DATING ANALYSIS OF ROCK ART IN QINGHAI-TIBETAN PLATEAU

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I

The dating of rock art has long been regarded as one of the most delicate problems in rock art studies (Bednarik: 1992). Since the concept of "direct dating of rock art" was put forward in the early 1980s (Bednarik: 1979), many scholars have attempted to conduct a direct dating of rock art by means of modern science and technology. However, a simple and effective method has not yet been found to apply to the direct dating of rock art (particularly petroglyph). Most scholars now still use what later rock art scholars called the "archaeological minimum dating" method (Belzoni: 1820), which was established by French scholar G Belzoni (Bednarik: 1992) 170 years ago. This method confirms the dating relationship by using archaeological aesthetic typology. However, Chinese rock art scholars frequently use synthesis and comparison- -archaeology, anthropology, religion studies, bibliography and others to conduct the dating of rock art (Tang: 1993) There are two reasons for this. First, in China there has been an abundant and continuous collection of materials in the fields of archaeology, historical documents, ethnology and others since the Neolithic Age. Second, the rock art within the territory of China is mostly from the Bronze Age, and some of the rock art even corresponds completely with the documents, archaeology and the ethnology of that period Thus, synthesis and comparison is a unique feature in the dating of Chinese rock art, particularly the comparison between historical documents and archaeology (Tang: 1993). Synthesis and comparison is likewise the major method we use in the dating of rock art in the Qinghai-Tibet Plateau.

From the early 80s to the present, over 20 rock art sites have been discovered in Qinghai-Tibet Plateau, 14 of which are in Qinghai and the other 6 in Tibet (Tang: 1994). Different opinions exist in the academic field concerning the ages of these rock art sites. Some scholars think that they are works of art from the Upper Paleolithic Age 10,000 years ago (Chen: 1994); others believe that they are works of art from the period ranging from the Wei-Jin to Ming-Qing dynasties (Xie, et al: 1993). It is generally believed that they are works of art from the Bronze Age to the Tibetan regime in ancient China (Zhang: 1987). Judging from the current materials, the former two opinions are not correct.

The present archaeological and anthropological materials have proved that before the Recent Epoch there were no inhabitants in the Qinghai-Tibet Plateau, owing to the high altitude and severe climate. As a result, no human fossils have been found in the Qinghai-Tibet Plateau up to the present day. Approximately around 5500 B. C., the small stone tools coming respectively from North and South China and the microliths found their way into the Qinghai-Tibet Plateau via southern and eastern Tibet, and developed well into the hinterland along the Yellow River and the Yarlung Zangbo River respectively (Tang: 1995).

In the middle of the Recent Epoch from 2500 B. P. –7500 B. P the climate

was moderately warm and moist; this has been proven by the results of the analyses of spores and pollens (Zhou: 1984). It was the same in the Qinghai-Tibet Plateau (Wang: 1985). At that time, the climate in the Qinghai-Tibet Plateau was warm and wet. However, before and after that period, the climate was extremely dry and cold, particularly in the grasslands in northern Tibet, unsuitable for human residence. For example, a great deal of rock art was found in the area of Naqu in northern Tibet, but nobody lives there today, neither are there any transhumances. This indicates that the rock art in northern Tibet was the remains of human culture over 2500 years ago. In fact, the changes of temperature all over the Euro-Asian continent are basically the same over the past 10,000 years (Fig. 1). The comparison is between the temperature in China in the last 5000 years (dotted line) by Professor Zhu Kezhen and the plain figure of the snowline altitude above sea level in Norway (solid line), together with the graph of changes in temperature in Qinghai-Tibet Plateau (dashed line) in the past 10,000 years. Therefore, it is logical that the rock art in Qinghai-Tibet Plateau (including all the ancient civilization thereof) should be dated after 5500 B. C. However, it is more accurate that some rock art, like that in Jialin Mountain, should be dated between 5000 B. C. and 500 B. C.

II

The period between 5000 and 500 B. C. is such a wide range that it cannot be regarded as the ultimate conclusion of the dating of rock art. Three archaeological cultures existed in Qinghai-Tibet Plateau at that time, namely, Microlithic (including petroglyphs), Neolithic and Bronze cultures. As a matter of fact, in the nomadic areas within the range of rock art, no Neolithic culture of agricultural economy existed. The only existing forms were the nomadic cultures based on fishing and hunting, and the Bronze culture on nomadic economy. The Microlithic (including petroglyphs) enjoyed a longer period of popularity in the Qinghai-Tibet Plateau. This period started from around 5500 B. C. and continued to the early Bronze culture in around 1000 B. C. before dying out. From images such as the two-wheeled chariots of the Bronze Age in the rock art in the Qinghai-Tibet Plateau, we can infer that the rock art should be dated outside the era of the Neolithic (5000 B. C. -1000 B. C.). Secondly, the Bronze culture and Shamanism (Bonism) was introduced to the Qinghai-Tibet Plateau steppes around 1000 B. C. Thus, the rock art in the Qinghai-Tibet Plateau as an artistic expression of Shamanism is certainly the cultural product of the Bronze Age. Thirdly, comparable to the rock art in the Qinghai-Tibet Plateau, the rock art in Ningxia also belongs to the cultural system of northern steppes. By the lichen method, the rock art in Ningxia was dated between around 1000 B. C. – 2000 B. C. (Li and Zhu: 1993). Therefore, the rock art in the Qinghai-Tibet Plateau should be a cultural relic of the Bronze Age. The age of archaeological cultural types in the Qinghai-Tibet Plateau was late (Tang: 1995), for the Bronze Age only started around 1000 B. C. (Tong: 1985). Thus, the dating of the rock art in the Qinghai-Tibet Plateau should also have around 1000 B. C. as its upper limit.

III

In terms of its manufacturing technique, style and subject matter, the rock art in the

Qinghai-Tibet Platcau can bc clearly divided into 4 stages. We will make a one-by-by analysis of the dating of the rock art in the 4 stages (Fig. 2).

The sites typical of the rock art in its first stage include mainly Yeniugou , Shebuqi, Helimu and others. The rock art in this stage were all made by the pecking method, which is the typical manufacturing technique in the rock art of the Bronze Age The dating of the rock art in the first stage is basically based on the comparison between the same-type images on the bronze ware and earthenware in the northern steppes and Qinghai area. The chariot images of the rock art in Yeniugou and Shebuqi will be the first major basis on which we conduct the dating analysis. The chariot in the rock art has two wheels, with four spokes each, one carriage and one shaft, and is pulled by two horses. Some of the chariots are unfinished works i.e., merely with two wheels and a carriage, or simply with two wheels (Fig. 3). The two-wheel-and-one-shaft chariot was used mainly for war, activities, hunting ceremonies, etc. (Littauer: 1977) The chariot was popular in the Central Plains of China from the Shang dynasties to the Warring States (Wu: 1994). The word "che" (chariot) in both the inscriptions on bones, tortoise shells and ancient bronze objects is almost identical to the image of the chariot in the rock art of Yeniugou. The only difference is that the horse pulling the chariot is symbolized and replaced by the yoke. In addition, substantial archaeological discoveries of chariots in this period also provide abundant materials for the dating of the chariot images in the rock art. For example, the ditches of horses and chariots found in the Yin ruins of Anyang, Shangchunli of Sanmenxia, Liulihe of Fangshan, Beijing, Fengxi of Chang'an (Xi'an today) can be compared with the chariot images in the rock art. What deserves the most attention is the bone plank with carved hunting images. It was evacuated from Tomb no. 102 at Nanchenggen in Ningcheng, Inner Mongolia (Fig. 4). On the bone plaque were carved an image of deer-hunting game and two images of a chariot pulled by horses. Similarly, the chariot has one carriage and one shaft, two horses pulling the chariot with their backs towards each other. This is just like the image of the chariot pulled by horses in the Yeniugou site. Tomb no. 102 at Nanchenggen in Ningcheng belongs to the upper-class culture of Xiajiadian. Its date is approximately between the late West Zhou Dynasty and the early Spring-Autumn Period (c. the 8th century B. C.) (Northeastern working group: 1981). In addition to the Qinghai-Tibet Plateau, many identical chariot images have been found in the rock art in the northern steppes of Inner Mongolia, Ningxia, Xinjiang in China. All this rock art was dated between the Spring-Autumn Period and the Warring States (Gai: 1989). The chariot is also a common image in rock art sites in the neighboring Central Asia, the Pamirs and Outer Mongolia. This dating was also set in the Bronze Age around 1000 B. C. (Nopkrodova: 1980)

Apart from the chariot images, an eagle in the style of "parallels" in the rock art of Yeniugou forms another basis on which we conduct the dating. In Yeniugou there exists one group of eagle images in the style of "parallels" typical of the art form in the northern steppes (Fig. 5). The animal image in the style of "parallels" is more common in the decorative patterns on bronze ware. A case in point is the Kayue culture (Carbon 14 dating around 1000 B. C.) of Sunjiazhai in Datong, Qinghai. From one of the tombs was a bronze plaque in the shape of an hourglass, on which was inscribed a row of eagle images in the style of "parallels" (Fig. 6). Another evidence is the bronze knives excavated from the Huns tomb of Yikezhao League, Inner Mongolia. On the handle of the knives was also inscribed eagle images, and its dating was set between the Spring-Autumn Period and the Warring States (Zheng: 1991). This eagle

image also occurs frequently in the Republic of Mongolia, with its dating also around 1000-500 B. C. (Verlag. 1979) (Fig. 7). In addition to eagles, other animals like boars, deer, sheep are also included in the animal images of "parallel" style, with their dating set around the 6th and 5th century B. C. (Savinov and Chlenova: 1980).

Therefore, the dating of rock art in its first stage in the Qinghai-Tibet Plateau should be between 1000-500 B. C., probably with its upper limit slightly earlier.

IV

The sites of the rock art in its second stage cover mainly rock art sites nos. 12 and 13 of Renmudong, in Ritu, Tibet. Here we will take the rock art no. 12 as the major focus for our discussion. The four deer chased by three leopards constitutes a scene of hunting (Fig. 8:a). Made with outlines carved by chiseled lines, the animal images were accurately and vividly carved, delicately made, and exhibit a technical progress if compared with those in the first stage. The animal images and the overall picture structure are typical of the Scythian art style. The four deer are looking over their shoulders, round eyes in the shape of periods, with exaggerated antlers. Their shoulders and flanks are decorated with whirls. Their mouths are open and their heels delicately carved. All of them "stand on their tiptoes," that is, as if they could "float in the air" (Borovka: 1967) in the phrase of Parokov, a scholar from the former Soviet Union. Images of animal in this style can be widely seen in Mongolia, Siberia, Central Asia and even in the Outer Caucasus. The images of animals standing on their tiptoes in the above-mentioned areas were popular between the 7th and the 5th century. For example, at Biche-Dba near Orenberg, Siberia, a bone spoon was excavated, on which was inscribed a image of leopards standing on its tiptoes. The dating was confirmed between the 7th and 6th century B. C. (Jettmar: 1967). On a bronze mirror found in Altai area was carved 6 deer standing on tiptoes with its dating around the 7th-6th century B. C. (Jettmar 1967) (Fig. 8 b.c.). From the famous ruins of Minucinsk of the former Soviet Union was excavated what was called the Tajar knives, on which there are also images of animal standing on tiptoes in a "parallel" pattern (see Fig. 7). The dating was confirmed between the 6th and 5th century B. C. (Savinov and Chlenova: 1980).

Provided with these archaeological materials, we can work out a more accurate inference on the dating of rock art sites nos. 12 and 13 of Renmutong. In view of the lateness of the archaeological cultural type in the Qinghai-Tibet Plateau, the rock art in these two sites confirmed to be in a period between the 5th and the 3rd century. In ancient times, Ritu was one of the important passages between the Qinghai-Tibet and the northern steppes. The culture of the northern steppes in Tibetan area was introduced through this very passage of steppe (Tang. 1995). The rock art sites nos. 12 and 13 of Renmutong are the best evidence: the later Tibetan Lamaist culture was also introduced via this passage to the areas in Central Asia, such as the Tibetan scriptural incantations, found in the Altai areas within China (Zhao: 1987).

V

The only site of the third stage rock art is in Lushan, Qinghai. In this site of Lushan, rock

still has the features of the "Scythian deer", i.e., it is in the shape of a beak. This should be the latest deer of Scythian style, at least in China. There used to be a great deal of cultural exchange and communication between the area of the Qinghai Lake and the Huns through the Qianghu Passage (i.e., Qilian Mountain Passage) in the time of the Qin and Han dynasties. In view of this historical fact and the image of a horse pulling a chariot, it is appropriate to set the dating of the deer between the Qin and Han dynasties.

VI

The rock art in its fourth stage covers mainly the rock art site no. 1 of Renmutong in Ritu, Tibet; the rock art in the caves of Zaxi Island in Namucuo, Tibet; and the rock art of Bahamoligou and Huaitoutala in Haixi, Qinghai. We will take as examples the rock art no. 1 of Renmutong and the rock art in the caves of Zaxi Island.

The rock art no. 1 of Renmutong portrays the dragon god sacrificial rites of Tibetan Bonism (Zhang: 1987) (Fig. 12). The images in this work of art were made by chiseling and were typically of a native culture in both form and content. It can be regarded as one of the earliest artistic pieces in a grand scale of the Tibetans. The images of bird-head-and-human-body, together with the sheep images with branches on the head, are objects for the dating of the rock art.

First, we will discuss the image of bird-head-and-human-body. It is an image of god-devil (i.e., both god and devil) among the severe gods in Bonism (Tibetan shamanism). There were a great variety of god-devil images among the severe gods in Bonism. It is therefore not easy to confirm what name of the god each bird-head-and-human-body in the rock art was supposed to be called. However, we can roughly classify it as a type of Nagas (a sort of dragon god) (Tang: 1994). For the dating of rock art, what matters is not the name itself, but its structural style. After the conquest of Bonism by Buddhism in the Tibetan area, many gods of Bonism were reduced to submission as chos-skyongBuddha-protecting deities in the movement of Tibetanization of Buddhism conducted by Padmasambhava. Negas were included among these Buddha-protecting deities (Luo and F: 1990). The images of fish and bird-head-and-human-body in the rock art reflect that they were one of the numerous incarnations of Nagas. The fish could also be regarded as offerings for the Nagas (Ekvall 1972). In the modern portraits of Lamaism, we can often see many images standing in a yoga posture (i.e., a standing posture with one leg twisted and the other bent): images of lion-head-and-human-body, bird-head-and-human-body, elephant-head-and-human-body, and deer-head-and-human-body. They were called "Mothers of Buddhism". In fact, these "mothers of Buddhism" were just law-protecting deities of Buddhism under submission, i.e., the earlier god-devil of Bonism. The bird-head-and-human-body image found in the rock art was just the shape of sGrol ma (mother of Buddhism) in Lamaism. Therefore, the rock art should be the works of art after the end of the 8th century because the Tibetanized movement of Buddhism by Padamasamdhava happened in the middle of the 8th century.

Second, the image of sheep with branches on the head is also significant in the dating of rock art. It is an image of the World Tree and a magic beast. The branches are only a sign here, indicating that the sheep is a "magic sheep" or "spirit sheep" (Tang: 1994) capable of carrying

shamans into the sky. The artistic theme of magic beasts and the World trees can also be seen in the Central Plains. Its early form consisted of a tree in the middle and a beast tied to each side. For example, on the eaves tiles of the original capital city of the Qi kingdom, Shandong can be found this kind of composition (Li: 1990). However, the composition of a tree with two beasts underwent some change in the Tang dynasty. Some evolved into a beast and a tree, i.e., a "beast-flaking-tree" style with a tree above and a beast (sheep, elephant, deer, etc.) below. The patterns of this style could quite frequently be seen in fabrics and screens of the Tang dynasty (Wu, et al. 1986). Thus, the dating of the sheep with branches on the head in the rock art no. 1 should be in the Tibetan regime in ancient China (from the 7th to the 9th century).

Now we will make a dating analysis of rock art on the Zaxi Island. The Zaxi Island is situated at the southeastern bank of the Naumcou Lake. All the images of rock art were painted with black or red mineral dyes (Guo, et al: 1994), which is rare in the system of rock art in the north of China. The investigators of the rock art in caves of the Zaxi Island divide the rock art there into 3 periods: early, middle and late. They believe that the dating of the early-period rock art was before the establishment of the Tibetan regime , that the middle-period rock art was during the Tibetan regime and that the late-period rock art was after the fall of the Tibetan regime (Guo, et al. 1994). We will not discuss the images in the middle and late period. Such images as Buddhist stupas, scriptural flags, lucky knots, six-word truths have indicated that they belonged to the cliff-carving works of Buddhism after the 7th century. We will mainly discuss the images in the early period to see whether or not they were works of art prior to the Tibetan regime in ancient China.

The investigators think that most of the rock art in sites nos. 3 and 10 on the Zaxi Island were images of the early period. Now we will take as examples for discussion the rock art of Group 7, Site no. 3 and that of Site no. 10.

The images of Group 7, Site no. 3 are deer, riders, human characters and others, the structures of which were at random. Their intentions are not obvious and the manufactures of the images are rough. There was also the "beast-flaking-tree" image, the beast being a deer. As we have mentioned above, the "beast-flaking-tree" image is from the early Tibetan regime in ancient China in the Qinghai-Tibet Plateau (Fig. 13).

The images of rock art in site no. 10 can be divided into 3 groups (Fig. 14). In the upper middle of the panel is an image of a human character, on the left is a village and on the right is a beast as though it were being led by people. The three images here should be a witch or spirit, a holy beast and the World Tree in Bonism (Tang: 1994). In the lower left there is an image of five human characters holding either flags or mirrors and sticks. This group of images should be an occasion when shamans of Bonism were practising their spells. In the lower right is an image of three human characters as if they were praying. The upside-down World Tree in the picture is one of the bases on which we conduct the dating of rock art. In the rock of Qiakesang, Ritu there is also an upside-down World Tree painted with red mineral dyes. Eliade thinks that the up-side-down tree is a typical expression of the World Tree (Eliade: 1973). The World Tree in the rock art of Qiakeshang is in an upside-down shape, and is surrounded by the sun, the moon and a fylfot design symbolic of brightness. This clearly indicates the intention of the World Tree. This group of images may be related to the myth of

genesis recorded in the classics of Bonism. That is, at the moment when Bonist ancestor gShen-rab was born, the first phenomenon that appeared in the sky was the brightness of "Yongzhong" (fylfot design), and after that there appeared the sun and the moon bringing light onto the earth. Thus, if the fylfot design in the rock art of Qiakeshang was the sign of Bonism, the rock art of Qiakeshang would be between the 7th and the 9th century because it was only when Bonism was fighting against Buddhism between the 7th and the 9th century that the fylfot design was used as its own religious design. Bonism adopted different turnings of fylfot design as a counterattack against the turning-to-the-right-side fylfot design of the Buddhist sign (Shi: 1994). The fylfot design as a symbolic sign of both brightness and the sun has been prevalent in the culture of Qinghai-Tibet since the Bronze Age (Tang: 1995). However, the fylfot design in the rock art of Qiakeshang does not belong to this type because the images painted with red mineral dyes of the rock art nos. 2 and 3 of Qiakeshang are all religious (Zhang and Chu: 1987). Like the dating of rock art nos. 2 and 3, the rock art no. 1 of Qiakeshang should be works of Bonism between the 7th and the 9th century. If the rock art of Qiakeshang was the works of the 7th-9th century, the World Tree in rock art site 10 on the Zaxi Island could also be confirmed as the works of the 7th –9th century. In other words, the whole of site no. 10 and the entire rock art in the caves on Zaxi Island are works between the 7th and the 9th century.

In addition, Site no. 10 (including other rock art sites on Zaxi Island) is a piece of narrative rock art. Judging from the analysis above, in the rock art of Qinghai-Tibet Plateau before the Qin and Han dyansties, narrative structure did not exist. Only in the rock art no. 1 of Renmutong mentioned earlier (the works of the Tibetan regime in ancient China) was there a narrative structure. However, there are many images of human characters in the rock art no. 10 on the Zaxi Island, which has an obvious narrative structure. Its dating is at least the same as the rock art no. 1 of Renmutong or even much later.

The rock art areas of the 4th stage in the Qinghai-Tibet Plateau also include Huaitoutala, Bahamoligou, and others. In addition to the animal images in these rock art sites, there appeared images of apparently Buddhist elements such as elephants, six-word truths, conches, and lucky knots.

Since the 9th century when Buddhism took a governing position in the superstructure of the Tibetan area, Bonist images like witches or animals in the early-stage rock art were replaced by such things as Buddhas, Bodhisattvas and scriptural incantations of Buddhism. The process of substitution started in the mid-7th century and possibly ended at the end of the 9th century. After the 10th century there were no more animal images in the Buddhist cliff-carvings.

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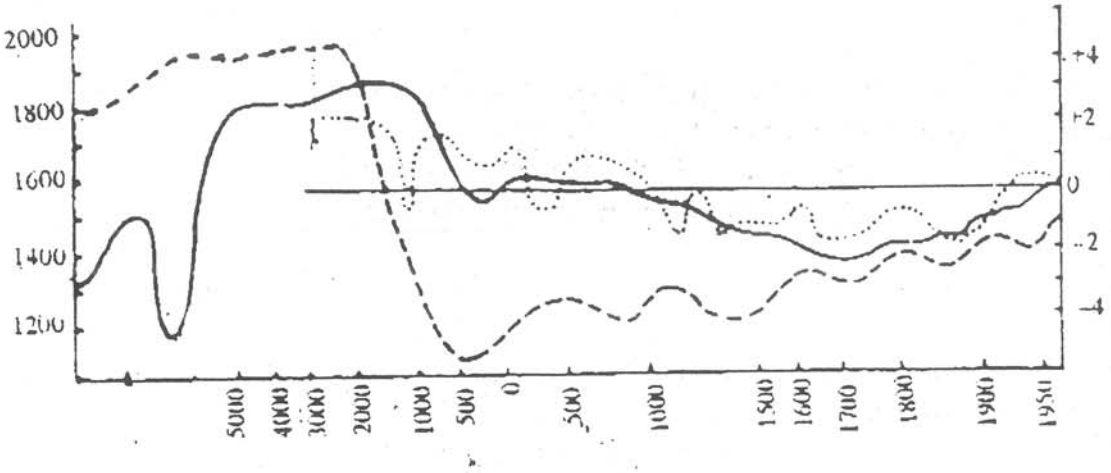


Fig. 1 Changes of the Snowline Altitude in Norway (solid line) and the Temperature in Qinghai-Tibet Plateau (dashed line) over the past 10,000 years, and the Temperature in China in the last 5000 years (dotted line)

Figure 2. Time and Division of Rock Art in Qinghai-Tibet Plateau

Stages	Sites of Rock Art	Age
1	Qinghai: Yeniugou, Shebuqi, Helimu, Bali river beach, Lushan in early stage, Tianpens Tibet: Jialinshan, Menji, Lunilaka	1000-500 B. C.
2	Tibet: nos. 12 and 13 of Renmutong	500-300 B. C.
3	Qinghai: Lushan in late stage	Around the year of Christ
4	Tibet: the Zaxi Island, no. 1 of Renmutong, Qiakeshang, Baxu Qinghai: Bahamoligou, Hanxigou, Huantoutala, Xuji, Halonggou	Between the 7th and the 9th century

Fig. 3: The chariot image in the rock art of the Yeniugou site, Qinghai

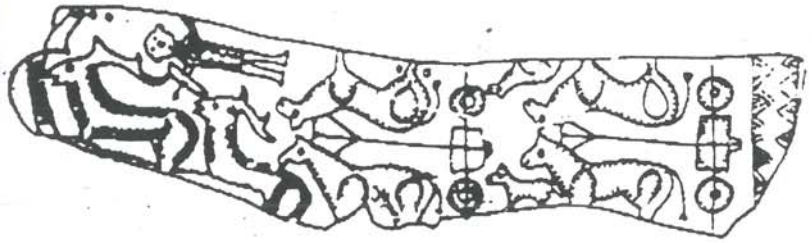


Fig. 4: The bone plaque with carved images of horses and chariots from Tomb 102 at Nanchenggen, in Ningcheng, Inner Mongolia

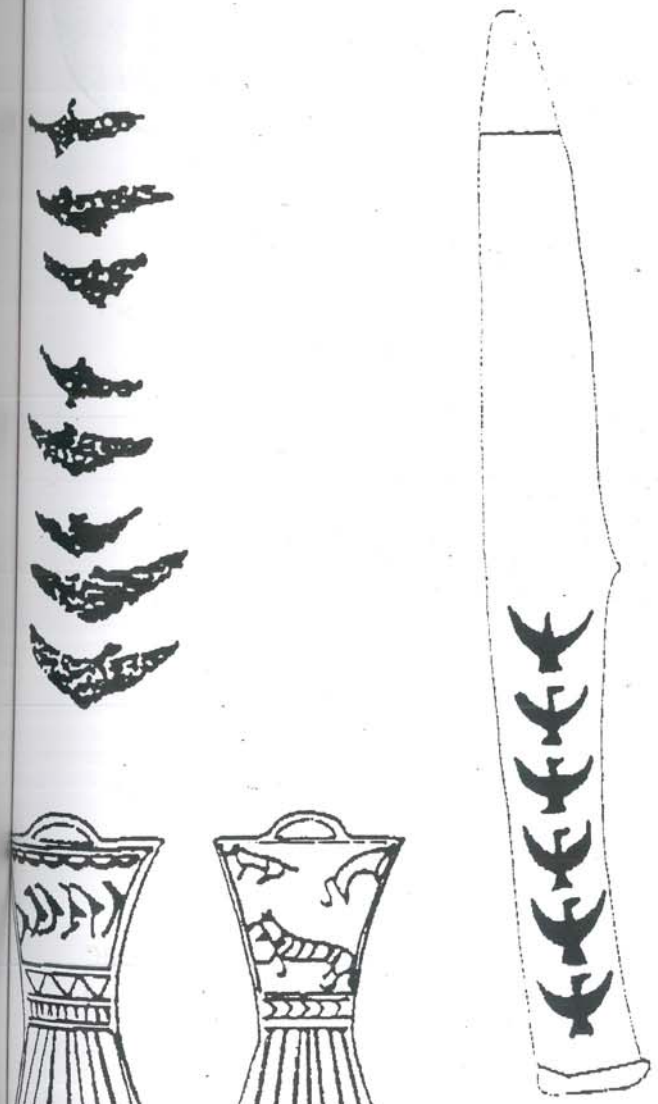
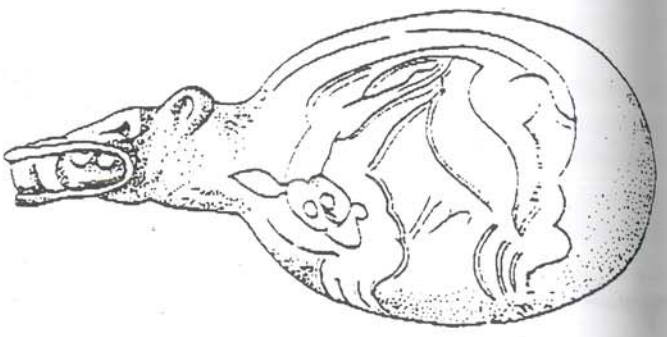


Fig. 5: "Paralleling" eagle images in the rock art of Yeniugou site, Qinghai

Fig.6: Bronze plaque with "paralleling" eagle images from the tombs of Kayue Culture, BC1000, Qinghai

Fig. 7: The Tajar knives in Minushinsk Culture, the former Soviet Union

a



b

c

Fig 8

(a): The scene of leapeods chasing deer from the Ritu site. Tibet

(b): A bone spoon inscribed with image of leopard standing on its tiptoes. From Bichc-Dba, around 7000–6000BC

(c): A bronze mirror, from Altair, decorated with deer standing on their tiptoes, around 7000-6000 BC.

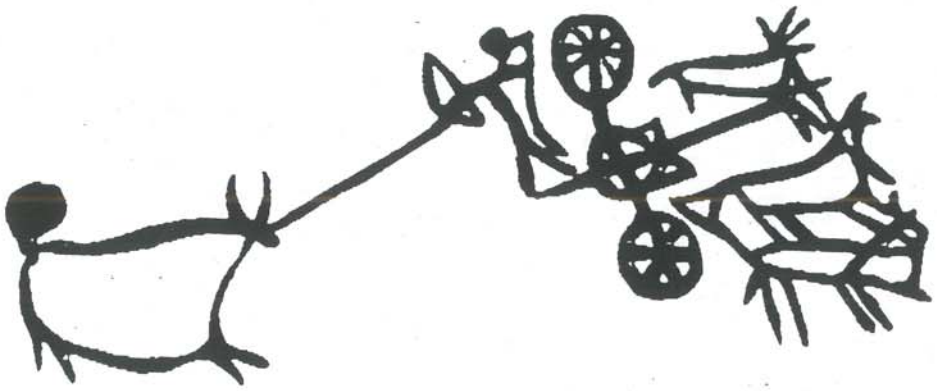


Fig 9 The scene of hunting with chariot from the rock art of the Lushan site, Qinghai

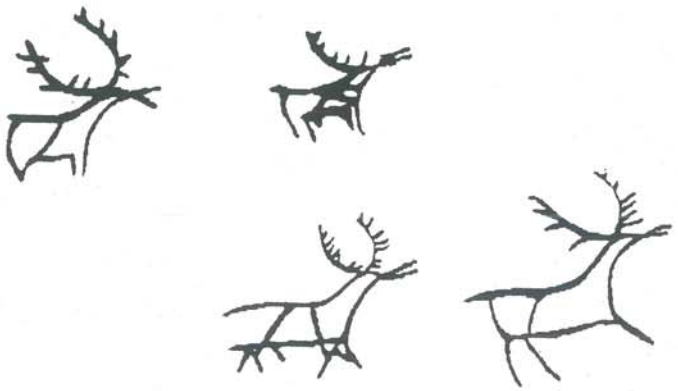


Fig. 10 The deer with beak-shaped mouths in the rock art of the Lushan site, Qinghai

FIG 11 The deer with beak-shaped mouths in rock art of Helan mountain, Ningxia.

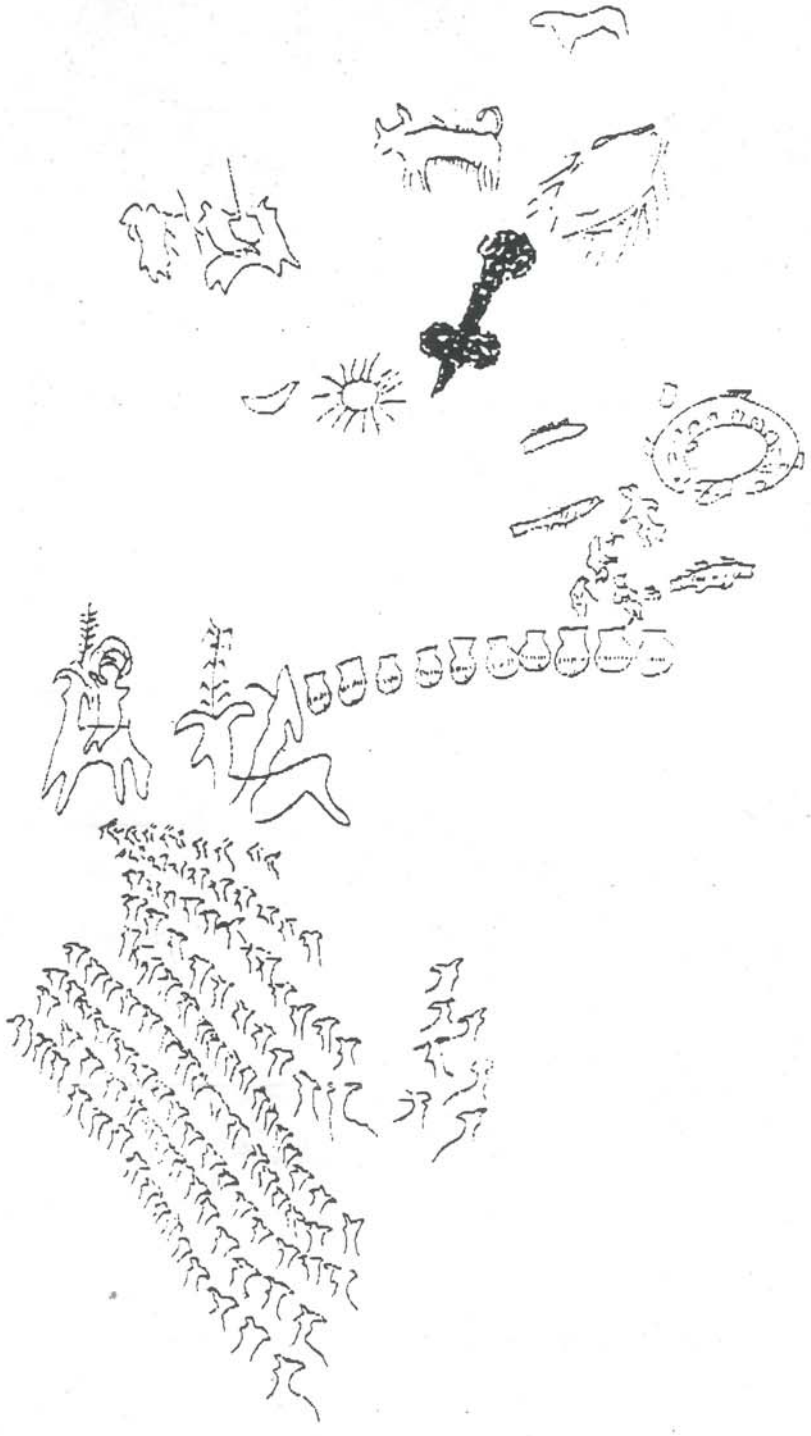


FIG 12 The rock art no. 1 of the Renmutong site, in Ritu, Tibet

Fig. 13: The rock art no.3 of the Zaxi Island site, Tibet.

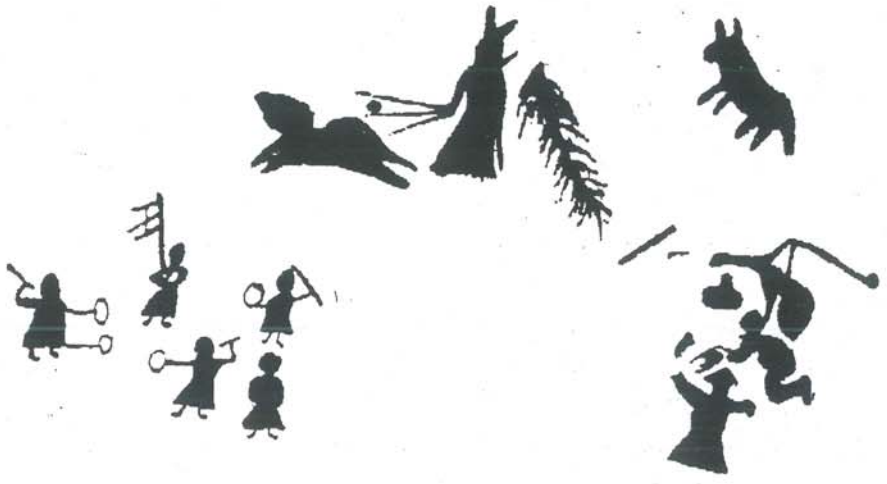


Fig. 14 The rock art no. 10 of the Zaxi Island site, Tibet