

REVIEW ARTICLE

OVERVIEW OF THE PACIFIC RIM HUMAN-FACES PETROGLYPHS

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ARTICLE DETAILS

Article History:

Received 5 January 2024

Accepted 18 February 2024

Available online 25 March 2024

ABSTRACT

The Human-faces petroglyph is a unique type of rock art around the Pacific Rim, the study of this type of rock art has gone through hundreds of years. The international research of the mainstream content and frontier method involves the naming, discovery, cultural interpretation, archaeological dating, protection and development, etc. Especially since the 21st century, the research of Human-faces petroglyphs has received unprecedented attention, and has achieved fruitful research results. By combing the centuries of the research literature and its research content, systematically and comprehensively introduced the research results of the Human-faces petroglyphs around the Pacific Rim, a brief overview of the concept and research scope, the international Human-faces petroglyphs discovery history, research history, and focus on the discovery, cultural interpretation, generational research and protection development angle of Human-faces petroglyphs, in order to inspire in other areas of rock art research.

KEYWORDS

Rock art, Human-faces petroglyph, Pacific Rim, Cultural interpretation, Research method

In the world rock art system, there is a kind of carved rock art that has no body and only shows the characteristics of human or humanoid facial features, which is commonly known as "Human-faces petroglyphs". Compared with the rock arts such as figures, animals, plants, symbols, natural objects and human artifacts, this kind of rock arts is a system with unique forms of expression, and has obvious differences from

other types of rock arts. Different from the prevalence of other kinds of rock arts throughout the world, they are only found in Asia, America and Oceania and their affiliated islands, showing a trend of "Pacific Rim" distribution, especially in the locations and number of the North Pacific Rim in Asia and North America (Figure 1). The Pacific Rim phenomenon of Human-faces petroglyphs shows the particularity of this rock art type

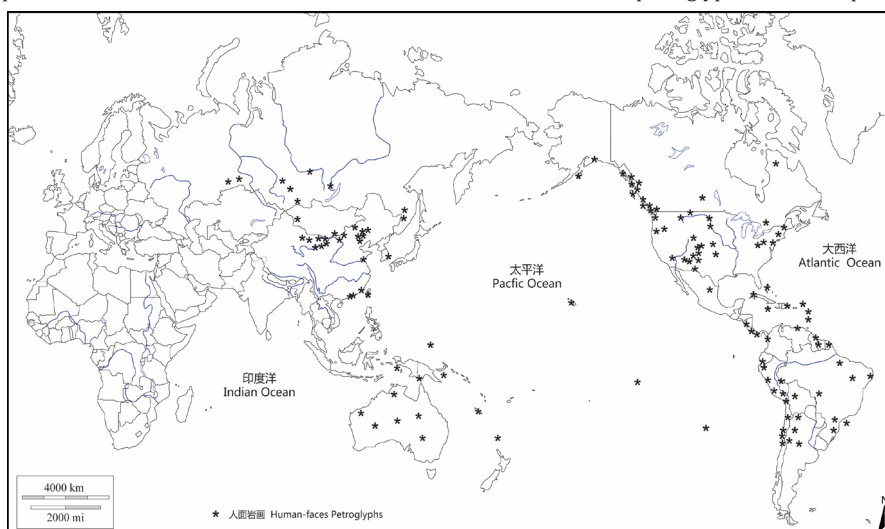


Figure 1: Distribution map of the world Human-faces petroglyphs

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DOI:

[10.65098/jra.01.2024.27.36](https://doi.org/10.65098/jra.01.2024.27.36)

in the primitive art of human beings and the overall cultural development of the world, which has attracted the attention of many scholars.

1. THE CONCEPT AND RESEARCH SCOPE OF HUMAN-FACES PETROGLYPHS

Rock art refers to a kind of artistic relic preserved on the cliff or rock by painting or grinding with tools. There are many titles for rock arts, but in general, they are defined according to the two main categories of "chisel grinding" and "painting". European and American scholars generally refer to the rock arts carved with tools as petroglyphs, The rock arts using paint is called pictographs. There are also scholars with Rock Carvings/Engravings and rock arts as the distinction between the two. Because many of the rock arts are painted in the caves, Therefore, the cave rock arts are generally called Cave Art or Cave Paintings. Some scholars have called it Rock Writings (L.S.Cressman, 1937). In recent decades, the international academic community has gradually called these two types of arts unified as Rock Art in English. Chinese scholars called the painted rock arts "cliff paintings" at the early stage of their discovery (Wang, 1985) or "cliff murals" (Guangxi Ethnic Minority Social History Investigation Group 1963). And called chisel mill rock art as "rock carving" or "cliff stone carving", in recent years are widely used "rock art" as a fixed name. "Human-faces petroglyphs" is a relatively unique category in the whole rock art system.

The "Human-faces petroglyphs" described in this paper is a relatively vague title, and the Chinese and foreign concepts are different because of the difference of language and cognition. Besides the personification images, there also include animal face and bird face and some symbolic abstract graphics, it is even difficult to clearly distinguish between Human-faces petroglyph and animal face and bird face. The Chinese character "Human-faces petroglyph" does not represent the whole type. English can use Faces or Masks, which has not yet found the most suitable concept to cover the category. At present, scholars are universally called "Human-faces petroglyphs".

In China, many scholars since the 1970s have paid continuous attention to human-faces petroglyphs, and there have been different names about it. Mr Gai Shanlin in 1985 in Inner Mongolia people's publishing house published the book "Yin Mountain rock art", the Yin Mountain area has "Human-faces images" rock art has used the "human/beast faces", "Human-faces petroglyph", "Human-faces theme", "Human-faces pattern", "Beast face pattern", "Human-faces figure", "Human head", "Facial rock arts", "face like rock art", more than 10 kinds of names, visible there is no unified and fixed appellation. In 1986, Mr. Gai Shanlin published another detailed rock art book about Yin Mountain,

in which he named the type of human like head rock arts as "Human-faces petroglyphs" (Gai, 1986). Later, in 1995, Mr. Gai's book Chinese Rock Arts was published, which officially put the study of rock arts in front of the world as a discipline. Among them, he attributed the Human-faces petroglyphs to the worship of idols (masks), sun worship, celestial worship and ancestor worship (Gai, 1995). In 1999, in the book Chinese Mask, Gai Shanlin began to link Chinese human-faces petroglyphs with mask culture, believing that Human-faces petroglyphs were the initial stage of mask art (Gai, 1999). In 2002's Cultural Interpretation of Inner Mongolia Rock Arts, he officially referred to the facial rock arts as "god mask" rock arts (Gai, 2002). This concept can not only contain the Human-faces petroglyph with divine lattice characteristics, but also cover the animal face, bird face and sun god with personification characteristics, which is the most inclusive name at present.

In 1992, Mr. Song Yaoliang, who was the first to study human-faces petroglyphs as a special study, published his monograph "Chinese prehistoric rock art with human faces in Godhead", which called the "human-faces petroglyphs". In 1993, Mr. Li Xiangshi called such rock arts "humanoid heads" (Li, 1993). In the atlas of Yinshan Rock Art newly published in 2010, there are still many names such as "facial makeup", "Human-faces petroglyph", "Human-faces petroglyph portrait" and "totem symbol".

In 2013, a doctor and two graduate students of Minzu University of China studied the Human-faces petroglyphs in the Xiliaohe River Basin in Inner Mongolia as the topic for graduation. They all used the title "Human-faces petroglyphs".

In 1991, Prof. Chen Zhaofu in his book "History of the Discovery of Chinese Rock Art", specifically in the chapter of "Analysis of the content of the rock art" set up a "Human-faces" project, detailed face like rock art discovery, techniques, types, and significance, across the country found face like rock art overall description, the face like rock art is divided into 4 types of "no outline", "contour", "full outline" and "headdress" (Chen, 1991). Since then, the word "Human-faces petroglyph" has gradually become the special name of "face image" in China because it is the most widely accepted, and has been widely used in the study of rock arts for a long time.

Among the research results published abroad by Chinese scholars, they are usually translated as Anthropoid Faces (humanoid face) (Jiang, 1991), Human-faces petroglyphs, or Human faces (Song, 1998). Some foreign scholars call it Anthropomorphic Faces (Ben, 2011), some call the outlined Human-faces petroglyphs as unoutlined Human-faces petroglyphs, call the non-outlined as eyes (Daniel, 1981), or eye-mask

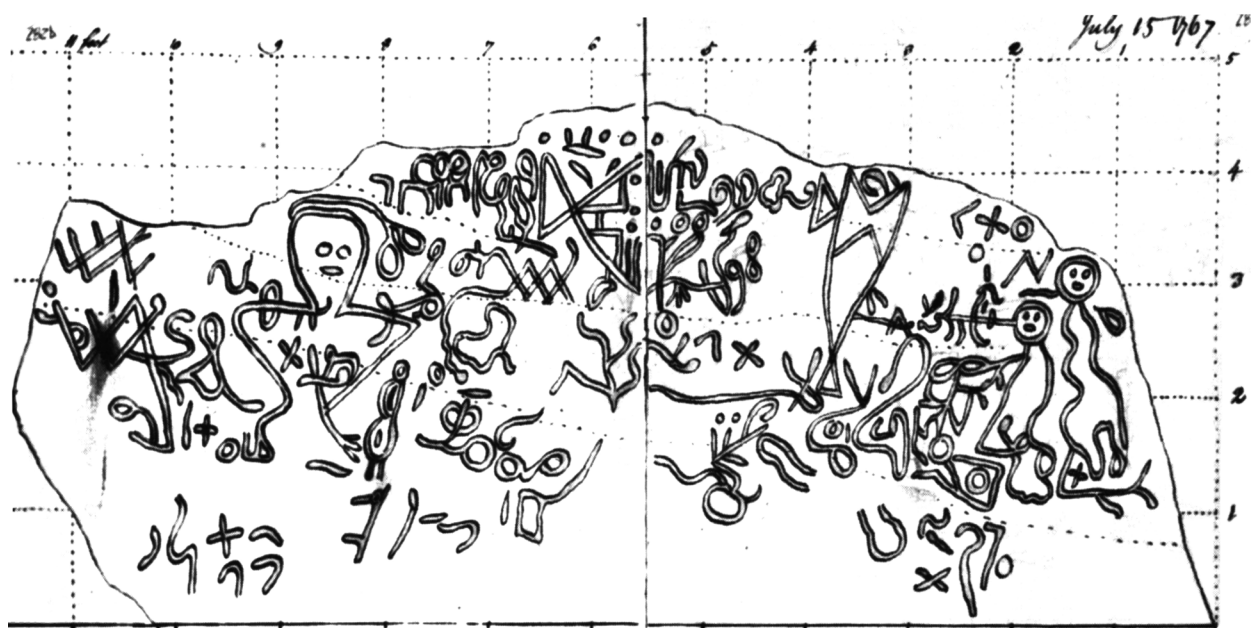


Figure 2: Dighton Rock (taken from: Lutz, "Ezra Stiles and the Challenge of the Dighton Writing Rock")

faces, eye/nose faces (Georgia, 2005).

In general, the human-faces petroglyphs are characterized by the most obvious features and the outstanding performance of the eyes. But in fact, the appearance is not the main distinguishing factor of the production time, or even the essential elements. Therefore, the simple emphasis on the outline and the eye address, are not comprehensive enough.

2. DISCOVERY AND STUDY OF FOREIGN HUMAN-FACES PETROGLYPHS

Since more than 300 years in the 18th century, some Pacific Rim countries and regions such as the United States (including Alaska and Hawaii), Canada, central America and the Caribbean region of Cuba, Puerto Rico, st. Vincent in North America. The Brazil, Argentina, Chile (including Easter island), Peru, Colombia in South America. The

Russia, Mongolia, China, South Korea in Asia. The Australia and some of the south Pacific islands in Oceania have found a different number of human-faces petroglyphs. After the end of the 19th century, when rock arts were widely discovered and set off a research boom, the international academic circle rarely studied human-faces petroglyphs as a special topic, which is usually slightly mentioned when such rock arts are involved in the process of prehistoric art.

The earliest recorded image of human-faces petroglyphs in foreign countries dates back to 1767, when Ezra Stiles, the President of Yale university in the investigation of Taunton River, Berkeley town, Massachusetts, on the left bank of a stone named Dighton Rock, on July 15, 1767, depicts all the graphics on the stone, which obviously has two oval Human-faces images (figure 2). However, Stiles' interest was in other figures similar to written symbols, so he called the stone "Writing Rock" and did not study the human-faces images, but his discovery and



Figure 3: St. Vincent Island rock arts (From: Daniel G. Brintond, 1889. *On a Petroglyph from the Island of St. Vincent, W.I.*, Proceedings of the Academy of Natural Sciences of Philadelphia 41. Pp.418)



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Figure 4: Rock arts on Kodiak Island, Alaska, USA (From: Robert F. Heizer, 1949. *Petroglyphs from Southwestern Kodiak Island, Alaska*, Proceedings of the American Philosophical Society 91(3), Pp.284-293) [DOI: 10.65098/jra.01.2024.27.36](https://doi.org/10.65098/jra.01.2024.27.36)

investigation of North American rock arts remained a landmark (Cora, 1980; Edward, 2009).

In 1871, The Prof. Fred Hartt of Cornell University, who published a paper on Brazilian rock arts, "Brazilian Rock Inscriptions", which revealed the number of Brazilian rock arts for the first time (Fred, 1871). In 1889, American anthropologist Daniel G. Brintond wrote a paper "On a Petroglyph from the Island of St. Vincent, W. I.", he sketched the rock art drawings of a figure and two Human-faces (Figure 3), and gives a preliminary interpretation. For the first time, "Human-faces petroglyphs" is used as the name of a rock art type (Daniel, 1889).

Asian human-faces petroglyph was first discovered in 1897, when the American archaeologist Berthold Laufer in the Russian far east found more than 100 in sakach-village in the rock, and in 1899 published the paper "Petroglyphs on the Amoor", he also used the term "Human-faces" (Berthold, 1899.). According to the local unearthed Human-faces pottery sculptures from the Neolithic period, Mr. Anati, the former chairman of the International Rock Art Committee, judged that the Human-faces here appeared at the same time with the pottery products (Emanuel, 2007).

In 1917, American ethnologist Walter Hough wrote in the Anthropological Notes that some photos provided by the Captain C.A.

Halvorsen, confirmed the discovery of a human faces rock art site (Figure 4) on the southwest harbor of Kodiak Island in Alaska, USA, recorded with hundreds of images and the specific latitude and longitude (Alaska Packers Association, 1917). In 1947, the American archaeologist Robert F. Heizer made further investigation and detailed type comparison on the basis of Dr Hough's found on two other sites of Kodiak island, published a paper "Petroglyphs from Southwestern Kodiak Island, Alaska", in which he divided the human-faces petroglyphs into outline (faces with facial outline) and no outline (faces without outline, features only) types, he considered that the Alaska native Koniag people created these works (Robert, 1947). In the subsequent 1970s and 1990s, American and Canadian scholars discovered numerous remains of human-faces petroglyphs on the west coast of America, stretching along the Alaska islands and southward along the coastline to the central North America. As more clues are found in the Americas, some scholars have noticed the differences between these rock arts, but all studies only from the perspective of the American indigenous peoples, not delving into the common factors between them from a global perspective.

The monograph Indian Rock Carvings of the Pacific Northwest which published in 1971, is the first collection of rock arts at 49 locations along the Pacific coast of North America, including some human-faces petroglyphs, which Edward called "Mask Face" (Edward, 1971). Beth Hill.



Figure 5: Rock arts on the Pacific Northwest Coast of North America (From: Edward Meade, 1971. *Indian Rock Carvings of the Pacific Northwest*, Sidney, British Columbia, Canada: Gray's Publishing Ltd. Pp.56)



Figure 6: Rock Arts on the Pacific Northwest Coast of North America (From: Beth and Ray Hill, 1974. *Indian Petroglyphs of the Pacific Northwest*, B.C.Canada: Hancock House Publishers. Pp.87)

a researcher of Vancouver library of Canada, surveyed more than 200 rock art sites in the British Columbia, including more than 70 locations found human-faces petroglyphs, and has published two monographs of "Indian Petroglyphs of the Pacific Northwest" and "Guide to Indian Rock Carvings of the Pacific Northwest Coast" in 1974 and 1975, detailed description of the survey of prehistoric rock art along the Pacific coast. In the books, Hill called the human-faces petroglyphs as "face". Although the Chinese human-faces petroglyphs had not been widely found at that time, Hill was sensitively aware that the rock arts found on the northwest coast of America "there is some evidence supporting the possibility of an art tradition generated by the ancient civilizations in China, diffused around the Pacific Ocean" (Beth and Ray, 1974).

In 1981, the American scholar Daniel Leen published an article in the Northwest Anthropological Research Notes called "The Rock Art of Northwest Washington", listed a large number of first discovered human-faces petroglyph rubbings and depictions from the Northwest Coast of the United States, and conducted a comparative study of ethnology in conjunction with the Indian indigenous art in North America, with legend marked the distribution of human-faces petroglyphs (Daniel, 1981). In the book Indian Rock Art of the Columbia Plateau, the American scholar James D. Keyser argued: "...mask' or 'face' figures have exaggerated teeth, eyebrows, or other facial features. No two of these spirit figures are markedly similar, in notable contrast to the repetitive sameness of many of the other forms characteristic of this art. This suggests to me that they represent each artist's highly individual perception of his guardian spirit." (James, 1992) In the same year, American scholar Alex Patterson included the human-faces petroglyphs into the Humanlike rock art types in the Southwest of the United States, with more than a dozen specific titles for various human-faces petroglyphs (Alex 1992: 1-8). It was not until the past decade that Faces and Masks were widely regarded as the conventional names in some academic conferences and works (Paul, 2010).

In the preface written for Prof. Chen Zhaofu's History of The Discovery of Chinese Rock arts, Emmanuel Anati believes that the human-faces petroglyphs are one of the oldest rock art type, the gods and protectors of the ancestors of humans and animals, and proposed the concept of "Pacific Rim" concept of the human-faces petroglyphs for the first time (Chen, 2008). Anati points out that the Human-faces petroglyphs in the Pacific Rim and similar images in other media may have originated from Asia. At the same time, he also showed a cautious attitude, pointing out that the huge distance between Asia, Australia and America is the difficult in-depth study of human-faces petroglyphs. It also proposed that the age of human-faces petroglyphs in China and the Russian Far East should be about 7,000 or 8,000 years ago (Chen, 2008).

In 2011, the Australian scholar Ben Watson published an article "The eyes have it: human perception and anthropomorphic faces in world rock art", by observing Australia found to show the eyes of rock arts, guiding research perspectives towards the entire Pacific Rim region. He extracted circular double eyes as the basic element for comparative analysis and concluded that this symmetrical eye, as the most powerful nervous system component used by humans to perceive the world, naturally made primitive rock artists choose it as a social symbol for transmitting information (Ben, 2011). In 1961, a group of human-faces rock art sites was discovered in northern Quebec, Canada, and in 1992, Australian rock art scientist Paul Tason published a research paper for a preliminary introduction (Tacon, 1993). In recent years, On the basis of Paul Tason, through more in-depth field visits, an anthropologist Prof. of the University of Quebec, Daniel Arseneault, focusing on a rock art site called Qajartalik, combining the similarities in patterns and themes of rock art in different communities throughout the Arctic region (from Norway to Greenland to Alaska and Siberia), and lists a large amount of Dorset portable artwork. He trying to illustrate that these human-faces petroglyphs in northern Quebec are consistent with the source of shaman witchcraft in terms of shamanic clothing, utensils, religious rituals and expression (Daniel, 2014). Xiao Bo, a researcher from Guangxi Minzu University, is the first Chinese scholar to conduct a special study on foreign rock arts. Through a comprehensive study of Human-faces

convincing (Xiao, 2020).

3. DISCOVERY AND STUDY OF CHINESE HUMAN-FACES PETROGLYPHS

3.1 The Discovery of Chinese Human-Faces Petroglyphs

The written records of human-faces petroglyphs in China were first found in the Shui Jing Zhu 《(水经注)》: "Cross the Liu Tou beach 10 miles is Yichang County. The river eastward to the Wolf tail beach, opposite the beach is the Human-face. Yuan Shansong said: The two beaches are 2 miles apart, the river flowed very steeply, the south shore have a big bluestone, which hidden by the river in summer and appearing in winter, chiseled into the surface of the rock, and carved with human faces, large and small, at a distance of dozens of steps, it was named Human-face Beach because of its clear image of the beard, hair and other facial features." (Li, 2001) This shows that at least during the Northern Wei Dynasty, more than 1,500 years ago, there were still rocks engraved with human-faces petroglyphs in the Yangtze River basin in Hubei and Sichuan provinces.

However, the image recording, discovery and research of Chinese human-faces petroglyphs are later than those in America and Northeast Asia. It began in 1915 with Huang Zhongqin's discovery of the cliff carvings in Hua'an, Fujian, and the Ancient Writing of Taixi published in 1935. He believed that the graphic symbols carved on the cliff are ancient characters. In 1957, Fujian Provincial Cultural Relics Administration Commission investigated the rock carvings, which identified the images as Human-faces petroglyphs, but believed that other rock carvings belong to Ancient writing (Lin, 1958). Later, it was gradually identified as rock arts by scholars. In 1928, archaeologist Bergman from Swedish found human-faces petroglyphs at the southern foot of Wolf Mountain in the western section of Yin Mountain, Inner Mongolia. In the late 1960s, Li Xiangshi discovered human-faces petroglyphs in Helan Mountain (Li, 2006). In 1973, a herdsman discovered the rock arts of Table Mountain. In 1976, a large number of human-faces petroglyphs were found in Yin Mountain by Gai Shanlin. In the five years to 1980, he started to investigate the rock arts of the Wolf Mountain area in the western section of Yin Mountain, and recorded a large number of human-faces petroglyphs (Gai, 1986). Then, in Wan Mountain, Taiwan in 1978, in General Cliff in Lianyungang, Jiangsu in 1979, in Baichahe in Inner Mongolia in 1981, in Helan Mountain in Ningxia in 1982, and in Yin River in Inner Mongolia in 1992 (Ren, 2008), more Human-faces petroglyphs were found in other places gradually.

Until the early years of the 21st century, human-faces petroglyphs are still being discovered, especially the large-scale discovery of rock arts in the Western Liao River Basin around 2000; the discovery of the fourth group of rock arts in 2005 in General Cliff, and the new discovery of Geeraobao Valley and Morecetu Valley in Yin Mountain from 2007 to 2008 are all very important achievements.

3.2 Cultural Explanation of Human-Faces Petroglyphs

In the process of rock art research, Chinese scholars generally pay attention to the type of Human-faces petroglyph. Many people have their own views about the cultural interpretation, including "Communication theory", "Mask theory", "Reproduction worship theory", "Shamanism theory" and "Dualism". Among them, the "Communication theory" and the "Mask theory" occupy a dominant position.

The systematic study of Chinese rock arts began in the 1980s.

Rock art scholars Song Yaoliang, Li Hongfu and Li Xiangshi hold the viewpoint of communication theory.

Based on the results of field investigation and research of more than 40,000 kilometers in five years, Song Yaoliang published the monograph "Rock Arts of Chinese Prehistoric Divine Masks" in 1992, and selected the topic of "Divine Masks" for an in-depth analysis. The book is divided into 9 chapters, including the distribution range and geographical characteristics, image characteristics and type, production techniques and associated symbols, main site, making time and producer, the origin, and evolution, nature and function, the meaning of Chinese culture, Where to spread. Points out that the Chinese Human-faces

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petroglyphs in the Russian Far East. In Russia, he sorted out the source and evolution process of rock arts in Siberia, Russia, and made a reasonable classification of their types. Based on the Russian archaeological report and the data of his field investigation, the conclusion of the distribution and classification of the Siberian human-faces petroglyphs is highly

petroglyphs in China are a result of a homologous culture, distributed in three linear patterns in the north, east, and central coastal areas of North China and East China (Song, 1992). In the process of specific research and demonstration, he drew lessons from many materials and methods of primitive religion, archaeology, mythology, ancient philology and semiotics and other related disciplines, trying to restore the unique cultural phenomenon of Chinese human-faces petroglyphs to the background of Chinese prehistoric culture, to explain its cultural function and connotation. He believed that the human faces engraved on a fixed stone and cannot migrate with people. Therefore, the author should be a settled ethnic group rather than a nomadic one. From the perspective of distribution range and production scale, he believes that this cannot be the work of a weak and closed ethnic group, but was created by a strong, unified, and culturally sustainable ethnic group that has maintained continuity for thousands of years. This ethnic group is the "Huaxia tribe" or the ancestor of the Huaxia tribe, which is the main ethnic group originating from the Central Plains region (Song, 1992). He also inferred that the human-faces petroglyphs are the product of agricultural culture from the overlap between the excavation sites of human shaped artifacts and the distribution locations of human-faces petroglyphs during the Neolithic period (Song, 1992).

In the 1990s, after several years of investigation and research in North America, Song Yaoliang published a paper titled "Prehistoric human-face petroglyphs of the North Pacific region" in 1998, put forward the Americas, Russian and Chinese human-faces petroglyphs have a variety of similar forms, this is a kind of homologous culture across intercontinental spread, originated in Dawenkou Culture in eastern China. At the latest, 4,000 years ago, the Asian preresidents with the religious needs of the engraved Human-faces petroglyphs spread to the American continent through the Aleutian Islands (Song, 1998). In 2010, Song expressed this point of communication in CCTV's Discovery, and revised the origin to the Chifeng region of Inner Mongolia in a newly published paper (Song, 2010).

In 1997, Li Hongfu's monograph *Pacific Rock Arts - The Oldest Folk Culture Relics of Mankind* also listed the rock arts around the Pacific Rim in detail with the perspective of cultural communication, which involves human-faces petroglyphs. The author points out that there is a kinship between the main rock art sites in various countries, and believes that the producers of the General Cliff rock art are the member of the Shaohao clan. The Shaohao culture is the center of this cultural circle, and the extension and distribution of the Shaohao culture to the north and south direction has led to the formation of the Eastern cultural belt (Li, 1997).

Li Xiangshi believes that the author of the Human-faces petroglyphs is the Chinese nation with multiple beliefs, namely the "Chinese nationality" in the broad sense. Various totem worship in the Human-faces petroglyphs are the product of this diverse culture. The Human-faces petroglyphs in the Pacific Rim "have the characteristics of the same ethnic origin and cultural attributes." (Li, 2011)

In 1991, after Prof. Li Fushun researched on the rock arts of Helan Mountain, he proposed the "Mask theory", believing that some of them looked like masks worn on their heads when they dancing to entertain the gods (Li, 1991). Gai Shanlin early thought: "humanlike (or beast) face pattern is the comprehensive embodiment of ancient human ideology, the painter into the thought involves many areas of original thinking, it is not limited to a belief, from its meaning, are at least mask, god, ancestor god, skull and other cultural meaning." (Gai, 1985) Prof. Chen Zhaofu also said, "The vast majority Human-faces petroglyphs do not depict real Human faces, but rather look like a specific mask." (Chen, 1994) He also pointed out that the rock arts are related to sacrifice and religious belief. The religious belief of prehistoric human beings is due to the desire for survival, and the concept of god. What first appeared is the animal god, and then gradually evolved into different gods." (Chen, 2008)

In 1995, Mr. Sun Xinzhou deciphered the interpretation of the Baicha River of primitive art symbols. He took the Human-faces petroglyph which in Galayingzi like a male genitalia pattern as the starting point and analyzed it from the background of primitive culture, believing that it was an abstract male genitalia pattern, which is a typical primitive reproduction worship (Sun, 1995). He later published a monograph

"Cultural Interpretation of Chinese Primitive Art Symbols", In the book, comparisons are made with rock art discovered in the Yenisei River basin in Russia, that "This form of male root worship, which symbolizes the testicles with the eyes and the penis with the nose, is a cross-cultural phenomenon that has existed abroad for a long time. In the West, this expression method has also been followed for a long time." (Sun, 1998)

In addition, some scholars, based on the similar figures in other art forms of the Chinese Neolithic Age to the Bronze Age, believe that some so-called Human-faces petroglyphs should actually be "bird face" or "owl face" (Wu, 2008). Li Hongfu thinks, many rock art in Asia, North America, Oceania, the bird is the largest number of animal subject, is from the earliest development of the original agriculture settled ancestors birds worship, because in the economic life, only engaged in early agriculture ancestors most concerned about the bird. Bird activities can predict the transformation of season, is very important to crop planting and harvest. This inference is based on his theory of the Dong Yi cultural transmission belt (Li, 1997). Dr. Su Sheng's research believes that the Human-faces petroglyphs in Chifeng are owl-shaped, and related to the migration of the first merchants. (Su, 1998)

In 2001, Prof. Tang Huisheng in his book "Qinghai Rock Art - Prehistoric Art in the Study of Binary Opposition Thinking and the Concept" using the shamanism theory and the method of cross-cultural interpretation, citing a large number of archaeological materials, demonstrates the Chinese Human-faces petroglyph is the embodiment of the binary opposition thinking and its ideas, is a symbol of many "positive factors" in the original religious culture. He also pointed out that the human head means "heaven", "upper", "high", etc., to match the identity of the heavenly god. The outline of the Human-faces petroglyph is round, because it is similar to the sun (Tang and Zhang, 2001).

Mr. Gong Tianfu explained the Human-faces petroglyphs as: "It refers to those rock arts that look similar to Human faces or can be associated with Human faces." He supported the "origin of Dong Yi" of the rock arts. He divided the Chinese types of initial, prosperity and decline from the perspective of cultural types, and believed that the rock arts were mainly manifested in the reproductive worship of women and men, and some belong to the Pantheistic worship (Gong and Zhang, 2006).

Various cultural interpretations, whether in communication theory, mask theory, reproduction worship theory or dualism, most scholars believe that the emergence and development of Human-faces petroglyphs are related to the spread of shamanism.

There is no denying that the human-faces petroglyphs in the Pacific Rim do show more or less supernatural attributes and primitive religious connotations. One thing that can be affirmed is that in the long history of primitive society, whether in the pastures in the hinterland of Asia, on the northwest coast of the Pacific in North America, or on islands in the South Pacific, the type of human-faces petroglyph has been endowed with special meaning and spiritual connotation by creators.

In recent years, some Chinese works for Human-faces petroglyphs also has many data supplement and theoretical discussion, such as *Found Rock Arts* (Li, 2004), *The Hongshan Rock Arts* (Wu, 2008), *The Silk Road Rock Art Research* (Gai, 2010), *The Impression of Civilization - Helankou Rock Art* (Yinchuan helan mountain rock art management office, 2011), *The Study of Helan Mountain Rock Art* (He, 2012), *The Study of Yin Mountain Rock Art* (Wang and Zhang, 2012), *The Rock Art of Hexigten Banner* (Han, 2013), *Research on Human-Faces Petroglyphs of Northern China from the Perspective of the Pacific Rim* (Zhu, 2017), *The Belief on the Rock: Northern China Human-Faces Petroglyphs* (Wang and Zhang, 2018), *The Study of West Liao River Basin Human-Faces Petroglyphs* (Sun, 2019), *The Study of Human-Faces Petroglyphs about the Yenisei River Basin in Russia* (Xiao, 2020), *The Representation of the Image: Helan Mountain Rock Art Study* (Gou, 2020), *The Chronology and Image Meaning Study of General Cliff* (Zhang, 2021). These studies show more cautious attitude, propose a relatively comprehensive view from an interdisciplinary perspective, and reflect the research progress of Human-faces petroglyphs with different aspects.

Li Xiangshi believes that "the deep connotation and significance of Human-faces petroglyphs are closely linked with totem worship, myths

and legends, primitive religious beliefs and folk customs”[34]8. “Human-faces petroglyphs are the product of human multicultural, which is a cultural and artistic form of animism, myth and legends, totem worship, wicca, ancestor worship, reproduction worship, self-knowledge, self-education, self-expression and self-consciousness.” (Li, 201) According to He Jide, the Human-faces petroglyphs “refer to the rock arts made by primitive humans to give Human-faces images to the gods, ghosts, totem animals and various worship objects.” The production of Human-faces petroglyph is related to sympathetic witchcraft, which is a sacrificial procedure conducted by the wizard in order to complete “Communicate between heaven and hell, close to the ghosts and gods” (He, 2013). Using the comparative research methods of traditional archaeology, Gai Shanlin conducted a comparative study of Human-faces petroglyphs from multiple locations in Inner Mongolia with other archaeological materials on human face shapes and solar patterns, trying to prove that Human-faces petroglyph is not isolated phenomenon of rock art, is closely associated with other art carrier, and in different carrier of similar graphics as the main basis of rock art dating (Gai, 2010).

In addition, there are some papers studied from the perspective of the origin and religious meaning, such as “The Origin of Rock Arts in Helan Mountain” (Zhang, 2010), “The Embodiment of the Primitive Religious Meaning in the Northern Mask Rock Art” (Zhang, 2007). Especially in recent years, the doctoral and master students of Chinese Rock Art Research Center have based on the field investigation of rock arts in Chifeng, Inner Mongolia; Helan Mountain, Ningxia; Lianyungang, Jiangsu, and carried out in-depth research on the subject with interdisciplinary methods such as ethnology, archaeology, mythology and iconography (Zhu, 2017; Sun, 2019; Gou, 2020; Zhang, 2021), to a local range of Human-faces petroglyphs research has set off a boom.

3.3 Research on the Dating of Human-Faces Petroglyphs

Chronology is an important basis for archaeological research. Archaeological or historical research without chronological basis is not convincing. However, the study of prehistoric culture, especially the remains of rock arts, can not be supported by the chronicle because of the lack of sufficient written records. At the same time, the rock arts unearthed from archaeological sites are rare, and the support of stratigraphy is almost impossible, so these objective obstacles make rock arts an embarrassing subject that archaeologists generally refuse to engage in (David, 2012). At present, although some international archaeologists and rock art experts are trying hard, they have not yet found a particularly ideal means of dating. It can be said that the dating research of rock arts is a worldwide problem. In recent decades, Chinese and foreign scholars have combined natural science with archaeology, ethnology and cultural anthropology, especially some cross-cultural international cooperation, allowing us to see the dawn of breakthrough achievements in the dating study of rock arts.

Natural science dating methods are commonly used in prehistoric archaeology, such as Microerosion analysis, Glacial Striae, AMS, Cation Ratio, Infra-red Spectrometry, Proton-induced X-ray emission, Radio-carbon dating, SEM, X-ray Diffraction, etc., Many have been used by scholars to study the dating of rock arts (Paul, 1998). However, most of the methods only work on the pictographs painted with organic mixed color paste, while the rock arts carved by the “Yin carving method” on the inorganic rocks are mostly dating on the rock surface layer. Scholars generally believe that rock in the natural process of time will form on the surface of the cover several layers from sand deposits, or the chemical change of the natural environment on the surface of the specific process of erosion effect, each region of the cover or the erosion process with geological structure, climate conditions and different, the microscopic rock deposition layered scientific determination can to some extent to rock art dating. Since the 1980s, some scholars have tried the Cation Ratio method (CR) and Accelerator Mass Spectrometry (AMS) around the world, obtained some data, and have also been questioned by the archaeological community. But scholars have also come to embrace the idea that flawed research methods are better than making no effort (David, 2012). At present, some Chinese scholars have made preliminary

multiple countries such as China, Australia, and India made efforts in representative areas of rock art such as Jiangsu, Xinjiang, Inner Mongolia, Ningxia, Guangxi, Henan, and Heilongjiang further consolidating the application of micro-corrosion dating method in the study of Chinese rock art dating (Tang, 2017; Tang, 2018; Tang, 2020).

In addition to the direct dating method of natural science, most scholars in the humanities tend to use indirect rock art dating methods. These methods include Literature method, Production Process Dating, Artistic Style Analysis, Subject Matter Judgment (Extinct Animal Species Analysis), Overlapping Pressure Breaking Relationship Judgment, Horizontal Comparison method, etc. Especially in the rock art community in China, this indirect dating method of using data is considered to be effective. It is a current dating method for scholars to solve most of the age problems of rock arts with Chinese characteristics (Zhang, 1993). By judging the relative judgment through indirect methods, Gai Shanlin and Chen Zhaofu have been widely involved in their early studies. In 2010, Mr. Wang Jianping proposed the “Optical Chromaticity Contrast method”. According to the principle of optical chromaticity difference, through the combination of digital image technology and computer chromaticity analysis software, according to the law of chromaticity change, calculated the different ages of rock surface, and applied for a patent (Wang and Zhang, 2010). In 2012, Yang Chao, a rock art scholar from the Three Gorges University, proposed the “Mythical Dating Method” taking the Helankou rock art as an example (Yang, 2012). These are all relatively novel ideas in China. Song Yaoliang once used the method of exclusion to explore the origin of the earliest human-faces petroglyphs in China. First, he selected the three locations of General Cliff, Yin Mountain and Table Mountain according to the intuitive feeling of the traces, and established several necessary conditions for the earliest human-faces petroglyphs. First, the traces should be ancient. Secondly, the carving tool must be stone tools. Third, human facial traits must be secular. The so-called secular nature refers to the characteristics of the Human-faces petroglyphs that are similar to those of the human world, but not entirely the majestic god of the heaven. He believed that the Human-faces petroglyphs started from sacrifice and were originally the worship of the ancestors or leaders of the clan. Therefore, he logically concluded that the early stage of Human-faces petroglyphs, that is, the personality and then evolved into a god. Fourth, the sun and the Human-faces petroglyph must respectively appear in an independent way, so excluding the Yin Mountain and the Table Mountain, only the General Cliff remains. Fifth, is the characteristics must not be inherited before, and then follow forward (Song, 1992). These conditions are indeed effective criteria for determining the early Human-faces petroglyphs, but the third condition is a very subjective factor, and different scholars may have completely different understandings.

In recent years, Prof. Wei Jian proposed that within the framework of typology, we can first conduct a study on the chronology of small regions. He placed the hunting animal rock arts of Yin Mountain in the cultural background of the “Ordos style” bronze artifacts and unearthed animal bones in the northern grasslands. Using the research results of existing archaeological cultural types and their chronological scales, he conducted an analogical analysis of the content and image of the northern hunting and herder rock arts, which can preliminarily establish the relative chronological framework of various rock art areas in the Bronze Age. Using the research results of literature history, ethnology and art history, and the research results of other disciplines, the chronology framework of rock arts in prehistoric and after the Bronze Age is gradually established (Wei, 2009). This research method has strong applicability to the rock art areas with rich archaeological relics, and also has guiding significance for the small regional research of human-faces petroglyphs. Wang Xiaokun and Zhang Wenjing’s research on Yin Mountain rock arts also followed this theoretical result, which further demonstrated the basic framework of the type distribution and chronological sequence of Human-faces petroglyphs in northern China (Wang and Zhang, 2018). On the basis of the systematic survey of the General Cliff rock arts, Zhang Jiaxin constructed the social form, cultural background and spiritual belief of the rock arts in combination with the ancient ecological environment, archaeological sites, archaeological culture types and Micro-Corrosion Dating technology. Through the interdisciplinary analysis of the General Cliff rock arts, the dating relationship and rheological process of the main images are established (Zhang, 2021). In 2018, Russian scholar Irina A. Ponomareva conducted a study on human-faces petroglyphs in the lower Amur basin (Russian Far East), using an interdisciplinary

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perspectives to explain the ethnicity, identity, social practice, symbolism and community of rock artists, and obtained relatively comprehensive conclusions (Irina, 2018).

The current study of indirect dating by scholars mostly adopts the method of comprehensive comparison with other archaeological and cultural phenomena around the rock arts to make a general judgment of the age of the rock arts. The rock art experts Mr. Gai Shanlin and Prof. Tang Huisheng are good at using this method to study Chinese rock arts. In recent years, the "Trinity method" of Tomb, Settlement and Rock arts, represented by Prof. Wang Jianxin, an archaeologist from Northwest University, has also gradually been recognized by the academic circles. In addition, breaking the relationship is the most direct means of staging. Using the phenomenon of rock arts with overlapping relationship can be clearly inferred the order of rock arts. The shapes made earlier were overlaid by the later ones, and the relationship between the upper and lower layers of the rock arts naturally appears. The order obtained by this method is consistent with the "lower" and "upper" layers in archaeological stratigraphy. In the current human-faces petroglyphs, we can find many examples of breaking relations in Siberia, Helan Mountain, Yin Mountain, West Liao River basin, and the southwest region of North America. However, because most rock arts usually can only clearly distinguish the overlapping relationship between the two layers, this staging method can only obtain simple early and late stages.

Now, after more investigations of the rock arts and the disclosure of new discoveries, as well as the support of archaeological materials, a comprehensive comparison of human-faces petroglyphs has been carried out on a larger scale. Drawing on the above conventional practices and ideas of Chinese rock art scientists and archaeologists, combined with the schema comparison of image types, a preliminary attempt can be made to stage the types of human-faces petroglyphs with sufficient archaeological strata support. Such stages can not draw an accurate conclusion, but at least can divide several rough development stages.

3.4 Research on the Protection of Human-Faces Petroglyphs

There are more and more newly discovered rock arts in China. Meanwhile, the cultural relics protection department has also noticed that many rock art sites are facing man-made or natural destruction, and people generally feel that the protection problem is becoming more and more urgent. The government began to invest a lot of money and technical support for the protection of rock arts, in recent years with special emphasis on the parallel strategy of protection, development and application and education popularization.

In Lianyungang, Jiangsu province, West Liao River, Yin Mountain and Table Mountain, where the rock arts are most concentrated, the government and the people attach great importance to the protection of rock art heritage. Generally, there are three protection measures for rock arts. The first is survey records, text description and image collection to obtain detailed information. The second is in-situ protection. In order to avoid changes in the ecological environment, modern engineering construction, and other damages caused by human activities, reinforcement, protection, warning, dedicated personnel stationed, remote monitoring, and other methods are adopted for on-site protection. The third is relocation protection, such as reservoir engineering construction, road and bridge construction, etc. Urban development has encroached on many rock art sites. If in-situ protection cannot be adopted, relocation protection will be implemented.

The protection of General Cliff rock arts in Lianyungang, Jiangsu province, Helan Mountain in Ningxia and Yin Mountain in Inner Mongolia was carried out earlier, and initial results have been achieved. At the end of last century, Lianyungang tried to use "large prestressed anchor cable" in the General Cliff rock art point to reinforce and protect the cracks and deformation caused by mining and blasting. In Bayannur area of Inner Mongolia, solar remote camera device is used to monitor the rock arts in remote areas, which has a good deterrent effect on those who dig rock arts. In 2008, the Yinchuan World Rock Art Museum was completed and opened in Ningxia, becoming the first special museum of rock arts in China built in the site area. With an exhibition area of 2,000 square meters, it is the largest special museum of rock art in the world.

In 2012, Wuhai city launched the Table Mountain rock art protection project, and a museum was built at the Zhaoshaogou rock art site in Table Mountain to protect the Human-faces petroglyphs with serious erosion by acid rain. In addition, the Yin River basin in Chifeng area of Inner Mongolia has adopted the relocation protection of the rock arts in the reservoir area.

For the development and application of rock art resources is the protection of education promotion process, the cultural ecological environment of various parts of China, represented by rock arts, is the sum of various aspects of life, customs, concepts, beliefs, skills, art, and other aspects that have been continuously precipitated and accumulated by various ethnic groups through thousands of years of production and life practice. It is a direct depiction of the cultural style of life that has been passed down from generation to generation. These unique cultural resources created by the ancestors of all ethnic groups have rich multiple characteristics, which can well meet the needs of the development of contemporary cultural tourism industry, and can meet the psychological needs of tourists of "seeking novelty, differences, happiness and knowledge". The development of cultural tourism of rock art mainly explains the cultural tourism development concept of contemporary Chinese rock art from the perspectives of protection principles, development planning and application of visual rock art symbols (Fan, 2009). Some also pay attention to the construction of rock art database, put forward the new model of the network era of rock art as a cultural resource for professional consultation, cultural exchange, education popularization and commercial development, advocate the establishment of online virtual museum, and put forward a series of more feasible solutions (Zhu, 2019). Some also proposed that the development of rock art resources should establish a new model of "Archaeological Park". At present, the above development mode is being gradually implemented, which is expected to drive the development of the research and protection of rock art in China and produce good social, economic and cultural effects. For example, under the advocacy of the Ningxia Autonomous Region Tourism Bureau, Helan Mountain Rock Art Management Office attempts to combine rock art with the tourism and cultural industry. Based on the "Yinchuan World Rock Art Museum", Helan Mountain Rock Art Festival is held every three years, using rock art as a medium to build a public platform for the government, media, and the public to deeply understand rock art, exchange culture, and promote the research, protection, and development of rock art heritage.

4. CONCLUSION

As a unique type of rock art system, Human-faces petroglyph has gradually become an important research content in the international community, especially in the Chinese academic circle. The research institutions and scholars have significantly increased, and the breadth and depth of research have also been improved. Cross-disciplinary, cross-cultural and cross-intercontinental research is the general development trend at present. The research, protection and development of human-faces petroglyphs will become an indispensable part of the world rock art value system.

ACKNOWLEDGEMENT

Research on the Chinese Rock Art Studies. The Ministry of Education's major research projects in philosophy and social sciences. 22JZD032. I would like to thank the anonymous JORA reviewers whose comments and suggestions helped to improve this paper.

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