of mining and construction remains one of the largest threats to rock art sites. The lack of any legal protections or obligations to report discoveries has meant that many potential archaeological sites, including rock art sites, have been destroyed through large scale mining. Dam construction also poses a serious risk to some rock art sites, particularly at riverine sites in northern Laos, and in valley areas of Vietnam and Cambodia. There are a few sites that have been previously reported, but no longer exist due to development and construction.

To a lesser extent, local populations form a risk to some rock art sites due to their proximity. Generally speaking, rural populations in this sub-zone have been relatively mobile and the existence of rock art has tended to predate the living memory of communities present. Some caves and rock shelters are routinely excavated for guano-rich sediment used as fertiliser and/or low-level

archaeological looting, but rock art does not get looted in general. Caves and rock shelters have also been used as temporary camps by hunters operating in remote areas. In some cases, campfires set in these shelters have caused the accumulation of soot in rock art sites.

Besides development, unmanaged tourism is the largest threat to rock art sites. Most rock art sites that are open to tourists tend to be remote and unmonitored and, as such, are susceptible to graffiti and littering. In many of these tourism sites, the rock art is out of reach from human hands, either because of its physical location, or because barriers have been erected to prevent access. In rare cases, rock art is directly damaged by vandalism. Increased numbers of visitors also have the potential to affect the microclimate of certain rock shelters and cave environments, such as the charcoal drawings in Lenggong, which have seen significant deterioration by way of green algae growing on the rock surface.

Underlying these threats are a general lack of active management of rock art sites and the capacity and expertise to do so. Resources for the upkeep of state archaeological sites tend to be diverted to temple complexes and museums, which are money-generating tourist attractions. Most rock art sites are in remote locations with little infrastructure to promote or protect them.

Conclusions for the Sub-zone

Rock art remains an exciting field of archaeological research in this sub-zone as more and more sites are being discovered. To date, there are over 500 rock art sites located within this sub-zone, with most of the sites found in Thailand, although in the recent decade more rock art sites have been found in Malaysia, Myanmar, Cambodia, Vietnam and Laos. This disparity in the number of sites is a function of research priorities and relative ease of access rather than any absolute distribution of rock art sites in the sub-zone. Indeed, discoveries of 40,000-year-old rock art found in Sulawesi, Indonesia, suggests that some rock art in the Mainland Southeast Asia could be around this age and older, since this sub-zone would have been traversed in order to reach what is now Island Southeast Asia and Australia. However, no rock art in this sub-zone has been directly dated, but archaeological finds in some rock art sites have been dated to the early and mid-Holocene, while evidence for modern humans has been found in cave shelters from the late Pleistocene.

A large proportion of the documentation of these rock art sites is written in local languages and kept by the local archaeological authority, which makes an overarching survey about them difficult. However, the collected information, and ongoing work by local and foreign researchers is rapidly overturning the long-standing misconception that rock art is rare in this region.

The key problems with managing and conserving rock art sites are logistical and financial; rock art sites tend to be located in remote areas where regular monitoring is difficult, and this region generally suffers from a lack of experienced conservators and experts for the management of rock art sites in particular. Some countries such as Thailand, Malaysia and Myanmar have been particularly successful in opening up sites to tourists. There is still a general lack of baseline, detailed recordings of many individual rock art sites.

The major threats to rock art sites in this region are mostly human-based: legislation protecting cultural properties is relatively weak and infrastructure development such as mining, road construction and dams have the potential to destroy rock art sites due to the lack of mandated field surveys and cultural resource impact assessments. Sites that are open to visitors rely on the trust and good behaviour of tourists to prevent damage to rock art, but general education amongst tourists and local communities about proper site visitor etiquette is low.

Individual sites, such as Gua Tambun in Malaysia, Pratu Pha in Thailand and the tentatively-listed Padalin Caves in Myanmar, as well as regional clusters in Phnom Kulen, Phu Phra Bat and Southern Thailand have potential for World Heritage Listing in criteria (i), (ii), (iii) and to some extent (vi) and (vii). All these sites require more extensive research (in particular, dates) and legal protections enacted on them before they can be nominated.

References

Utthayan Prawattisat Phu Phra Bat [Phu Phra Bat Historical Park], Bangkok, Fine Arts Department, 1992.

Chaimongkhon, Suwit. & Chuthientham, Yupawadee, Sinlapa Tham Phi Hua To, Krabi [Rock Art of Tham Phi Hua To, Krabi Province], Bangkok, Fine Arts Department, 1990.

Charoenwongsa, Pisit, Sinlapa Tham Nai Isan [Rock Art of Northeast Thailand], Bangkok, Fine Arts Department, 1989.

Goloubew, Victor, “Roches gravées dans la région de Chapa”, Bulletin de l'Ecole française d'Extrême-Orient, 25, 1925, pp. 423-433.

Heng, Than, “Kulen Mountain Rock Art: An Initial Assessment”, SPAFA Journal, 21, 2011, pp. 29-34.

Mokhtar Saidin & Taçon, Paul S. C, “The recent rock drawings of the Lenggong Valley, Perak, Malaysia”, Antiquity, 85; 2011, p 459–475.

Scott, Victoria. N. & Tan, Noel H. “Recent Rock Art Studies in Southeast Asia”, In: Bahn, P., Franklin, N., Strecker, M. & Devlet, E. (eds.) Rock Art Studies: News of the World V, Oxford: Archaeopress; 2016, pp. 163-170.

Surinlert, Jaratnapa, Auetrakulvit, Prasit, Zeitoun, Valéry, Tiamtinkrit, Chaturapon & Khemnak, Phayao, “Comparison of rock painting sites in the Pratu Pha Valley, Lampang Province, Thailand”, In: TAN, N. H. (ed.) Advancing Southeast Asian Archaeology 2016, Bangkok: SEAMEO SPAFA; 2018, pp. 248-254, 380-382.

Taçon, Paul S. C., Tan, Noel H, et al., “The global implications of the early surviving rock art of greater Southeast Asia”, Antiquity, 88; 2014, pp. 1050-1064.

Taçon, Paul S. C. & Tan, Noel H, “Recent Rock art Research in Southeast Asia and Southern China”, In: Bahn, P., Franklin, N. & Strecker, M. (eds.) Rock Art Studies News of the World IV, Oxford: Oxbow; 2012, pp. 207-214.

Tan, Noel H, “Rock Art Research in Southeast Asia: A Synthesis”, Arts 3, 2014, pp. 73-104.

Tan, Noel H, “The Cliff Paintings of Pha Taem, Luang Prabang, Lao PDR”, Rock Art Research, 35, 2018, pp. 62-78.

Tan, Noel H, “Rock art at the cave of a thousand Buddhas, Luang Prabang, Lao PDR”, Archaeological Research in Asia, 2018, doi:10.1016/j.ara.2018.01.001.

Tan, Noel H. & Chia, Stephen, “Current Research on the Rock Art at Gua Tambun, Perak,

Malaysia", Bulletin of the Indo-Pacific Prehistory Association, 31; 2011, pp. 93-108.

Tan, Noel H. & Taçon, Paul S. C, "Rock Art and the Sacred Landscapes of Mainland Southeast Asia", In: Gillette, D., Murray, W. B., Greer, M. & Hayward, M. H. (eds.), Rock Art and Sacred Landscapes, New York: Springer Science, 2014, pp. 67-84.

Trinh, Nang Chung, "Nhung Hinh Khac Co Tren Da O Xin Man, Ha Giang", Khao Go, 149, 2007, pp. 76-84.

U Aung Thaw, "The "Neolithic" culture of the Padah-lin Caves", Asian Perspectives, 14, 1971, pp. 123-133.

Winayalai, C, "Prehistoric rock art at Pratu Pha, Mae Moh, Lampang", Muang Boran, 24, 1998, pp. 117-122.

Conclusions

East Asia remains a comparatively poorly known region of the world for rock art. This is not because of a paucity either of rock art or rock art research. It is more a product of the fact that the majority of the publications on rock art in this region have not been in English and much of the research has been recent. As is clear from the data presented in this volume, one can say that this region is actually at least as rich in ancient art as most other parts of the world.

Over the past two decades considerable new research has been conducted in all parts of this region and this has led to the identification of thousands of new rock art sites. As is evident from this volume there are internationally significant rock art sites spread across the length and breadth of East Asia, but the densest concentration of significant sites is in parts of inland China and Mongolia.

This volume has brought together our current understanding of all of the major rock art areas of East Asia, what they contain, the subject matter and style of the art, the distribution of broader traditions of art, their archaeological context and, last but certainly not least, the current state of their management and conservation.

All parts of East Asia are undergoing extraordinary development pressures. This is a region in rapid economic and social transition. Rock art is being seriously impacted by this development: this volume has provided examples of serious impacts from quarrying, dam construction, rock construction, urban expansion, industrial pollution and deforestation. But, development is also making previously remote areas much more accessible. As paved roads extend into formerly remote and inaccessible parts, tourism is reaching into every corner of this region. Sites that were seldom if ever visited a few decades ago are now exposed to regular tourist visitation.

Vandalism and graffiti are becoming serious concerns in many countries and managers are needing to be ever more vigilant in their efforts to preserve the art. In Inner Mongolia, for example, rock art sites are now under 24 hour real-time video security surveillance to ensure their protection. Not all sites enjoy this level of protection, indeed many remain largely unmonitored. The massive challenge for the next decade is how best to protect the rich rock art heritage described in this volume. If serious efforts at both local and national level are not made quickly, much of the extraordinary heritage described in this volume could be lost within a single generation. The challenge is a real one. If the rock art of East Asia is to be enjoyed by future generations, urgent intervention is needed now.

Benjamin Smith

Jean Clottes