Ideas and Images:
A Historical Interpretation of Eastern Vindhyan Rock Art, India

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Cover: A View from the Bhainsor Waterfalls, on the escarpment near the Morhana Pahar rock art site, Mirzapur, Uttar Pradesh. Photo by the Author
Drawings of deer at the Lekhahia Pahar Shelter, LKHPH - CH 3, near Morhana Pahar.

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For my late parents, both Teachers,
Prof. Udai Pratap Singh, of Psychology,
and Dr. Kusum Lata Singh, of Hindi and Sanskrit,
who both much enjoyed Archaeology

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Glossary

Banwars: Traditional middle Indian snares for trapping deer, usually smaller antelopes like chinkara and blackbuck, also the name of a tribe of central and north-western India who specialise in the use of these

Behengi: A bamboo pole strung across the shoulders with rope meshes for carrying loads, usually water or food, at the back and front, but also used in carrying hunted animals.

Bhishti: Traditional water-bearers employed in congregations, entourages and processions

Chauki: a medieval check-post on strategic highways or trade-routes usually manned by soldiers for extracting excise and customs duties from traders. They also served as security arrangements.

Dari: From the Persian Darra. A gorge in a natural formation such as a mountain river or stream

Dih: A settlement or a village

Flutings: Lines that fingers leave on soft surfaces while painting, usually linear or wavy. A prevalent technique in rock paintings, generally and particularly by children

Garh or Garhis: Small forts and fortresses built in India to serve as commercial, military and excise posts straddling mountain roads and passes. They were also residences of big farmers and kings, used for civil, revenue and judicial administration, or simply for storing and trading goods and raw materials. Usually protected by soldiers realising customs and excise levies from those around.

Karstic: The landscapes that have underlying limestones with characteristic features of erosion leading to the development of caves, shelters and sub-surface aquifers

Likhaniya: In Southern Uttar Pradesh, a vernacular term for writing, the written, or 'that which has been written' used in colloquial and vernacular to denote rock paintings, inscriptions or even stelae

Pahar: Hill or hills

Palki: A shoulder carriage usually managed by at least two carriers for transporting important persona in weddings and royal processions, to carry the elderly, women, kings and zamindars

Sensorium: Parts of the brain or the mind concerned with the reception of stimuli and their interpretation usually refer to the body; the unique sensoria of various cultures are established through representations such as rock art. The sensorium is thus a creation of the physical, biological, social and cultural environments of people, roughly the same as weltanschauung.

Stelae: A flat stone usually longer than broader, inscribed with images and inscriptions, and erected over burials or to commemorate someone. These are inscribed and non-inscribed, with small inscriptions varying from five to ten lines.

Style: A way of doing or presenting things specific to a genre or a people. The term includes both skills and techniques used frequently and typically in the production of objects or art and hence involves apprenticeship

Visualism: The ability to form mental images, the habit of visualizing, privileging of the visual over other sensory perceptions

Visuality: The perspective of viewing from which culturally constituted aspects of artefacts are made evident to the informed viewer

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'Persistent places are the locations where people aggregate, utilise and reuse natural or built features and develop their social identities and interactions. A network of persistent places forms... a humanly made or storied landscape with a shared community-based memory of place.
...Persistent settlement patterns long preceded the onset of neolithic farming villages...'

(Spagnolo, V. and Garcea, E. 2023, 1)

Acknowledgements

New rock art has been found at new sites like Chhaan Pathari (CHP) near Robertsganj inside the Kaimur Wildlife Sanctuary, Bhaldaria Dari (BDD) and Sukhdar Dari (SKD), on the Chhato escarpment in Sukrit, Khadi Pahari (CAR 15), Bhalua Pahadi (CAR-16), Amila Nala (CAR-17) and Gopaldas Kandra (CAR-18) on the Morhana-Lalganj escarpment, overlooking the Bhainsor Waterfalls, and Lekhahia boulder rock art site (LKHPH-BS, Lekhahia Group II) and Lekhahia (LKHPH-NS, in Group III) on the Lekhahia escarpment overlooking the Adwa River. Earlier known shelters and open-air sites like Mukkha Dari Waterfalls, Wyndham Falls, Panchmukhi Morhana and Lekhahia Pahar have also yielded new localities and paintings, not noticed earlier, which have now been documented. An outstanding gain of this new round of fieldwork and analysis has been the opportunity to focus on gender and age, namely depictions involving women and children in East Vindhyan rock art, discussed for the first time in this work.

At a rough estimate children's paintings and those of adolescents, and young adults seem to account for a bulk of the rock art of this region, while narrative art belongs to those older in age. The discovery of self-images and the evidence of apprenticeships in rock art obtains upon reflection of older material under DStretch and the discovery of new localities of distinctly immature, figuratively less-evolved elementary design and doodle paintings at older and new sites. The size, height and types of these paintings conform with what heights young learners of rock art may be able to reach.

This work also analyzes the finer details of the relationship of Vindhyan rock art. with regional archaeology, ethnography, material culture, palaeofauna, designs and pattern imagery, themes, styles and techniques and other features imperative to the role of rock art as a memory-practice.

We have used DStretch analysis to enhance the content and narratives of rock art that may be broadly 'historical' which has given us a better grip, on the sense and context of local history. We have also extended our survey to cover more landscapes around rock art sites by crossing the Sone River to survey South Sonbhadra in the Sone Valley, and also undertaking a reconnaissance survey from Varanasi to Rewa, Jabalpur, Katni and Narmadapuram in the Narmada Valley.

Nearly 5000 digital images taken with a National Panasonic, Kodak, Canon and Nikon standard digital cameras, during the period (2009-2023) were analysed through aDStretch, the Rock Art Enhancer software, for mobile phones, readily available on the Google Playstore, revealing much new content leading to the newer hypotheses discussed in this work. The data forming the basis for discussions and conclusions have been included in the book. As stretched images reveal the 'stratigraphy' below and above each image, they impart an approximate chronological definition to each painted surface. Thus, DStretch helps in drawing out their full potential as historical sources. However, whether they contain any actual histories is a matter for historical analyses of the material.

Detailed observation of such templates as content, use of perspective, and movement, in rock art compositions, the significance of colour variations in superimpositions and juxtapositions, sources of colours and paints, definition and selection of ideal surfaces and their preparation if any, representation of landscapes, flora, fauna, material culture, designs, human body depiction, themes, styles, techniques, cognition, settlement patterns, three-dimensionality and so on. Such technical analyses of the rock art corpus have been followed up by more sociological and ethnographic analyses of the role of rock art in society, reflections of social dynamics, gender and child influences in painting activity, and the emergent sense

of representational activity as a means of recording time (as past and present) may be investigated using DStretch.

A note of caution is that most images in this book (enhanced through DStretch), although they make buried or faded layers of art visible, are often not the original colours, shades, or tints but synthetic ones generated by the type of the 'stretch'. Ninety-nine per cent of Vindhyan paintings are light or deep red, orange, or purple ochres derived from lateritic mudstone and band sources ubiquitously present in the valleys and escarpments of the Vindhyan range but were perhaps mixed and fixed with one of many types of binders mentioned. Such colours, when processed digitally, are modified, or saturated into different shades and colours through the stretching of original hues and tones. The results allow better visibility to even very feeble and almost erased or disfigured images and are valuable for the digital preservation and the historical study of content. DStretch is a digital enhancement software used by field archaeologists studying and documenting rock art which gradually fades away due to wind, water, and thermal processes acting upon it after painting.

Defacement and water-throwing, if not painting over, defilement through contemporary scratch-marks and graffiti (as at most sites of this study) are also ordinary and invite urgent governmental intervention for saving this invaluable heritage for posterity. Other processes (outlined in Pratap, 2016) include animal rubbings, moss, lichen and fungal growth, and the growth of bird nests, termite nests, wasp nests, and cobwebs also serve to deposit extraneous material obliterating rock art. Hence DStretch is a unique software for viewing such rock art that is now nearly invisible. It enhances the originally painted figure by saturating and emphasizing its parent colour, ninety-nine per cent ochre (in five shades like red, light orange, purple and deep purple, yellow/dark brown) mauve) also black and white. In a sense, this is the software used to elicit some rare and unique compositions which were before this not available.

Chapter 1

Rethinking Rock Art

Introduction

In this chapter, we discuss the interpretation of rock art. As a source of information and evidence on the past, it is usually associated with prehistoric contexts. However, in India, and in the particular context of the Northern Vindhyas, not only does it exist as a continuous practice from the Mesolithic through the modern times, it also comes forth as an indigenous/folk memory practice containing narratives on the past. Since there is clearly some historical content in the paintings here, its iconic nature notwithstanding, we advocate a historical methodology of verifying and emphasizing its symbolic, cognitive, and archaeological contexts and correlates.

These recordings of prehistoric to historic period narratives acted as memory stores, and continues as a valued means of expression cross-cutting chronology and technological evolution in society over the long-term until the modern period. The issue of when and how it goes defunct is analysed later in this work as due to demographic rearrangement of rock art communities, mainly their late historical and medieval realignment with an urban periphery of forested zones. In this opening chapter we lay the ground by discussing the main hypotheses and the methodology followed in this work, and review the literature connecting with discussions of rock art as a historical phenomenon in a broad perspective. In the final part of this chapter, we provide an overview of the work in chapters to follow.

Rethinking rock art

In ancient Indian history, primary sources are considered as comprising two broad types - written and non-written. While it is evident what comprises the written type, the non-written category includes the entire gamut of archaeological evidence during the time writing had not emerged. With a not very clear hiatus called the 'protohistory', consisting of a few thousand years (roughly between the 4th millennium BCE and the mid-1st millennium BCE) when urbanism first appears in the Northwestern parts of the Indian subcontinent, there exists a symbolic corpus of pictographs and script-like markings on seals, sealings, pottery, and copper objects which have been considered 'writing' but which has not yet been deciphered as a script. The domain of the written sources or 'history' is everything else after that. Everything before proto-history is prehistory, all later, history. However, as things stand, rock paintings and other symbolic archaeological sources like terracotta, stelae, and sculpture, even if they cover the period from prehistory to history, are considered only a part of prehistory.

Although entirely pictorial, we argue that rock art corpora differ from other archaeological sources because they continue with essential modifications into the historical period. North Vindhyan examples of rock art include cupule marks (Sieveking, 1960), extensive rock paintings spread in shelters over a 12,000 square kilometre area (Allchin 1958, Brandt *et al.* 1983, Carlyle 1883, Cockburn 1879, 1883a and b, 1884, 1888, 1889, 1894, Ghosh 1932, Pratap 2009, 2011a and b, 2013, 2015, 2018a b, c and d, 2016, 2019, 2020, Sieveking 1960, Tewari 1988, 1990, Pratap and Kumar 2010) in red, purple, light red, orange, black, yellow, and white paints. However, there is little debate over this happenchance with explicit historical content. Indian rock art, from the Vindhyas in Uttar Pradesh to Madhya Pradesh, from Chattisgarh to Jharkhand and Southern Bihar, is replete with scenes of marching soldiers and armies of the historical period and even more recent medieval and contemporary depictions. Rock art thus transcends the confines of being a source for a better understanding of prehistory alone, with such scenes occurring coevally in different parts of the twin districts. Although one among very early 'visual' and narrative arts like terracotta, sculpture, and pottery paintings, rock art sites are in hills and forested zones. Rock art is never found in lowland river valleys or where hills do not exist.

Previous research has attested this process of appearance and growth of symbolic behaviour involving early societies as following an archaeologically detectable trajectory from food-gathering to pastoralism and agriculture (Clarkson 2011, Clarkson *et al.* 2020, Haslam *et al.* 2010, 2011a and b, Jones and Pal 2009, Sharma 1964, 1973, 1980a, 1980b, Sharma and Clark 1983, Mandal 2001, Lukacs 2016, Lukacs and Misra, 2002, Lukacs and Pal 2003, Misra 2007, Pal 1986, 1990, 1994, 2002, 2010, Petraglia 2019, 2020, Shoaee *et al.* 2021, Langley *et al.* 2020, Schuug 2016). The debate we wish, therefore, to engage in is whether rock art behaves like a written record. Does it record objects and scenes to be narrated and remembered as facts relevant to indigenous society? What are the formal structures of memory and representation?

Further, what are the meanings the artists wished to convey by selecting subjects to be painted? Why were these selected over other possible themes? Rock art depictions, we shall argue, are historical records of a

kind. Painted constructs represented lived lives in the Northern Vindhyan regions from the Mesolithic to the Iron Age and later shaped memories and behaviour, whether social, material, or economic. Although which languages were spoken during these times are not evident, their pictographic representations are predominant in hunting, pastoralism, and agricultural or farming themes seem to suggest that the cultures of practice were much the same here as in the rest of the central Indian highlands.

Regular or periodic immigration and migration from Narmada Valley to the Sone appears to be a distinct possibility, extending across the vast alluvial flatlands of the upper Sone Valley into that of the river Narmada, flanked on both the north and south by stone, water and forest rich tracts facilitating populations movements throughout prehistory. By curating images of faunal types particular to the area and memories of how to hunt them successfully, images were imbued with oral linguistic value allowing sharing of experience with the young. While making rock art was very popular with children in various stages of growth and young adults, this was probably helpful in making sense of the world, language learning, cognitive modelling of objects, and practice with the representation of complex narratives crucial to the social lives of forest-dwelling societies. It may thus relate to the development and formal representation of language in scenic-iconic shapes and forms. Finally, thousands of years of practice translating thoughts into symbolic forms may have provided the iconic basis for designing early scripts in conjunction with the first cities of the Ganges systems.

The linguist Bhratihari in his 5th century CE. grammatical work Vakayapadiya, notes that it is possible to understand a 'speaker's intention' when the image of what is being spoken about exists in the minds of the listener, and by implication rather than through an exchange of the object being spoken about (Scharf, 1998). It is almost as Bhratihari was speaking a bit about the language of the past, where the object itself had to be brought forth for the meaning of what one said or intended to be understood. The stage when the image of the object needed to be drawn to be understood, such as in rock art, sounds relatively recent when no amount of loquacity nor literariness may transcend the power of simple analogy. The idea then to be pursued in relation to rock art is how old is this tradition when linguistically charged images containing distinct messages, needed to be painted or inscribed given its intrinsic value to communication, and when and how the 'sphere' of such communication expands.

Were rock paintings used as a means of communication and 'understanding' thousands of years before works like Panini's *Ashtadhyayi* and Bhratihari *Vakyapadiya*

began to analyze the nature of speech and speech acts? How did entirely rural pictographic means arrive in the first cities and their alphabetic systems? Was rock art used for explaining things to children about phenomena they could not understand? Did it mainly perform the role of bridging these cognitive gaps? Did it then bring them 'learning'? Did it enrich their linguistic, social and cognitive functioning, suitable to forest hunter-pastoralists, and early farmers? However, it would be safe to assume that once made, rock art images could be a cumulative graphic record of 'new' phenomena in some cases with full stories surrounding them.

Even if the ubiquitous presence of rock paintings in the country points to an earlier presence of formally recorded narrativized memory, together and in due course with three-dimensional forms like terracotta, pottery, memorial stones, menhirs, megaliths burials, stelae, sculpture and architecture, conventionally neither historians nor archaeologists are inclined to use such material for investigating the rise of a historical sense before the emergence of writing. The rise of 'a sense of the past' in a pre-literate society has been argued recently by two outstanding works, Bradley (2002) and Thapar (2014), in which the contention has been that a need for a means dedicated specifically to recording things or committing things to memory through writing and scripts could not have come about until and unless sophisticated techniques for it had preceded.

Purely polemically, rock paintings constitute the abstraction of and materialization of complex linguistic expressions of real-world objects and events in terms of symbols and hence constitute a coding of a kind. Furthermore, once it emerged thousands of years ago, it became an established idiom and procedure for a standard recording of anything to be committed to memory. There has been little debate about how rock paintings with their pictographic narratives and indigenous records and interpretations of their pasts would constitute evidence crucial to history. Instead, they have been clubbed as 'archaeological', meaning they have little direct or potential historical value, which seems to adequately explain how poorly rock art heritage around the world stands preserved in comparison with stone, brick and mortar memorials.

A rock shelter with paintings is scarcely recognized as a monument, much less a memorial. Unsurprisingly, the existing gazetteerish 'official' histories of 'backward regions' of the interior 'middle India' are often speculative, unverified, and unembellished. They are also seriously lacking in many profound insights into the evolution of forested human habitats of prehistory or ancient history as areas performing crucially important 'supply' roles to urban centres until modern

times. The role of neglected 'archaeological' pictorial narratives as evidence for history and historical change has not been reasonably nor convincingly settled. Such is not for lack or want of source material but given their predominantly non-written, pictographic, or visual nature, the tendency to ignore what is available has become a poor archaeological practice and a bad historiographic habit.

Therefore, this book argues that the prehistoric to historic period transformations of the Northern Vindhyas can be analysed historiographically if rock art, sculptural, architectural, and inscriptional sources are used as sources often corroborating each other. This book argues that although rock art has been relegated to the historical side-lines, as a pre-literate category of evidence, it gives close competition to contemporary manifestations of a 'folk' historical consciousness, such as terracotta, pottery, stelae, and sculpture. As practices within the same milieu, with some generic and perhaps evolutionary connectedness in terms of early Indian iconicity, rock art practices continue right into the late historical, medieval and, in the case of the Northern Vindhyas, modern periods.

This, as argued here, is of some significance in a quest for an early Indian history in which prehistory and early history may have more connections than provided. Therefore, even as non-written sources, they are the only material that allows us access to historical transition in remote parts of the country. If their larger contexts of production and use are known, they will yield such histories as desired. However, a balance must be maintained between providing a view of the material as a source, their contexts of occurrence, production, and use, to lead us to a discussion of their specificity and utility.

Some iconic material made by subaltern groups were in the service of early institutions like temples and forts, which must be seen as arising from the same 'milieu of techniques' with rock art probably the lineal elder to them all, and from which figurative and geometric and other designs descended to all later forms. Gradually everything about art and graphic activity gravitates towards humans and human-related concerns. To be sure, all these, therefore rank and classify as historical sources of the 'non-written' category. Inscriptions as linguistic acts in public spaces also descend from these early visual plastic arts. Whereas rock art, terracotta, and pottery figurative arts, the essential three iconic practices from prehistory until the Iron Age, represent descriptive speech by imagifying events, objects, and phenomena as they happened. Inscriptions representing all these through written language, which yet remains a case of interpreted 'representation' of

something gone by which it attempts to record becomes a historical source.

By that measure, the representations in rock art, terracotta, pottery, stelae, and sculpture are also historical interpretations and sources through which the Anthropocene mindset reflects as human symbolic expression through the gradual descent towards three-dimensionality becomes prepossessed with human forms, discourses, and affairs. It has been suggested 'Historical consciousness begins when a society shows consciousness of both past and future and does so by starting to record the past' (Thapar, 2013, 4). It should be abundantly clear that early forms of such a consciousness must be pictographic or symbolic, manifest in rock art, terracotta, sculpture, pottery, and other symbolic media. Since writing develops much later and responds to such a need and the type of representations it evokes in early societies, it is also perhaps anticipated within such early symbolic corpora.

Bradley (2002) suggests nearly the same processes at work in prehistoric society so far as the past is concerned. 'Monuments were built to contrive the memories of later generations and also investigate the ways in which ancient remains might have been invested with new meanings long after their original significance had been forgotten...it was only through a combination of oral tradition and the experience of encountering ancient material culture that people were able to formulate a sense of their own pasts without written records...different ways in which prehistoric people would have inherited artefacts, settlements and even whole landscapes from the past (Bradley 2002, 1). A useful cross-cultural survey of memory-practices finds early techniques relatively well-developed in early societies around the world (Van Dyke and Alcock, 2003). We can argue that prehistoric art caches, arranged as archives, served as symbolic props or mnemonics for recalling or remembering things in perpetuity until scripts emerged to answer this call to memory (Bray, 2002). We argue in this book that there is evidence in the form of rock art too that is suited to varying historical contexts of rock art communities.

In Vindhyan rock art, a time-wise layering is evident, pointing to the long periods of time in which spots in the hills were inhabited, a fact borne out very well by archaeology too, which leads us to consider if each stage or period of habitation is discernible in rock art, if not through a set of direct dates, then as techniques, themes, form and content. Besides oral accounts morphed into mythology and later historical inscriptional narratives, rock art is often the only 'documentary' source of early history, beginning in the Upper Palaeolithic with the

first homo sapiens of the subcontinent to the time writing emerged.

In such a project, archaeology and rock art studies must collaborate in reconstructing its essential contours like vegetation and fauna, landscape history, material culture, crops and cereals, social relations and society, and the cognitive past. It is a fair assumption that rock art's episodic, microscopic, or hidden histories are set in larger historical contexts with whom rock art communities had truck, and therefore, the recent upsurge in approaches regarding rock art as memory (Bray 2002, Van Dyke and Alcock 2003, Armstrong 2009, Ruuska 2016, Recalde 2018, Coimbra 2019, Janik 2019). Ruuska (2016, 11) suggests, 'Rather, the place is the ontological basis of human experience, a foundation that is at once alive, dynamic, dialogical, and rooted in sentience.' Coimbra (2019, 24), 'They have been used as historical milestones, being remembered by several generations and used at the same time as a mnemonic process.' Janik's view (2019, 207) is that 'One of the most interesting questions we can ask through the medium of rock art is how the ontologies of the past can be traced through time.'

Therefore, rock art is a source of history, they argue, because it records events and phenomena usually contemporary to the times of representation. However, and in Duner and Ahlberger's terms (2019), because it involves symbolic representation, rock art is also a relevant category of evidence for tracing human cognitive history. It represents historically evolving tendencies of Homo sapiens, going beyond artefacts to collecting images, and then splicing, extracting and extrapolating linguistic and perceptual images into real, external, material symbols. However, rock art sites are such rare caches or archives of prehistoric symbolics as must be treated meaningfully, by situating their structure and narratives in their proper regional and local contexts.

The long-term project, begun in 2009, from which this volume too eventually grows out started with fieldwork to locate and document the rock art of the Vindhyan region. Several inscriptions, memorial stones, abandoned sculptural pieces, derelict forts and other antiquities were fortuitously also located. Village folk of the Vindhyan escarp regions ascribe to rock art as Likhaniya or 'the written', and our wish to be led to such sites often led us to inscriptional sites. This nomenclature profoundly suggests that to Vindhyan village folks, whether rock paintings or inscriptions, both are 'written' or 'writing'.

Enigmatically, as demonstrated in this work, early Vindhyan inscriptions in Mauryan, Shankha, Siddhamatrika and Proto-Nagari-Brahmi were sometimes written in caves and rock shelters, within hilly and forested locales, where the appropriate stones and spots protected them from rain and shine. They often shared the same geographical spaces and places as rock art. In Mirzapur and Sonbhadra districts, many variants of Brahmi chronologically separated are written in 'rock art style' superimposed upon rock art. How is this significant? We analyze rock art to see whether its symbolisms, narratives, and historical reference-points reflect larger historical contexts.

The distribution of rock art over the Kaimur and Vindhyan ranges in Southern Uttar Pradesh, Mirzapur and Sonbhadra districts to be more precise, is over some twelve thousand square kilometres and a thousand hill, escarpment and river-gorge sites. The evidence of prehistoric technology in these hills is from Upper Palaeolithic non-geometric to Iron Age tools, on the east-west trending ridges along the Sone, Belan, and Ganga valleys.

The Vindhyas border the on its southwest early cities of the Mahajanapada period like Pataliputra, Rajgir, Bodh Gaya, Kashi, Kaushambi, Sarnath and Varanasi. Thus, it is argued that there was a regular truck between rural indigenous and multi-ethnic urban settlements from the early historical period, if not from the date of Iron in these parts is 1300-1500 BCE. A pan-Indian, trans-Vindhyan trade and appropriation of rural produce was the central link or element in this interaction with cities through which items essential for urbanisation, ubiquitous in the Vindhyan ranges, such as stone, timber, wild and domesticated plants and animals and animal products and minor forest goods like silk cocoons, lac, gums, fibre, iron, and other ores (and processed pig iron as ingots) reached the manufacturing and artisanal centres in the Ganges Valley.

Those cities and centres of the early urban phase - Pataliputra, Kasi, Kosala, Vidisha, Kaushambi, Prayag and Mathura were all outstanding consumers of Vindhyan sandstones in raw and worked forms, which brought the urban and forest-dwelling communities in touch, if not the process of trading with Malwa and Saurashtra and Southern India, through established trade routes traversing the Vindhyas. The Uttarapath and the Dasksinapath and their subsidiary routes went near or through the Vindhyan uplands. At the same time, many more 'goods' in the form of indigenous designs in rock art and their skills with carving rocks were useful in making inscriptions, sacred sculptures, temples, and fortifications. The general dexterousness of Vindhyan crafts of cleaving and shaping sandstones into temples, forts and palaces of the nascent urban centres is legendary and attracted comment well into the colonial period. Sometime after the Mauryan but perhaps in the Gupta age, the area witnessed the

establishment of large-scale feudal farming in which many erstwhile forest dwellers, until then trading on the peripheries also became 'peasants' when agricultural and demographic expansion from the Gangetic plains intruded upon the valleys of the inner Vindhyas.

Such a process of 'peasantization' has been discussed with reference to the tribal populations of the northeast (Thakur, 1997). The differences between there and here are the densities of the population involved, which are likely to be significantly higher in the Ganges and antecedent river valleys, as well as the larger quotient of flat alluvial arable land suitable for farming. Hence, architecture representing late historical and early medieval feudalism by way of large and small forts and *garhis* are present in these areas. The large farms of the lesser rajas and the nobility, created as a part of the process of decentralised land revenue administration in the late historical period, catalysed hill dwellers to join the political economy of these forts as peasant cultivators and craftsmen with a variety of skills. It is evident from turn of the 19th century colonial lists of categories of skills present in rural parts of Southern Uttar Pradesh, that those skilled in essential crafts like stone working, spinning, and weaving, and a variety of others, with which the region was well supplied, were brought into nascent urban folds in the early colonial times (Crooke, 1896, cxlvii - clix). Indeed, and presumably, highland Vindhyan populations, skilled in creating iconic forms, were also drafted as soldiers, sepoys, masons, and engravers, transferring their skills to new craft media favoured by the ancient, medieval, and modern states.

The region's rock art recording prehistoric material is not impervious to events and things at their 'intermedial' zones with the earliest states and kingdoms of the interconnected Vindhyan-Narmada-Satpura/Maikal-Sone-Ganges basins. The development of symbolic expressions and forms like temples, stupas and viharas favoured by the state, but also stone stelae, sculpture, and inscriptions, in centres popular from the time of Buddha to the Mauryan, Sunga, Kushan and Gupta times, were all also owed to the intermedial interaction between urban philosophies and rural skills. The point here, however, is to see just what kind of historical content, narrative technique, and awareness rural narrative forms reflect and how inherently valuable such historicizing may have been.

Much of the high architecture related to urbanization, from Pataliputra to Kashi, Sarnath, and Kaushambi, and Pataliputra to Vidisha, Sanchi and Bharhut, celebrates sandstone-based forms. The rise of Brahmi as the script for the earliest declarations of kings and emperors dotting the study region is during the early historical period and its development until the late historic (Lal,

1916). Indigenous skilled participation in iconizing and sculpting, engraving new inscriptions and sculpted forms resulted from adapting indigenous iconicity with exogenous proclivities. The early historical rise of such secular and religious architectural and sculptural designs and three-dimensional carved or sculpted forms in the valleys of the Ganges, Sone and the Narmada were products of this fusion. Indeed, the origins of the Brahmi script during the 6th to 3rd centuries BCE period may owe something to being a second-order symbolic development deriving from first-order symbolic embellishments in rock art, an activity prevailing in the Sone and Narmada Vindhyas for thousands of years previously.

This is very likely since many narrative scenes are found in Vindhyan rock art, and the later development of the Brahmi alphabet owes something to the prior knowledge of the graphic properties and peculiarities of Vindhyan sandstone. The rise of the most numerous and extensive of the earliest Ancient Indian states and monarchies in and around the Ganga Yamuna doab is also crucial in explaining why Brahmi must have developed here. Many of the earliest inscriptions relating to the founding of local kingdoms, and grants of quarries are found deep in the Vindhyan foraging areas and rock shelters of indigenous communities.

A clutch of Vindhyan inscriptions in Persian mark the early medieval period when rural dwelling rajas managed rural Vindhyan farms and the flow of forest goods and revenue from farms possibly worked by a mixed ethnic peasantry (Thakur, 1997). Redoubtable forts at Vijaigarh, Aghori, Banda, Sasaram and numerous more minor fortifications meant to serve as guard posts, and *chaukis* rivalled any in its mirror image areas like Bundelkhand where many architectures celebrating the marvels of sandstone came into being. However, the medieval period happened after a thousand years of sustained extraction and interaction in the Vindhyas. Medieval soldiers now pushed right into Vindhyan community spaces and, interestingly, into rock art.

After a significantly long process of medieval pushing back of frontiers, the colonial juncture brought in more preventive and pervasive land and forest legislation that dealt a crippling blow to indigenous subsistence. The displacement and deployment of indigenous labour in tea estates in various parts of the country, and the 'sugar colonies' of the world, is historically well documented (Ghosh 1999, Kumar 2017). These inroads were probably also to procure a steady supply of wild animals (such as elephants and deer) and other forest products for the local zamindars or the East India Company to trade, preventing significant independent indigenous trade. However, it is not equally well known

that the capture of tribal labour for work on tea-estates and overseas sugar-colonies caused much ire and was reflected in rock-art panels in the Vindhyas, which depicted the colonial Sahib's buggies being looted.

The historically accurate narrative of rock art is in little doubt. It would also be interesting for history that symbolic material culture like terracotta, stelae, and sculpture might also constitute the 'peasant's voice' whose absence from the records of protest is largely absent through the ages (Amin, 1994). Illiterate peasants simply oralized and then visualized their woes as spoken or painted narratives such as rock art. But painted narratives were nevertheless so many cases of *'Likhaniya'* or the written. The painted oral testimony served the purposes of folk memory just as the written.

Our analysis of rock art for underlining its historical nature is based upon our classification into the most amenable primary types - human figures, designs and patterns, material culture, and animal imagery. Notably, many objects symbolized with the embellishment of their stupendous symbolic value were woven into panels and compositions to emphasize the narrative's actual historical value as fact. We also identify the techniques indicating significant labour investments to assure their permanence and durability in their making. This was usually done through a selection of surfaces, paints, binders, colours, basic shapes, location in shelters, and the use of perspectives and narratives. We also posit the existence of likely identity-based 'styles' likely determined by varying micro-geographies of location and therefore of subsistence. Further argued in favour of the innate historicity of rock paintings is that some unique features like part or whole superimpositions were used as time-markers.

The paintings were themselves located suitable to sustain weather and climate over long periods and intended to serve the remembering of the narrativized. Thus, paintings were regarded as factual records much as written ones would in time. We also identify and define the high cognitive content, imbued with pedagogic and social purpose, that characterizes the long evolution of such oral symbolism towards its ultimate logographic fructification also in the Vindhyas region as the Brahmi script. Thus, that rock art sites and panels with their varied array of living things, phenomena like landscapes, independent designs, and those on animals like deer, cattle, buffalos, pigs, and turtles, material culture objects, and narratives were all intended as external stores of memory. To that end, painted rock surfaces over time developed as palimpsests that served as archives or repositories important to indigenous history.

There was also a set of more expedient or functional symbolizations. Many types of basic or elementary forms and shapes like points, lines, circles, crosses, hourglass shapes, squares, triangles, rectangles, curvilinear forms, and diamond-shapes on turtle carapaces, or yet others to denote limits and boundaries, which were used as basic building-blocks for drawings. Patterned designs were also drawn for memorizing them for use on other media like pottery, terracotta, basketry, house and or body painting and tattoos. These minute details of the drawing process behind complex shapes and narratives underlines the role of rock surfaces as an excellent medium for storing ideas about artefacts or events in the human domain. More complex templates involve the working in of the effect of movement, perspective, time, landscapes, persona, and events to add to their historicity. Skilled depictions of depth, movement, direction, and perspective mainly add to factuality and improve the veracity of simple drawings as true representations of events. From the making of paints and colours to selection of surfaces and the execution of various figures, we have a chaine operatoire of the process of North Vindhyan rock painting that defines it as a style which we have tried to discuss.

We verify that a real presence of hunting-gathering and pastoral-agricultural systems in the Vindhyas accompanies rock art and the archaeological data throughout history up to modern times. We also comment on material culture and animal images reflecting the interaction between the hills, the Vindhyan plains and urban communities. The final chapters are devoted to examining the historical data underlining hills and plains linkages into the era of scripts and inscriptions in which artistic symbolisms comes up to full-blown three-dimensional carvings, sculpting, metal, and architectural work in which indigenous designs and effort are involved. We explore the transition from prehistory to history, of self-regulated, autonomous rock art communities to one as components of an urban-oriented producers focussing upon cities.

We propose that the route taken by historical change was one of intercultural interactions leading to professionalization and peasantization (Thakur, 1997). The essential macro-historical trajectory such communities take is through new symbolic expressions of three-dimensional material craft forms, conjured from older established principles of materiality and craft, at the intermedial frontiers of the forested and the permanently settled Vindhyan valleys and alluvial tracts over thousands of square kilometres of the combined Ganges, Sone and Narmada valleys where the urban structures and polities of the early historic era appeared.

Methodology

The central problem is the interpretation of rock art as a discursive meaningful practice in prehistory and history. For a historical interpretation, it must be seen as a 'folk narrative', in which methodologically the recovery of the 'whole text', of what has been represented is necessary. The sequence or the place of individual compositions within overall representations, and their precise or relative ages are necessary. Thanks to previous research in the colonial and post-independence eras the general understanding that unless it is older, which it is at Bhimbetka for instance, most rock art in India by way of paintings, generally begin in the Mesolithic. The issue of interpretation and recovery of the 'whole text' also comes with subsidiary 'data' concerns.

The 'complete' image or panel contains information about their physical location, orientation, design and patterns or figurative, size, height, spatial extent, materials used in colours, and drawing (simple geometric or non-geometric shapes, outline drawings, silhouettes, angle and orientation of the drawing, the direction of events depicted, whether the painting has any movement, superimposition, perspective, and time or context-awareness, whether the painter was left or right handed, their likely authorship as deducible from the 'reach' of the painter, determined by their age, and the subject matter of compositions, gender and age of painters, kin relationships between painters, and whether apprenticeships are implied).

The analysis of painting techniques involves details about colours, stylus, brush, and their probable sources, finger-fluting, dabbing, smearing, and mouth-blown paint in hand stencils. While these appeal as concrete or 'factual' parts of the analysis, technique analysis also involves the interpretation of style, perspective, surface choice, line thickness, practice-sketches, line drawings or silhouettes, especially in juxtaposed or superimposed panels to account for significant variations in the data that might help distinguish it from those in other areas and contexts (Pratap, 2023a). The general practice in Vindhyan rock art that the same composition was been completed over a series of sessions and slightly varying colour tones is partly inescapable and forbids accurate dating of an entire panel. Such is the case with major narrative panels at all sites in our study area. Thus, a broad stratigraphy or a seriation based analysis cannot be avoided, however an AMS cannot be applied to a full panel; and in that absence, erroneous assumptions can be made.

Even standard C14 procedures dating material like bones of humans or animals or of shells and other organic residues of activities are liable to be counted as relative dates to painted imagery. However, a historical study's purposes are to interpret rock art to elicit social history, memory and skills and techniques implied in narratives and narrativity, which actually change with the passage of time. A social historical reconstruction of prehistoric communities, their creative and material lives, and their transition into historical time periods, is greatly aided by archaeological background material as discussed in the next section. Towards positing and examining rock art as a historical source, the evidence collected through fieldwork, from 2009-2023, the following procedure has been followed:

A. To hypothesize the enhancement of memory, graphic, spatial and cognitive abilities as central to the practice of rock paintings in early societies
B. To understand social constructs like group identity, territoriality, gender, age and other social relations through content and spatiality of rock art
C. To understand symbolic content related with hunting, pastoralism, and agriculture with rock art as a source
D. To understand the evolution of local symbolic expression from rock art to three-dimensional media like terracotta, pottery-paintings, stelae, sculpture, architecture and ultimately scripts and inscriptions of the Vindhyan area
E. To attempt the internal and external corroboration of the content of narrative rock paintings with other sources of local history
F. To understand if rock art is itself a source of history for indigenous communities of the region

A historical concern with rock paintings is also an involvement with the degree to which rock art reflects awareness of other societies or cultures, and how sensitive such reflections are to time. If rock art communities were consciously keeping memories is there any mitigation of the tension between destructive natural processes operating on rock surfaces and the safeguarding of ideas in images on them and the recognition of the involvement of an entity called time in such transactions between nature and culture? What prehistoric aesthetics arose from handling and managing rock paintings thus affected by time? How many types of depictions are there? What are the range of purposes and goals of image creation reflected in them? Are historically charged narratives reliable? Why were they made as opposed to other types of art? Are they a means of expressing time-awareness self-consciously? Do historically themed narratives make 'prehistoric time' stand in contrast?

The North Vindhyan archaeological record suggests that while some Mesolithic populations continued in

the of the Sone-Ganges plains during the terminal part of the last ice age and the early Holocene, some chose to leave them and made the Vindhyan hills their home during the terminal Pleistocene (Jayaswal 1982, Pal, 1986, Pratap, 2016, Sharma 1967, Sharma and Clarke 1983, Tripathi 2017, Verma 1967). Previous research investigating Vindhyan rock shelters has established them as dwellings of early hunter-gatherers, pastoralists, and farming communities. However, this study reconstructs how a distinct social character developed among North Vindhyan hill-dwelling communities due to painting activity by examining the internal chronology, design and motif types, paint and colours, shelter and location types, style, themes, and painting techniques. Nor was their entire content documented before or understood, perhaps due to the lack of appropriate technologies, leaving issues of the totality of the record and its archaeo-historical significance unattended.

Nearly all our 4500 digital images of Vindhyan rock art collected during fieldwork in the past decade have been studied and interpreted for this work using DStretch. A mind-boggling array of content revealed from the predominant and ubiquitous category of 'faded' or superimposed rock art has been given due recognition thanks to DStretch. In the past two years alone, newer paintings have been revealed at sites reported earlier (Pratap 2016) and new sites located, discovered, and documented. The apocryphal 250 sites reported in the old Mirzapur district (which included Sonbhadra) through the past decade by a variety of fieldworkers is now apocryphally 1000. Thanks to a fresh grant from the IOE-6031 scheme of the Banaras Hindu University, additional fieldwork to collect more data has been conducted consistently up to the present without claims of having exhausted that possibility.

Underwritten by the absence of precise chronologies for painting activity, as with rock art corpora elsewhere, the study of Vindhyan rock art suffers from interpretive approaches that assume a lack of historical content, coupled with the absence of precise chronologies. Therefore, the impediment to historical interpretations is the tendency of scholars to abide by an evolutionary focus to exclude others. As a result, rock art remains coupled to evolutionary discourses and unnecessarily cluttered with conclusive recommendations about its biological evolutionary value as the only legitimate research purpose. In comparison, history students would consider rock art an unparalleled intellectual, cognitive and historical resource, situated in archaeologically and historically broadly identifiable periods, not at all beyond the grasp of history, historical methods, and interpretation. It fits the bill as a historical source, of the visual category, with no more subjectivity attending than any other artistic source. The space, therefore, for experimenting with historical approaches is open.

Based on superimpositions and other traits indicative of chronology, we suggest that such identifiable stratifications or the 'internal chronology' reflects both long and short-term timescales and changes in Vindhyan environments during the Pleistocene and the Holocene. These environmental changes, moreover, are roughly coeval with changes in regional lithic technologies and economic strategies represented in excavated fauna, pottery, stone, bone, antler and metal implements, and other material culture, which serve as corroborative evidence. Furthermore, geological studies of these spells of inundation and desiccation are in conformity with chronometric dates of river terrace formation of various rivers of the region. These lowland geomorphic processes attest that these significant hydrological changes acted as drivers of the demographic and economic change to which rock painting activity acted as essentially a social buffer.

The impact of fluvial changes through a study of river sediments and upland soils (mainly laterites) is that the Vindhyas provided sufficient stone and wood raw material, hydrological, and floral buffers for migrating faunal and human populations escaping extreme aridity in the lowlands. Other than optimal camping spots in the hilly terrain, the forested valleys for the game, and the flat scarp lands for humans, numerous rain-fed aquifers supplied retained water to streams, streamlets, waterfalls, and minor highland rivers were available round the year.

Through thousands of years of settlement, the hills became sites for the development of rock art. In periods of acute desiccation, the wild fauna nurturing prehistoric populations of the riverine plains skirting the hills migrated to highlands for water along established migration routes and were hunted alongside, which is where most of the area's archaeological sites and rock paintings also occur. It is pertinent to hypothesise that the same processes probably scattered the faunal and human populations of the Sone Valley further afield in such disparate regions as trans-Ganga Plains, Bundelkhand and Baghelkhand in Uttar Pradesh, Southern Bihar, Northern Jharkhand, Western Bengal, and Chhattisgarh. What were the advantages to societies that painted on rocks? Was painting undertaken to encode functional messages involving hunts or pastoralism, early farming, or keep the social units intact as productive ones?

Was it for marking group territory, identity, gender roles, status, and initiating novices, and how did rock art achieve all this? Did painting activity serve to sacralise economic strategies adopted as the best ones

possible? How might that be demonstrated? Was it to also recall, historicize and valorise events involving the author group with varied economic persuasions? How might that be argued? How is iron-age rock art different from preceding ones? Is it made with other purposes and constraints? Are differences explicable as products of situated learning and apprenticeships (Nowell 2015a and b, Nowell and Van Gelder 2020, Davidson and Nowell, 2021)? Can the totality be a historical record? Archaeology's loss has been the resounding exclusion of the painted images as historically valid data and the further reconstructions of the economic and social life they afford. In other words, if painted images represent an 'essence' that prehistoric communities found worth remembering, we have all been missing the woods for the trees in relying upon excavated data alone.

This work aims to interpret our rock art data towards reconstructing these communities' social and historical life. Our attempt here would be to see through the agency of their painted images such ideational residues as a 'historical consciousness' or memory-representations in them that elicit an understanding of contemporary events. Hypothetically such an approach would aim to reconstruct their lived experiences and lifestyles through inferences about community, age, gender, identity, territory, philosophies and world views. Therefore, we attempt the interpretation of Vindhyan rock art alongside contexts from excavations locally and regionally - the domestication of plants and animals, the transition from the Upper Palaeolithic to microlithic technology to ground and polished tools and burials, from hunting to pastoralism and agriculture, from technologies based on stone, bone and antler to copper-bronze and iron, from reclusiveness to trade and exchange with the lowlands.

Rock art images collected through fieldwork have been re-classified from perspectives informing human behaviour. For instance, evidence of the erasure of older images and re-painting in some, particularly the older shelters, is visible through DStretch. Equally, at others, older motifs seem to have been relocated from eroding surfaces and re-painted elsewhere. Such palimpsets create a time-depth providing micro-histories through competing processes of erasure, superimposition, and curating historical memories. Historically, represented events are verifiable, suggesting that they are considered straightforward historical exercises involved with remembering. Their historical interest stems from the evident existence of some criteria of importance or preference for rearrangement, which adds to its historicity, historical sense, and the presence of historical consciousness (Thapar, 2013). Such activity is positively self-reflexive and chronologically self-aware.

A note about employing DStretch: DStretch is a digital enhancement program or software used by field archaeologists studying faded rock art. Rock art gradually fades away due to wind, water, and thermal processes acting upon it after deposition. Most defacement and water-throwing, if not painting over (such as at Chuna Dari) and defilement through contemporary scratch-marks and graffiti (as at most sites of this study). Other processes (outlined in Pratap, 2016) include animal rubbings, moss, lichen and fungal growth, and the growth of bird nests, termite nests, wasp nests, and cobwebs serve to deposit extraneous material obliterating rock art.

Hence DStretch is a unique software for viewing such rock art that is now nearly invisible. It enhances the originally painted figure by saturating and emphasizing its parent colour, ninety-nine per cent ochre (in five shades like red, light orange, purple and deep purple, yellow/dark brown) mauve) also black and white. In each of these cases, viewing becomes possible through the software enhancing colours digitally, after which the image may be saved and studied. In a sense, this is the primary method used to elicit some rare compositions that are invaluable and which were before this not accessible.

Perspectives on Interpretation

A historical concern with rock paintings is also involved with ascertaining the degree to which these media reflect a recognition of time and history or historical awareness. Historical awareness is an awareness of change and of passing time in relation to self and other societies and cultures. Among relevant questions in a historical approach would be - Does rock art distinguish between the 'mundane' as distinct from the 'eventful' and with what aim? What type of events in the human realm have symbolic value in rock art? What is the role of the memory of an event? What is the awareness of the degeneration of rock surfaces and the need to safeguard painted images? Are changes in the human and natural realms understood self-reflexively and in recognition of the entity called time? What aesthetics are evident from the handling and managing of rock paintings? Are historically charged narratives reliable? Were they made to represent change and the passage of time self-consciously? Do historically themed narratives make any 'prehistoric' time stand out in contrast?

To provide a helpful survey for the uninitiated, the most common approaches to rock art studies, although of a wide variety and answering to a broader list of varying concerns, are broadly construed as ranging in two main camps – quantitative and qualitative. The discussion involving quantification is usually found

in evolutionary studies with rock art that inform us about our biological evolution from hominids to Homo sapiens, or those concerned with specific survey, recording or laboratory techniques involved in rock art studies for image capture and enhancement, as well as discussion on dating techniques suitable for rock art.

In contrast, more numerous and varied qualitative approaches consider landscape, cognition, sociality, history, and narrative as chief issues in rock art. The far larger qualitative camp also includes discussions on the sociality of hominids or Homo sapiens as typically charged with symbolic abilities and faculties (in thought, speech, and materiality), the evolution of social mechanisms of cohesiveness of society through art, early writing and scripts, to literature and iconization in three-dimensional media.

The conservation and proper management of rock art heritage have also generated enormous discussion, which, although very relevant, is, unfortunately, not within the scope of this review. A survey of the recent literature (Chakravarty and Bednarik, 1997, Chanchani, 2010, Chandramouli, 2002, 2013, Dubey-Pathak, 2013, Garnayak, 2017, Kumar, 2015, 2017, Mani, 2017, Mathpal, 1984, 1995, 1998, Neumayer, 1984, 2013, Pal, 2017, Pradhan, 2001, Prasad, 2017, Prasad and Varma, 2019, Sharma and Tripathi, 1996, Tewari, 1990, Tewari, 2017, Tewari and Awasthi, 2009, Tripathi, 2017, Varma, 2012) suggests that they are at a distance from the interpretation of Indian rock art as a type of historical 'hard memory' (Janik 2021, Renfrew and Scarre, 1998), recording or source used by pre-literate populations for remembering and doing various practical things with memories.

Rock art as an indicator of environmental change

The earliest figurative rock art was usually ascribed to ice-age Europe, the terminal part of which is dated to around 30,000 years ago, until the recent rock art discoveries in Indonesia, dating to around 44,000 years. Since European sites like Lascaux and Altamira were located inside deep limestone caves, inhabited during the last ice age or the Upper Palaeolithic period, it was understood that symbolism in human society was owed to the environments prevailing during the ice-ages. That humans sheltering inside deep limestone caves were faced with extreme and often dark circumstances. Art led to their adapting to their circumscription through painting activity. That is why many huge drawings of now-extinct species, like bison, lions, aurochs, mammoths, and red deer, were made with those of their hunting. What could better explain these figures than adaptation to the environment? The notion of culture and aesthetics as a recourse when nature goes severe was also embedded therein (Leroi-Gourhan 1971, 1973, Mithen, 1990).

Rock art as information exchange

Schlaudt (2020) argues that rock paintings involving multiple depictions of animals or humans indicate a 'numerosity' or a pre-mathematical sense of numbers. Studies of prehistoric decision-making among Pleistocene hunters (Mithen, 1990) and cognitive archaeological studies suggest that drawing was a practical step towards the exercise of Executive Working Memory (Coolidge, Wynn and Overmann, 2012) among Homo sapiens allowing better hunting, making traps, reliable weapons, agricultural fields as visualizations helped encode information relevant to hunts and to plan optimally (Mithen, 1990, Mithen *et al.* 2023). A more art historically oriented school, see visuality and the development of the prefrontal cortex as enabling humans for art towards religious and shamanistic practices not necessarily rational, chronological and sociologically sound historical messages to enhance the EWM. Whereas such is most likely, a bulk of 'shamanistic' and 'cultic' interpretations of rock art arise from this perspective, although animals being made disproportionate in sizes, in relation to humans, does glorify the painter, the hunter, and the narrative (Mathpal 1984, 1998, Neumayer 1984, 2004, 2013).

Rock art as an indicator of intelligence

Archaeological interpretations of rock art are rich, myriad, and interdisciplinary. We may regard these as of three types, biological, psychological, and cognitive, although all three have the common goal of explaining the origin and development of symbolism. The biological evolutionary approach since it must trace things to the 'biology' behind symbolic thought does not concern itself with either aesthetics nor 'a sense of the past' nor any other sense among themes within rock paintings. Their primary position is that since rock art belongs to the realm of living or past languages, so long the languages themselves are not known, it would be incorrect to adduce meaning to drawn images. They thus reject all identifications of subjects and themes conclusively as subjective and unempirical. They also claim history and ethnography as interpretative and, therefore, arbitrary, and misleading (Bednarik, 1990). This approach shares concerns with hard sciences like geology and geomorphology, studying just a handful of issues like the taphonomy cupules and cup marks, early statuettes, lines, and marks carved on bone. Some primatology is also marshalled towards understanding cognitive evolution in humans by studying the uses to which stones are put by Capuchin monkeys and larger primates (Haslam et al., 2009).

Psychological approaches to rock art comprise of such issues as why hominin brain sizes expanded from about 400cc among Australopithecines to around 2000cc in Homo sapiens, and whether this was to facilitate greater memory, speech, or complex social, ecological, and environmental behaviour. Understanding and navigating through complex landscapes, optimal use of seasonality, more efficient tool-making, and complex food-sharing relationships such as kinship are hypothesized to be among the reasons. However, what are the cognitive and neurological bases of visuality among humans and how language ability and complexity evolve among humans are also among the concerns of psychologically oriented scholars of rock art. This fascinating set of issues is richly debated, with numerous illuminations about the rise of modern human intelligence (Coolidge, Wynn and Overmann, 2012, Donald 1991, Shipton, 2013a and b, Wynn, 1979).

Wynn (*et al.*) studied Olduvai Gorge artefacts from the Zinj-floor, and basing his deductions upon Piaget's theory of the evolution of adult intelligence, argued that while hominid brain sizes vary at various stages of evolution, through the 2.2 million years, greater size does not represent 'more intelligence'. Critical adult functions of the human brain have not changed over this period of evolution and came about to make possible complex visual and language operations possible (Wynn, 1979). Along with notable biological evolution and changes of the skeletal system making bi-pedalism possible, the prefrontal cortex connected with vision, speech, and language not developed among earlier hominids were added during evolution. Simultaneous biological changes include the straightening of the spinal column, change in the position and articulation of the skull with the spine, the gradual changeover to bi-pedalism, shifts in the position of the pelvic girdle, especially in women, changes in bone mass and density, subsequent especially to the rise of agriculture, as also changes in human dentition, as a result of grain consumption, are just a few identified concomitants of biological evolution leading to Homo sapien.

On the cognitive side, these evolutionary steps are from communication through gestural, mimetic, elementary speech, to full speech, and complex symbolic ability, leading to language through the 2.2 million years of bio-cultural evolution (Bednarik, 2008). Expanding human faculties of speech, language, and symbolism led to more complex material culture production and representations of thought externally in concrete symbolic forms. However, speech and complex language do not arise until the necessary apparatus for it evolves in the human body, hence some evolutionary archaeologists and computational neurolinguists argue for the rise of gestural and sound-based symbolism even earlier as a means of communication (Arbib 2005, 2012,

Hodson and Helveston 2010, Morgan *et al.* 2015, Shigeru *et al.* 2018). Their interpretation of rock art would be as a 'linguistic' expression which is an intrinsic part of hominid ontological and sociological being.

Since language itself is an artefact from the past, and rock art is a means to record it, a context in which it may be treated as a source is the transition from foraging to farming, farming to established village life, and village to urbanism. Four prominent essays (Barker 2006, Hodder 2012, Misra 2001, Paddayya 2015) point out that the 'transition' from foraging to farming are invariably only technologically and stratigraphically explained and not with reference to the role of material culture and changing human engagements with them. Whereas rock art might itself might be the 'material' source informing upon changing templates associated with such 'transitions' is rarely considered. Thoughts, decisions, and ideas connected with such lifestyle changes or stages may have been expressed rather directly. Wild animal depictions may be expected to decline or become stylized or more aesthetic with the decline of a mainly hunting lifestyle or after transition to pastoralism and agriculture, while realistic depictions of domesticated animals may increase

Based on Donald's seminal work (1991, 2009) in cognitive psychology, remarkably informed hypotheses have been made about the process of evolution of the modern human mind based on culture in which material culture (tools, symbols, and other functional artefacts), have been regarded as an 'extended mind' (Morley and Renfrew 2009, Malfouris and Renfrew 2010). Cognitive archaeologists suggest that crucial stages in human cognitive evolution were crossed when abilities to store, process and express symbolic and linguistic information developed and this through entanglements with material culture (see also Appadurai, 1988). When inscribed on external media such as rocks, these served as so many memory stores, especially for repetitive, mundane, or 'laundry list' types of information. Some amount of 'numerosity' or number-sense was also a part of this cognitive revolution (Schlaudt, 2020).

More recently, cognitive archaeologists have turned to regarding rock art as representing 'hard' or fact-based memories, which provides a delightful and significant turn from many approaches that de-historicized rock art, as a by-product of colonial practices of disregarding histories of contemporary forest-dwellers, and indigenes round the globe. In the Northern European context, Janik (Janik *et al.* 2007, Janik and Kaner 2018, Janik 2014, 2019, 2021) has presented a variety of evidence suggesting the importance of visuality in prehistoric society as a version of actual events or 'hard memory'. Even more, using other psychological studies

(Bruner *et al.* 2021, Ickx *et al.* 2017, Karim *et al.* 2016), discussed in this work.

We may include several other factors as indicators of intelligence: selection of easy geometric shapes as building blocks for figures in drawings, selection and experimentation with surfaces to paint on, location, perspective, iconography, three-dimensionality (or simulation), and directionality of paintings as a measure of its value as a testimony, and superimpositions as a form of time-awareness. Occasionally, paintings when threatened by post-depositional processes may be re-created elsewhere, some paintings of people may be frequent enough to suggest they are self-images, and material culture may be used to express ethnic difference. Generally, the 'history' in rock art lies foremost in the selection of themes that deal unmistakably with contemporary events with significant impact on political and economic well-being of indigenous society.

Rock art as a landscape-marker

Anthropologically informed studies emphasize rock art, the landscape, and rock art and sociality, territory, identity, and boundary-marking as interconnected. As a type of human behaviour concerning group identities and boundary-making, which it is suggested is innate. Further, since rock art is symbolically charged, its primary role, indeed origin, must lie in human tendencies to identify themselves and 'others' through various types of material culture. Representing human skills on different materials is also an innate human behaviour. The relationship between humans and animals with which much early art is involved is also important in this approach (Bradley 2002, Ingold 2000). Landscape archaeologists, usually phenomenologists, argue for the primary role of the landscape in determining human relations since prehistory. They argue that excluding the landscape leads to almost none of the approaches tending towards social theory or reconstructions of the social lives of early symbolic species and communities (Bradley 2002, Thomas 2001).

Rock art as historical awareness

A recent development in postmodern or post-processual material culture studies called the *new material turn* tends to regard all artefacts of human cultures as deeply connected and in a dialectical relationship with the past within the past (Bradley 2002, Hodder 2012). From this perspective, 'material culture' does not simply have functional value but frames the ideological and the 'social' matrix within which humans exist. Thus interpreted, rock art too should reflect society

in terms of its agency through which early human identities, territories, and broadly the social sphere could be defined. For instance, a splendid identification of women (Hays-Gilpin, 2004), children and adolescents as authors of much rock art around the world, since the palaeolithic period has been made (Nowell and Van Gelder 2015a and 2015b, 2020, Van Gelder and Sharpe 2006a and 2006b, Williams and Janik 2018). Although archaeological studies of the Vindhyan region from the Palaeolithic to the Iron Age are deeply insightful and many, there has been a sad neglect of its ethnographic correlates and ethnoarchaeological testing.

Some one thousand rock paintings sites, spread over 12,000 square kilometres, of the Mirzapur and Sonbhadra districts spread evenly throughout the Kaimur and Vindhyan ranges, as an invaluable source of information on cognitive and social dimensions of early human groups (Davidson 2020, Guru and Sarukkai, 2019, Sharma and Clark, 1983, Williams and Janik 2018). However, cultural and historical studies overlook rock art as a substantial source, a lacuna this work seeks to redress. We dwell upon, discuss, and try to flesh-out historical ontologies in the transition from prehistory to history in Southern Uttar Pradesh (Misra, 2007, Pal, 1990, 1986, 1994, 2002, 2008, 2009, 2010, Tripathi and Upadhyay 2010, Tripathi, 2008, 2014, 2017).

While these studies have informed us greatly about significant human activities within resolved time-frames and environmental contexts, the symbolic behaviour itself of recording events and the 'everyday social' through painted images, and their historical enmeshment has remained speculative. Symbolic behaviour also lends itself admirably to resolving issues concerning cognitive development and changes in social structure in indigenous societies (Duner and Ahlberger, 2019). Symbolic life and repertoire of early subsistence communities is also amenable to ethnoarchaeological interpretations by taking contexts from and drawing parallels with the multitude of hunting, pastoral and agro-pastoral groups still inhabiting rock art areas, with which much may be explained.

A major reason cited for these has been that images in rock art could mean anything and hence do not have one fixed meaning. Since the languages spoken at the time are not known to us, and since these images were props for orality, hence without the oral narratives, these images cannot possibly serve a useful purpose. In such a circumstance, it is generally agreed that these images from during and just after the end of the last ice age cannot be used to reconstruct histories. While the Harappan de-urbanization (in the second millennium BCE) to re-urbanization in the Ganges Valley (in the

middle of the 1st millennium CE) is a reality, the evolution of symbolic systems here may have continued without Harappan-like interruptions.

Several heartening strands in Indian rock art studies have been developing since the early 1990s. Not least, the upswing in primary studies documenting the occurrence of rock art and archaeology in areas from where it was previously not known. There is a noticeable departure and evolution over and above artistic recordings of the 1980s and regional catalogues of paintings to dating, proper survey and scientific recording of rock art. Institutional backing and interventions from state directorates of archaeology to the Archaeological Survey of India are increasingly involved in protecting and conserving rock art sites. The launch of new specialized journals and societies has also happened.

However, the effort to see rock paintings and, ultimately, petroglyphs too as being in historical continuity with other later symbolic practices like rock paintings, terracotta, painted or incised pottery, stelae and sculpture leading on to the development of coded symbolic communication systems called scripts has unfortunately not become very common yet in India. Two sets of reasons attend. Firstly, how rock art behaves as a social and symbolic medium is poorly understood. Secondly, the colonial practice of ascribing the origins of writing in India to borrowings from other systems in West Asia, and nothing is even remotely indigenous to India, remains unchallenged. This circumstance, with too many big unanswered questions and arguments in silence, calls for a re-examination of the proposition if indigenous symbolic practices of the country before the emergence of writing played any role towards the origin of uniquely Indian scripts.

From an ancient history but also an archaeological perspective, much of the writing of the histories of 'subalterns' suffers from a chronological bias of being limited to medieval and modern periods with little focus on subalternity and its characteristics in ancient India. People using stone tools on the peripheries of historical cities and urban centres, do not need to be lacking in 'historical' type of memory or oral narratives or their expression in material symbolic forms. Or is it a case of our being impervious to their historical value. Equally, what was in fact put down as subaltern reflections, of themselves or others, did shape their ontologies, experience, and views of the past, present, and future. Instead, historians have stuck for logographic modes as those that can, may and should qualify as legitimate historical sources. However, the missing voice of the peasant 'in the archive' has been noted as a cause for concern (Amin, 1994), never mind the multitudes of oral and visual narratives used by them to record their memories directly or by implication.

We hope this work would demonstrate that narrative panels entirely of a 'peasant' calling tended to register their historically factual exploitation by rural elites modifying form and content apace with the 'early historical', 'medieval' and the 'modern'. Their painted narratives continued to record events in formal stylistic similarity with earlier oeuvres of rock art narrativity. Further, that simultaneously the rock art mode of narrativity was learnt and utilized by poor religious pilgrims traversing Vindhyan wilds and taking shelter in the same rock shelters en route to holy shrines of the Varanasi and other central Indian pilgrim hotspots in the Sone-Narmada basins. Names of travellers, donations and eulogies of gods and kings were recorded in messages painted in the rock shelters inhabited since prehistory in the contemporary early Indian scripts like Brahmi.

Recent genetic, anthropological, philological, and archaeological research has suggested the likelihood of the first hominid populations having inhabited the subcontinent since the middle Pleistocene (Athreya 2017, Chaubey 2007, Danino, 2010, Reich 2009, 2016). Also, barring a few migrations to other regions, such as Southeast Asia, the likelihood of their continuation here and dispersal into Chattisgarh, Bihar, Bengal, and Jharkhand are strong. Therefore, a foray into considering Vindhyan rock art in a comprehensive archaeo-historical and social-cognitive framework is justified from several points of view. However, the anthropological, linguistic, and anti-historical views of the 19th and the better part of the 20th century, riven with dubious scholarly espousing of cultural differences based on race and physical appearance, must now be set aside with a view of rock art as a product of a single historical flow or process in which all disparate populations/streams of Indian history act as one.

However, in the Indian context, due to a lack of historical attention, rock art emerges as a preserve of evolutionary archaeology and, therefore, a ground for testing theories involving human evolution and migration. When cognitive approaches are invoked, they aim to understand biophysical evolution rather than linguistic, spatial, and ultimately skill-based social evolution. Extant studies include descriptive monographs on individual sites, states, or a global or specific or technical discourse like dating. None, as here envisaged, are discursive studies of single regions, considering its enmeshing with South Asian history as hinterlands acting as crucibles rich with artistic, artisanal skills of forest dwellers controlling and supplying vast natural resources including farm

animals and crop species necessary for the development of early cities and kingdoms. Studies discussed above are varied, informative and highly illuminating but different from and methodologically at a great remove from this work.

A central concern in, mainly, the prehistoric and early historic Indian archaeology or history is the point at which symbolic abilities are marshalled towards developing the early scripts which become the bases for the rise of the first formally acknowledged written sources. However, we cannot argue that symbolism or narrativizing originated with writing. This would be preposterous. Thus, since both these elements serve as keys to the evolution of scripts in post-6th century BCE urban Indian contexts, which existed in prehistoric memory practices, it is valid to think of them as fundamental to the development of scripts and alphabets.

This is also ample reason to concern ourselves with what forms early symbolism, and narrativizing are found to contain in the eras preceding urbanism. Either individually or together, without a doubt, they exist in India's rock paintings. But if these were already the means to record 'histories' pictorially even before the evolution of scripts, how may we connect the latter's evolution from the former? The link, first, exists in the use of symbols to represent linguistic concepts (rock art) and linguistic sounds (alphabets). Less important but notable is the use of permanent storage in both methods of recording linguistic phenomena. If durable surfaces seem necessary, but not indispensable, for both systems of linguistic notation, then the portability of the medium is a property of historical scripted texts which seems to be the whole point about written as opposed to locationally fixed pictorial painted ones.

Recent historical and social theory scholarship holds that humans have always been critically self-aware, and a sense of the past is always discursively present in material culture. This sense of the past or 'historical consciousness' is at the essence of being human. It is not a surprise that manifestations of time and associated change are inexorably present. However, in the case of rock art, historical change must be identified and analysed for a better recovery of the past it represents. Unlike other types of material culture, rock art is a self-consciously made memory record. Other items of functional material culture, stone tools, pottery, hearths, and huts, were created primarily for their practical use and, to that extent, do not constitute an explicit memory artefact or record such as rock paintings.

While art definitely has its 'uses', rock art must be recognized as belonging to a category of symbolic material culture conceptually different from three-dimensional objects like terracotta, stele, and sculpture which, more formally, are things. Stone tools, pottery, hearths, and huts, reveal historical information through dating of use marks, breakage, detached chips or other parts, and human behaviour is also inferred through the post-depositional activities affecting them after use. However, even the most abstruse rock painting is imbued with direct historical information, as contemporary society's preferences for colours, means, and techniques for making paintings and the subjects preferred.

When paintings exist in just a few caves or shelters at a location with many, they may be read as preferred locations for residence while some other factors made the others unusable. Many paintings within residential shelters seem placed away from the public gaze. However, paintings were sometimes intended for greater public appreciation, so they were in complete visibility and sizes counting as surely conspicuous, on valley sides and gorges where hunting or fishing congregations may have been held at some regularity. The locations further tell us who made them in terms of who would be small enough to place the painting extremely close to the floor or agile enough on a 50-foot cliff wall or a cave ceiling. Thus, a discussion of rock art as a memory practice becomes necessary.

From arguing rock paintings as mnemonics to methods of counting to social canvases to articulate and record histories, the historical school argues rock art is historically aware and complete with historicity as best could be before the advent of writing. The difference is that while histories could be written after the invention of alphabets, they could only be spoken and painted before, within the medium's confines and limits (Hodder, 1987, Bradley, 2002, Van Dyke and Alcock, 2003, Pratap 2009, 2011a and b, 2013, 2015, 2016, 2018 a, b, c and d, 2019, 2020). Such a record, and since it is painted boldly in red ochres, has also been seen as human attempts at anthropogenesis of natural spaces and places, or landscapes, to make them look inhabited and within human remit. The fact that fingers were used in drawing and painting has even been claimed as an ultimate and nearly perfect translation of all sensorily apprehended data into experientially charged social spaces as acts of culture. This is an appealing idea for explaining the ontologies of past forest-dwelling societies, especially since the practice of such social charging of wild forested spaces seems to have continued until well after writing appeared.

More challenging is the idea that in multilingual contexts, such as central India with its great diversity of languages like Gondi, Bhili, Kol, Kharwari and several early historic Prakrits, the practice of arts across

linguistic frontiers might result in 'intermediality' (Ceciu 2021). Where symbols are given or taken, this cause changes to the language itself, giving rise to innovation in the representation of form and content. It could be tested as a hypothesis if the tradition of rock art representation and its techniques and symbolic systematics under linguistic exchanges across central and eastern India has undergone intermedial transformations. Newer forms like terracotta, stelae, pottery, sculptural and architectural imagery which are all later forms arising under progressively denser and more transformed demography and population history of the region, notably moved away from rock art styles and locations seeking three-dimensional representations in clay, stone, wood and metals as well.

This idea is charming enough to bear extending further. Bednarik (2008) claims there is scarcely any period of human history in which there is not some evidence of symbolism. That is the essence of being human. Extending the idea of intermediality, or innovation across media and forms, primarily due to linguistic differences, does rock art exhibit cultural differences? Is it possible that even among early hominids, linguistic encounters led to the emergence of symbolism? The idea is that colour and rock-type selection indicate deliberate aesthetics even in purely technological applications, like prehistoric tool-making (De Lumley, 2009).

Suppose rock art is a palimpsest of recorded memories; it must have the character of historical narratives with emphases and interpretations imposed on the past. However much a deep structure owing to prehistoric mindsets and their influence may be, closer to the historical periods, these same structures (of thought) to behave like sources should be more evident and receptive to internal and external corroboration. Several external corroborative sources stand testimony to symbolic processes of history and history-making in preliterate societies. For the better part, they are even coextensive with rock paintings – terracotta, pottery, stelae, sculptures, and architecture. The idea itself of a reservoir of techniques, manifesting itself in changed circumstances and media but drawing upon external (*milieu exteriore*) and internal (*milieu interiore*) stimuli have been termed as milieu technique (Leroi-Gourhan, 1971,1973)

Archaeologically and historically, the evolution of such representations may be traced through their historical settings or the search for evidence thereof. Since symbolic arts and crafts use only oral explanations for what they choose to represent, they exist parallel with and conterminously with logographic traditions of later history. Interpreting their contexts of occurrence through archaeology, epigraphy, and iconography might

help postulate valuable and critical interrelationships between the oral and the literate, the urban and the rural. Therefore, interrelatedness and continuity in symbolic techniques must be assumed to arise from such ideational domains, as highland societies straddling infinite rock reserves with high skills at symbolism, as required in artisanal and crafts traditions. From production to consumption, the distances over which these artistic 'meanings' prevailed remained small until the emergence of writing and alphabets. The Vindhyas represents all three critical transformations towards urbanization - thoughts to material artefacts (stone tools), objects to symbolic representation (as in rock art, terracotta, stelae, and sculptural art), and from symbolic representations to fully developed linguistic notations (like inscriptions and written records). However, all three involve transformation of ideas to images, in some sequence preceding and following local climatic, geographic, and demographic changes, all presumably responding symbolic interventions. Hence could the rock paintings related to culture, subsistence, and even decorative imagery, be seen as part of feedback processes to the real-world circumstances? That makes the record historical, even if the imagery may be challenging to contextualise.

Summary of Chapters

In this work, Chapter 1 introduces the work, concepts, primary debates, intended goals, methods, and the main concerns of this study. Chapter 2 discusses the field area, location and distribution of archaeological and rock art sites in their landscape setting. Chapter 3 discusses the region's archaeology from the Lower Palaeolithic to the Iron Age, providing rock art's cultural and chronological contexts. Chapter 4 focuses on symbolization and symbolic categories in North Vindhyan rock art, its essential characteristics, and significance. Chapter 5 discusses the basic features of subjects and techniques; surfaces chosen, colour choices, perspective, archiving, curation, and the execution of paintings. Chapter 6 derives cognitive value underlying rock art since young people seem to have engaged in it in significant numbers. Chapter 7 undertakes an ethnoarchaeological interpretation of Vindhyan rock art based on the region's ethnography, further affirming the correspondence between subsistence and symbolism from a historical perspective. Chapter 8 examines the chronologically sequenced but varied symbolic practices existing in the study area in which rock art is undoubtedly the oldest, followed roughly by pottery designs, terracotta figurines, stelae images and sculpture. It also considers how rock art might be technically related to these later oeuvres, as indeed with scripts as a symbolic linguistic system. Although chronologically separated in an evolutionary sequence these crafts (rock art, pottery designs and terracotta)

do exist together in the same milieu in the neolithic to the early historic period (stelae and sculpture) when all of them come together in a single milieu technique. The Brahmi script and inscriptions as a new genre appear in the Vindhyas shortly after 'second' urbanization and under mediation by the same or similar craft communities. In Chapter 9, the penultimate chapter, we reconstruct a historical picture of political-economic transformations in the macro contexts in which rock art flourished but also disappears during the colonial period. Chapter 10 summarizes and draws together important points and concludes the work.

Conclusion

In this chapter, we discussed the approach, hypotheses and the methodology of this work involving a historical interpretation of rock art in which the unbroken continuity of its practice, from prehistoric origins to the modern times, which is taken as proof of its relevance and function as a memory-practice and as a medium of early narrativizing. Its survival into modern times proves its efficacy as a technique and tool for remembering places, people, objects, and events that signify the transformation of folk memory to one historical in nature. Its role as a reliable source of history needs consideration in its local context, since iconographic elements in it, especially of material culture and social life, are cross-referenced in relation to periods of their painting, which predisposes its content as indigenous historical renderings. To set the geographical background for explaining the provenance, and primary characteristics of the extensive rock art in the Vindhyan ranges, the following chapter discusses the field area of our work. A study of the traits and principles defining it as a source shall also be considered.