**INTERPRETING SOME SYMBOLS, INTRICATE DESIGNS AND GEOMETRIC SIGNS IN THE ROCK ART OF SOUTHERN BIHAR AND ADJOINING JHARKHAND IN EASTERN INDIA**

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**ABSTRACT** - Symbols, intricate designs and geometric signs, being a major component of prehistoric art, are an important source for understanding early man and his environment. As they were made by the people living in the entirely different environment of the prehistoric era, it is extremely difficult now to know their meaning. I found pictorial, epigraphic and ethnographic evidence which enabled me to understand the meaning of certain symbols and geometric signs found in the painted rock shelters and caves discovered by me in the remote, difficult and extremely dangerous Chotanagpur hills (a tribal belt) of southern Bihar and adjoining Jharkhand in eastern India. Some of these are briefly described below.

The first such symbol on the wall of Rock shelter II.A.2 consists of a circle having six spokes inside and five dots in each space between the spokes. The epigraphic evidence tells us that this symbol was used in rituals for harming enemies. Outside and along the rim of the circle is a Khroshti inscription datable to the 2nd century AD which reads as “Naha Saga Aminashenam madhatre” (meaning Naha the Saka injures Aminashena).

Another symbol painted in Rock Shelter III.A.2 consists of a cross inside a banded circle which was used in a ritual for getting favour from the goddess of wealth (Laxmi), as indicated by a Kharoshti-Brahmi inscription above the diagram. Assigned to the 2nd century AD this inscription reads as “Sri-Vrata”. The term Sri-vrata denotes a religious vow concerning the worship of Sri or Laxmi, the goddess of wealth/fortune. Another geometric sign of a grid depicted in Cave I.A.8 and other painted rock shelters and caves is still used by the shamans for tracing missing objects in the tribal communities in the region.

Further extensive research and interaction with local tribal communities and explorations in this rock art region may be useful for decoding more symbols and geometric signs.

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**RIASSUNTO** - I simboli, disegni intricati e segni geometrici che formano una delle maggiori componenti dell’arte preistorica sono una fonte importante per la comprensione dei primi uomini e dell’ambiente in cui vivevano. Dal momento che tali raffigurazioni furono realizzate da persone che vivevano in luoghi totalmente diversi in epoca preistorica, è estremamente difficile oggi comprendere il loro significato. La mia fortuna è stata trovare alcuni dati pittorici, epigrafici ed etnografici che hanno consentito di capire il senso di alcuni simboli e segni geometrici dipinti su rocce e parette di caverne da me scoperte nell’area remota, ardua delle colline di Chota Nagpur, una zona tribale che si estende tra il Bihar meridionale e il confinante Jharkhand nell’est dell’India. Alcuni dei simboli e segni geometrici in questione sono brevemente descritti. Il primo simbolo si trova sulla parete della grotta II.A.2 e consiste in un cerchio diviso da sei raggi interni e con cinque punti in ognuno degli spazi tra i raggi. Come i dati epigrafici illustrano, il simbolo in questione veniva utilizzato nei rituali per danneggiare i nemici. All’esterno e intorno al bordo del cerchio si trova una iscrizione in Khroshti databile al II secolo d.C., in cui si legge “Naha Saga Aminashenam madhatre” (= Naha, il Saka ferisce Aminashena). Un ulteriore simbolo dipinto sulla grotta III.A.2 comprende una croce racchiusa in un cerchio a strisce che veniva utilizzato nei rituali per ottenere il favore della dea dell’abbondanza (Lakshmi), come indica un’iscrizione in Kharoshti-Brahmi al di sopra del diagramma. Datata al II secolo d.C., l’iscrizione si legge “Sri-Vrata”. Il termine Sri-vrata denota un voto religioso legato al culto di Sri o Lakshmi, la dea della ricchezza/fortuna. Un altro segno geometrico, una griglia dipinta nella grotta I.A.8 e presente anche in altre grotte, è ancora oggi utilizzato dagli sciamani per rintracciare gli oggetti persi nelle comunità tribali della regione. Ulteriori ricerche e l’interazione con le comunità tribali locali, sarebbero utili per decifrare altri simboli e segni geometrici.

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**INTRODUCTION**

Symbols, intricate design and geometric signs occupy a very important place in rock art all over the world. These were not only vital components of prehistoric rock art but also of the rock art of the subsequent periods. As such they are an extremely important source of understanding of early man and his environment. But it is extremely difficult for us now to know the meaning of such symbols and geometric signs made by people living in the entirely different environments of the Upper Paleolithic, Mesolithic, Neolithic, Chalcolithic and even early historic periods. Efforts made by researchers to interpret these symbols have not met with much

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success so far. It was very encouraging to find pictorial and epigraphic as well as some other ethnographic evidence which enabled us to understand the meaning of at least three symbols or geometric signs painted in the rock shelters, discovered by the author in the inaccessible forested hills of southern Bihar and adjoining Jharkhand in eastern India. It includes a cross inside a circle, a circle with six spokes having dots in the space between the spokes, and a grid.

In the present paper it will be my endeavour to bring out the epigraphic/pictorial and ethnographic evidence which made it possible to understand these symbols and geometric signs. I am very much indebted to Professor B.N. Mukherjee for taking so much pain in deciphering these inscriptions and also some other rock inscriptions painted in other rock shelters of this region.

One of the biases about early art development emanating from western Europe is that it consists largely of naturalistic images of objects, notably of large animals. This is not true of the Franco-Cantabrian region of western Europe itself, where figurative representations are outnumbered more than three times by non-figurative art (Bednarik, 1991). It mainly consists of symbols/geometrical patterns, which are among the most puzzling elements of Upper Paleolithic art. For the most part they have been explained as components of whatever hypothesis prevails, i.e., hunting, magic or male–female dichotomy, or telltale signs of shamanistic art (Leakey, 1996).

The symbols include variations/combinations of circles, squares, rectangles, wheel (chakra), cross, etc. The intricate designs consist of rhombic meanders, concentric circles, spirals and their variants, covering large spaces. The geometric signs mainly include grids, zigzags, dots, chevrons, curves, nested curves, combinations of triangles and rectangles. They were drawn with some purpose, had some definite meaning to the person who made them and other members of the group he formed part of. It is also quite possible that far back in prehistory signs and symbols originated as random marks without any phonetic value or similarity to any specific object, just like Arabian tribal symbols or wusum. The wusum are not signs and their interpretations are not meanings, but they represent certain social groups or tribes. It was a system of representing names without using a proper writing system. Thus, through these customary marks, although they do not correspond to or show any similarity to a real object and have no phonetic value, the messages were understood (Khan, 2007).

In present modern society with an entirely different environment and life-style it would be extremely difficult to know the meaning of such symbols. There are some common symbols geometric patterns in the rock art sited in different parts of the world, but they may not be carrying the same meaning everywhere. We may not fully agree with Pellech’s claim that the meaning of motifs of circles and spirals could be proved from the Neolithic till the present all over the world, as the meaning of these symbols was constant for a period of around 15,000 years (Pellech, 2001). Lewis Williams says of prehistoric art, ‘Meaning is always culturally bound’. Artistic expression may form an enigmatic thread in the intricate weave of the cultural fabric of the society. Mythology, music and dance are also part of that fabric: each thread contributes meaning to the whole, but by themselves they are necessarily incomplete (Lewis-Williams, 1998).

Even if we were to witness the slice of Upper Paleolithic life in which the cave paintings played their role, would we understand the meaning of the whole? The ancient images we have today are fragments of an ancient story and although the urge to know what they mean is great, it is wise to accept the probable limits of our understanding (Leakey, 1996). The task of securing correct meanings of the symbols/geometric signs may require very extensive investigation. We would be lucky if we came across prehistoric symbols/geometric designs which continued to be used by later generations up to the historic period and even nowadays by some tribal or local communities. We may also get some clues if there is some epigraphic or pictorial information available or there are communities still using the signs.

A major rock art region discovered by the author in the extremely remote and inaccessible forested hills of southern Bihar and adjoining Jharkhand in eastern India contains a large number of symbols and geometric and intricate designs. This predominance is also noticed in the rock art of Hazaribaghin Jharkhand (Neumayer, 1994) and Odisha (Pradhan, 2001). I have been able to find some very important pictorial, epigraphic and ethnographic evidence, which help us understand some of the meanings. It may not be out of place to give a brief account of this rock art site before describing the symbols and geometric signs in detail.

**Geographical features of the rock art region**

This rock art region lies between latitudes 24° 40’ to 24° 53’ north and longitudes 85° 41’ to 86° 7’ east in the northern foothills of the Chhota Nagpur Plateau. It forms part of Nawada and Jamui districts of Bihar and Giridih and Kodarma districts of the newly formed state of Jharkhand (Fig.1). The nearest railhead is Nawada, a district town of Bihar on the Gaya–Kieul rail section of the Eastern Railway and the nearest roadhead is Kowakol (40 km south-east of Nawada).
Geographically this region lies in the north-eastern part of the Chhotanagpur Plateau, the northern extension of the Vindyan ranges. This plateau is the meeting point of the oldest rock formations, like granite and gneiss, and the comparatively young Vindyan sandstones, and the volcanic basalt (Sankalia, 1974). There are several folded hill ridges running east to west, with narrow valleys and tans (uplands). Elevation of the hill tops varies between 300 m and 673 m. The entire area is hilly and densely forested, drained by the south–north flowing Kieul and Sakari rivers and their tributaries, besides several seasonal streams flowing in different directions. There are numerous perennial water points and springs providing water to the tribal population as well as the wild animals throughout the year.

The principal rocks of this region are granite, gneiss and schist with occasional quartz, quartzite, chaledony and chert. The rock shelters and caves found in abundance are made of huge granite blocks or in some cases the protruding blocks of sedimentary/gneiss. Quartzite, quartz, chert and chaledony were used as the raw material for making various types of Paleolithic/Mesolithic/Neolithic tools found in this region in abundance.

The climate of this region is the typical monsoon type. Normally the monsoon starts around 15 June and continues till September. The winter season is mild and generally pleasant during the day. The summer season is dry and very hot. It starts in April and reaches its peak around 15 May when heat waves occur during the day for the next 20 days or so.

A large number of wild animals are still found in the forested areas, especially the foothills. These wild animals include tiger (Panthera tigris), leopard (Panthera pardus), sloth bear (Melursus ursinus), swamp deer (Cervus duvaucelii), nilgai (Boselaphus tragocamelus), muntjac (Muntiacus muntjac), wolf (Canis lupus), monkey (Macaca sp.), hyena (Hyaenidae), fox (Vulpes bengalensis), lungur (Presbytis entellus), wild dog (Cuon alpinus), rabbit (Oryctolagus), hare (Lepus nigricollis), mongoose, porcupine, black buck (Antelope cervicapra), jackal (Canis aureus), etc. A variety of birds found in this forested region include peacock (Pavo cristatus), owl, parrot (Bubo bubo), fowl (Gallus gallus), eagle, falcon, partridge, hawk, vulture, dove, harial and several types of other eatable wild birds. The area is also infested with deadly cobras, kraits, vipers, pythons and many other varieties of poisonous and non-poisonous snakes as well as scorpions.

The densely forest consists mainly of sal trees (Shorea robusta). Others trees found are tenu (Diospyros), mahua (Bassia latifolia), khair (Acacia catechu), sonla (Phyllanthus emblica), ber (Ziziphus jujuba), bahera (Terminalia belerica), bamboo (Dendrocalamus strictus), jamun (Eugenia jambolana), semal (Bambusolabarium), bel (Aegle marmelos), kari (Holharrenantydysenteria), khirni (Mimusops hexandra), palas (Butea frondosa), gular (Ficus glomerata), mango (Mangifera indica), piar, kalonda, a wild variety of burgad, etc. In addition to the wild fruits, various edible tubers, roots, seeds, leaves, flowers and wild vegetables are also available throughout the year.

The area is a tribal belt and very thinly populated. The Santhals are the main inhabitants. On the periphery of the forest are small villages of Bhullas/Kharwars and Ghatwars. Birhors in small bands can also be seen moving from one place to another. They still lead a Stone Age life style in this region and entirely depend on hunting small wild animals and collecting forest products.

Thus, this rock art region, endowed with a regular supply of food, water, shelter and raw materials for making tools must have been a paradise for Stone Age man. Even now one can survive on the wild fruits, roots, tubers and small animals and birds found in abundance in this region throughout the year.

The rock art region consists of 96 rock shelters, caves and open rock surfaces containing a large number of prehistoric and historic rock paintings, petroglyphs as well as Kharoshti, Kharoshti-Brahmi, Brahmi and Shankh inscriptions and also cup marks of various sizes and shape. The region is extremely rich in Stone Age tools as well. Paleolithic tools are found in abundance around the painted shelters, on the open surfaces as well as in the nallah. I have discovered at least 13 Stone Age tool factories, which are indicators of the region’s richness is this regard. Besides the rock paintings, Stone Age tools and ancient rock inscriptions, there are also four megalithic sites and three vast ruins of ancient cities at Devangarh, Bhikhampur Forest and the old Janamthan hilltop.

The rock art of this region has many common features in respect of the subject matter, style, colour, motivation and state of preservation with the rock art of other regions of India, as well as in other countries. However, due to geographical, climatic and other factors it has some special features and an identity of its own. The predominance of symbols and geometric designs, phallic human figures, depiction of reptiles and insects, presence of blue-coloured paintings, engraved figures of Harappan-type humped bulls, existence of a very large number of invaluable rock inscriptions in Kharoshti, Kharoshti-Brahmi and Shankh scripts, Buddhist antiquities, the depiction of Garuda-dhvaj (RS.III.A2) and the presence of several Stone Age industries (factories) make this rock art region one of the major rock art sites of India.
predominance of symbols and intricate geometric designs (Prasad, 2006). Almost every painted rock shelter contains some symbols/signs besides other figures. In some cases, the symbols are accompanied by human figures and Kharoshti, Kharoshti-Brahmi and Brahmi inscriptions mentioning the purpose of drawing a particular symbol in a ritual and even the name of the person who performed the ritual. Since the same or similar types of symbols are also found in the earlier paintings of the Mesolithic and Neolithic periods we may rightly presume that these particular symbols carried almost similar meanings in the Paleolithic period as well as during the early historic period. Two of such symbols and geometric signs of a grid depicted in rock shelters II.A2, III.A2 and I.A.8 of this region are described below.

**EPIGRAPHIC AND PICTORIAL EVIDENCE OF PERFORMING A RITUAL FOR HARMING OPPONENTS**

Epigraphic and pictorial evidence of performing a ritual for harming opponents has been found in painted rock shelter II.A.2 (Fig. 2). It was discovered by the author on 17 June 1996. It is situated quite deep in the Jharnwa Protected Forest. The rock shelter measures 21.9 m in length, 5.4 m in width and 3.3 m in height. There are several other rock shelters (not containing paintings) as well as huge granite boulders in the vicinity and a big stream flows in front of this rock shelter. The surrounding environment looks very mystic and fearsome. Even the local tribals avoid entering this area.

In one of the cavities of this rock shelter’s wall there are two circles and a rectangle, each with spokes and dots in between the spokes. At the bottom of the circle an animal figure is shown being dragged by a human with the help of a rope. All these figures drawn in red colour are superimposed over earlier paintings in a very faded light yellow colour. The circle measuring 10 cm in diameter in the centre of the cavity (between the figures of the animals and uppermost circle) has six spokes and there are five dots in each space (except one which has six dots) between the spokes (Fig. 3).

Outside and along the rim of this circle is an ornamental Kharoshti inscription in the North Western Prakrit language with the lower end of the letters (measuring 3–6 cm long) rooted on the rim. Paleographically it is datable to the second century AD.

Text: Naha Saga Aminasheanamadhatre (= Nahah Sakah Aminashenam mardhate).

Translation: ‘Naha, the Saka, forsakes (or injures) Aminashena’.

The letters sha and ma, dha and tre (ta + r + e) are joined together to form a design. The novel arrangement of the letters and their elongated appearance has converted the inscriptions into a piece of a calligraphic art (Mukherjee, 1991).

**Interpretation**: Naha of a Saka family must have come to this rock art site from the homeland of the Kharoshti, the north-western section of the Indian subcontinent (now divided into Pakistan and parts of Kashmir, the Punjab, Himachal Pradesh and Haryana of India) and eastern Afghanistan to the south-east of the Hindu Kush. He was perhaps on his way to or from Tamralipti (Tamluk in West Bengal in eastern India), the famous ancient international seaport. In this rock shelter (RS.II.A.2) he performed a local/tribal ritual wishing injury to his enemy called Aminashena. This rare inscription demonstrated that a trader from the north-western part of the Indian subcontinent/eastern Afghanistan performed in the second century AD a rural or tribal ritual in this painted rock shelter. Such rites in ancient India are indicated by literature but here such a practice is attested for the first time by a datable epigraph. The diagram with the inscription is the earliest datable epigraphic evidence of such a practice in India (Mukherjee, 1997).

Thus, based on the above pictorial and epigraphic evidence, we can conclude that the symbol of a circle with spokes and dots in the space between the spokes was used in rituals meant for harming opponents and enemies.

**EPIGRAPHIC AND PICTORIAL EVIDENCE OF PERFORMING A RITUAL FOR GETTING FAVOUR FROM THE GODDESS OF FORTUNE**

Epigraphic and pictorial evidence of performing a ritual for getting favour from Laxmi, the goddess of fortune, has been found in rock shelter III.A.2 (Fig. 4). Discovered on 31 December 1994 in the Ranigadar P.F., this rock shelter is made of a huge granite boulder. It measures 9.75 m in length, 3.21 m in width and 2.73 m in height. There are some other rock shelters including a big cave (which looks like a hall) behind it. A rivulet flows from the south-eastern direction in front of it, approximately 50 m away, which almost encircles this shelter. There is a huge granite platform with a flat top surface to the left.
The shelter was probably situated on an ancient forest trade route connecting the capital city of Magadh to the seaport of Tamralipti. Perhaps the great Magadhan emperor Ashoka in the third century BC and I-Ching in the seventh century AD also travelled on this forest trade route (Takakusu 1966). It must have been an ideal resting place (Saray) for the travelers and also for performing rituals, if required. The walls and ceiling of this rock shelter are full of painted figures, especially geometric and intricate designs and ancient inscriptions. The paintings of the early historic period and inscriptions in Kharoshti, Kharoshti-Brahmi and Bramhi are superimposed over the earlier Mesolithic/Neolithic paintings. It appears that this rock shelter was in use right from the Lower Paleolithic period to at least the eighth century AD. This fact is substantiated by the Stone Age tools found in and around the shelter, as well as the inscriptions painted on the walls and ceiling from the first century BC to the eighth century AD.

In the extreme right of this rock shelter is a human figure (17 cm by 10 cm) with the symbol of a cross inside a double-banded circle (14 cm in diameter) on the head supported by his upraised left hand and holding an unidentified object in his outstretched right hand. Another human figure is standing to his left, holding an axe in his left hand and looking at him. There is a Kharoshti-Brahmi inscription painted in white and red colours above the diagram. The first letter of the inscription is Brahmi ‘sri’ and the following two letters are Kharoshti ‘vra’ and ‘ta’. The term ‘Shri – Vrata’ denotes a religious vow, pertaining to the worship of ‘Sri’ or Laxmi, i.e. the goddess of wealth.

The letters of the term are written in such a manner that together they appear like a design. Paleographically this inscription can be assigned to around the second century AD (Mukherjee, 1997). There are fragmented Kharoshti letters to the right of the diagram (from the reader’s point of view). The letters can be read vertically as ‘Thispajhaamma’ which probably refers to the person who performed the ritual, ‘Sri Vrata’.

We find depiction of somewhat similar circles placed on the heads of standing human figures in the paintings of the late Mesolithic and Neolithic periods as well (RS.II.C.2, I.A.8 etc.). It appears that this type of symbol was used in the rituals seeking success in the hunt and future prosperity. Subsequently, during the early historical period, such symbol became popular in the rituals performed for getting the favour of the goddess of fortune among rural folk. This design or diagram for performing a ritual for securing such favour became well known. Here we get the earliest datable epigraphic and pictorial evidence of such a practice.

**Ethnographic Evidence of Using Grids for Locating Missing Objects**

The grid is a common geometric design found in the rock art of India and other countries. In this rock art region grids are found depicted in Cave I.A.8 as well as some other rock shelters such as II.A.1, XI.B.1, XVI.B.1 etc. (Fig.6).

I have not been able to find any inscriptions around such grids which could explain their meanings. However, I was amazed to know from one of the Santhal shamans (bhagats) that the figure of the grid is still used in a particular ritual performed for locating missing men, animals and other items in some Santhal communities (the largest scheduled tribe in India). A Santhalshaman named Kalesar Kisku, who is not aware of any rock paintings, gave me a very interesting account of a ritual in which grids are still drawn on the ground to find out missing objects in some Santhal villages. The details about the use of grids in a particular ritual narrated by Kisku is mentioned below.

Whenever an animal, person or any item gets lost, the villagers approach their shaman (bhagat) for the recovery. The shaman draws a grid having 12 cells (horizontally as well as vertically) on the ground. He places a twig of the sal tree (Shorearobusta) having three leaves on the grid. Then he puts a green bamboo stick soaked in mustard oil on it. After entering the stage of trance, he starts moving the stick on the grid in various directions. After some time the stick stops moving. The direction and distance of the missing object is ascertained by the shaman (bhagat) based on the final position of the stick in a particular cell of the grid.

Thus, based on the above account of a living tribal tradition or ritualistic practice we come to know one of the purposes of drawing grids in the prehistoric as well as historic paintings. Here is a small effort to try to understand the meaning of some of the symbols used in the rock art of southern Bihar and adjoining Jharkhand. Further extensive explorations, interaction with the local and tribal communities and research on the probable methodology of decoding rock art may be useful in understanding primitive man and his environment especially the symbols and intricate geometric signs frequently depicted by him in the caves and rock shelters.
REFERENCES


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Fig.1 Location map of the ritual sites in the rock art region of southern Bihar and adjoining Jharkhand.
Interpreting some symbols, intricate designs and geometric signs in the rock art of southern Bihar and adjoining Jharkhand in eastern India

Fig.2 Rock shelter II.A.2 containing ritualistic symbols and geometric signs.

Fig.3 Kharoshti inscription around rim of the circle indicating performance of a ritual.

Fig.4 Rock shelter III.A.2 containing symbols and geometric signs.

Fig.5 Kharoshti-Brahmi inscription painted in white and red colours above the diagram indicating performance of a ritual.

Fig.6 Cave I.A.8 containing various symbols and geometric signs including a grid.

Fig.7 A grid painted in brick red colour in cave I.A.8.