CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Painted and engraved walls of caverns, rocks and boulders, present us with a world of symbols/ images and an avenue to walk through archaic expressions of human societies as well as their culture and traditions. Together termed as 'rock art' it also puts before us an expression of immense technical skill, along with human ability to express their minds/societies, through use of line, form and colour. This art form, though an important record of human presence, was treated as something apart until recently and largely neglected both by archeologists and historians. However, now it is being considered as one of the prime resource for research and study and in the west it is already a well established discipline. Actually research and study of rock art is far beyond the study of culture, religion, feelings or origins of human cognition, it actually enables to study, human ability to experience reality (Bednarik 1996, 2002). Apparently, it is mostly a reflection of the human mind to a changing environment and culture.

India is one of the very rich zones containing rock art along with South Africa, Australia, North /South America and Europe. Its spectrum is wide both in thematic and stylistic contents. Extensive paintings are found in the hollows of boulders and rock shelters, along with engravings on stone, ostrich egg shells and bones. In magnitude, vividness and richness, this art form offers substantial source material for our study and perhaps 'the only consistent record left of the developing human mind' (Bednarik 2002, 353).

1.2 HISTORY OF ROCK ART RESEARCH IN INDIA

Indian subcontinent has seen developments in rock art studies and research patterns, primarily after Independence, though the beginnings were made in 1860's. Official study of Rock art began in 1867-68 with Archibald Carllyle's explorations in the northern Vindhyan ranges. An officer of Archeological Survey of India, Carlylle was the first to notice, paintings done on the walls of a few shelters, near Sohangighat, which was in forested region of Kaimur ranges in Mirzapur district, Uttar Pradesh. This was a remarkable and very interesting discovery as it was made twelve years before Marcelino

De Santuola's discovery of Altamira caves in Spain, which boasts to be the earliest in the world. Infact, earlier unofficial references of petroglyphs at Almora has been reported by Henwood in 1856 (Pradhan 2001, 3). Coming back to Carlyle, he had not published any account of his discoveries but had left some field notes with his friend R.R Gatty, which were later published in Indian Antiquary by Vincent Smith in 1906 (Smith 1906: 185-95, Pradhan 2001). Noteworthy contribution made by Carlyle was that he related the microliths, pieces of charcoal and red haematite found on the floor of rock shelters with the prehistoric people who made stone implements, thereby concluding that the chronology began in the Stone Age. By analyzing the subject matter of the paintings he realized that all the paintings were not made in the same time but belonged to different ages.

Following these initial beginnings, John Cockburn, an officer of the Opium Department of British Government in 1883 presented the first scientific paper on Indian rock paintings (Cockburn 1899:89-97). It is termed scientific, since he tried to trace the antiquity of the paintings, based on fossilized bones of rhinoceros found in the river valley of Ken, in Mirzapur district, and also a painting showing rhino-hunt found at a shelter near Romp village. Cockburn studied these pictures systematically and produced tracings of quiet a few of them, in the Journal of the Royal Asiatic Society. Unfortunately he had failed to recognize the Paleolithic origins of the rock paintings and he assigned a date not more than 600 to 700 years back (Cockburn 1899: 89-97).

Interestingly, in southern India, rock pictures were noticed quiet early, though, explicit mention was first made by Fred Fawcett in 1901 (Fawcett 1901:409-21). Fawcett had examined the site of Kupagallu in 1892 and the Edakkal caves in Kozikode district of Kerala in 1890's. Credit goes to him, as he had correctly understood the antiquity of the pictures, unlike Cockburn, and was the first to use photography as a method of documentation. However in 1916 Bruce Foote brought to everyone's notice that it was Hubert Knox who had mentioned, rock bruising from Karnataka's Bellary district in 1880's.This was prior to Fawcett's discovery (Foote 1916:87-89).

The legacy of rock art research in India was further carried on by Francke (1902, 1903, 1925), who had worked at a series of petroglyph sites at lower Ladakh region (Pradhan 2001), C.A Silberrand, a civil service officer by profession, worked in Banda district in1907, C.W Anderson (1918) studied rock paintings at Singhanpur in Raigarh district in Madhya Pradesh. Percy Brown, an art expert (1917, 1923) and Principal of Art College in Kolkata studied sites of Raigarh. He had attached an artistic label to rock paintings in his book on Indian paintings (Brown 1917: 14-41).

In 1921, Manoranjan Ghosh, Curator of Patna Museum, studied the rock art complex of Mirzapur region as well as several sites in Madhya Pradesh, at Raigarh and Adamgarh near Hoshangabad and produced a monograph of Indian rock art in 1932. By this time, first mention of rock art engraving (petroglyph) was made by K.P.Jaiswal in 1933 (Jaiswal 1933: 58-60) in a rock shelter at Vikramkhol in Sundargarh district of Orissa, now in Jharsuguda district (Pradhan 2001). More engravings were later brought to light in India, from bank of river Indus, Kupgallu hill near Bellary and Gotgiri Bettaridge near Bangalore (Gordon1958: 116). In 1930's, G.R.Hunter and D.H Gordon noticed painted shelters of Mahadeo hills. Gordon contributed to several journals, tackling important issues related to rock art, like superimpositions, thematic and technological content, styles etc between 1935 and1950. He actually attempted to develop a scientific base supporting chronology of the paintings. One major limitation of Gordon's work was that he tried to bind all Indian rock art pictures available, based on his study of only one site, which is Mahadeo hills. However Gordon's book 'Prehistoric Background of Indian Culture' (1958) offered a brilliant introduction to rock art and gained much popularity amongst archeologists and researchers. Mention needs to be made of another noteworthy contribution by A. H. Brodrick, who has tried to compare and place Indian paintings in a global perspective (Brodrick 1948).

This was primarily the research of rock art as carried out before achievement of India's independence. Unfortunately, much of this early work was hampered by Euro centric preconceptions of the English archeologists. Fawcett and Carlylle saw this art form as merely pre historic. Cockburn believed it only to be a few centuries old. Chronology of

rock paintings which was prepared by Gordon was affected, too, by his concepts on foreign influence. It was only after 1947 that researchers made arduous efforts to establish an indigenous research tradition for India, free of European thoughts and assumptions (Bednarik 2002; 356). This saw large-scale excavations being carried out at rock art sites. First three decades of post-independence experienced a change in concepts of rock art studies, and this change though slow was gradual. Excavations began at various rock art sites like Piklihal by Allchin in 1960, at Tekklakota by Nagaraja Rao and Malhotra in 1965 (Bednarik 2002; 357). Since then, more then 5000 shelters have been reported from all corners of Indian subcontinent.

A grand new chapter of rock art research in India was unfolded with emergence of V.S Wakankar. He added an entirely new dimension to this field of study, and truly deserves to be honored with the title as 'Founder of modern rock art studies in India'. While traveling to Nagpur from Bhopal in a train, Wakankar had noticed dissected rocks, resembling archeological monuments over a sandstone hill. This led to discovery of Bhimbetka in 1957 near Bhopal in Madhya Pradesh, one of the best-known sites in the world with largest concentrations of rock paintings. Wakankar (Wakankar 1975, 1992; Wakankar & Brooks 1976) in an effort to date the paintings at Bhimbetka analyzed superimposition sequences. In doing this he concluded that the sequence of superimposition began with peculiar green dynamic human figures, which belonged to Upper Paleolithic period. He supported his observation by excavating green nodules from a tool-bearing layer, which was of Upper Palaeolithic period. However G.S.Tyagi (Tyagi 1992) much later had concluded that green figures were preceded by geometric patterns, which were complex in form called 'intricate patterns'. In the process of such studies centering Bhimbetka project, public awareness of this site was heightened, in turn making rock art a major discipline for study. Wakankar had carried out a broad survey of painted shelters in the country along with listing of chronology based on style, content and superimposition, and also its archeological context in historical perspective. With his work he successfully laid the foundations to an Indian homegrown research tradition of rock art studies. Wakankar, together with R.R.Brooks had published 'Stone Age Paintings in India' (Wakankar & Brooks 1975).

Many other competent rock art specialists who worked during the 1970's were Jagadish Gupta, who presented the Hindi version of comprehensive study of rock art (1967), R.K Varma (1964), S.K.Pandey (1969), Bridget Allchin (1958) , J.Jacobson (1970) and later Yashodhar Mathpal (Mathpal 1984, 1995). Recent years saw a lot of development with Shankar Tiwari (1976) of Bhopal discovering quiet a number of sites around Bhopal. Erwin Neumayer (Austria) 1983, 1993, S.K Pandey of Sagar University, Somnath Chakraverty of Calcutta University, A.Sundara of Karnataka University, K.K Chakravarty of Indira Gandhi National Centre for the Arts, Delhi, Giriraj Kumar of Dayalbagh Institute, Agra, V.H Sonawane of M.S University, Baroda, Rakesh Tiwari of U.P. State Archeological Organization, S. Pradhan of Utkal University, N.Chandramouli of Telegu University, Morarilal Sharma of Government P.G.College, Kotputali, Jeewan Kharakwal of Institue of Rajasthan Studies, Udaipur, K.Rajan of Tamil University, Thanjavur, B.L. Malla of Indira Gandhi National Centre for Arts, New Delhi, Gajendra Tyagi, R.K Pancholi, Meenakshi Dubey and Sudha Malaiya. Foreign scholars who took a lot of interest in research of rock art of India and made substantial contributions in post-independence period was R.R Brooks (U.S.A) Erwin Neumayer (Austria), R.G Bednarik (Australia) and Michel Lorblanchet (France).

Late 1980's saw a major development in rock art studies. By this time Indian rock art research was completely free from earlier euro-centric notions and emerged to be a mature tradition, welcoming foreign researchers to work with Indian researchers on collaborative projects. Indian rock art was now being placed on a global context. Mention needs to be made of K.K Chakrabvarty's and Bednarik's volume on this subject (Chakravarty & Bednarik, 1997). The foundation of, 'The International Federation of Rock Art Organizations' (IFRAO) in 1988 helped Indian researchers to place their goals and strategies in an international forum. On 3rd December 1988, Rock Art Research Association (IRA) was formed at Santiniketen, West Bengal. Following this, foundations of a second organization were laid by scholars and named as Rock Art Society of India (RASI). Regular conferences and seminars are conducted by RASI members along with

publication of a journal named 'Purakala', containing research papers to encourage future researchers of our country and abroad.

1.3 INDIAN ROCK ART-DISTRIBUTION AND NATURE

India is fortunate in possessing one of the three largest concentrations of the heritage of rock art in the world, besides South Africa and Australia. Following Spanish archeologist Santuola's discovery of Paleolithic paintings at Altamira caves, quiet a number of paintings were reported from Europe, Franco cantabrian area and the Mediterranean region. Rock art has also been discovered in the north western and southwestern parts of North America and almost all of South America. Along with major concentration of sites in the aforesaid areas, prehistoric rock art has also been reported from South East Asia and Indonesia (Pandey 1992).

In India, largest accumulation of sites has been reported from quartzite regions, on mountains comprised of sedimentary rocks. This primarily refers to the Vindhya, Satpura and Aravalli ranges in central India. Considerable numbers of sites are also present in the granite hills of Southern Deccan in river Krishna-Tungabhadra doab. Vindhyan ranges of mountains are found in the states of Rajasthan, Madhya Pradesh, and Uttarpradesh. It constitutes all the land that lies in between river Narmada in the south and the Ganga Yamuna plains in north. Bhimbetka, Jaora, Kathotia, Firengi, Kharwai, Gupha maser, Lakhajoar, Adamgarh, and Panchmarhi are the names of important rock art sites belonging to this region. While on the other hand, the states of Andhra Pradesh, Karnataka, Maharashtra, Gujarat, Rajasthan and Datia district of Madhya Pradesh mainly contain granite shelters. So, almost entire of India's sandstone and granite pockets stretching from Kerala in south to Ladakh, Zanskar valley in north and from Gujarat in the west to Orissa, Assam and Manipur in the east, report presence of rock shelters (Sonawane 2002a). Rock art sites are found only those on rocks which contain granite and sedimentary deposits is mainly because, in case of sedimentary rocks weathering agents wash away the 'shale' material present in the rocks thereby leading to formation of cavities. While granite (same characteristics as sedimentary rocks) boulders on hills or on plains, with constant exposure to nature gets their basement eroded, thereby taking shape

of an umbrella, perfect to give shelter. However, there lies one major point of difference between sandstone and granite shelters which needs mention here is that, sandstone shelters are situated one after the other in a chain form, where as granite shelters are found to be at a distance from one another, thereby each having a distinct character of its own.

Before discussing distribution of rock art over India, we should need to form a thorough idea regarding the conditions that lead to formation of caverns and shelters in India. During the Cretatious period, clay and mud (hydrated aluminium silicate in its chemical composition) containing particles of mica and sand, with long exposure to humid temperate climate had consolidated to rock masses. With tectonic movements these rock masses took the shape of mountains which standing through time and undergoing various erosional agents, got eroded, leading to formation of cavities and shelters. Causes of formation of the cavities are different for different rocks, depending mainly on hardness, structures and exposure to various erosional agents. For example, the highest points of these sandstone mountains, having being tough in composition have eroded at a much slower pace, compared to the foot hills which generally contain abri-like shelters caused due to falling out of minerals from the rock-walls. This happens because of humidity. These rock structures being weak at the base could not withstand the pressure of rock masses over them leading to collapse of chunks from above, resulting in formation of cavities and hollows at the base. At times these projecting rock structures on high sandstone hills looks like some ancient fort from a distance for which local people normally refer them as 'dant' meaning 'tooth' (Neumayer 1993, 14).

Rock shelters in India have been found, situated, primarily on three types of landforms. These are (1) Rocky mountains (2) River banks (3) Plateaus. Rocky Mountains comprise primarily of the Vindhyan and Aravalli ranges where shelters have been found located in a chain form. Paintings are also found in deep gorges of seasonal waterstreams. Some of these gorges belong to flat tablelands. Rock art sites found in the gorges formed by river Chambal and its tributaries can be cited as examples. The geomorphologic settings of rock art sites of south India are strikingly different from those of central India. Rocks

available in Andhra Pradesh and Karnataka are primarily granite, which is not a very suitable surface for paintings, mostly because of its lack of durability. Hence there is a predominance of rock bruising in south India.

Distribution

Rock art has been widely distributed, extending from the Himalayas in the north to Kerala in south and Gujarat in the west to Orissa and Assam in the east. To begin with, in the north, many rock engravings were found along the upper reaches of the Indus and her tributaries in the Karakoram and in Ladakh. Some important sites in Ladakh are Dras, Kargil, Mulbekh, Nurla and Leh (Neumayer 1993, 26). Rock engravings have also been reported from the vicinity of the city of Chilas on banks of river Indus as well as Zanskar Valley. Even in the foothills of the Himalayan range, close to the ancient city of Almora near Chamoli in Garhwal, several rock walls with red paintings were noticed (Neumayer 1993, 27). Rock painting sites have also been found at Varanasi, Allahabad and Agra in Ganga Yamuna valley in Uttar Pradesh. Here itself, rock shelters of Mirzapur district were the very first shelters to be noticed by Carlyle in 1860's. Some important shelters are Bhaldharia, Bijayagarh, Likhunia, Kauva-Khoh, Hathvani, Lakhma, Mukha dari (Tewari 1990, 9).

The sandstone region of central India is studded with rock art sites. Many rock shelters have been discovered in the Vindhyan region. The Vindhyas, earlier covered with thick forests is now being affected by increasing urbanization with a rise in population and overgrazing (Neumayer 1993, 16). As regards the environment of this region, the Vindhya hills are presently covered with small bushes, which are home to many small and big animals like leopard, sloth bear, hyenas, wild boars, pangolins and porcupines. Tribal inhabitants, local to the area severely affected due to urbanization, marginalization and cash economy are being forced out of their traditional lifestyles (Neumayer 1993, 16). In Madhya Pradesh most important rock art sites are found centering Bhopal. Majority of painted shelters are on the Vindhya hills while some belong to the Satpura ranges. Besides Bhimbetka, (48 kms from Bhopal) and Kharwai rock shelters which are

in Raisen district, rock art sites are found in the following districts. Katmi in Jabalpur district, Bairagarh and Shamala hills in Bhopal, Gwalior hill in Gwalior district, Bijori in Narshingpur district, Itar Pahar in Rewa district, Brijpur in Panna district, Chibbar nala, Mori and Sitakhardi in Mandasaur district and Bhinyapura and Kesalpur in Sehore district. Well known ones of this region besides Bhimbetka are Jaora, Kathotia, Firengi, Gupha Maser, Lakhajoar, Kharwai, Adamgarh and Panchmarhi in Mahadeo hills. Beside the Vindhyas, a broad belt of microlithic sites lie stretching across central India along the Narmada and Tapi rivers. Shelters of Singhanpur and Kabrapahar too have yielded considerable material for study of early rock art.

In the granite regions of Krishna Tungabhadra doab, south India, two most important sites are Kupgallu in Benekal forest of Bellary district and Eddakal cave in Wainad district. Other well known sites are Maski, Piklihal, Tekkalakota and Badami (Sonawane 2002a, 270).

Compared to these heavy concentration of sites in Madhya Pradesh and the Deccan, north east states have hardly reported presence of rock art sites except a few in Orissa, like, Vikramkhol in Jharsuguda district, Gudahandi in Kalahandi district Ushakothi in Sambalpur district and some others(Pradhan 2001). In Bihar rock paintings have been reported from Kaimur range at Makwa, Patesar, Jhaniapahar, Dugdha and Isco in Hazaribag district and rock engravings from Ghatsila in Singhbhum district (Pradhan 2001). A few rock art sites have been reported from states of Bengal and Manipur from eastern India. Further research in these areas can bring in light more sites (IAR 1982/3:104; 1983/4:59, 60, Neumayer 1993, 41).

Recently some sites were reported from Vidarbha region of Maharashtra besides those of Goa.

Nature

Rock paintings or 'pictographs' in India are found on the walls and ceilings of naturally formed caves and rock shelters. They show an affinity towards various shades of red colour, the shades varying from dark violet to yellowish brick red. For study purpose minute pigment particles, has been lifted from suitable spots at the sites, and were subjected to chemical analysis and microscopic examination. A red pigment called 'geru' was mostly acquired from red haematite nodules, containing iron oxide. The next most frequently used colour was white (frequent in sites at Mahadeo hills), which was obtained either from calcium carbonate nodule that is 'kankar' or kaoline clayey deposits (Sonawane 2002a). However in many places both red as well as white colour had been used (Fig.3d.27). With time the colour white has faded, which was generally used for filling up while the outline done in red has remained (Neumayer 1993, 29). Some very early rock paintings were depicted in green and yellow (found in rock art sites of central India and Orissa) with the use of mineralized chalcedony of the respective colours. The green paintings which have remained are unfortunately in a very poor state of preservation. So, we see presence of monochrome (majority), bichrome as well as polychrome paintings in rock art of India. Regarding the pigments it has been proposed that the paint was obtained either by diluting the colour in water or by tempera (Sonawane 2002a, 270). Though microscopic tests could not establish presence of any binding medium or adhesive in the pigments, however use of organic binding adhesives, cannot be ruled out, which probably has not survived for such a long period. The colours were used in liquid form and not in powders and generally without colouring of the background. The paintings used to be done on unplastered, unprimed rock sufaces, which would not be smoothed nor dressed or polished before painting. Interestingly there was absolutely no use of blue colour.

The paintings were done on vertical, near-vertical and horizontal rock faces and at times on curved as well as under surfaces of projecting or overhanging rocks. At times dots and cup-marks have been found in some shelters which have been made by hammering the surface gently, and some of the cup-marks are as deep as 50 centimeters with an equal diameter throughout its depth. These include shallow dots, small holes, conical and U-

shaped cup-marks and were probably done by a drilling technique with the help of metallic instruments (Mathpal 1995, 65-71). At certain places, the floors of the rock shelters show scooped out circular depressions with traces of paints on them, which were definitely used for preparing the colours (Sonawane 2002a, 270). The use of fibrous material derived from plants cannot be ruled out for rock paintings. Traces of use of dry colours have also been found, either in the form of crayons, stencil or spray technique.

In the Indian context, petroglyphs or rock bruisings form the second most important type of rock art. Southern Deccan consists of rock bruisings, which were done either by rubbing or pecking of rough granite surface. Rarely are bruisings found on quartzite rocks because of the extreme toughness of the stone (Neumayer 1993, 30). As a result these works even though done on unprotected surfaces can withstand all weathering agents and survive for a long period of time. Another interesting feature of rock art not only in India but also other parts of the world is that both the paintings as well as bruisings have been found in superimposed layers where in a single surface has been used for several times. For rock art studies the term 'superimpositions' is used. In this, an earlier painting remains covered by a later drawing, making it very difficult for the viewer to decipher the content of the earlier painting in some cases.

1.4 CHRONOLOGY OF INDIAN ROCK ART

Any study on rock art of India will remain incomplete if 'chronology' is not discussed, though still there are controversies over its validity. This section will attempt to discuss the ways by which various scholars have tried to ascertain a chronological order for India's rock art.

Recent attempts to study the chronology with the aid of excavated artifacts have helped to some extent to fix up a date for some of the paintings. Moreover chronological sequence is also attempted for study, on the basis of style executed for making of the painting or engravings (Wakankar &Brooks 1976). Unlike some of the rock paintings of Europe and Australia, which are now securely dated by using AMS (Accelerator Mass Spectometer) dating through pigment analysis, the chronology of Indian rock paintings has not been established by an absolute method of dating. Though attempts are being made, still it is in an experimental stage. Therefore researchers and scholars are still following the study of thematic content, superimpositions, and style of rock art to determine a tentative chronology. Only exception to this is some of the later pictures, which are associated with dated inscriptions, for which a more or less absolute dating is possible. Therefore the above parameters can serve as only a broad based working hypothesis in establishing a relative chronology for Indian rock art.

Before going into details of chronological position of rock art, a brief idea about absolute chronological periods within India need to be formed. Beginnings of human colonization can be traced back to the prehistoric period, in the stone ages. The Stone Age can be studied under three heads which are Palaeolithic, Mesolithic and Neolithic periods. The Palaeolithic and the Mesolithic periods sported primarily a hunting gathering society. Technology in these periods was primarily based on stone. The Neolithic period saw the beginnings of a settled food producing society. This was followed by the Chalcolithic period, when, copper was introduced. Introduction of agriculture brought about dramatic changes in the economy, technology and demography when man moved from hilly, rocky-forested regions to fertile alluvial plains. Interestingly in 3500-1500 B.C., when

rest of India continued with the Neolithic and Chalcolithic farmers, north west part of the country saw first light of urbanization on the banks of river Indus and Saraswati.

Coming back to relative chronology of Indian rock art, **superimpositions** is an important determinant to ascertain the chronology. The term *superimposition* means a collection of rock paintings, which are drawn one upon the other on the same canvas. Generally archeologists assume that the lowest painting is the oldest, while successive pictures are younger. So, on this basis the rock paintings have been classified by scholars under groups like (i) the group of paintings which are under patina (**patination** is a process in which a thin deposit is formed by the percolation of water through the rock over a long period of time) (ii) the group of paintings apparently belonging to the Historic period and (iii) the group of paintings that underlay the Historic paintings (Pandey 1993, 145). Actually, by observing the stylistic features, use of colour of the overlapping paintings it becomes easy to build up a relative chronology (Sonawane 2002a, 271) and fortunately, recent scientific research on superimpositions have led to statistical studies supported with systematic photographic survey, which in turn have helped scholars to build up a relevant chronology. Scholars have also arrived at a well defined periodization by correlating technological, stylistic and social characteristics of the paintings with archeological finds and based on this they have subdivided early Indian rock art under distinct groups like pictures belonging to hunting gathering society and pictures of agriculturists. By correlating the relative chronology with chronologically relevant features, it is possible to ascertain the age of the rock pictures effectively (Sonawane 2002a, 271). For example by drawing stylistic and formal analogies of rock pictures of hunter's gatherers and agriculturists with the designs of the Neolithic and Chalcolithic pottery, archeologists have arrived at fairly well demarcated time frame between 2500B.C and 200 B.C for the rock pictures. Also, according to the work of V.S Wakankar, S.K Pandey, Erwin Neumayer, V.H Sonawane and Giriraj Kumar, the stylized paintings of humped oxen in Indian shelters can be dated to the Chalcolithic period because they are identical to figures on vases from Malwa civilization, while the engraved ostrich eggshells or the ornamental nucleus of Chandravati are equally

important when dating the beginnings of Indian rock art (Lorblanchet 1992, Preface: xxiv).

After superimpositions, **colours** used in Indian rock paintings to some extent have helped scholars in establishing a relative chronology. Generally, the earliest paintings are done with red colour in almost all the places. However at Bhimbetka a green pigment was recovered from Upper Palaeolithic period, based on which V.S Wakankar had concluded that 'S- shaped green dynamic pictures' were the earliest and belonged to the Upper Palaeolithic period. Wakankar was of the opinion that upper palaeolithic assemblages had a lower percentage of geometric microlith-types than the later Mesolithic assemblages. Since he found faceted green colour nodules in microlith-bearing strata, which he claimed had also a low percentage of geometric types, he was of the opinion that green paintings belonged to the upper palaeolithic period (Neumayer 1993, 32). During Mesolithic period, the use of white colour is seen, but with no clear-cut demarcation in its introduction. Later stages of the chronology saw use of varied colours like pink, deep yellow, green and black.

Another important parameter to establish the chronology is the **style** executed in rock art. Many archeologists have subdivided the rock paintings into groups on the basis of their style and technology used (Wakankar 1962, Gupta 1967, Varma 1964, Gordon 1960 and Pandey 1992). For example as early as 1960's Gordon had divided the paintings into five groups in which the first four groups were further subdivided (Pandey 1993, 147). V.S. Wakankar (1962) had divided the paintings into ten major groups, some of which were called 'silhauette drawing in red', 'outline drawings of human figures', 'silhauette drawing of human figures', 'drawings of horses and elephants with riders', which were further subdivided. Radhakant Varma (Varma 1964) had divided the paintings into four groups and Jagdish Gupta (Gupta 1967) divided them into five groups like, 'silhauette style', 'half filled drawings', 'outline drawings' etc.

Based on a broad classification, paintings belonging to Upper Palaeolithic are stylistically termed as 'naturalistic' (Pandey 1992, 251). The earliest of the rock pictures generally

depicted a hunting society in which animal figures have been depicted natural in style. The pictures further show use of microlith-barbed weapons, like spears and arrows. The body figures for both human and animals are filled with either ladder like decoration or with zigzag patterns. The use of microlith technology had its origin in the Upper Paleolithic period and there are archeological indications to prove this. As has been discussed earlier, artifacts unearthed from various archeological strata can help in comparative study of the designs found on the artifact that has a more or less confirmed date, with similar designs on the rock pictures. Unfortunately for Indian archeologists there are very few of such dateable artifacts containing designs. An interesting artifact was found from Patne in Maharashtra, which belonged to the upper Paleolithic levels and dated 25000B.P (Sali S.A 1984:112-9). This artifact bears two simple parallel lines. Such a design is very common in all stages of rock art and therefore leaves very little room for ascertaining any chronology. But, the chert blade core found near Chandravati in Sirohi district of Rajasthan (Sonawane 1984:61-3) allows stylistic comparison with similar design patterns found in Upper Palaeolithic rock pictures. Though its exact chronological date is not discernable as this core was a surface find, but nature of the assemblage is very clearly Upper Palaeolithic. On the unscarred side of the core a rhombus type spiral design was cut in extremely fine and delicate lines which were quite similar to the rhomboid design patterns and honeycomb designs of the early rock art of hunters and gatherers in India.

Chronologically, after the naturalist style the second series of rock art in India has been classified as 'stylized' art, on a broad basis (Pandey 1992, 252). The stylization was restricted to human figures which were either shown in linear forms termed as stick-shape or in 'S' twist forms designated as dynamic figures. Interestingly the female figures were drawn in a stiff manner and depicted with square shaped bodies. The simplicity of the animal figures was maintained which were now being decorated with intricate patterns and linear designs. The number of paintings associated with this series indicates a long time span which had been further classified as 'schematic' and 'conventionalized' based on their styles (Pandey 1992, 251). In the Vindhyan region, a difference in style between those of the hunting society and the agriculturist's society is precarious. Rock art

belonging to hunting society is dynamic, full of narrative qualities, very stylish while, on the other hand the agriculturist's style is stiff and stereotyped. Though animal bodies are depicted naturally but one notices intricate complicated designs done within (Some resembles the design of Upper Paleolithic find of Chandravati core). Several geometric designs are noticed during this phase. Another important stylistic trend of this time is depiction of X-ray drawings of animal figures at times decorative and sometimes giving anatomical details. According to Erwin Neumayer the stylistic and the formal analogies between the rock pictures of the agriculturist and the cattle keepers and the pottery designs of the Neolithic and chalcolithic cultures, give a fairly well demarcated time frame between 2500 B.C. and 200 B.C. for the rock pictures (Neumayer 1993, 31).

Rock paintings of the Historic period are only marginally different from the earlier chalcolithic pictures (Neumayer 1993, 36). Stylistic trends suggest an emerging urban society. This group has been termed as *eclectic* series by S.K Pandey (Pandey 1992, 253). Both painted and engraved inscriptions in Brahmi and Shanka scripts found along with the drawings gives a clear time frame for many paintings from the last quarter of the first millennium B.C onwards. Some of the paintings contained engraved Ashokan –Brahmi inscription overlaid by cow's figure. So the chronological position of this style can be easily related to Gupta Brahmi inscriptions, therefore making it clear that this particular rock art style belonged to somewhere between 1st century B.C. and 4th century A.D.

During the second half of the first millennium A.D, the quality and style of rock art in Vindhya region diminished considerably (Neumayer1993, 39). These paintings contained the shell script, looked crude, done with thick brush as well as fingertips. The reasons behind this degeneration in style require speculation which has been attempted later in the thesis. Human figures are shown by use of double triangles, while animal figures show lack of proportion and decorations. Figures have been drawn in flat wash technique or with outlines only. Examples of this style of pictures are seen at Sagar, Putalikarar, Bhimbetka, Kharwai etc. These pictures are quite similar to house wall pictures done in rural central India. The shanka or shell character inscriptions were quite common.

Mahadeo hills contain some masterpiece paintings belonging to Historic period, stylistically similar to the Kushana paintings (Neumayer 1993, 39).

In south India rock art styles depicted are not many and rich enough to verify succession of the styles, except Chintakunta in the Cuddapah district of Andhra Pradesh. Mesolithic pictures of south India contain two very distinct successive groups, which are, Early and Later Mesolithic stylistic groups. Early Mesolithic sites in south Arcot district and Nilgiri district of Tamil Nadu, Cuddapah districts of Andhra Pradesh and Bijapur district of Karnataka conform perfectly to the stylistic criteria of the Mesolithic art found at Vindhyas. However paintings of the later Mesolithic group show a great deal of stylistic variation, where animals are drawn large, stiff and plump. Human depictions are quite rare and do not indicate any technological innovations like wheeled transport or domestication of animals required for hunting (Neumayer 1993). None of the south Indian bruisings can be compared with any of the Mesolithic paintings. It seems that all the bruisings have been done when agriculture and animal domestication was well established. The main subject of bruisings and paintings in this period were cattle. The main difference between late Mesolithic and early paintings of agriculturists in south India is quite distinct. This trend is also seen in central India's rock art but in south India, stiff and static art of later Mesolithic hunters got replaced by stylish art of agriculturists and cattle keepers.

The above discussion throws light on how the chronology for Indian rock art can be ascertained by a study of superimpositions and style. The periodization, which is thus obtained, is further based on thematic analysis of the pictures, showing various subsistence patterns, tool technology and technological innovations like the use of microlihtic tools, introduction of metal weapons, and use of chariots to further strengthen the chronology.

Next, study of **thematic content** of Indian rock art further helps to establish its chronology. Earliest rock pictures depicted a purely hunting society, using microlith barbed weapons like spears and arrows, a feature belonging to Upper Palaeolithic period.

Pictures belonging to hunters and gatherers throughout Vindhyas conform to the general thematic features, expected from paintings of foraging people, like hunting and fishing. Pictures of the agriculturists and animal breeders along with pictures showing domestication of animals still showed application of microliths on spears and arrows, use of metal arrowheads and metal axes clearly indicate a fast changing technology. Chariots have been depicted manned by warriors and charioters. Advanced stage of social stratification is understood from pictures showing procession scenes, with heroes, Gods or persons held with high esteem in the society. Rock pictures of the Historic period are marginally different from the earlier Chalcolithic pictures in terms of thematic content, however certain themes were more pronounced now, like depiction of horse riders and human figures were still conventional but they have been fashioning various types of costumes. Weapons like swords and shields are introduced from this time (Pandey 1992). Microlith barbed weapons were now replaced by weapons with metal points. Chariots were almost absent during this period.

As discussed earlier a peculiar style of painting belonging to Historic period, contained engraved Ashokan Bhrahmi inscriptions. Later styles of this script, gives a clear time frame for many pictures from the last quarter of the first millennium B.C. onwards. People belonging to the Historic period were culturally far more superior to their predecessors. It is very interesting to know that some pictures contained images of Buddhist creed and Bhakta religions (Neumayer 1993, 137) of Gods, which are still worshipped by the Hindu's. Images of Krishna and Balarama, from sites in north Pakistan and Madhya Pradesh can be clearly dated as second century B.C., because of discovery of 6 Indo–Greek coins from Afghanistan issued by Agathocles, an Indo- Greek king from 180 till 170 B.C. These coins contain Ashokan Brahmi script and picture of Balaram holding a plough and club in each hand while Krishna holding a spoke-wheel with protruding arrows. Both had umbrellas covering their heads very similar to the cave art of Krishna and Balaram found near Tiluka village from Gwalior in Madhya Pradesh. Second part of Historic period contain Brahmi scripts belonging to Kushana and Gupta period. So a chronological date can be fixed that is from the beginning of the Christian era upto Gupta period. Human and animals figures have been drawn in large numbers

during this time, which generally depict the domestic life of cave dwellers mainly at Pachmarhi and Bhopal area. Rock paintings of Mahadeo hills are quite rich in thematic content, so, just by studying its technological details, archeologists and researchers have concluded that these paintings belong to the Historic period. Lifestyle depicted in the Mahadeo hills paintings, pictures of warriors in heavy armors and technology used clearly dates it to first millennium A.D.Very often there is a predilection for the colour white, in later paintings of this period (Sonawane 2002a, 272).

So, in the absence of absolute chronometric dating, formulating a tentative stylistic criterion, along with study of the rock paintings on the basis of their thematic content, superimposition, style and context can serve as a broad based hypothesis for chrono-cultural classification of the vast and diverse Indian rock art.

1.5 CHARACTERISTIC FEATURES OF INDIAN ROCK ART

Upper Palaeolithic

The Palaeolithic period is divided into three sub periods namely Lower Palaeolithic, Middle Palaeolithic and Upper Palaeolithic. Most of the rock art found in India belongs to Mesolithic, Neolithic-Chalcolithic and Historic period. Infact, in India beginnings of art can be seen in the form of haematite and quartz crystals, found in the Acheulean deposits of Lower Palaeolithic period (Sonawane 2002a, 272). Out of these, the faceted red haematite nodules reported from Hungsi locality V may have been used as crayons to colour or mark a rock surface (Bednarik 1990) and also for body decoration or similar purposes (Paddayya 1984:365). Other expressions of art forms, dated to Lower Palaeolithic will be discussed in this chapter. Regarding historicity of rock art there lies absolutely no doubt about rock paintings belonging to Mesolithic period and so onwards. Some disputes do exist regarding chronological positions of some green coloured paintings at Bhimbetka which has been dated to the Upper Paleolithic phase.

Rock art in India probably had very early beginning. Robert Bednarik provided very comprehensive evidence in the form of petroglyphs found at the site of Bimbetka. He reported two petroglyphs from the excavated Auditorium rock shelter (III-F 24). These consisted of a large circular scooped out cupule and a pecked meandering line running to its periphery. He has also reported seven small cupules upto 16.8mm on a flat and vertical wall of a large rock in the centre of the hall, facing a 2.5m long passage. These, according to Bedanarik are not natural and based on their stratigraphic position with the habitation deposit suggests that they were made during the Acheulian period (Bednarik 1994, 356-57). More recently Giriraj Kumar has reported nearly 500 cupules at Daraki-Chattan near Bhanpura in Chambal valley and assigned them to the Palaeolithic period based on the occurrence of the Acheulean and Middle Palaeolithic implements on the same cave floor (Kumar G, 1996). As has already been mentioned that there lies a dispute regarding the green coloured rock paintings from Bhimbetka. V.S Wakankar believed that the rock paintings done in green belong to the Upper Palaeolithic period. The basis

for this supposition is that faceted green earth (called terra verta by Wakankar) has been found in the Upper Palaeolithic deposits of one of the excavated rock shelters (III A-24) at Bhimbetka (Wakankar 1975: 19; 1983). Some researchers feel otherwise and have remarked that green paintings were preceded by red paintings (Tyagi 1992, 304). These green paintings depict S-shaped human figures which seem to be running or dancing. As there lies dispute regarding chronological position of Upper Palaeolithic rock art, it will be viable to outline only the basic characteristic features seen in early rock art of India.

Rock art can be broadly subdivided into two phases on the basis of their thematic content. They are (i) pre-figurative or non-iconic symbols and (ii) figurative or iconic symbols. Closer inspection of global rock art sites shows that pre-figurative rock art precedes the figurative one in most cases (Sonawane 2002a, 274). The non-iconic phase is characterized by fairly restricted range of elements, basics of which consists of curvilinear motifs like concentric circles, spirals with variations and intermediate forms including geometric motifs (Bednarik 1994). So, early rock art of India is characterized by vigorous dynamism which is unparalleled in later rock art. Intricate designs often identified as 'labyrinthian'or 'phosphene' motifs, comprising of rhombic meanders and honeycomb patterns along with their multiple representations, cover large space of rock shelter surfaces. None of these intricate designs have been superimposed on any earlier paintings (Tyagi 1992, 304-06). Therefore we can assume that they belong to the early group of rock art.

Apart from rock art, it needs mention that in India evidences of art begins with haematite and quartz crystals found in the Acheulian deposits of the Lower Paleolithic period. One such haematite specimen (1 cm across) was found at locality V at Hungsi (Karnataka) on exposed floor. Since this haematite specimen bears a worn facet with distinctive stratiation marks therefore it has been supposed to be used as a crayon to colour or mark a rock surface (Bednarik 1990). The excavator believes that these haematite nodules have been brought into the spot from other places and were probably used for body decoration or similar other purposes (Paddayya 1984:356). Besides this, six small quartz crystals were recovered from the base of the Lower Palaeolithic period at Singi Talav in western

Rajasthan. These crystals measured 7 to 25mm in length, almost entirely in an unmodified state. As these were too small to have been used as tools therefore like the haematite nodules, they have been brought to the site deliberately and were apparently collected for their visual qualities (Bednarik 1994:356-57a).

Other excavations (Sali 1974, 157) throws light on the fact that some ostrich and mollusk eggshell fragments belonging to Upper Palaeolithic period were used for making beads. These beads have been found perforated and therefore prove to be an important source for understanding the artistic developments of the Upper Palaeolithic times. Such perforated ostrich egg shell beads have been obtained from stratified archaeological, deposits of the Upper Palaeolithic period of which two beads were reported from Patne in Maharashtra (Sali 1974; 157) and two from Bhimbetka in shelter III A-24 excavated by Wakankar (Sonawane 2002a, 278). Interestingly off the several ostrich egg shell pieces obtained from Patne, one had very distinct simple geometric pattern forming a criss-cross hatching between two parallel lines. A somewhat similar engraved design is also seen on the lower part of the same egg shell fragment (Sonawane 2002a, 278). In this context a very interesting article has been put forward by Sheila Mishra of Archaeology Department, Deccan College, Pune in the National Conference on rock art with special reference to Chattisgarh in 2003. In this article, she has compiled her study over the years in 'Use of Mollusk shells for ornaments/decoration in the Upper Palaeolithic India' where she has cited examples of a few cites like Kalas, Khapadkhera, Dharampuri and Mehtakheri where from mollusk shells have been obtained. These shells have been modified for making ornaments. Also recent discovery of an ostrich egg shell bead manufacturing site in Narmada valley by her and S.B Ota is noteworthy (Sonawane 2002, 278). Apart from these a bone bead has been obtained from Upper Palaeolithic cave site of Muchchatala Chintamanu Gavi with TL date of c. 19,000BP (Murty 1974) and barrel shaped bone beads and grooved animal (bovid) teeth pendants have been found from Kurnool caves (Bila Surgam III) in Andhra Pradesh (Murty and Reddy 1975). These beads were probably used for ornamental purpose for they have facilities for attaching strings. Artistic activities during Upper Palaeolithic are further established by the engraved core found at Chandravti in Rajasthan (Sonawane 1995-96). 'The design

engraved on the semi- rectangular patinated cortex of the chert nodule appears to be like a spiral rhomboid. The design consists of a pair of parallel lines moving clockwise from the centre forming two interwining spiral arms. The engraver has taken care to make these infinitesimal yet distinguishable marks. This precisely indicates the specific intention of the artist to ensure that the significance and visual effect of the engraved design should not go unnoticed' (Sonawane 2002a, 280).

Mesolithic Phase

The Upper Palaeolithic period was succeeded by the Mesolithic period. It marked a period of transition between the Palaeolithic and Neolithic ages. In the Indian context, generally it is felt that this level was rooted in the Upper Palaeolithic and continued till the beginnings of advent of village farming economy. Mesolithic period is well dated by a large number of C14 dates from many sites. The subsistence economy during Mesolithic period was hunting and gathering, like that of Palaeolithic and it was slowly replaced by food production. However since the early tradition of hunting continued into Mesolithic period, it becomes rather difficult to demarcate precisely, especially the technology (Sonawane 2002a). Technology of Mesolithic period was primarily based on microliths, mainly used as components of arrowheads, knives, sickles, harpoons and daggers. Use of bow and arrow for hunting had become common which is also evident from Mesolithic rock paintings. New technological elements had led to efficient hunting as well as a host of other activities for food gathering

Mesolithic sites are much larger than those of the Palaeolithic and are better preserved for study. Our knowledge of early Mesolithic in India largely comes from Rajasthan, Madhya Pradesh, Uttar Pradesh, Gujarat and Bihar. By the end of the Pleistocene, land surface of the country had assumed its present shape and since then there have been no significant disturbance by natural agencies or climatic conditions. Therefore, all archaeological and organic material obtained from these sites are better suited for cultural reconstruction. One of the most significant features of Mesolithic period in India is that large number of rock painting belongs to this phase.

It is interesting to note that rock paintings belonging to this phase are found in a good state of preservation, particularly in central India. Radiocarbon and TL dates from several excavated sites provide absolute dates for Mesolithic cultures and help on understanding the process of cultural evolution. Infact Mesolithic hunters and gatherers played a pioneering role in transforming the earlier way of life to a rural society and as some scholars believe (Misra 2002, 112) that since this process of transformation are still going on, therefore there lies a direct cultural continuity from the Mesolithic to the present day society.

Rock art of Mesolithic period is mostly in the form of pictographs. Thousands of rock shelters in the Vindyan sandstone hills in central India contain large quantities of paintings on their walls, ceilings and niches. They are found in both inhabited and uninhabited shelters. The paintings have been done mostly done in red and white pigments, which were produced from nodules, found in rocks and earth pieces of hematite found in geological deposits. The wide spectrum of rock art of the Mesolithic period is full of varied descriptive detail. The paintings essentially portray a hunting gathering population. Some scholars are of the opinion that thematically Mesolithic paintings were cultic art for there are paintings depicting magical cures, medical treatments (fig 3e.21) which definitely suggest deeper meaning in their creation (Sonawane 2002a, 284). These paintings therefore were an expression of urge of an individual, charged with a mission or prompted by some artistic exaltation (Chakravarty 1984, Preface), the search for which is infact the purpose of this research work..

Mesolithic paintings are almost uniform in style and content all over India. A lot of divergence exists as to the degree of abstraction between depiction of animals and human form. All hunting scenes show animals drawn quite realistically characterized by vitality and dynamism whereas human forms are depicted in stick like figures in a stylistic manner. Female figures in contrast to stick-like male figures are shown through plump square body allowing room for intricate design patterns like the spiral or honeycomb, a clear sign of Palaeolithic continuation. Human figures are seen with masks and elaborate

headgears. X-ray depictions are also seen. Most common subject is wild animals and a large variety of them has been depicted. These include gaur, humped cattle, buffalo, rhinoceros, elephant, tiger, leopard, boar, shambar, chital, chinkara, nilgai, blackbuck, monkey, jackal, fox, dog, rat and porcupine. All these animals have been depicted in a variety of postures like standing, sitting, grazing, walking and running. Sizes vary from few centimeters to huge ones. Not only animals have been depicted in their natural forms but several Mesolithic paintings also show facial expression in animals. Unlike the Palaeolithic sites where stone tools constitute the only weapon, Mesolithic hunters are seen using spears, bows and arrows, traps, nets and spears where the spears and arrows were often tipped and barbed with microliths. Hunting scenes show a variety of games with detailed description of shooting arrows at prey, transporting the kill, butchering, fishing with net traps, catching rats by pushing digging sticks into the burrow, as well as collection of fruits, honey and other subsistence practices (Sonawane 2002a, 284). Other subjects of Mesolithic paintings include food gathering scenes with human beings climbing trees, sometimes with baskets on their backs, group dances, family groups, men drinking from a vessel etc. Paintings also speak of activities such as dancing, singing, playing musical instruments. Most of the paintings have been done in shades of red scarlet, purple, chocolate, orange and white. On the basis of superimpositions many layers can be seen.

Compared to the rock paintings, Mesolithic engravings are few, mostly depicting animal figures or abstract patterns. In Orissa (Pradhan 1995) and Bihar (Chakraverty 1996) such engravings are filled with colour.

Neolithic-Chalcolithic Phase

Settled village life based on farming had spread beyond the Indus valley civilization in several parts of India. These settlements have been divided into two culture groups namely Neolithic and Chalcolithic. Elsewhere in the world Neolithic period had preceded the Chalcolithic but in India the two flourished simultaneously during the 4th to the 2nd millennia B.C. Both the group of cultures had farming based economy and saw a settled

village life. However, Chalcolithic period represents a more developed stage, as regards distribution, technology and architecture. Neolithic Chalcolithic phase leaves behind the trails of Mesolithic hunting gathering society to a stage where man started domestication of cattle, sheep and goat. The most important advantage of dating the rock art belonging to this period is the availability of reliable stratified archaeological data in the form of contemporary protohistoric art forms.

Rock art practiced during this period, shows a major shift in style and theme. Thematic range narrowed down to depiction of long horned humped cattle and earlier dynamic art had been replaced by stiff and static art of the agriculturists and cattle keepers. Depiction of bullock carts and chariots are significant in this period. Carts are also seen to be drawn by horses, and other species of animal, which are not well recognizable. An interesting bruising, showing a cart from the site Kupgallu (Fig 3f.1), is similar to terracotta toy cart models found in several chalcolithic sites (Sonawane 2002a, 278). Elephant riders are very few. Chariots are shown in processions often ridden by charioteer. A warrior like human figure is seen on the chariots often, with weapons like bow and arrow along with spear and axes. Paintings depicting warfare are not shown in chalcolithic paintings, though scenes showing boxing and wrestling like sports have been frequently depicted. Chalcolithic paintings also indicate new social stratifications; chariot processions show people like musicians (mostly with harps), priests (pot bellied), chiefs etc (Neumayer 1993). Hierarchic elevated personalities seem to be accompanied by men who possibly are acrobats, boxers, load – carriers and musicians. Agriculture which is the economic foundation of this period is hardly shown in the paintings except those found at Chaturbhujnath Nala and Lakhajoar, where paintings of ploughing farmers are seen (Sonawane 2002a, 286). Chalcolithic pictures generally portray a male dominated society. Women figures are rare and wherever depicted, have been done in a subtle tone. Both in central and south India, men have been depicted with sexual overtones. There are instances of scenes depicting heterosexual activities. Hunting scenes continued in this phase, static and blunt depictions of hunting by a single hunter are seen. Large group hunting scenes were no longer depicted. Elegant long horned bulls are a special feature of

Neolithic/Chalcolithic pictures in south India, taking position of an icon where in some occasions they are represented on t-shaped pedestal.

Along with paintings, rock engravings and bruisings have been found, belonging to this cultural period. Several bruising of large sized implements have been found in south India. They have been found on prominent points on the granite hills, probably indicating their use as standards or cultic weapons. An engraving of a vessel at the site of Gupha Masir bears religious connotations (Neumayer 1993). In Orissa, engravings are made with thin lines and the petroglyphs prepared by scooping the rock surface may also be assigned to this phase on account of their overlaying positions upon the earlier ones (Pradhan 2001). Similarly, rock engravings from Karakoram and Himalayas show hunters with bows and arrows stalking ibex, deer and bovids (Frankfort et al.1992). Another slab found in the same context has an abstract design identified as a trap like object, representing a hut with a thatched domed roof (Pande 1972). Depiction of several Neolithic 'endless knots' is similar to the design pattern engraved (Sundara 1996) on copper tablets found at Mohenjodaro. Similarly presence of rock art sites in the vicinity of megalithic burials does indicate some connection with burial practices. One such painting shows a dead person within the burial inventory of a stone circle in Benekal forest.

Historic period

Rock art depicting images of horse and horse riders as well as 'Brahmi' script has been assigned to the Historic Period. These paintings have been found in plenty in several sites of Bhimbetka, Kharwai, Putlikarar and in large amounts from Mahadeo hills. The earliest drawings belonging to this series is well executed in terms of style as well as quantity. But gradually deterioration in style is noticed towards the last phases of historical period. Subject matter of the paintings is primarily warfare. Well constructed houses, pottery/vessels, furniture, two wheeled carts, boats from Chamardi in Gujarat, along with scripts and advanced technology make it clear that these were not representations of a

nomadic/hunting society. The costumes of men and women represented during this period suggest a revolutionary change. Individual paintings of heavily caparisoned horses with riders mounted over them as well as elephants are seen. With advanced human culture, pictographs represent complex technology, material culture as well as social organization. Use of bow and arrows are less frequent, instead armed soldiers with daggers, swords (pointed, flat, curved, long) and shields (circular, oval, square) are seen engaged in war like activities. The most significant development of rock art belonging to this period is the presence of scripts. Brahmi script belonging to Ashokan, Gupta and Kushana period has been found at Bhimbetka. Shell (Sankha) scripts are present in rock shelters at Sagar, Raisen, Kharwai, Bhopal and Bhimbetka. Moreover the Nagari scripts have also been seen in rock paintings belonging to late Historical period. Rock edicts of Mauryan emperor Ashoka are rare and seen only in two shelters (Neumayer 1993). An interesting observation in this context, made by several scholars needs mention here. At Vikramkhol rock shelter in Orissa engravings are seen which according to K.P Jayaswal is a script written from right to left and the characters of the inscription belonged to a period between the intermediary of Mohenjodaro script and Brahmi (Jayaswal 1933). He further added that since some of the letters of Vikramkhol inscription still retain their original forms therefore this proves that Brahmi language had originated in India. Scholars like N.P Chakrabarty (Chakrabarty 1936), G.C Mohapatra (Mohapatra 1982) and C.L Fabri had also supported Jayaswal and believed that the Vikramkhol engravings have salient features of an early form of writing; however Gordon felt otherwise (Gordon 1960).

Culturally, Historic Period seemed quite superior to the previous eras. There was considerable exchange of religious ideas during this time for religious beliefs seemed quite uniform throughout the country. The depiction of Krishna, Balarama and Vinadhar Shiva at Tikula near Gwalior, Ganesha and Yaksha at Bhimbetka, Lajja Gauri at Chintakunta (Andhra Pradesh), Buddha at Satdhara near Sanchi, stupas showing structural and decorative details at Satdhara and Kotra near Narsinghgarh, Gambhirpura, near Idar, Dharmachakra on a pillar, Bodhi tree and Triratna symbol along with the story of Shravan Kumar at Chibbarnala near Bhanpur (Sonawane 2002a; 290) throw light on

the religious development of this period. Moreover the symbols associated with this period like swastika, moon, stars throw light on the religious developments. Certain figures resembling Lord Ganesh from Bhimbetka as well as Panchmarhi are interesting. However Buddhist symbols are rare in rock art except the already mentioned stupa paintings at Idar and Kotra. Along with these certain sites contained depiction of Buddhist icons like Chibar Nala in Mandasor district of Madhya Pradesh (Neumayer 1993). Petroglyphs portraying similar religious and cultic narrations have been found in Ladakh and Chilas (Pakistan). These engravings narrate Buddhist themes along with Kharoshti and Brahmi inscriptions (Orofino 1990; Dani 1983: 43-58, Sonawane: 2002a).

Historic period depict paintings in which human figures are dressed in long tunic like dresses at times resembling the Kushana type of costumes. The painters are seen to represent the difference between male and female anatomy beautifully. Group activities related probably to honey collection is seen. Animal figures belonging to mid historical period (Kushana, Gupta era) are artistically drawn (eg.Bhimbetka, Kharwai). But basically these people still practiced hunting as well as cattle breeding for a large number of paintings still represented hunters engaged in group as well as individual hunting activities. Men with bows and metal tipped arrows have been depicted. A variety of animals, birds and plants represents few of the many aspects contemporary life. In Historic rock engravings, vessels are rare. More frequent are ceramic vessels shown in the rock paintings of the Mahadeo hills where it has been shown as cooking utensils placed over fire, as well as storage containers for honey. An engraving of a vessel at the site of Gupha Masir probably bears religious connotations (Neumayer 1993, fig-530). Human figures wielded with musical instruments have been exhibited at Manikmoda and LMD VI at Orissa (Pradhan 2001, 36). In the Mahadeo hills largest number of domestic scenes belongs to this period. Paintings belonging to the later historic phase and usually associated with the Nagari script seem to represent a rather casual style and are therefore less naturalistic. This group of paintings is seen in almost all rock art sites except Raigarh and Raisen (Pandey 1993).

Remains of classical paintings are found at several rock art sites, which are close to historic temples (Neumayer 1993). Infact, the best paintings and a large number of these were drawn during the Kushana and Gupta periods as they have been associated with Brahmi scripts. In Badami which was a Chalukyan capital and Mahadev hills, the paintings are comparable to fresco paintings of classical Indian art (Sonawane 2002a). Kushana style of paintings is seen at Satkunda rock shelter. Some paintings also show Gupta structural styles in descriptive details. The rock painting of sailing boats at Chamardi near Bhavnagar (See fig 3f.19) in Gujarat depicts sea-going vessels which are currently seen in west coast of Saurashtra, is unique (Sonawane 2002a). Apart from these, geometric and floral patterns, signs, symbols which belonged to this period were distinctly different from earlier paintings but showed stylistic similarities with present art motifs made in houses of tribal belts.

1.6 AIMS, OBJECTIVES AND RESEARCH METHODOLOGY

Aim and Objectives:

The thesis aspires to offer a comprehensive work dedicated solely to interpretation of rock art in India. However keeping in mind the difficulty of achieving this due to an absence of informed contextual evidence as there is no directly relevant ethnography to guide the interpretation, it strives to gain an understanding of cultural resources related to rock art from different corners of the world. The latter is based on the collective approach 'from known to the unknown'.

The thesis also wishes to underline different approaches towards rock art interpretation employed by researchers, from various corners of the world. Most recent of these include, neuropsychology, shamanism and vision experience along with the already existing ones like hunting magic, as fertility rituals and as representation of astronomical events. The objective is to develop an overall understanding of the purpose behind making of rock art as well as the global perspective towards its interpretation.

It also tries to gain an in-depth understanding of cultures that have been in practice of making rock art until recently like the San community of South Africa, Coso's of North America and subsequently their interpretation of their own art. The objective behind this is to develop a thorough idea, on the basis of first hand information, as in rock art studies ethnography remains an important precedent for sources of hypotheses (Lewis-Williams 1991:151). This in turn proves beneficial in interpreting rock art of India.

This work also aims to gain a fundamental knowledge of various rituals practiced by ethnic groups from India as well as cultures abroad. It also tries to understand, the art tradition practiced by contemporary tribal groups of India like Sauras, Garsias, Gonds, Nagas etc, though the canvass is not rock shelters or boulders. The objective behind this is to search for clues that might prove beneficial in rock art interpretation.

Finally this research work wishes to add a new dimension towards viewing of rock art in India. Almost any rock art representation in India exhibit some details/ peculiarities which at times can be as minute as a dot, but becomes vital in interpreting. Mostly on general viewing many depictions appear very realistic. But even these images contain many aspects which points to the non real/mystic element. This needs to be taken into consideration.

Overall aim of this work is to create awareness amongst future researchers by underlining the extent of the challenge that lies in carrying out interpretation of Indian rock art.

Research Methodology:

Basically various approaches adopted by researchers to interpret rock art are examined.

After general discussions on the history of rock art research in India, along with its nature, distribution, chronology and characteristic features, a thorough understanding of the neuropsychological model as well as shamanism which are recent interpretive approaches adopted towards rock art interpretation in countries like South Africa and America has been done. The neuropsychological model is based on ethnographic data obtained from groups who have practiced rock art quite recently. All these have been consulted while interpreting rock art of India.

However since this system of representation was not inspired everywhere by the same perceived needs and cultural bodies of ideas, an attempt to understand the art tradition of various ethnic groups in India has been made.

Next, in a search for the practice of 'shamanism' (which almost served as a religion in the prehistoric times) amongst tribal groups in India along with their ritual practices, ethnoarchaeological data has been consulted.

Subsequently owing to the vast number of paintings and engravings available from India, a selected few has been grouped under different subject heads. Each picture has been briefly described followed by its interpretation. For example a picture depicts an elephant. In this case it will be grouped under 'animal figures' followed by description. Next all relevant material (from India as well other parts of the world) available for explaining the elephant like motif has been brought together. Along with ethnography, mythological sources have been referred wherever applicable. This approach therefore opens up the overall perspective towards rock art interpretation. Irrespective of the interpretation, descriptive forms can always serve as a useful database.