CENTRAL HIMALAYAS

An Archaeological, Linguistic and Cultural Synthesis

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UNIVERSITY OF MINNESOTA

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BY
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Dedicated to
the late Mohan Upreti, Mohanda
and
Brijendra Lal Shah, Laladaju

CONTENTS

PROLOGUE

As the authors belong to the Kumaun region, some sort of nostalgic attachment is perhaps excusable. I had started my archaeological career at Baijnath in the early sixties. At that time I was concentrating on architectural and sculptural remains of the historical period. A starred question in the Parliament led to my expedition to Malari in the Niti valley, bordering Tibet. As this was before the Indo-China war, there were hardly any roads and I had to cover hundreds of km on foot. It was a thrilling adventure and fitted well with my age in the twenties. One had to cross one-rope bridges over turbulent rivers, over single logs of timber, over long bridges with only a few planks in between, besides the avalanches, landslides and haunted rest houses where no officer had stayed for the last several years. Thus the journey did entail close encounters with death. During this exploration I came across ancient burial remains at Malari which were totally different than anything found in the rest of the country. I had decided at that time to explore the Kumaun region more thoroughly when I would be academically better equipped. I noticed many Quaternary formations but could not make out much due to my poor training till then. After the experience of my major Quaternary projects in Rajasthan and Kashmir, I always wanted to go back and work more extensively in the Kumaun region. We did some work on the lake sediments of Bhimtal area but not too much on the exposed Quaternary sections.

After long years came the opportunity to collect material for a TV film about the archaeology and culture of Kumaun. A project sponsored by the Indian Council of Historical Research (ICHR) allowed us to explore the area and collect fresh data on diverse aspects of the Kumauni archaeology, culture and technology. It also allowed a modest stipend to enable Jeewan Kharakwal to join the project and intensify the explorations with his youthful zeal and zest. Though raw when he joined, he picked up fast the scientific requirements and methodologies of prehistoric explorations. Through hard work, he compensated for his handicaps related to his small town background. During the project investigations a lot of new data were collected and documented. Prof. V.N. Misra gave him an opportunity to enroll at the Deccan College for doing his Ph. D and as project directors, both Dr. Diva Bhatt and I, were very happy to allow him to use a lot of the project data for completing his Ph. D. thesis. And I am very happy to record that he has proved himself a very promising young archaeologist.

Thanks to the efforts of the largely local research workers and the enthusiastic publishers,

recent years have seen quite a few new publications on the archaeology of Kumaun and Garhwal. But we found that none of them has an emphasis on prehistory. In this book we use a multidisciplinary approach, focusing on the theme of prehistory of Kumaun, and also use multiple scientific analytical data to reach our conclusions. In such a book it is always difficult to reconcile the requirements of a lay reader with that of a specialist or a research scholar. We have therefore given detailed information as separate sub-sections. For example, for rock art and cup mark sites, without allowing the detail to slow down the main text, detailed descriptions have been appended as separate sections.

I did have a great desire to take up an extensive project, including archaeology and Quaternary studies, in Kumaun, but it remained unfulfilled. So the data presented here are from our surface explorations only, though we did make use of eroded and exposed sections. Looking at the all-India archaeological scene, one gets the feeling that as far as new findings are concerned, a plateau-like situation has reached. Except for some pre-Harappan discoveries in Gujarat, nothing much seems to be happening, though a lot of routine explorations are going on. In contrast, Kumaun presents a great potential, especially in view of the new radiocarbon dates. Exploration of primary Palaeolithic sites; a multidisciplinary study and dating of the rock art; excavation of different types of burial; a detailed ethnoarchaeological study and so forth are some of the exciting areas to work. It is in Kumaun that we will be able to identify the authors of different types of cists and other burials, by joining hands with the physical anthropologists, linguists and ethnologists. As we have tried to argue in the following pages, now there is a distinct probability of the Painted Grey Ware (PGW) people having come through the Kumaun hills and brought with them iron technology to the plains. We do hope that this humble effort of ours will inspire and encourage the younger generation to do more extensive research in the region so that its full potential is realized.

In any such endeavour, requiring extensive fieldwork and various scientific analyses, one has to seek the help of several colleagues and institutions. We have tried to acknowledge their help, but I am sure, there are many more who helped us but whose names could not be included in our acknowledgements for want of space.

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From Kumaun, Shekhar Pathak, Shri Deep Harbola (of Dwarahat), and Shri J.S. Bisht (of Kausani) and Dr. M.P. Joshi helped us at various stages of the work and we are beholden to them. Our special thanks are due to Pt. N.N. Misra for his help and guidance. And from Garhwal University, the whole archaeology team, and especially my former student and colleague Vinod Nautiyal, extended their unstinted support. We also thank Ramesh Shah, Mohammed Ali and Alakh Upreti for discussions.

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We thank the Archaeological Survey of India for the use of some illustrations; and for multiple help to the Directorate and staff of the U.P. State Archaeology.

Finally, DPA thanks Lata and Ila for their enthusiastic help and JSK is beholden to his wife and family for their constant support and inspiration.

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D.P. Agrawal
J.S. Kharakwal

LIST OF ABBREVIATIONS

AD	:	Anno Domini
BC	:	Before Christ
BP	:	Before Present
AMSL	:	above mean sea-level
AMS	:	Accelerator Mass Spectrometry for ^{14}C dating
c.	:	*circa*
cm	:	Centimetre
Chkt	:	Chaukhutiya
E	:	East
IAR	:	Indian Archaeology—A Review
KFKT	:	Kafarkot
KDVI	:	Kasardevi
km	:	Kilometre
LKDR	:	Lakhiudyar
LIKDR	:	Likhudyar
msl	:	mean sea-level
N	:	North
NBPW	:	Northern Black Polished Ware
Pd	:	Period
PGW	:	Painted Grey Ware
ppm	:	parts per million
S	:	South
sq	:	square
W	:	West
XRD	:	X-ray Diffraction Technique

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CHAPTER 1
INTRODUCTION

1.1 Preamble

Thanks to the recent important researches of the teams from Kumaun and Garhwal universities, including their different campuses, and of other local scholars, a few publications on the archaeology, history, architecture, etc. of Kumaun have come out, despite the fact that the publications are, as a rule, far too few compared to the work being carried out. The archaeological potential of the Kumaun Himalaya is very rich as indicated by sporadic reports of the finds of stone tools, painted rock shelters, burials, caves, coins, ancient temples, sculptures, forts, memorial stones, man-made wells (over perennial springs), ancient mines, ceramics and epigraphic discoveries and so forth. The justification for the present work was that no systematic work on prehistory of Kumaun is available so far. We have also incorporated a lot of fresh data from our own explorations. We have systematized the latest evidence, largely our own but including all other published work, on rock art, cup-marks, megaliths, etc. Essentially, it is a multidisciplinary work yet presented in a holistic form.

We felt the need to present the data from Kumaun not only in an all-India perspective, but also in a global context. It was necessary to provide this additional information for the benefit of the student and scholar, as well as the layman.

Finally, we have not taken Kumaun from a chauvinistic point of view, though both the authors originally belong to Almora, but as a significant constituent unit of the Indian civilizational process. Such regional cultural components have amalgamated, in the course of time, to give shape to the cultural mosaic that we call the Indian civilization. From this perspective, Kumaun is a mini-India where different people, languages and traditions commingled through the millennia. Like the national epics, *Mahabharata* and *Ramayana*, Kumaun has its own *gathas* sung as *jagars*. Jagars are essentially the saga of the Kumauni people (see chapter 5).

In Kumaun we have very interesting legends which are symbolic not only of the commingling of different cultural streams but also reflect the poverty and concerns of the poor people. The concept of Nanda, for example, symbolizes Kumaun. Nanda is a Brahmanical goddess, consort of Siva, and is depicted in various forms such as Parvati, Bhagwati, Mahishmardini, Durga and Kali. She is also the daughter of the almighty Himalaya. The local

kings adopted her as their *Kuldevi*, the royal divinity. But what impresses most is her intense attachment with her *mait* (natal home) and the torture and pain she has to suffer in her *sauras* (husband's house). Nanda thus becomes the daughter of every village. Nanda is a truly syncretistic concept. We have tried to highlight such important traits of the personality of Kumaun and endeavoured to weave a story of the cultural development of Kumaun in which all these components contribute their share.

We also can follow the process of apotheosis where historical personalities are not only being deified but have now become powerful local gods.

We have taken, for example, the problem of early iron technology in a very holistic manner. We have studied the actual mining areas and the local technology of extracting iron. We have chemically identified the actual minerals used and radiocarbon-dated the early sites, thus putting the early iron technology of Kumaun on a firm footing in the context of the early north Indian iron. We have also tried, in this context, to relate the legend of Asuras and the possibilities of Assyrian migration into Kumaun.

Through such examples we have tried to explain our multidisciplinary, yet holistic approach, and a pan-Indian and global perspective in which we place the Kumauni archaeology not as an isolated, unrelated backwater cultural phenomenon. We do hope that such an approach, elucidated through this book, would open up new avenues and vistas of archaeological research in Kumaun in the near future.

The aim of this work, therefore, is to present the diverse, and latest, evidence in a holistic perspective so that one can delineate the personality of Kumaun as it has emerged through the millennia, and also relate it to the general civilizational process of the country.

Prehistory begins with the early Stone Age. However, experts like Prof. V.N. Misra are still not convinced about the genuineness of the Stone Age tools that have been reported from time to time from the Kalsi and Alaknanda valleys in Garhwal and the Western Ramganga valley in Kumaun. Though no primary or factory sites have been reported so far, they emphasize the need for an extensive search for the remains of early man in this hilly tract. In our explorations, we too came across several Middle Palaeolithic vintage tools and the collection has been examined by the Deccan College experts too. But unless we are able to locate primary sites, or factory sites, the Stone Age findings will remain a bit controversial. We have therefore omitted the description of our stone artifacts at this stage of research.

On the other hand, the discovery of the palaeontological remains from the Punjab Siwaliks of hominoids (*Ramapithecus* and *Gigantopithecus*) indicates that the Siwaliks area of Kumaun may also be equally rich. Claims of early Stone Age tools have already been made from Pakistan and the Tatrot zone of the Punjab Siwaliks by M. Singh, so also in the Sohan valley. Therefore there is nothing unusual in expecting Stone Age sites in Kumaun also. However, to establish the claim of the Stone Age in Kumaun, one will have to find primary sites first.

Similarly, a large number of painted rock shelters need to be studied analytically and critically to place them in a chronological framework, as well as to establish their chronology with respect to the other well-known Indian sites. Rock art and cup-marks have been dealt with in full detail in chapter 2.

The stray findings of burials have been postulated as indicative of the Megalithic culture in this area. However, descriptions in the literature (Henwood 1856; Wheeler 1959: 160) are generally vague and do not help to work out their typology or chronology. A group of people, Hindu by caste, still bury their dead. Excavations of such burials may throw some light on this problem. We discuss these problems and report our findings of ancient cists including their radiocarbon dates in chapter 3. These are the first radiocarbon dates of cists from Uttarakhand.

Kumaun has a very old tradition of metal working. Even the British wanted to exploit the mineral wealth in the early nineteenth century, soon after wresting control of Kumaun from the Gorkhas. We have explored a large number of ancient iron and copper workings, as also analyzed the minerals from this area. Radiocarbon dating of some old iron working sites takes the antiquity of iron workings in this area back to the beginning of the first millennium BC, rendering it a probable source of iron for the PGW culture of U.P. The old metal technology of Kumaun and its implications for the Indian archaeology have been discussed in chapter 4.

Folklore, linguistics and ethnoarchaeological studies help interpret the archaeological evidence, to understand the continuity and transformation of the cultural life of the past societies as well as the relationship of old tribal groups with the succeeding cultures. These hills also possess a rich cultural heritage of folk culture, which is distinct from the Indian plains, and provides an immense resource for multidisciplinary work. It is widely held that the language of this region bears residues or relicts of the Aryan and non-Aryan ethnic stocks immigrated to this region in the remote past. It can also be added that the influence of the Indo-Aryan and Scythian people (in terms of cultural traits) is still preserved in the Kumauni society—for example, the Solar cult; the Saka Era; the local kings trace their genealogy from king Shalivahan) on the local population provide challenging problems. The Kumauni social set-up and the cultural mosaic are the result of the commingling of the various ethnic people that came to these hills through the millennia. Chapter 5 deals with all this.

In recent years, due to extensive development and construction programmes, the archaeological heritage is in danger of destruction. For example, during the seventies and eighties of the present century, a large number of burials were reported to have been destroyed at Bhilkot, Purara, Naula-Jainal, Bharari, Basauli, Balighat and the rock shelter at Dalband in Almora district. During the senior author's explorations in this region in the early sixties, practically every village used to have some old architectural or sculptural remains which have all but vanished, thanks to smuggling and vandalism! Such problems of conservation of the cultural and natural heritage are addressed in chapter 7.

Chapter 7 is a bridge between Kumaun's hoary past and the hopes towards a lofty future. We try to delineate the personality of Kumaun as it emerges through its historical past as also the good and bad legacies that we will have to contend with in our path towards a separate state—the hill state of Uttaranchal which seems to be in the offing.

In sum, in this book we propose to undertake an exciting multidisciplinary exploration of man's total past in this region, in a holistic framework, to bring out the personality of Kumaun.

1.2 Kumaun: Area and Origins

The Uttar Pradesh (U.P.) Himalaya is popularly known as Kumaun Himalaya. Physically, Kumaun occupies the northernmost corner of the U.P. state. The Kumaun region extends between the latitudes 28°44', 30°49' N and longitudes of 78°45', 81°1' E (Fig. 1.1). The region is fairly large and wide and its boundaries are well marked by mountains and rivers. It is defined in the north by the Himalayan range (Plate 1.1), which separates it from Tibet; in the east the river Kali marks its border with Nepal; in the west a series of transverse mountain ranges separate it from Garhwal region; and its southern boundary touches the districts of Pilibhit, Bareilly, Rampur and Moradabad in the Ganga plains. Administratively constituting the Kumaun division, it comprises, from north to south, three districts of the Central Himalaya, viz., Pithoragarh, Almora and Naini Tal. These districts are further divided into fourteen tehsils and forty-two development blocks. The Kumaun division covers an area of 21,032 sq. km.

The name Kumaun is supposed to be derived from the Sanskrit word *Kurmachal* [*Kurma*= tortoise, *achal* = mountain]. According to *Skandpurana*, Lord Vishnu is stated to have incarnated near Champawat as *Kurma* to support the Mandar mountain. As per an ancient tradition, the Himalayas have five geographical divisions viz., Nepal, Kurmachal, Kedar, Jallandhar and Kashmir, wherein Kurmachal and Kedar were adopted for Kumaun and Garhwal after the holy shrines respectively (Sankrityayan 1953: 40). However, during the reign of Chand dynasty, initially the area around Champawat was known as 'Kumu' (Vaishnav 1977: 21), where their capital was located. The Chand kings have used the word Kurmachal in their records. With the passage of time and expansion of their domain 'Kumu', the whole territory under their reign came to be known as Kumaun. Until the medieval period we do not find the word Kumaun anywhere in the inscriptions.

The Kamadesa region mentioned in the Bodhgaya *Prasasti* (inscription) of Raja Purshottam Singh, belonging to the 13th century AD, has been identified with Kumaun (Bhatt 1970: 70). In literary records, however, Kumaun was mentioned for the first time by the Muslim historian Yahya Bin Ahmed in connection with an episode related to Kharagu, the Katehari chief, and Sultan Firoz Tuglaq (Elliot and Dowson 1867-69: 14).

1.3 Geology

Kumaun includes the following four geological belts of the Himalayan region which coincide with the major physiographical divisions.

The Siwaliks Belt

The Siwaliks belt or Sub-Himalayas forms the outermost zone of Kumaun (Fig. 1.2). The Siwaliks are entirely composed of Tertiary and Pleistocene deposits. The principal rocks include fine grained sandstone with interbedded shales and conglomerates in the upper strata, comprising rounded pebbles and boulders of crystalline and metamorphic rocks. This Siwaliks belt is the youngest part of the entire Himalayan mountain chain and structurally is characterized by broad open folds. It is generally divided into three zones, i.e., Lower, Middle and Upper (Valdiya 1980).

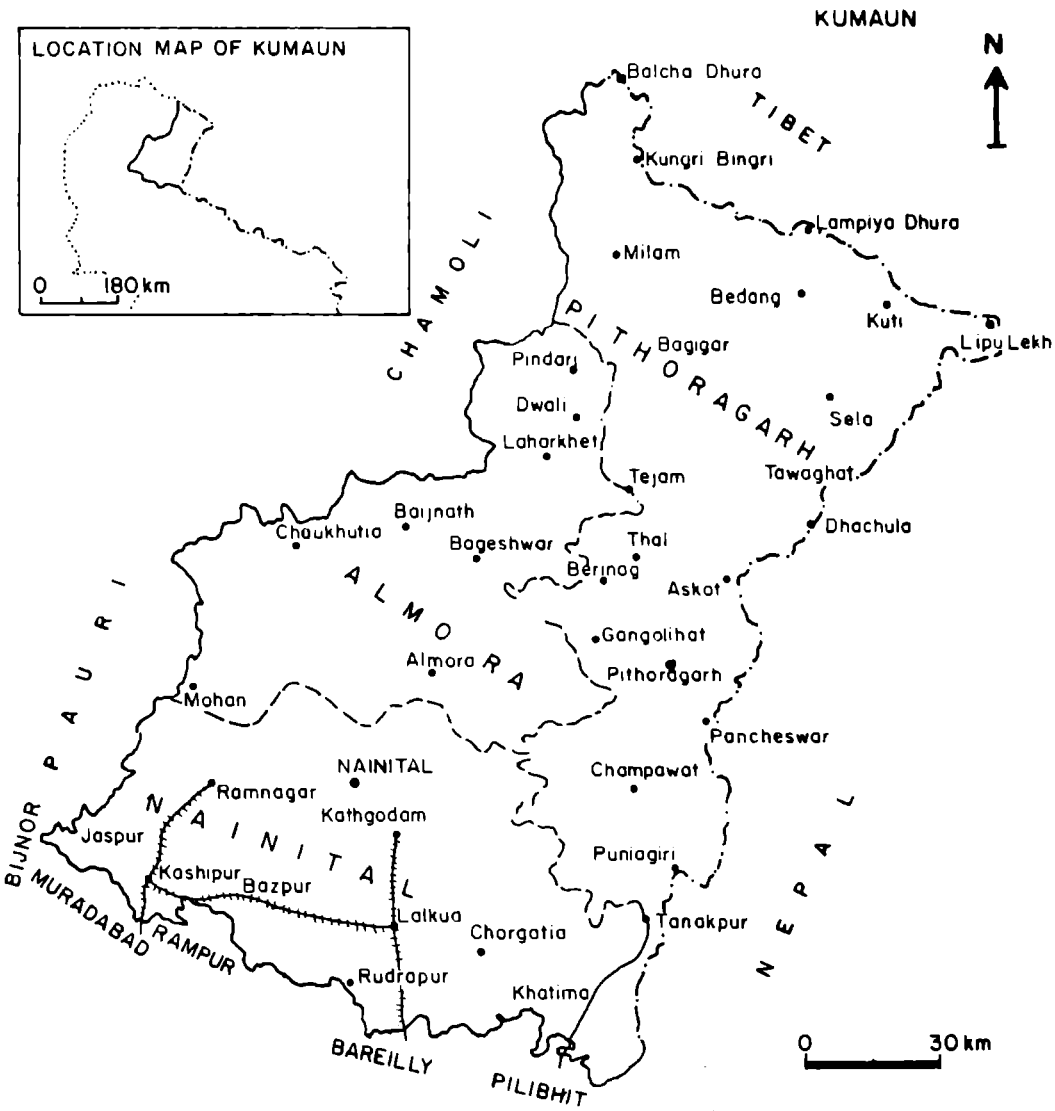

Fig. 1.1 Location map of Kumaun showing main towns

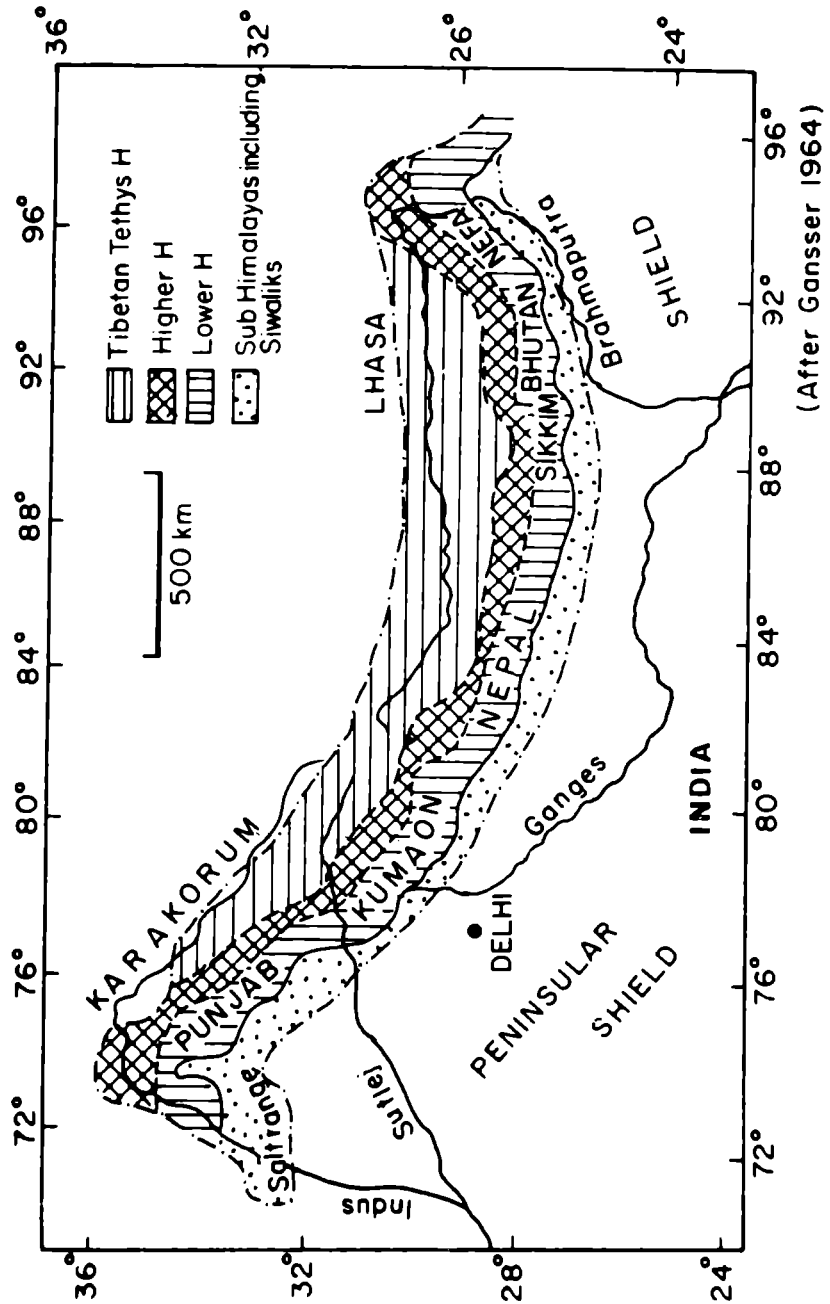

Fig. 1.2 Map showing the Himalayan sub-divisions (after Gansser 1964)

The Lesser Himalaya

The Lesser Himalayan belt extends between Krol or the Main Boundary Fault in the South and Vaikrata or the Main Central Thrust in the north. It is composed of crystallines, granites, gneisses and schist rocks. "In this zone of separation the Precambrian and Paleozoic sedimentaries, with granites injected metamorphics, are divisible into the succession of the three thrust sheets or Nappes" (Valdiya 1979: 150-51) i.e., (a) the Krol belt, (b) Almora-Dudatoli crystalline mass and (c) Deoban-Tejam group.

During the reign of the Katyuri and Chanda dynasties, the natural resources were exploited by people. Many of these rocks like granite, schist and crystalline were extensively used for building purpose. A large number of temple groups and secular monuments were made of these stones. Black schist stone was particularly used for making icons. However, slate and schist rocks were also extensively used for erecting burials before the Christians came.

The area is also rich in mineral wealth. Though magnesite, talc, limestone and dolomite occur widely in these hills, their proper economic exploitation has not been realized yet. The lesser and inner Himalayan zones also bear mines of copper, pyrites, sulfur, lead, iron and so on.

The Kumaunis used to mine iron and copper for their domestic consumption since millennia. During our recent fieldwork (from 1990 to 1993) several ancient mining and smelting sites were found, which are discussed in detail in chapter 4.

The Greater Himalaya and Trans-Himalaya

It is the highest and perpetually snow covered zone of the Himalaya. In the south, it is separated from the Lesser Himalaya by the Main Central Thrust and is largely composed of gneisses, young granites and highly metamorphosed crystalline limestone. The Tethyan Himalaya is the northernmost belt of the Greater Himalaya. This zone is made up of highly fossiliferous sedimentary formations and is remarkably uniform in its composition of the rocks. The Trans-Himalaya extends further towards north and north-east into Tibet.

Soil

In the hilly tract the soil cover is generally thin and occurs on the gentler dip-slopes; the southern scarp slopes however contain colluvial deposits. Thus the northern slopes support forests, while the southern faces are generally bare. The submontane region bears ashy-grey to pale yellowish-brown podsolic soil which supports coniferous forests. Generally, the upland soil is sandy loam and tends to be mildly acidic (pH 6.2-6.7) (Melkania and Tandon 1988); however, it is deep and fertile in the valleys which have colluvial and alluvial deposits. The soil in Tarai and Bhabar areas is developed on the alluvial deposits.

The higher altitude has a brown soil cover rich in humus. The Alpine zone, extending above 3000 m, has a soil of glacial origin with granitic sandy loam. In the cool temperate and the cold regions (1800-3000 m), brown soil of deciduous forest and grey of coniferous forest, of glacial and fluvio-glacial origin predominate.

1.4 Drainage (Fig. 1.3)

The Greater Himalaya is the enormous catchment area for collecting snow that feeds a multitude of glaciers, and eventually rivers. This zone, therefore, also acts as a huge moisture reserve for the large number of perennial rivers flowing southwards. There are three northernmost rivers, i.e., the Kuthiyangti, the Dhauli and the Gori which have their sources and catchment in the glaciated zone. The Milam glacier is considered to be one of the largest glaciers of the Himalaya. In fact, the most extensive snow-fields of Kumaun are found in the Gori basin which mainly include the Milam and Kalabaland glaciers. The Lasser, which is a principal tributary of the Dhauli and flows parallel to the Gori, has many small feeder glaciers. The entire Lasser-Gori divide, right from the Indo-Tibetan water-parting in the north to Panch-chuli group of range in the south-east, constitutes the biggest snow-field of the Kumaun Himalaya. The entire region is well drained by the following perennial rivers.

The Kali constitutes the entire eastern boundary of Kumaun, separating it from Nepal all along its length, right from the Lipu-Lekh where it rises, to a little downstream of Tanakpur wherefrom it finally enters the plains and is known as Sharda. It has a vast catchment in the northern and eastern parts of Kumaun. The Gori is one of the major feeders of the Kali and it originates from two headwaters, i.e., south of Untadhura (eastern) and from the Milam glacier (western) near Milam village. It joins the Kali at Jauljibi. The Dhauli and Kuthi-Yankti are other major tributaries of the Kali.

The Saryu is also one of the major tributaries of the Kali and rises near village Khaljhuni, Malla Danpur in the extreme north of Almora district. In its upper portions it has a south-western course but the river takes a sweep to the south-east of Bageshwar, where the river Gomati, which rises in the high region of Bhatkot hills, makes a confluence with it. The Gomati roughly flows south-east through the well known Katyur valley, which is one of the most fertile valleys of Kumaun and has been an active zone of human activity right from the beginning of Iron Age culture in this region. At Bageshwar and around Kapkot there are fertile alluvial terraces on its both banks.

The Pindar is an important tributary of the river Alaknanda. It rises from the Pindari glacier lying at the base of the Nanda Kot massif. Thereafter this river flows towards south in its upper course and then gradually turns towards west to merge with the Alaknanda at Karnaprayag in Chamoli district.

The Western Ramganga river originates from the southern aspect of the Dudhatoli hills in Chamoli district (Garhwal) and enters violently through a deep and narrow gorge in the north-west of Almora district. It has wide open fertile alluvial terraces along its either banks between Chaukhutiya and Bhikiyasain. The Ramganga drains the entire western Kumaun.

1.5 Previous Work

Stone Age Tools

The earliest archaeological remains belonging to the prehistoric period discovered in the Kumaun-Garhwal regions are the early stone tools. Das reported a few rolled early Stone

Age tools, comprising hand axes and choppers from the terrace of the river Yamuna near Kalsi in Dehradun district (IAR 1961-62: 103). A study was carried out by a team from Garhwal University along the Alaknanda and around Srinagar (Nautiyal *et al.* 1982). They claimed to have recovered Palaeolithic (Stone Age) artifacts including unifacial and bifacial choppers, borers, points, flakes, scrapers and a tanged fanshaped convex edged artifact which looks like a scraper. Mathpal (1986) also reported choppers, cleavers and flakes from the Western Ramganga valley. Some of them look like cleavers. All these artifacts are made on quartzite. However, no factory site or other tool assemblages in a primary context have been found so far. A systematic exploration along the Quaternary terraces could be helpful in locating primary as well as factory sites in the area.

We too have found a few sites with Stone Age tools but in the absence of primary or factory sites, it may not be wise to press the claim at this stage. We have plans to involve V.N. Misra and his team in some future explorations to finalize these issues. We have therefore avoided inclusion of Stone Age finds in the subsequent chapters.

Rock Art

Agrawal and Joshi (1978) were probably the first to bring to light the rock paintings in the Himalayan foothills from Dalband village, 20 km north-east of Almora, on the Barechhina road. In fact, this discovery of rock paintings gave a fillip to research on the prehistoric remains in Kumaun.

This discovery was followed by findings of several other painted rock shelters in these hills. Saklani (1983: 217) found a painted rock shelter on the right bank of the river Alaknanda, about 4 km north-east of Chamoli in Garhwal. This shelter bears human and animal figures in red pigment. Some of the animals look like fox and deer. Another rock shelter is reported from Kimni village, in Chamoli district, on Gwaldam-Almora road by Nautiyal and Khanduri (1986: 83). Here, the rock shelter has only a few paintings showing weapons like dagger, animals and reptiles. The reptiles have been painted in thin white pigment. Mathpal (1987) has also reported a few painted shelters on the outskirts of Almora town, towards the north-east. These rock art repositories had to be studied analytically and critically to establish a chronology of these paintings. We have attempted this in chapter 2.

Copper Hoards

In 1989 some villagers unearthed a hoard of eight copper *'anthropomorphs'* on the outskirts of Bankot village, Pithoragarh district. Although these artifacts remind us of the anthropomorphs known to us from the Ganga valley, they are characteristically local. Joshi has assigned them to the Copper Hoard culture: "Authors of these copper hoards supplied copper to the Copper Hoard culture of the Ganga valley" (Joshi 1990: 14). This discovery however does provide a very interesting clue to locate ancient mining and smelting sites in the Kumaun area, which are discussed, in an all-India perspective, in chapter 4.

Iron Age Cultures

Chronologically, the Copper Hoard culture was succeeded by the Painted Gray Ware (PGW) culture in the Gangetic plains. A few potsherds of the Northern Black Polished Ware

(NBPW) were discovered by Nautiyal from Kashipur in Naini Tal district (IAR 1960-61: 67). Later on, the site was excavated by Sharma (IAR 1965-66: 53-54), which yielded both the PG and NBP Wares.

On the other hand, two Painted Grey Ware sites, i.e., Thapli in the Alaknanda valley and Purola in Uttarkashi district of Garhwal, have been excavated by a team from Garhwal University, where they unearthed a single phase culture site of the PGW and associated red and black slipped pottery. At Thapli a total deposit of 2.90 m was found (Nautiyal *et al.* 1978-79: 94-95). The possibility of Kumaun supplying early iron to PGW sites in U.P. is discussed in chapter 4.

Megaliths

Megalithic remains were discovered from Kumaun as early as the mid-nineteenth century by Henwood (1856). He found some cairn burials at Devidhura in Pithoragarh district. Later on, Carnac (1877) reported some cup-marks and other remains from Chandesvar near Dwarahat in Almora district. Another site was brought to light by Dabral (1968) from Malari (3800 MSL) located on the bank of the Dhauliganga in the Garhwal Himalaya. In 1959 Agrawal examined some stone lined burials and pottery at Malari (Agrawal *et al.* 1991: 59-63). Recently a team from Garhwal University carried out excavations for two field seasons (1991-92) in Western Ramganga valley (Nautiyal) of Almora district, where they unearthed stone lined burials. The excavators have assigned them to the megalithic culture. There are several types of burials in the Kumaun area and their descriptions have been very ambivalent. It would therefore be necessary to discuss the typology of the megaliths and other burials of the region (chapter 3).

A large number of dots, cup-marks, and conical pits narrowing downward have been found in the Kumaun region (Joshi 1987b). These pits have also been assigned to the megalithic culture without any contextual evidence. We have reported our findings on cup-marks in chapter 3.

We carried out an extensive exploration of the area to give a precise picture of the Iron Age and its associated technology in these hills (chapters 3 & 4).

Historical Era

The early history of the region is more or less a mosaic of disjointed facts. Most of it is based on mythological traditions. We have only a few archaeological records to rely upon. Atkinson (1980-81) was the pioneer scholar who assembled the stray facts related to the history of this region. It is still a matter of speculation as to who were the inhabitants of these hills during the proto-historic and early historic ages.

We give below a glimpse of the historical development in Kumaun. This section recapitulates chapter 6 which deals with the historical period in brief. The main focus of the book however is on the prehistoric and protohistoric periods.

The Puranas and epics bear some stray references to this part of the Central Himalayas, which have often been cited by scholars (Atkinson 1980-81; Joshi 1929; Pandey 1937;

Sankrityayan 1958) in order to weave the early history of this region.

In the seventies of this century, the early historical site of Ranihat, on the Alaknanda, was excavated by Garhwal University (Nautiyal and Khanduri 1977). The site contained 10 layers with a total thickness of 3.25 m of habitational deposit, which was divided into four occupational periods: Pd I (600-400 BC), Pd IIA (400-200 BC), Pd IIB (200 BC-AD 200), Pd III (AD 800-1100). Among the significant findings of the excavation were fine unpainted grey ware, glossy red ware, black polished ware, bone bangles, copper and shell rings, terracotta objects, bricks, iron objects and lumps of iron slag.

Cunningham (1871: 300-302) noticed a mound with a large structure (21.94 X 19.20 X 1.82 m) of walls at Kashipur in Naini Tal district. Agrawal explored this area and discovered an inscribed image of *Trivikrama*, belonging to the 8th century AD, and gave it to the National Museum, New Delhi. Later on, Nautiyal reported NBPW and a Kusana gold coin from the mound (IAR 1960-61: 67). The site was excavated by Sharma (IAR 1965-66: 53-54). The lower levels yielded Painted Grey Ware and Northern Black Polished Ware. The upper levels were represented by structures, pottery and coins belonging to the Kusana period. Among the other important finds were copper and glass bangles, copper rings, coins, an iron knife, nails, chisels, terracotta and stone beads and human figurines.

Kuninda Coins

Towards the end of the eighties, Joshi (1989) contributed a valuable account of the Kuninda coins. The Kunindas are stated to have held power in the Himalayan region corresponding to the present-day Himachal Pradesh and the hills of Uttar Pradesh. References about them are found in the literary accounts of Panini, Ptolemy, Varahamihira, and in the *Parasar Samhita* and the *Brahmanpurana* (Joshi 1989: 31). These literary records have been supported by numismatic evidence as their coins have been discovered from Kumaun-Garhwal and the adjoining areas (Cunningham 1878-79: 65; Joshi 1989).

They exploited the natural resources of the hills and developed internal and external trade. They issued three different types of coins in the following chronological order (Joshi 1989): 1. Amoghbhuti type coins, 2. Almora coins, and 3. Anonymous or Chhatresvara type (Allan 1936).

On palaeographical grounds these coins have been placed between the 2nd century BC and 3rd century AD. It appears that though belonging to a minor hill tribe, the Kunindas expanded their rule over a large area of the hills.

The *Asvamedha* sites at Jagatgram in Dehradun and Purola in Uttarkashi districts of Garhwal are also associated with the Kunindas. They have been placed between the 2nd and 3rd centuries AD (Nautiyal *et al.* 1989).

A number of scholars have contributed significantly to the historical studies, art and architecture of Kumaun (Pandey 1937: 234-368; Sankrityayan 1958; Misra 1935, 1936: 45-48, 1994; Joshi 1970; Vaishnav 1977). From the 7th-8th century onwards, temples, sculptures and inscriptions are well known and quite a bit has been written about them, but as far as the prehistory is concerned, except a few sporadic reports of stone tools, painted rock shelters

and megaliths, which only indicate the archaeological potentiality, no systematic study of its prehistory has been attempted so far. Our book is the first attempt in this direction.

1.6 Migrations

In spite of its rich forests and abundance of mineral and water resources, the area is underdeveloped and poor. Although a large part of the local population depends upon agriculture, only the Lesser Himalayan valleys and the Bhabar region are suitable for agricultural production. The low production from agriculture compels people to search for supplementary sources of income outside the region. The low level of literacy among the women, difficult accessibility of schools and lack of employment opportunities are responsible for migrations. This problem of manpower migration to the plains is very alarming in the hills. A large number of Kumauni highlanders are recruited in the Indian Army (Shastri 1983: 385). The migration process in search of employment from hills towards plains is rapidly increasing. On the other hand, in the past, we come across innumerable examples of immigration of people into these hills, for example, the Asuras, the Khasas, the Raja-Kiratas, the Sakas, the Kusanas, the Hunas, the Chandas and the Gorkhas, and of course, in more recent times, the British (chapter 5). At present, most of the Kumauni people, for example, Rajputs, Brahmans, Vaishyas and Tamtas claim that their ancestors immigrated to Kumaun along with the Chand kings during the medieval period.

1.7 Modern Problems

We also address the problems of transition from the past towards a promising future. This requires addressing the questions of the viability of a separate hill state of Uttaranchal. The following issues have been dealt with in the last chapter.

The Kumaun Himalayas are endowed with famous shrines, tourist spots, mild climate, scenic beauty and a wide range of variegated flora and fauna which have been an immense attraction for pilgrims, tourists, trekkers, mountaineers and researchers. In this region, pilgrimage and tourism both have been entwined since the remote past. The tourist industry in the hills has been greatly assisted by the widespread development of a good transportation system. But for the towns of Kumaun we have very limited facilities of rail, air and water transport. Roads (Fig 1.4) are the only mode of transportation. During the rainy season landslides usually disrupt traffic seriously.

The mountainous region is tectonically more mobile and is often visited by earthquakes. The earthquakes of great intensity are known to cause considerable damage (Bhatt 1985: 128). Sometimes huge masses of rocks and debris are thrust into river valleys, which create temporary lakes. These lakes eventually overflow and flood the countryside. The bottoms of such existing lakes have been converted into flat basins. In the course of time, rivers cut through the obstructions to drain out these lakes. Such basins have been noticed at a few locations in this region, for example, in the area around Bagwalipokhar and Baijnath in Almora district and around Bhimtal and Naukuchiyatal in Naini Tal district. Such impounded lakes also provide good Quaternary sections some of which have been studied by us.

The region has ample raw material and other resources in the form of resin, fruits, timber, medicinal plants, copper, iron, lead ores, magnesite, soapstone, etc. Many of these are transported a long way to the plains. However, there is a vital need to establish industries in the hills to generate employment.

The quality of education needs to be improved and regional history, culture and geography should be included in the curricula. In the universities, museums should be established in such a way that students could be made aware of the culture as well as natural resources of the hills and should feel proud of their valuable cultural and natural heritage. There are many temple groups which contain a large number of icons now housed in sealed godowns. These should be displayed properly to make the people learn about their cultural heritage. The education should be region-oriented as well as job-oriented. The problem of drainage of manpower can be tackled effectively by opening new avenues of economic activities such as enlightened tourism.

CHAPTER 2

PREHISTORY: ROCK ART AND CUP-MARKS

2.1. Introduction

As the authenticity of the Stone Age artifacts discovered so far is yet to be confirmed, and as no definitive primary sites have been discovered so far, we will confine ourselves to what we said in the first chapter about the Stone Age in Kumaun. We therefore start with the rock art.

2.2. Rock Art

There is considerable controversy regarding the meaning and significance of rock art. It is, however, generally believed that it is not something to fulfil the idle aesthetic urge to decorate one's living rooms. In fact, quite often it is preserved in some deep and inaccessible caves in Europe.

In the European rock art, one can observe some significant features. The animals depicted are naturalistic; often the paintings are in quite inaccessible locations. The animals depicted were hunted for food and at times they appear to be ritualistically killed on the painting itself. Perhaps such ritualistic killing was done to ensure success in the hunt. Thus we can see that for early man such paintings were, in fact, two-dimensional extension of the three-dimensional reality (Agrawal 1979: 7). Some scholars have made a topographical study of the rock art and have found evidence of the world view of early man, others suggest that the expression through paintings heralded the advent of language.

The view of Bronowski, who was a polymath but not an archaeologist, of the European rock art is worth noting. "In these paintings the hunter was made familiar with dangers which he knew he had to face but to which he had not yet come. When the hunter was brought here into the secret dark and the light was suddenly flashed on the pictures, he saw the bison as he would have to face him, he saw the running deer, he saw the turning boar. And he felt alone with them as he would in the hunt; his spear-arm flexed with an experience which he would have and which he needed not to be afraid of. The painter had frozen the moment of fear..." (Bronowski 1976: 54).

Altamira, meaning "high lookout," is located 5 km from the Cantabrian coast, in north Spain. Don Marcellion de Sautuola was the owner of this land. Only in 1868 he discovered

some painted caves. Edouard Piette, the famous French prehistorian, instructed de Sautuola the cave exploration techniques. It was de Sautuola's daughter, Maria, who was the first to discover the low cave painted with bisons and horses in 1879. There were very few who believed in de Sautuola's discoveries; some even thought that he had faked them. Appalled by the scholar's reactions de Sautuola closed the cave. He died in 1888. It was other discoveries of La Mouthe and other sites in Dordogne area in 1895 which forced the prehistorians to accept the antiquity of these paintings. Once it was believed that the Upper Palaeolithic man did have the abilities for artistic expression, a lot of theories cropped up to explain this prehistoric art.

John Halvarson of the University of California suggested that the images are products of the "primal mind." "Palaeolithic representation is naturalistic because it is unmediated by cognitive reflection," he says. "At this early stage of mental development, precept and concept may have been undifferentiated." He does not ascribe any religious motivation to these paintings.

It is true that the engravings and paintings do not represent scenes from Upper Palaeolithic life, but there is a pattern. Horse, bison and oxen count for 60% of the images. Carnivores are rare.

The early idea of art for art's sake was soon abandoned for the hypothesis of sympathetic magic. Reinach in 1903 argued that the paintings were part of magical and totemic rituals, as was evident from his studies of the aboriginal art of Australia. This view was developed and promoted vigorously by the Abbe Breuil during his long and dominating career. As a result, the majority of the archaeological establishment interpreted this art as hunting magic.

The Abbe Breuil died in 1961 and that was also the end of his all-encompassing hunting magic hypothesis. Where Breuil had seen chaos, Andre Leroi-Gourhan found order in them. Leroi-Gourhan was struck by the consistency of the Palaeolithic art. He said, "Palaeolithic artists repeatedly depict the same inventory of animals in comparable attitudes. Once this unity is recognized, it remains only for the student to see ways of arranging the art's temporal and spatial subdivisions in a systematic manner." According to him this art embodied ideas about Upper Palaeolithic society.

One problem with the hunting magic hypothesis was that the images depicted often did not reflect the diet indicated by fossil remains. Reindeer was the main component of diet but its paintings were rare. The reverse was true of the horse. Leroi-Gourhan recognized that horse, stag and ibex represented male-ness and the bison, the mammoth and the ox femaleness. He found that deer was mainly confined to the entrances of the main chambers. Horse, bison and ox were the predominant creatures of the main chambers. Carnivores were confined deep into the cave system. Thus there was a concentration on a diversity of meanings and a concern for the context of art, not so much what the images meant but rather what made them meaningful. Leroi-Gourhan died in 1986. It was followed by views which emphasized diversity. For example, Denis Vialou sees order in individual caves but not the global order of Leroi-Gourhan. He proposed that each cave should be viewed as a separate expression. Delporte is studying the differences between wall art and portable art. Conkey is focusing on the social context of the images.

The Upper Palaeolithic art covers 35,000 to 10,000 years, and coincides with that of the Ice Age. In Europe, five periods have been identified, mainly based on technological changes:

1. Chatelperronean - 35 to 33 kyr.
2. Aurignacian - 33 to 30 kyr.
3. Gravettian - 30 to 22 kyr.
4. Solutrean - 22 to 18 kyr.
5. Magdalenian - 18 to 10 kyr.

There is no uniformity between the art of different periods. Eighty per cent of all Palaeolithic art comes from the Magdalenian.

The Chatelperronean is marked by blade and burin industry, though not much of art is in evidence. During the Aurignacian there was no cave painting, though ivory beads and small human and animal sculptures are well represented. There are regularly spaced incisions which Marshack identified as systems of notation. A flute is also reported from this period. The Gravettian is marked by the so-called Venuses or female icons associated with fertility cult. It is only in the Solutrean period that painting in deep caves started appearing but much more impressive were the bas-reliefs, some of them standing out 15 cm in relief. The era of deep cave painting starts really with the Magdalenian (e.g., Altamira and Lascaux), also carved and engraved ivory objects and a sudden burst of depiction of human faces. For instance, in the cave of La Marche there is a gallery of more than a hundred human faces engraved in limestone rocks.

These painted cave sites might have served as places for aggregation for renewing friendships, strengthening political alliances and arranging marriages, like they do in the tribal societies today. The real benefit of such aggregations would have been social and political, not economic.

The coincidence of geometric motifs with representational images is a puzzling aspect of this art. The Abbe Breuil saw in them traps, snares and even weapons, whereas Leroi-Gourhan found structural duality in them. Dots and strokes were male signs; ovals, triangles etc. were females signs. On the other hand, Lewis-Williams identifies them with images created during the state of hallucination, a sure sign of shamanistic art. He derives grids, zigzags, dots, spirals, curls, etc. from the altered states of consciousness, no matter what their cultural background is. He draws parallels with the aboriginal San rock art. He finds all the three stages of hallucination depicted in Palaeolithic art. The therioanthropes perhaps represent shamans or hunters dressed in animal skins sometimes wearing horns. In short, these prehistoric art sites are imbued with meaning but we cant decipher it. In Richard Leakey's words, "The potency is palpable but we are culturally blind to its content."

Recent studies of South African rock art by Dowson show that, "The rock art of southern Africa therefore is not exclusively ethnic art; rather, it came out of the crucible of southern Africa's all-encompassing past.... The depictions of animals, shamans, spiritual versions...are

not just a historical scrap book. On the contrary, the rock art images point to and were implicated in the negotiation of changing social relations. Seen in this way, the art can contribute significantly to an understanding of the social processes that formed the past" (Dowson 1994: 341-42).

On the other hand, discussing the rock art of Zimbabwe, Garlake says, "The concept of an art of archetypes, established through attributes, and emblems, goes some way towards explaining the nature of art.... If the art was concerned primarily with the construction and formulation of archetypes, this necessarily implies that it was almost entirely symbolic.. and the attributes of the emblems equally symbolic in content...establishing notions of archetypes and attributes is simply a step on the road to 'meaning'" (Garlake 1994: 353-54).

Discussing the prehistoric art of the Coso Range of North America, Whitley tends to see the "depiction of changes in the subsistence pattern in this art, from a generalized foraging to more specialized seed-oriented subsistence because subsistence change requires larger cognitive adjustments..." (Whitley 1994: 370).

Thus the rock art of different continents, studied by different scholars, has been interpreted in very diverse ways. There is no single formula which we could apply to the study of the Kumauni rock art. Instead, we would rather allow the Kumauni rock art to speak for itself in the following sections.

Rock paintings have been studied using very different methodologies and conceptual frameworks. Before we set out to examine the evidence of Kumauni rock art, let us have a glance at the global as well as the Indian rock art scenes.

Rock Art: Global Perspective

Europe: The paintings, engravings and bruisings on the ceilings of the caves and rock shelters of Europe came to light from the late 1870s. Sautuola was the first man to discover Stone Age paintings in 1879 from the caves of Altamira in Spain. However, at that time prehistorians first refused to accept the polychrome paintings of bison as being of Palaeolithic antiquity (Daniel 1962: 53). Only further discoveries of rock art sites in Dordogne area, for example, Chebot, La Mouthe and Pair-non-Pair caves around 1895 and Les Combarelles and Font-de Gaume by 1901, led to a gradual change in attitude. Since then, a large number of Pleistocene and post-Pleistocene rock art sites have been discovered in Europe. Breuil published some important paintings from Calapata in eastern Spain. This was followed by the discovery of paintings at El Castillo, Covalanas, La Haza and at Niaux in 1906. The caves of La Pasiega, Las Trois Freres, Tuc d'Audoubert and Lascaux were discovered before 1940. The Rouffignac cave in the Dordogne in the Franco-Cantabrian region was discovered in 1956. There are quite a few other well known painting sites of the Spanish Levant which were discovered in the early years of this century, for example, Cogul in 1908, Alpera in 1910, Minateda in 1914, Morella la Vella and fifteen rock shelters of Valltorta Gorge in 1917.

The European Palaeolithic rock art sites have been located in three main areas: the valley of Dordogne in France, in the Pyrenees, and in the Cantabrian mountains. However, other isolated groups are known from Sicily, Southern Russia and Eastern Siberia (Ucko and

Rosenfeld 1967). A majority of post-Pleistocene rock art sites are known from Levant area of Spain (Beltran 1982).

The Palaeolithic cave paintings mostly include animals-like bison, bull, mammoth, rhinoceros, horse, ibex, reindeer and boar and are characterized by a naturalism and dynamism, whereas the human figures are depicted only in a symbolic style, using only few lines. The Mesolithic paintings, dominated by hunting scenes, are smaller than the Upper Palaeolithic ones.

Though we do not know exactly how prehistoric man learnt the technique of making the colours and began painting, it has been suggested that there "was a long tradition of artistic expression on perishable material such as skin, bark, cloth and wood, before the first pictures appeared on the wall or ceiling in a dark cave, (Ucko and Rosenfeld 1967: 76).

The post-Pleistocene rock art of Europe mainly consists of open engraving sites. The well known areas for such art are Scandinavia, the Swiss/Italian Alps and the Spanish Levant. The common themes of this art are game animals, birds, warfare, dance, daily life, non-figurative motifs such as spirals, triangles, mazes, and sometimes agriculture and pastoralism (Beltran 1982: 72-75).

Africa: In 1899, Molyneux was the first to publish a note on the paintings of Rhodesia (Neville 1949: 59). However, the first work on rock art of Africa was carried out by Flamand in 1921 (Alimen 1957: 359). In 1954, Breuil and Lhote published a detailed account of North African (Saharan) engravings. Paintings and engravings are known from the mountainous region of the Sahara in North Africa. Tassili is one of the well known sites of this area from where more than 1,5000 engravings have been recorded (Lhote 1961: 103). The earliest (Hunter period) portrayals depict naturalistic figures of elephants, rhinos, lions, large bovids and camels. The depiction of horses and chariots in later Saharan rock art is well documented in over 600 rock paintings and engravings. The introduction of camel is said to have coincided with the later phase. The rock art also documents a number of other changes including the introduction of pastoralism (Brandt and Carder 1987).

Apart from these, a large number of rock art sites in Zimbabwe, Mozambique, Botswana, Namibia, Tanzania, Lesotho and in South Africa have been recorded. The early art forms are characterized by a range of animals including eland, antelope, elephant, rhino, hippopotamus, buffalo, and also human figures. Geometric designs and hand-prints also occur in some areas (Lewis-Williams 1983). Holm (1961: 153-203) has given a comprehensive analysis of the rock art of South Africa.

The South African rock art differs from the well known Palaeolithic rock art of Western Europe. The European art is concealed in deep inaccessible underground caves, but the South African rock shelters are open, the sunrays often directly reaching the paintings. The paintings are generally smaller than the European ones (Lewis-Williams 1983). The earliest phase of rock art in this area is represented by painted stones found from excavations of different shelters. Their date goes back to 26,000 BP. The human figures are generally absent from this phase, but appear in the second phase. The third phase contains most of the shaded polychrome paintings of antelopes. The human figures are also drawn with equal skill. These

paintings are associated with the San (Bushman) hunter gatherers. In the last phase, human figures are depicted with their rifles, hats, garments and horses. Throughout these four phases, the eland has been increasingly depicted which suggests continuity of a single developing tradition of art (Lewis-Williams 1983).

Australia: From Australia, an enormously diverse and rich heritage of rock art is known, covering a period from some 20,000 years BP to the present (Gale and Jacobs 1987: 226). A number of rock painting sites were reported from North Australia by Worms (1955: 546-66). The areas such as W. Arnham Land, the Kimberley, the Pilbara, south-east Cape York, the Central Queensland highland and around Sydney have a vast concentration of rock art sites. The Koonalda cave, on the arid Nullarbor Plain, containing finger markings and incised lines on the soft parietal deposits, is the oldest well dated site. The pecked circles, dots, connecting lines and the bird tracks represent the early phase of Australian rock art. Rosenfeld *et al.* (1981: 85) have postulated that the engravings in Australia had begun prior to 13,000 BP.

The Central Australian art is characterized by geometric motifs, sand drawings, engravings and sacred paintings. In the Sydney basin, figurative motifs like fish, macropods, whales, humans, snakes and lizards have generally been engraved, which also reflect an environmental context. Rock art of Laura (south-east Cape York) includes figurative paintings of humans, macropods, flying foxes, dingoes, echnidas, fish, birds and reptiles. However, the Western Arnhem Land's paintings are distinguished by multi-coloured humans, macropods, birds, fish and reptiles with decorative X-ray style. Besides this, the 'Mini' art of small red naturalistic figures is significant for stylistic development.

The various discoveries of rock paintings from North Kimberley, Central-North Australia, Mungo, Miriwn, Kneiff, Clogg's and Koonalda are some of the well known sites, which have provided a long sequence of Stone Age art in Australia. In recent years the Australian Institute of Aboriginal Studies has contributed a great deal to the study of rock art (Mulvaney 1975: 263).

America: The rock painting and engraving sites are also known from North and South America. The discovery of rock art sites in North America started as early as 1893 by Mullery. Subsequently, Grant (1967), Wellmaan (1979), Heizer and Baumhoff (1962) studied a number of rock art sites of North America. The engravings of sheep and human figures are well known from California. The beginning of rock engravings in California has been placed in the Late Pleistocene which continued into the historic period (Whittey and Dorn 1987).

Indian Rock Art

In India, the first prehistoric rock paintings were found at Sohagighat, Mirzapur in Uttar Pradesh in the year 1867-68 by Carlleyle (Smith 1906). He was perhaps the first man in the world to associate these paintings with prehistoric stone-chippers whose cultural remains he had excavated in the floors of these shelters. Carlleyle had discovered painted rock shelters in India twelve years before they were discovered in Europe. However, the first scientific article on Indian rock painting was published by Cockburn (1883). In 1881 he found fossilized bones of rhinoceros in the valley of river Ken and in 1883 he found a painting of rhinoceros-hunt at Ghormangor near the Bijaygarh fort, south-east of Robertsganj in Mirzapur district (Cockburn 1883). Even at this early stage, Carlleyle, the pioneer scholar, was able to establish

the prehistoricity of these paintings. Cockburn published an account of all his discoveries made in the 1880s and 1890s and he compared the paintings of India with Australia, South Africa, North America and South America (Cockburn 1899: 91). Fawcett (1901) reported rock carvings from Edakal cave, in Kerala. A few years later a pictorial description of the rock paintings in Banda district (Silberrad 1907) and a painted shelter at Singanpur in Raigarh district of Madhya Pradesh (Anderson 1918) were published. In the history of Indian art, prehistoric rock art was included for the first time by Brown (1917: 14-41). These attempts were followed by the work of Ghosh, who brought to light the paintings of Adamgarh group near Hoshangabad in 1922. He carried out a study of the whole area, from Raigarh to Hoshangabad (Ghosh 1932). Thereafter the credit for discovering the paintings of Pachmarhi region goes to Gordon, who published many articles on rock art in Indian and foreign journals and summarized his views on Indian rock art (Gordon 1958). Varma (1964) studied the paintings of Mirzapur, shortly after which Gupta (1967) published a comprehensive study of rock paintings and engravings. Pandey (1969) has also thrown light on several prehistoric sites. Tiwari (1975) brought to notice the largest painted rock shelters in India and he also found many sites around Bhopal.

The most notable work in this field was done by Wakankar. He discovered several hundred painted rock shelters in Central India. He attempted a broad survey of the rock art of the whole country and produced a chronology of paintings based on the style, context and superimposition (Wakankar 1973). In the following years, more painted shelters were reported.

The efforts of these scholars brought to light over a thousand rock shelters with paintings at more than 150 sites in India. Central India is the richest zone of rock art in the country—and perhaps in the world—where 90% of the sites are situated in the Vindhya, Mahadeo and Kaimur sandstone hills. They were thickly forested and were ecologically ideal for man's habitation during the prehistoric times. Between 1972 and 1977 extensive excavations were conducted by Vikram, Ujjain and Pune Universities in quite a few Central Indian caves (Wakankar 1984; Misra *et al.* 1977). It was established by their excavations that right from the Lower Palaeolithic to Historic period man lived in the Central Indian caves. The excavations have helped to correlate the paintings with archaeological evidence.

The Mesolithic paintings are generally dominated by game animals, hunting scenes and other cultural activities. The drawings of post-Mesolithic or later period show domestic animals, chariots and bullock-carts, domesticated animals and fighting scenes.

With this backdrop—global and Indian—we are now ready to evaluate the Kumauni rock art.

Kumauni Rock Art

The painted rock shelter areas are located close to the north and north-east of Almora town (29°37'N; 79°38'E between 1,300 and 1,900 m AMSL) in the Kumaun region. The Almora-Pithoragarh and the Almora-Bageshwar roads lead to this area. The entire area comprises a series of ridges and steep mountain slopes descending from Kasardevi and Binsar. The Kasardevi hill is oriented north-west-south-east and a series of transverse and parallel

mountain ridges bifurcate towards north-east, east and south-east. These mountain ranges meet the hills of the Binsar range (29°42'26"N; 79°47'44"E) descending in a southerly direction. Both the mountain ranges are visible from Almora town. The Binsar mountain range is covered by dense vegetation, which is dominated by *Quercus incana, Rhododendron* and coniferous trees of the Lesser Himalayan zone; however, the lower slopes are populated all along by *Pinus roxburghii,* and other species of this zone. The Kasardevi range also represents similar vegetation. In these hills, mostly on northern slopes, we find some species of wild fruits like *kafal (Myrica nagi), kilmora (Berbers asiatica),* and *makhoie (Solanica nigrum).*

The lower slopes of these hills are sparsely populated, where the forest has been subjected to prolong and incessant tree-felling for timber and firewood. These hills also produce a large quantity of resin to run the plastics, turpentine and other industries in the plains of the state.

A perennial stream known as That gad or Binsar gad originates in the hills of Binsar and flows in a southerly direction through the Faurkanauli and Petshal area, where the rivulet Kakari, coming down from Narayankali, joins this stream. Further down it is known as Suyal and it joins the Koshi, south of Almora near Chausali village. However, the Suyal receives several other seasonal rivulets from the hills in its upstream (chapter 1). Standing on the Kasardevi and Binsar hills, one gets a panoramic view of the countryside around and a wide stunning spectacle of the Himalaya ranges. For this reason the locality of Binsar attracts a large number of tourists and it is being developed as a sanctuary.

The area under study of rock art is located on the Almora nappe of the Lesser Himalaya, which is delimited by the North and South Almora Thrusts (Valdiya 1980: 94). Mica-granites, schists, gneiss, sandstone, quartzite, chlorite schist and slate are the rocks of this area, though mica-schist and slate rocks predominate. The outcrops of these rocks can be seen frequently on the hill slopes. The slate rock of this area generally bears layers of meta-quartz. The original colour of the slate rock is gray to medium gray to light gray. However, in course of geological time the slate rock has suffered extensive erosion due to sun, rain, wind, changes in temperature, acids percolating into the rocks with rain water and penetration of tree roots, resulting in the loosening and break-up of the rocks. As a result of weathering, the softer rocks slowly get removed in the form of small chips. This perhaps has led to the formation of several kinds of shape in the rocks. Different shapes and sizes of cavities have been noticed in these rocks. Most of the rock shelters of the area seem to have been formed by the enlargement of cavities through weathering.

The Kasardevi shrine is located on the Kasaya hill. According to a tradition the Almora town is situated on a saddle-shaped ridge, which is also a part of Kasaya range. The names *Kasaya* for hill range, *Kasayeshvar mahadev* for the temple, *Kasardevi* for the shrine of a deity on the top of the hill, *Kasun* for a village near Almora, *Koshi* for the river, are supposed to be given by the Khasas (Tripathi 1972: 7-13), who were spread over these hills perhaps prior to the dawn of the Christian era. Around the Kasardevi shrine the mountain slope is enclosed by massive boulders and an outcrop of the mica-granite rocks. On the vertical face of one of such rocks, an inscription in *Brahmi* has been found. On palaeographical grounds it has been assigned to c. 5th-6th century AD (Sircar 1961-62: 248).

About 10 km east of Kasardevi, or about 2 km north-west of Lakhiudyar (Dalband), a group of 52 temples, known as Narayankali, is situated. The temples of this campus are devoted to goddess Kali, Siva, Lakulisa, Vishnu, Ram and other regional deities. The main shrine is devoted to Kali. Though the style and architecture of these ancient temples is very simple, they have important iconographic collections, which include Vishnu, Uma-Mahesh, Parvati, Vinadhar Siva, Lakulisa, Matrika pattas of Vaishnavi, Varahi, Indrani and Chamunda with Narsingh, Kartikeya and Ganesha. These icons may be assigned to the 9th to 12th centuries AD as they resemble the iconographic collections of the Katyuri period found throughout the hills. At Narayankali a small mound was located, from where red, black and gray ceramics were collected. The pottery which includes jars, dishes, bowl, vases seems to be quite close to the ceramics of Chaukhutia valley in style and fabric.

There are six memorial stones, one each at Petshal and Artola, two at Dungri and two at Kurochon, which belong to the medieval to late medieval periods (Kharakwal 1993). These stones have been found on ancient routes, on the boundary of the villages, with temples and even in uninhabited places in this area. An ancient bridle-path was also located between Almora and Pithoragarh through this area. Therefore the above archaeological remains and the ancient routes all suggest that right from the Katyuri period, at least the area was an active zone of human activity.

Previous Work

Agrawal and Joshi (1978) were the first to report the Lakhiudyar site along with some more paintings nearby. They thus initiated the rock art studies in the Kumaun region of the Himalayan foothills.

The painted rock shelter at Dalband is located 18 km north-east of Almora town on the right bank of the Binsar gad. This is perhaps the biggest rock shelter of this region so far known. Five years after this discovery, a painted rock shelter was found on the right bank of Alaknanda about 8 km north-west of Chamoli in Garhwal at an altitude of 2,000 m AMSL (Saklani 1983: 217). This rock shelter is about 10 m high and overlooks a deep valley towards the north-east. The paintings consist of stylized human and animal groups. The posture indicates movement of the figures. In this shelter, eighteen human and seven animal figures were noticed in red ochre pigment. Among the human figures two are shown comparatively bigger in size. The animals represented look like stag and fox with long necks. The human figures in this shelter look as if they are out for hunting, though there are no weapons shown as such. Another evidence of rock shelter, having paintings, has been reported from the Kimni village on the Gwaldam-Almora road in Chamoli district. Here, a dagger-like object and some small animals are depicted. Some reptile-like creatures are executed in white colour. Nautiyal and Khanduri (1986: 82-83) assign these paintings to prehistoric period. A year later Mathpal noticed more painted rock shelters at Falseema, Kasardevi, and Petshal located to the east of Almora town (Mathpal 1987).

Methodology

For an analytical study of the paintings, which constitutes the main part of this chapter, a total of 170 figures were copied by us. To copy them we applied the direct tracing method.

We used highly transparent polythene sheet over the rock surface to trace the paintings. Subsequently the paintings were transferred on to drawing paper. Some of the drawings were coloured at the site. While tracing the paintings Munshell colour chart was also used to compare the tone of the colour. The Munshell chart numbers are given within bracket in the text. A few paintings were also photographed. Wherever tracing was not physically feasible, either due to the height of the drawing or faded condition of the painting, we had to copy them approximately. However, the paintings on the approachable height in the shelters were drawn by taking measurements. In several cases the paintings were much faded; to copy them the surface was moistened. The direct technique of tracing of the paintings has been found more precise than any other method, and it has been applied by several scholars to study the prehistoric paintings (Cooke 1961: 61-65; Vinicombe 1966: 559-60).

We have classified the paintings under six major categories: 1. Male human figures; 2. Female human figures; 3. Child human figures; 4. Motifs; 5. Colour patches; and 6. Animal figures. The figure size in the Kumauni rock art is very small. The largest figure is represented by a set of small lines underlined by am 80-cm long line in shelter LIKDR I. The bulky human figures, sometimes in head-dress and gown-like clothes, were identified as female figures. However, very small figures viz., less than 4 cm in height were identified as child figures. The description and classification of paintings were followed by a comparative study and a chronological sequence. The study is based on first-hand data collected from Kumaun.

Some of these rock shelters were earlier reported in a cursory manner. To find out the interrelationship, stratigraphy and chronology of these paintings, we have developed a nomenclature to make the study more precise (for example, LKDR 1, LKDR 2, LKDR 3, etc.). We have described the paintings right to left and bottom to top in each shelter. Site and number of rock shelters in each location from north to south are given in Table 2.1.

Table 2.1. Nomenclature and description of rock paintings

Location	Area	Number of rock shelters	Painted shelters	Total
1	Likhudyar (LIKDR)	7	3	10
2	Kasardevi (KDVI)	6	3	9
3	Lakhudyar (LKDR)	6	4	10
4	Petshal (KFKT)	3	2	5
5	Falseema	3	1	4

We have now devised and standardized a system of nomenclature for rock art and cup-mark sites. We do hope that the same system will be used by the future reseachers so that different publications do not have different systems of reference. This will ensure that several terminologies and nomenclatures do not confuse the future reseachers as has happened in Bhimbhetka and other sites.

Themes of Paintings

Prehistoric man generally depicted game animals in a very naturalistic form in the caves and semi-open rock shelters. The paintings of Mesolithic period and later depict hunting scenes. In the Indian context, though the human figures as well as other motifs seem to have been painted with equal skill, often they have drawn the human figures in stick-like and symbolic style. In Kumauni rock art we do not find a wide range of themes. It seems that the artists were greatly interested in drawing dancing figures, running bands, geometric and other decorative motifs. The paintings are dominated by human figures in different styles, i.e., stick-like, partially abstract, symbolic and so on (Fig 2.1). A total of 577 human figures were counted in all the shelters. They generally depict dancing, jumping, running, carrying objects, holding stick-like or small round objects and sometimes hunting scenes. In comparison to males, female figures are very few—only 14. Leaving four identical women figures of the shelter KFKT 1, all other female figures have been identified by the bulky shape of their body, in contrast to the slim male human forms. The number of children is also very small—only 34.

The human figures are depicted in a variety of red pigments, though 20 figures are in black. Most of them have been portrayed by opaque technique in different forms. The human figures have been portrayed ranging from 4 to 25 cm in height; those of smaller size of less than 4 cm have been identified by us as children. The children are depicted in many shelters, for example, LKDR 1, LKDR 2, LIKDR 1, KFKT 1 and Falseema. They have been found in different forms such as sitting on shoulders, dancing, sitting on the shoulders of dancers and sitting on a squarish structure. The human figures are generally depicted in rows and groups. However, sometimes they form part of a larger scene. In a few cases the human figures are shown either with head-dress or long skirt-like garments or a *langot*-like cloth hanging between their thighs.

The number of animal figures in the Kumauni rock art is very small. We have documented only nine animals. Jackal, goat, horse, lizard, snake and deer like animals were identified.

There are no regular hunting scenes as such, though in LKDR 1 at least at four places the scenes seem to depict hunting. On the central right part of the shelter, a horse-like animal looks like falling down and an unidentified animal without head is also depicted; a man shown with raised hands, viewer of this scene, is perhaps excited. At one spot, two goats look frightened by the presence of a man; at another location a similar animal has been surrounded by human figures. On the left flank of the shelter, some human figures are depicted running after a small unidentified animal. In KFKT 1, a goat looks frightened and a jackal-like animal also gives a similar impression. The depiction of these animals suggests that they were wild and not domesticated.

A few other activities, perhaps related to daily life, have been depicted, for example, in LKDR 1 a man is shown lying (dead ?) and two persons each near its head and feet are depicted. At another spot, four people are carrying an unidentified object on their shoulders. They are approaching a lying (dead ?) human figure.

In some cases, human figures are associated with motifs, for example, in LKDR 1 a man is shown touching a pentagonal structure. What it represents cannot be identified. Similarly, in LIKDR 2 a human figure is depicted inside a rectangular motif and another man is shown next to the motif. Besides these, in KFKT 1 several human figures are depicted in separate compartment-like conical structures joined with each other. At Falseema, a child is shown sitting in a squarish structure and two human figures are standing close to the motif. The associated motifs are probably only geometrical patterns.

In shelter LKDR 1, 76 dot-like motifs have been depicted in three groups on the ceiling of the shelter. Perhaps they represent some kind of symbols. The second shelter of this group bears two flower motifs; however, they are not associated with any other figures.

Some of the paintings may be decorative motifs like the semicircular, wavy zigzag set of lines in LKDR 1, a half-diamond structure and the zig-zag lines in LKDR 2 and a similar structure in Falseema shelter. It is difficult to guess the motivation behind these paintings, unless they have some ritualistic significance. The paintings are generally made in monochrome, but in LIKDR 1, four dark red tree-like figures were outlined by white, perhaps at a later stage.

Table 2.2 Classification of male human figures

Phase	I Black	I Ochre red	II Crimson red	III Vermilion red	IV Brick red
LIKDR 1	-	17	19	—	—
LIKDR 2	-	—	4	1	—
KDVI 1	-	—	3	7	—
KDVI 2	-	—	—	1	—
KDVI 3	-	—	—	—	2
LKDR 1	5	23	152	24	150
LKDR 2	3	19	39	—	11
KFKT 1	12	—	17	—	—
KFKT 2		—	—	—	2
Falseema	—	—	7	4	7

Table 2.3 Classification of female human figures

Phase	I Black	I Ochre red	II Crimson red	III Vermilion red	IV Brick red
LIKDR 1	—	—	3	—	—
LKDR 1	—	—	1	3	—
KFKT 1	—	—	7	—	—

Table 2.4 Classification of human child figures

Phase	I Black	I Ochre red	II Crimson red	III Vermilion red	IV Brick red
LIKDR 1	—	—	2	—	—
LKDR 1	—	—	15	11	—
KFKT 1	—	—	4	—	—
Falseema	—	2	—	—	
Grand Total	20	59	275	51	172

Table 2.5 Classification of motifs

Phase	I Black	I Ochre red	II Crimson red	III Vermilion red	IV Brick red	V White
LIKDR 1	—	—	5	—	3	—
LIKDR 2	—	—	3	—	—	—
KDVI 1	—	—	1	—	—	—
LKDR 1	5	—	8	1	3	—
LKDR 2	2	3	3	11	4	2
LKDR 3	—	—	—	—	3	—

LKDR 4	—	—	—	—	4	—
KFKT 1	4	1	2	—	—	—
KFKT 2	—	—	—	1	—	—
Falseema	2	—	2	1	—	—

Table 2.6 Classification of colour patches

Phase	I Black	I Red ochre	II Crimson red	III Vermilion red	IV Brick red
LIKDR 1	—	—	2	3	1
LIKDR 2	—	—	3	—	—
LIKDR 3	—	—	—	—	4
KDVI 1	—	—	2	12	—
KDVI 3	—	—	—	—	3
LKDR 1	—	1	28	6	4
LKDR 2	6	3	5	—	2
LKDR 3	1	—	—	—	—
KFKT 1	—	—	12	—	—
Falseema	—	—	1	—	2

Table 2.7 Classification of animal figures

Phase	I Black	I Red ochre	II Crimson red	III Vermilion red	IV Brick red
LKDR 1	2	—	3	—	1
KFKT 1	1	—	1	—	1

2.3 Chronology and Comparative Study

In a recent paper (Agrawal & Kharakwal 1994) we have elaborated the steps to be taken to put Indian rock art firmly on an absolute chronological framework. This would entail a

relative stratigraphy of paintings based on several independent parametres like the use of organic pigments, inorganic colours, binders, blood, honey, bees, wax etc., in different periods or styles of paintings. One can also use various laminae (sinter laminae, silica layers, oxalate layers, micro-erosion) and finally AMS dating to validate the chronologies based on other parametres. We have made some beginnings in this direction but till such definitive chronologies become available, we have to use the traditional techniques of superimposition. One of us (JK) has carried out the following analysis of the Kumauni rock art.

Most of the painted shelters of Kumaun are semi-open, which bear close similarity to the other Indian rock art sites. Though the themes of the Kumauni rock art are confined to dancing, running, carrying objects, and hunting human figures and decorative motifs, they do give a glimpse of the prehistoric society in this Central Himalayan region. To execute human figures, stick-like, arrow-like and stylized styles were employed. Only one figure on the shelter KFKT 1 was made by executing only an outline. The abstract and arrow-like styles were employed right from the first to the fourth phases. However, stick-like human figures were mainly executed in the second phase. The fourth phase comprises both abstract as well as stylized human figures. Decorative motifs were found in all the five phases. The similarity of subject matter, colours and styles of younger figures vis-a-vis the older ones, state of preservation and location of paintings on the semi-open shelters suggest continuation of the art tradition and lend a striking uniformity to the Kumauni rock art.

A group of dancers at LKDR 1 appears quite similar to a group of dancers at Bhimbetka (Mathpal 1984: fig. 36) and at Fatehpur Sikri (Bajpai 1975). The above group of dancers at Bhimbetka has been placed in the earliest layer of the historical paintings. Decorative motifs were executed at Bhimbetka right from the beginning. Similarly in Kumaun the decorative motifs were found almost in all the phases. They also used geometric patterns. The figures have generally been depicted in a very small size, almost diminutive. There also is a close similarity between the Kumauni rock art and the rest of the Indian rock art.

Nowhere the paintings of Kumaun are near life-size or do they represent many game animals and hunting scenes. The chronology of the paintings is based upon the cultural contents of the paintings, superimposition of figures and style of execution.

In the shelter LIKDR 1, human figures in ochre-red are superimposed by crimson-red motifs and patches. On the north-east part of the shelter, four tree-like figures are outlined by a white pigment. The crimson and ochre red paintings seem to have undergone heavy weathering compared to the fresh appearance of the white pigment. The brick-red motifs in this shelter are similar to those found in LKDR 1 and II in style. The brick-red paintings are superimposed on crimson figures. Thus the ochre-red paintings represent the first phase, followed by the crimson, and then the white and the brick-red paintings. The second shelter LIKDR 2 of this group bears three motifs and a few human figures, which may be assigned to the second phase of LIKDR 1. However, the third shelter of this group, containing brick red figures, was painted in the last phase.

The Kasardevi group of shelters bears paintings in crimson, vermilion and brick-red. The vermilion patches are superimposed on crimson paintings. Thus the figures in crimson

red are older than the vermilion. The brick-red here also represents the last phase.

The location 3, namely the Lakhiudyar group, is the nuclear area of painting activity in Kumaun. The shelters of this group bear as many as five layers of paintings, which help us to postulate a relative chronology. The first phase of this group is represented by black and ochre red paintings in shelters LKDR 1. The black lizard-like figure and a motif (?) are superimposed over human figures in red ochre. In the central part of the shelter, the red pigment is sprayed on the surface and a semicircular motif (?) in black is superimposed on the red surface. Thus the figures in both these pigments could have been depicted in the first phase. The second phase was represented by a large number of crimson red paintings. In LKDR 1 alone, as many as 168 human figures, eight motifs, 28 patches and thhree animals were executed. At several places these figures are superimposed on ochre red paintings. The vermilion-red figures were found in the central part of the shelter, which look more fresh than the crimson-red figures. The shelter also bears a large number of paintings and a Brahmi inscription in brick-red pigment. The inscription is superimposed on the crimson and vermilion paintings. Thus the LKDR 1 bears four layers of paintings; the oldest black and ochre red phases are followed by crimson, vermilion and brick red paintings respectively.

LKDR 2 is only one shelter of the rock art area of Kumaun which bears all the five phases, but unfortunately most of the paintings in this shelter are either fragmented or destroyed by the modern people. The four phases of LKDR 1 are identical in this shelter; the last or fifth phase is represented by white paintings. The white colour is superimposed on brick-red and other figures. The shelters LKDR 3 and 4 bear a few motifs in brick red, which may be assigned to the fourth phase of LKDR 1 and 2. The human and animal figures of shelter KFKT 1 at location 4 are full of life. Here the male, female and child figures are identical in shape and size. The lizard-like figure in black is quite similar to the one found on LKDR 1. In this shelter also the black paintings are superimposed on red ochre figures, which represent the first phase. The paintings of second shelter of this group are also similar to the second and fourth phases of LKDR 1. The paintings on Falseema shelter also go well with the LKDR 1 sequence. There are two motifs in black, 12 figures in crimson red, one in vermilion red and two in brick-red. The black motifs, representing the first phase, are superimposed by crimson red dots, whereas the brick-red figures cover the crimson paintings. The paintings in this shelter appear to have suffered heavy chemical weathering.

Considering the subject matter, style, superimposition, colour and state of preservation, as many as five layers of paintings have been recorded from Kumaun. Except the shelters LIKDR 1, LKDR 1, LKDR 2 and KFKT 1, all other shelters generally bear two or three strata of paintings. Thus a tentative chronology of five phases has been worked out. First phase comprises black and ochre red figures including animals, human figures and a few motifs. Phase two covers a large number of figures in crimson red, which include several decorative motifs, dancing, running and walking human figures. In the third phase, a few human figures were executed in vermilion red. However the brick-red paintings represent the fourth phase including a large number of human figures. The white pigment represents the fifth or the last phase of paintings which is found only in two shelters, i.e., LIKDR 1 and LKDR 2.

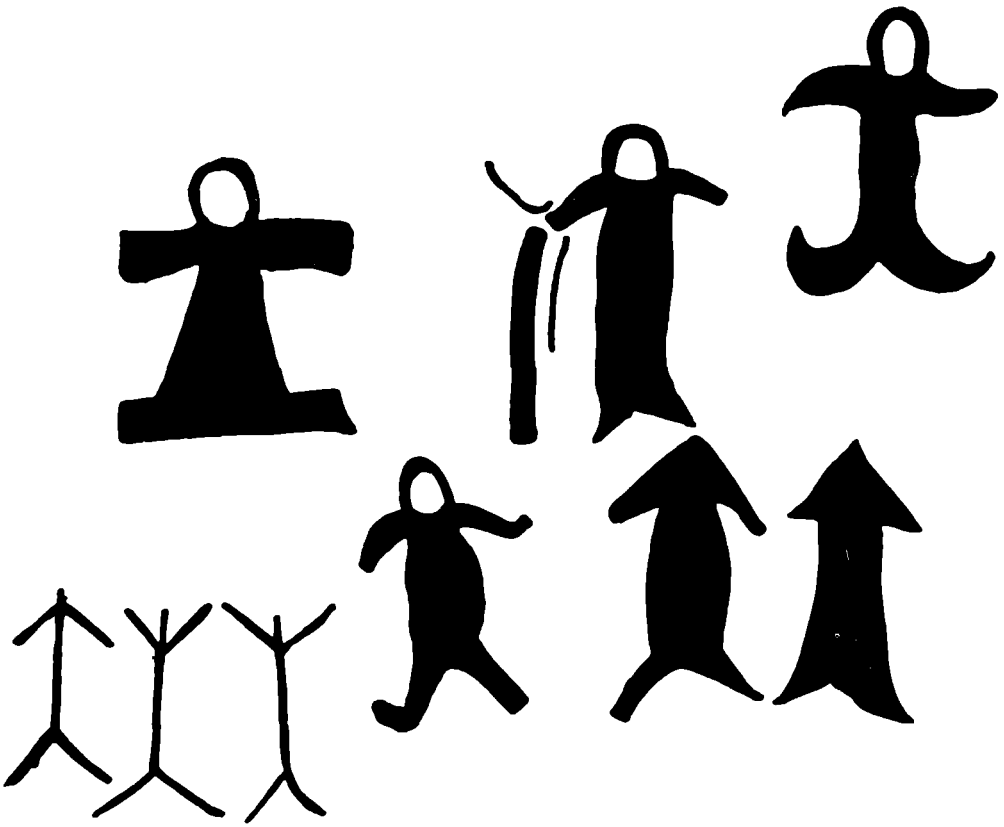

Fig. 2.1 The main styles of depicting human figures in Kumauni rock art

Some quartz debris in the form of flakes, cores and chips was found around the shelters. Sometimes the chips look like microliths. But in the absence of definitive microlithic assemblages, it is difficult to emphasize this point. Since there are no domesticated animals, nor any figures like horse-riders, soldiers, metal weapons or anything which suggest agricultural activity or historical scenes, the paintings may be pre-Neolithic. The several layers of paintings suggest a long time span of occupation of these shelters.

According to the folklore recounted by the villagers around the rock art area, one day two marriage parties on their way to the bride's place met at this location (LKDR 1), which was considered very unfortunate for the grooms. For this reason both the groups fought against each other. These paintings were executed in their blood. And the villagers believe that this event took place in *Satyuga*, which obviously means before the historical period. This story does not provide any clue about the absolute date of these paintings. However, it is well confirmed that the modern villagers or their known ancestors did not execute these paintings. In the shelter LKDR 1, a Brahmi legend done in brick red was noticed in the

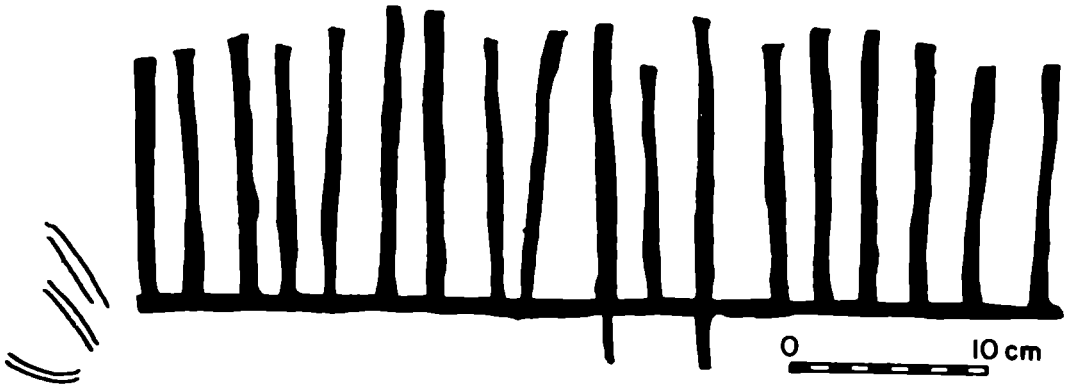

Fig. 2.2 Motif composed of 20 vertical lines joined by a horizontal line, Likhudyar 1

central part of the wall, which superimposes on dark red paintings. Therefore the antiquity of these paintings can easily be pushed back beyond the early centuries of the Christian era. These paintings, for example, dancing scenes, the style of animal and human representations seem to resemble the paintings of the transitional phase in the Central Indian rock art, which we admit is not a very secure basis of dating these rock art examples. Agrawal and Joshi (1978) tentatively placed these paintings in prehistoric period. Their chronology is mainly based on the fact that there are no metallic tools and domestic animals or more recent historical scenes in the paintings. Though in two rock shelters, LKDR 1 and Petshal, an excited looking goat has been depicted, it cannot be said whether it was domesticated or not. The subsistence pattern of the authors of these paintings however does not seem to be purely hunting.

The question remains as to who could be the authors of these paintings in this Central Himalayan region. To find out a probable answer we have to look back to the aborigines of this area. It is generally assumed that the Raji-Raut and the scheduled castes (Dom) were among the aboriginal inhabitants of these hills (see chapter 5). Besides these, perhaps the immigration of Khasas (a branch of the Aryan stock), to this region, took place sometimes in the protohistoric period. It can be stated here that all these people must have been nomadic and pastoral. The references to these ethnic stocks as inhabitants of the Central Himalayan region have generally been cited from different ancient literary sources (Atkinson 1981). If some of those cists belong to these Khasas, and as one of the Gagrigol cists has been dated to the early third millennium BC, some of the rock art may belong to them also.

The present Raji-Raut people used to live in caves till the seventies of the present century. They still worship celestial nymphs at the top of the hills. To worship them they paint a piece of rock in red pigment, which is prepared by a local plant namely *ratpatti*. Thus tentatively it may be suggested that the ancestors of the present Raji-Raut people could be authors of these paintings.

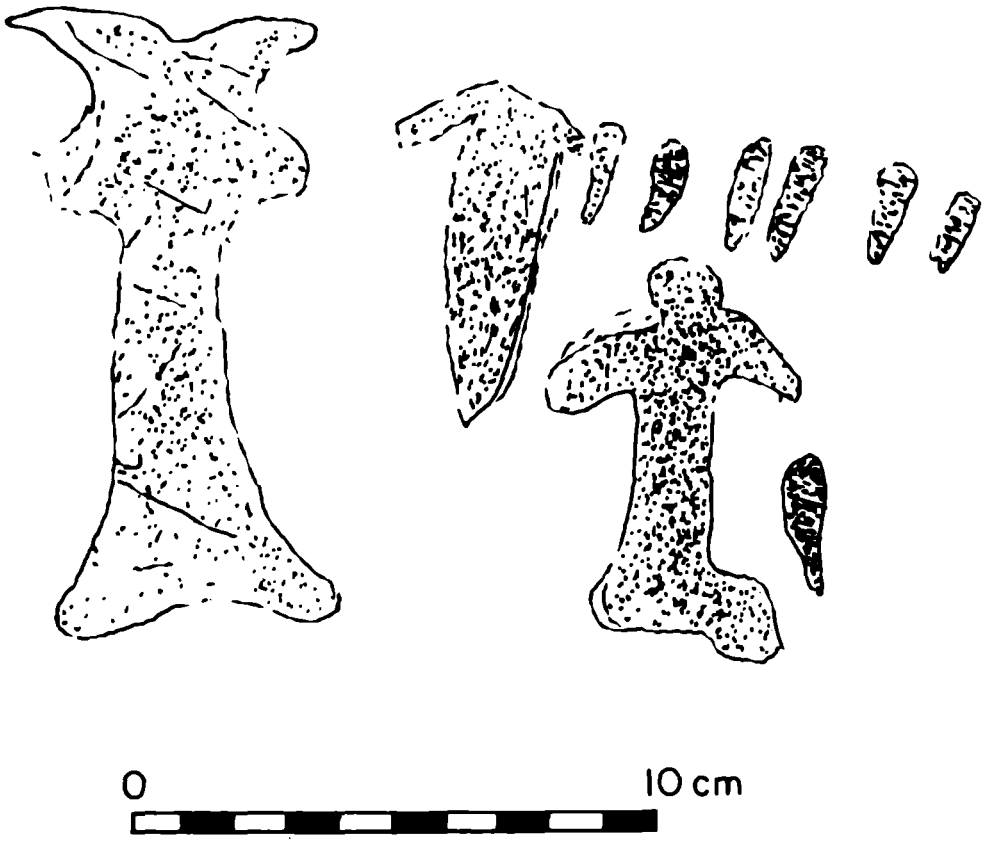

Fig. 2.3 Human figures in red ochre, superimposed by a crimson colour, Likhudyar shelter

We thus see that it is easy to give a relative chronology of the rock paintings than to give absolute dates at this stage, unless we carry out some of the analyses mentioned in the beginning of this section.

2.4 Detailed Description of Rock Art Sites

This section is designed mainly for the research scholars and those interested in the details of the Kumauni rock art sites. This incorporates the first extensive scientific surveys of the rock art sites in Kumaun conducted by one of us (JK).

Location 1: Likhudyar (LIKDR) (1670 AMSL)

The site is located 14 km north-east of Almora between Chhana-Bintola and Dinapani villages on a steep slope of the hill, running north–north-east–south–south-west with a forest dominated by *Pinus roxburghii*. There are ten rock shelters at this location and out of them only three bear a few drawings. The nearest water source to the site is located about half a km down towards south-east on the steep slope of the same hill in the form of a perennial

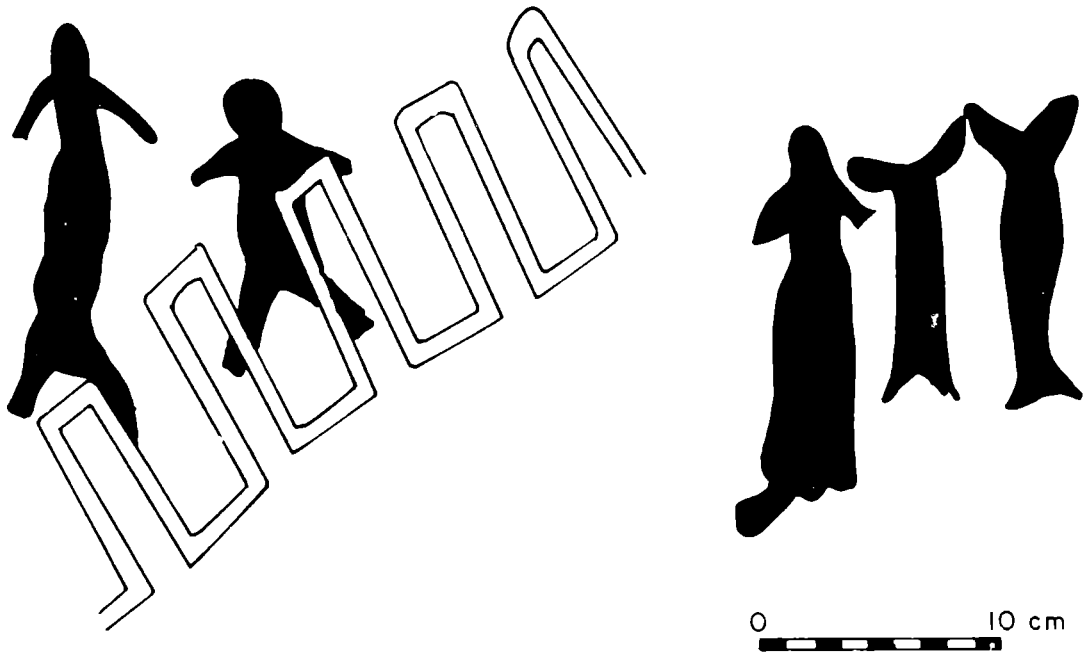

Fig. 2.4 Human figures in ochre red superimposed by geometric motif in crimson, Likhudyar shelter

natural spring. The location of the shelters falls in the revenue area of Khashparjia *Patti* in Almora. The description of the paintings in the shelters follows.

Shelter LIKDR 1

This medium gray slate rock shelter is oriented north-east–south-west. It is located about one km to the north of Chhana-Bintola villages. The shelter is about 3 m high and it has an elongated roof, which provides shelter to a 7.50 m long and 3.70 m wide floor. The floor is levelled by placing a wall of dressed and undressed mica-schist and slate stones against the slope. The floor contains coarse grayish silt (10YR 6/2 Munsel chart) and quartz cobbles. However, the inner part of the floor is made up of the shelter measuring 6.40 x 3.30 m with a slight slope towards north-east. The vertical back surface of the shelter gradually rises up to 0.75 m where it merges with the ceiling. Most of the paintings have been executed on the north-east part of the ceiling in two wide horizontal rows. Their description from right to left and bottom to top follows.

On the right flank of the shelter, a set of 5-6 cm tall vertical lines and a leaf-like drawing in brick red pigment are depicted. Along with these, a set of 20 vertical lines underlined by a 45-cm long horizontal line in similar pigment is executed (Fig. 2.2). This motif is followed by a 12-cm wide patch. Further, again a series of 4 to 6 cm tall stick-like lines has been drawn. Their width varies from 1 to 1.5 cm. Perhaps the set of these lines represents a decorative motif.

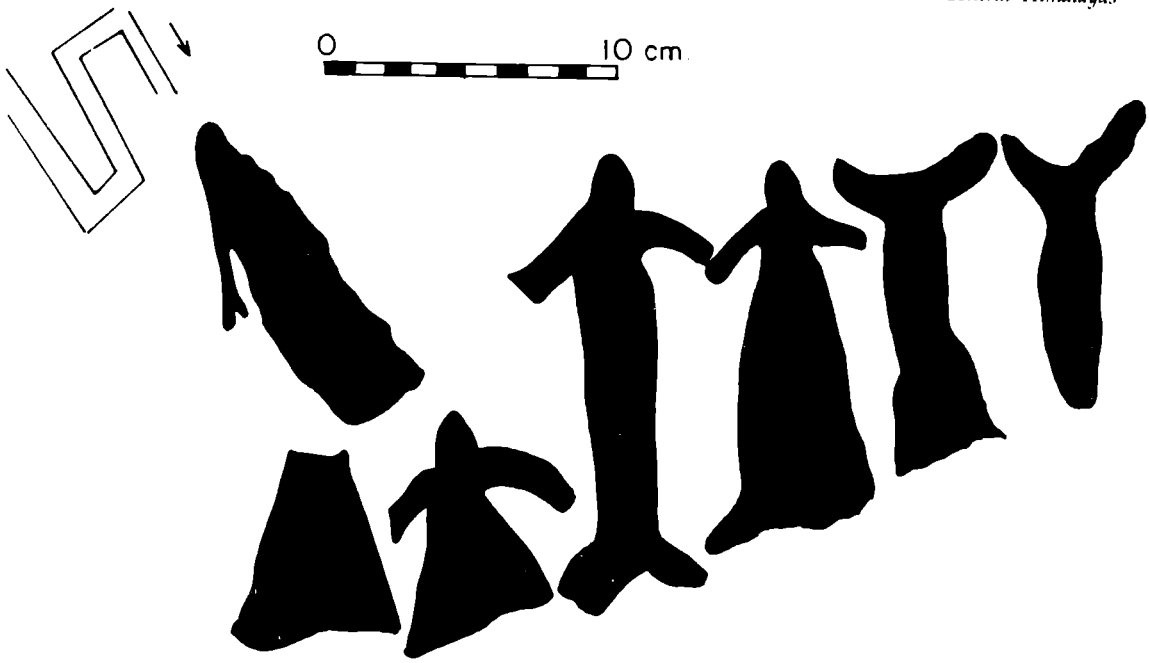

Fig. 2.5 Dancing figures in Likhudyar shelter

In the north-east part, at one place, two children (3 and 2 cm) are drawn. One of them holds a roundish unidentified object in his hand. Above these, seven stick-like drawings have been made. It appears that the crimson pigment was sprayed on the rock surface, which is superimposed on the ochre red figures. Above these, a set of lines and a patch in red moderate orange (10R 6/6) are executed. These drawings are superimposed on ochre red (5R 2/2) paintings (Fig. 2.3).

In the second row, 15 human figures are drawn in ochre red (5R 2/2) in three groups. In the first one, 11 to 13-cm tall six men are walking. In the second and third groups there are six and three human figures respectively. Some of them are in a walking posture. Of the entire scene the last two stick-like human figures are superimposed by the crimson red paintings. Left to these, a motif is depicted in two parts 8.5 x 26 and 9 x 16 cm in crimson (5R 2/6) (Fig. 2.4). The motif is superimposed on ochre red paintings. Further left, a set of 16 stick-like lines (each 6.5 cm tall) is executed in crimson (5R 2/6). They are followed by a group of six dancers in hand-linked posture (Fig. 2.5). The first, second and fourth are women figures wearing long loose gown-like garment; the last two have raised hands over their heads. Left to them, on a small patch of colour, some stick-like vertical lines are executed with two human figures (8 and 9 cm) in an excited posture. Below these, there is a long patch of the same pigment, followed by two bulky running men (each 7 cm tall) (Fig. 2.6). This part of the shelter also appears to have been painted by spraying colour.

Left to the above, four eye-catching motifs along with some human figures are executed in the third row in ochre red (5R 2/2 Munsel chart). The figures look like trees; they

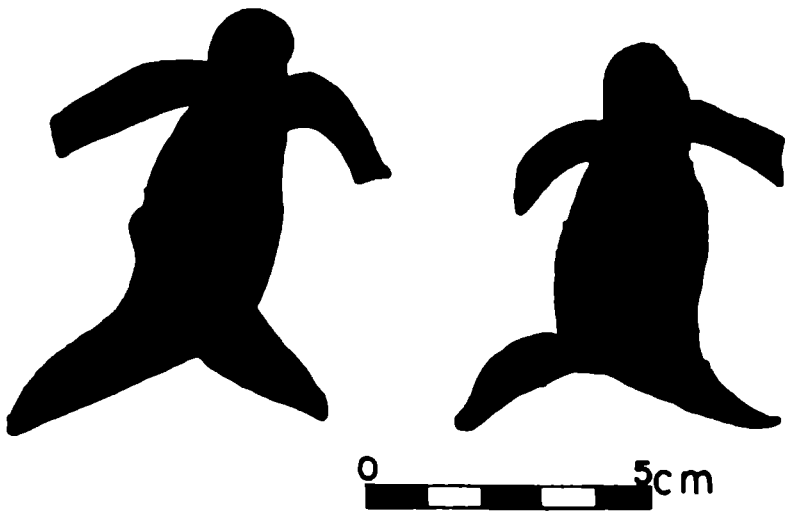

Fig. 2.6 Running human figures in Likhudyar shelter

are outlined by white pigment (9N9) (Fig. 2.7). These figures are (10, 8, 20 and 17 cm tall) superimposed by some patches of crimson red (5R 2/6). Further left, at one place two arrow-like human figures are followed by a set of 2 to 4 cm tall stick-like lines underlined by an 80-cm long line in crimson colour, which perhaps represent a motif. A small similar figure was also noticed on the right flank of the shelter. Below this motif, seven human figures are shown; their height gradually decreases from 10 to 7 cm.

The shelter bears paintings in ochre red, crimson, brick red and white pigments. At many places, people have committed vandalism in the shelter. The drawing in moderate reddish orange looks very fresh and it seems that it is also a result of modern vandalism. They have executed black patches in charcoal. Although the shelter provides a wide ceiling to the floor, yet the paintings seem to have undergone a high degree of weathering; as a result several figures could not be reconstructed.

On the rocky floor (6.40 x 3.30 m) of the shelter, two depressions have been engraved. Among them a circular cup-mark (dia. 10 cm and dep. 6 cm) seems to be very interesting as similar depressions were also found in the shelters, i.e., KFKT 1, LKDR 3 and near the shelter LKDR 2. The other one is of a rectangular shape (9 x 5 x 2 cm). Around this painted shelter, several other boulders and rock shelters also bear similar depressions. It cannot be stated whether these depressions were made and used by the authors of the paintings.

Shelter LIKDR 2

This small schist shelter is located just below the shelter LIKDR 1. It is about 4 m wide and 2.5 m high and projected by a massive rock exposure, which serves the purpose of a bench for a cave dweller. The shelter has, more or less, a vertically uprising surface with a very slight curve in upper part, on which a few drawings have been executed.

There are in all eight figures on the rock surface. Out of them, five drawings represent

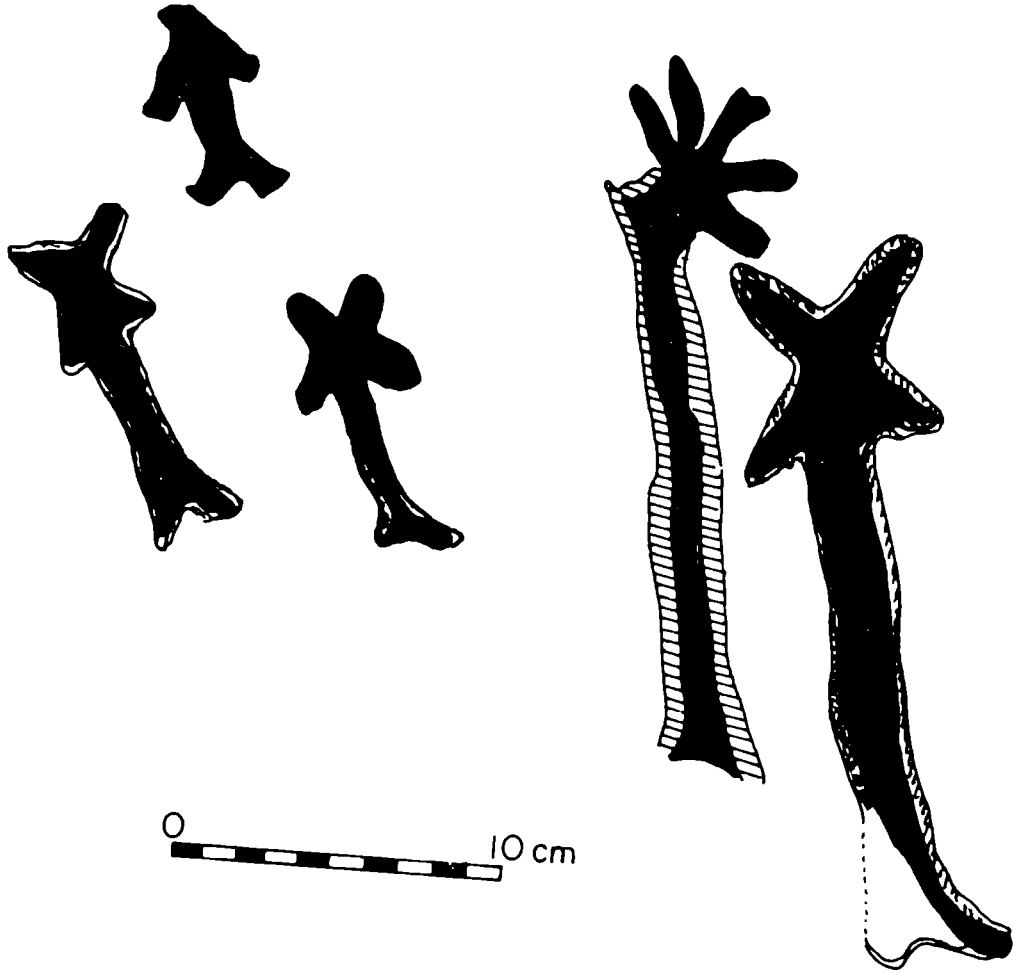

Fig. 2.7 Tree-like motifs in ochre red outlined with white pigment and a human figure, Likhudyar shelter

human figures executed in crimson red pigment. A human (?) in a sitting posture is depicted in a rectangular structure measuring 7 cm. Below this, a man (8 cm tall) is standing quietly. At one place two peculiar triangular motifs are drawn in light red (between 5R 6/6 and 5R 4/6), what they represent cannot be said. Besides these, a few small patches of similar pigment are also noticed.

Shelter LIKDR 3

This shelter is located about 100 m west of LIKDR 1 and it is oriented east-west with an opening towards south. It is nearly 3 m high and it has about 4 m long projection. The

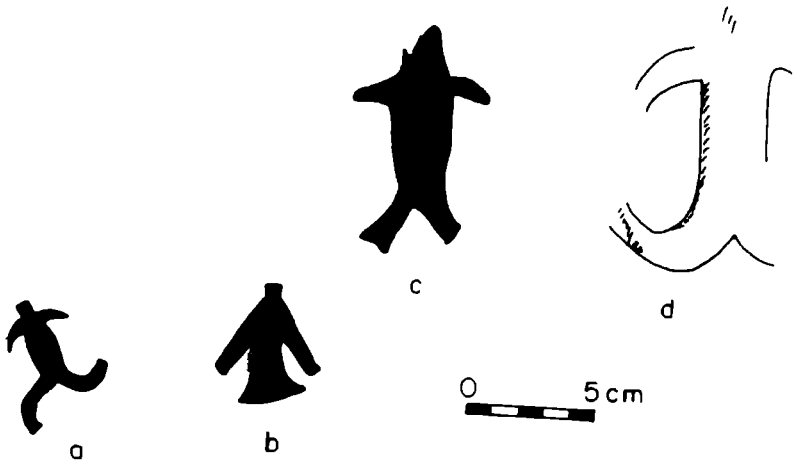

Fig. 2.8 Human figures in shelter Kasardevi 1

shelter has provided a rocky floor (8.5 x 3 m). The opening of the floor is also enclosed by massive boulders. On the north-west corner of the wall, a cavity was found, in which local people lit fires. It cannot be stated whether this cavity was painted by the painters or not, because presently it bears a thick charcoal soot.

The back surface and the ceiling of the shelter are very uneven to be able to draw paintings. Nevertheless, at four places on the ceiling, small patches of brick red pigment (5R 4/6) were noticed. Two of them perhaps represent human figures.

Location 2: Kasardevi (KDVI) (1895 MSL)

The site is located about 6 km north of Almora town near the Kasardevi temple, on the peak of the hill. The nearest water source of the site was found in the *Quercus incana* forest close to the temple. About half a dozen large slate rock shelters are located on the north-west and south-west steep slope of the mountain. Out of them only three shelters bear paintings and their description follows.

Shelter KDVI 1

This shelter is located about 100 m below the temple with an opening towards north. It is a 15-m high shelter with about 4-m long conical projection. The shelter provides a large (10 x 4 m) floor to dwell. The vertical surface of the shelter is very uneven and crude and it provides small lenses (3N3 and 10YR 7/4) for drawing. It bears few paintings in crimson, vermilion and brick-red pigments.

In the right corner, a man (5R 2/6) is running (Fig. 2.8a). Left of him, a long patch (7 cm) (5R 2/6) is followed by a human figure (3 cm) represented by an arrow-like line (Fig. 2.8b). Next to him there is a 10-cm long colour patch and above it, a man (5R 2/6) seems to be in a walking posture (Fig. 2.8c). Further left of him, a human figure in vermilion red is running (Fig. 2.8d). This figure is followed by a few unidentified figures. Another group has eight hand-linked human figures (6 to 8 cm tall). However, some of them have raised hands over their heads and look excited (Fig. 2.9e). On the left part of the wall, a few more drawings representing human figures have been depicted (Fig. 2.9f). Among those

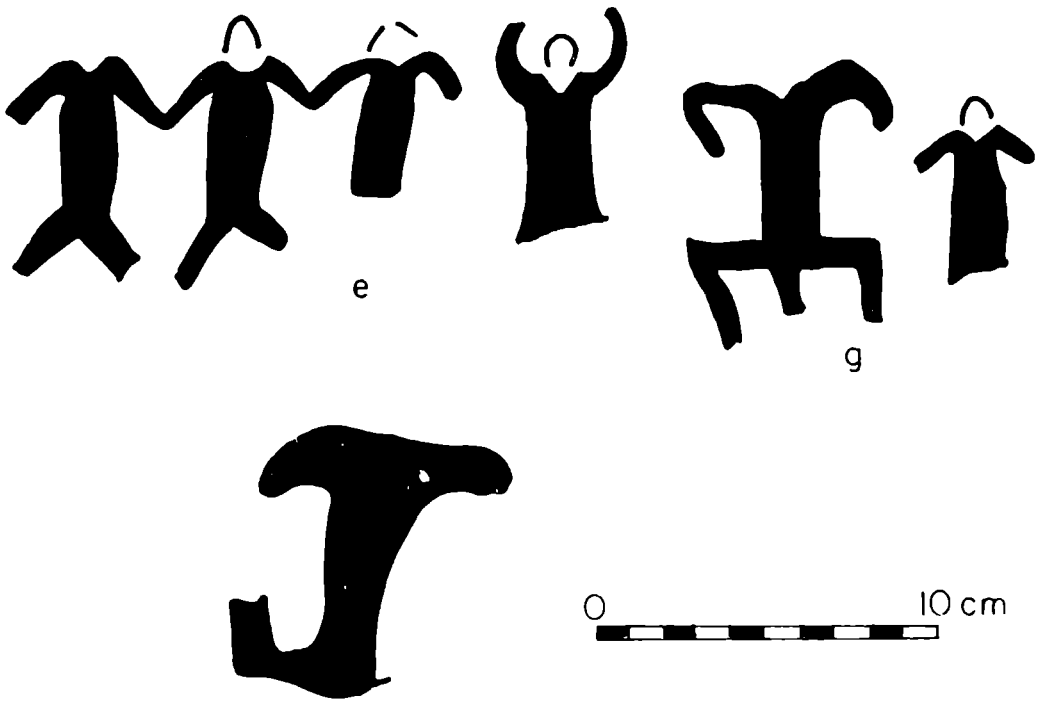

Fig. 2.9 Dancing human figures in shelter Kasardevi 1

three, one is probably sitting; a piece of cloth is hanging between his thighs (Fig. 2.9g). His head is merged with shoulders and arms are curled. The complete figure looks more like a crab. Next to him two other humans (each 5 cm tall) in crimson (5R 2/6) are executed and the lower part of their body is missing; however, their hands are raised. Above these a thick 'M'-like motif (34 x 13 cm) (Fig. 2.10) is depicted. At another spot a man is shown in a running posture in crimson. This figure is larger than the other figures (Fig. 2.11i). On the right flank of the shelter, only one running human figure is depicted (Fig. 2.11j).

The shelter provides a 7.70-m long and 4.70 m wide floor which gradually widens towards north–north-west. At the north-west corner, a 70-cm high podium is formed of the same rock, which might have served as a bench. The floor has a slight slope towards north-west and has a 50-cm thick deposit. The surface soil is grayish silty along with a large amount of micaceous and quartz cobbles. Beneath, there is a coarse grayish soil layer mixed with cobbles. No antiquities or cultural material were found on the floor or around the shelter.

Shelter KDVI 2

This shelter is located about 75 m south-west of the shelter KDVI 1 at a lower elevation on the same hill slope. It is formed right on the cliff of the slate rock exposure, which provides a floor to the shelter. This shelter bears only an arrow-like stylized, probably human figure in vermilion red.

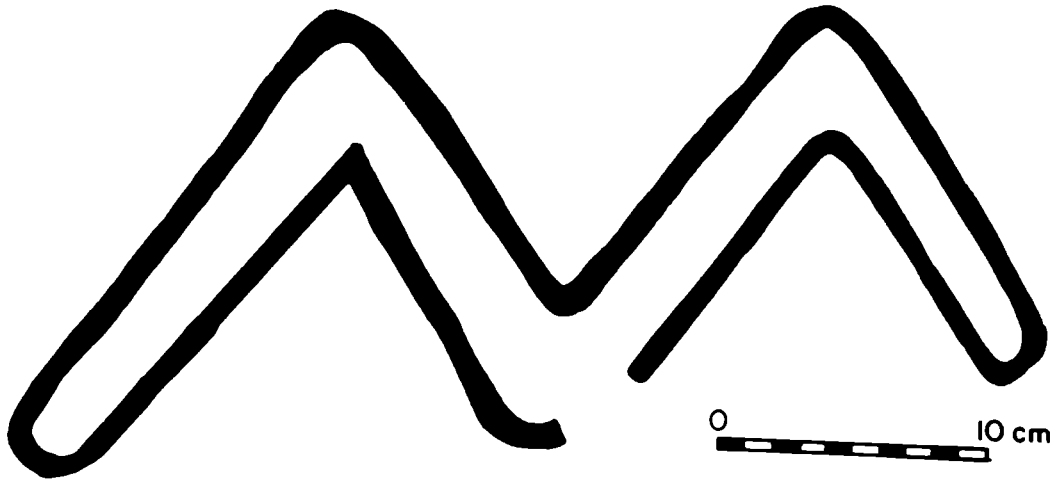

Fig. 2.10 'M'-like motif in painted shelter Kasardevi 1

Shelter KDVI 3

There is a very small shelter, about half a km south-west of the shelter KDVI 1. It is also located on the steep slope of the hill and surrounded by *Quercus incana* forest. It bears five small drawings in brick-red on the elongated projection of the shelter. Out of them, two arrow-like drawings perhaps represent human figures which are 5 to 7 cm tall. These drawings appear to have suffered considerable weathering. The shelter provides a small floor (2.5 x 1 m) made level by placing undressed stones on the slope.

Near the shelter KDVI 1, a Brahmi inscription was found on the vertical face of a massive boulder. The characters of the inscription may be Brahmi of the 5th-6th century AD.

Location 3: Lakhiudyar (LKDR)

This group of painted rock shelters (Plates 2.2, 2.3, 2.4) is located about 18 km north-east of Almora at Dalband on Almora-Pithoragarh road. At this location, ten rock shelters were found and out of them four bear paintings in red, black, and white. The following is their description.

Shelter LKDR 1 (1350 MSL)

This rock shelter (Plate 2.1) is located on the right bank of Binsar gad and oriented north-east–south-west. The shelter is about 10.60-m high, 15-m long, and the width of the floor ranges from 1 to 2.5 m. The shelter overlooks the rivulet flowing south-east. The rocky floor of the shelter has a gentle slope towards south-east. The shelter has a prominent projection of about 8 m. It seems that originally it was a double-storied shelter. The surface of the shelter is vertically cracked into three parts. A large amount of rain water percolates through

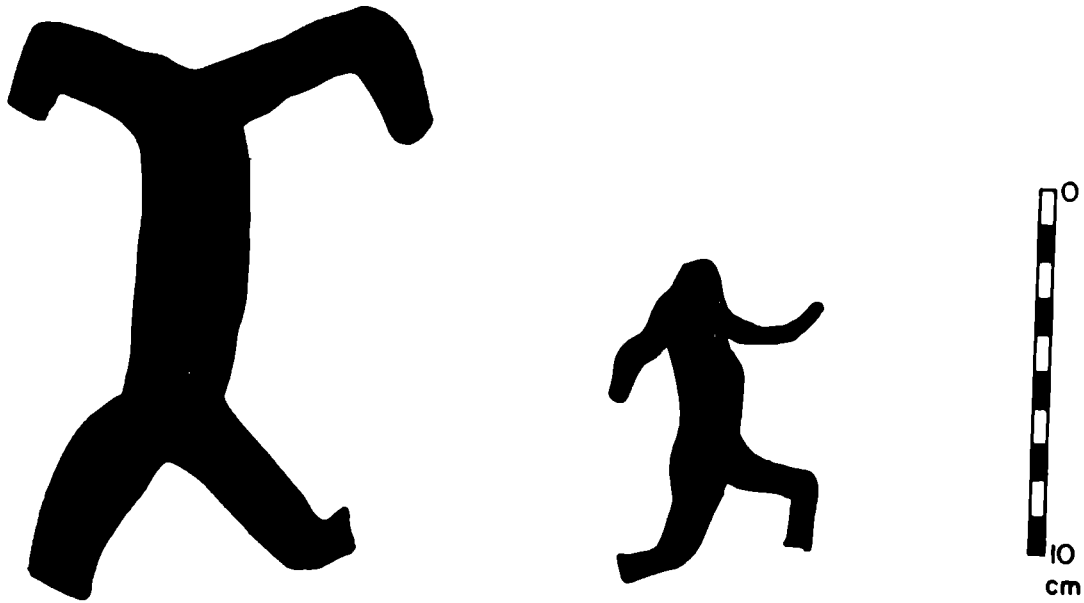

Fig. 2.11 Running human figures in Kasardevi 1

these cracks into the shelter destroying many a figure. Several parts of the wall have turned whitish, yellowish, and blackish perhaps due to the rain water percolation. The vertical back surface of the shelter is nearly 3 m high, which gradually goes up in a curvilinear shape to form the projection. The height of the ceiling from floor is 8.2 m. The slate rock shelter is of medium light gray colour (6N6, Munsel chart), and it bears quartz lenses on its vertical surface.

The roof of the shelter is a flat platform and supports vegetation and trees. A few trees, i.e., beru (*Ficus palmata*), kaphal (*Myrica nagi*) and pine (*Pinus roxburghii*) have grown on the edge of the ceiling. The coniferous trees may cause eventual destruction of the shelter.

The middle part of the shelter suggests that there was another "floor," as the broken part looks comparatively fresh. Perhaps this upper floor of the shelter made it possible to execute paintings on the ceiling and the upper reaches of the wall, otherwise it is impossible to reach these heights even if one uses a ladder.

During the 1970s some local people dumped cement on the floor of the shelter to construct the bridge on the Binsar gad. As a result, several paintings which were close to the floor, including a large circular design in the central part of the shelter, were destroyed.

Prehistoric man has brilliantly used the plain, as also the uneven parts of the ceiling, to depict his paintings. The entire surface of the shelter bears paintings in red and black. At the extreme right corner (north-east), four human figures are standing in a row; out of them three have raised hands. At a distance of about 80 cm from them, four more human

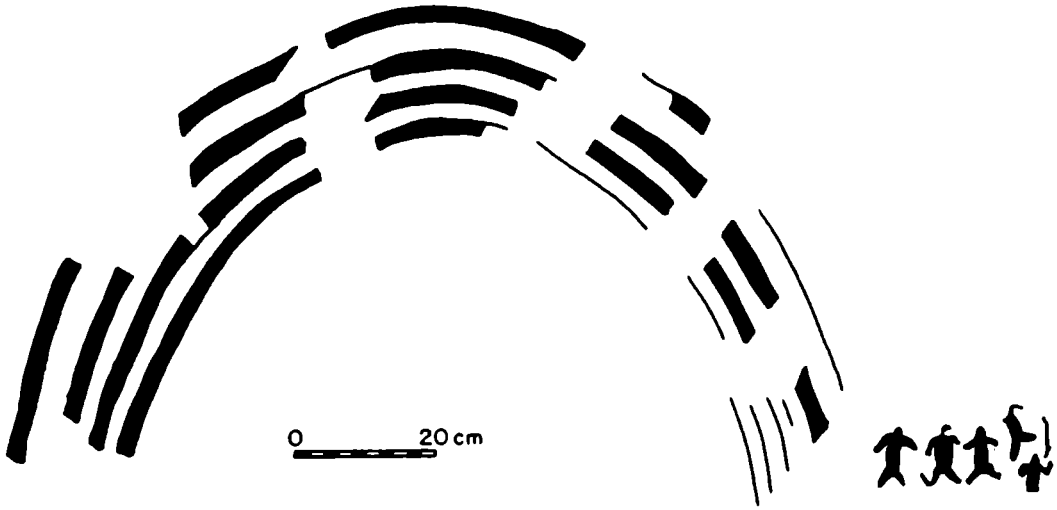

Fig. 2.12 Concentric circles motif, Lakhiudyar 1

figures seem to be going together. These figures are in crimson red (5R 2/6, Munsel chart) and their height varies from 5 to 6 cm.

The central part of the shelter, close to the floor, is painted in dark red, bearing four black concentric lines and red dots and the lines are about 2 cm thick. The lower part of the design has become completely invisible because of the dumping of cement in the shelter, though from the rest of the visible part we could measure the diametre of the circles, 121, 118, 104 and 98 cm respectively (Fig. 2.12). Six small stylized human figures executed close to this motif look as if they were running. Left of this design, a rectangular motif of black lines is superimposed by the dark red paintings. The length of these lines was noticed to be 11, 12 and 13 cm. Further left, three human figures are in dark red.

In the second row, 7-cm tall five human figures and a patch of the same dark red colour are painted. The humans look as if they are standing quietly. Left to them, there is a lens (39 x 19 cm) on which a group of human figures has been executed. The exact number of human figures in this group could not be counted because of weathering and discolouration. About 4-cm tall, two men are walking left to the above lens. A part of an animal figure (?) was noticed with these human figures. The back surface of the shelter is disintegrating in the form of small chips due to water percolation.

Further left, a group of nine hand-linked people is shown dancing, which is visible only after moistening the wall. These figures are made in brick red. Next to them, another group of 6.5 to 7 cm tall, six hand-linked human figures are depicted in dark-red. Above these dancing groups, 3-cm tall three men are represented by arrow like figures. The dancing groups along with these three men form an organic scene. Left to the above scene, a group of four men include a man walking with a long object in his left hand and the other three have

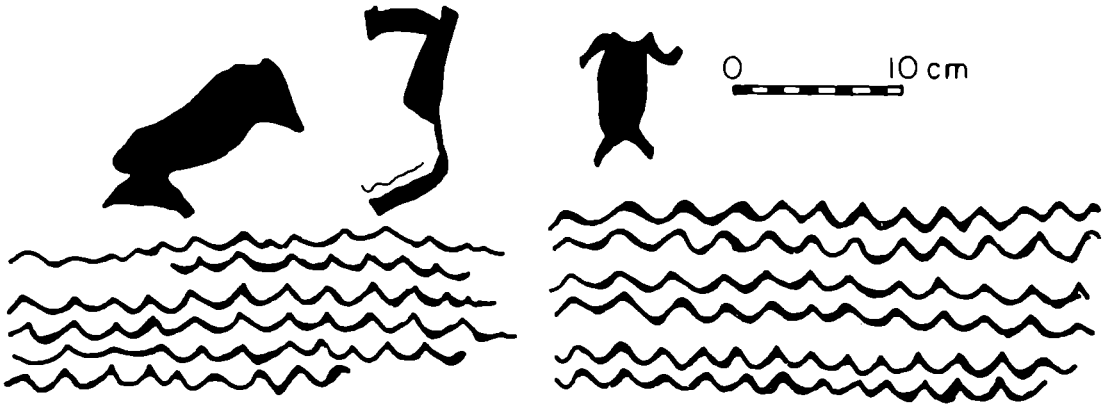

Fig. 2.13 A set of wavy lines and animal figures, Lakhudyar 1

raised their hands (12 cm height). Their bodies appear bulky (4 to 6 cm) and they are wearing long gown-like clothes. The height of these figures varies from 8 to 12 cm. However, one of them has lost the lower part of its body because of weathering.

In the third row, a group of about 11-cm tall, 14 human figures are represented by stick-like lines in dark red. They appear extremely excited. Some of them are shown in a jumping posture; one has raised his feet in the air. Just above these excited men, a zig-zag wavy set of six lines in the same pigment perhaps represents a motif (Fig. 2.13). The lines are more or less parallel to each other. The thickness of each line is about half a cm, length 66 cm and width 29 cm. Nearly a metre-long patch of the same pigment can be seen next to the design. The significance of this patch is not clear. Above the design, a goat (?) (13 cm) without head and tail looks as if it is running fast. Next to it, a horse-like animal (13 cm) looks falling from a cliff (Fig. 2.13). It seems that these animals are terrified. A human (7.5 cm) in brick-red appears excited and the animals seem to be terrified of him.

Further left, there is a long line of human figures. Only eight are visible; the rest of them look like colour patches. They give a pseudo-impression of human figures. Out of eight, the last three are in dark-red. However, the first five were visible only after moistening the wall. Their height varies from 7 to 11 cm. Just below this, a supine man (19 cm) is shown. He is being looked after by two persons, one standing near his head and the other near his feet.

Towards left, in the lower part, a goat/dog-like animal (10 x 6 cm) is executed in brick red (5R 6/6—5R 4/6 Munsel), surrounded by seven excited men. These men are wearing long clothes. Their height and width range from 9 to 10 cm and 7 to 8 cm respectively. Their bodies look bulky compared to the other surrounding figures of this phase. A man (5 cm) followed by three children (heights 2.5, 2 and 3 cm) seems to be coming from left.

Above this, another scene emerges: a man (9 cm) is lying and four persons are carrying a 6.5-cm long object on their shoulders and they are approaching the lying (dead ?) body. From the left side, seven members including a man (6 cm), a woman (6 cm) and five children

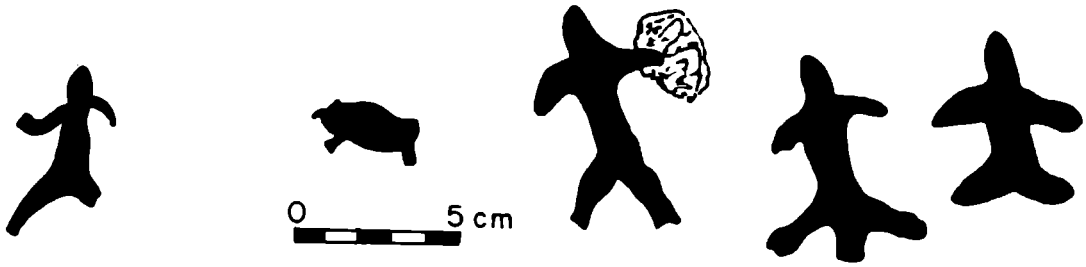

Fig. 2.14 Human figures of first phase in Lakhudyar 1

(height 2.5, 2.5, 2, 8 and 3 cm) are proceeding towards the supine body. Here the female body (3 cm) is shown bulky compared to her male partner (1.8 cm). This scene is depicted in dark red tone.

Left to the above scene, a set of 11 to 14 cm tall, 1.5 cm thick, lines have been executed. Further left, a man in ochre red is observing a falling animal (?). Next to this, a patch of dark red pigment gives a vague impression of human figures. Here colour has been sprayed to make the figures. This patch is again followed by three more patches in dark-red and brick-red, and then a design (3.3 x 5 cm) of vertical and horizontal 1 cm thick lines in brick red, which now looks much faded. Above this a stray child figure (1.2 x 2.3 cm) is painted in ochre red.

The left flank of the shelter, close to the floor, is very uneven and bears less paintings compared to the other parts of the shelter. Wherever plain surface is available, the paintings have been executed. An interesting scene was noticed on the left flank of the shelter; a very small unidentified animal is being chased by five hunters (?) (in black) (Fig. 2.14) on either side. The height of these hunters is ranging from 4 to 5 cm. The second person on right is wearing a lower garment, a part of which is hanging between his thighs. The first human figure is superimposed by a dark red painting, visible only after moistening the surface.

Below this scene, a set of 11 stick-like human figures (?) is shown. Each of them was measured to be 3.5 x 0.5 cm. Observing the figures of the entire shelter, one can only say that these are human figures, wearing heavy clothes and standing quietly in a row. Right of them, a rectangular (39 x 10 cm) structure (Fig. 2.15) is made in brick red colour, which has been superimposed on black paintings. The rectangular structure (?) consists of vertical and horizontal lines.

Left to the above structure, a 25-cm tall serpent-like motif is superimposed by dark red patches and next to this a multi-legged lizard-like creature (28 cm) is shown (Fig. 2.16), which is superimposed by human figures in dark red. Further left, a long snouted (12 x 6 cm) animal has been depicted in black, which appears to be afraid (?) (Fig. 2.17). Just above this animal, a circular (16 cm diametre) motif has been executed, whose upper part looks like a string. These black figures are also superimposed by dark red patches. The multi-legged

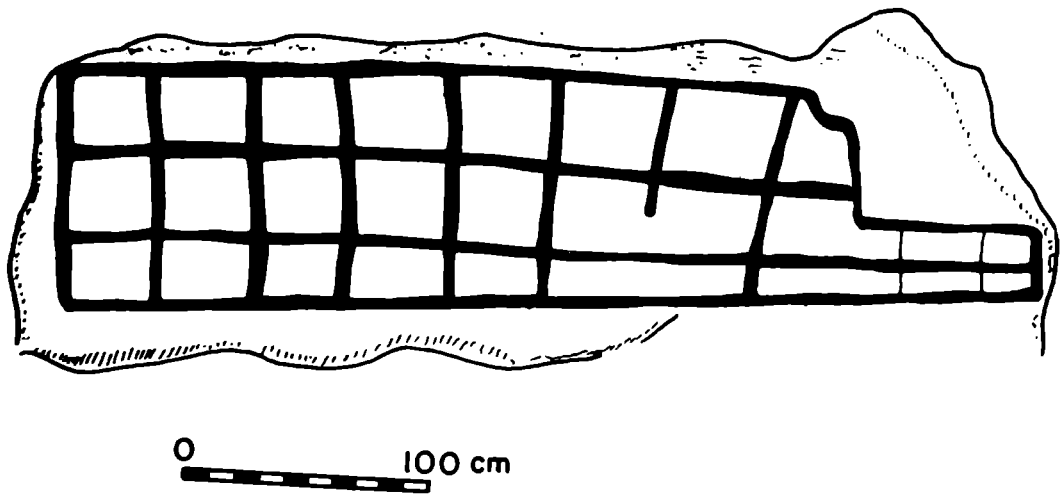

Fig. 2.15 Rectangular motif in shelter, Lakhudyar 1

lizard is superimposed by a group of five hand-linked human figures including women in dancing postures. Their body is shown comparatively bulky and their height varies from 4 to 6 cm.

Left to the above figures, a child, along with a patch of colour, is executed in a cavity of the shelter. At the extreme left corner of the shelter, 15 small patches of similar red colour were noticed. Though they are small, some of them give an impression of being human figures. This part of the shelter is fully exposed to rain drops and sunlight and has suffered heavy weathering rendering the figures difficult to identify.

In the fourth row, a group of five people in ochre red is executed. They are shown in loose gown-like clothes. The first man is pointing towards his companion. Below this group, there are 29 tall human figures (10 to 19 cm) on the right flank of the shelter in brick red. A turban-like cloth is shown on their heads; the lower garment reaches their feet. The lower part of their body is made taller than the upper one and their feet are large. Four hand-linked children are shown along with these men, probably in a dancing posture.

Below these aforesaid two groups, there is another group of men (?) (6 cm). Two of them have some unidentified objects in their hands. These figures are made in dark red. Left to this scene, stray picture of a man in red (5R 3/4 Munsel chart) (7 cm) is followed by a tall man (13 cm) holding a stick-like object in his left hand and slightly bent towards the other man. Left to these, a group of four people has been executed. The last three are in brick-red, whereas the first one is in crimson. Below this, a lens of brick-red colour is followed, further left, by two more patches of dark colour. Nearby, a human figure is surrounded by many patches of similar colour. Further, 18 human figures are depicted in five different groups; out of them five are children. They have encircled a pregnant goat

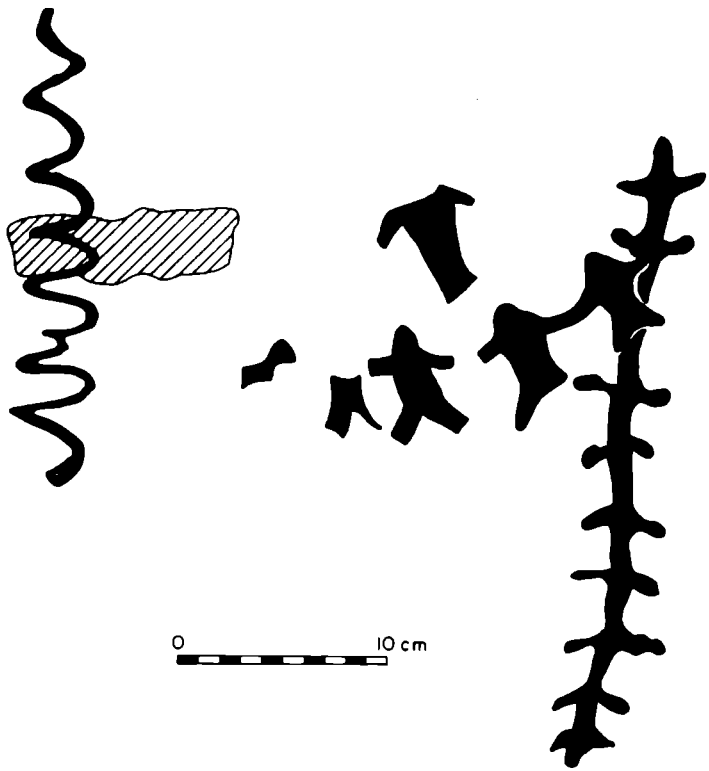

Fig. 2.16 Multi-legged lizard (b) superimposed by human figures and a serpent-like motif (a), Lakhudyar 1

(?) (11 x 7 cm) and a deer-like animal (Fig. 2.18). The latter is partially seen in the picture. These animals look excited, probably due to the presence of the man/hunter near them. Some of the human figures are also shown in an excited state (?). The height of these human figures is ranging from 9 to 20 cm. Below, a deer-like animal (11 cm) is terrified (?) by a man (6 cm) whose hands are raised. His lower part of the body is missing. Next to this, four hand-linked human figures are shown in dark red, and look much weathered. Below, in the central part of the shelter, 13 arrow-like human figures (7 cm each) are executed in dark red. This part of the shelter appears to have undergone a high degree of weathering.

At another spot in the central part, 30 people are depicted in four different groups in dark red. The first two tiers comprise six human figures each; the lowermost tier consists of 17 arrow-like figures, including six children. The children are 3 to 4 cm tall whereas the other human figures are 10 to 13 cm tall. Lastly, a man is holding an object in his left hand.

Above this group, there is an illegible Brahmi inscription in brick red superimposed on dark red paintings. The legend is still undeciphered.

To the left of this script, appear four tall walking human figures in a row. Below the script, a long faded line of figures was noticed. One of them looked like a man, but it is very difficult to count or identify them. Below this line, some interesting figures are depicted. Two men are in bright red and next three women are in dark red (5R 2/6) in a hand-linked posture (Fig. 2.19). They have worn head-dress and long gown-like clothes, which reach up to their feet. The head-dress of the women appears to be hanging on either side. Their hands

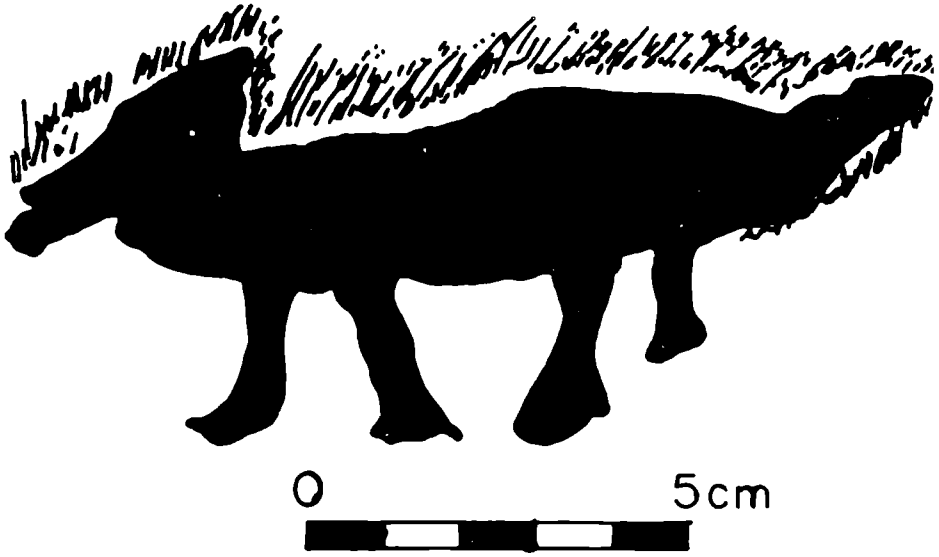

Fig. 2.17 Long snouted animal in shelter Lakhudyar 1

are expanded. Similarly, left to the above group, a cluster of 30 people in four sub-groups in dark red (5R 2/6) is shown (9 to 14 cm tall). In the first tier 13 human figures are shown; however, the second and third groups contain nine and seven figures respectively. These all are hand-linked figures in a dancing posture, but two human figures of the topmost tier have raised their hands. All these have dresses similar to the above-mentioned group. Due to continuous rain water seepage, a whitish layer has covered these figures. Moreover, these human figures are superimposed on a black painting (Fig. 2.20), which is visible only by moistening the wall. Left to these, there are four patches of a similar red colour followed by three human figures executed on the uneven surface of the wall.

A cluster of 35 arrow-like human figures (15 to 19 cm tall) in brick red pigment has been executed on the right flank of the wall. They form a triangle and look like as if they are standing very peacefully. They all have worn long loose gown-like clothes and five of them are in hand-linked posture in dark red tone. Their height is little less than the other ones. Hence they belong to another phase of paintings.

Left to this group, an eye catching figure has been depicted. A semi-circle is made in a pentagonal structure in brick red (5R 6/6—5R 4/6 Munsel chart). The height of pentagonal structure is about 14 cm. Beside a human is shown touching the structure. He is slightly bent towards the figure and both his hands are raised. He looks as if he is holding this structure (Fig. 2.21). Left to this, two men (15 and 20 cm tall) in brick red look like walking. It could not be identified as to what the above structure represents. Above this, there are six human figures in different styles and postures. They are comparatively shorter in height (9 to 10 cm). In some cases the stomach part of the human figures is shown bulky and

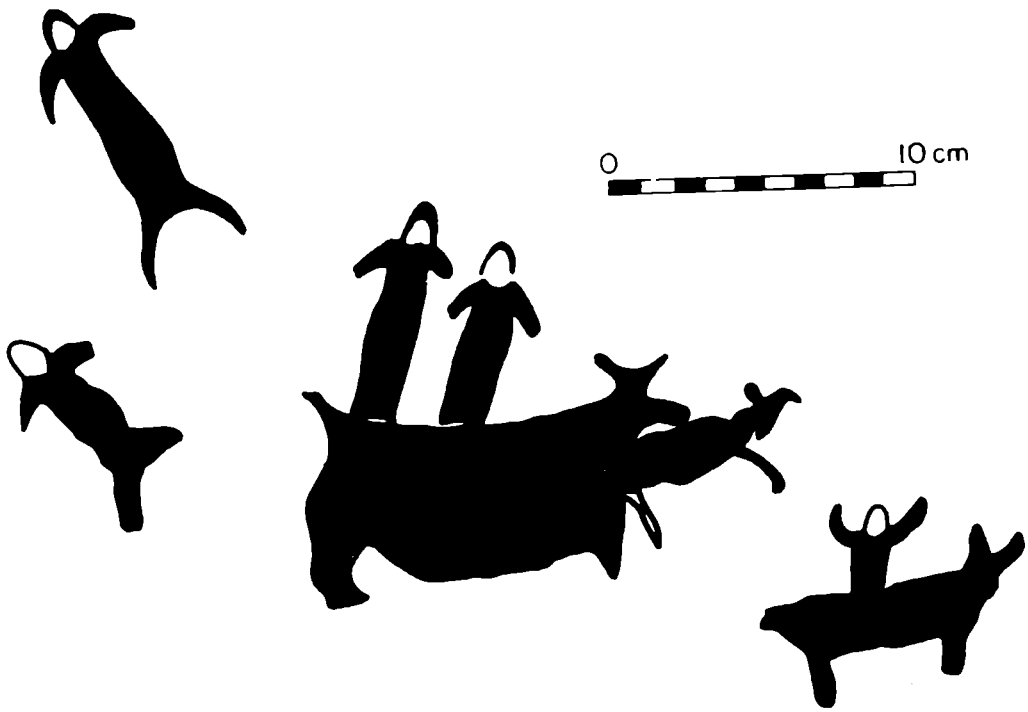

Fig. 2.18 Animal (goat/cattle ?) and human figures in shelter, Lakhiudyar 1

the feet are spread out. Though this style of figures was made in the first phase of the paintings, here the size of the figures is bigger and they are executed in brick red (5R 4/6—5R 6/6 Munsel chart) pigment, which represents the last phase of the paintings. There are two more figures next to them, one of which represents a human figure; however the other is only a patch of the same pigment. On the extreme left flank of the shelter, one eye catching scene of dancing human figures in red ochre has been depicted (Fig. 2.22).

Finally, the last row which depicted on the ceiling of the shelter bears nine stick-like human figures at a height of about 6 metre above from the present floor. Besides, there are four groups of long serpent-like figures and three different sets of dots consisting of 50, 20, and 6 dots. Their approximate diametre is 1 to 1.5 cm. In the left part of the ceiling, two tall (about 15 cm each) human figures are depicted. At one place five human figures (about 10 to 13 cm) in brick red pigment are shown in a group. Besides these, there are nine clusters of zig-zag lines and several patches of colours at three places. These paintings are at a considerable height where it is not possible to reach from the present floor. As has been discussed before, there must have been another floor at the central part (right) of the shelter, which could have provided a foothold to reach this height of the shelter. That ledge only could have been used to execute the paintings on the ceiling also.

Fig. 2.19 Dancing figures with head-dress in Lakhiudyar 1

In this shelter the first phase of paintings has been represented by black and ochre red figures. In the central part of the shelter, close to the floor, the ochre red pigment has been sprayed on the surface in an area about 2 sq m. A large black semi-circular motif has been depicted on this ochre red surface. The multi-legged lizard-like animal and small human figures in black pigment were also executed on the lower part of the wall (row 1st and 2nd) or close to the floor. However, the ochre red figures were found occasionally in stray form. The paintings in the second phase were made predominantly in crimson and light red pigments. Though the red paintings occur on the entire surface, the concentration of figures was noticed on central and right flank of the shelter. The black and ochre red paintings are superimposed on each other, hence represent the first phase of the paintings. In the second phase, a large number of human figures and several motifs in crimson red pigment were depicted. In the third phase, less paintings were found compared to the second phase. However in the fourth and last phases, brick red pigment was employed to execute paintings.

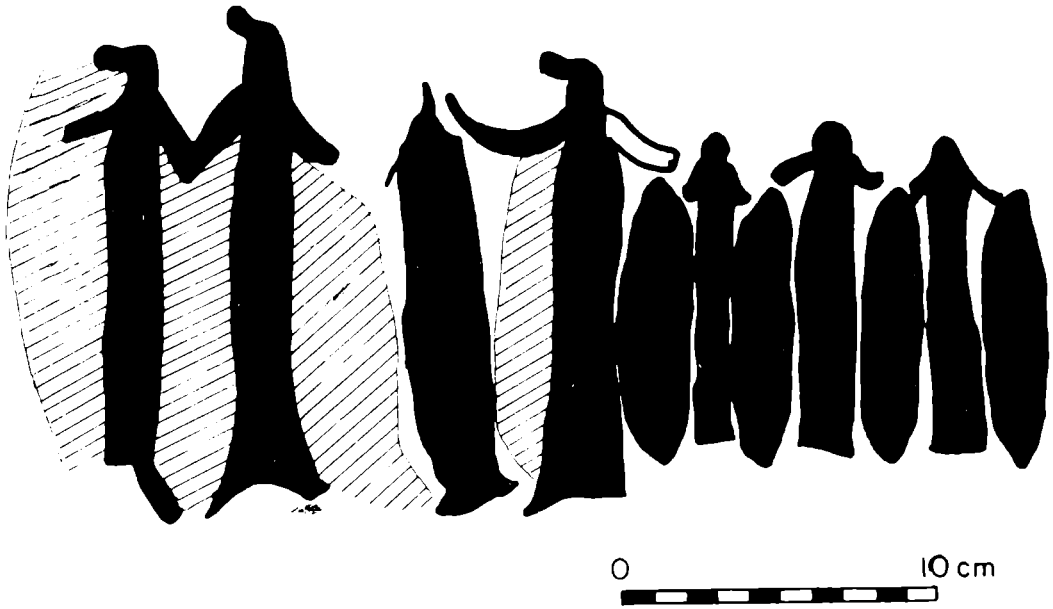

Fig. 2.20 Human figures in shelter, Lakhiudyar 1

The younger paintings carry the traits of older ones like more or less similar style of human figures. These paintings are superimposed on the dark red and light red paintings.

The superposition and chronology of the paintings have been discussed above (section 2.3) in this chapter under the heading.

Shelter LKDR 2 (1380 m AMSL)

This shelter is located 200 m west of LKDR 1 on the steep slope of the mountain. It has two compartments, the north-eastern and southern. The shelter is oriented north-west–south-east with an opening towards east–south-east. The first floor is facing north-east, the second south-west. The shelter has a long projection on either side which provides a flat roof. Its vertical surface bears several horizontal lenses of meta-quartz; the shelter is of slate. The surface of the shelter is very uneven, crude and hardly provides smooth surface to draw paintings. Nevertheless, early man has made brilliant use even of its uneven parts. Though it bears a smaller number of figures compared to LKDR I, it helps us to establish the chronology.

The north-east compartment of the shelter is about 2 m high and its floor made even by placing a retaining wall of undressed stones against the steep slope. The right flank of the ceiling bears about 1.5 sq.m white slip (9 N9, Munsel), which covers the vermilion red (5R 4/6) paintings. The figures of this part have been executed in a very scattered fashion and do not form any coherent scene, yet they have individual importance.

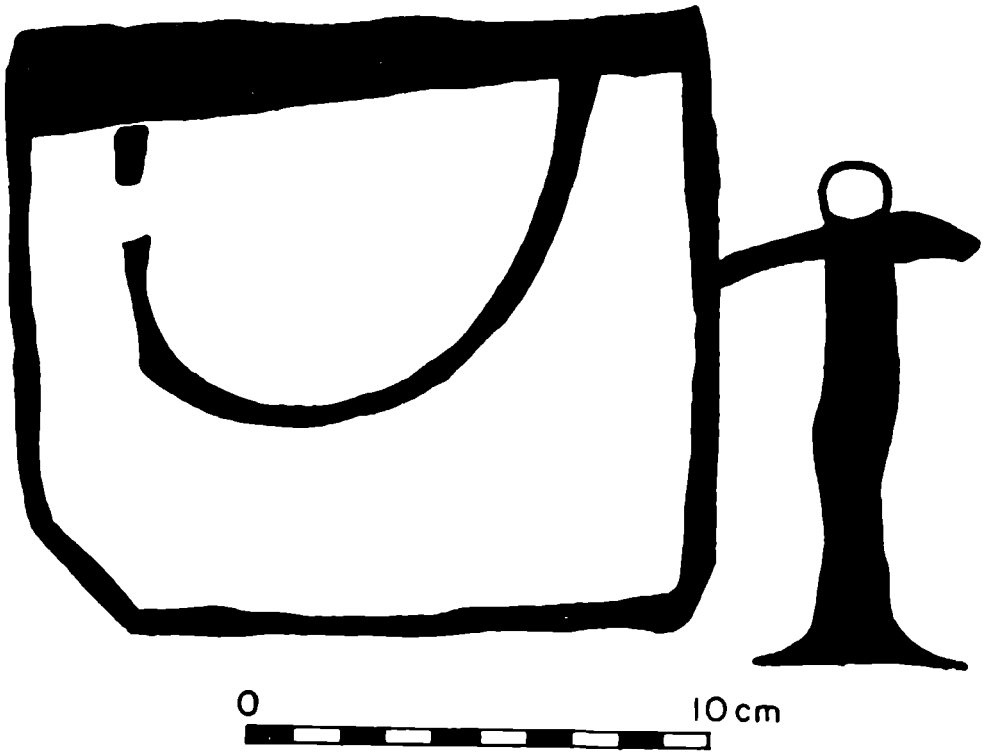

Fig. 2.21 Pentagonal motif in Lakhiudyar 1, with a human figure

In the right corner, a set of 10 vertical, almost parallel, lines (1 to 1.5 cm tall) in crimson-red is superimposed on olive black (5Y 2/1) figures, which could not be identified. However, a few human figures were noticed and the rest of them looked like patches of colour. Left to them is a serpent-like motif (31 cm) in brick-red (5R 4/6). In the central part of the shelter, a flower in bloom and a petal (Fig. 2.23a,b) are executed in red (5R 2/6). At another spot, an interesting human figure (12 cm) is depicted in red pigment (5R 2/6) (Fig. 2.23c). He is standing in such a posture that his back makes an arch. He looks as if he is about to fall down, but trying to balance in a very elegant manner. At another spot, a man is running (5R 2/6), but his head is not shown. This figure is superimposed by a set of small white lines (9N9) (Fig. 2.23d). On the right of these isolated figures, there is a small roundish patch of dark red pigment. Above this, a black figure could be seen only after moistening the wall, but could not be identified. This black figure is superimposed by a few stick-like human figures made in brick red. Above these, small stick-like vertical and horizontal lines are depicted. The human figures are superimposed by a white slip (9N9).

The ceiling bears a very interesting and eye-catching figure of a man in dark red (5R 2/6). He looks as if he is sitting and his legs are folded (Fig. 2.23e) and gives an impression

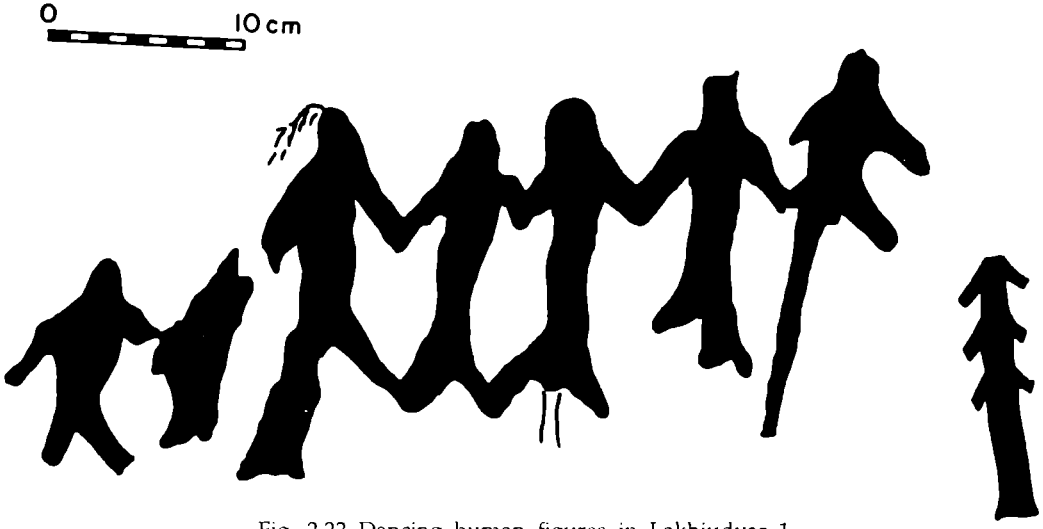

Fig. 2.22 Dancing human figures in Lakhiudyar 1

of a jumping posture. His belly is bulky and both hands are raised. Left to this, some arrow-like figures are shown. Further left, there are 10 arrow-like human figures executed in ochre red (4N4). These figures have been superimposed by thick dots of white pigment (8N8).

The south-east compartment bears more paintings compared to the north-east. On the extreme right corner is a 42-cm long motif of wavy lines (/\/\/\/\/\/\) in black pigment, whose each segment is 5 cm long and joined with others at an acute angle (Fig. 2.24). This motif is superimposed by brick red figures including an 8-cm tall anthropomorphic figure, a set of vertical lines and a patch of the same colour. Left to these, on the central part of the shelter, two stick-like hand-linked human figures are shown in a dancing posture followed by four long patches of red and black colours.

In the second row, two human figures (7, 6.5 cm tall) along with a motif in red (5R 2/6) are shown (Fig. 2.25). The lower part of the motif as well as of the human figures seems to have broken down as the surface is disintegrating. The human figures appear to be in hand-linked posture and next to them a motif is formed by small lines joining at an acute angle (>>>>>>>>) (Fig. 2.25). Next to these, two humans (6 and 5 cm tall) appear running very fast (?); one of them looks as if he is about to fall down. His one leg is in the air and body is bent and hands are raised like his companion. These figures are executed in light red (between 5R 4/6 and 6/6). They are followed by a patch and a motif in the same pigment. The motif is composed of a set of lines, which gradually decrease in height. Similar lines are also shown on the left flank of the shelter in seven different groups in red (5R 4/6).

Above these decorative paintings, the third row begins from the central part of the shelter with three hand-linked human figures in ochre red. The first two have lost their lower part, whereas the third measures 5 cm in height. These figures are followed by three patches and

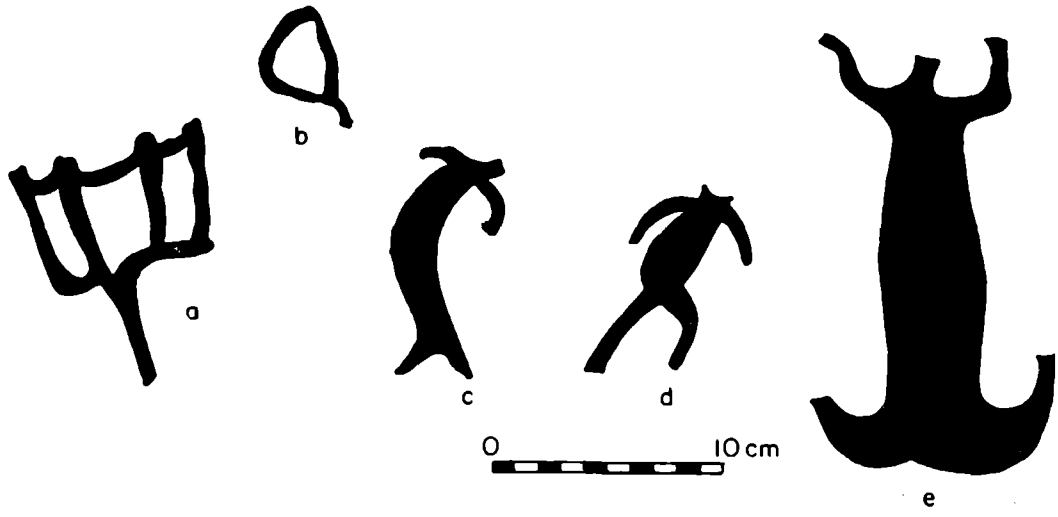

Fig. 2.23 Paintings in Lakhiudyar 2: flower motif (a, b); human figures (c, d, e)

an arrow-like motif in a similar pigment. Next to these, three more human figures are executed. They appear to have undergone a high degree of weathering as only their outline could be observed. In the left part of the wall, a 23-cm long patch of dark red pigment is followed by a series of 22 stick-like 3 to 5 cm vertical tall lines.

In the fourth row, on the right flank of the wall, five human figures (5 cm) have been executed in ochre red pigment. On the central part, a motif is depicted in three parts (Fig. 2.26). The first two parts are each 8 cm wide, the third one is 36 cm wide. Their height varies from 4 to 5 cm. The motif gives an impression of a series of mountains. Just above this motif, a long patch of the same colour is made, which is enclosed on either side by vertical lines (4 x 2 cm) in red pigment. Left of the above, a set of thin lines is shown in brick-red.

In row five, which is painted on a horizontal lens of the rock, 32 hand-linked human figures in ochre red (5R 2/6) are shown. Except in a few cases, their body has been represented by stick-like lines. This row is entirely superimposed by thick white (9N9) dot-like impressions, which sometimes are depicted in a vertical alignment. Next to this is a 55-cm long eye-catching motif composed of small squarish and rectangular half-diamond like structures (Fig. 2.26). At two places it may have served as some support to stand upon. Perhaps it represents some kind of a structure. Above this motif, a set of 19 vertical (each 4 cm) lines has been depicted.

On the extreme top right corner of the shelter, a patch of black pigment is superimposed by four human figures (6 cm tall) in brick red colour (between 5R 4/6 and 5R 6/6). Their body is quite bulky and have raised hands. Further left, there is a 42-cm long row of 1.5 to 2 cm tall stick-like figures, which could be seen only after moistening the wall.

This shelter has a very crude surface composed of horizontal lenses of slate and meta-

Fig. 2.24 Geometric wavy line motif and a human figure, Lakhiudyar 2

quartz. Wherever these lenses have provided a plain surface, early man has used them for his paintings. At several places, the surface has become yellowish perhaps due to continuous water percolation and chemical weathering. On the eastern compartment, the local people have destroyed the paintings by putting mud plaster on the wall.

The shelter bears a habitational deposit on the north-eastern floor, enclosed by a retaining wall of undressed stones constructed against the slope. The upper part of the wall has fallen down, and as a result, a section of the floor is partly exposed, which revealed the following stratigraphy:

Depth from the surface	*Composition of layers*
0-30 cm	Gray sand with slate, micaceous and quartz cobbles exposed on the floor, roots.
30-48 cm	Grayish sandy silt with quartz cobbles.
48 cm and below	Packing of large boulders and cobbles with grayish silt.

The floor of the shelter has been dug at many places by local people as well as by animals. The grayish silt horizon revealed a small amount of charcoal, which has been sent for C-14 dating. No other cultural material like microliths or pottery was found in the shelter. Since quartz is in plenty in and around the shelter, it might have been used by early man for his tools. The quartz boulders, cobbles, flakes, and chips give an impression of microlithic tools. Unless the floor is excavated, nothing definite can be stated at this stage.

Just in front of the shelter LKDR 2, there is another shelter devoid of any paintings. A cup-mark however was found on its rocky floor, which seems to be very significant as similar depressions have also been found in painted shelters elsewhere in this area. These cup-marks are discussed in the following pages (section 2.5).

Shelter LKDR 3 (1320 m MSL)

This shelter is located about 100 m south-west of LKDR 1 and is equidistant from LKDR 1 and LKDR 2. The shelter faces east and provides a floor (about 8 x 4 m). Its roof has

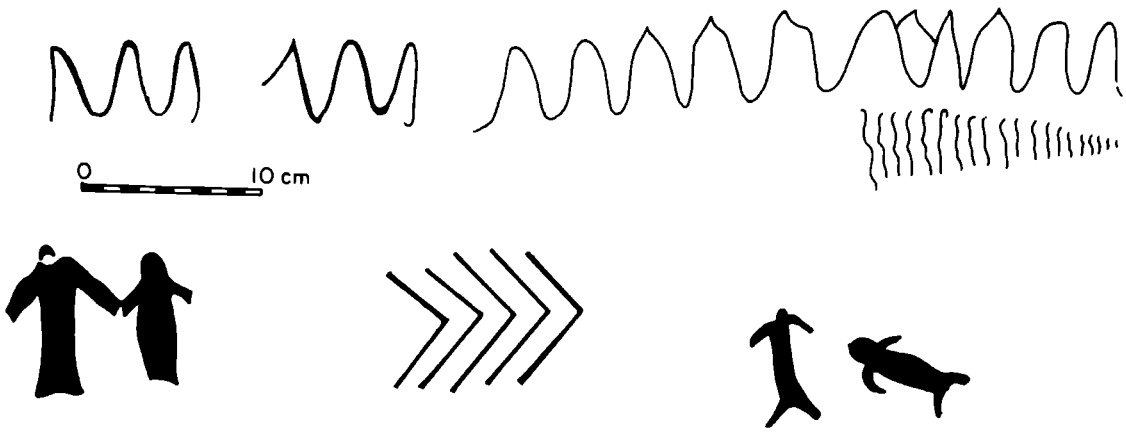

Fig. 2.25 Human figures and wavy lines, Lakhiudyar 2

a flat surface on which a modern house has been constructed. It is interesting to note that the shelter has been used for long by the local people to dwell. A modern hearth can still be seen in the shelter. Unfortunately, due to their cooking activities, a sizable amount of soot has been deposited on the ceiling of the shelter and as a result, the original rock surface is difficult to see. However, the original colour of the rock shelter varies from light gray (7N7) to moderate light gray (6N6).

A few paintings in brick red (between 5R 4/6 and 5R 6/6) were found on the entrance of the shelter. Among them a criss-cross motif, a black patch, a rectangular box-like structure and 10 vertical lines underlined by a horizontal line are executed on the right flank of the shelter.

The floor of the shelter did not yield any antiquity except a circular cup-mark (with diam. 9 cm and depth 3 cm) on a slate slab. The floor contains dark grayish silt, which is entirely disturbed. A grinding stone was also noticed near the shelter, which might have been used perhaps by the recent dwellers.

Shelter LKDR 4 (1355 m MSL)

This slate rock shelter is located about half a km west of LKDR 1 with an opening towards north-east. The large projection (north-south) of the shelter measuring about 6 m provides a 15-m wide and 3-m high floor for dwelling. The Binsar gad flows just 50 m below from the shelter in a north-east direction. The shelter is surrounded by small bushy and thorny plants of *kilmora*, along with a sparse forest of Chir, *Pinus roxburghii*.

A part of the shelter is being quarried by the local people for stones. About half of the ceiling has already been knocked down, leaving a sizable amount of debris on the floor. The ceiling of the shelter bears a dark layer of charcoal soot. A part of the floor has been levelled by placing a retaining wall of hewn slate and quartz stones against the slope. Three

Fig. 2.26 Geometric motifs and a human figure, Lakhiudyar 2

such step-like small floors were noticed in the shelter. Perhaps they were made for dwelling purpose. The surface soil is silty brown and consists of quartz and micaceous cobbles.

The ceiling of the shelter bears only four small figures on the right flank in brick red (between 5R 4/6—5R6/6). Among them an English W-like structure, a trapezoid figure (maximum length 18 cm) and two sets of criss-cross lines are shown. They perhaps represent some geometric motif. These figures represent the last phase of paintings in this area.

Location 4: *Petshal (Kafarkot)* (1480 m MSL)

Area 4 is located 2.5 km west of shelter LKDR 1 and about 13 km north-east of Almora on the Barechhina road, near Petshal village. The site is located on the north-east slope of the micaceous slate ridge. Though the area around the shelter has been denuded, the mountain ridge is enclosed by *Pinus roxburghii, Myrica nagi, Rhododendron,* and other species of the Lesser Himalayan flora. There are only two painted shelters at this location.

Shelter KFKT 1 (1480 m MSL)

The painted shelter of Petshal is locally known as Kafarkot (a cave on the cliff of the hill). The shelter is composed of slate and bears quartz and micaceous lenses. The shelter is oriented north-west–south-east with a height of about 7.40 m. The length and width of the floor were measured to be 10.50 and 3.50 m respectively. The shelter has an opening towards south-west.

On the south-east flank, two sets of 2-3 cm vertical black lines are depicted. Their length extends to about 2 m. These lines have been superimposed by dark red pigment. At one place a flower motif (Fig. 2.27a) in black colour (2N2) is superimposed by red (5R 2/6) paintings. Above these, a pentagonal structure is depicted (Fig. 2.27b) along with seven small patches in dark red (5R 2/6).

In the north-west part of the shelter, at a height of about 3.5 m from the floor, black and red paintings have been executed. In the fourth row, a small motif in ochre-red (5R 2/6) is superimposed by human figures in black (2N2). The human figures are 4 to 5 cm tall and the motif is made by joining several hexagonal structures, with open lower end (Fig. 2.28). The human figures in each hexagonal structure look as if they are standing in separate compartments. Most of them appear to be in action, and in some cases their hands and feet suggest that they are dancing. Some of them are wearing a short skirt-like garment. Above these, at one spot, three bulky human figures are shown in a group. They do not seem

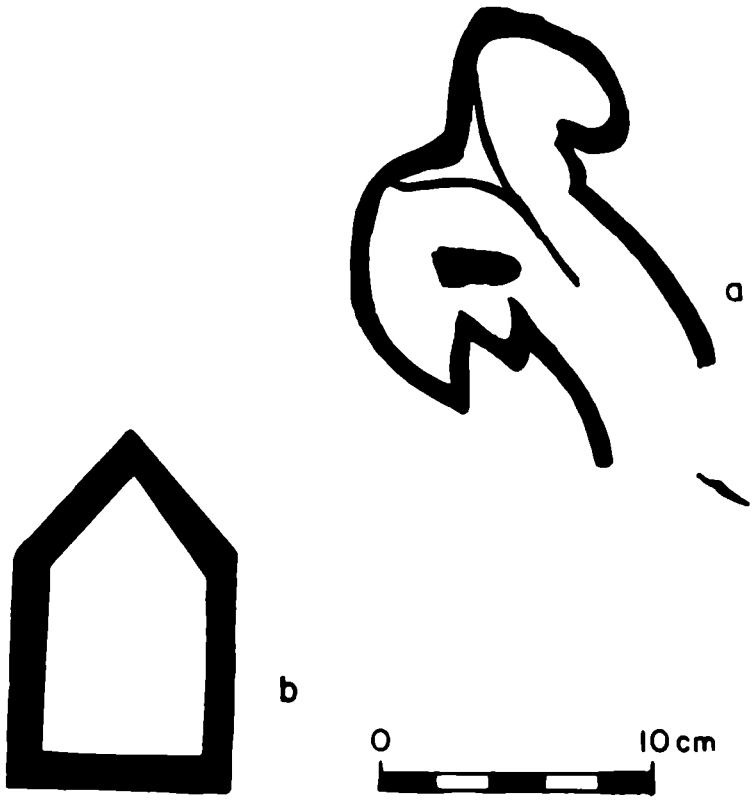

Fig. 2.27 Shelter Kafarkot 1: flower-like motif (a), hut-like motif (b)

to be associated with any activity. Left of them a few more standing human figures are depicted. Further left, a serpent-like figure (30 cm) and a multi-legged lizard-like figure are executed (Fig. 2.28) in greyish black (2N2). These figures are superimposed by red paintings in a bright tone.

Above these figures, in the north-west corner of the wall, two men (14 cm tall) stand facing each other in dark red (5R 2/6) (Fig. 2.28). The first one on the left side has stick-like objects in his hands. His head-dress is swinging, whereas the second man has a bulky belly. Perhaps he has a drum hanging on his neck. He holds a stick-like object in his left hand. It appears that the first man is beating the drum of the second person. Both of them have their feet apart. Left to them, a patch of similar colour is there.

Above this scene, 17 hand-linked people are shown in a dancing posture. Their height varies between 14 and 15 cm. All of them are stylized, but a few are shown with a bulky physique. They may be identified as female figures. There are two children between fourth and fifth and sixth and seventh figures from left (Fig. 2.29). The second, third, ninth and 11th human figures have lifted their kids on their shoulders. Left of this scene, an unidentified animal could be seen after moistening the wall. All these paintings are executed in dark red. Above this, in row seven, four women (Fig. 2.30f) (each 14 cm tall) are shown in an excited posture in dark red (5R 2/6). Their hands are raised over their heads. They have perhaps worn a skirt-like garment, but the upper part of their body seems to be naked. Their dangling breasts, swinging hands, feet wide apart and bulky body perhaps make it an eye-catching dancing scene. Above this scene, a goat (20 x 10 cm) in dark red (5R 2/6) (Fig. 2.30g) in transparent technique is followed by a 24-cm long jackal-like animal. The

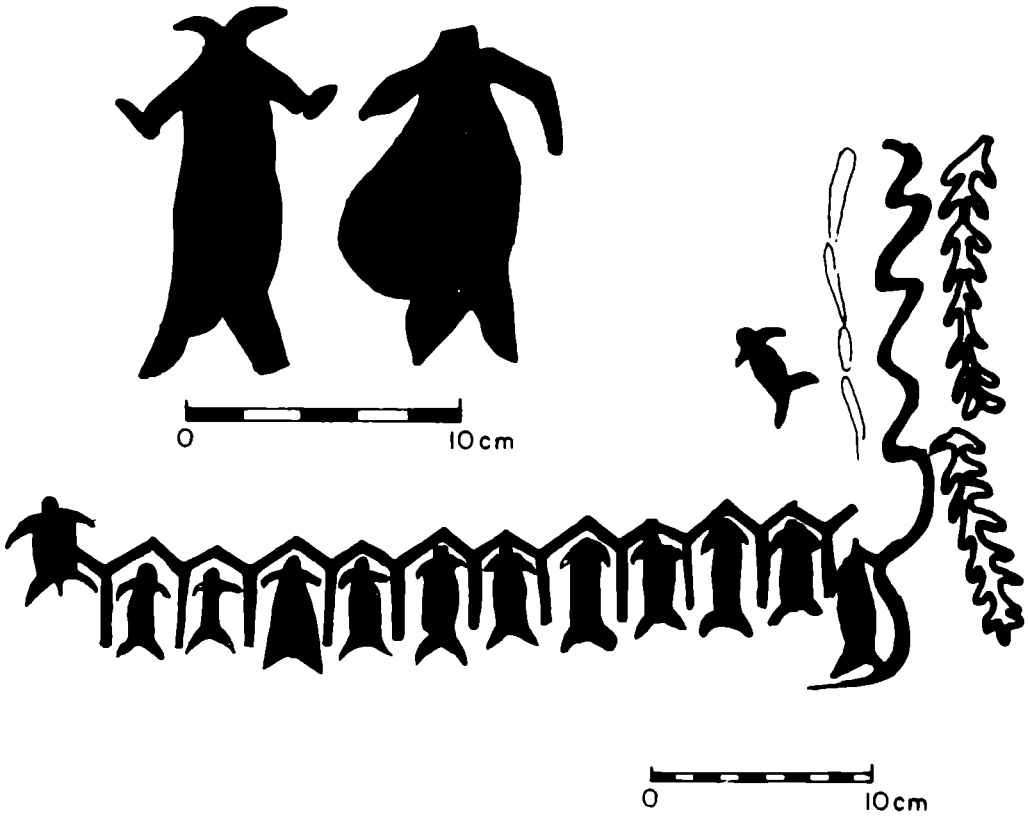

Fig. 2.28 Shelter Kafarkot 1: human figures, lizard and snake

goat looks excited; however the jackal is running behind towards right. The jackal is depicted in light red (between 5R 6/6 and 5R 4/6). The light red pigment, though not used elsewhere in this shelter, looks very close to the brick red of other shelters, i.e., LKDR 1, which is superimposed on dark red. Hence it can be stated that the drawing of jackal represents a different phase of paintings and it cannot be associated with the phase of the goat. On the ceiling of the south-east flank of the shelter, a cavity bears five arrow-like (7 to 9 cm tall) human figures in dark red (5R 2/6) pigment.

The north-west flank of the shelter, is bifurcated from the edge and forms a passage and also provides a foothold to climb up to execute paintings on the back surface. Perhaps this part of the shelter was used by the painters to climb up, otherwise it is very difficult to reach the height of about 3 m from the floor.

In this part of the shelter a circular depression or cup-mark (diam. 17 cm and depth 15 cm) was found. The depression is narrowing downwards and its bottom gives a V-shaped profile. It may be hypothesized that this depression might have been used for grinding purposes. But it is not certain whether the authors of these paintings used the above pit. However, similar

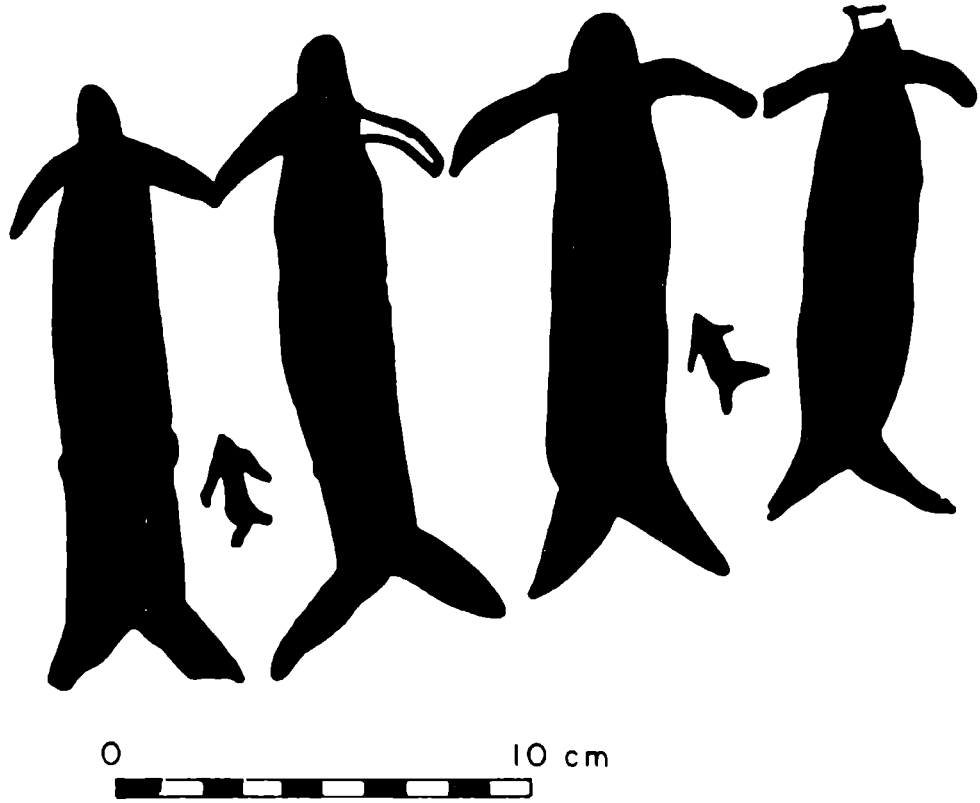

Fig. 2.29 Shelter Kafarkot 1: dancing figures

depressions are found all over the area and in various shelters; they are discussed in section 2.5.

The grayish silty floor of the shelter has suffered severe destruction. It has a sizable amount of quartz, micaceous and slate cobbles and boulders. The shelter overlooks the small perennial rivulet, a tributary of the Binsar gad, which flows about 150 m below at the bottom of the ridge.

Shelter KFKT 2 (1480 m MSL)

This shelter is located about 30 m east of KFKT 1. It is a very small shelter with about 2 m long projection. There are four drawings on its ceiling (5R 2/6). Among them a stick-like man (6 cm) has a thick object in his right hand. It looks as if he is throwing it away. Left to him, a crab-like stylized man is shown, which matches with the excited human figure shown in LKDR 2. He appears in a jumping posture. Above this figure, an animal is depicted in light red (5R 6/6), followed by a criss-cross like motif.

This shelter has a rocky floor and part of it is made by placing hewn stones. Since

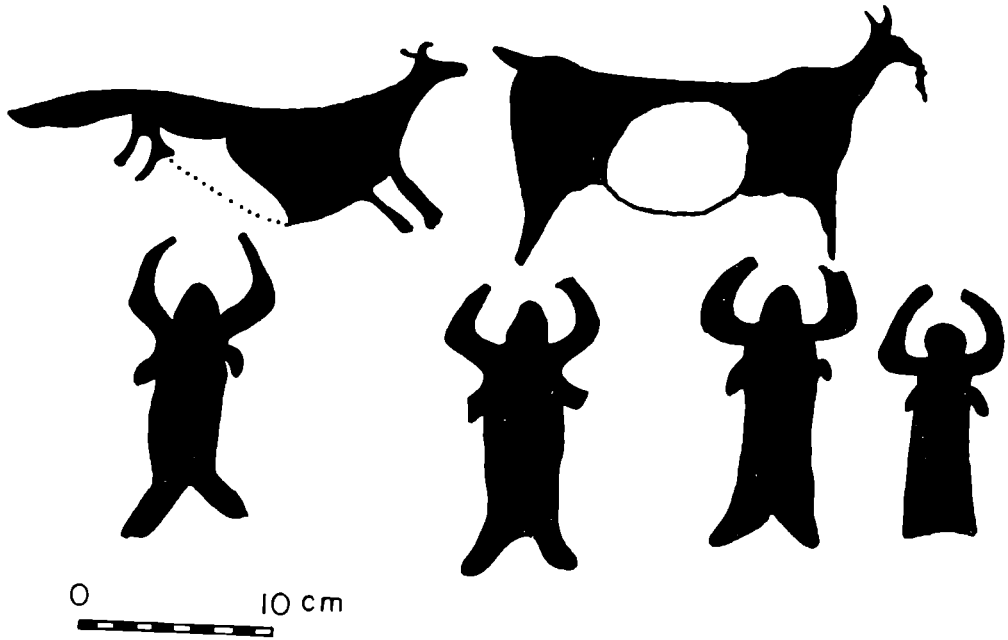

Fig. 2.30 Kafarkot 1: dancing female figures and animals

both the painted shelters are located on the steep slope of the hill, their floors have been highly eroded by rain water. Besides, the local people around have been quarrying these rock exposures.

Location 5: ***Falseema*** (1600 m MSL)

The rock shelter is located about 4 km east of Almora town near village Falseema. It is situated on the southern slope of the mountain running north-west–south-east. The hill range is composed of micaceous, micaschist and slate rocks belonging to the Almora nappe. At several places the rock exposure may be seen on the denuded steep slope. On the peak of the conical hill, a temple of a local deity (*Bhumia dev*) is situated. The entire mountain slope bears a very thin coarse gray soil cover, which supports *Pinus roxburghii* forest in small shallow patches. A natural spring at Falseema is the nearest source of water for the site; at the bottom of the north-west–south-east hill, the river Suyal, a tributary of the Koshi, flows in a southerly direction.

At this location, only one painted rock shelter was found. However, there are several cup-marks (section 2.5) on rocks around. The shelter is oriented north-south with an opening towards west. A bridle-path, which connects the village Falseema with Tatik, passes by the shelter. In fact, it would not be precise to call it a shelter as it provides, more or less, a vertical surface for painting activity. It is divided into two storeys by a very small projection.

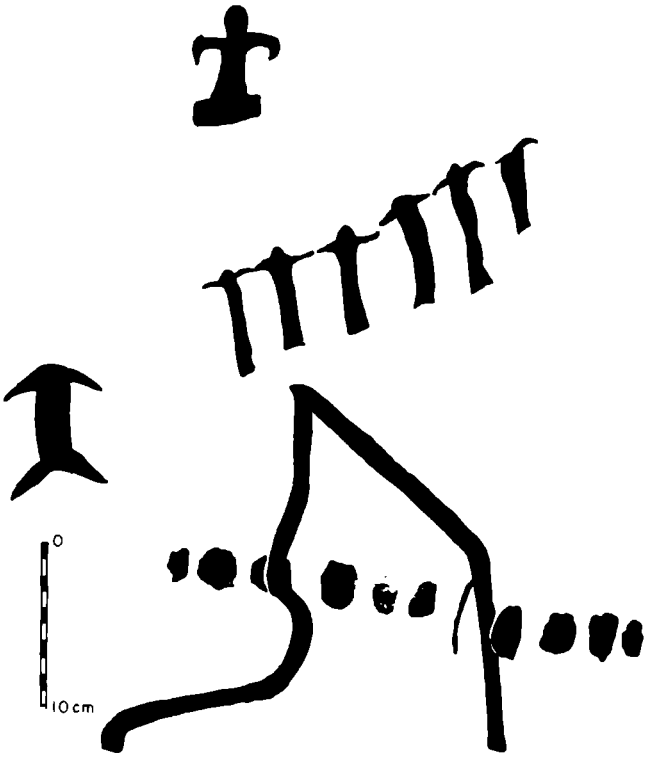

Fig. 2.31 Falseema shelter: black motif superimposed by red dots and human figures

The shelter is about 8 m high and 10 m wide. The floor has entirely been eroded by rain water in absence of a retaining wall. Since the shelter is located on the way to Tatik, the local travellers get a resting spot under the shelter.

The drawings have been executed in a small part of the shelter in four horizontal rows. The back surface of the shelter is fully exposed to sunlight and rain water. The surface of the wall is disintegrating into thin chips due to heavy weathering. The shelter bears in all 35 paintings including stylized human figures, geometrical motifs and a black painting. These drawings have been executed at a height of about 3 m from the floor.

On the right corner, a 14-cm tall slanting line is joined with a serpent-like (18 cm) object at an obtuse angle (Fig 2.31a). This black motif is superimposed by 10 small dot-like structures in dark red depicted in a row. From the left side, a man (8 cm tall) is approaching towards the motif. He looks bulky compared to the other figures and is followed by a patch of similar pigment.

In the second row, three human figures in brick-red are approaching a group of dancing human figures. The dancing figures are represented by stick-like lines. Further left, four human figures and a set of stick-like lines are drawn, which could be recorded only after moistening the wall. These people appear sitting quietly, their feet and hands are folded and look as if they are viewing the dancers. A thick black line, which is executed vertically, has been super-imposed by these human figures in crimson. At one place, a child (4-cm tall) is running. He is depicted in the partly filled abstract style in loose garments. The aforesaid sitting men are superimposed by two colour patches in brick red. This row is succeeded by a group of stylized dancing figures, which are visible only after moistening the surface. Above, a

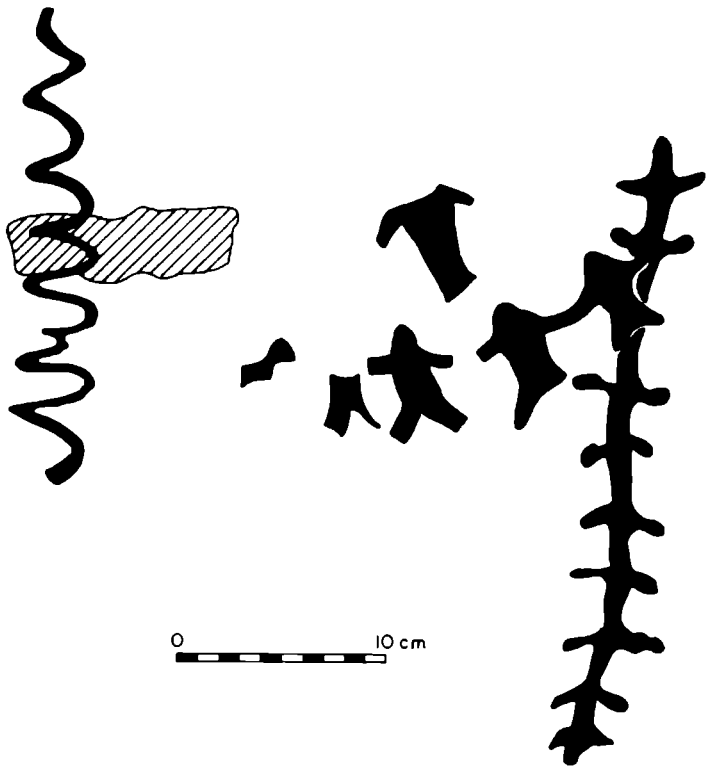

Fig. 2.16 Multi-legged lizard (b) superimposed by human figures and a serpent-like motif (a), Lakhudyar 1

(?) (11 x 7 cm) and a deer-like animal (Fig. 2.18). The latter is partially seen in the picture. These animals look excited, probably due to the presence of the man/hunter near them. Some of the human figures are also shown in an excited state (?). The height of these human figures is ranging from 9 to 20 cm. Below, a deer-like animal (11 cm) is terrified (?) by a man (6 cm) whose hands are raised. His lower part of the body is missing. Next to this, four hand-linked human figures are shown in dark red, and look much weathered. Below, in the central part of the shelter, 13 arrow-like human figures (7 cm each) are executed in dark red. This part of the shelter appears to have undergone a high degree of weathering.

At another spot in the central part, 30 people are depicted in four different groups in dark red. The first two tiers comprise six human figures each; the lowermost tier consists of 17 arrow-like figures, including six children. The children are 3 to 4 cm tall whereas the other human figures are 10 to 13 cm tall. Lastly, a man is holding an object in his left hand.

Above this group, there is an illegible Brahmi inscription in brick red superimposed on dark red paintings. The legend is still undeciphered.

To the left of this script, appear four tall walking human figures in a row. Below the script, a long faded line of figures was noticed. One of them looked like a man, but it is very difficult to count or identify them. Below this line, some interesting figures are depicted. Two men are in bright red and next three women are in dark red (5R 2/6) in a hand-linked posture (Fig. 2.19). They have worn head-dress and long gown-like clothes, which reach up to their feet. The head-dress of the women appears to be hanging on either side. Their hands

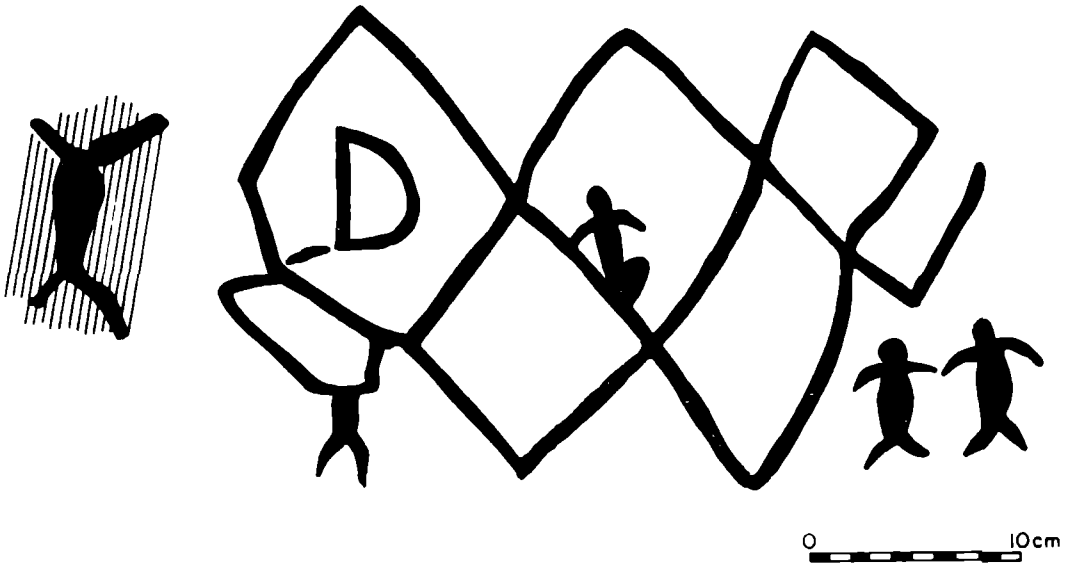

Fig. 2.33 Geometric motif with human figures, Falseema

was executed in brick-red. This chronology has been built up by observing the degree of weathering and superimposition of different drawings. The right flank of the shelter has suffered more weathering compared to the other parts since this comes under direct contact of sunlight and rain water. Except a few abstract outline drawings, all others are executed in stylized pattern.

There is no habitation debris as the floor has been washed away by rain water. A large amount of quartz nodules, chips and flakes were found around the shelter. It is very difficult to state whether the authors of these paintings used these stones or not. So far we could not collect any convincing tool from any of the painted shelter sites.

The rock artists of the Stone Age, as well as of later periods, in Europe, Africa and India used mineral colours to depict their paintings. The most common colour was hemaetite red. In India hemaetite has been found in several prehistoric rock art sites, for example in Mirzapur in Uttar Pradesh (Sharma 1964:78), Langhnaj in Gujarat (Sankalia 1965), Bagor in Rajasthan (Misra 1973:4), and in the Chambal valley (Wakankar 1975:18). In Kumaun also the red paintings dominate each shelter. Though no colour pieces of hemaetite were found on the surface of the shelters, possibly the artists might have used *geru* (haematite colour) mixing up with local vegetable juice and some sticky substance like honey or animal fat to prepare colour (Bandi 1961:76). The black and white colours were perhaps painted using charcoal and lime.

The painted shelters were used several times by the artists of different periods without obliterating the older figures. Thus the superimposition of figures of different styles and periods can be seen in the painted shelters.

It is difficult to identify the implements used for painting. Perhaps fingers and wooden twigs were employed to make the paintings. Some of the figures, i.e., wavy set of lines and decorative motives, however, suggest that the painters used fine brushes.

We would like to report here the analyses carried out by Dr. C.S. Sharma (of NPL, New Delhi) on the pigments of the Lakhudyar shelters. In the black pigments he found 5.73 ppm iron and 12.1 ppm cobalt. In the same rock shelter, he reported 3.20 ppm iron and 13.4 ppm cobalt in the red pigments.

2.5 Cup-marks

This section deals with pits made on rocks, found in large numbers in the Kumaun area. W.J. Henwood (1856) was the pioneer, recording a few rock ***basons*** at Devidhura in Pithoragarh district. His discovery was followed by H.R. Carnac (1877), who reported a large number of pits on a rock from Chandesvar near Dwarahat in Almora district. In recent years, a few cup-marks have also been reported (Joshi 1987b; Mathpal 1992). Throughout our explorations between 1991 to 1993, we have come across a large number of sites containing different types of depressions on a variety of rocks in Kumaun. In the following pages, the description of the sites, from north to south, is followed by analysis of data, comparative study, chronology and conclusions (mainly carried out by JK).

Below we discuss the cup-marks in a wider perspective.

Global Perspective

Europe: We discuss below the occurrences of pits, cup-marks and rock-engravings in a global perspective. In Europe, the discovery of engraved drawings began much before the first cave art site of Altamira was found in 1879. Around 1840, a drawing of a deer on a bone was found by Brouillet in the Chaffaud cave in Vienna (Graziosi 1960:15). Later on, around 1895, rock engravings were found along with paintings from the caves like La Mouthe, and Pair-non-Pair in the Dordgone area, which contain animal figures.

The European rock art sites are concentrated in three main areas, i.e., Vezere and Dordgone in France, in Pyrenese and in the Cantabrian Mountains. The cup-like marks have been found in Andorra in France (Montanya 1992:23).

A large number of post-Palaeolithic art (4000-2500 BC) assemblages exist in Europe. Open air sites occur in Scandinavia ranging in age from the hunter gatherer art of the Spanish Levant to the Neolithic cup and ring engravings of Britain (Bandi 1961). The most common subjects of art have been reindeer, stag, elk, bear, seal, birds, human figures, boats as well as a range of motifs such as spirals, triangles, mazes and hollows. The Bronze Age sites contain domestic animals, tools, footprints, geometric designs such as wheels, spirals, circles, rectangles, triangles, sun symbols and so on. Similarly, the Alps region (Switzerland, Austria, Northern Italy) bears a large number of rock engravings of animals, humans, hunting scenes, domestic animals, wheels and geometric designs ranging from 10,000 to 2000 BP (Anati 1960). There is a wide occurrence of cup-like marks in West Yorkshire and Isles of Britain, Scotland, Denmark, and France (Steinbring and Lanteigne 1991).

Africa: The mountainous region of Sahara in North Africa, is one of the richest zones of rock engravings. The first work on rock art of Africa was published by G.B.M. Flamand in 1921 (Alimen 1957:359). L. Frobeniurs and H. Obermaier studied styles and technique of Saharan engravings in the year 1925. The subjects of rock art, beginning with the hunter-gatherer period, include elephants, rhinos, lions and schematic representation of camels.

The pastoral rock art in the Horn of Africa (Djibouti, Ethiopia and Somalia), comprising a large number of engravings of domestic animals like horses, belongs to the early and mid-Holocene period (Brandt and Carder 1987).

The engravings of chariots and horses in the Saharan rock art are well documented in over 600 rock sites in the Tassili, Hogger and Fezzan areas. On the basis of circumstantial evidence, the widespread use of chariot has been placed between 700 to 200 BC (Muzzolini 1992). The rock art of the Saharan region also contains cup-marks along with chariots and horses (*ibid.*: Figs. 5,6).

Rock engravings are also known from the Nubian and Libyan deserts, which were studied by G. Schweinforth in 1912, J. de Morgen in 1926 and Breuil in 1928 (Alimen 1957:371). In 1938, the engravings of Egypt and Libya were studied by H.A Winker.

Gaona Ennari of Tibesti is one of the well known sites of African rock art. It is remarkable for the Saharan art of the hunter-gatherer period and comprises engravings of rhinoceroses, giraffes, antelopes, bovines (Striedter 1992). Similarly, a large number of incised, pecked and engraved drawings of human figures and a pair of sandals with an inscription have been documented from Djado plateau of Niger in Northern Africa.

In Southern Africa, rock engravings have been documented from Zimbabwe, Mozambique, Botswana, Namibia and South Africa. The art motifs include human figures and a range of animals: eland, antelope, elephant, rhinoceros, hippopotamus, buffalo, and felines. Geometric designs and hand prints also occur (Lewis-Williams 1983). Recently quite a few pictographic sites containing cup-marks have been discovered in southern Kenya (Odak 1992). They have been made in linear, circular, squarish and other forms ranging from 1.5 to 33 cm in diametre.

America: The first systematic work of documentation on rock art in North America was undertaken by Mallery (1893:762). Prehistoric engravings and drawings have been recorded from Utah along the river Colorado bearing a large number of animal motifs, human figures, spiral and linear motifs ranging from the mid-Holocene to the present (Smith and Long 1980). Rock engravings as well as painting sites are widespread in South America, as compared to North America. They exhibit a range of figurative and geometric motifs.

On Easter Island, a monolith statue bearing cup-like marks has been reported by Tilburg and Lee (1987:140).

Australia: There are several thousand rock art sites in Australia with figures and motifs mainly in two styles, i.e., naturalistic and geometric or linear. The naturalistic group of figures have been found in north-west and south-east; however, the geometrical style predominates in the western, central and southern Australia. The early dates for Australian rock art come

from the finger markings and incised lines at Koonalda cave, and the pecked circles, dots and linear motifs at the Early Man site. They have been assigned to the Late Pleistocene period. The central Australian area comprises a large number of sites with engravings, which depict circles, spirals, arcs, lines and dots.

The best known examples of Sydney-Hawkesbury are the large engraved figures of macropods, fish, whales, humans, reptiles and such. Rock engravings are also reported from Tonga, Samoa, Hawaii and New Zealand. The Punola site on the Big Island of Hawaii has over 30,000 cupules (Steinberg and Lanteigne 1991)

China: Rock engravings have been documented from the vast regions of southern China and include Tibet and Inner Mongolia. The first discovery of rock engravings was made by H. Zhonggin in 1915 in Fujian province (Chen Zao Fu 1992). A large number of mask motifs belonging to the Neolithic period have been discovered from northern and southern China. The subject matter includes animals like sheep, goat, monkey and buffalo, besides hunting scenes and dancing figures. A variety of symbols and objects such as hand prints, footprints, animal hooves, dots, short lines and geometric motifs have been recorded. The cup-marks, pits and grooves are carved in a linear abstract style. Also, arrangements of dots in simple/ rectilinear/curvilinear patterns, concentric circles, spiral lines and parallel lines have been reported (Chen Zao Fu 1992).

Cup-mark Sites in India

In India, early references to petroglyphs come from Henwood (1856) and Carnac (1877) who located shallow depressions on rocks in the Kumaun area of U.P.; and Fawcett (1901), who discovered rock carvings in the cave of Edakal in the Kozikode district of Kerala. These carvings included human figures, stylized animals and geometric symbols. In the 1880s, Hurbert Knox found rock bruisings in Bellary district of Karnataka (Foote 1916:87-89). A few years later, Mitra (1923:149) recorded rock engravings at Ghatshila in Singhbhum district of Bihar, and compared them with the rock carvings of Australia. Jayswal (1933:58-60) recorded a pictographic inscription from the rock shelter of Vikramkhol in Sambhalpur district of Orissa.

In Kupagallu hill near the Neolithic site of Sangankallu, in Bellary district of Karnataka, five engraved drawings were discovered on the boulders (Gordon 1951). In one of these figures, a man is shown gripping a woman by her hair; in an another scene two human figures are engaged in sexual activity. Besides these, there are a few animal figures, for example, a three horned animal and oxen. Paddayya (1968:294-98) has also recorded a few rock bruisings from Gulbarga district of Karnataka. Engraved drawings have been recorded from the Benakal reserve forest in Raichur district of Hyderabad by Gordon and Allchin (1955:97-99). Gordon has also recorded two groups of engravings: one from Gotgiri Betta ridge south-west of Bangalore and another near Dod Kamelli village about 16 km from Bangalore on the Sarjapur road. Engraved drawings have also been found from at least four places near Attock Bridge on the banks of Indus in Pakistan. They contain humped bulls, a mythical scene showing an elephant rider holding up a man and a woman, and two inscriptions (King 1940). Francke (1902) reported carvings on rocks from the lower Ladakh region which depict geometric forms of horse riders, hunters, animals, swastikas and stupas.

These drawings have been assigned to the pre-Buddhist period by the author. Recently Francfort *et al.* (1992), discovered a large number of sites with engravings from Ladakh and Zanskar showing hunting scenes, masks, animals like deer, horses, dogs, wolves and birds. Their dates range from the second to the first millennium BC.

A microlithic core with a "spiralling rhomboid design" was discovered by Mehta and Sonawane (1992) from Chandravati, 7 km south of Mount Abu in Sirohi district of Rajasthan. The authors have assigned this core to the Mesolithic culture on the basis of the contextual evidence.

Recently Rao (1989) has brought to light cup-like marks from the Vidarbha region. More recently, Bednarik *et al.* (1991) have discovered petroglyphs from a painted rock shelter at Hathihol in the Raisen district, and in Bhimbetka rock shelter III F-24.

Engraved and pecked designs, incised drawings and petroglyphs have been found in all the continents of the world from the Palaeolithic to the present. The engravings are not only found on rocks, but also on perishable materials like bone and wood. In the Indian context, clues with regard to the art of such engravings come from sites like Patne (Sali 1974), Bhopal, Rajkot (Wakankar 1984) and Chandresal (Kumar and Narvare 1984) in the form of ostrich eggshell pieces. These bear horizontal lines, concentric circles, triangles and loops. Based on C-14 dates they are placed between 40,000 and 25,000 BP (Wakankar 1987).

Analysis of Data

For a long time, the existence of cup-like marks and other petroglyphs has remained an enigma; even today their antiquity is questioned. Most of the petroglyphs of Western Europe and Great Britain have been ascribed an astroarchaeological significance (Steinberg and Lanteigne 1991). Let us examine the function and use of these cup-marks.

In California, the Key Stone petroglyphs are associated with fertility rocks which were used by the Pomo couples to wish for children (Parkman 1989:70). On the other hand, it is believed on the basis of existing ethnographic parallels, that the cup-marks of Kenya are related to the local games like *bao* and others, though Odak (1992:59) interprets them in a different way and that, "Each of the sites is representing a universe with the heavenly bodies symbolized by the cup-marks which are arranged in patterns reminiscent of the configurations of the clusters of heavenly bodies in the universe (i.e., the galaxies; the revolution of planets etc.) can be viewed from a distance." The petroglyphs of Kumaun may not fit into this hypothesis. Joshi (1986-87:28) seems to attribute the dot and cup-like marks of Kumaun to some religious activities. But this interpretation does not sound plausible in the absence of contextual evidence and ethnographic parallels. Perhaps like the bao game of Kenya, the small dot and cup-like marks of Kumaun were also sometimes associated with some kind of game/s, as the squarish structures of Devidhura and parallel or linear arrangements at Suraikhet and Petshal suggest. Dubelaar, on the other hand, says, "Petroglyphs are more than products of playful pastime, considering the time, energy, inventivity, artistic skill, etc., which they required and considering the sometime nearly inaccessible spots where they are located" (1991:30).

Joshi (1987b) is of the opinion that the medium size pits may be taken as sepulchral in nature and the large pear-shaped pits were used for dwelling purposes. The smaller

pits "may have served as the post-holes to support a roof." As far as the pear-shaped pits are concerned they cannot be accepted as dwelling pits keeping in view the small number discovered so far. Had it been so, their frequency would have been much greater than the total number of pits. It is possible that they could have been some kind of storage pits as initially they were covered by circular lids—perhaps to protect some edible substances.

The cup-marks in rock shelters and stone alignments at Petshal, and in the Chitai Reserve Forest suggest that the authors were semi-nomadic or pastoral people of these hills. They might have stayed with their cattle herds for short periods of time close to those areas where cup-marks have been found. Such locations may be called their camp sites. The possibility that the medium size pits may have served as post-holes to support some kind of roof also does not sound plausible. If the authors of these pits were brilliant enough to make any required shape of pit on the rocks, they could very well have made vertical post-holes to support a roof, instead of conical ones.

Generally the cup-marks or pits are found empty; sometimes they contain small amount of soil or quartz and other stone fragments. Joshi (*ibid.*) claims to have discovered terracotta and glass bangles from Khaikhan in Almora district but he does not give any date for them. At Odyari two medium sized pits were found containing grayish and blackish soil which yielded quite a few wild seeds. Since we are lacking the reference material on wild as well as domesticated edible plants and fruits belonging to Central Himalayan region, only a few among them could be identified by M.D. Kajale of Deccan College. As the area around the site at Odyari is deforested, one cannot say with any certainty whether these seeds were collected by a human agency, or due to natural causes. If at all those seeds were collected in these pits by some human agency, then perhaps this may indicate that the authors of these pits were either agriculturalists, or semi-nomadic people, who gathered wild plants. On the other hand, at sites like Gagrigol and Devidhura, the knowledgeable villagers recount that these pits were made to grind grain or medicines in ancient times.

It is interesting that all the Kumauni villagers use medium size pits, called *Ukhal*. The Kumauni *Ukhal* generally varies from 18 to 25 cm in diametre and from 16 to 22 cm in depth. It is commonly used to separate the husk from rice by pounding. The villagers preferably make the *Ukhal* in quartzite or sandstone. After a careful observation of these *Ukhals* and the medium sized pits, the following differences were noticed:

1. The *Ukhals* always bear smooth inner surface; however, only a few pits were found bearing a smooth surface.
2. The pits are made on a variety of rocks, whereas the *Ukhals* are made only on quartzite or sandstone.
3. If any *Ukhal* has been under use for about 10 to 15 years, its bottom becomes slightly wider, compared to the initial shape. But the pits do not carry this feature except a few at Suraikhet and Jalali. They bear V-shaped bottoms, smooth surfaces and appear to have been under use for a long time.

Chronology

In the light of these widespread rock-carvings and pits of the Old World, let us now examine the rock art of Kumaun. As we have discussed under Technique and Typology (section 2.7), there are a large number of dot and cup-like marks ranging from 2.5 to 10 cm in diametre. Similar depressions on rocks were discovered from Isles of Britain, Yorkshire, Scotland, and many other parts of Western Europe; Arkana, Djado, Niger of Sahara, and Kenya, in Africa; California; Southern China; Andorra in France; and from Hawaii. A striking similarity in shape and size may be cited between the cup-marks of Kumaun and the above sites. The Chariot period of Saharan rock art in which cup-like marks were found has been dated back to first half of the first millennium BC (Muzzolini 1992:29). The engravings along with the cup-marks at Andorra have been placed near the end of Bronze Age (Montanya 1992:25). However in Great Britain they are found associated with the Megalithic culture.

Bednarik *et al.* (1991:35) seem to place the petroglyphs of Central India in the Mesolithic period or even earlier. Rao (1989:59-63) has recorded cup-like marks in association with Megalithic monuments in the Vidarbha region. We have examined quite a few cup-marks on the boulders of Megalithic circles at Mahurjhari near Nagpur in 1991. They are very similar to the dot-like marks of the Kumaun area.

Carnac (1877) is of the opinion that the cup-marks of Kumaun and Central India are similar to those of Northern Europe (Ireland, Scotland, Norway and Brittany), and thus associated them with the Megalithic culture. Henwood (1856) was the first scholar to report cup-marks in association with the Megalithic culture from Kumaun.

On the basis of the striking similarity of the Kumauni cup-marks with those from the rest of India, Africa and Europe, and those associated with the Megalithic cultures in Kumaun as well as in Vidarbha, it may be stated that, "Perhaps the dot and cup-like marks were made prior to the dawn of the Christian era." However, those bearing cut-marks or with polished surfaces may be of a later date. Similarly, some of the motifs (i.e., rectilinear) bearing cut-marks may be creations of a later date.

The medium and large size pits in Kumaun could have been excavated only when the authors had achieved a full-fledged metal technology, preferably iron technology. However, except in Western Ramganga, nowhere else have the cup-marks been found near burial sites. It may be surmised that as the Megalithic people had developed iron technology, some of the cup-marks could have been made by them. It is worth mentioning here that now a number of Megalithic burial sites have been discovered in Kumaun (chapter 3) and iron implements have been discovered from some of the burials. The Kunindas had developed some kind of metal technology in the Central Himalayan region. Their coins of lead and copper ranging from the 2nd century BC to 3rd century AD have been found all over this region (Joshi 1989). Though none of these pits have been found near the ancient mounds so far, as they are generally located on steep hill slopes, it is feasible to postulate that some of the pits may have been carved in the early centuries of the Christian era.

It is also worth noticing here that none of these cup-marks has so far been found near the ancient copper working sites of Kumaun (chapter 4). Considering the growth of metal technology in Kumaun, it is only after the 7th century AD that we come across a large number of temples in the Indo-Aryan style, in which iron clamps, knobs and rings have been used. It may therefore be suggested that some of the medium and large sized pits may have been made in the medieval or even the late medieval period. Perhaps, the medium and large sized pits were derived from the dot or cup-like marks.

With the availability of C-14 dates now, some of the cist burials of Gagrigol seem to go back to the first half of the third millennium BC (chapter 3) and the early iron mining site of Uleni to beyond the First Millennium BC (chapter 4). There is a distinct possibility now of some of these cup-marks also going back to at least such an antiquity, if not beyond.

For a detailed description of the cup-mark sites of Kumaun, see section 2.6 of this chapter.

Conclusions

Thus among the rock-carvings of Kumaun, the dot and cup-like marks are the oldest. They were either part of a game, or were used for a purpose as yet unknown to us. That they were made with a definite purpose in mind is obvious, from the amount of time, energy and skilled labour that went into their creation. The medium sized pits may have served the purpose of grinding some substances; however, the large sized pits must have been used for storage purposes. The wide occurrence of dots, cup-marks, medium sized pits, large sized pits, a few motifs and the present use of *Ukhal* altogether seem to indicate that there has been a fairly long tradition of such pits in Kumaun. Most of them were possibly created by semi-nomadic or pastoral peoples of these hills. Possibly, initially the dot-or cup-like marks were part of their playful pastime. But later on when people used these pits to grind something, they became an integral part of their lives.

The stone blocks at Jalali and Suraikhet were perhaps created when their technology and society were at a much more developed stage, and the means of transportation in terms of human power was available as communal labour. These examples bear a close similarity with the modern *Ukhals* of Kumaun. Perhaps these are the last examples of the local traditions of rock carvings. The nuclear zone of these pits seems to be the catchment area of the Gagas and Suyal rivers in Almora district.

Below we give the detailed descriptions of the cup-mark sites for research scholars and others interested in details.

2.6 Description of Cup-mark Sites

This is the first extensive scientific survey of the cup-mark and related sites of Kumaun carried out by one of us (JK).

Malla Danpur (30°9'N; 80°E)

Malla Danpur is located in Bageshwar tehsil of Almora district, where four circular pits were found near the source of the Saryu (Sarmool) river. They are dug into a massive quartzite

boulder. Their diametre varies from 13 to 15 cm and depth from 9 to 11 cm and have V-shaped bottoms.

Gagrigol (29°55'N; 79°39'E)

Gagrigol is situated 3 km south-east of Baijnath town in Almora district on the Almora-Bageshwar road. There are 16 circular pits about two km north of Gagrigol on the southern slope of a hill and are excavated on different rock exposures. The site is locally known as Satukhoiyan and is located at the end of the ridge on a small platform measuring about 30 x 15 m. The area around is enclosed by a *Pinus roxburghii* forest and the natural springs at Munyura village are the nearest source of water to the site. The pits are locally known as *Ukhal* and according to the villagers these pits belonged to a queen who lived on top of the hill; she used to get grains ground in these pits. However, except three pits as per Table 2.8 (nos. 2, 9, 11), all the others have very rough surfaces. They do not bear any signs of grinding. Their dimensions are given in the table 2.8:

Table 2.8 Details of cup-marks at Gagrigol

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	rough	U	9	2
2	smooth	U	9.5	3.5
3	rough	U	10	2
4	rough	U	10	1
5	rough	U	24	24
6	rough	-	15	-
7	rough	V	27	15
8	rough	V	22	23
9	smooth	U	7	2
10	rough	V	12	13
11	smooth	V	30	23
12	rough	U	19	4
13	rough	U	7	4
14	rough	V	15	3
15	rough	V	22	9
16	rough	V	5	1.5

In the case of pit numbers 7, 8 and 11, depth could be measured only up to the level of debris. In the case of pit no. 6, only a circle is engraved; however, nos. 14 and 16 were left unfinished. Pits nos. 2, 9 and 11 bear polished interior surfaces. Pit nos. 1, 3, 4, 7, 12, 13, 14 and 16 bear prominent incision marks, which suggest that the authors might have used a sharp chisel-like object to cut these depressions.

Mashi (29°49'N; 79°17'E)

Mashi is situated 12 km south-west of Chaukhutiya in Ranikhet tehsil on the bank of Ramganga, in Almora district. There are in all six conical pits with V-shaped bottoms at Mashi. They have been cut into the granitic rocks exposed on the present flood plain of the Ramganga. Their diametre varies from 13 to 34 cm and depth from 11 to 28 cm.

At another location, 3 km south of Mashi, on the left bank of Ramganga, a massive sandstone rock bears 59 pits ranging from 2 to 15 cm in diametre and 1 to 9 cm in depth. Most of them appear to have been affected by river water. Though they do not bear any cut-marks, those of a smaller size with 2 cm diametre and 1 cm depth (dot-like impressions) seem to suggest that a conical nail-like instrument might have been employed to scoop them out. Interestingly, modern vandalism on this rock helps us to distinguish the old cup-marks. At one place, a few illegible letters in Devanagiri script have been bruised. Near the letters, an old cup-mark has also been pecked. All these look very fresh in comparison with the pits (Plate 2.4).

Naula

Naula village is situated 7 km south-west of Mashi on the terrace of the Ramganga in Ranikhet tehsil of Almora district. From there, a large number of pits have been located near the shrine of a local deity, beside the Mashi-Bhikiyasain road. The shrine, which bears a small icon of Lord Kartikeya, is enclosed within a wall of dressed micaceous slate slabs. These slabs bear 33 dot-like impressions and pits. Their diametre ranges from 2.2 to 6 cm and depth from 0.5 to 3 cm. They do not seem to form any alignment and the distance between the pits is not uniform. It varies from 1 to 25 cm. Besides these, there is a round boulder containing 32 cup-marks and 40 dot-like impressions. Their diametre varies from 3 to 7 cm and depth from 1 to 4 cm.

The villagers recount that the large slabs used in the walls bearing pits were unearthed from their terrace type fields. Burials have also been reported from this terrace (chapter 3). Thus in all, 105 pits were found at Naula village.

Jalali (29°46'N; 79°20'E)

Jalali is situated about 13 km west of Suraikhet in Ranikhet tehsil. There are two large well dressed sandstone blocks, lying at Simalkhet, 4 km north-west of Jalali, in the *Pinus roxburghii* (chir) forest of Jauyon and Simalchaur villages. Both these stone blocks are on the ancient pedestrian routes. The first block measuring 224 x 56 x 15 cm bears 11 pits of the following dimensions as given in Table 2.9.

Table 2.9 Details of cup-marks of Jalali (I block)

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	smooth	V	15.5	10.5
2	smooth	V	15	10.5
3	smooth	V	15	11
4	smooth	V	15	11
5	smooth	V	15	10.5
6	smooth	V	15	10.5
7	smooth	V	15.5	10
8	smooth	V	15	11
9	smooth	V	15	11
10	smooth	V	17	10.5
11	smooth	V	15	11

These conical pits are aligned in a straight line and the dressed stone block is oriented roughly north-south (20° north-east). The second block measuring 520 x 53 x 31 cm lies west of the first, on another ridge, with a north-east–south-west orientation (11° north-east). This large block bears 20 circular pits narrowing downwards in diametre. Out of 22, 20 pits have been cut down in a straight row; the remaining two are made on the two corners of the southern flank. From south to north, the diametre of the pits gradually increases, whereas the depth decreases. Table 2.10 gives their dimensions.

Table 2.10 Details of cup-marks of Jalali (II block)

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	rough	U	16	3.5
2	rough	U	15	4
3	rough	V	18	13
4	rough	V	16	15.5
5	rough	V	18	16
6	rough	V	16	13

7	rough	V	16	16.5
8	smooth	V	16	15
9	smooth	V	16	13
10	smooth	V	16	12
11	rough	V	16	11
12	rough	V	16	12.5
13	smooth	V	17	14
14	rough	V	16	13
15	rough	V	16	13
16	rough	V	18	12
17	rough	V	19	11
18	rough	V	21	8
19	rough	U	20	7
20	rough	U	22	5
21	rough	U	25	6
22	rough	U	17	3

This stone block bears small holes on its lower part, which might have been used to tie rope-like objects to pull the massive block to a required place. To pull such a massive dressed rock, at least 40 people would be required.

Suraikhet (29°46'N; 79°23'E)

Suraikhet is located 19 km west of Dwarahat and 13 km east of Jalali, in Ranikhet tehsil in Almora district. The site is located on the denuded peak of the hill, locally known as Muniadhai. The hill range is composed of micaceous slate which is exposed in the form of massive boulders and small shelters on the southern slope. On the north-east slope, a small natural spring is the nearest water source to the site.

At one spot, eight circular, more or less similar, pits have been made on a dressed rectangular sandstone block measuring 184 x 41 cm. This block bears seven intact pits in a straight line; however, the eighth one is broken. These conical pits have V-shaped bottoms with a diametre of 15 cm and depth of 18 cm respectively. Their smooth surfaces suggest that perhaps they might have been used as grinding pits. The rock on which these are made is not available locally. Perhaps it was brought either from Riskan stream or Bhatkot area, about 3 and 7 km from Suraikhet. On top of the hill 12 pits have been made on massive scattered slate boulders. Their dimensions are given in Table 2.11.

Table 2.11 Details of cup-marks of Suraikhet

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	rough	U	3	1.5
2	rough	U	5	1.5
3	rough	U	5	2
4	rough	U	8	3
5	rough	U	9	3.5
6	rough	U	4	8
7	rough	U	6	4
8	rough	U	6	4
9	rough	U	9	5.5
10	rough	U	10	12.3
11	rough	U	15	12
12	rough	U	14.5	11

Pits nos. 1, 2, and 3 of Table 2.11 are made on one boulder in a linear pattern. The degree of weathering of the rock and the technique of making these pits indicate that all these belong to the same time period.

An inscription (?) was found near these pits, which is engraved on a flat rock exposure. The inscription appears to be in the Conchshell Script (*Sankha-lipi*). However, no attempt has been made to decipher it so far.

At another location 19 cup and dot like marks have been scooped out on a boulder measuring 44 x 10 cm in two rows. The first row contains eight pits and the second, 11. Their diametre ranges from 1 to 3 cm and depth from 1 to 1.5 cm.

A small rock shelter, 1.5 m high and 1.5 m wide, is located on the southern slope of the hill at a lower elevation, about 100 m from the site. The floor of the shelter bears 14 small dot-like marks, which are pecked out in two rows. Since this isolated shelter is very small, it can hardly accommodate two persons. The diametre of these dot-like impressions varies from 2 to 5 cm and the depth is less than 1 cm in all cases.

Besides these pits, S-shaped, serpent-like motifs have also been found on a few rock exposures. This entire site is being quarried for stones used in building construction. The rocks bearing pits, on the top of the hill, have also been partially cut down.

Thus, there are in all 53 pits, an inscription (?) and a few S-shaped lines engraved on different rocks at Suraikhet.

Gochar (29°46'N; 79°26'E)

Gochar is located near Dwarahat town about 74 km north-west of Almora on a gentle hill slope, which looks like a fertile hanging valley at an elevation of about 1,560 m above MSL. It is surrounded by chir (*Pinus roxburghii*) and oak (*Quercus incana*) forests. The area around Gochar is composed of sandstone and granitic rocks which are exposed on the gentle southern slope of the hill. A small rivulet, a tributary of the Gagas, drains Dwarahat and Gochar; it originates in the Dunagiri mountain range. At Gochar, within an area of about one sq. km, 96 circular pits were found on different rocks. Some have been scooped out in a linear or triangular pattern, but no perfect alignment was found.

At another site, locally known as Bhim ka Tawa, 18 circular pits, narrowing downwards, (V-shaped bottom) have been excavated on a large platform of rock. Their diametre varies from 13 to 35 cm and depth from 15 to 29 cm. Except three pits, the others appear to have been used to grind something. A saddle quern was found containing a white cement like substance. Chemical analysis was done on the white substance at Deccan College, which gave the following results: 0.682% organic carbon; 65% CaCo3; pH 9. Obviously, this was used for grinding lime.

At another spot, located near the milestone (reading Dharchula 275 km, Ranikhet 30 km), there are 30 dot-like marks on a slanting slope of the rock surface. They form a trapezoidal structure measuring 110 x 159 x 54 x 159 cm. Their diametre varies from 2 to 9 cm and depth from 1 to 6 cm. Besides these, there are six pits on the same rock at different places with V-shaped bottoms. They are of a bigger size in comparison to the above-mentioned group. Their diametre varies from 9 to 18 cm and depth from 6 to 13 cm.

The remaining 42 circular pits were found on scattered rocks in the area. Their diametre varies from 5 to 36 cm and depth from 9 to 31 cm. Most of them bear V-shaped bottoms and rough surfaces.

Chandeshvar (29°45'N; 79°26'E)

The site is located about 1 km south of Gochar near Chandeshvar temple. Carnac (1877) recorded more than 200 cup-marks from Chandeshvar, made in a linear form. They measure from about 3 to 15 cm in diametre and 1 to 3 cm in depth.

Bagwalipokhar (29°44'N; 79°29'E)

Bagwalipokhar is located about 60 km north of Almora. Here three large-sized circular pits have been reported by Joshi (1987b), though, during our explorations we could locate only one such pit measuring 120 cm diametre and 150 cm depth at Chaprasthan. It is made on a micaceous rock and was full with soil and water. The villagers confirmed that there were two more similar pits narrowing downwards which were carved out some ten years ago.

Mathpal (1992:185) has reported a couple of life-size human feet carved alongside five cup-marks from Sakunigaon, located about 1.5 km south-west of Bagwalipokhar.

There are three more cup-marks, at a distance of about 3 km south-west of Bagwalipokhar,

on the way to Naugaon. Their diametre and depth were measured to be 10, 6, 4 cm and 4, 2.5, 1 cm respectively.

Naugaon (29°43'N; 79°27'E)

Naugaon village is situated about 9 km south of Dwarahat and 4 km south-west of Bagwalipokhar in Almora district at an elevation of about 1,080 m above MSL. Near the village is a dressed monolith measuring 145 cm (above the ground) containing 20 cup-marks. Their diametre varies from 3 to 5.5 cm and depth from 0.5 to 2.3 cm. It looks like a menhir though the megalithic association of such monoliths (menhirs ?) is yet to be established in Kumaun.

Sirkot (29°39'N; 79°39'E)

Sirkot is located about 8 km north of Almora in the Kasardevi mountain range, which is composed of the Almora-Dudatoli crystalline belt, capped by a variety of slate rocks. At places it also bears granitic intrusions. The slate and granitic rocks are exposed on the western scarp of the hill. There are only two isolated conical pits, on two different rocks, in a chir (*Pinus roxburghii*) forest. One of them has been cut down into a granitic monolith and measures 13 cm in diametre and 11 cm in depth. However, the second one is made on slate and measures 15.5 cm in diametre and 9 cm in depth.

Jhokoteshvar (29°38'N; 79°37'E)

This site is located about 15 km north-west of Almora near the well-known Katarmal sun temple, on the top of the hill. There are in all nine pits, out of which the first eight are aligned in a semicircle.

Odyari (29°38'N; 79°38'E)

Odyari village is situated on the western scarp of the Kasardevi mountain range at an elevation of about 1,400 m above MSL, just behind the Agricultural Research Farm at Hawalbag. It is located about 12 km north-west of Almora and 2 km west of Sirkot. Twenty-two dot-like marks, 10 cup-marks and seven medium size pits were discovered near the Odyari village at three different locations. At the first location, just behind the village, there are six circular pits on two different rocks (Table 2.12).

Table 2.12 Details of Odyari pits.

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	smooth	V	21	15
2	smooth	V	28	31
3	smooth	V	26	30
4	rough	V	7	1.5
5	rough	U	14	4.5
6	rough	U	18	10.5

All these pits are circular in shape, narrowing downwards. Nos. 5 and 6 have a diametre of 11 and 13.5 cm respectively. The cup-mark nos. 3 and 5 contained blackish micaceous soil along with stone debris. The soil was taken out from the pits to examine its contents. After careful examination, dry and wet sieving experiments were carried out at the site and at the Deccan college, Poona. Dr. M.D. Kajale of Deccan College examined the pit soil and his findings are given in Table 2.13.

Table 2.13 Identification of the biological remains in pit-soil from Odyari

Sample no.	*Date of collection*	*Species*	*Quantity*
5	18.11.92	*Ipomea* type	
5a	18.11.92	*Ipomea* type	3
5b	18.11.92	Cyperaceae type	3
5c	18.11.92	*Medicago* type	1
5d	18.11.92	Insects	
5e	18.11.92	Endocarp (fruit stone)	1
5f	18.11.92	***Setaria*** sp	5
5g	18.11.92	*Polygonum* ? type	1
5i	18.11.92	*Setaria* sp	1
5j	18.11.92	Cyperaceae type	1
5y	18.11.92	Insect shells (micro), fruit	

A few red ware potsherds of thick fabric were found near these pits. It cannot be stated with any certainty whether these potsherds had any connection with the pits. At the second location, only one cup-mark was found, cut down vertically into the rock surface. Its diametre and depth were measured 13 and 12 cm respectively. At location 3, south-west of the first and second locations, 22 dot-like impressions and 10 cup-marks were found. They seem to form roughly a triangular alignment. Near location 1, five large heaps of rubble and cobbles were found on a small terrace-type field measuring 22 x 10 m (See chapter 3).

Likhudyar (29°39'N; 79°42'E)

The site is located between Dinapani and Bintola villages about 14 km north-east of Almora at an elevation of about 1,670 m above MSL, in a chir (*Pinus roxburghii*) forest.

There is a rectangular pit (9 x 5 x 2 cm) along with a conical cup-mark measuring 10 cm diametre and 10 and 6 cm depth on the floor of the painted rock shelter, which is named LIKDR 1 (section 2.2). Besides this, a cup-mark (diametre 15 cm and depth 11 cm) was found on an isolated rock exposure to the north-west of the above painted rock shelter.

About half a km south of the painted rock shelter, at a lower elevation on the hill slope, three dot-like marks, one cup-mark and three conical pits were found on a platform of slate. Table 2.14 gives their dimensions.

Table 2.14 Details of pits at Likhudyar

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	V	26	24
2	rough	U	20	14
3	smooth	U	17	10
4	smooth	V	0.5	0.5
5	smooth	V	2	1
6	smooth	V	1.5	1
7	rough	V	2	1

The cup-mark nos. 1, 2, and 3 (Table 2.14) are aligned in a triangular fashion with a distance of 94 cm between nos.1 and 2, 231 cm between nos. 2 and 3, and 250 cm between 3 and 1. Some of these cup-marks bear polished inner surfaces.

Nagarkham

The Nagarkham site is located about 20 km north-east of Almora and 2 km south-east of Barechhina near village Kunjbangral. An isolated cup-mark has been scooped out on the slate rock exposure with a U-shaped bottom measuring 12 cm diametre and depth 7 cm.

Lakhiudyar (29°38'N; 79°45'E)

A cup-mark measures 10 cm diametre and depth 3 cm on the floor of a rock shelter near the painted rock shelter LKDR 2, at Lakhiudyar 15 km east of Almora. A pit has also been made on a small stone slab lying on the floor of another painted rock shelter, named LKDR 4. The cup-mark, measuring 9 cm diametre and depth 3 cm, bears prominent cut-marks on its surface. Along with the cup-mark, a grinding stone was also found from the shelter.

Petshal (29°38'N; 79°43'E)

Petshal is situated on the bank of the Mahadev Gad about 13 km east of Almora and 2 km west of Lakhiudyar. There is a partially damaged cup-mark on the floor of the painted rock shelter KFKT 1. However, its diametre was 17 cm and depth 15 cm. At another location, locally known as Bari, 47 cup-marks, without any uniformity of shape or size, were found on granite, micaceous and slate rock exposures.

At one spot, which may be called the first group, five cup-marks are dug on a very rough rock surface. Their measurements are given in Table 2.15.

Table 2.15 Details of the pits at Petshal, first group

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	U	27	10
2	rough	U	10	5
3	rough	V	7	3
4	rough	V	7	3
5	rough	U	9	4

Pits nos. 1, 2, and 3 of this group form a row. However nos. 2, 3 and 4 are aligned in a triangle and their surface is smooth as compared to others.

At another site, west of the first group, three conical pits have been excavated on a granitic rock forming a straight line. These pits are of bowl-shaped (U-shaped) bottom and rough in surface texture. Their diametres and depths were measured to be 20, 18, 13 and 12, 9, 5 cm respectively. To the south-west of this second group, 12 dot-like marks, three cup-marks and three pits have been made on a granitic rock (Table 2.16).

Table 2.16 Details of the pits at Petshal, second group

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	U	6	3
2	rough	U	8	3
3	rough	U	12	6
4	rough	V	6	3
5	smooth	U	5	2
6	rough	U	9	6
7	rough	U	8	3
8	rough	-	10	6
9	rough	-	9	4
10	smooth	V	4	2
11	smooth	-	5	2
12	rough	U	7	3

13	rough	-	12	8
14	rough	U	8	4
15	smooth	U	8	3
16	smooth	-	9	5.5
17	smooth	U	3	1
18	smooth	U	3	1

The cup-mark nos. 8, 9, 13 and 16 of the above table each bears a very small hole at the bottom suggesting that they were left unfinished.

At another place, which may be called the fourth group, three dot-like marks, one cup-mark and a pit were found on a micaceous boulder measuring 65 x 49 x 25 cm. Table 2.17 gives their dimensions.

Table 2.17 Details of the pits, Petshal, group 4.

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	U	10	5
2	rough	U	6	1
3	smooth	V	8	3
4	smooth	V	13	5
5	smooth	V	8	4

The cup-mark nos. 1, 2 and 5 form a straight line. However nos. 3, 4 and 5 are aligned in a triangle with all points equidistant (15 cm) from one another.

Another large group of cup-marks at this location was found on a granitic platform measuring about 400 x 200 cm. This group comprises 12 dot-like impressions, one cup-mark and three pits of different sizes.

Table 2.18 Details of pits, Petshhal, Largest Group

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	V	15	11
2	rough	V	2	1
3	rough	V	10	5

4	rough	V	8	5
5	rough	V	8	4
6	rough	V	10	4
7	rough	V	8	2
8	rough	V	2	1
9	rough	V	3	1.5
10	rough	V	2	1
11	rough	V	2	1
12	rough	V	3	1.5
13	rough	V	2	0.5
14	rough	V	3	0.5
15	rough	V	2	0.5
16	rough	V	2	0.6

Thus, at Petshal, in all 48 cup-marks have been found on several rocks, including one in the painted rock shelter of Kafarkot.

Near these cup-marks, a small rectangular wall, less than one metre in length, with an orientation north-west–south-east has been erected against the slope perhaps to level the ground or to make a terrace-type field. On this levelled ground, a few undressed quartz and micaceous stones were arranged in two rows (700 x 500 cm), which roughly form a right angle. This structure may be part of a house or dwelling place of the authors of these cup-marks. The site was explored thoroughly for pottery, metal objects or other antiquities, but nothing was found. If the above-mentioned location is excavated, perhaps it will throw some light on the dwelling pattern of these people.

Sirar (29°37'N; 79°43'E)

The site of Sirar village is located about 4 km south-west of Petshal. There are only three conical pits on two different rocks without any polished surface. Their diametre and depth were measured to be 19, 16, 15 cm and 18, 11, 12 cm respectively.

Chitai Reserve Forest (29°37'N; 79°42' E)

This site is located about seven km east of Almora near the Industrial Training Institute on the eastern scarp of the hill in the chir (*Pinus roxburghii*) forest. Though only three pits were found at this location, their context seems to be interesting; this has been discussed above along with the analysis of data (p. 67).

Out of three, two pits were found on the floor of the slate rock shelters, which also bears a dull grey, habitation-like soil, floor. The ceiling of the shelter bears charcoal soot. The conical pits measure 16, 8 cm in diametre and 13, 11 cm depth respectively. They bear

prominent cut-marks on their surfaces. The charcoal soot on the surface and pits on the floor both perhaps indicate that the shelter could have been inhabited sometime in the past.

About half a km east of the above shelter, on top of the ridge, a small platform with a cup-mark (diametre 13 cm and depth 9 cm) has been scooped out on a large stone slab, which perhaps formed part of a floor (?) along with several other slabs scattered around it in an area of about 6 x 8 m. The slab measurements range from 20 to 150 cm in length, 20 to 80 cm in breadth and 4 to 21 cm in thickness. On the western side, perhaps the floor (?) was initially enclosed by a wall of semi-dressed stones, of which the remains were noticed.

Falseema (29°36'N; 79°41'E)

Falseema village is situated about 4 km east of Almora on the south-east scarp of the hill, which bears granitic and mica-schist and slate rock exposures. On top of the conical hill, about 1 km east of the village, there are seven circular pits. A shrine, locally known as Kalithan, is situated near the site at a height of about 1,610 m above MSL. On the eastern slope of the hill, dull red potsherds of thick fabric were noticed. The pits on the slate rock platform are of different shapes and sizes (see Table 2.19).

Table 2.19 Dimensions of Falseema pits.

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	V	20	14
2	smooth	-	30	35
3	smooth	V	22	19
4	smooth	V	22	14
5	rough	V	19	23
6	smooth	V	22	17
7	rough	V	6	1.5

Pit no.1 bears prominent cut-marks; pits nos. 2, 3, 4, 5 and 6 contained quartz and slate cobbles along with micaceous soil. No antiquities were found from these pits. No. 2 has been cut down vertically and its depth (35 cm) was measured only up to the debris level.

At another location, six dot-like marks and a small rectangular structure (16 x 13 cm) were found near the painted rock shelter (chapter 2). These cup-marks measured from 3 to 7 cm in diametre and 1 to 4 cm in depth.

Thus, in all, seven cup-marks and six pits were found at Falseema around the painted rock shelter. As the quartz chips and cobbles were found near the rock shelter as well as in the pits, function of the pits seems to be enigmatic.

Timardhar (29°35'N; 79°38'E)

On the peak of Timardhar, near the Base Hospital at Almora, two cup-marks and nine dot-like impressions (as per Table 2.20 dimensions) were recorded.

Table 2.20 Dimensions of the Timardhar pits.

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	smooth	V	9	7
2	rough	U	7	2.5
3	smooth	U	7	3
4	smooth	U	8	5
5	rough	U	7	4
6	rough	U	8	2
7	smooth	V	5	1
8	rough	U	5	2.5
9	rough	V	5	2
10	smooth	V	3.5	1
11	smooth	V	4	1

The cup-marks nos. 9, 10 and 11 form a triangle and have been made at a distance of 43, 43 and 38 cm from each other respectively. The cup-marks nos. 1, 2, 3 and 4 are roughly aligned in a rectangular shape at a distance from each other 88, 19, 62 and 20 cm respectively.

Deolidana (29°34'N; 79°38'E)

There are eight different sized cup-marks and pits on granite rocks between the Deolidana temple and Lat village located about 3.5 km south-west of Almora as per Table 2.21.

Table 2.21 Dimensions of Deolidana rock pits

No.	*Surface*	*Bottom*	*Diametre in cm*	*Depth in cm*
1	rough	U	11	4
2	rough	U	10	4
3	smooth	U	19	13

4	rough	V	22	16
5	rough	V	15	13
6	rough	U	65	33
7	rough	U	45	30
8	rough	V	16	13

Pit no. 6 of the table has an egg-shaped opening with a diametre of 42 cm along the shorter axis and 65 cm along the longer axis.

Near the Firing Range at Deolidana, there are six circular features on a terrace-like platform. Their diametre ranged from 180 to 220 cm (see also chapter 4).

Jaskot (29°35'N; 79°43'E)

Jaskot is located about 11 km east of Almora on top of the ridge running north-west–south-east. The mountain range is covered predominantly by chir (*Pinus roxburghii*) and oak (*Quercus incana*) forest, and is composed of the Almora-Dudatoli crystalline belt capped by slate rock. Its exposures can be seen on the northern scarp of the hill and along the river Suyal flowing in a south-west direction, at about 1.5 km below the site.

At Jaskot there are three pear-shaped pits and 31 circular pits of different sizes ranging from 6 to 43 cm in diametre and 2.5 to 43 cm in depth. The site was reported by Joshi. These pits are made in two groups, i.e., 22 in the first and 12 in the second group. The second group comprises three pear-shaped pits along with nine others (Table 2.22).

Table 2.22 Dimensions of the Jaskot of pits.

No.	*Surface*	*Bottom shape*	*Diametre in cm*	*Depth in cm*
1	rough	V	6	2.5
2	smooth	V	24	28*
3	smooth	V	24	30
4	rough	V	20	30
5	smooth	V	30	38
6	rough	V	15	15
7	smooth	V	12	12
8	smooth	V	28	33
9	smooth	V	30	43

10	smooth	V	22	24*
11	smooth	V	24	24
12	smooth	V	14	24
13	rough	U	14	12
14	smooth	V	14	15*
15	smooth	V	18	28
16	rough	U	17	10*
17	rough	U	16	10*
18	rough	V	18	11*
19	rough	U	14	10*
20	smooth	U	10	6
21	smooth	U	10	6
22	smooth	U	10	7
23	rough	U	16	8
24	rough	U	18	13*
25	rough	U	14	5*
26	rough	V	12	14*
27	rough	U	25	8
28	rough	U	43	20*
29	rough	U	23	25
30	rough	U	22	15*
31	rough	V	17	16
32	rough	-	40	105*
33	rough	-	50	130*
34	rough	-	47	110*

* These pits contain rubble and soil.

Some of these pits seem to form triangles and rectangles. However, no perfect alignment has been noticed. The opening of the pear-shaped pits nos. 32, 33, and 34 have cut straight down to a depth of about 26, 15 and 30 cm respectively. Below these points, the pits gradually widen up to a diametre of about 130, 126, and 104 cm respectively. They are made at a distance of about 88 cm between pits nos. 32 and 33, 94 cm between 33 and 34, and 142 cm between 34 and 32, and are aligned in a triangle. Pits nos. 33 and 34 bear prominent

cut-marks and small holes on their necks and on the inner portions measuring approximately 5 cm in diametre. Perhaps these pits were initially covered by circular lids, as an outer ring-like depression has been made around their openings ranging from 80 to 110 cm. Pits nos. 13, 14, 15 and 16 bear sharp edges at their openings.

Agar

Agar village is situated about 15 km north-east of Pithoragarh on the northern scarp of Asurchula hill at an elevation of about 1,840 m above MSL. The mountain is predominantly wooded with oak (*Quercus incana*) and chir (*Pinus roxburghii*), along with a variety of Lesser Himalayan flora. A circular pit with a V-shaped bottom has been made on a quartzite rock measuring about 130 cm in length and 55 cm in height. This pit measuring 23 cm in diametre and 13 cm in depth is located near an ancient smelting site at Agar (chapter 4). It is possible that the large pit may be associated with some mining activity.

Devidhura (29°25'N; 79°52'E)

Devidhura is situated about 72 km south-west of Almora and 30 km west of Lohaghat town in Lamgarha tehsil of Pithoragarh district. The mountain range of Devidhura bears a beautiful forest of *Rhododendron sp.* and *Quercus incana* at higher elevations; *Pinus roxburghii* occurs on the lower slopes. This site was discovered by Henwood (1856) who reported a few pits and cairns.

There are a few circular pits narrowing downwards on the granite rock around the Varahi temple, on top of the hill. According to the villagers, the deity was originally enshrined and worshipped in a small cave, which is formed by massive granitic rocks. The shrine is well known for the Bagwali fair, which is held every year on full moon day of *savan*. The main attraction of the fair is the sacrifice of a large number of male buffaloes, goats and a terrible mock fight with stones between two groups of people led by Mahars and Fartiyals to shed blood to propitiate the goddess.

At one place near the shrine, five small holes are made on a vertical rock face, ranging from 4 to 5 cm in diametre and 3 to 4 cm in depth. At another spot, on the same rock, five squarish structures have been engraved on the slanting surface (Do they form part of a game ?). Besides these, 10 more conical pits with circular openings were found on different rocks around the shrine complex. Their diametres and depths vary from 18 to 25 cm and 13 to 28 cm respectively. Some of them bear polished inner surfaces. Local villagers recount that these pits were made to grind medicine in ancient times.

There are a few more isolated sites in Almora district, i.e., Sailgaon near Chanauda about 40 km north of Almora; Shikhar, 3 km east of Bamrari; Dophar and Saniudyar in Bageshwar tehsil.

2.7 Technique and Typology

These pits have been found spread widely in the Kumaun area and are on a variety of rocks, i.e., micaceous slate, quartzite, sandstone, and granite. However, a majority of these pits have been located on slate rock exposures. It appears that quite a few smaller pits ranging from

2.5 to 7 cm in diametre and 0.5 to 5 cm in depth have been pecked out on rocks. Such dot-like marks were noticed at several sites but convincing examples could be cited only from sites like Suraikhet, Naula, Falseema and Petshal. However, the pits of small as well as big sizes are often found together. The small pits are those which do not have conical bottoms, prominent cut-marks and sharp edges or openings. The bigger sized pits generally have circular openings and V-shaped or conical bottoms. However, in a few examples at Odyari, Gagrigol, Falseema, Jaskot, and Gochar, the pits have been cut down vertically and have bowl-shaped bottoms. The majority of pits have V-shaped bottoms.

A large number of these pits e.g., at Suraikhet, Jaskot, Falseema, Lakhiudyar, Gagrigol and at Deolidana bear prominent cut-marks on their inner surfaces, suggesting that the authors of these pits used sharp nail-like objects and/or parallel-sided chisels. The latter could have a cutting edge of about 5 mm as the pear-shaped pits of Jaskot suggest. To excavate these pits, at first a circle of required shape was engraved and then a hole was made at the centre. And finally the pit was cut down to the required shape. Besides small dot-like marks, cup-marks, bigger sized circular pits and pear, shaped pits, a few rectangular structures and motifs have also been discovered, i.e., S/serpent-like, bull, cat, life-size human feet and an inscription (?), suggesting that the authors, if the same people, were skilful enough to peck, engrave or cut any required shape on the rocks.

None of these sites have a uniform shape and size of pits, though most of them contain dot-like impressions, cup-like marks and conical pits. Considering their shape and dimensions, they are categorized in the following table. Those pits are grouped under dot-like marks which are more than 7 cm in diametre and 5 cm in depth. However, those ranging from 5 to 10 cm in diametre and less than 9 cm in depth, may be called cup-marks. Sometimes in case of a few cup-marks, depth was found more than 9 cm. A majority of these pits were found ranging from 10 to 30 cm in diametre and 11 to 28 cm in depth. They have been grouped under medium size in Table 2.23. Those with diametre and depth greater than 30 cm have been classified as large.

***Table* 2.23** Analysis of pits and cup-marks

Site	*Dot-like marks*	*Cup-like marks*	*Medium pits*	*Large pits*	*Others*	*Total*
Malla Danpur	-	-	4	-		4
Gagrigol	1	6	8		1 circle	16
Mashi	47	12	6	-	—	65
Naula	73	32	-	-	-	105
Jalali	-	-	33	-	-	33
Suraikhet	39	3	11	- -	1 script, 3 S-shaped	57

Gochar	30	11	55	-	—	96
Chandeshvar	159	60	-	-	—	219
Bagwalipokhar	2	1	5	3	2 footprint	13
Naugaon	12	8		-	—	20
Sirkot			2	-	—	2
Jhokoteshvar	-	-	9	-	—	9
Odyari	22	10	7	-	—	39
Pataliya Nail	-	12	-	-	1 squarish, 1 bull	14
Likhudyar	4	1	4	-	1 rectangular	10
Nagarkham	-	-	1	-	—	1
Lakhiudyar	-	1	1	-	—	2
Petshal	-	29	-	9	10	48
Sirar	-	-	3	-	-	3
Chitai R.F.	-	-	3	-	—	3
Falseema	4	2	6	-	1 rectangular	13
Base Hospital	9	2	-	-	—	11
Deolidana	-	2	6	-	—	8
Jaskot	1	3	24	6	—	34
Ban-Agar	-	-	1	-	—	1
Devidhura	5	1	9	-	5 squarish	20
Total	437	176	208	9	16	846

Thus, in all, 830 pits or cup-marks of different shapes and sizes and 16 motifs were studied. Though these pits are located between 30°9'N, 80°E and 29°10'N, 79°56'E, the majority of them were found between 29°55' and 29°34'N, i.e., in the Central Himalayan hills. Out of 830 pits, there are a total of 437 dot-like marks (51.54%), 176 cup-marks (20.8%), 208 medium-size of pits (24.58%), nine large size pits (1.06%), and 16 motifs (1.08%).

Though the above data on rock art is meagre and almost devoid of cultural material, it is hoped that the information can help in arriving at some significant inferences, and also a better understanding of the prehistoric and early societies of the Himalayan region.

CHAPTER 3
MEGALITHS AND OTHER BURIALS

3.1 Introduction

This chapter deals with several types of burials found in Kumaun. A few burials have been sporadically reported earlier. Here, our aim is to trace fairly old burials of this region. In the following pages, different types of burials of Kumaun have been examined, and are mainly categorized on the basis of typology and associated material, followed by a comparative study of the megaliths of Kumaun and rest of India, and of the Swat valley burials. Finally, a chronology of the Kumauni burials has been proposed.

To distinguish the prehistoric megalithic burials, we will have to differentiate them from the later burials.

3.2 Historical Burials

Early Christian Burials

There are more than a dozen burials around Uchakot, Kandhar and Ladyura near Dangoli in Bageshwar tehsil of Almora district. The area is located about 74 km north of Almora and 27 km north-west of Bageshwar, on the Baijnath-Gwaldam road. These burials are made of dressed and undressed stones, and are rectangular on plan, measuring from 183 x 137 x 58.5 cm to 442 x 229 x 46 cm in length, breadth and height, respectively. No uniformity in orientation was found in these burials. Some of them are enclosed with walls, which sometime appear to separate two burials. In one of these burials, a broken slab read "at" in English and on another, a stone cross bears the legend "Pan Singh" in early Devanagiri script. According to local knowledgeable villagers, these burials are of the early Christians and the Chinese tea gardeners who came to Kumaun in the early 19th century. Tea plantation was done on a large scale in several areas of Kumaun under the British from AD 1840 onwards. The graves of these Chinese gardeners can still be seen at these burial sites. The British took over Kumaun from the Gorkhas of Nepal in AD 1815, therefore some of these graves could be about 200 years old.

Buddhist Burials

Near Teet village, about 4 km north-east of Dangoli, a graveyard (about 30 x 12 m) was found belonging to the villagers, who claim themselves to be Buddhist. According to them, the dead persons of their clan are buried in the graveyard. At a few places, small

dressed or undressed stones (less than 50 cm) are erected, which suggest location of the burials. These burials are obviously recent ones.

Rohilla Burials

The Rohillas of Rohelkhand invaded Kumaun under Mohmmad Ali Khan in AD 1743-44 (Pandey 1937: 326). They plundered a large number of shrines in Kumaun. They stayed in Kumaun for about seven months and are reported to have died in large numbers due to the intense cold in the hills and a cholera epidemic. In several parts of Kumaun, for example, the burials at Mashi, Naula, Jainal and Balighat, and the ancient red ware ceramics at Narayankali are associated with them, according to the villagers.

Nath Burials

In several parts of Kumaun, a large number of burials belonging to the Nath community (a Hindu sect) have been found. The Nath people are scattered all over Kumaun, and live in groups in villages. They follow a peculiar method of disposal of their dead. Instead of cremating them in the Hindu manner, they bury their dead close to the habitation area (often on south or south-west side of the village). Two such sites containing a large number of burials were examined during the explorations.

At Chandeshvar, located about 19 km north of Ranikhet, in Almora district, 48 squarish burials made of dressed stones were found near the Mahadev shrine. They measure from 60 to 150 cm in width on the surface. However, according to the villagers, these burials are 200 to 250 cm deep. The dead body is placed in a sitting posture in the squarish grave. Along with the dead body, food, water and gold (sometimes some modern coins) are kept in the burial.

Similarly, at Kot Bhramari near Dangoli, about 26 km north-west of Bageshwar and 72 km north of Almora, 73 burials were found. They are made of locally available micaceous slate and sandstone. Their heights vary from 50 to 110 cm; however, lengths and widths were noticed to vary from 80 to 200 cm. Sometimes the burials are also made roundish and a few among them appeared to have been damaged. As these burials are known to the people belonging to Giri and Goswami by caste (of Nath sect), their dates may hardly go back beyond 200 to 250 years.

The burials are generally found south or south-west of Lord Siva or Bhairava shrines. Sankrityayan (1958: 30) associated the burials at Dwarahat with the Khasas. However, Nautiyal and Khanduri (1986: 88) write that, "The so-called Gwaldam-Baijnath burials, which are now alleged to be the burials of the Naths (mendicants with pierced earlobes) appear to carry the feature of the Megalithic burials generally found in the Indian subcontinent."

3.3 Megalithic Culture

India, as is well known, is rich in Megalithic monuments not merely in number but also in the variety of types (Ramchandran 1971). Babington (1823) was the pioneer scholar who discovered rock-cut burial chambers in Malabar. This was followed by the reporting of a few cairns from Devidhura in Pithoragarh district of U.P. by Henwood in 1856. In 1872, Fergusson brought out his excellent work entitled, *Rude Stone Monuments in all Countries:*

Their Age and Uses. Meadows Taylor (1873) wrote about the distribution of Megalithic monuments in the Deccan, including "cairns, cromlechs, kistvaens and Scythian monuments."

Excavations of the Megalithic monuments had also begun in the last quarter of the nineteenth century. Adichanallur in Tinnevelly district of Tamil Nadu, was excavated by Jagor (Rea 1915). A small scale excavation was carried out by Carnac (1879) at the extensive site of Junapani, near Nagpur in Maharashtra. Foote (1901) brought to light an excellent catalogue of antiquities including megaliths from south India. After excavating a number of sites, Rea (1915) defined the distinctive nature of the Indian Megalithic cultures. A few years later, Hunt (1924) brought to light the results of the excavation of burials in Andhra Pradesh. Wheeler (1948), after excavating the well known sites of Brahmgiri and Chandravalli in Karnataka in 1944, attempted to place the south Indian megaliths in a chronological framework. From the fifties onwards of this century, a large number of megalithic sites have been discovered throughout the country and quite a few have also been excavated. However, the concentration of the megalithic monuments and sites is largely confined to south India.

Though the early researchers like Breeks (1873), Taylor (1873), Burgess (1874), Branfill (1880) and Codrington (1930) attempted some sort of classification of megaliths, Wheeler (1948), Krishnaswami (1949: 35-45), Dikshit (1968: 85-89), Leshnik (1974: 226-27), Sundara (1979: 331-40), Agrawal (1982: 257-61) and the Allchins (1983: 331-33) provided a systematic classification of these burials. Of these, Agrawal, Leshnik and the Allchins recognized five basic types of burials viz., pit burials, cist burials, urn chambers and stone alignments. Dikshit and Sundara added some more types in this classification, i.e., Dolmen, Menhir, Topical and Kudaikal.

The following are the main burial types (Sundara 1979):

1. Chamber tombs, which include (a) the passage chambers, the port-hole chambers, (b) the oblong chambers, (c) the Topicals, (d) the Kudaikals, and (e) the rock-cut caves.
2. The unchambered graves, which comprise (a) the pit burials, (b) the pit circles, (c) the barrows, (d) the menhirs, (e) the cairn stone circles, (f) the terracotta sarcophagus burials, and (g) the urn burials.
3. The monuments, i.e., stone alignments.

The ratio of the habitational sites to the burial sites is unexpectedly low. From the megalithic remains, it is certain that the megalithic people, though possibly nomadic, were certainly not barbaric.

Megaliths have a wide distribution except for the plains of the Punjab, part of the Indo-Ganga divide, and the desert of Rajasthan. A majority of the sites are spread over a vast area of the south. Quite a few sites have also been reported from the north, viz., menhirs from Srinagar, Kashmir, stone circles and cairns from near Jaipur, Rajasthan, dolmens from Devidhura, Pithoragarh, pit burials from Malari, Chamoli district and cairn circles and cists enclosed by cairns at Kotia, Allahabad district, cairns and cists in Varanasi, Faizabad and Ghazipur districts of U.P. (Sharma 1961-61; 1963-64). The stone circles with cairn fillings are

predominant in Vidarbha region of Maharashtra, whereas passage graves and cist burials widely occur in Karnataka. Menhirs have been found in large numbers in Kerala and Andhra Pradesh. Rock-cut chambers and Topicals also occur widely in the Kerala state.

The origin of the Megalithic culture in India is a problem which has yet not been satisfactorily resolved. Sundara (1969-70) pushed the date of this culture to 1100 BC at Terdal where a Neolithic barrow and a megalithic cairn have been found. Sharma (1963-64: 57-58) visualized a new category of burials, falling into an intermediate stage between the Megalithic and the Chalcolithic cultures in Varanasi district. The carbon-14 dates available for the Vidarbha region megaliths range from the 8th to the 4th century BC (Deo 1973: 44-45). Dates earlier than this are available from Hallur (1105 ± 105 BC; 955 ± 100 BC) (Nagaraja Rao 1971), which are stated to have come from a period of Neolithic-Megalithic overlap. The menhirs of the Kashmir valley have also been assigned to mid-second millennium BC. These early dates indicated that a full-fledged Megalithic culture, having a cultural homogeneity of its own, had evolved over a long period of time during the second millennium BC. The terminating phase of this culture seems to be around *c.* 300 BC, though it continued in some areas till the early centuries of Christian era.

The ceramic industries, generally associated with the Megalithic culture, are Black-and-Red Ware, micaceous red ware, and the painted wares.

The Megalithic culture of Kumaun is mainly represented by cist burials. Out of the reported monuments, none is strictly megalithic in its true nature. But these are the only graves which come close to the description of "Megaliths." Typologically the cists of Kumaun are similar to those of Hathinia hillock, Kotia in Uttar Pradesh belonging to 3rd century BC (Sharma 1985: 480). The cist chambers are also common in Andhra and Karnataka area ranging invariably between 5th and 3rd century BC or even later but these graves are quite massive by comparison.

Parallels of the Kumauni burials can be seen at the Kherai graveyard, located at the confluence of the Ghorbund and the Indus rivers in Pakistan. Here the cist burials are also rectangular, lined with stone slabs and with a slab for the floor as well. One or more than one stones cover the graves. These burials also appear to be secondary. The findings of pottery and bones from Kumauni burials suggest similarity between these burial types. Stacul (1987) emphasizes the fact that the graves are not in any specific direction but have their main axis transverse to the hillside. This is also equally true of Kumaun cists. It appears that both fractional and complete burials were in vogue in Kherai and Swat valley. The Kherai graves belong to Period IV dated to *c.* 1400-1000 BC.

In Kumaun, at all the sites, the graves are clustered together, suggestive of a graveyard. The graves have been dug into the alluvial terrace to a depth of 1-2 m below the surface. The section shows only gravel and sand but no habitational debris. It can therefore be inferred that the dead were interred away from the habitation, not as complete inhumation but only as secondary burials. Most of the burials have been found on the alluvial terraces, as also reported by Stacul (1987) for the Kherai graves in Swat.

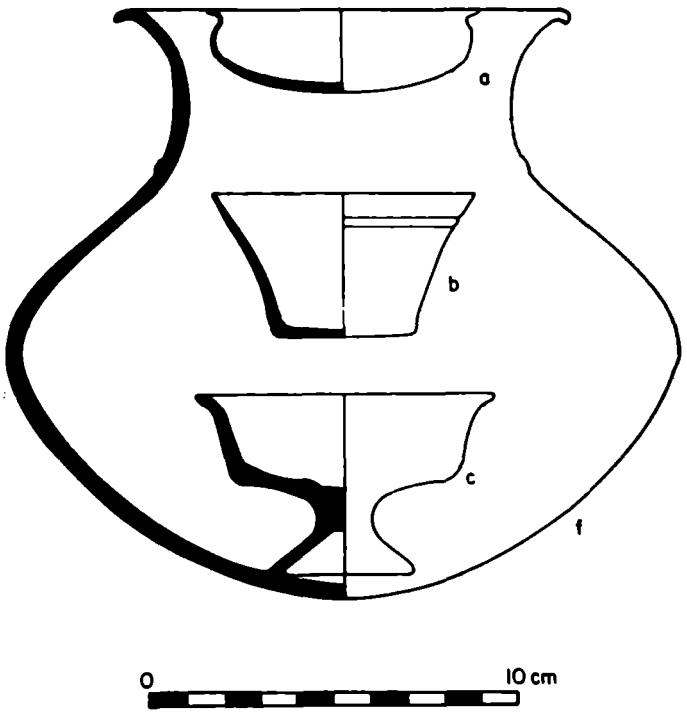

Fig. 3.1 Pottery from Koorman and Gagrigol cist burials: (a) *handi*-type pot; (b) bowl; (c) pedestalled bowl; (f) jar from Gagrigol cist. For their morphological affinities, see the text

For whatever its intrinsic worth, the Kumauni cist pottery has many morphological parallels. The pedestalled bowl, which was found from a burial at Koorman, has apparent parallels at sites like Navdatoli in India and at Kherai in Pakistan. Sankalia (1963: 312-17) has discussed various sub-types of this bowl found at Navdatoli particularly in Phase III. According to him they remind of the bowls of Sialk, Giyan and Hissar Pd II. The example of Ahar, which is of coarse grey ware, remind of the Hissar vessels. Hissar Pd I, Sialk Pd I and II are dated to *c.* 3000 BC. However, at both Ahar and Navdatoli, their date goes back only to 2000 to 1700 BC. Sankalia suggests their indirect contact with the Indians around 1700 BC. Most of the western examples have a vertical opening, whereas the Indian specimens are with a gentle turn or curve. But in the case of Kumaun specimen, the bowl has an outturned rim and a vertical opening like Tahirbai-Depe (Namazga). In Kumaun, the bowl has a hollow stem. It is outturned. Similar bowls have also been found from Kherai and Swat Pd IV (Stacul 1987: 85), which also have been assigned back to the mid-second millennium BC. The similarity in shape of these bowls may further be traced to Tahirbai-Depe (Namazga Pd VI), which is a late Bronze Age phase (Gupta 1979: 182-85).

A grey ware flaring bowl (Fig. 3.1b) of Koorman burial has an exact parallel at Bir-kot-ghwandai in Swat valley Pd IV (Stacul 1987: 84, Fig. 31.f).

The potsherds obtained from different sites and various burials do not at all resemble the characteristic south Indian megalithic pottery. The Black-and-Red ware and micaceous red ware are absent. However, the local pottery does contain mica, which is generally available in the soils of Kumaun.

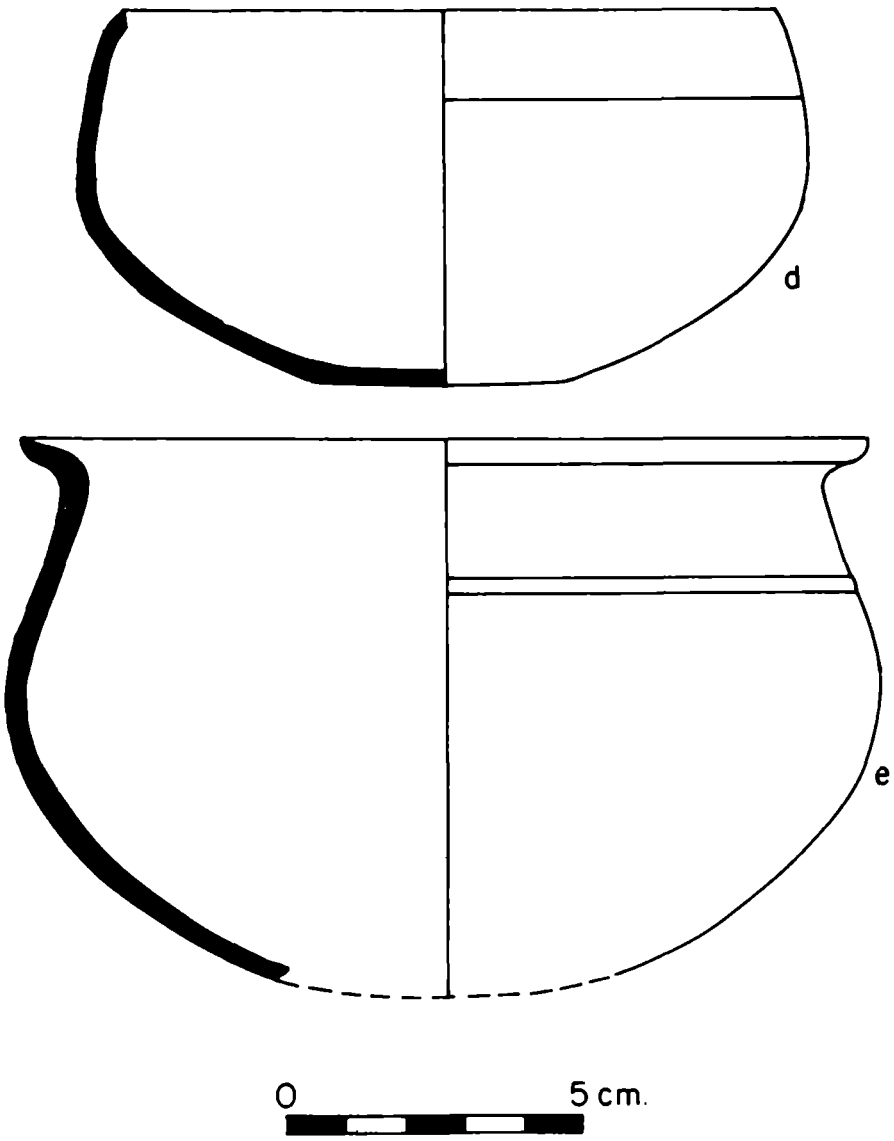

Fig. 3.2 Pottery from Koorman and Bechandhar cist burials: (d) bowl in black ware; (e) *handi*-type pot. For affinities, see text

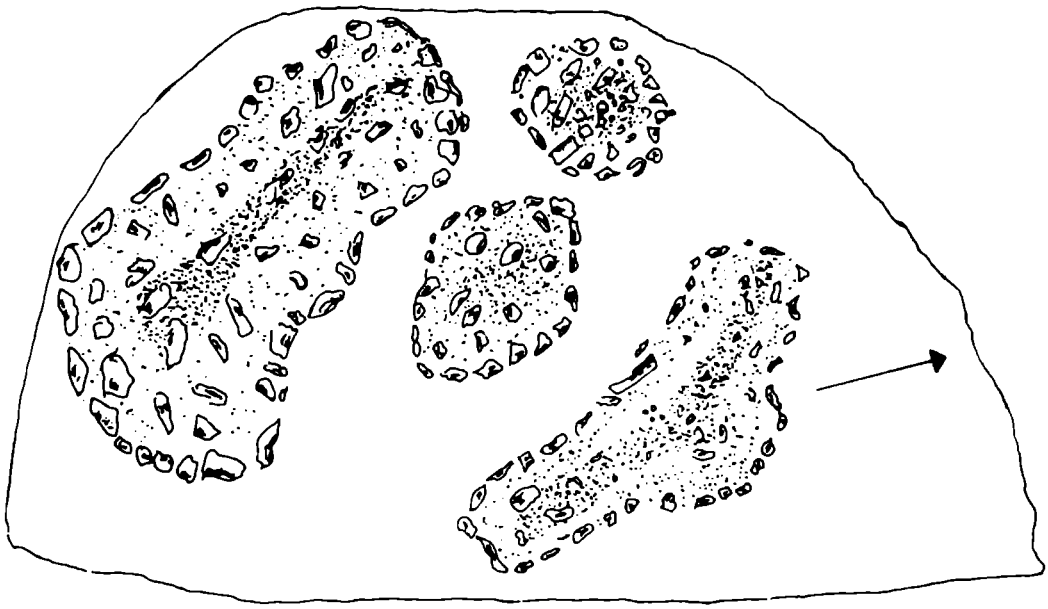

Fig. 3.3 Cairns near the cup-marks site at Odyari, Almora

Some of the pottery shapes obtained from the burials of Kumaun (Figs. 3.1 a, 3.2 d, e) appear close to Atranjikhera Pd. III, which represents PGW culture and is bracketed between 1200 to 600 BC by Gaur (1983).

According to Gaur, the pottery is typically different than the usual megalithic repertoire known from Central and Southern India. The Black-and-Red Ware is absent from the local ceramic repertory. However, the pots are either gray or red with a gray core, with painted designs of horizontal, vertical and slanting strokes, and, sometimes a black rim-band is found. A few red polished ware pots were found containing ripple-marks. Most of the pottery shapes are characteristically similar to the Painted Grey Ware culture as found at sites like Hastinapur, Ahichchhatra, Jakhera and Thapli.

3.4 Megaliths in Kumaun

Besides the above mentioned historical and recent burials, there are a large number of sites with typical megaliths. A variety of megalithic types are available in Kumaun: cairns, menhirs (monoliths), dolmenoids, cists and some suspected passage graves also. We must, however, emphasize that these identifications are based on surface observations. We have not excavated any so-called "megaliths" during our explorations. Some cists have been, however, excavated by the Garhwal University and, at our instance, by the Archaeological Survey of India. It is interesting to note that charcoal from the filling of a cist from Gagrigol has given a radiocarbon date in the third millennium BC. It is obvious that, like the Swat valley in Pakistan,

the megalithic tradition in Kumaun also seems to be old and perhaps continued up to the early historical period. The following megalithic types of burial are now known from Kumaun.

Dolmenoids

So far only one dolmenoid structure has been found in Almora district, which is located near the painted rock shelter and cup-mark sites at Petshal. This structure is located east-west and the capstone made of schist rock (300 x 142 x 9 cm) is supported by six orthostat slabs i.e., (1) 80 x 46 x 22 cm; (2) 65 x 48 x 7 cm; (3) 65 x 46 x 13 cm; (4) 96 x 35 x 20 cm; (5) 84 x 3 7 x 123 cm; (6) 102 x 55 x 28 cm. The area around the dolmen has been levelled for agriculture by the villagers. No antiquarian material was found around the dolmen.

Cairns

There are remains of six cairn circles, oriented north-west–south-east, near the Firing Range, on a terrace-like platform on the eastern slope of the Deolidana located about 3.5 km south of Almora. These circles vary from 190 to 220 cm in diameter, as evidenced by the undressed and semi-dressed embedded stones in circular alignments which mark the boundaries of the cairns. One of the circles encloses a menhir, measuring 70 cm in height.

Besides these, four cairns (Fig. 3.3) were found near the cup-mark site at Odyari, 14 km north-west of Almora. Out of the four, two are circular; the remaining two are roughly elongated—north-west–south-east. The following are their measurements:

Maximum diameter of no. 1	360 cm
Maximum diameter of no. 2	480 cm
Maximum length and width of no. 3	950 x 350 cm
Maximum length and width of no. 4	1150 x 700 cm

It must, however, be emphasised that these observations are based only on surface features and should be verified by excavations to find out if these cairns are burials or not.

As noted before, Henwood (1856) was the pioneer scholar who reported cairns at Devidhura in Pithoragarh district of Kumaun. We explored this area during the field season of 1991-92 and found quite a few cup-marks (chapter 2). However, no traces of megalithic cairns were found. Perhaps these cairns, recorded by Henwood, have now been destroyed by the local people. But the knowledgeable villagers at Devidhura had no such recollection of any such cairns.

Monoliths

Undressed, semi-dressed or sometime dressed monoliths, better known as menhirs, were set up to commemorate the dead by the authors of megalithic culture. Such monuments exist largely in Vindhyan region, Vidarbha and in the peninsular India.

In Kumaun also, quite a few monoliths have been found at different localities.

A dressed monolith (145 x 45 x 21 cm) made of sandstone was found on an agricultural terrace of the Gomati at Gagrigol in Bageshwar tehsil of Almora district. This monolith is located close to the cist burial site at Gagrigol. The terrace also contains remains of a small mound which yields red ware shards.

Near the Firing Range at Deolidana, 3.5 km south of Almora, a monolith was found enclosed by a circle of small undressed stones, which are perhaps remains of a cairn. This monolith is triangular in shape and only 70 cm in height. It is interesting to note here that several cup-marks and pits have been dug into the granite boulders exposed on the hill slope. Cup-marks were also noticed on the menhir of Naugon. Perhaps the authors of the cup-marks (chapter 2), cairn circles and monoliths were the same people.

A dressed rectangular monolith enclosed by dressed stones is located at Deenapani about 10 km north-east of Almora. However, the villagers claim that the monolith was opened a few years ago and along with the monolith, which they call *Pariya Dev*, an icon of Lord Ganesha and Siva lingas were found. Both the Ganesha icon and *Pariya Dev* are under worship of the villagers. Thus this monolith may be of a quite late date and may have been part of a temple complex and may not be related to the megalithic tradition. It may be noticed, however, that there has been an elaborate tradition of erecting memorial stones (Kharakwal 1993) in Kumaun, some of which may be traced back to the early centuries of the Christian era. Some of the most recent examples of this tradition are located at Devidhura in Pithoragarh and Dwarahat in Almora district. Perhaps this tradition continued in Kumaun right from the times of the Megalithic culture like many other parts of the Indian subcontinent.

Cist Burials

In the late 1950s, on behalf of the Archaeological Survey of India, one of us (DPA) carried out an expedition to examine the graves at Malari (30°41' N, 79°55' E), which is located in the Niti valley at an altitude of 3800 m AMSL, about 61 km beyond Joshimath on the bank of Dhauliganga in Chamoli district of Garhwal. He (DPA) writes, "Unfortunately the graves had been destroyed and all we could collect was some intact and some broken pots from the destroyed sites. The pots were of Red ware with handles and spouts and in one case we discovered a *lota* with a channelled mouth. The villagers informed us that the graves had been stone-lined and contained complete inhumations, and some also had secondary burials. A few bronze tripods and some horse harnessing equipment were also reported. Horse burials had also been discovered. Though it was necessary to depend upon the villagers' account, the accuracy of these reports was also corroborated by Dabral's report (1968: 223-35) and was found to be fairly reliable" (Agrawal *et al.* 1991: 60).

Dabral (1968) was fortunate to examine 10 burials at Malari. In one case he noticed, the dead body was inhumated in a crouching posture and few utensils were placed near the head. Out of 10 burials, two were horse burials. He also has reported red ware shapes and bronze utensils from these graves. He had tentatively placed these burials between 5th century BC and 1st century BC. He ascribes these burials to the Sakas, who were flourishing in the greater part of Central and Western Himalayas.

In the 1980s, the site was again explored by a team of Garhwal University which undertook a small scale excavation (Nautiyal and Khanduri 1986: 88), which yielded horse burials. They have also reported a ware, which includes two spouted pots, one with a splayed out mouth. These pots bear vertical and horizontal grooved lines, which form a sort of geometric pattern all along the body and also on the oval handle. A small pot was decorated in black on the neck; its body has an angular chain design.

Mathpal (1986: 20-22) has also reported stone-lined burials from Naula-Jainal villages of Bhikiyasain tehsil in Almora district.

With this background, explorations were carried out by us in several river valleys, i.e., the Gomati, the Koshi, the Western Ramganga, the Kauravgad, the Mansari Nala and the Gagas, to trace the oldest burial sites in Kumaun. Some of these river valleys also yielded burial sites.

3.5 Description of the Megalithic Sites

Ganai (29°53'N; 79°24'E)

Ganai town is situated on the banks of Western Ramganga and Kauravgad, about 16 km north of Dwarahat in Ranikhet tehsil of Almora. The Kauravgad flowing south-west joins the Ramganga at Ganai and both the rivers have enriched the area with fertile alluvial terraces. The surrounding hills grow chir (*Pinus roxburghii*) and oak (*Quercus incana*), along with the other Lesser Himalayan flora.

During the first field exploration of the valley in 1991, three stone-lined burials were discovered on an exposed section of the second aggradational terrace of the Kauravgad at Koorman village, which is located about two km north-west of Ganai. However, the site was again visited during the field season of 1992 and it was found that the burial nos. 2 and 3 (of Table 3.1) had eroded away and three more burials (nos. 4, 5 and 6) had got exposed. A similar stone-lined cist was located at Bechandhar, which is perhaps an extension of the above site. These burials are rectangular on plan and in most of the cases were exposed on their wider axis (Fig. 3.4). Burial no. 1 was found fully exposed on its longer axis, whereas no. 4 was partly exposed. These burials have been erected by using upright schist, mica-schist or slate slabs and covered with a capstone that generally runs the whole length of the cist. Sometimes more than one capstones have also been used to cover the burials. These burials have been dug in the conglomerate horizon, at a depth ranging from 50 to 150 cm, which is capped by a brown and grayish silt. These burials are oriented north–north-east–south–south-west, i.e., transverse to the hill slope at an height of 1060 m AMSL. Their measurements are given in Table 3.1.

Table 3.1 Measurements of the cists at Ganai

Burial no.	*Length in cm*	*Width in cm*	*Height in cm*	*Maximum thickness of stone slab (cm)*
1	127	51	42	6
2	—	42	27	3
3	—	43	25.5	5
4	60	40	35	8
5	—	48	51	7
6	—	57	65	5

Pottery (Plate 3.6)

As these burials have lost some of their slabs, by scraping carefully, pottery was found exposed in two burials, i.e., nos. 1 and 4 of Table 3.1. Without disturbing or exposing the burials, the following pottery types were collected and examined:

1. **Handi:** A Handi-type pot in red ware was found in burial no. 1. It is fired at a low temperature and has a thin fabric. It has an everted rim, concave neck and convex body. The opening of the pot measured 9.2 cm and total height 3.7 cm (Fig. 3.1a).
2. **Bowl:** It is a slightly flaring grey ware bowl of thin fabric with featureless rim and flat bottom. It was found along with a pedestalled bowl and fragments of two other pots from burial no. 4. The grey ware bowl is of thin fabric and contains two incised parallel lines on the neck portion (Fig. 3.1b). Its diameter and height were 9.1 and 5.2 cm respectively.
3. **Bowl:** It is a pedestalled (chalice type) bowl of medium fabric with a thin section. It has a short outturned rim and is made of levigated clay (Fig. 3.1c).
4. **Bowl:** It is a black ware bowl with a featureless rim with thin section and a fine fabric. It is made of levigated clay and is well fired. Its diameter and height were 11 and 6.9 cm respectively (Fig. 3.2d).
5. **Indian *Lota* type:** It is a red ware pot with convex sides of a fine fabric and thin section. It has a short collared rim with a diameter of 14 cm. It has two parallel lines incised on the shoulder portion (Fig. 3.2e).

Except the black ware bowl (no. 4), all other pots are ill fired and rather fragile.

The burial horizon at Koorman does not contain any habitational deposit. At Bechandhar, however, right over the filling of the grave pit, there is a later habitational deposit of nearly 160 cm, which yields bricks and pottery. The red ware ceramics appear similar to the Kusana

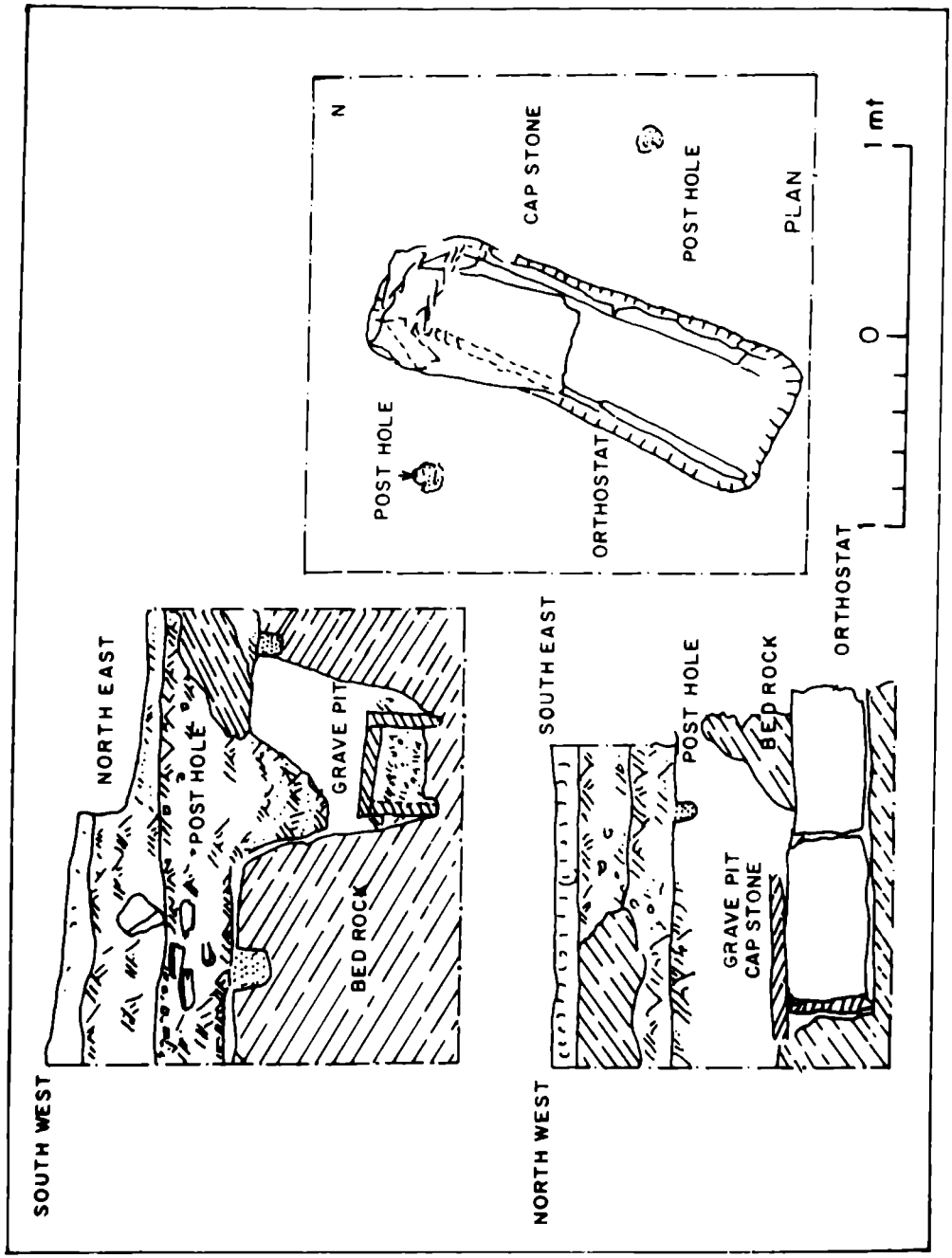

Fig. 3.4 Sections and plan of the excavated cist, Ladyura (courtesy ASI)

pottery. In fact, the burial horizon is covered by the mound. During the explorations, no bones were found from any of these burials, but the villagers claim to have seen limb bones sticking out from similar burials in this section. They also recount to have seen a number of similar burials in this section which generally get exposed during the rainy season.

A soil sample of burial no. 4 was taken for dry and wet sieving at Deccan college, which yielded biological remains identified by M.D. Kajale as given in Table 3.2.

Table 3.2 Plant remains of Ganai cist no. 4

Lab. no.	Layer	Depth in cm	Date of collection	Specie/ insects	Physical feature/colour
2	2	80	10/2/92	*Setaria* sp	2 brown-blackish
2a	2	80	10/2/92	Indet. wild	1 blackish
2b	2	80	10/2/92	Insect ?	6
2c	2	80	10/2/92	Insect	1

A chemical test of the above soil sample was also carried out, with the following results (in percentage):

Phosphate	41
CO_2	12
Organic Carbon	36
pH value	6

Ladyura (29°54'N; 79°39'E) (Figs. 3.4, 3.5)

Ladyura is situated about 5 km north of Baijnath in the fertile valley of the Ghangli in Bageshwar tehsil of Almora district. The valley is popularly known as Malla Katyur and surrounded by hills, which are covered predominantly with chir (*Pinus roxburghii*). The upper reaches of these hills have beautiful forests of oak (*Quercus incana*) along with kaphal (*Myrica nagi*) and other species of the Middle Himalayan vegetation. The Ghangli, originating from the Gwaldam hills, drains the valley and then joins the Gomati river at Baijnath.

The entire valley, composed of a threefold terrace system, was explored during the winter of 1991. At Ladyura, three cist burials were located, which are exposed on their wider axes, in a brown clay section (Kharakwal 1992). However, the villagers are reported to have destroyed a large number of similar cists at and around Ladyura. They recount that such cists often get exposed while ploughing their fields. This indicates that the cists invariably occur in the valley at a depth of about 30 to 40 cm. Unfortunately, a major destruction of the burials took place in the early eighties of this century during the Dangoli-Syli-Chaurana road construction, according to the villagers. They inform that at least half a dozen cists

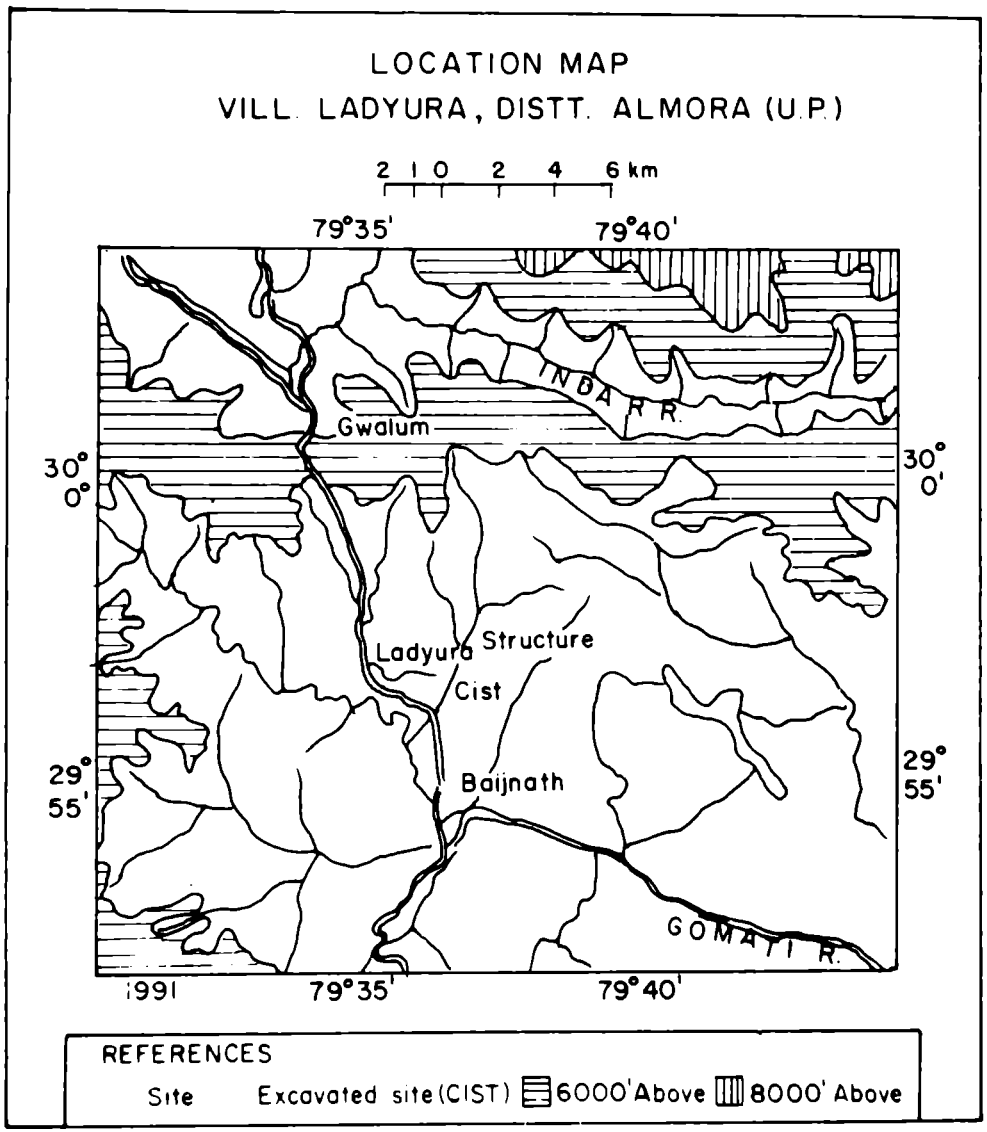

Fig. 3.5 Location map of Ladyura, near Baijnath, Almora (courtesy ASI)

were destroyed at Ladyura, which contained a variety of pottery, like spouted jars, bowls, Indian *lota*-type pots in red and black wares. A long iron nail-like object is also reported to have been seen by them. One of the villagers has used the slabs of those dug-out cists in his house, ranging from 43 to 170 cm in length, which can still be seen. Similar burials are also reported to have been exposed at Bunga village, about 1.5 km east of Ladyura. No burial was examined during our exploration. This site could be an extension of the Ladyura complex only. At Ladyura, the cists are buried under the red (ferrugenous) clay horizon, the thickness of which varies from 1 to 2 m depending on the undulations of the surface. The measurements of the cists at Ladyura are given in Table 3.3.

Table 3.3 Dimensions of the cists at Ladyura

Cist no.	*Depth in cm.*	*Height in cm*	*Width in cm.*
1	130	46	88
2	125	40	50
3	80	41	49

These cist burials are made of Himalayan schist stone slabs which vary from 4 to 12 cm in thickness.

Pottery

Out of these three partly exposed and disturbed burials, cist no. 1 of Table 3.3 yielded the following pottery:

1. A black ware bowl with three knobs, convex sides and a featureless rim (Fig. 3.6) with a diameter of 23 cm.
2. A red ware bowl in thin fabric with flat bottom and almost straight sides with a diameter of 5.5 cm.
3. Also a black ware jar with everted rim and slightly convex base (Fig. 3.7).

These pots are made of levigated clay and have a thin section with fine fabric. At a site about 10 m west of cist no. 3 (of Table 3.3), the exposed section contained a cluster of gritty red ware potsherds of medium fabric at a depth of 100 cm. Although no shapes could be identified, some of the potsherds bear grooved curvilinear decoration. Cist no. 1 also yielded a small indeterminate iron object.

Subsequently, in June 1991, at Ladyura, two cists (nos. 1 and 2) were excavated by a team of the Archaeological Survey of India, at our instance. One of us (JK) could also participate in the excavation.

These rectangular cists were erected inside grave pits cut into the shale bedrock. They are oriented north-south length-wise and vary in size. In the case of cist no. 2, the U'-shaped

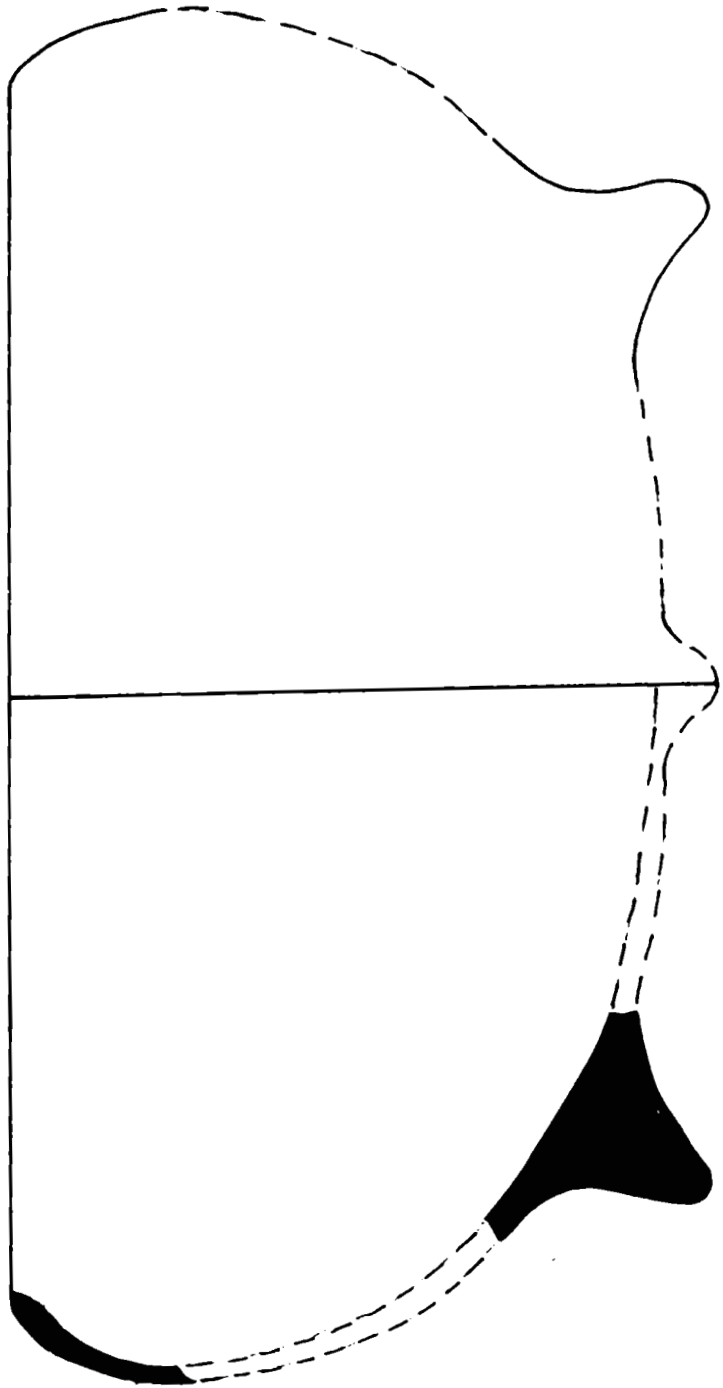

Fig. 3.6 Black ware bowl with three legs from Ladyura cist no. 1

grave pit was measured to be 80 deep, 190 long, 80 wide at the top and 55 cm wide at the bottom. The cist measured 184 cm in length, 53 cm in width and 45 cm in height and was filled with the same soil obtained from the digging of the pit. Initially the rectangular cist of upright stone slabs was perhaps covered with more than one capstone. Only one (northern) capstone was found; the other (southern one) was missing (Fig. 3.8). The space between upright slabs was packed with stone chips. Generally the capstone of the burials is bigger and projects on all sides across the top edges of the orthostats.

Two port-holes (16 and 13 cm in diameter), one in the east and the other in the west, were found in layer 3 during the excavation. They are almost equidistant from the upright orthostat of their respective sides, one on the north-west end and another on the south-west end of the cist. Perhaps there were two more similar port-holes, one on the south-west and another on the north-east end of the cist. The excavator has hypothesized that, "After interment of the mortal remains and other funerary objects and after filling the pit, a conical shade supported at least by four uprights (two on each side) and one central beam was erected over the burials" (Sharma 1990-91: 77). This appears to be a very interesting feature and it was recorded for the first time. The excavation confirmed the rectangular plan of the burials, and that the burials contained one or more than one capstones.

No bones, pottery and any other antiquity were found from the excavated cists except that cist no. 1 yielded an iron object of indeterminate shape. The section, which contained the burial, did not yield any habitational deposit. A chemical analysis of the soil was carried out at Deccan College, which yielded the results as given in Table 3.4.

Table 3.4 Chemical composition of the cist soil from Ladyura

Sample	Depth in cm	Layer	pH	% Organic carbon	% $CaCO_3$	% Phosphate	Context
88	15	1	6	.408	5	.110	Plough zone
90	50	3	6	.505	2	.080	Post-hole
92	65	3	6	.704	8	.130	Grave pit
80	80	4	6	.304	4	.080	Burial
89	110	4	6.5	.501	3	.080	Burial pot

A large amount of fine red ware sherds, sometime with red slip and brick fragments were found scattered on the agricultural field in an area of about two square kilometres. No intact mound was found in this valley.

Gagrigol

Gagrigol is situated on the left bank of the Gomati about 3 km south-east of Baijnath in Bageshwar tehsil of Almora district. Several burials are reported to have been destroyed

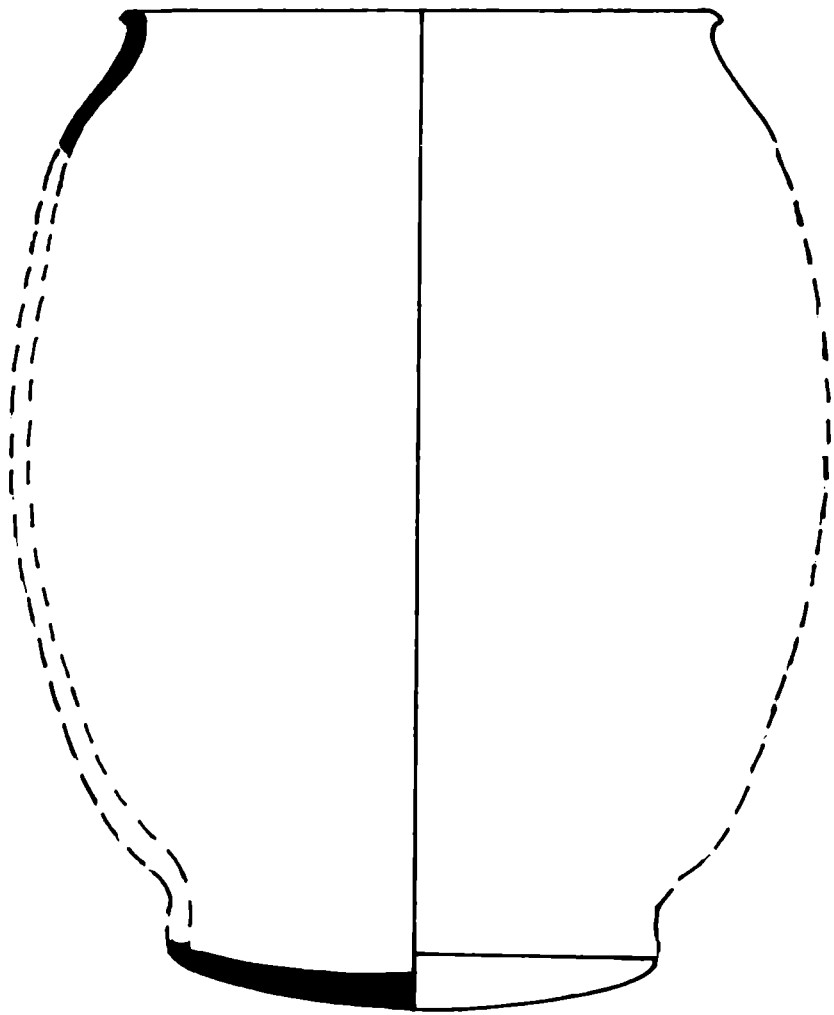

Fig. 3.7 Black ware jar from Ladyura cist no. 1 (b)

by the villagers in and around Gagrigol. They tell that while ploughing their fields, often the burials get exposed. During 1992-93 field season, we explored eight partly disturbed cist burials in an exposed section (Plate 3.4) running east-west along the metalled road. The following table gives the detail.

Table 3.5 Details of Gagrigol Cists

Layer	*Cist no.*	*Orientation*	*Width in cm*	*Height in cm.*
2 &3	1	NNW-SSE	50	45
3 &4	2	NNW-SSE	—	25
2	3	NNW-SSE	70	35
2	4	N-S	75	48
2	5	N-S	70	30
2	6	N-S	55	50
2 &3	7	NNW-SSE	70	35
2	8	N-S	68	30

The cists are erected out of micaceous slate and schist upright stone slabs. All these were exposed on their wider axes. In cists nos. 1, 2 and 8, the capstone was absent; in cists nos. 2, 3 and 6, one upright slab was absent, but their packing stones indicate the location of the missing upright. Most of these cists have more than one capstone. The space between uprights and capstones is packed with rubble. All such burials (Plate 3.6) are dug into the red (ferrugenous) clay soil horizon, which is capped by a coarse greyish layer. The cists are not erected equidistant from each other. The distance between each pair of adjacent cists is given in Table 3.6.

Table 3.6 Distances between adjacent cists at Gagrigol

cist no.	distance in meter
1 and 2	03.50
2 and 3	80
3 and 4	23.20
4 and 5	06.80
5 and 6	03
6 and 7	02.50
7 and 8	01.70

Pottery

A wheel-turned high necked globular dull grey jar was found in cist no. 1, which was partly exposed (Fig. 3.1f). It is made of levigated clay in medium fabric and has an outturned rim. Some potsherds of red ware, in thin fabric, were found on the capstone of cist no. 4, which were perhaps part of the filling material.

The villagers claim to have seen spouted pots (jars) and beads in similar burials. These all appear to be secondary burials.

Plant Remains

A soil sample from cist no. 1 was analyzed at Deccan College, which yielded the following plant remains as given in Table 3.7.

Table 3.7 Plant and insect remains from the soil of cist no. 1

No.	*Layer*	*Depth in cm*	*Specie/insect*
3a	3	90	*Setaria* type
3c	3	90	*Sorghum* ? sp
3d	3	90	*Echinochloa* ? sp
3e	3	90	*Setaria* sp/ *Panicum* sp
3g	3	90	*Panicum* sp
3h	3	90	*Medicago* ? type
3j	3	90	*Eleucine* ? *indica* type
3l	3	90	Cyperaceae type
3n	3	90	*Paspalum scrobiculatum*

Right over the burial horizon, almost at the end of the ridge on which Purara village is located, remains of a mound were found. The mound has almost been levelled to the ground for agriculture. Bricks (43 x 20 x 7.5 cm) and red ceramics of fine fabric were noticed, which mainly include stubbed feet bowls, jars and dish.

A chemical analysis of the soil collected from the burial horizon was carried out at Deccan College, which yielded results as given in Table 3.8.

Table 3.8 Chemical analysis of habitational soil from Purura

Sample no.	*Depth in cm*	*Layer*	*pH*	*% Organic carbon*	*%CaCo3*	*% Phosphate*
2	15	1	6.5	0.5	3	0.08
3	25	2	6	0.3	4	0.11
4	35	3	6	0.5	3	0.12
5	45	4	6	0.2	0	0.075
7	55	5	6	0.5	4	0.60

The poor quantity of phosphate indicates that perhaps the site was not occupied for habitation.

The cist burials are also found at Takula and Mala in Almora district, and in Chamoli and Uttarkashi in Garhwal. Joshi (1990a: 12) writes that, "At some of these sites cists are raised in a row of 3 to 5 or more; in such cases the inner orthostats are common and serve the purpose of partition." He also reports *handi*, basins, bowls with stubbed feet and button handle, and prominently pedestalled bowls.

3.6 Excavation in Western Ramganga

A team of H.N. Bahuguna Garhwal University led by Khanduri and Nautiyal carried out excavations for two consecutive field seasons during 1990-92 at Naula, Jainal, Sanana and Baseri in Western Ramganga valley. The area is located about 8 km north of Bhikiyasain and 6 km north-west of Mashi in Almora district. Their excavation report has not come out yet. Our information is based on the report they presented at the Bareilly Congress in December 1993 and personal communication.

They have reported dolmenoid cists and urn burials from Sanana and Baseri villages. Two cist chambers, located in the gravel section of Ramganga, were excavated. Both of them were rectangular on plan with east-west orientation. No other antiquity has been reported from these cists.

At Baseri, the river section containing burials stands about 30 m above the present flood plain of the Ramganga. Here, the excavated cist and urn burials yielded important antiquities. The cists were rectangular on plan and consisted of three to six upright schist slabs placed according to the requirement. These burials contained generally more than one capstones according to the general practice. The cists were found ranging from 128 x 40 cm to 232 x 58 cm. The discovery of urn burials at Baseri seems to be interesting, which were separated from the twin cist chambers by a wall running north-south. Regarding the wall, the excavators explain that such a need could be felt if the two burial types belonged to two different groups of people. Another group of burials at Baseri was protected from all sides by a dressed and round stone wall. The cist burials were either in east-west or in north-south direction.

Pottery

A variety of pottery shapes including miniature and medium sized bowls and dishes were found from the excavations. The cist chambers of Sanana yielded bowls, dishes, jars and miniature bowls. From the urn burials of Baseri, large sized hand-made jars ranging from 38 to 50 cm in diameter were found, which bore prominent ripple marks on the outer surface. In all, more than two dozen pots of different shapes, sizes and fabrics were found from the excavations. It is interesting to note that in most of these chambers the pots were placed on the flat stone slabs. However, except for burial no. 1 at Koorman (Chaukhutiya), this feature is absent at all other above-mentioned cist burial sites of Kumaun. At all the sites, the burials are made of locally available stones. Thus such features may be helpful to establish regional typology and chronology of these burials. Much, however, depends on future excavations.

According to the excavator, the burial pottery here shows typically different characteristics from the usual megalithic pottery that is known from Central and Southern India. The Black-and-Red Ware is absent from the ceramic repertory. However, the pots are either gray or red with a gray core, with painted designs of horizontal, vertical and slanting strokes, and sometimes a black rim-band is also found. A few red polished ware pots were found containing ripple-marks. Most of the pottery shapes show typological similarities to the Painted Grey Ware culture as found at sites like Hastinapur, Ahichchhatra, Jakhera and Thapli. In view of the ^{14}C date from Uleni, an early iron working site going back to the beginning of the first millennium BC, the Painted Gray Ware similarities assume great importance.

Bones

The cist chambers generally contained sandy dark brown clay along with small bone fragments. In one of the burials, a femur (11.3 cm) and a tooth were kept in a pot. A significant discovery of this excavation was a preserved human skeleton which was buried in a very peculiar position. The disarticulated bones of skull, femur, tibia, fibula, jaw (upper and lower) tooth and other bones were placed separately.

It appears that the dead body was first excarnated and then left-over remains were later deposited in a pot and buried. It may therefore be stated that these are secondary burials. The bones are stated to be in a highly disintegrated state because of the acidic nature of the soil.

Iron

Iron seems to be very scarce in these graves and was found only in small quantity. Only two fragmentary iron pins, nail and a broken sickle were found from the excavation. In contrast, the south Indian megaliths are so rich in iron implements.

3.7 Chronology and Conclusions

Thus we see that cist burials, urn burials, cairns, and menhirs have been reported from the Kumaun area. Unlike the peninsular Indian cist burials, the Kumauni cists are buried at a depth ranging from 40 to 150 cm below surface. Typologically, the Kumauni cists are closer to the Kherai graves (Swat) rather than to the south Indian ones as discussed by us

elsewhere (Agrawal *et al.* 1991: 59-63). The pottery shapes found in the Kumauni cists bear resemblance to those found in the Kherai graves and also at Tahirbai Depe. The Kumauni graves are located on the river terraces (sometimes near the confluence or on one or both sides of a river) and quite close to the hill slopes. There is also a striking similarity in the selection of location of graveyard between Kumaun, the Swat and Kherai.

At the present state of our knowledge, the Kumauni burials may be categorized into the following types:

1. Cists with a single capstone,
2. Cists with more than one capstone,
3. Twin cist chambers, 4. Cists with slabs at the bottom,
5. Burials protected from all the sides by a wall of dressed stones, and
6. Urn burials.

Sometimes there is an overlap between two or more types, thus giving rise to a new type. e.g. 1 and 4 (located at Koorman). Possibly they reflect social or ethnic differences.

Interestingly, however, a horse skeleton was excavated at Malari (Nautiyal and Khanduri 1986: 88), located to the north-west of Kumaun, in the Higher Himalayan zone. Possibly the authors of the Malari and the Kumauni burials were the same people of Central Asian origin, known for their rich graves, and they entered Kumaun through Malari, where horse burials accompany the humans.

According to Stacul's estimates, the Kherai graves go back to the second millennium BC. There both primary and secondary burials are found. On the basis of similarity of pottery shapes and burial typology (with the Swat valley), the Kumauni secondary burials may be of a slightly later date than those of the Swat (Kherai). Thus it gives us a tentative date in the latter half of the second millennium BC, and the beginning of the first millennium BC. But some of the burials could be older.

On the other hand, the pottery shapes from the Kumauni cists seem to be forerunners of the PGW pottery of the Gangetic doab and suggest that the Kumauni graves may precede the PGW culture. Dabral (1968: 223-35) associated the Malari graves with the Sakas. So far no habitational deposits have been found from the Kumaun area; therefore the authors of these secondary cist burials could possibly be semi-nomadic pastoralists who introduced iron technology to Kumaun sometime in the beginning of first millennium BC, if not earlier.

With the availability of several ancient iron smelting sites in Kumaun (see chapter 4), there is a distinct possibility of Kumaun being the source of early iron for the PGW culture. From Uleni, an early iron smelting site of Kumaun, we now have a ^{14}C date, PRL-1648, 1022-826 BC (calibrated). It indicates that towards the beginning of the first millennium BC, iron ores of Kumaun were exploited and perhaps iron supplied to the northern PGW settlements. An AMS calibrated ^{14}C date gives the range of 760-620 BC (PRL-1647/100 NUTA-3025) for the Purara cist burial (courtesy Prof. Nakamura). It is therefore possible that the authors of some of these late secondary cist burials could be associated with the early iron technology.

On the basis of common cultural traits between PGW and the Kumauni cist pottery, one can place the Kumauni burials around the beginning of the first millennium BC. This date is also supported by a carbon-14 date of a mining site at Uleni in Kumaun, which takes us back to first millennium BC. Perhaps the authors of these burials were the early blacksmiths in these hills. This has to be confirmed by future excavations.

The Megalithic remains in Kumaun have been discussed for more than the last one hundred years. Henwood was the pioneer scholar to discover the existence of megaliths in this hilly region. It was also probably the first discovery of an archaeological site in this area. He reported few cairn burials at Devidhura in Pithoragarh district. His work was followed by Carnac (1877), who discovered similar remains from Dwarahat in Almora district. Later on Wheeler (1959:160) reported cultural remains from the remoter depths of the Himalayas in the Leh valley of Ladakh near the western border of Tibet and he also supported the aforesaid discoveries. Recent archaeological finds show that there has been an elaborate tradition of making different types of burials in these hills in the first millennium BC, if not earlier, which perhaps started much earlier.

These new data raise the interesting possibility of the authors of the PGW having come down into the plains from Central Asia via Kumaun. The Western Ramganga burial pottery looks very much like the prototype or precursor of the PGW. This possibility has to be explored further.

In our view, that does not preclude the possibility of earlier burials in the Kumaun region. As we have stated earlier, like the Swat valley, Kumaun too seems to have had a long and old tradition of such cist burials. Now this view seems to be supported by the pottery similarities between the early graves of Swat and Kumaun, as also the early radiocarbon date discussed below.

In our earlier article (Agrawal *et al.* 1991: 59-60) we had tried to sort out the different types of burials, to identify and isolate the earliest cist burials. The early cist burials are almost ubiquitous in Kumaun and are found in large numbers from the valleys of Koorman, Gomati, Western Ramganga (all tributaries of the Ganga system) and so forth, distributed over a large area. Even in our explorations of short seasons, we discovered cists in large numbers from Ganai, Gwaldam, Baijnath and Bageshwar areas. Their orientation seems to be determined by the slope of the hill or the terrace rather than by the cardinal directions, as was also the case in the Swat valley. Their large number and wide distribution area between the Garhwal and Kumaun divisions is indicative of a long persisting cultural tradition.

In Pakistan, considerable excavation work has been carried out by the Italian (Stacul 1987) expeditions, as also by Dani, in the Swat valley. Gupta has shown that a long sequence of cultures thrived in the Swat valley from the Ghaligai Level I (2400-2100 BC) to Level VII (400-300 BC) (Gupta 1979: 206-19). Dani has described these cultures, mainly known from their burials, as Gandhar Grave Cultures.

In the course of our explorations in Kumaun we collected only such pottery which was in a definite association with the exposed burials; we did not excavate any burials ourselves. The grey and red wares that we have collected have close analogues from Ghaligai Levels

I, II, III (covering a time span of *c.* 2400-1500 BC). Some of the shapes resemble Ghaligai Level I pottery types (compare S-Fig. 7 f, e, with our Fig. 3.2d; S-Fig. 14b with our Fig. 3.2e; S-Fig. 14b, f with our Figs. 3.1b, 3.7; S-Fig. 31e, f with our Fig. 3.1b; S-Fig. 14g,h with our Fig. 3.1c; S-Fig. 14b with our Fig. 3.1f and so forth). S-Fig. numbers refer to the figures mentioned in Stacul (1987). We have prefixed "S" to the compared figure numbers to distinguish Stacul's numbers from ours. A potsherd from a Kumauni cist could be a broken part of the nose of a visage-type pot (e.g., Plate XXXIX a-d in Antonini and Stacul 1972) or as reconstructed by us in Fig. 3.5a. There are also some red ware ***handis*** (e.g., Fig. 3.1a) closely resembling Period II red ware associates of the Painted Grey Ware (PGW) at Hastinapur (e.g., XVIII a, Figure 11, in Lal 1954-55: 5-151). Khanduri and Nautiyal reported at the Bareilly Congress (1993) several red and grey ware dishes and bowls from the Western Ramganga cists closely resembling period II Hastinapur pottery types. Some of the pottery appears as if it is transitional to fully developed PGW types. The pottery complex of Western Ramganga cist burials gives a distinct impression as if it represents the transitional stage between the coarse grey wares of the north-west and the de luxe PG Ware of the Gangetic valley. In view of the reported PGW sites like Thapli and others in Garhwal (Nautiyal *et al.* 1978-79: 94-95), the possibility of such a transition and growth is distinctly possible.

Another ^{14}C date, PRL-1592, from Gagrigol, district Almora, gives a calibrated date of 2666-2562 BC. This charcoal was collected by us from the upper filling of a cist exposed by the road cutting; it is not a strictly stratified sample as it has not been obtained through proper excavations, though we did scrape and clean and studied the section thoroughly before collecting the sample. It appears that the cist burial tradition in Kumaun area also, like the Swat valley in Pakistan, continued for more than 1,500 years, from *c.* 2600 BC onwards and therefore requires more extensive excavations. Of course, at this stage, one cannot base a lot of important conclusions on only a couple of ^{14}C dates. We have collected and sent some more, though smaller samples, for AMS dating abroad. We hope to provide a more detailed discussion when we have more dates.

For these cist and other burials, there are quite a few likely candidates: Khasas, Daradas, Sakas, Kinnar-Kiratas, Raji-Rauts and so forth. Definitive proof will, however, remain elusive.

CHAPTER 4

ANCIENT METAL TECHNOLOGY AND MINES

4.1 Preamble

Kumaun is known for its hoary metallurgical tradition. Copper, iron and lead were mined extensively in this region (Atkinson 1989: 259-98). The revenue records of the last century show that copper mining was a thriving industry in Kumaun. There are several rich copper ore sites in Kumaun, e.g., Rai-Agar, Bora-Agar, Askot and Ramgarh. In fact, "Agar" is associated with ancient coppersmithy and "Asur" and "Lu" with iron smelting sites.

"The iron ores found in Kumaun belong to either of the two varieties, the rhombohedral or the prismatic. The first is a peroxide of iron containing in its best defined type 70% iron and 30% oxygen" (Atkinson 1989:287). Scaly iron ore was mined at Ramgarh and Dhaniyakot on the Koshi. Both yielded a good quality of iron. During the British period, Lusgani, Nathuakhan, Gulla and Satbunga were the principal mines in Naini Tal district. For the first 18 years of the their rule, these mines were leased to the headmen of the Agaris at a nominal tax (Atkinson *ibid*).

The mines at Khetshari, Munia at Pali and Lakhanpur were quarried for prismatic iron ore. There were several mines located at Chiteli, Simalkhet, Gudi, Bailgaon, Bonigarh, Mehalchauri and Tilwara in Giwar *patti* of Almora district, which were exploited during the British rule. Simalkhet, one of the largest mines, had . . . four entrances penetrating upwards of 100 m into the mountain. The ore here consisted of red hematite of a good quality" (*ibid*).

In this chapter, we present the results of our recent explorations which raise a distinct probability of the iron technology coming to the northern plains through the authors of the cist-burials of Kumaun (see also Chapter 3).

We begin our discussion with two important and relevant excavations to set the stage for the Kumauni finds. The first is the excavations at Saradkel, an "Asura" site and the second at Naikund (Vidarbha) which throws light on the megalithic iron technology.

The ancient Asura tribes of Bihar and Central India are associated with iron technology, so also in Kumaun. In Kumaun, an early iron smelting site is known as Asurchula (hearth of the Asur) and an early alien king Banasur (Asur-Bani-Pal ?) is associated with the early iron sites of Lohaghat area. The migrations of the Asur tribes and the antiquity of their iron

technology may prove a very rewarding study. The Asur folklore tradition is very strong in Kumaun and has been discussed in detail in chapter 5. Below, a brief account of the excavation at Saradkel, an Asura site of Bihar, is given, for possible connections between the two Asur traditions as both were associated with the early iron technology.

Asuras in Bihar

Excavation at Saradkel: An excavation was carried out by the Archaeological Survey under the supervision of S.C. Ray at Saradkel in Ranchi district, Bihar, with a view to finding out the real nature and content of the culture represented by the Asura sites and to determine their chronological position in relation to the other known cultures of Northern India (IAR 1964-65: 6).

Excavation revealed two occupational periods, belonging essentially to the same culture. Although no building remains of period I were unearthed in the limited area under excavation, the occurrence of baked bricks in the strata belonging to this period clearly suggested the use of bricks. A number of pits were encountered, which had charcoal, iron slag and sand; they appear to be iron smelting furnaces. Period II was marked by intensive building activity. A massive defence wall consisting of baked bricks (41 x 26 x 7 cm) was raised along the periphery of the mound in alignment with the contours of the river, apparently to protect the settlement as much from the human onslaughts as from the ravages of floods. The floors were often made of brickbats set in clay base and solidly rammed; floors of intact bricks were also present at some places. In one of the rooms was found a stone anvil which might have been used for beating iron slag.

The pottery was mostly wheel made and characterized by a coarse fabric, thick in section and of terracotta-red colour. A few examples of grey and black-and-red fabrics were also noticed. The shapes represented are jars, bowls and vases. The assemblage of such typical forms as the ledged lid, flat-based bowl, sprinklers, combined with incised decorated designs strongly suggest a Kusana association.

Among other finds, iron objects of diverse utility and shapes deserve special mention. These include arrow-heads, axes with double or single cutting edges, chisels, nails, ploughshares, caltrops, door-hinges, rings and knives. The astonishingly large number of iron objects along with iron slag would indicate that iron industry played an important part in the economy of this culture. Some copper objects were also encountered in this excavation, e.g., hooks and rods. Besides these were found some clay sealings; copper coins (possibly prepared from moulds), bearing symbols similar to the ones usually met with on punch-marked coins; terracotta hop-scotces; terracotta human and animal figurines; beads of chalcedony, agate and carnelian; and a two-legged saddle quern.

The excavation at Saradkel, like the one carried out at Kunjla about two decades back, demonstrates that the culture represented by these so-called Asura sites was an iron using one. Brass objects have been discovered in Asur graves in Chhotanagpur but the exact dating of these objects has not been possible. The Asura culture flourished for a limited period in the early centuries of the Christian era and shows neither any signs of genesis nor decay.

The present day Asuras of Central India believe in Sing Donga and Marang Bonga.

They celebrate mainly the Sohrai, Sarhul, Phagua, Nawakhani, Kathedi and Sarhi Kutasi festivals. The Sarhi Kutasi festival is observed for the prosperity of their iron smelting industry in which a chicken is sacrificed. They also worship their ancestors. They believe in witchcraft, for which they consult Sokha. The Asuras have now become settled agriculturalists and many among them have also embraced Christianity; there are also Jat Asuras (Roy 1926).

As there is circumstantial evidence from Kumaun of the association of the cist burials with early iron, we present a brief summary of the megalithic iron technology of the Vidarbha region, the only site in India where megalithic iron technology is well documented.

Megalithic Iron Technology

Naikund (lat. 21°2'N; long. 79°10'E), a megalithic habitation and burial site is located about 42 km north–north-east of Nagpur in the Vidarbha region of Maharashtra. The site is reported to have 73 stone circles, a majority of them undisturbed, with two habitational mounds, all surrounded by megalithic circles and situated on the left bank of the river Pench (Deo and Jamkhedkar 1982).

About 200 m eastwards of mound II and 130 m south of mound I were located the remains of a smelting workshop designated as mound III. This mound was located with the help of a Resistivity Recording metre. At a depth of 1.25 m was exposed an iron smelting furnace. The furnace was built of circular clay bricks of a thickness of 4 cm. The diameter of the furnace was about 30 cm and height about 25 cm. The bottom of the furnace was paved with bricks and was fused with slag and cinders. There were holes to pass air into the furnace from the bellows. Besides these, a large quantity of iron slag was found. According to Gogte's observation, the Naikund Megalith folk used about 10 to 12 kg iron ore for a single smelting operation producing 3.0 to 4.2 kg of pure iron. It has been stated that Naikund is the first megalithic site to have given evidence of an iron smelting furnace (Gogte 1982: 52-59).

The habitational deposits and burials were rich in iron artifacts at Naikund. The artifacts were composed of a wide range of dishes, ladles or lamps, daggers, knife blades, adzes, hoes, axes, chisels, clangs and hooks. The iron found was of a very pure quality, devoid of any other intrusions, which qualified it to be designated as steel. The local iron ore was utilized by them.

Unfortunately, so far, no details of iron smelting sites from Kumaun are available, but a comparative study of Lukhani and such sites with Naikund will prove very fruitful.

4.2 Early Metal Working Sites

We explored several early metal working sites in Kumaun, both of copper and iron. A brief description of metal associated sites follows.

Rai-Agar

Rai-Agar (29°43'2"N; 80°2'42"E) village is situated about 110 km north of Pithoragarh and about 100 km north–north-east of Almora on a south-east slope of the hill, near Berinag in Pithoragarh district. The area falls in the Lesser Himalayan zone and is enclosed by a

beautiful forest of chir (*Pinus roxburghii*) and oak (*Quercus*). The mineralization here is confined to a narrow zone in the southern core of Syunt, near the villages Boragar, Batgal, Rai-Agar and Dol. The host rock for the base metal mineralization is mainly dolomite and magnesite intimately associated with talc. The magnesite near Boragar, Dol, Batgal and Rai-Agar shows disseminations of chalcopyrite, as medium to large irregular patches of inter-granular fillings in magnesite and dolomite. Pyrite (Fig. 4.1) occurs as well developed isolated euhedral crystals, as disseminations, which can be easily seen in the modern workings of talc at Rai-Agar.

An ancient furnace was located at Rai-Agar village near the talc mine. There are three rectangular pits in two terraces in the village. Two of them, pit nos. 1 and 2 are dug in the upper terrace and the third one on a lower terrace, and is comparatively bigger. Their dimensions are as given in Table 4.1.

Table 4.1 Dimensions of furnace pits at Rai-Agar

Pit no.	*Length(E)*	*Length(W)*	*Breadth(N)*	*Breadth(S)*	*Depth in cm*
1.	170	180	90	80	35
2.	200	220	95	100	40
3.	250	280	240	230	64

Between the second and third pit, a wide channel-like depression was noticed, which was probably used to take off the slag or smelted material from the second pit to the third pit. All these trenches have been made in north-south direction, whereas the connecting channel like depression is oriented north-east–south-west. Near this structure, there must have been a large amount of slag which was probably dumped in a circular heap (3-m diameter). Even today, considerable amount of slag and tuyere pieces are lying scattered at the site. The villagers recount that it was a very large heap, but with the passage of time it was destroyed by the local people. The trenches are partly filled with debris. At a depth of 25-30 cm, some charcoal (sample no. 68) was found. It has, however, given a recent date which means that some of these smelting activities continued till the 19th century.

On the small terrace-type fields and on the steep slope of the hill at Rai-Agar, the slag is lying even far off from the furnace location. Either it rolled down or the villagers disturbed it. According to the villagers, there were two more similar furnaces in these fields which were dug away sometime in the past to make room for agricultural fields. At present the agro-pastoralist Agri people, belonging to the Scheduled Castes of the Kumauni society, reside at Rai-Agar. According to them, it is a copper smelting furnace and their ancestors had been involved in mining and smelting activities in this area.

About a kilometre north of Rai-Agar, on the same mountain, is another old metallurgical site. There are similar trenches near Bora-Agar village.

The Rai-Agar mines were perhaps the most important copper mines of Kumaun during the British period. The ore was pyrites, in a matrix of indurated and sometime slaty talcose and steatitic schists enclosed in dolomites, which occurs in the schists in numerous strings. It can be seen in the modern talc mine at Rai-Agar. "The direction of the strata is nearly east-southern, dipping at an angle of 45^0 to the north-northern. The copper ore is accompanied by iron pyrite which are occasionally found in the pentagonal dodecahedron form" (Atkinson 1989: 280). In 1850, Capt. Drummond found the lode to be about 2 ft (30 cm) wide, containing a good yellow copper ore, but with large proportion of its matrix being talcose, only 20% was metalliferous.

We collected a diamond shaped ore sample from the soapstone mine near the smelting furnace, at Rai-Agar. It was analyzed at Deccan College by X-ray diffraction method. It was found that it is a pure pyrite (FeS) ore which could have been used as a high grade iron ore (Fig. 4.1)

Sira

Sira, an ancient mining area, is located in Barabisi *patti* of Pithoragarh district. It is situated at a higher elevation than the Rai-Agar mines. Atkinson states that "...the ore here too consists of copper pyrites, accompanied by iron pyrite in a gangue formed of dolomitic and talcose rocks" (1989: 281). The areas of Sira and Gangoli were under exploitation by the British and they are known for ancient mining. A copper sample was analyzed at Calcutta in 1815 and found that it was mixed with arsenic and sulfur (Atkinson *ibid*). In 1838 AD, H. Drummond also examined these copper mines and he was of the opinion that special prominence must be given to the Kumaun iron works. Atkinson further states that copper mines of Sira, Gangoli (Kumaun), Pokhari and Dhanpur (Garhwal) were situated on a high cliff in the interior. The talcose and calcareous formations in which the ores were found occupy the high precipitous mountains which built the outline spurs of the principal ranges.

Kharahi

Kharahi *patti* is located close to the north of Almora town and extends between Binsar and Bageshwar. The area is known as a traditional centre of metallurgy from times immemorial. Atkinson (1981: 282) writes that the Gaul mine of Kharahi *patti* and Sor Gurang mines produced grey copper in small quantity. Tamtyura, Danochhina, Chaugochhina, Kharak-Tamta, Ghingarkhola, Binsar, Bhatkhola, Simsyari, Bihargaon, Uderkhani, Bilona, Agar, Gair-Sikera, Lob and Borgaon were some of the places where metallurgy was practised in ancient times, according to the villagers, who now inhabit these places. The coppersmiths are known as Tamtas, who are thought to be responsible for introducing coppersmithy in Kumaun. It cannot be determined exactly when these smiths immigrated to this region. However, it is said that during the medieval period, a Chandra king of Champawat brought coppersmiths from Rajasthan to set up coppersmithy in Kumaun. Their first settlement is said to be at Gosni village near Lohaghat. Later on, with the transfer of the capital from Champawat to Almora, sometime in the first half of the sixteenth century (Joshi 1992: 74), some families of coppersmiths were also brought to Almora to produce necessary items like tablets and stamps. According to the modern coppersmiths, during the Gorkha reign in the

18th and 19th centuries, two brothers Raibhan and Jaibhan were given land near Lamgara in Almora district to settle down and to produce traditional utensils. From there they used to go up and down to meet the demands of Gorkha kings at Almora. In course of time, some Tamta families shifted towards Kharahi *patti*, probably in search of copper ores. At that time, the Agri people, who are considered expert miners, were living in the Kharahi *patti*. It is told that Chanauli, Joshi Palari, Uderkhani, Chaugaonchhina, Bihar-gaon, Naial and Kharak-Tamta are the locations of first settlement of the Tamta people in Kharahi. The following places are believed to be ancient mining sites, where still traditional metallurgy is occasionally practised:

Khan-garh (Khano-ki-garh)	Copper
Agar	Copper
Chaugaonchhina	Copper, Slate
Dewaldhar	Copper
Lob	Iron
Pagna (near Bihargaon)	Sulphur
Shishakhani	Lead
Jhirauli	Magnesite
Palari	Magnesite
Chanauli	Magnesite

Copper pyrite, carbonate of copper and steatite were reported together in limestone outcrop by Capt. Herbert in Kharahi area of Almora. He found that these ores were free from the presence of arsenic, which more than the other materials deteriorates the quality of copper and is most difficult to remove (Atkinson 1989: 282).

During the field exploration, a few ore samples were collected from the Kharahi area. A sample (no. 124) of green colour from Khangarh village was analyzed at Deccan College, Poona, by XRD method, which shows that it is a very pure copper ore (malachite) (Fig. 4.2).

Asurchula

Asurchula (long. 80°12'E; lat. 29°38'N) is the name of a temple and a hill dedicated to Lord Siva. Both are located about 18 km north-east of Pithoragarh town at a height of 2,130 m AMSL. The hill is composed of quartzite and the Himalayan slate rocks, running north-east–south-west. The surface soil is calcareous, muddy brown in colour. Quartzite fragments are frequently mixed with the soil. This thin soil cover supports a beautiful thick forest of chir (*Pinus roxburghii*), burunsa (*Rhododendron arboreum*), oak (*Quercus incana*), *Alnus nepalenis*, deodar (*Cedrus deodara*), kaphal (*Myrica nagi*), and *Olea cuspidata*, along with many other species of the Inner Himalayan flora.

On the northern slope of the hill, Agar, Ban-Agar, Satgal, Chhana and other small villages are situated. Above these, at the lower edge of the forest, there are several terrace-type fields on the hill slope between 1820 and 1840 m AMSL. A large amount of iron slag was encountered in the exposed sections of as many as 10 such terraces. At the south-east corner of terrace no. 1, there are remains of a rectangular structure measuring 7.70 x 6.70 m. It has been constructed using dressed and undressed quartzite stones. At present, only the plinth is remaining and all walls have collapsed. No artifacts were encountered around this structure.

There is a huge round quartzite boulder lying on the eastern part of terrace no. 2, which is enclosed by dressed stones. A circular cup-mark, narrowing downwards, has been made in this boulder, whose diameter is 23 cm and depth 13 cm. It has a U-shaped bottom and the pit appears to have been used, probably for ore grinding purposes. These first two terraces are devoid of slag deposition. However, moving downwards to terrace no. 8, there is a slag deposition, rarely at a depth of more than 50 cm. At the eastern corner of terrace no. 3, the plinth of a rectangular structure measuring (north-south) 4.60 m, 5.60 m (east-west) and thickness (of the wall) 60 cm, was observed, which the local people call *bhatti* (furnace). Slag pieces were also noticed in this structure. It could be an ancient furnace as a more or less similar example has been discovered at Ujjain (IAR 1957-58:34-36, Pl. XLI B). This will have to be confirmed by future excavations. However, the structure of this furnace appears to be entirely different from that of Rai-Agar near Berinag in the same district. While scraping the vertical section of terrace no. 4, charcoal with slag was encountered at a depth of 50 cm.

As has been discussed above, the plough zone soil is coarse grey, while beneath it there is slight brown soil horizon, but both appear to be clayey and calcareous. Considering the large amount of slag on the fields and no traces of smelting furnace makes us think as to why the furnace is not there and how the slag is spreading far and wide. It is natural that a large part of the slag might have rolled down the surface, as the site is located on a steep slope. Perhaps the smelting activity was practised before making those flat terraces for cultivation. It is interesting to note that the above-mentioned cup-mark pit could have been used by the people involved in smelting activities. Perhaps the stone structures including the so-called furnace also belonged to the same people. After they deserted it, the site could have been used for agricultural purposes. A horizontal excavation at the site would throw much light on the smelting technology, as also on its antiquity.

Nearly a kilometre above this site, on the same hill, some digging was noticed which looks like a horizontal shaft enclosed by the natural rock. Only one person can crawl into such a burrow. The surrounding soil is rich in ferrugenous material. A sample (no. 95) from the site was analyzed at Deccan College, which shows that it contains high grade haematite ($Fe_2 O_3$) (Fig. 4.3). It may therefore be suggested that this could have been the nearest mining area of iron ore for them.

In the Asurchula temple, on the peak of the hill, many iron implements like tridents, lamps, have been installed, which is a very common practice in this area. At Agar and Ban-Agar, the Agari people reside along with some Mongoloid Bhotia families. Agaris are known as the traditional iron smiths of this area. The old knowledgeable people of these villages

believe that their ancestors were responsible for the aforesaid slag debris. They also tell that at present due to scarcity of ore their livelihood has been shifted from traditional smithy to agro-pastoralism. It is also interesting that they worship Lord Siva in the form of Asura, which might have something to do with the Asuras of Central India and Bihar. There is also a fort at Lohaghat ascribed to Banasur (Asur-Bani-Pal ?). For discussion, see chapter 5.

Lukhani

Lukhani is located about 6 km south of Lohaghat at a height of 1,710 m AMSL, near Medi Dhek village in Pithoragarh district. Perhaps the mountain ridge is named after the ancient mining site. This hill ridge is running south-west–north-east and has a steep slope on either side. Oak (*Quercus incana*), deodar (*Cedrus deodara*) and chir (*Pinus roxburghii*) are predominant along with other bushy and thorny plants of this area.

The hill is composed of micaceous slate rock and at places enormous lenses of quartz are also present. The entire Lukhani ridge is full of iron bearing rocks. On the southern slope of the hill, extensive ancient digging activity was observed. At one location, seven large pits look like mining shafts for taking out iron ores. These pits are circular or oblong in shape, ranging from 2 to 7 m in diameter and 1 m to 4 m in depth. Obviously, these pits were dug to reach the iron rich minerals. In the pit or shaft no. 6, the natural rock is exposed on the surface and a 5-cm thick lens of iron ore was noticed.

Two samples from the site were analyzed at Deccan College, Poona, by XRD method and it was found that both contain high grade (iron hydroxide). This could have been used as an iron ore (Fig. 4.4).

At the foot of the Banasur hill, which is located about 2 km north-west of Lukhani, a streak of dark red rock was found which appears like cinnabar(?). It is possible that both iron and arsenic were extracted from this region. This will be confirmed by chemical analysis.

About half a kilometre east of the mining pits, the hill slope is strewn with iron slag; however, there is no furnace activity visible on the surface but slag is seen in sizable amounts. Though no human artifact was found at the site, near the ancient crossroad (locally known as Budhi), there is a grove of old oaks (*Quercus incana*). At the base of the oldest oak tree, there are iron implements consisting of a pair of tongs, a trident and a lamp installed in a makeshift shrine, which is dedicated to a village deity. All over this region there is a practice of installing such iron implements in village shrines or even domestic shrines. They are supposed to be dedicated to *Betals*.

It is obvious that this whole region of Lohaghat must have been an important centre for iron mining and smelting activity. The names Lohaghat for the town, Lohawati for the river and Lukhani for the mining site, all point towards the same direction (*Lu* = iron in Kumauni). Iron bearing outcrops are common all over this area. A terracotta cake containing iron slag was found in Banasur fort. It is said that the fort was built by a *rakshasa=daitya*=Asur king, Banasur (details in chapter 5).

Uleni

Uleni village is located about 8 km north-west of Dwarahat at the base of Dunagiri

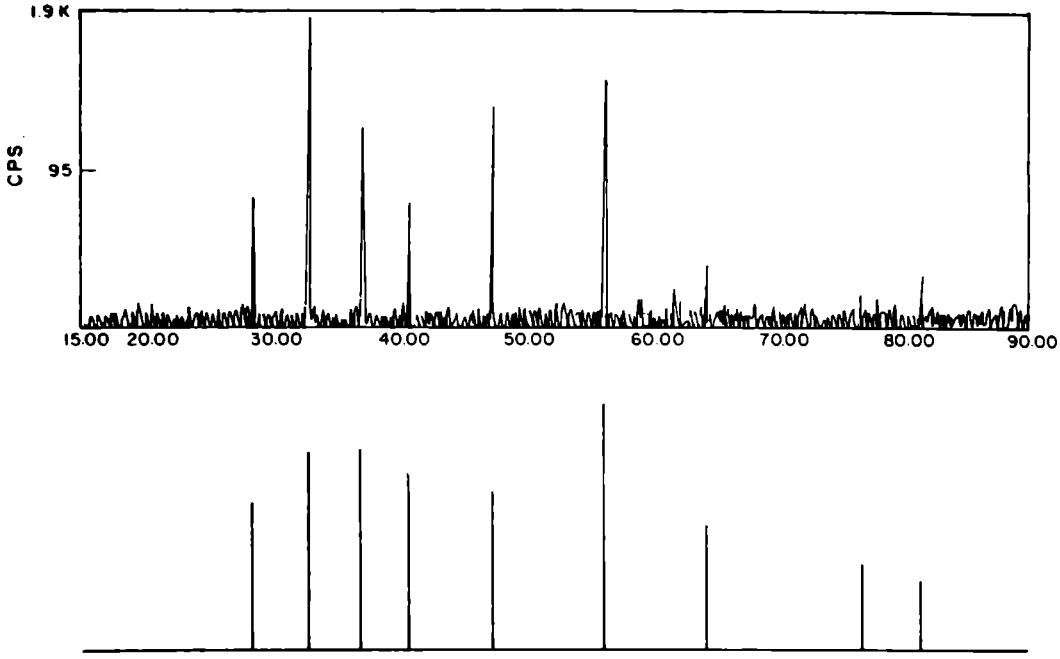

Fig. 4.1 XRD analysis of pyrites ore from Rai-Agar

mountain at a height of 1,200 m AMSL, on the Dwarahat Chaukhutiya road of Ranikhet tehsil in Almora district. A small rivulet flows down to Chaukhutiya to join the Western Ramganga; on the right bank of this rivulet the village of Uleni and its agricultural terraces are located. On these terraces, a large heap of iron slag was found. Though traces of any kind of furnace could not be found on the surface, there must have been some furnaces as the large amount of slag suggests. It seems that people might have dug out the furnaces to make their fields flatter. The area is rich in ferrugenous material and occasionally huge boulders containing iron ore can be seen in the seasonal Uleni channel. The ore has to be confirmed by chemical test. This area is also known as *Tamakhani* (mine of copper), which suggests that probably in ancient times, metallurgy was practised in this area. The slag at Uleni was not only found on the agricultural fields but also in a rock shelter which was located close to the site. A charcoal sample from the site was dated at PRL, Ahmedabad by ^{14}C method, which goes to the early first millennium BC (PRL-1648 2770±90 BC. Its calibrated date range is 1022 to 826 BC).

Lob

The site is located about 16 km south of Bageshwar in Almora district. The east-west running ridge, on which the Lob village is situated, consists of rich ferrugenous soil in an area about 100 sq.m. Slag was noticed on the agricultural fields and around the village. A large amount of compact material was found scattered on the ridge as well as on the fields.

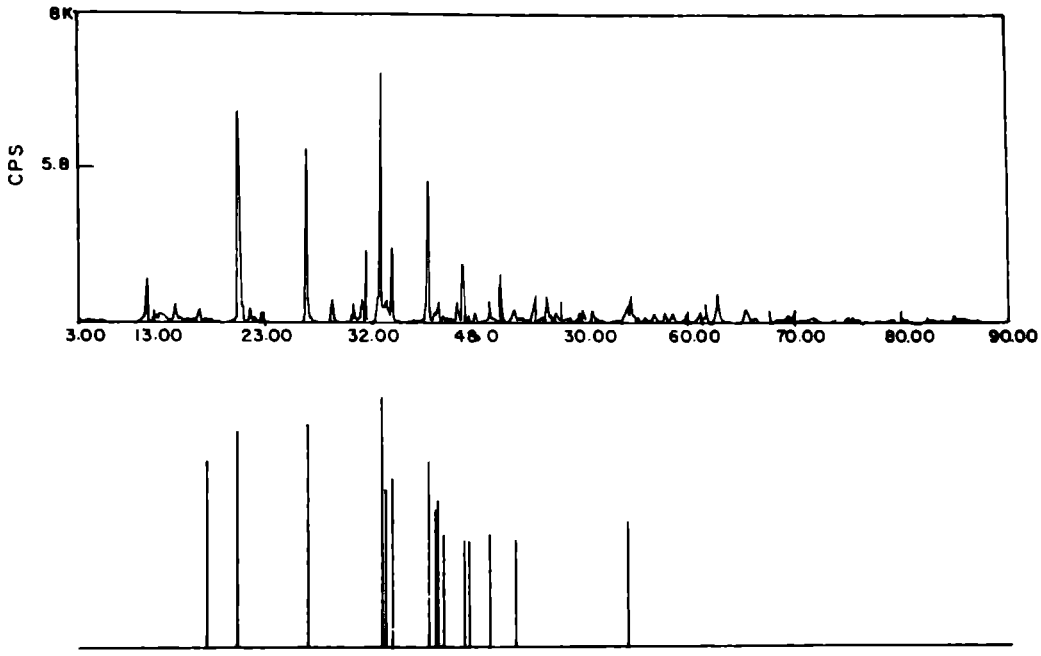

Fig. 4.2 XRD analysis of malachite, copper ore, Khan-garh (Kharahi), Almora

However, no mining shafts could be identified as the area is under a quarry (of the villagers) for red soil, which they use in their houses. A sample of the aforesaid heavy compact material was analyzed at Deccan College by XRD method (Fig. 4.5). It turned out to be good quality iron ore, i.e., goethite. In the entire Kharahi *patti,* this area is well known for ancient iron smelting and mining. No furnace could be located at the site.

Besides the above discussed sites, there are many other places where, in the course of our exploration, slag was found in small quantities such as at Narayankali, Dwarahat, Baijnath, Chaukhutiya, Bhilkot, Khirmande in Almora district and Channa in Pithoragarh district. Mangal-lekh and Dhyanirau in Naini Tal district are also known for iron smelting and mining in Kumaun (Atkinson 1980: 259-76; Vaishnav 1977: 7). Like Kumaun, there are several well known copper mines viz., Dhanpur, Dhobri, Pokhari, Chaunattiya, Nota, Thala Kharna and Danda, in Garhwal, which were mined during the British rule (Atkinson 1989: 282-86).

4.3 The Bankot Copper Hoard

Bankot village (long. 79°52'E; lat. 29°45'N), tehsil Berinag in Pithoragarh district is situated about 130 km north-west of Pithoragarh town. The area is easily approachable from Almora town via Seraghat. The village is situated on a dolomitic mountain slope running east-west, along the Saryu river.

According to the villagers, at Bankot, in 1989, a hoard of eight anthropomorphic copper

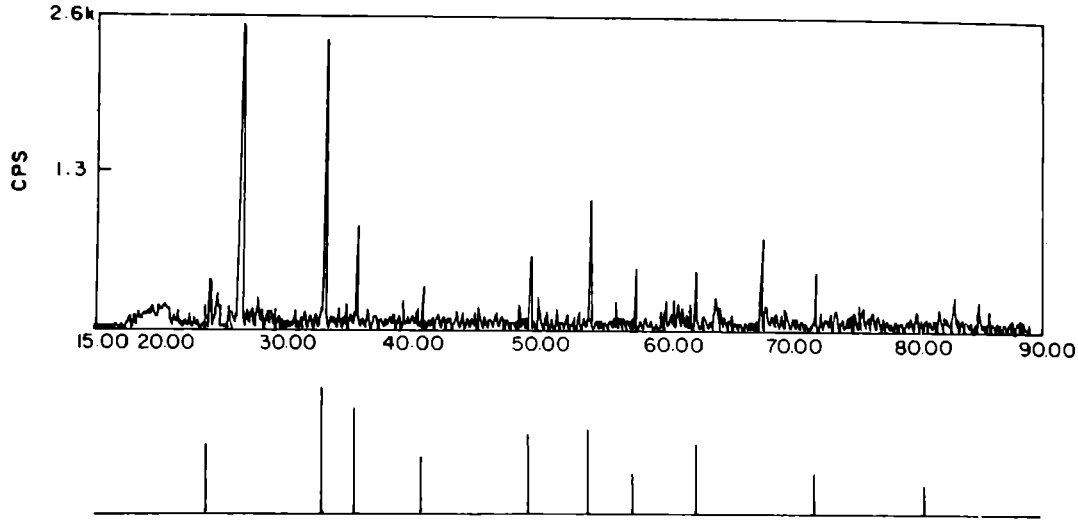

Fig. 4.3 XRD analysis of (haematite) iron ore from Asurchula, Pithoragarh

objects (Plate 4.1) was unearthed while digging a stone quarry close to the Bankot Inter College. Copper anthropomorphs are named so because they look like stylized human figures and in archaeological literature they are generally termed as *"anthropomorphic figures."* At present six anthropomorphs are kept in the custody of Shri Chanchal Singh Bankoti, at Bankot, and one is under treatment and study in the Govind Ballabh Pant Government Museum, Almora for chemical preservation. According to the villagers they were kept one over the other on a tray-like stone slab. Tables 4.2 and 4.3 give their description.

Table 4.2 Dimensions and weight of the Bankot anthropomorphs.

Anthropomorph No.	*1*	*2*	*3*	*4*	*5*	*6*
Breadth including arms (in cm)	30	30	30.5	30	30.5	14
Total height (in cm)	24	23.5	24	15	14	24.5
Thickness (in cm)	1-3	1.5-2	1-3	1.5-2	2-3	2-3
Weight (in kg)	3.30	2.50	3.45	2.15	2.46	2.40

Table 4.3 Presence/absence of metallic lustre on Bankot anthropomorphs

No.	*Face*	*Tenons*
1	obverse	with metallic lustre
	reverse	lustre
2	obverse	with metallic lustre
	reverse	lustre
3	obverse	absent
	reverse	absent
4	obverse	absent
	reverse	absent
5	obverse	absent
	reverse	absent
6	obverse	absent
	reverse	absent
7	obverse	lustre on right hand
	reverse	absent

These anthropomorphs have an oval-shaped head (Plate 4.1) and their arms are spreading horizontally across the body. The lower part of their body is almost flat, slightly widening near the feet. A concave depression is made between the feet. The edges are generally thick and roundish, but in the case of no. 6, both the arms are broken. This was an accidental discovery of a copper hoard in the Kumaun region.

According to local information (*Amar Ujala*, 8th May, 1986: 3) an anthropomorph was found at Haldwani in Naini Tal district similar to the ones reported from the Gangetic valley from time to time (Joshi 1990: 14). Whether it was a local production cannot be said as we could not examine the artifact. Nonetheless it is a significant discovery of the remains of Copper Hoard culture in the foothills of the Kumaun Himalaya.

Apparently, the Bankot copper anthropomorphs are local in character. We do not know why they were placed in a stone quarry and what was their function? It is obvious that they had been buried intentionally. Since there are no traces of mining and smelting activity within 10 km area of Bankot, it can be stated that they were brought to Bankot for some specific purpose.

Kharahi and Rai-Agar, discussed above, could be probable sources for these Bankot anthropomorphs. To prove it, we will have to wait for further work on trace impurity patterns or lead-isotope finger printing.

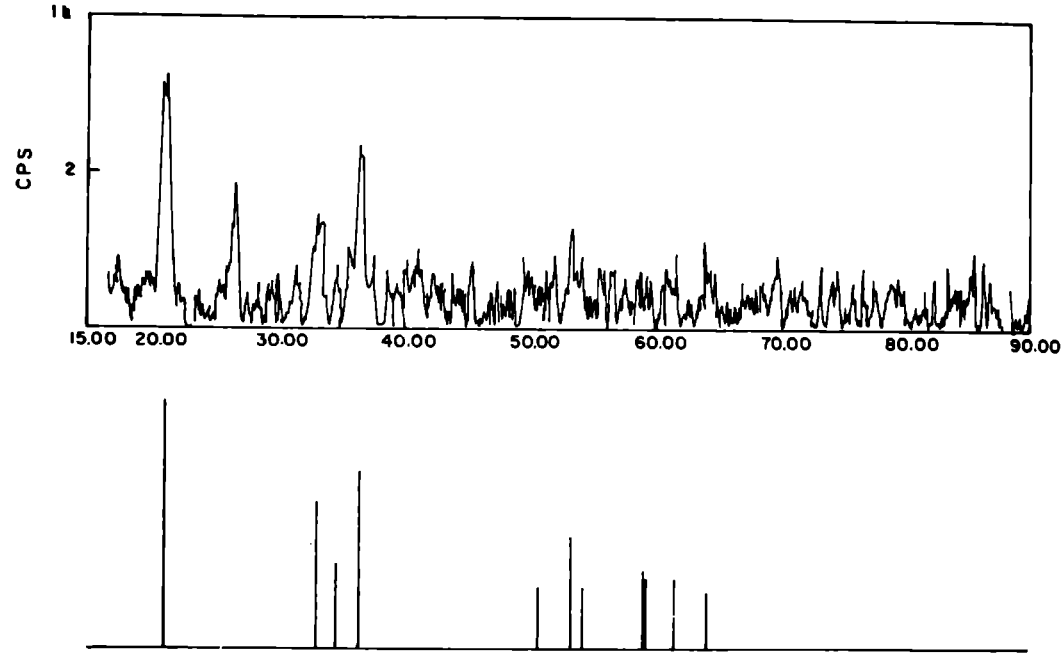

Fig. 4.4 XRD analysis of iron ore (goethite) from Lukhani, Lohaghat

Copper pyrite also occurs near Ganai and Phadyali in *patti* Athgaon at Bujul and Rathayat in *patti* Gangoli. There were small mines at Chinkakali, Beler, Sor and at Kemakhet on the east bank of the Ladhiya river in Kali Kumaun.

Antiquarian sites bearing place-names like Tamakhan, Tamadhauni, Tamadhaun, Agar, Lukhani, Khan-garh (Khano-ki-garh=rivulet of mines) suggest a remote antiquity of copper mining in Uttarakhand, which is also supported by the discovery of large scale copper objects including an approximately 22 feet high brass (?) trident with a girth measuring over 60 cm, datable to 6th century AD (Joshi 1987a: 711, 716). Cunningham (1871: 335) also refers to the mining of copper in this hilly tract.

The British started working in Kumaun to exploit copper, iron and other minerals as early as 1815 AD. They at first established themselves at Khurpatal, Naini Tal district and a building was constructed at Kaladhungi to manage the work properly. In 1862, the North Indian Kumaun Iron Company was established. This company started working at Dehchauri, Ramgarh and Khurpatal on the southern fringes of Kumaun in the Lower or Lesser Himalaya in 1862, 1863, 1864 and 1865 respectively. According to the villagers, by 1884, the British government restricted the mining activity in Kharahi *patti*. However, the people claim that before 1884 they used to pay rupees 4 as tax to the government. In 1942-43, a group of people agitated and urged the government to withdraw the ban imposed on mining in the Kharahi *patti*. During 1952-56 the Khan-garh area was explored for the existence of copper

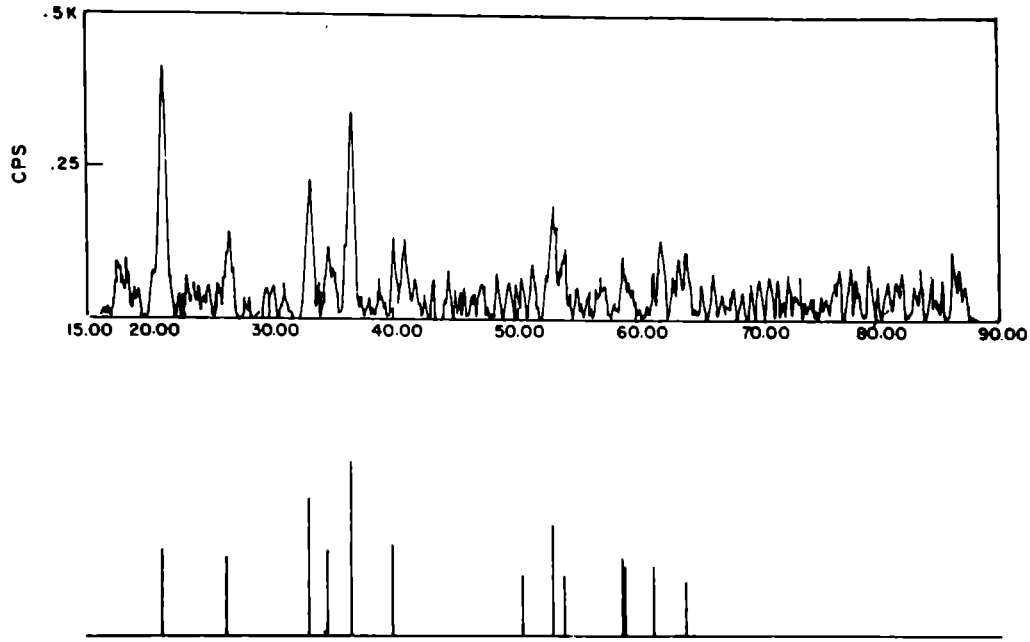

Fig. 4.5 XRD analysis of iron ore (goethite) from Lob near Bageshwar

ore by the Indian government.

The Table 4.4 shows the value of metal, in terms of rupees, that was produced in the last century under the British rule in Kumaun (table after Atkinson 1989: 275):

Table 4.4 Copper and iron production in the last century in Kumaun

Year	*Copper (in Rs.)*	*Iron (in Rs.)*
1848-49	2,274	100
1853-54	1,751	48
1858-59	1,532	—
1863-64	870	120
1868-69	929	67
1872-73	1,429	30
Total	8,785	365

Table 4.4 indicates that perhaps mining was one of the important sources of income of the British rulers in Kumaun, in which traditional smithy and mining techniques were employed.

4.4 Traditional Technology

To collect the ore, people used to hang a large bag on their back by tying its corners around the shoulders. A gallery or passage was cut in the face of the hill wherever the ore was found. These galleries are more like the burrows, than like shafts. The sections were always small in those parts where hardness of the rocks made it difficult to cut a working passage. Atkinson (1989: 267) has also mentioned that, "... the passages are scarcely sufficient to admit a person in a creeping posture." According to the Tamta and Agari people of Kharahi, most mining was done in a creeping posture. While working in such shafts, one companion was always used to guard the entrance.

The Bankot copper anthropomorphs contain 98% copper, 1.22% iron, and a minor impurity of arsenic, according to Pant (1991: 41). After examining these artifacts it appears that they were made in an open, single mould, probably made of stone as their measurements show some uniformity also in the finishing as well. Such mouldings are known worldwide (Tylecote 1962: 108). Their obverse side shows nodules and gas cavities, which suggest that they were made in an open mould, without green poling, and left unfinished. Since there is no copper mine at Bankot, it may be suggested that these anthropomorphs were either manufactured at Kharahi or Rai-Agar and they were being sent to other places for their functional use, but on the way accidentally or purposefully they were buried. The so-called Bankot anthropomorphs could simply be copper ingots as their weights suggest. They are either in the range of 3.4 + 0.1 or 2.4 + 0.1 kg.

Traditionally, to smelt the ore, it is ground to powder and then mixed with fresh cow-dung. Finally it is dried up to take into the furnace or in a big *handi*-like pot, which is made from locally available brown clayey soil and mixing it with the powdered form of quartz or limestone and *bafila* grass. While smelting the ore, the pot is covered with ash. The fuel, which they use, is known as *baget* or *buget*, which is the bark of *Pinus roxburghii*.

The tuyere (*nala*) is also made of locally available brown clayey soil and quartzite or limestone powder. It generally is 30 to 40 cm long, 8 to 10 cm thick, and the diameter is 10 to 15 cm, narrowing at one end. It is made by grinding magnesite stone mixed with clay. They use simple sun-dried tuyeres. Similarly, they make small D'-shaped crucibles to melt the ore. For fuel they use the bark of *Pinus roxburghii*, available in plenty everywhere in the forest. They keep ore in the crucible by covering it all around with ash and finally with the pieces of the bark of *Pinus roxburghii* so that the molten metal does not stick to the crucible. This process is repeated again and again to get a purer variety of metal.

The mining activity does not survive any more; it is probably because of the scarcity of ore and lack of financial support. At present nearly 400 Tamta families in Kharahi *patti* of Almora are involved in coppersmithy. Now, they buy copper sheets from the market and produce a variety of utensils using their traditional skills. Since long, their main market has been restricted to some particular localities in Kumaun, e.g., Bageshwar, Jauljibi, Almora, Thal,

Devidhura. On the occasion of annual fairs, the coppersmiths of Kharahi and Almora, the iron smiths of Lohaghat and other places of Kumaun, come to these places with their utensils and other productions to meet the demand of the Kumaunis. It is also worth noticing that until 1962, the utensils were exported to Tibet and Nepal, as the smiths claim. Even now, at Jauljibi in Pithoragarh district, a large number of Nepalese come to buy the copper utensils in the month of November, when a fair is held.

The ancient Indian iron smiths exploited the locally available ore and fuel resources. They roasted the ore before smelting; the ore was probably crushed into small pieces. Mixed together with charcoal, it was then fed into small clay-lined crucible-shaped shafts of the furnace; excess fuel was heaped to conserve the reducing condition within. The small bloom that separated out was removed from the furnace, heated to redness in an open hearth, and forged on an anvil in front of the hearth. In the forging process, the adhering slag separated out and simultaneously the surface of the metal was carburised and case-hardened. The bloom was beaten into a thin strip of metal and these strips were later forge-welded together to make a thick mass of iron which was further forged into a suitable object (Hegde 1973: 421).

Thus it seems that the technique of smelting ore practised by the ancient smelters has continued until recent times among iron working communities such as the Agaris and Loharias of Central India (Roy 1926, Prasad 1961), as also by the Kumauni smiths. The method of manufacturing tools and implements practised by the ancient Indian blacksmiths still continues today.

At present, the Tamta people are considered to be of Scheduled Caste in Kumaun. It seems that they were named *Tamta* after their occupation. Blunt (1969: 142) writes, "... the Tamta corresponds to the Kasera of the Plains." However, they claim that originally they were Hindu Rajputs by caste. Shri Manoharlal Tamta (age 68, Tamta Mohalla, Almora), recounts the names of his five ancestors, i.e., Keshar Singh > Priyod Singh > Jeeva Singh > Gauri Shankar Singh > Mathura Prasad > Manohar Lal Tamta. It is claimed that: (1) Shri Nain Ram Tamta and Shri Ghansyam Tamta, Village Bhatkhola, Tehsil Bageshwar were initially Tewari (Hindu Brahmins). Since they adopted the occupation of coppersmithy, they have come to be called Tamta. (2) Garhiya people of Ghingarkhola, Tehsil Bageshwar, were initially Hindu Rajputs, but after adopting the same occupation they became Tamta. There are several similar examples.

Two important customs were noticed among the Tamta people, i.e., (1) they offer worship to their tools on the occasion of Dashera; and (2) new smelting was undertaken only after cooking a sweet dish (*halwa*) and distributing it among their workers. People claim that both these traditions have been borrowed from Rajasthan.

Agrawal (1971: 203) held the view that the forefathers of the Dom people of Kumaun could be the original stock of Copper Hoard culture people. The Tamta people of Kumaun recount that before their ancestors immigrated to this region, the Agari people were initially involved in mining and smelting over here. This fact supports Agrawal's view. Only further excavations and ethnographic study in this area may provide a proof.

Thus, there has been a long tradition of mining and smelting in the Kumaun area, which

was also recorded in the last century. The exciting new data, discussed in this chapter, challenge us to work for future undertaking of horizontal excavations at quite a few old workings in Kumaun. The radiocarbon date going back to the early first millennium BC is equally interesting, but it needs to be supported by some more dates. Future work in this direction may help us in various ways to trace the connection between the Central Himalayan region and Western and Central Asia, to understand the metal technological development in the hilly tract. Now there is a distinct possibility of Kumaun being the possible source of iron for the PGW people of the Gangetic doab; or the PGW people themselves came through Kumaun. Considering the extensive ancient mining and smelting activity, it may be postulated that, possibly the Kumaun area was one of the important sources of copper and iron for the Gangetic doab people during the protohistoric times.

CHAPTER 5

TRIBES, FOLK CULTURE AND LANGUAGE

5.1 Preamble

The Himalayan ranges in the north surround Kumaun and make it appear to be a totally isolated region. There are, however, chinks in the Greater and Trans-Himalayan armour, through which one can cross over to Tibet, China and Nepal. In fact, Kumaun was not a totally insulated *cul-de-sac* zone, migrants did enter both from north and south since time immemorial. Those who came once after the arduous journeys to this region, stayed for good and left their imprints on the cultural mosaic. To understand the Kumauni culture which is like mini-India, we need to identify different cultural streams that have shaped the Kumauni culture. Ethnographic study gives us the clues to the various tribes and people that came here in the past.

This chapter begins with a brief account of the role of ethnoarchaeological studies in India (section 5.2), followed by a discussion of different ethnic stocks (section 5.3) which immigrated to Kumaun. After this, folklore (section 5.4) is discussed which is an equally important source to unravel the past of a region and the people. It provides interesting clues for multidisciplinary work in this region. We also look at the modern Kumauni folk literature and language (section 5.4) in search of the residues of the dialects spoken by the earlier migrants.

5.2 Ethnoarchaeological Studies

Haimendorf's (1948: 87) work drew attention of scholars to the immense scope of ethnographic studies wherein he mentions, "It is a phenomenon peculiar to India that throughout the great civilizations have risen without obliterating or absorbing all that has gone before; the elder, more static cultures gave way not by disintegrating, but by seeking refuge in remote areas uncongenial to civilizations based on an advance agricultural economy. There can be no doubt that the so-called aboriginals inhabiting such refuge areas represent comparatively old and primitive culture types." A large number of scholars have contributed to ethnoarchaeological studies in India. Allchins' (1983) work on place names and folk religion to understand the problems of ashmounds is one of the pioneering example. Nagar (1966) carried out survey of the Bhils of Rajasthan and interpreted the data of Ahar excavations, a Chalcolithic site. On the basis of ethnographic parallels, Paddayya (1982) reconstructed the subsistence and settlement pattern of hunter-gatherers of the Hunsgi valley, Gulbarga district of Karnataka.

Other scholars who have also attempted this type of studies include Murty (1981, 1985), Raju (1988), Shinde (1984), Dhavalikar (1983), Nagar and Misra (1990), Misra (1990) and Cooper (1983).

Taking into account the various ethnic stocks and groups, Atkinson (1989) attempted to weave the history of Kumaun. Oakley (1905; 1917) and Gairola and Barker (1917) have also worked on the folklore of the area. Joshi (1929), Srivastava (1952-53) and Majoomdar (1958: 142-60) have studied the Khasas of the Central Himalaya. Berreman (1963) worked on ethnography of the village Sirkhand in Garhwal Himalaya. A recent study, focused on the goddess Nanda, has been carried out by Sax (1991). He interpreted the data of folklore and archaeological remains to reconstruct the religious history, related to Nandadevi, of the Central Himalaya. These studies have laid the basis of ethnographic work in the area.

Besides ethnographic origins, population distribution in the mountainous region is determined to a great extent by its climate and topography. The high mountain regions are not suitable for agriculture or any other settled economy, because the people have to move from higher regions to lower ones during the winter, and move back during the summer.

5.3 Tribes and Ethnic Stocks

A large number of tribes came into Kumaun through the millennia. We discuss the important ones below.

Aryans

Atkinson (1981: 277) has cited Benfey and Weber saying that the migration of Aryan stock took place in India through the region of Kumaun. However, Shafer (1954: 43) traced the migration route of the Aryans differently and says, "Their homeland was within the Meru lake, i.e., Mansarovara region. They were probably pushed out of there by some more powerful people. Some migrated north-west down the upper Indus and then drove on into Iran, but left some behind as the Sakas, Kambojas, Pahlavas and perhaps some Sogdins, the Dardic Kasmiras and some of the Khasas (some having been left behind in the Himalayas of Nepal and Kumaun). Some of the Indo-Aryans may have followed this route and remained behind in the north-west, but there is little to indicate it."

Khasas

The most important ethnic group is known as *Khasas*. Perhaps Atkinson (1981: 439) was the first to mention a Khasa migration in the Central Himalaya from northern regions. It is also stated that the Khasas occupied the entire Himalayan belt from Kashgar, Kashmir to Khasi hills beyond Assam (Pandey 1937: 542) and the Central Himalayan region became popular as Khasa Desh (Vaishnav 1977: 21). The Khasas are said to be of Aryan stock and most of the scholars believe the theory of Khasa occupation of Kumaun-Garhwal.

Our literary sources (for example, the Brahmanic *Puranas*, the *Mahabharata*) and other texts bear references to Khasas. Quoting from *Vishnu Purana*, Atkinson (1981: 299) writes that, "Khasa was the daughter of Daksa, wife of Kasyapa and mother of Yaksha and a Rakshasa" A similar reference is cited from *Mahabharata*, where the Khasas, along with the Pahlavas, the Paradas?, the Chinas, the Hunas, the Pulindas etc. are stated to have been created by *Nandini*, a sacred cow of sage Vasistha (Pandey 1937: 553). This reference seems

to be purely of mythological character. Majoomdar (1958: 143) notes that the Khasa people were mentioned by Herodotus and in *Mahabharata*, "... amongst the northern tribes who brought presents to Yudhisthira and among them were presents of *piplika* gold so-called because it was collected by ants (piplikas)." Another reference of *Mahabharata* (Joshi 1990: 195) locates them in the extreme north India, perhaps with the Sakas, Daradas, Tanganas and Trigartas in the Central Himalayan region. This probably indicates the trade in gold dust with Tibet was carried out by the Khasas who were dwelling in the higher elevation between Kumaun and Tibet.

The other verses of the *Mahabharata*, for example, Sabha Parva, Udyog Parva, Karna Parva, Dron Parva seem to be equally interesting as the Khasas find mention along with Lampakas, Kulindas, Daradas, Tanganas, Sakas, Ambasthas, Tukharas, Yavanas, Darvas, Abhiras and Ramathas (Joshi 1990: 195). He further writes that, "This list clearly suggests a geographical order in which we find the Tanganas and the Khasas located somewhere in the borders of present Himachal Pradesh and Garhwal."

Majoomdar, however, (1958: 143) writes, "The Khasas are either Rajput or Brahmins.... Although the Khasas are tribal people in India, they belong either to the Proto-Australoid or the Mongoloid racial stock. The Khasas even if they have been diluted in blood by mixture with the Mongoloids of the Upper Himalaya or with the Doms of the lower region, belong to the Mediterranean stock and some among them represent the true Mediterranean features." Atkinson (1981: 380), however, emphasizes, "In physiognomy and form (they) are purely an Aryan race as any in the plains of northern India." He also refuted the view of some earlier writers that Khasas of Kumaun are people of mixed Tibetan and Indian race. Elsewhere he (1981:379) writes, "Khasas were very powerful race like Nagas who came at a very early period from that 'officina gentium' Central Asia and have left their name in Kashmir and recognizable colonies at the present day in the hills from Kashmir to Nepal and in various parts of the plains and that the Khasiyas of Kumaun are of the same race". Nautiyal endorses this view: "The Khasas seem to have left their homeland in Central Asia due to some unknown economic upsurge or probably due to overgrowth of population sometime around the 2nd millennium BC" (Nautiyal and Khanduri 1986: 78).

In fact, there are many Katyuri inscriptions, which do mention Khasas along with the Kirata, the Dravida, the Andhra, the Gaura, the Huna, the Meda and the Chandela (Kielhorn 1896: 179; Sircar 1955-56: 280,87,94). An inscription of Sahanpal from Bodhgaya belonging to 12th century AD mentions Ashokchalla, a Dulu ruler of western Nepal, as the overlord of the Khasa country in Sapadalaksha mountains, which perhaps suggests the Khasa origin of the hill people. Sankrityayan (1958: 30-31) tried to strengthen the theory of Khasa expansion in the Himalayas with his observations on some old graves in Ladakh, Lahul, Chamba, Kannaur, Dwarahat, Bageshwar and Baijnath, which he regarded to be of Khasas; he did not date these graves. This may identify the cist burials with Khasas. Nautiyal also realizes that, "The period of Khasas in India particularly in the Kumaun region cannot be in any way recorded with precision. Whatever has been written about them is based more on conjectures worked out from references of Greek writers and on the testimonies of Puranic literature. One notable feature, however, is quite significant that the Khasas as a whole

emerging out as a powerful tribe, played a very interesting role in the later history of Kumaun." Similarly, Joshi (1929: 18) also writes, "In the Himalayan districts there is practically no historical evidence of Khasa immigration and it cannot be said when they came to occupy these hills. It is clear, however, that they came from outside and subjugated the dark aborigines (the Doms)."

In sum, the Khasas, who were perhaps of Central Asian origin, came to India through north-west, like the Sakas and the Kusanas. At the time of their movement they might have scattered over almost all over the hilly regions of northern India, i.e. Kashgar, Kashmir, Kangra, Kumaun, Kulu, Nepal, even up to Tibet. Though in strength, sensitivity and numbers they might have been stronger than other groups, but they were probably only a nomadic-pastoral tribe. In the course of time, the social peculiarities of the Khasas were more or less dissolved in the larger society of the hills (Joshi 1929; Chatak 1973; Bhatt 1981: 87).

The characteristics of this tribe have remarkably been observed among the Khasas of Jaunsar and Bawar area of Garhwal (Dabral n.d. :59; Majoomdar 1958: 142). Some of the people of Jaunsar-Bawar are still known as Khasas and they represent their culture. Their physical features and build even now suggest that they had affinity with the Aryans. These people practise a polyandrous custom (Majoomdar and Anand 1957; Sen 1957) which in some different form is also traceable among the Jadh and Darmi Bhotiyas (Srivastava 1952-53: 190-203).

Kiratas

The Kiratas were one of the earliest nomad-pastoral Mongoloid ethnic group in these hills (Pathak 1988: 100). They perhaps migrated to this region from eastern China (Chaturjya 1954: 322). Atkinson (1981: 363) however thinks that, "The Nagas, Kiratas and the Khasas entered India by the same route as the Aryans, and the Kiratas were first to arrive." There are various literary sources, i.e., *Mahabharata, Vishnu Purana* and *Varah Samhita,* which refer to Kiratas (Atkinson 1981: 357) and place them around the sources of Ganga and Yamuna rivers. Bhil Kiratas, Nagas, Partanganas, Tanganas and Kinnars are stated to be sub-groups of Kiratas (Pathak 1988). The residue of the Munda language has been observed in the dialect spoken by Kiratas (Grierson 1968 [1916]).

Doms

The Kols are said to be the first ethnic group of Kumaun which had descended from the Munda group. It is related to Negrito-Palaeo-Mediterranean and Proto-Australoid ethnic sub-groups (Majoomdar and Pushalkar 1952: 565). They represent the aborigines of Kumaun. During the protohistoric period they were trounced by the Dravidians of the Indus valley and were driven either to the Deccan plateau or to the Himalaya (Grierson 1967: 32; Pathak 1988). Doms (*silpakar*) are perhaps the modern representatives of the Kols (Atkinson 1981: 370), who today occupy the lowest rung in the hierarchical status in the Kumauni society and are now considered as Scheduled Caste. According to their own tradition they were drummers of Siva, when he set up his residence in the Himalayas. They also "claim to have been in the country before either the Khasiya or immigrants from the plains were known" (Oakley 1905: 42). The Kols spoke a Munda dialect, whose traces were noticed by Grierson (1968: 108).

Sakas

The Sakas are known as a race of Scythia, of Central Asian origin, by Ptolemy (Atkinson 1981: 383). *Mahabharata* and *Vayupurana* mention several references and locate them at different places in northern India, i.e, Tirhut (Bihar), Paropnishad (west of Sindhu) and at Tushraj (Pandey 1937: 525). In the Puranic literature they find a place among the royal races (Atkinson 1981: 383). Their immigration to northern India has also been recorded by Panini in his *Asthadhyayi* in the 5th century BC (Agrawal 1953). However, the existence of Sakas and Yavanas, from Shakistan (Iran), has been observed in the Central Himalayan region from the 3rd-2nd century BC (Dabral 1968: 450). Though there is no archaeological evidence of this period belonging to the Sakas as such, the Sakas and Khasas are described as two streams of a cognate ethnic group (Sankrityayan 1958: 32). Initially the pastoral Sakas lived near Kashgar and Khashgiri and were driven towards south by the Chinese, who call them Sauk, by about 3rd-2nd century BC (Pandey 1937: 526). Perhaps some of them entered Kumaun-Garhwal through Tibet via the northern passes (Agrawal 1982: 6). Atkinson (1981: 383) writes that, "The Sun god was the favourite deity of the Indo-Scythians." A large number of Sun images with boots and Sun temples have been found at several places in Kumaun, for example, at Bel, Pathai, Pamda, Ramkaditya, Sui, Bisar in Pithoragarh district, Bageshwar, Baijnath, Katarmal near Baijnath, Dangoli, Kanera, Bayala, Jageshvar, Silormahadev, Syunarakot, Malli Mirai, Rataura, Devnai, Katarmal, Bamansuyal, Gunaditya, Adityathan, Pavanesvar, Badrinath Dham, Sukeshvar in Almora district in Kumaun and Lakhamandal, Ukhimath, Urgam, Bharatmandir, Gopeshvar, Palethi, Joshimath, in Garhwal. This widespread sun-worship indicates the Saka-Scythian influence (Sankrityayan 1958: 33; Agrawal 1982: 6).

It is believed that the worship of the Sun-god was popularized by the Mag (Saka-Scythian) *Brahmans* of Iran. Here it may be stated that the reason of popularity of Sun-cult in the hills may easily have been spread due to the fact that in the cold climate of the hills, the sun brings warmth and light. The Sun icons in Kumaun hills have been executed in *udichyavesa* (northerners' dress) (Banerjea 1974: 437) which is said to have been popularized by the Kusanas (Coomarswamy 1965: 66). The Sun is shown with boots, coat of mail and a sort of crown. The Katarmal temple is dedicated to Lord Surya, where a symbolic representation of Sun-god in the form of a stone disc is shown (Joshi 1986: 203) which may indicate the pre-anthropomorphic stage of Sun worship (Banerjea 1974: 438). A few images have been placed in Baijnath godown, which perhaps represent the early features of the Sun images. However, a large number of Surya, Rewant and Surya with *navgrahas* images have been found in this region belonging to a period between 7th and 12th centuries AD and in subsequent centuries too.

In the 1960s, a few burials were discovered at Malari village 3,500 m above MSL in Chamoli district (Dabral 1968: 223-35), which he connects with the Sakas. The popularity of the Sakas is also widely supported by the epigraphic evidence as most of the inscriptions belonging to medieval and earlier periods use the Saka era.

Kusanas

It is believed that the Kusanas were responsible for the subjugation of different ruling powers in the Himalayas (Sircar 1960: 159). The coins of Kusana kings Huviska and Vasudeva,

structural remains and pottery from different excavations and explorations at Ranihat, Mordhwaj (Garhwal), Kashipur (Kumaun) and Bibhandeshwar (Almora) show their influence. Their influence has been also observed on the Kuninda coins, found from Kumaun-Garhwal and the adjoining areas.

The Kusanas are said to have popularized the Sun worship (Coomarswamy 1965) in the hills as a large number of Sun temples and icons are found in the hills. Not only this, Buddhist stupas at Nala (in Garhwal) and in the Tarai (Kumaun) have also been found belonging to the Kusanas. The Saka-Kusanas are said to have introduced shirt, trouser, coat, belt, boot and shoes in the hills as well as the plains of India (Vaishnav 1977: 111). Elsewhere Vaishnav (1989: 40) writes, "Goddess Naina was depicted on Kusana king Kaniska's coins. Goddess Naina (or Nanda) is a very popular deity among the Kumauni folks." The Kusanas spoke the Tukhari language which "was a branch of the Scythian tongue and was connected with the Kentum family of Indo-European languages" (Sankrityayan 1964: 99).

Hunas

The Hunas are also stated to have occupied the hills along with the Khasas and other races (Atkinson 1981: 369). It is, however, well known that the Hunas were trounced by Skandagupta (AD 455-67) from the western boundary of his kingdom (Sircar 1960: 159). Of course, they are mentioned in the Katyuri copperplate inscriptions belonging to the 9th-10th centuries AD. Their presence in the earlier periods in the hills is however doubtful. It is interesting to note that western Tibet is known as Hun *desh* (country) in the Kumauni folk-tales and the people of Tibet are called Huniyas. Sometimes the people of Darma valley in Pithoragarh district are also called Huniyas or Lamas, belonging to the Buddhist cult. The Huniyas were pastoral nomads of Central Asia, whose descendants are said to be the Turks and Mongols (Sankrityayan 1964: 16).

Raji-Raut

The Raji-Raut are locally known as Ban-Raut (Pandey 1937: 516). Their main concentration is found in an isolated area (about 70 km) between Chhiplakot and Dhamadhura mountain ranges. They live in nine villages, i.e., Kimakhola, Bhaktirwa, Ganagaon, Chiphaltara of Dharchula tehsil, Kuta Chaurani, Kuta Kanyal, Kantoli (Jamtari), Altari of Didihat tehsil and Khirdwari of Champawat tehsil in Pithoragarh district. These villages are located in north-north-east of Kumaun, the region falling under the higher reaches of Lesser Himalayan zone, 800-1800 m AMSL. The area is highly rugged and inaccessible. Atkinson (1981: 366) described them as a small tribe who "live under temporary huts, frequently moving from place to place amidst the jungles of Chhipula, their principal subsistence being certain edible sort of wild plants and what game they could catch."

The Rajis now claim that they are of Hindu origin. They trace their descent from the royal family of Askot. According to a myth, common among them, when the world began there were two Rajput brothers, of whom the elder was a hunter and lived in the jungles. He was the ancestor of the modern Rajis. The younger one cultivated the land and ruled over the people. His descendants are the Pals of Askot in Pithoragarh district. On the other hand, the Pals of Askot claim to be descended from the kings.

Most of these Rajis are cut off from the dynamics of the modern civilization. The Rajis were originally the food-gatherers of Katyur (Oakley 1990 [1905]: 101). It is claimed that they once ruled over the entire Kumaun-Garhwal and its adjoining areas during the early medieval period.

The Rajis originally used to live in natural caves, but at present they make small wooden huts, which are locally known as *Chhani*. Most of these Rajis are far off from civilization. Earlier, the Rajis were moving as food-gatherers in a wider territory which they claim to be theirs. The facial and bodily features of Rajis bear resemblance to Mongoloids. Mostly they are slim and the general appearance of their face is hairless. They are said to be the aboriginal people of the hills.

The Raji society is patriarchal, but it is said that the woman of the family is the actual chief. In case a woman becomes a widow, she lives with the younger brother of her husband.

Bhotiyas

The northernmost part of Uttarakhand (Kumaun-Garhwal) is also known as the Bhot region (Atkinson 1981: 368) and comprises sub-Alpine and Alpine zones bordering Tibet. The celebrated peaks, Trishul (7,160 m), Nandakot (6,850 m) and Panchachuli (6,910 m), demarcate the northern border of Kumaun. The Bhotiyas inhabit these valleys. They are a semi-Mongoloid people of Tibetan origin (Fuchs 1982: 94). The main concentration of Bhotiyas is in Mana on the Kishanganga and Niti on the western Dhauliganga in Chamoli district; and in Johar on the Gori, Darma on the Eastern Dhauliganga and Byans on the Kali in Pithoragarh district. Nilang and Jadhang in Uttarkashi district form the home of the Jadhs. The people in Darma (around Dharchula) are mostly confined to the river valleys as the climatic conditions of Johar and Darma are similar. Broadly speaking, the Bhotiyas are residing either in the high mountain ranges, which remain snow covered for about five months, or the lower mountain ranges with rich flora and ample rainfall and the river valleys.

The Bhotiyas are known as Shauka in Johar, Darma and Byans (Pithoragarh district), Marchha in Niti and Mana (Chamoli district) and Jadh in Uttarkashi district. "The term Bhotiya is itself confusing because it is used for an ethnic group of Sikkim and Darjeeling, as well as the inhabitants of Bhutan" (Bhandari 1981). The term *Bhot* is said to be a corrupt form of *Bod*, which means "follower of Buddhism" (Srivastava 1952-53). At present, the Bhotiyas of this region have no connection with the other communities in the Eastern Himalaya. The Johar valley is located in Munsyari subdivision while the other three are in Dharchula. The Bhotiyas are known after the valleys they inhabit, for example, Joharis, Darmis, Byansis and Chaudansis. Bhotiyas are lovers of music and wine. Till recently the boys and girls of Darma, Byans and Chaudans used to drink, dance and sing together throughout the night. This custom or social institution, is known as Rang Bang or Rambang or Rang Bhang or Khel. It was a kind of club found in every village. All the unmarried boys and girls were admitted, also married women who had not yet become mothers. The meetings were held in a house or on a level spot in the open air. The participants used to pass the nights singing, dancing, eating, drinking and smoking around a fire. The Rangbang was also a place for courting and match-making, and occasionally, for love-making. Their boys as well as girls were free

to choose their partners and/or engage in love-making without marriage.

Gorkhas

The Gorkhas were natives of Nepal. The weakness of Kumaun and Garhwal principalities was exposed to the Gorkhas, who emerged in Nepal during mid-18th century (Sinha 1990) and subjugated Kumaun and Garhwal in 1790 and 1804 AD respectively (Sankrityayan 1958: 114). Their tyrannical and oppressive rule could not last for more than twenty-five years, and they were thrown out by the British in 1815 (Atkinson 1981: 607).

After the annihilation of the Gorkhas, the Kumauni society was exposed to the British. A few Gorkhas settled in different interior pockets of Kumaun region and entered into marital relations with the Kumaunis. The Gorkhas of Kumaun profess to be Hindus.

Tharus and Boxas

On the southern part of the Kumaun region, the Tharus (nearly 3,8000 in 1941) inhabit the Tarai-Bhabar region (Atkinson 1981: 371). But at present they have abandoned their tribal culture and are now considered a backward Hindu caste. They claim to be the offspring of Rajput women who fled from Chittorgarh (Rajasthan) and sought refuge in these regions. They married local men whom they still dominate. Agriculture is their main occupation, and they have developed a primitive system of irrigation by damming hill streams. They supplement their livelihood by rearing buffaloes and cattle, pigs, goats, fowls and by hunting and fishing. They used to be employed as mahouts for elephants in the forest areas. They now imitate the Hindus in all their religious ceremonies and worship the Hindu gods. But they also worship Banaspati Mata, the dreaded mother goddess of the forest. Crooke (1907: 231) writes, "Banaspati Ma, `the mistress of the wood' whose shrine is usually a heap of stones and branches of trees to which every passerby contributes an offering...it is believed that she protects them and their cattle from beasts of prey." The Tharus are much feared by the people for their alleged knowledge of magic, but they themselves, on the other hand, are very fearful of the spirits lurking in the jungle.

They cultivate their fields by very primitive methods and grow paddy, millet, wheat, gram, barley, and mustard. They grow vegetables in their kitchen gardens. They keep cattle and buffaloes, pigs, goat or sheep. Their animals are of poor quality.

The Bhokshas live in nuclear families, have patrilocal residence, practise monogamy and pay bride-price. They live in small villages of fifty to three hundred inhabitants. Their huts in the village are aligned in a single compact row, which, by tradition, extends in a north-south, and never in an east-west, direction.

Nath Community

The Nath community bury their dead instead of cremating them in a Hindu manner. Early references about them come from the works of H.R. Carnac (1877), E.T. Atkinson (1981: 862-66), E.S. Oakley (1905: 160) and B.D. Pandey (1937: 630-32). They are scattered all over Kumaun and live in small villages near the Siva or Bhairava shrines. The Gusain (Goswami) people of this community are associated with Sankaracharya; however, the *Kanphata jogis* (saints) are said to have immigrated from the Rann of Kutch. The latter follow the *Tantrik* sect.

To bury their dead they dig a squarish stone grave generally capped by a large stone slab. Beneath the capstone, a smaller hole is left for air. In some cases, the capstone is supported by two orthostats and between them a lamp is placed for a couple of days after burying the dead and even on special occasions. Sometimes the stone slab bears carvings of *yoni or pith* and in the case of male burial a Siva *linga* is placed on the carving. Before burying their dead, the grave is purified through *mantras* and *puja*. Along with the dead body, cooked food, water and gold are placed in the burial. The dead body is buried in a sitting posture, facing towards the north. In the case of a child or a person who did not have the *yajnopavita sanskara*, it is buried without performing *puja* or other ritualistic activities.

At Dangoli and Chandeshvar, the Nath community people strongly believe that the tradition of disposing of their dead in this fashion is practised since time immemorial. And there are many more burials underneath the present ones seen on the surface.

5.4 Folk Culture

The folkculture of the area bears immense scope for further work in the region. The *jagars* (traditional songs), sung generally by the Dom or Scheduled Caste people of Kumaun, throw light on various aspects of the past of the regional ruling dynasties, i.e., the Katyuris and Chandas. Folkculture indirectly helps in archaeological interpretation. Folkculture also attests to the Assyrian immigration as well as their short spell of rule over the Kali Kumaun area. Besides, it is interesting that places like Lukhani, Asurchula, and Banasur fort have yielded ancient mining evidence and these are connected with the Asuras or Assyrians. The Asuras elsewhere in India are also well known for their traditional metallurgical skills (Roy 1926: 147-50).

Jagar

Jagar is a state of seance in which a designated deity(ies) is induced to take possession of a person by ritual drumming and singing of traditional songs or legends belonging to the village deity(ies). The *Jagar* is usually sung by the *Jagariya*, belonging to Scheduled Caste (Dom), who learns the legends and other details about the deities from his *gurus*. To become a professional *Jagariya* requires years of preparation, and those who want to become *Jagariyas* learn by going to as many *Jagars* as they can. By listening to the stories told and retold, they gradually commit them to memory. A *Jagariya* must also know how to play the drum (*dhol* and *hurka*), which he uses while singing. The *Jagariya* induces the spirit to possess a person who is a known devotee and thus becomes a medium of the deity. Such a person is called a *dangariya*. The *Jagars* are usually sponsored or organized either to get rid off illness or to receive the blessings of the deity. There are no caste restrictions to become a *dangariya* or a *Jagariya*. As such, they are invariably found in Kumauni hamlets and enjoy respect.

The *Jagar* and folk-tales reveal immense information about the historical personalities, who ruled in this region once and were very respectable for their heroic deeds. Perhaps some of them are still admired by the society. A number of *Jagars* and folk-tales, belonging to the Katyuri dynasty, are very common (Joshi 1971), for example, Maharani Jiya, Raja Dhamdev, Raja Biramdev, Malushahi (a romantic love story of the hills) (Misra 1936: 23-54), which are sung in villages on the occasion of local fairs known as *makarsakranti (uttaraini)*

and *vishvatsankranti (bikhauti)*. The *Jagars* of Nanda, Haru, Saim, Airy, Golu, Ganganath, Churmal, Bholanath and Kalbisht are not only popular, but they also have been enshrined as village deities at different places.

Asuras

According to some scholars, the Asuras, mentioned in the *Old Testament*, are the Assyrian people, who have also been called by the same name in ancient Indian literature (Vaishnav 1970: 78-87). "Asur emerges as the city of the Assyrians, rather than `the country' and the people of Assyria in the remotest past" (Banerjee-Sastri 1926: 111-12). Their country and capital as well as god's name was Asur, who was shown by a peculiar symbol of a winged disc (Banerjee-Sastri *ibid*). We learn from the Vedic literature (*Rgveda*) and *Puranas (Harivamsa Purana* and *Vayupurana*) that Asura was a highly worshipped god along with Indra and Varuna for sovereignty, universal monarchy and astronomy (Banerjee-Sastri 1926: 110-39), but with the passage of time the Aryans relegated him to a distinctly inferior position and several other names were given to him, for example, *Danava, Daitya* (Roy 1926: 147-52).

Roy says that the Asuras "were none other than the ancestors of the existing aboriginal tribes of Northern and Central India, the Munda speaking tribes of Chota Nagpur, Orissa, Central India and the Central Provinces, the Bhils and allied tribes of western India" (1926: 147-52).

The modern Asura tribe consists of three sub-groups, i.e., Bir (Kol), Birjia and Agaria. Asuras still dwell in the hills of Netarhat (Prasad 1961: 216-20). These Asuras, belonging to the Munda group, have traditionally been iron smelters. They claim descent from the ancient Asuras and their main occupation is iron smelting. Roy (1926: 150) writes that, "The present day Asuras constitute a tribe of the same stock as the Mundas. But so far as the ancient race of Asuras is concerned, the Munda tradition indicates that the ancient Asuras belong to a different ethnic stock and different culture. The tribal name of Asura would appear to have been given or adopted by the present day Asura tribe on account of their following the occupation of iron smelting which according to tradition, was introduced into Chotanagpur by ancient people of superior culture known as Asuras."

It is interesting that the Kumaun area is also associated with early iron technology, of which there are ample remains. The Agaris (Doms=Kols) of Kumaun have been involved in iron mining and smelting from time immemorial. Perhaps the Asuras of Central India, Bihar, Orissa and Kumaun belonged to the same stock. Interestingly, the local names like Lohaghat, Lukhani, Lohawati, etc. have been interpreted both on account of early iron metallurgy (Loha) and blood (Lohit) shed during battles between Krishna's and Banasur's armies. The legend and myth indicate that early man did make scientific, geological, historical observations and passed them on to the progeny in the form of myths of the past. For example, the geological events in Kashmir of the formation of the primeval lake, and its draining out, the braiding of the Sutlej into several channels and the marine regression of 20,000 BP are all recorded in the form of various legends given in the *Rajatarangini, Nilmat Purana* and other ancient works (Agrawal 1990: 41).

Kingdom of Arun

Modern Baijnath (29°55'N; 79°37'E) and the area around it are known as the Katyur valley in Almora district. The valley is surrounded by the Kausani hill range on the north-west and the Gwaldam mountain range on the north-east. It is one of the most fertile valleys of the Kumaun region, drained by the river Gomati and its tributaries. According to a legend, in ancient times there was a large lake created by a demon. The lake is said to have extended upto village Ana, which is located north-east of the Baijnath temple group at a height of about 1,450 m AMSL. The demon (*daitya*) is known as Arun *daitya*, who used to kill people for his food. The Thayat (modern inhabitants) of the Katyur valley claim that their ancestors killed the demon and then finally the Katyuri king (?) broke the lake at Haridwarchina (3 km south-east of Baijnath) to drain out the water and then the valley was inhabited.

There is a temple made in the Indo-Aryan style at Hat village in Baijnath, which is known as *Rakshas deul*. The temple's ceiling (portico part) consists of some human and animal sculptures. They look as if they seem to represent demons, who according to the legend were killed either by the Katyuri or the aforesaid people. It is said that the heads of demons were then presented to Lord Siva (Mishra 1935: 73). On the basis of sculptural characteristics, the temple has been assigned to the 12th century AD. The name of *Banesvar* shrine in Baijnath also suggests some kind of connection with the aforesaid tradition. Both are dedicated to Lord Siva. As the area has also yielded remains of the Megalithic culture, which goes far back in time, it cannot be accepted that there was any lake during the Katyuri period. However, it is possible that there might have been a primeval lake in the area created by the blocking of the river Gomati due to landslides or other tectonic activity.

It may be possible that the legend of Arun *daitya* may have some connection with Asur people, who have been described. This folk-tale may lead us towards the discovery of an ancient lake which may yield ample data to reconstruct the palaeoenvironment of these hills, as has been done elsewhere (Agrawal 1990: 41-42).

Fort Of Banasura (Plate 5.1)

In Kumaun there is an ancient fort locally known as *Banasur Ka Quila* (Pandey 1937: 14; Bhatt 1986: 11), which is located 5 km west of Lohaghat town (lat. 29°24'2"N, long. 80°7'53"E), in Pithoragarh district. The fort is built on a terrace-like plateau (1,910 m MSL) which has natural rock protuberances. The fort is about 90 m long (north-south), about 20 m wide (east-west) and its total circumference is about 230 m. It has been constructed in three phases and its total height was 8.70 m, including the lowermost phase of 4 m, the second phase of 2.25 m and the third phase (topmost) of 2.45 m height. They have made use of the natural rock and also mud filling. The lower part of the rampart has the base of natural rock and of mud fillings. At the four main corners of the fort, four podia with convex profile have been made by this technique up to the height of 6.25 m. The podium tapers conically towards the top and is capped by a smaller podium of 2.45 m. The second podium is built of better dressed stones than the lower part of the podium (4 m). The top of the fortification has been done in ashlar masonry, of much larger stones following the contours of the hill which basically determines the shape of the fortification. All around the

rampart walls, there are 86 large holes with very steep gradients which preclude their use for canons or guns or even arrows. Their large opening probably indicates their use for throwing boiling water, or oil or fire on the enemy outside.

The floor of the rampart is marked by many squarish structures, with a tank in the centre. The trapezoidal tank has the following dimensions: length 13.05 to 13.3 m and width 5.1 to 5.0 m. The tank is plastered with lime on all sides and it has 26 stairs at the south-east corner reaching the bottom at 7.79 m.

The rampart floor around the tank is plastered in a similar manner to channelize the run-off water into the tank. The unplastered portion towards the periphery has a device of holes in the rampart which could drain out the surplus water. Three such chutes of stone are made for draining off water and are visible on the western flank of the fort.

Inside the fort, on the south side, two adjacent rooms have structures made into the wall which look like a modern fireplace in a British house. As chances of the fort belonging to the British period are remote and they appear too big for domestic hearths, we surmise that they may have something to do with iron smelting. Our suspicion is supported by the discovery of a big lump of iron ore and a burnt terracotta cake with some slag adhering to it. The dimensions of the rectangular room-like structures are as follows:

Room no.	*Length*	*Width*
1.	17.30 m	6.05 m
2.	13.88 m	5.95 m
3.	7.17 m	5.63 m

The fort has two gates, one on the south-west corner and the other on the north-east corner. There is an arrangement to close them with wooden or iron doors which is clear on both the sides. On the west side of the rampart, there appear to be two holes on the wall probably for flag hoisting (?).

Inside the fort, two interesting stone sculptures were found, one of them having a floral carving. The other, a stone bracket appears to be a canopy or a mantelpiece which could have capped an entrance. The figure of the canopy has a tiger or a lion resting its head on its two fore-paws in a naturalistic manner (Plate 5.2). Even the floral pattern on this canopy appears alien to the local tradition. The most remarkable piece of evidence comes from a hole on the rampart. A flat stone slab bears a design which has been placed inside a rampart hole. A carved stone inside a hole in the rampart makes no sense. This stone could be from an earlier structure. This strongly suggests that the upper part of the fort was made by people who had no respect for the religious sensibilities of the earlier people. This could be interpreted as a break in the tradition or an invasion by new people. There is hardly any other surface evidence in this fort by way of inscriptions, potsherds, etc. However, the local tradition is unanimous in ascribing the fort to Banasur who probably ruled the valley only for a short time.

Ukhakot

To the north-east of Banasur fort, at a distance of about a kilometre, a large ruined

circular structure is situated on the flat topped hill (1,945 m MSL), which is locally known as Ukhakot (*Ushakot?*). Usha is supposed to be the daughter or sister of Banasur. The maximum diameter of the structure (Ukhakot) was 30.80 m north-west–south-east. It has been built in three phases like Banasur fort with a total height of 2.80 m. The first (lowermost) phase (0.80 m) was built of dressed slate and undressed quartz. At the north-east corner, a rectangular platform was found (length 5.20 and breadth 4.40 m) on which a small modern temple of Ukha (Usha) has been built.

Banasur was an Asur (demon) king in *Dwapar yuga* who built the aforesaid fort for himself (Pandey 1937: 14). He had one sister/daughter Usha (Ukha?), after whom "Ukhakot" is named. Aniruddha, the grandson of Krishna was kidnapped from Mathura and brought to Ukha's palace to marry her. Eventually, Lord Krishna reached Shronitpur (modern Sui) (Atkinson 1981: 730) in search of his grandson, Aniruddha. By then all the local gods had assembled in favour of Aniruddha to fight against Banasura. The battle continued for years together and Mahadev himself led the army of gods. At a very crucial stage when Banasur was about to face death by the *Sakti* or *Chakra* of Krishna, Siva intervened and convinced Krishna that Banasur had his boon so he should not be killed. But finally Siva withdrew himself from the battle and Banasur was killed by Krishna. It is said that the battle continued for many years and so much blood of the *Asuras* (demons) was shed that the colour of the soil of Shronitpura (bloody-city) turned red.

The strong tradition about Banasur indicates that probably he came to this region and established his kingdom. The above story indicates two things. Firstly, the battle was fought far back in time so that no known local dynasties of kings could have participated in it. Secondly, Banasura obviously was an invader and an alien against whom the local gods and goddesses fought. Moreover, the local tradition does not hold him in high esteem and it was a brief episode in the local history. There are many stories about the battle between Banasur (Asur-Bani-Pal ?), the Assyrian king and Krishna. *Manaskhand* (part of *Skand Purana*) also mentions that Asuras were flourishing in Kali Kumaun during the Vedic times (Pandey 1937 [1990]: 13).

Saka-Shalivahan

A study of some large metal sculptures from some of the ancient Katyuri temples of Jageshvar, Dandeshvar and Katarmal was carried out by Joshi (1970:433-39). Traditionally, these icons are named as *Paun raja*. On stylistic grounds, Joshi placed them between the 9th and the 17th centuries AD. About the sculpture belonging to 9th-10th centuries from Jageshvar, he writes, "in beauty of conception and richness of detail, this noble statue (about 5 ft high) can be classed amongst the best known examples of the medieval bronzes in India." It is interesting to note that neither Katyuris nor later (Chand) kings mention such names in their genealogies.

Nanda

Nanda is a very popular goddess among the Kumaunis. The *Jagar* (oral epic), sung by the Kumaunis tells that the *Adisakti*, which is considered an original form of Nanda, created this world (Sax 1991: 22). Nanda is said to be the daughter of the Himalayas in folk-tales,

and is one of the several names of the consort of Siva, who is supposed to reside in Kailash. The word *Nanda* means "giver of joy" and devi means merciful or gracious one. Some of the main Himalayan peaks are known after the goddess, for example, Nandadevi, Nandaghunti, Nandakot.

The goddess Nanda is widely worshipped in this hilly country in various forms, i.e., Nandadevi, Parvati, Kot-ki-Mai, Bhramari, Nanda-Bhagawati, Durga, Mahishasurmardini, Chamunda, Durga, Gaura, Kali , Naina, Maya.

The people of Kumaun-Garhwal repose much faith in Nanda as they have on the mighty Himalaya. The legends, which are full of mystery, zeal, happiness and sorrow reveal her in various forms: as a village daughter, a simple village belle, a daughter of a royal family, as a royal deity and the wife of Lord Siva, as also the daughter of Himalaya. The seventh version of the *Jagar* reveals that after creating the earth, the mother *Sakti* died to take birth as Gaura to get married with Lord Siva (Sax 1991: 23). In folk-tales, Gaura (Lali) is a poor village girl, who gets married with Lord Siva (Mahesvar) (Joshi 1971: 31).

As a consort of Lord Siva she goes to her husband's abode, the Kailash mountain. The Royal Pilgrimage (to her husband's place) of Nanda is known as *Raj-jat*. According to tradition, every twelfth year when the curse of the goddess Nanda takes effect, the Royal Pilgrimage should be undertaken from Nauti village to Kailash.

The folk-tales and stories of Nanda devi (Gaura) also reveal the close ties of the local people with their environment of the hills. On the way to her natal place, she asks various trees, in the hills, to locate her *mait* (natal place). The trees, i.e. lemon (*Citrus limon*), Ghingaru (*Crataegus crenulata*), Kilmora (*Berberis asiafica*), Hisalu (*Rubus ellipticus*), Chir (*Pinus roxburghii*), Deodara (*Cedrus deodara*) help her to locate the way of her natal place.

Let us now explore Nanda's identity in the archaeological remains.

The Kusana (Kaniska and Huviska) coins depict a male and a female figure, which have been identified as Siva and Uma or Nania or Nana or Babylonian Inana (Rapson 1898: 324; Banerjea 1956: 126; Sharma 1985: 190). Vaishnav (1989: 40-42) writes, "She was also worshipped as Bibi Naina in Baluchistan and as Naina devi in Kulu valley.... Nanna is a great name in Semitic history. She was the main goddess of the Kassites." However, it cannot be stated authentically that the Inana of Ur and the Nanda of Himalaya are same, but it seems that the Nana or Nania or Uma of Kusana coins and Nanda may be the same.

In Kumaun-Garhwal Nanda is also known as Parvati. The icons of Parvati are called Nandadevi. In some of the copperplate grants, for example, Pandukesvar plates of Katyuri dynasty, belonging to the 9th century AD, she is invoked invariably as Nanda Bhagwati or Nandadevi (Kielhorn 1896: 179, 183; Sircar 1955-56: 179, 282, 287-88).

A large number of her icons with Mahesvar (Siva) have been reported widely from Kumaun-Garhwal (Joshi 1970), which also shows her popularity in the hills. The images from Bageshwar in Almora district, Kalimath and Adibadri in Garhwal, may be the best examples from this region. The Parvati in the *anjalihasta* pose, from Maikhanda (Garhwal) and in *sampadsthanaka* form Baijnath (Almora) are the examples of superb workmanship. Besides

these, there are several temples of *Mahisasurmardini, Durga,* and *Chamundi* in the hills. They bear a large number of icons belonging to the early and late medieval periods. The Nanda Devi temple (Plates 5.3, 5.4) of Almora, though late, is famous for its Nandasthami fairs during which a large number of people collect to sing and dance through the nights and inside the temple the traditional bards sing the *Jagar.*

There are various places in these hills, which are perhaps named after the goddess, for example, Naini Tal, Nainipatal, Nainar, Nainoli, Naini, Naithana, Nainagarh, Nainkalika (temple). She is not only worshipped in Kumaun-Garhwal but also in Kashmir, Nepal and Himachal Pradesh (Vaishnav 1989: 40).

Thus, the goddess Nanda, the daughter of Himalaya, as a simple village woman and as also the consort of Siva, is known as Parvati, Uma, Durga-Simhavahini and by several other names, reflecting the various aspects of the goddess.

5.5 Kumauni Folk Literature and Language

According to the Census Report 1961, "The region covered by Pahari language is, as will be seen, as vast as linguistic information on it is inadequate. The problem of language contact, an assessment of Munda and Dardic elements in the Pahari speeches should present scope for much work in the area". So far as the Kumauni language is concerned, many hypotheses have been put forward by scholars about its original sources. Many scholars have tried to establish that "its source is the same Saurseni Prakrit to which Rajasthani and Brij bhasha owe their origin" (Sharma 1985: 7).

The people of Kumaun speak a dialect known as Kumauni. In Johar, Darma, Byans and Chaudans Pattis of the Pithoragarh district, people speak either the Bhotia dialect of northern Tibeto-Burman family or a mixed form of Kumauni. In the southern part of Naini Tal district, viz., Tarai and Bhabar area, the dialect is mixed with Hindi dialects. Besides these, the entire eastern part of Pithoragarh district, along the river Kali (the Nepal border), all the dialects show an influence of the Kashkura or Nepali, for example, Soryali, Sirali and Askoti. On the other hand, a few areas of western Kumaun, for example, Salt and Chaukot show the Garhwali influence "though retaining the major characteristics of Kumauni" (Sharma 1985: 6). Thus the distribution zone of the Kumauni is bordered on the north by Bhotia dialects of the Tibeto-Burman family and in the south by Hindi or Hindustani. Similarly, it is flanked by Nepali in the east and by Garhwali in the west.

Besides these, some non-Aryan languages are also spoken in Kumaun region. In Askot, the Rajis or Ban Raut speak a language belonging to the Austric family. In Johar pargana, a large number of Bhotias speak languages belonging to Tibeto-Burman families. It has been postulated that "all these neighbouring dialects have in one way or other contributed to the formation of the modern Kumauni" (Sharma 1985: 7). Kumauni is one of the constituent languages of the Central Pahari group (Grierson 1968 [1916]: 108), which is an Aryan language and has many similarities with quite a few languages of the Indo-Aryan family (Sharma 1985).

It is widely believed that in prehistoric times, before the arrival of Vedic Aryans, the Central Himalayan hills were inhabited by non-Vedic Aryans known as Yaksas, Kiratas, Sakas,

Kinnaras, Rajya-Kiratas, Kiratas, Gandharvas, Nagas, Tangans, Kunindas, Khasas, Hunas belonging to different ethnic and linguistic groups, though at present little is known about their language. The entire region shows an admixture of Negrito-Austroloid, Dravidian, Mongoloid and Aryan ethnic groups. The culture and language of this region show a commingling of diverse elements. It seems that the Kiratas and Khasas flourished for a long time as in ancient times this region was known as "Kiratmandala" and then "Khasmandala" (Sharma 1983). Later on, perhaps the Dardic Khasa speech was overlaid by Midland Indo-Aryan form (Chaturjya 1978: 52). The proto-Kumauni was the Aryan language of the Khasas, who once occupied an important position in Central Asia and later on had a dominating position right along the Sub-Himalayan tract extending up to central Nepal. Both Grierson and Chatterji subscribe to the view that most of the languages, such as Lahnda, Kashmiri, Shina of Gilgit, Khowar of Chitral and so forth, spoken in the North-West Frontier regions, owe their origin to the language of the Khasas. Further, elucidating the point of Khasa origin of Central Pahari languages, Grierson is of the view that, "The *Pisacha* group of languages (immediately south of Hindu-Kush to Kashmir) possesses many marked peculiarities which are strange to the Aryan languages of the Indian plains, and several of these are clearly observable in the various forms of western and central Pahari, strong in the extreme west and becoming weaker and weaker as we go eastwards."

Kumauni's close affinities with the languages of Dardo-Pahari group indicate that it has assimilated linguistic elements from other languages which it came into contact with from time to time. "It is perhaps the language of these Aryans, which served as a base for the Aryan languages of Bengal, Orissa, Assam, Gujarat, Rajasthan, Kashmir, Garhwal, Kumaun and Nepal, consequently showing many converging points among these languages and also showing divergences on these points from the dialects of *Madhyadesa*" (Sharma 1985: 9).

Upreti (1894: 412) identified the following variants in the dialects of different geographical pockets: 1. Khasparjia, 2. Danpuria, 3. Phaldakoti, 4. Pachhai, 5. Gangoli, 6. Kumaiya, 7. Chaugarkhiya, 8. Rau-Chaubhainsi, 9. Soryali, 10. Sirali, 11. Askoti, 12. Chhakhatiya, 13. Johari, 14. Darmiya, 15. Bhabari. However, Sharma (1988: 119-36) has regrouped the above sub-groups in four broad zones as follows.

1. Central

The nucleus of this group is Khasparjiya. The areas roughly covered by this group are the parganas of Baramandal, Phaldakot, parts of Danpur Pargana and northern parts of the Naini Tal district.

2. North-eastern

With Soryali as its nucleus, all the dialects spoken in the district of Pithoragarh are the constituents of this group.

3. South-eastern

With Rau-Chaubhainsi as its nucleus, all the dialects spoken in the southern part of the Naini Tal district form the constituents of this group.

4. Western

All the dialects spoken in the south-western part of the Almora district and the western part of the Naini Tal district constitute this group.

Table 5.1 contains a few words, perhaps as residues of diverse ethnic stocks.

Table 5.1 List of residual words of different languages in the Kumauni language

Source 1	Word 2	Kumaoni 3	Meaning 4
Vedic	Gadh	Gadhyar	"river"
Vedic	Min		"little"
Vedic	damur	dumaur	"Scheduled Caste dwelling place"
Vedic	chanchala	cal	"lightning"
Vedic	kiyat	katu/katuk	"how many/much"
Vedic	kopi	kop	"someone"
Vedic	kulyaka	kulo	"uncultivated land"
Vedic	palal	paral	"straw of paddy"
Vedic	yoktra	jyo	"string"
Vedic	upasryva	osaro	"young baffalo"
Vedic	shilpa	shilp	"skill"
Vedic	urja	uj	"energy"
Indo-Greek	palio	peli/pel	"first"
Indo-Greek	boten	bot	"tree"
Indo-Greek	thita	thit	"fruit of pine tree"
Indo-Greek	goten	ganta	"cloth to cover, upper part of body"
Indo-Greek	dyau	dyo	"rain"
Indo-Greek	bajra	banj	"a tree called *Pinus excela*"
Indo-Greek	koransu	gusen	"master/a caste in Kumaon"
Indo-Greek	kalmos	Kalam	"pen/writing instrument"
Tibeto-Burman	dhador	dhodaro	"hollow of tree"
Tibeto-Burman	jawar	ujar/ujyar	"grazing in restricted land"
Tibeto-Burman	pupu	bubu	"father's sister"

Source 1	Word 2	Kumaoni 3	Meaning 4
Tibeto-Burman	phar	aphar	"place of smithy"
Tibeto-Burman	chin	curen	"smell of urine"
Tibeto-Burman	khoro	khuar	"head (skull)"
Tibeto-Burman	maste	mast	"enough"
Tibeto-Burman	chyo	cyon/cyoni	"frontal part of human lower jaw"
Portguese	achar	acar	"pickle"
Portguese	alpin	arpin	"pin"
Portguese	almari	ilmari	"almirah"
Portguese	istri	istir	"iron press"
Portguese	kanastar	kantar	"tin box"
Portguese	gobhi	kopi	"cauliflower"
Portguese	kasa	kaj	"buttonhole"
Portguese	batan	batan	"button"
Portguese	tambaku	tamak	"tabacco"
Portguese	nilam	nilam/lilam	"oxen"
Portguese	parat	parat	"large basin"
English	officer	apisar	"a person with authority"
English	hospital	aspatal	"place where illness is cured"
Englis	school	iskul	school
English	post-card	poskad	"paper to write a message"
English	science	sens	"science"
Sumerian	ag	agha	"before/earlier"
Sumerian	akaru	akar	"highland; difficult of access"
Sumerian	apag	agri	"a caste in Kumaon (ironsmith)"
Sumerian	iji	ij	"mother"
Sumerian	aidee	edi	"a village god in Kumaon"
Arabic	galic	galic	"mattress"
Arabic	bagshis	baksis	"donation"
Arabic	adat	adat	"habit"
Arabic	adimi	adim	"man"

Source 1	Word 2	Kumaoni 3	Meaning 4
Arabic	kasar	kasur	"mistake"
Arabic	kitab	kitap	"book"
Arabic	khabish	khabish	"demon, ghost"
Arabic	malum	malam	"known"
Arabic	amal	amal	"addiction"
Arabic	sauur	saur	"skill"
Arabic	madad	madhat	"help"
Arabic	ijjat	ijat	"respect"
Arabic	lihaf	lihap	"quilt of cotton"
Arabic	liyakat	liyakat	"ability"
Arabic	wakt	bakhat	"time"
Arabic	bhurd	murd	"dead body"
Arabic	kagajh	kagat	"writing paper"

CHAPTER 6
HISTORICAL PERIOD

6.1 Preamble

Henwood (1856) was the pioneer scholar to bring to light megalithic remains from Devidhura in Pithoragarh district. His discovery was followed by Carnac (1877) who found similar remains from Chandesvar in Almora district. Except for the discoveries of a few copperplate grants, i.e., Ishvara's Lakhamandal Prasasti (Buhler 1892: 10-15), Pandukesvar plates (Kielhorn 1896) and Talesvar plates (Gupte 1915-16), till the thirties of the present century, no attempt was made to explore the archaeological heritage of Kumaun. Misra (1935: 71; 1936: 45-48) worked on the ancient monuments and remains of Kumaun. Subsequently, Pandey (1937) and Sankrityayan (1958) compiled the history of Kumaun, which provides a valuable account of archaeological remains, belonging to historical age. Nautiyal and Joshi have contributed largely on the ancient art and architecture of the region. Vaishnav (1977) has tried to trace the Central and West Asiatic contributions to the Kumauni culture.

Agrawal and Joshi (1978) discovered a couple of painted rock shelters in Almora district which initiated research on the prehistoric remains. In the previous decade (eighties) of this century, Tewari studied the iconography of Kumaun which is focused on medieval period for his Ph.D. research. On the other hand, Joshi (1989) has contributed a learned account of the Kuninda coins, which certainly has enhanced our knowledge about the Kunindas and the contemporary societies. The tribal Kuninda coins have been found from Kumaun-Garhwal and its adjoining areas. Besides, there is a work on early history of Kumaun (Joshi 1984), which mainly discusses the remains of Katyuri dynasty (temples, sculptures and inscriptions) and some modern cultural traits of Kumaun.

From the 7th-8th centuries onwards, temples, sculptures and inscriptions are well known and quite a bit has been written about them, but so far as the prehistory is concerned, except a few sporadic reports of stone tools, painted rock shelters and megaliths, which only indicate the archaeological potentiality of the area, we do not have any details on Kumaun and at present a large gap remains in our knowledge, as has been explained in chapter 1. As the focus of this book is on prehistory, we are giving only an outline of the historical period.

The early history of the region is more or less a mosaic of disjointed facts. We are in the know of only a few archaeological records. However, the early part of the history is yet a vexed problem. Most of it is based on mythological traditions. Atkinson (1989) was

the pioneer scholar who assembled the stray facts related to the history of this region. It is still a matter of speculation as to who were the inhabitants of these hills during the protohistoric and early historic ages (see chapter 5).

The *Puranas* and epics bear some stray references to this part of the Central Himalaya, which have often been cited by scholars (Atkinson 1981; Joshi 1929; Pandey 1937; Sankrityayan 1958; Nautiyal 1969) in order to weave the early history of this region.

The *Mahabharata* refers to the Aryan arrival in the land of Ganga and Yamuna, but it has been a controversial issue. It is therefore not possible to state whether the Aryans inhabited the hilly tract or not. However, the same text bears reference to the Kiratas as the early inhabitants of the area (Sircar 1960: 62-64) around the sources of the Ganga and the Yamuna. The Kols and Khasas were the first immigrants. The latter were nomad pastoralists. Perhaps the Khasas scattered widely in these hills and with the passage of time they intermingled with the local inhabitants and lost their own identity as several other scholars also advocate. For the Khasas immigration to these hills in the remote past, a nice summary is available in Sankrityayan (1958) and Pathak (1988). See also chapter 5.

The Sakas, the Rajya-Kiratas, the Tanganas, the Kulindas (Kunindas), the Nagas and the Hunas have also been recorded as the early inhabitants of these hills along with the Khasas (Atkinson 1981; Sankrityayan 1958). Besides the above, the Dom people of Kumaun are also considered as the early inhabitants, who now form the lowest strata of the present Kumauni society and probably are descendants of the Kols.

Recent Excavations

Chronologically, the Copper Hoard culture was succeeded by the Painted Grey Ware (PGW) culture in the Gangetic plains and other parts of India. Kashipur in Naini Tal district is the only site in Kumaun which yielded Painted Grey Ware and Northern Black Polished Ware ceramics (IAR 1960-61: 67). We do not know whether the authors of these cultures infiltrated into the Kumaun hills or not.

Kiu-pi-shwang (Govisana) of the Chinese pilgrim Hiuen Tsang, who visited India during the reign of king Harsha, was identified by Cunningham (1871: 300-2) with Kashipur in Naini Tal district. Kashipur is situated on the southern fringe of Kumaun in Tarai-Bhabar zone. Cunningham reported the existence of a mound with a large structure (21.94 X 19.20 X 1.82 m) of walls there.

To examine this structure, Krishna Deva undertook an excavation at the site in 1939-40 which yielded a few brick walls. Agrawal explored this area and reported an inscribed image of *Trivikrama*, belonging to the 8th century AD, which has now been placed in the National Museum, Delhi. Nautiyal collected a few potsherds of Northern Black Polished Ware (NBPW) and reported the discovery of a Kusana coin from the mound (IAR 1960-61: 67).

To ascertain the nature of the buildings, the site was again excavated by Sharma (IAR 1965-66: 53-54). The lower levels yielded Painted Grey Ware (PGW) and Northern Black Polished Ware (NBPW). The upper levels were represented by structures including that of the *Bhimgaja* or hump, pottery and coins belonging to Kusana period. The operation revealed

the southern wall of a structure, which was most likely to be a temple, having decorated mouldings, *caitya* windows with exquisite and perfect carvings. The temple was built of different sizes of burnt bricks, some measuring 11 x 10 x 7 cm. According to the excavator, the temple may have gone into disuse and collapsed after the 12th or 13th centuries. Nautiyal and Khanduri (1986: 93) state that the temple once again could have been revived after AD 350. The excavator further states that the thick debris that accumulated against the wall contained antiquities right from the beginning of the habitation. Among these were the copper and glass bangles, copper rings, coins, iron knife, nails, chisels, terracotta and stone beads and human figurines. The ceramics of the site is comparable to Ahichchhatra stratum III, assigned to AD 350-750.

On the other hand, two Painted Grey Ware sites, i.e., Thapli in the Alaknanda valley and Purola in Uttarkashi district of Garhwal have been excavated by a team of Garhwal University, where they have unearthed single phase of the Painted Grey Ware culture and associated red and black slipped pottery. At Thapli, a total deposit of 2.90 m was found (Nautiyal *et al.* 1978-79: 94-95).

An excavation was carried out by a team of Garhwal University during 1977-78 at Ranihat, an early historical site, located on the right bank of the Alaknanda river, near Srinagar (Nautiyal and Khanduri 1977). The site had in 10 layers a total thickness of 3.25 m of habitational deposit, which was divided into three occupational periods i.e., Pd. I (600-400 BC), Pd. IIA (400-200 BC), Pd. IIB (200 BC-AD 200), Pd. III (AD 800-1100). Period I yielded fine unpainted grey ware, glossy red ware, black polished ware and an iron arrow-head with lumps of iron slags. Period IIA witnessed use of bricks, a variety of pottery such as rimless *handi*, miniature bowl and terracotta figurines belonging to the Mauryan period. This was followed by Period IIB, when stones were employed to make floors and pottery types like the sprinkler, miniature vases were also found. However, in Period III after a long gap of about 600 years, people abandoned the use of bricks and built structures of stones. In these succeeding layers, the use of iron and copper gradually increased, shown by the occurrence of spearheads, rings and fish hook.

It is, therefore, clear that the early inhabitants of these hills knew the art of iron and copper smelting. Among other significant finds - bone bangles, copper and shell rings and terracotta objects may be mentioned.

It may, therefore, be added here that the Iron Age cultures were flourishing in parts of Kumaun and Garhwal but it is not certain up to what extent they infiltrated the hills of Kumaun. It is also still a matter of speculation if any of the aforesaid ethnic stocks were authors of these Iron Age cultures in the hills. Elsewhere, we have suggested the possibility of the PGW people having come through Kumaun to the plains.

6.2 Historical Dynasties

Kunindas

After the downfall of the Maurya and Sunga empires, several independent principalities full of vigour emerged in nort-western India (Allan 1936). Among them, the well known are the Kulutas, the Arjunayanas, the Rajanyas, the Audumbaras, the Kunindas and the

Yaudheyas. The Kunindas are stated to have held power in the Himalayan region corresponding to the present Himachal Pradesh and hills of Uttar Pradesh. References about them are found in the literary accounts of Panini, Ptolemy, Varahamihira and in the *Parasar Samhita, Brahmanpurana* (Joshi 1989: 31). These literary records have been supported by numismatic evidence as their coins have been discovered from Kumaun-Garhwal and its adjoining areas (Cunningham 1878-79: 65; Joshi 1989).

The Kunindas were perhaps "a people of Indo-Aryan origin like the Yaudheyas and the Arjunayanas" (Joshi M.C. 1962: 46). Cunningham (1878-79: 126-27) connects them with the present Kunets of Kangra (Trans-Sutlej area) and states that, "They were a powerful and enterprising dynasty emerging out from oblivion in the upper valleys of the Ganga, migrated and settled down in the hilly regions of north India in course of their later history. It appears that by about the 3rd century BC they had far advanced in their political achievements and during the Mauryan period, parts of Kumaun and its adjoining regions were under their stronghold" (Powell Price 1945: 213-23). The Kunindas have been referred to as "the original inhabitants of the whole of Lower Himalayas from the banks of the Indus to the Brahmputra." The Kunets have been traced back to Khasas by many scholars (see chapters 5 and 7).

They exploited the natural resources of the hills and developed internal and external trade and to give a boost to their economy, they issued three different types of coins (Joshi 1989): 1. Amoghbhuti; 2. the Almora type; and 3. Chhatreshwara.

The Amoghbhuti type of coins are the earliest known coins of the Kunindas. On palaeographical grounds, their date goes back to *c.* 2nd century BC. The legends inscribed on these coins read, *Rajanah Kunindasa Amoghbhutisa Maharajasa* [coin of the Kuninda king Amoghbhuti, who is *Maharaja* (king of kings)], in both *Brahmi* and *Kharosthi* scripts. These coins are made of silver and copper, and bear close affinity in style and fabric with their contemporary Indo-Greek silver coins (Joshi 1989: 40).

The second type of coins are known as Almora coins because they were found only in the Almora district (Allan 1936). These coins are made of silver and copper and bear invariably the name of issuer, in genetive, in *Brahmi*, such as m-g-bh-t (rendered as Amoghbhuti or Mrigbhuti), Vijaybhuti, Asek, Gomitra, Hardatta, Sivapalit and Sivrakshita. Palaeographically these coins have been placed between *c.* 1st century BC and 2nd century AD and bear an "Indianised version of a Greek motif associated with Lord Siva" (Joshi 1989: 58-60).

The third type of coins are made of copper and are popularly known as Anonymous or Chatresvara type (Allan 1936). These have been stated to be the last coins of the Kunindas, datable to the close of 2nd or early 3rd century AD. The legends on these coins read, *Bhagvata Chatrewsvara Mahatmanah* (this is the coin of Lord Chatresvara, supreme king).

A large number of Kuninda coins were found at Sugh in Kangra. Cunningham (1871: 398) identified Sugh with the Shrughna of Hiuen Tsang, which "was 6000 li, or 1000 miles in circuit. On the east it extended to the Ganga and on the north to a range of lofty mountains, while the Jamuna flowed through the midst of it." This was perhaps one of the principal ruling centres of Kunindas. Besides this, Govisana (modern Kashipur), Dhikuli (near

Ramnagar) and Joshimath in Garhwal were the major ruling centres of Kunindas. Nautiyal (1969) surmises that the above centres were under different individual hands of the Kuninda dynasty. They were probably supervised by a central Kuninda power working as a supreme authority either at Shrughna or some other place.

It may therefore be concluded that though rising from humble origins or a minor hill tribe, in course of time, the Kunindas acquired considerable dominance over a large area of the hills.

It is believed that the Kusanas were responsible for the subjugation of different ruling powers in the Himalayan region (Sircar 1960: 159). Perhaps Kunindas were one of their victims and this event might have taken place in the beginning of *c.* 2nd century AD when the Kunindas issued the Almora type of coins, which have not yet been found beyond the hills. Nautiyal (1969) postulates that the Kunindas retreated back to the inaccessible areas of the hills under the pressure of the Kusana invasion. This fact is supported by the finds of Kusana gold coins from Kashipur (Govisana) and Tehri Garhwal. However, Joshi (1990: 32) quashes this view and writes that, "We have no evidence to show that the Kusanas ever invaded the hill region." It appears that though the Kusanas could not keep their hold for long in the hills, they might have driven away the Kunindas from the Tarai region during their palmy days. We do get Kusana pottery from many sites in Kumaun. We collected (through Shri Harbola) from Bibhandeshwara, near Dwarahat, some typical Kusana pottery (Plate 6.1) It is, however, possible that sometime during the 3rd century AD, the Kunindas, together with Yaudheyas and the Arjunayanas, gave a powerful blow to the Kusana empire and again extended their rule up to the adjoining plains (Altekar 1943: 55; Goetz 1951: 8; Joshi 1970: 433-39). It seems that after the victory over the Kusanas, the Kunindas might have again emerged as a strong ruling power in the hills. This fact is supported by the discoveries of *Asvamedha* brick-altar inscription from Jagatgram in Dehradun district (IAR 1953-54: 10-12) and an *Asvamedha* site at Purola in Uttarkashi district, from where Kuninda coins (copper) were also found (Nautiyal *et al.* 1989). On palaeographical grounds, the Jagatgram inscription has been placed between the 2nd and 3rd centuries AD.

From literary and numismatic sources, Joshi (1989: 36) has inferred that the following Kuninda kings ruled in this hilly tract from *c.* 2nd century BC to 3rd century AD.

1. Subah
2. Amoghbhuti
3. Vijaybhuti
4. Mrigbhuti
5. Aseka
6. Gomitra
7. Hardatta
8. Sivadatta
9. Sivapalita
10. Sivarakshita
11. Silavarman
12. Sivbhavani

Along with the Kunindas, the Yaudheya coins have also been found from these hills. Perhaps Kunindas and Yaudheyas had developed harmonious relations when they pushed back

the Kusanas from their own territories, as Altekar (1943: 52-55) observed on the basis of close resemblance between the Kuninda and Yaudheya coins in type, size and fabric. The occurrence of the Yaudheya coins in the hills therefore seems to be the result of their close relations.

Kartikeyapura

It is widely held that the Kartripura of Samudragupta's *Prayag Prasasti* was located in the Katyur valley (modern Baijnath) (Powell Price 1945: 217), which was later called Kartikeyapura from where various copperplate grants were issued by the Katyuri kings. But prior to the 5th century AD, we do not have any direct evidence for Kumauni history. It is therefore difficult to state as to which dynasty was ruling in Kumaun during 3rd-4th centuries AD. It seems that the political history of the whole of Uttarakhand was shrouded in obscurity during the palmy days of the Gupta dynasty.

The Talesvar copperplates, on palaeographical grounds, placed between 5th and 8th centuries AD, are the foremost direct evidence of this region's history (Gupte 1915-16). These two copperplate grants, issued from Brahmpura by Paurav-Varman kings, provide a genealogy of rulers, information regarding their systematic administration, land grants, religious activities, etc.

The description of the Allahabad pillar inscription of Samudragupta mentions Kattripura along with those states defeated or subjugated by him. Oldham (1898: 198) and Nautiyal (1963) identified Kattripura with the Karttrikeyapura kingdom of Baijnath in Kumaun. It comprises the modern Baijnath valley in Almora district. The area is still known as Katyur and was once known as Karttikeyapura. As we have discussed above, the Kunindas had established a stronghold in the Katyur valley after retreating from the foothills. Perhaps, the Katyur (Karttrikeyapura) was a state of the Kunindas during Samudragupta's reign. Powell Price (1945: 217) correctly remarks, "Among the names of frontier people or kingdoms in that inscription is to be found the name Kartripura. This name occurs exactly in order where the Kunindas might be expected. Of course, an inscription in verse cannot always give the geographical position accurately as consideration of metre may not always allow, yet the name fits in quite naturally."

Brahmpura Kingdom

The post-Gupta period of the Kumauni history is more or less shrouded in obscurity; we have only stray references about some of the kingdoms of Kumaun, which flourished during that age. Hiuen Tsang, the Chinese traveller, who visited India in AD 634, described Mayura or Mayapura close to Hardwar. And he visited Po-lo-ki-mo-pou-lo (Brahmpura), which lay 300 li or 50 miles to the north of Madawar (Cunningham 1871: 335). Cunningham writes, "The northern bearing is certainly erroneous, as it would have carried the pilgrim across the Ganga and back again into Srughana. We must, therefore, read north-east, in which direction lie the district of Garhwal and Kumaun that once formed the famous kingdom of the Katyuri dynasty." Identifying the Brahmpura kingdom, Cunningham further suggests that it might be the same as Lakhanpura (or Vairatapattam) on the Ramganga river, which is considered to have been another capital of Kumaun. The distance of Madawar to Lakhanpur or Vairatpattam is about 50 miles. For this discrepancy Cunningham argues

that the place next visited by Hiuen Tsang was probably Govisana, from where Vairatpattam was exactly 50 miles towards the north. Atkinson (1981: 453) however locates Brahmpura in Garhwal. Fuhrer (1891: 46) identified it with Hardwar. Powell Price (1945: 220) placed Brahmpura in the Katyur valley of Kumaun. However, Goetz (1951) has placed the Brahmpura kingdom in Chamba rather than in Kumaun and Garhwal. Nautiyal (1969) after examining various workers' opinions, places Brahmpura at Dhikuli, which is situated at about 6 km north-east of the modern Ramnagar in Naini Tal district, where from extensive ancient monuments and structures have been reported (Misra 1936). Brahmapura probably comprised almost the entire Tarai region and extended in the west up to Hardwar. Perhaps Mordhwaj also was a sub-centre of the same kingdom. The ruins of Mandhal and Panduwala near Hardwar indicate that they were also the important cities of the Brahmpura kingdom (Fuhrer 1891: 46). These two sites have yielded a large number of sculptures of different sects including an inscribed image of Buddha. These remains support the account of Hiuen Tsang. To locate the boundary of the kingdom, on the basis of an analysis of these facts, one can infer that it extended in the east to the Karttikeyapura (Katyur), in the west to Haridwar (or Mayapura of Hiuen Tsang), in the north to Srinagar and in the south to the Govisana (Kashipur of Hiuen Tsang).

Powell Price (1930: 10) has stated that Kunindas were the rulers of Brahmpura kingdom. But it contradicts the information of Talesvar copperplate grants, which were issued from Brahmpura by the kings of Paurav-Varman dynasty.

Between the 3rd and 6th centuries AD, the political history of the region is again shrouded in obscurity. It seems that with the advent of the imperial Guptas, the Kunindas' power declined. As mentioned above, the Karttipura of *Prayag Prasasti* has been identified with the Karttikeyapura kingdom (Katyur) of Kumaun (Oldham 1898: 98) which the Kunindas had subjugated.

Paurav Dynasty

The Paurav-Varmans are known from the two Talesvar copperplates (Gupte 1915-16: 109). The inscription tells us that the donor descended from the "Lunar as well as the Solar race", and belonged to the royal lineage of the Pauravas. Paurav-Varmans of Brahmpura kingdom are the earliest known historical rulers of Kumaun. The seals on the copperplates have been assigned to the latter half of the 5th century whereas the copperplates are placed between the 6th and 8th centuries AD on palaeographical grounds (Gupte 1915-16: 112-13). Gupte states that both the copperplates and seals affixed to them are not authentic, but some are of the view that these plates may have been issued at a later date by the king himself when the original plates got burnt as the copperplates itself record. On the basis of seals and plates, Nautiyal (1963: 69) has suggested the following genealogy:

Vishnuvarman I

I

Vrisavarman

I

Agnivarman

I

Dyutivarman

I

Vishnuvarman II

Who were the Pauravas is not exactly known but Joshi (1990: 41) writes that, "The Varmans claimed uninterrupted descent from Pururavas, one of the early Kuru kings. They were devout worshippers of serpent god *Viranesvara*. Popularity of *naga* worship and association of some of the place names with the Nagas in Uttaranchal (Kumaun-Garhwal) may have been inspired by them". These copperplates supply the information that the Pauravas were undoubtedly Brahmanical in their faith and traditions and left a strong Brahmanical influence on the people.

These rulers practised a systematic administration in their state as is apparent from the mention of a number of administrative offices (Gupte 1915-16: 115, 119). Those offices and the officers were related to civil, military and judicial organs of the administration. It seems that the adjoining Tarai-Bhabar region was also in their control where they must have kept their army which included elephant force and cavalry, mentioned in the plates.

These kings ruled through a monarchical state-system and developed an efficient administrative and military set-up along with a stratified society. "Save for a short spell of Paurav-Varman rule which lasted for a few generations, between the latter half of the 6th and 1st half of the 7th century AD, the post-Kuninda period of Uttaranchal (Kumaun-Garhwal) history centres round Katyur for several centuries" (Joshi 1990: 44).

It has been suggested that the Tibetan king Srong-Tsang-Campo (AD 629-47) extended his kingdom widely, including China, Nepal and its adjoining areas, i.e., Kumaun-Garhwal (Sankrityayan 1958: 69). Perhaps Buddhism was spread over these hills during this period as Hiuen Tsang, while visiting Brahmpura kingdom, came across several Buddhist monasteries (Watters 1973: 329). Though there are relics of Tibetan Buddhism, which have been assigned to this period, it cannot be definitely said whether the king Srong-Tsang-Campo overwhelmed the rulers of this region or not. However, Joshi (1990: 42) seems to support the above postulate as he mentions that, "During this period Buddhism had also attracted some sections of the population in Uttaranchal." That Shankaracharya himself had to go to these hills to demolish Buddhism shows that it held a sway over the people.

Katyuris

The dynasty that ruled from the Katyur valley of Kumaun is known as Katyuri. It is believed that the word Katyur derived from Karttrikeyapura, the capital of Katyuri dynasty (Atkinson 1981: 468; Sircar 1964: 124). After the Paurav Varman dynasty, we come across as many as five copperplate grants and a stone inscription belonging to this dynasty:

1. Pandukesvar copperplate of Lalitsurdeva—regnal year 21
2. Pandukesvar copperplate of Lalitsurdeva—regnal year 22

3. Pandukesvar copperplate of Padmatdeva—regnal year 25
4. Pandukesvar copperplate of Subhiksharajdeva—regnal year 4
5. Balesvar copperplate grant of Desatdeva—regnal year 5 and
6. Bageshwar stone inscription of Bhudeva.

The origin and age of the Katyuri dynasty have been a controversial issue among scholars. Above, we have already discussed the various views regarding the identification of Kartikeyapur with Katyur. Atkinson (1981: 439-67) relates the Katyuris with the Kators of Kabul. Elsewhere, he contradicts his own view and writes, "The Katyuris were according to local tradition, the ruling family in Kumaun, both before and after the great religious cataclysm of the 8th century" (1981: 467). Gairola (1934: 12) however says that, "The Katyuris were a small Khasas tribe who originally dwelt at Joshimath in the north of Garhwal and subsequently immigrated to the Katyur valley in Kumaun." Powell Price (1930: 14) postulated a linear descent between the Kunindas and the Katyuris. He writes that, "They were remnants of the Kuninda empire and thus their rise to power presents no difficulties." Pandey (1937: 148) traces the ancestry of the Katyuris to Salivahana, the famous king of Ayodhya, however without any corroboration. Nautiyal (1963: 89) seems to support Gairola's view. However, Joshi (1990: 44) advocates the opinion of Powell Price and writes, "During the hegemony of Imperial Guptas in north India, followed by those of Paurav-Varmans in Uttaranchal, the Kunindas receded into political background. However, towards the latter half of the 7th century, when the Paurav-Varmans lost their power, the Kunindas regained political ground and re-emerged as the new ruling dynasty first from Joshimath and later from Katyur, hence came to be called as Katyuris."

Out of their six inscriptions, the Bageshwar stone slab inscription is the most interesting and important, which bears the following list of kings (Nautiyal 1969: 96; Joshi 1990: 45):

Basantan deva

I

Name lost

I

Kharppar deva

I

Kalyanraj deva

I

Tribhuvanraj deva

I

Nimbar deva

I

Istgana deva

I

Lalitsur deva

I

Bhudeva deva

Another list is known from Pandukesvar and Balesvar plates, which runs as follows (Atkinson 1981: 471-72; Sircar 1955-56: 284):

Salonaditya

I

Ichchhat deva

I

Desat deva

I

Padmat deva

I

Subhiksharaj deva.

On the basis of inscriptional evidence, it has been worked out that these Katyuri rulers ruled the entire Kumaun-Garhwal and its adjoining areas from *c.* 8th century to 12th century AD (Kielhorn 1896: 178; Sircar 1955-56: 291; Nautiyal 1969; Joshi 1990: 45-47). Sankrityayan (1958: 44-58) observed a striking similarity in the characters between the Katyuri grants and the Pal inscriptions of Bengal. In this connection Joshi (1990: 49) aptly writes that "It may have been due to the cultural contacts through pilgrims coming in large numbers from *Purva-dese* (Bengal region) as recorded in several inscriptions in 8th-10th centuries *siddhamatrika* characters found at Jagesvar" (Sircar 1960-61: 243-63).

Besides, some other Katyuri rulers are known from stray inscriptional evidence belonging to *c.* 11th-14th century AD, when the Katyuri dynasty declined, and they perhaps suggest the existence of small independent principalities in different pockets of the large kingdom, which once extended from "the Sutlej as far as the Gandaki and from the snow to the plains including the whole of Rohilkhand" (Atkinson 1981: 467).

The Katyuris employed a very elaborate administrative system, which perhaps they learnt from the Guptas and the Palas. A large number of temple groups, throughout the hills, were built in the Indo-Aryan, Nagara or Maru-Pratihara styles during the reign of Katyuris, several of which bear inscriptions. The art and architecture attained their zenith under the Katyuris.

Chand Dynasty

Following the decline of the central Katyuri kingdom around 11th-12th centuries AD, Kumaun was broken up into a number of petty principalities (Joshi 1990: 63). The downfall of the Katyuri kingdom paved the way for the rise of Kumaun and Garhwal as separate

principalities under the Chandas and the Palas respectively. According to a local tradition there were as many as fifty-two small principalities in Garhwal (Raturi 1880: 154-57) and six in Kumaun.

According to a popular view, Somchand, a member of the royal family of Kanauj, came to Kumaun in AD 757 and established the Chand dynasty at Champawat (Pandey 1937: 231). However, according to another tradition, Tohar Chand was the founder of this dynasty, who came to Kumaun in *c.* AD 1261 (Atkinson 1981: 503). Though the traditions are not unanimous about the time of their advents as well as the founder of their dynasty, they do suggest that the Chandas immigrated to Kumaun either from Kanauj or Jhusi. (Atkinson 1981; Pandey 1937: 234-368; Sankrityayan 1958: 76-77; Nautiyal 1969: 121; Joshi 1990: 71-73 have worked out long genealogies of the Chand kings). On the basis of the available epigraphic evidence, Joshi has placed them between *Saka* 1282 and 1700. The possibility of Tohar Chand being the founder of this dynasty, is supported indirectly by epigraphic evidence. Champawat, as a seat of Chand kingdom of Kumaun, was the nuclear zone of political power between the 13th and 16th centuries. The early Chand rulers seem to have been very powerful as they brought the entire Kumaun under their suzerainty. According to the local tradition, Kalyan Chand is stated to have transferred the capital from Champawat to Almora in the 16th century AD (Atkinson 1981: 539). However, taking into account the literary and inscriptional records, Joshi (1990:74) holds the view that king Bhism Chand initiated the transfer of the capital, but it was finally established at Almora by his successor king Kalyan Chand sometime in the first quarter of the 16th century AD.

The later Chandas faced first severe attack of the Rohillas under Ali Mohammad Khan in AD 1743-44, who looted the kings and plundered many a temple groups of Kumaun. However, they could not stay in Kumaun for long perhaps due to the severel cold climate.

The Chandas could have established their permanent suzerainty over Garhwal. The Chandas of Kumaun and the Palas or Parmars of Garhwal were thus traditional rivals. It is only in the beginning of the 11th century that the united Katyuri kingdom was divided into Kumaun and Garhwal (Nautiyal 1969: 6). It has been marked as chaotic period of Kumauni history (Joshi 1990). Though Kumaun was ruled by the Chandas and Garhwal by Garhwali rajas, there is similarity in every walk of life in these two areas. With the passage of time, their weakness got exposed to the Gorkhas of Nepal, who conquered Kumaun in AD 1790 and Garhwal in AD 1804(Sankrityayan 1958: 114-15). The Gorkha rule was tyrannical and oppressive, which lasted about 25 years until they were defeated by the British in AD 1815.

Both the regions were united again by the British power in the beginning of the 19th century. They captured Kumaun from the Gorkhas of Nepal. Under the British, Kumaun was divided into two districts, i.e., Naini Tal and Almora and Garhwal into British Garhwal and Tehri Garhwal. All these districts were put under the administration of the Commissioner of Kumaun. These four hill districts thus formed a division known as Kumaun division. This administrative set-up remained in vogue till the sixties of the present century when Garhwal and Kumaun divisions were created.

6.3 Temple Architecture

The architectural activity mainly took place with the emergence of the Katyuris around 7th-8th centuries AD, though the process had begun at least in the 5th-6th centuries AD in Kumaun-Garhwal as the Iswaras' *Lakhamandal Prasasti* provides information about the construction of a shrine. There are certain shrines, i.e., Lakhamandal near Dehradun, Katarmal near Almora and at Jageshwar, which can be placed between the 6th and 8th centuries AD.

The rise of the Katyuri rulers of Kumaun-Garhwal brought about political stability and they patronized architectural activity, now represented by a number of temple groups scattered in the entire area. They can be dated between the 8th and 12th centuries AD. Most of the shrines of this period are devoted to the Saivite sect, for which, perhaps, the popularity of Lakulisa Pasupati was responsible. The architecture being Brahmanical in character drew inspiration from the Gupta architecture in the beginning but it never attained maturity. However, this monument building activity, in a simplified or a stylized form, continued till late medieval times in this region.

Most of the shrines of this region were built in the Indo-Aryan or Maru-Pratihara or Nagar styles. According to their style and architecture, they can be divided into various groups and sub-groups.

A majority of shrines have been built in the Indo-Aryan *sikhara* or *Rekha deul* style, in which the sikhara portion is slightly convex with pronounced shoulders and embellished with rathas. Generally the tri-ratha architecture is common in the Kumauni shrines, though rarely the panch-ratha design was also practised. The best examples of tri-ratha shrines are Badrinath temple at Dwarahat, Sun temple at Katarmal, the Jageshwar and Mrityunjay shrines at Jageshwar, all in Almora district. The sikharas of these temples bear several *nasikas*. The *Karna* portion of these shrines bears various *bhumi amalakas* hence they divide the sikhara into a number of horizontal sections. On the *skandha*, the terminating point of the sikhara, rests the *mastaka*, which successively consists of the *grivi* or *kantha* (a cylindrical stone block), the *amalaka*, the *chandrika* and finally the auspicious *kalasa* or *ayudha* of the deity to which the shrine is dedicated. In most of the cases, the *kalasa* and the *ayudha* are found missing, which originally must have been there. The *mandapa*, generally rectangular in plan, was built separately and joined with the sanctum. The *mandapa* contains a sloping roof which rests on pillars. In some cases, *antarala* and a covered rectangular hall (*gudh mandapa*) have also been built between the sanctum and the pillared hall, for example, Mrityunjaya shrine at Jageshvar, Rameshvar shrine at Narayankali and Lakshmi-Narayan temple at Baijnath. It seems that the *antrala* and *sukanasa* were not common features of architecture in Kumaun. Prior to the 16th century AD, in some cases, the *sukanasa* bears carvings of religious and decorative type figures. However, later on, they are devoid of any character. The interior plan of the temples is generally rectangular, but in the case of the main shrine at Jageshvar, both the sanctum and rectangular hall are made in a cruciform pattern. The external walls of the sanctum bear projections (*rathas*). The elevation of these temples, with distinctive features, has four main parts, i.e., *pitha*, *mandovara*, *sikhara* and *amalasila*. The *amalasila* portion of many of the major shrines has been crowned by wooden canopies. This tradition seems to have been prevalent in the Himalayan region from very ancient times as Baj Bahadur

Chand (Saka 1564-96) is said to have roofed the Jageshvar shrine with copper sheets. The canopy, which beautifies the edifice, was perhaps crowned to save the shrine from snow and rain.

The second group of temples is known as *pidha* style, which bear a pyramidal appearance. Their sikhara, being slightly curvilinear in outline, is made of diminishingly horizontal mouldings or tiers (*pidha*). The best examples of this variety are located at Jageshvar (the Lakulisa and the Baleshvara temples), Tilari, Kapileshvar, Bamansuyal, Katali, Kanara, Garser and Narayankali, which can be placed between the 8th and 10th centuries AD. It seems that *pidha* type of temples were constructed commonly in the early medieval period in Kumaun, though the continuance of this style can be traced up to the Chand period. The *sukanasa* of these earlier examples is beautifully carved.

The third structural pattern, represented by a few shrines, is known as *Vallabhi* or *Khakhara* style. These shrines are rectangular on plan and bear barrel-roof which terminates into a straight narrow ridge. The entrance to these temples has been provided on one of the longer sides and there are crouching lions on either ends of the straight ridge. Invariably, these shrines are dedicated to female deities. The best examples can be seen at Jageshvar. This variety of shrines issimilar to the Vaital deul at Bhubaneswar and the Teli-ka-mandir at Gwalior.

The Gurjar deul at Dwarahat (Plate 6.2) in Almora district has a polygonal plan and the elevation is distinguished by subsidiary spires (*sringas* and *urusringas*) in the sikhar portion. This shrine has no contemporary parallel in Kumaun area. However, a later example is known to us in the Baleshvar shrine at Champawat. The temples of this structural pattern were in vogue in the central India and Rajasthan around the 11th and 12th centuries AD. It seems that these types of shrine could not attain popularity in Kumaun even in later period. This example at Dwarahat could have been the creation of the people who immigrated to these hills from the plains during the medieval times.

There is another variety of temples at Champawat which Joshi (1980: 28) calls double-shrine-double-mandap type temples. They consist of two shrines, each provided with a separate mandapa ultimately connected in the centre by a common "mukhamandapa" (Joshi 1980: 28). Both the Baleshvar-Sugreshvar and Champadevi-Ratneshvar temples are made on an east-west direction. These shrines bear several friezes of dancing human figures, divine or semi-divine figures, elephants and floral motifs. These shrines bear close similarity to the Hoyasala or late Chalukyan type temples and are embellished with rich architectural details. Joshi (1980: 30) further points out that, "The Belesvar-Sugriveshvar temple bears close affinity with the central Indian examples, whereas the Champawat-Ratnesvar and Durga shrines resemble a north Indian temple type."

6.4 Iconography

Iconography is one of the remarkable features of art and architecture in this region, which was influenced by the Gupta art in its initial stages and subsequently attained maturity. Scholars variously name them as Gurjar-Pratihar style.

It may be mentioned here that the early examples of art and sculpture in these hills are: terracotta figurines from Ranihat and Mordhwaj (Garhwal); carvings in stone from Senapani Naini Tal; Jaya-Vijaya icon at Kalsi (Garhwal); Ganesha and Uma-Mahesh from Almora. Though the above terracotta figurines take back the antiquity of art activity probably to the Mauryan, Sunga, Kusana times, it was only in the Katyuri period that prolific stone sculptural activity flourished in this region.

It is not possible to classify the Kumauni temples on the basis of cult images as there are rare examples which shelter a single intact icon in its original place. There are a few examples like Lakulisa, Natraja in the main shrine at Jageshvar, which bear the figures of gods and goddesses on their external facade. This kind of evidence is helpful to attribute the shrine to the respective deity. However, generally we find a shrine sheltering various types of icons, which are displaced from their original positions.

During the Katyuri and the Chanda times, a large number of icons were made of locally available stone. On stylistic grounds, the earlier ones, i.e., the Katyuri or Gurjar-Pratihara type can be placed between the 7th and 12th centuries AD. Most of the sculptures of this period belong to different Brahmanical deities with simple iconographic forms. There are rare images belonging to Buddhist and Jain sects. The icons found in Kumaun may be grouped as follows:

1. Saivite images
2. Vaishnav images
3. Surya and Navagraha icons
4. Brahma
5. Goddesses
6. Miscellaneous

Saivite images include various forms of Lord Siva, i.e., Trimurti, Vajrasana, Nrittyamurti, Vyakhyana-Dakshina murti, Alingan murti, Uma-Mahesvara murti, Kalyansundar murti, Bhairava, Hari-Haramurti and others associated with the cults like Lakulisa, Ganesa. Besides, goddesses like Parvati were very popular as a large number of icons of this cult have been found. Out of these, the Umamahesvar and Parvati icons are found in abundance in the Kumaun area. The best examples of the former can be seen at Bageshwar and Jagesvar, and of the latter at Baijnath and Kashipur. The icons of Parvati in various forms, either as the consort of Lord Siva or independently, were also made.

Among other female deities, Durga and Mahishasurmardini were also popular, like Parvati, between the 8th and 12th centuries AD. The best examples of these icons can be seen at Baijnath and Jagesvar. A fine example of Brahmani (11th-12th centuries AD) is in the godown of Baijnath. Another fine sculpture of the 8th century is of Kuber in the same godown now.

Among the other allied images of the Saivite cult, the Lakulisa, Ganesa and Kartikeya

have been found throughout the region. It seems that the *Lukulisa Pasupati* cult was very popular during the 9th-10th centuries AD as a number of shrines of this period belonging to Lord Lakulisa were erected, along with his icons. Ganesa icons are generally shown seated but a dancing form has also been found at Chakhutia belonging to the 13th-14th centuries AD. The icons like Kalyansundarmurti, Bhairava and Hari-Hara have been found less in numbers compared to the other forms.

The Vishnu images are also commonly found in Kumaun. The Sesasayana murti of Vishnu seems to have been the more popular form, the best examples of which may be cited from Baijnath and Dwarahat.

Other important icons of Vishnu are Trivikram Vishnu of Kashipur, Viratrupa Vishnu of Baijnath, Vishnu of Badrinath temple and Narshimha.

The Surya cult has also been very popular in the hills as evidenced by a large number of sun icons in the north Indian style. The reference to this cult has also been found in the Talesvar grants but we are neither in know of the nature of the cult nor its extent, though they have been attributed to the Saka-Kusana influence. However, there are a number of icons which bear salient features of Surya iconography from this region. These examples come from Jagesvar, Dwarahat and Baijnath. Most of them are either standing or driving a chariot. Besides, there are examples from Baijnath (Plate 6.4), Dwarahat and Bisar in Pithoragarh which appear to bear early features. They are wearing *kirti-mukuta*, open coat and high boots. Both hands are raised, holding flowers. The icons bear very little ornamentation and look very much natural.

A few Rewant images have also been reported from Kumaun. In addition to these, a few Navgraha and Saptmatrika panels have also been found from Kumaun. A number of icons bear inscribed dates which help to assign them in a chronological order.

The icons which belong to the first phase, i.e., from the 7th to 10th centuries AD, bear less ornamentation, and are shown with very few or without subsidiary deities. They appear naturalistic. In the second phase, 10th century onwards, the icons are profusely decorated with ornaments and the number of their attendants has increased. The images are now stylized.

With this cursory review of the historical period, we come to the end of our story. For the historical period, quite a large literature exists which has been briefly referred in the text. The bibliography is more exhaustive.

In the next chapter we review the past of Kumaun and seek its guidance to carve out a new future.

CHAPTER 7
FROM A HOARY PAST TO A LOFTY FUTURE

7.1 Commingling of Cultures and Ethnic Identity

Kumaun is surrounded by the Himalayas in the north, Nepal in the east and Garhwal in the west. In the south, beyond the Siwaliks, is the Bhabar-Tarai area. The river Kali marks the boundary between Kumaun and Nepal in the east and Western Ramganga with Garhwal in the west. Its geography suggests isolation of Kumaun and perhaps it was responsible for the uniformity of its culture and some sort of ethnicity which is expressed in terms of the demand for Uttaranchal. But if one looks at the prehistoric and historical periods, one finds that this region has served as a melting pot for different cultures and people. A recapitulation of the early chapters shows that Kumaun provides a ***sangam*** (confluence) in which different cultural streams have commingled and in the course of millennia (see chapter 5) have given rise to a composite Kumauni culture. Both the population and the dialects show the relics of this commingling. It seems that the Kols, of the Munda group, were the first ethnic group to come from South Africa via Arabia and south-west India. They belong to Negrito and Proto-Australoid ethnic groups. They still populate coastal south India, the Andaman islands and Australia. Some believe that this migration took place during the Palaeolithic and Neolithic ages (Chaturjia 1954). In course of time, they became artisans called ***shilpkars*** and eventually the Scheduled Castes.

Later on came the Mongoloid ethnic groups from eastern-southern China and eastern Tibet. The Kiratas, Nagas, Tangans, Patangans, Kinnars and Bhil Kiratas all belong to the Mongolian stock. They were probably nomad pastoral groups. The Vedic literature calls them Anarya. Ayurveda knows them as collectors of medicinal plants. Kalidasa refers to them as inhabitants of the region between Zanskar and Mansarovar. The third cultural wave, which was very powerful, comprised the Darads and the Khasas which pushed the Kiratas to either the higher Himalayan region or to the Tarai-Bhabar. The Kiratas had Greek and Sythian contacts also. And in the 8th century they came in contact with the Tibetans.

The Kiratas, an ethnic group, are still living independently or with the other groups in Tarai and the Higher Himalaya. The present representatives of the Kiratas are the Jadhs of Uttarkashi, the Jauharis, Darmis, Byansis and Chaudansis in Pithoragarh, the Tolchas and Marchhas of the Niti and Mana valleys in Chamoli, the Banrajis of Askot and Lool Rauts

of Lohaghat (Pithoragarh), the Tharus and Boksas of Tarai and the Mihars of Dehradun.

The present condition of the progeny of the Kiratas is the result of their environment. The Shaukas had relations with the Tibetan communities and the Tharus-Bokshas with people in the Indo-Gangetic plain, living near their settlement. In course of time, these relations were expressed in their language and facial features too. The essential part of the lifestyle of the Kiratas is trans-humance and nomadism. The exceptions are the Banrajis, perhaps a mixture of Negrito and Mongoloid stock, who are still living in a closed society. The original ethnological characteristics of the Kiratas have still been retained to a greater extent, due to the inaccessibility of the rugged terrain of the Raji habitats which did not allow any outside contacts.

From Gilgit to Zojila, the local inhabitants are even today called Darads who come from the same Khasa ethnic stock. The Kunet (Kulindas) of Kulu are divided into Khasiyas and Raos. In fact, Khasas, Kasa and Kash are different forms of the same word. From Nepal to Gilgit, the main ethnic stock is that of the Khasas. The Khasas and the Vedic Aryans compromised with each other as they belonged to the same basic ethnic stock. Some scholars believe that they did not allow the Kinnar-Kiratas a respectful, independent identity and put them down to the status of Doms *(shilpkars)*. About the Doms, Oakley (1905) says, "The Doms represent the aborigines of Kumaun, and claim to have been in the country before either the Khashias or immigrants from the plains were known. Their own tradition is that they were drummers of Siva... they were in fact slaves of Khashias and Brahmans and were passed from hand to hand like chattels. No Dom was allowed to wear a garment reaching below the knee, and the punishment for touching the hookah of a Rajput or Brahmin was instant death."

Rahul suspects that the Asura king Shambar, against whom Sudas and his father Divodas, of Panchal fought in the mid-second millennium BC, could belong to the Dravid Asuras and not the Kiratas.

The most important ethnic group that came to Kumaun was of the Khasas. Grierson (1968 [1916]: 101-371) divides Khasas in three sub-groups: Armenoids, Alpenoids and Denarics. But they were not related with the Vedic Aryans. There are various conjectures about their entering Kumaun. It is possible that some of the cists found on the Bageshwar-Almora road belong to them. One of the cists from Gagrigol gives a radiocarbon date of *c.* 2600 BC (see chapter 3). It appears that the Khasas established their domination in the main Kumaun region; the others were driven to the Higher Himalayas or to Tarai. In fact, it is said that 90% of the population of the Himalayan belt from Kabul to Assam derives its ancestry from the Khasas.

In the copper plate grants of Lalitashur (AD 835), Padmatdev (AD 945) and Subhikshraj (AD 980), the Khasas are mentioned as the principal subjects of the Kumaun kingdom. Therefore, Kedarkhand (Garhwal and Kumaun) was also called Kasamandal. The Khasas were well known warriors. In the *Mahabharata* war they fought against the Pandavas. *Rajtarangini* refers to them as violent and turbulent people. It appears that they did not care too much about the Brahmanical religion. Karna condemns them: "They are impure and have no religion.

The Brahmans of that locality have no knowledge of the Vedas and altars for sacrifices".

The Sakas came from Iran and were known to Panini (Agrawal 1953). Sankrityayan (1958) considers Khasas and the Sakas as two streams of the same ethnic group. It seems that sun idols and temples are associated with the Sakas.

Between the 2nd century BC and 3rd century AD, the Kunindas became dominant in this tract as a large number of their coins have been reported, which bear legends.

There was a marked influence of Buddhism in this region, so much so that Adi Sankaracharya had to visit this region to demolish Buddhism. Earlier it seems that Asoka himself came to pacify some of the revolting Khasa rulers. For some time, this region was annexed by the Guptas but eventually the Nagas and Yamuns emerged as the main rulers of central and western Uttarakhand. It appears that there were many principalities in this region which have been mentioned by Yuan Chwang in the early 7th century. He has mentioned the principalities of Srugh in Mayapur, Brahmapur, Govisana, Suvarna-grot, etc. It is said that when the Tibetans attacked this region, the king of Kashmir, Lalitaditya and Yashovarman of Panchal helped the local Paurav rulers. Later on, after a battle between Lalitaditya and Yashovarman, resulting in the defeat of the latter, Basantan and his descendants founded the independent Katyuri dynasty (Dabral 1968). These Katyuri kings belonged to the Khasa ethnic stock. Between the 8th and 12th centuries, about 15 Katyuri kings ruled this region. At the zenith of the Katyuri dynasty, the kingdom spread from the Gandaki river in Nepal to the Sutlej in Himachal and from Tibet to Ruhilkhand.

After the Katyuris, the Chand dynasty followed. Some scholars claim that Somchand of Jhusi near Allahabad, founded the Chand dynasty. Though we have several names of Chand kings, from Somchand to Trilokchand (the 25th ruler), the genealogies are not corroborated by independent archaeological or epigraphical evidence. The Kumaun was unified by Bhartichand (1437-50). Kalyanchand (1560-65) shifted the capital to Almora. Joshi (1990: 201-44) has worked out a genealogy on the basis of epigraphical evidences.

Somehow the Nepali incursions into Kumaun have been short-lived though full of bloodshed. Kings of the Malla dynasty, Asokachalla and Krachalla, of Doti attacked Kumaun in AD 1191 and 1223 and successfully disintegrated the Katyuri kingdom into several principalities. Nagaraj was the Khasa ruler who founded the Khasa kingdom in western Nepal in the beginning of the 12th century and the rulers with their names ending in *challa* and *malla* were rulers of the same Khasa kingdom. Though the official religion of the Khasa kingdom was Buddhism, they showed considerable tolerance to Hinduism and in fact encouraged the Panchayana cult which was a combination of Saivism, Vaishanavism, Shaktism and Sun worship (Adhikari 1988: 111). In Kumaun also, various religious sects flourished. Oakley (1905: 199-200) gives interesting statistics about temples of different denominations, "There are 250 Saiva temples in Kumaun and 350 in Garhwal and 35 Vaishnav temples in Kumaun and 61 in Garhwal. To the latter class however may be added 65 temples to Nagaraj.... Of the Saiva temples 130 in Garhwal and 64 in Kumaun are dedicated to the Shakti form. Again, the Nepalese defeated the Chand king of Kumaun in 1790 and ruled up to 1815 when the British took over from the Nepalis. During the Nepali regime, thousands of people were

sold as slaves." Oakley (1905: 124-125) mentions, "Many hundreds of these poor wretches, of both sexes, from 3 to 30 years of age, are annually disposed of in the way of traffic. These slaves are brought down and sold at Hardwar at Rs. 10 to 150. It is said that 200,000 people were sold as slaves in this manner so that a vast number of villages became deserted.... The prices for slaves...were much smaller than those given for horses and cattle." Their rule was marked by cruelty and atrocities. Thus the British rule in a way liberated Kumaun from the tyranny of the Gorkhas and brought about a more liberal administration which respected the local customs and traditions, especially under Trail and Ramsay (Tolia 1994).

Thus we see that Kumaun has been a cultural melting pot through the millennia into which various ethnic stocks contributed. The geographical barriers of rivers and mountains did not really come in the way of these migrations though the geographical isolation did provide an identity to the cultural mosaic which evolved through time. Unlike the Gangetic plains where various invading waves kept on sweeping each other, Kumaun shows a sort of *cul-de-sac* effect.

History teaches us that ethnic purity is a myth. Through conflict and compromise, ethnic and cultural streams commingle to give rise to a cultural mosaic. Thus in nurturing the personality of Kumaun, a lot of ethnic groups, languages and cultures have contributed.

Rahul finds that the differences between the Garhwal and Kumaun are very ancient. Except for the kingdoms of Sakas, Guptas, Katyuris and some Chand kings, this whole region was always divided into several principalities (Sankrityayan 1958: 26-27).

The ethnic identity that is perhaps behind the demand for Uttaranchal, is not really based on some pure ethnic stock. It has evolved through conflict and commingling through ages. The historical perspective thus provides a corrective for a balanced view. Even otherwise it may be better to have smaller units like Himachal or Haryana which can develop faster and provide a more responsive government for the people's requirements. It should not mean cutting ourselves off from the mainstream of the Indian nationalism. The process of civilization shows how such composite cultural units evolved and contributed to the maturing of the Indian civilization itself. Economically also, for faster growth and long-term viability, Uttaranchal will have to develop a complementary relationship with the rest of the nation.

The intermingling of different ethnic stocks has led to a virile population which has excelled in many fields. For example, from a small region of Almora, the people have reached top heights in various walks of life. The late Army Chief General Joshi; among politicians, the late G.B. Pant, N.D. Tewari, Dr. M.M. Joshi, and Harish Rawat; amongst poets, Sumitranandan Pant; amongst other literary figures, Ila Chand, G.B Pant, Mrinal Pande, Shailesh Matiyani, Ramesh Shah, Diva Bhatt are the names that easily come to mind. Veteran historians like the Badri Datt Pande and N.N. Misra, and among the younger ones, Shekhar Pathak and M.P. Joshi, and among scientists Drs. D.D. Pant and K.S. Valdiya, are illustrious examples. In journalism, J.D. Pant has carved out a national niche for himself. For preserving the folk cultural heritage, people like Mohan Upreti, Brijendra Shah (Lala Daju), Naima Upreti and Alakh Nath Upreti have dedicated their lives. There is no field of activity where the Kumaunis have not excelled. Space does not permit us to enumerate all the bright sons of

this hilly region. This is not by any reckoning an exhaustive list but only some examples. The point we are making is that there is no dearth of talent and diligence in this region. A new and more efficient state will provide manifold more opportunities to the local people to attain newer heights of glory in their respective fields.

7.2 Nanda: The Symbol of Kumauni Woman

Now, of course, there is a network of roads and people use them even for covering short distances. But a few years back, one could see on the roads leading to Almora the village women coming with big head loads and the husband leading them with a hookah in hand. In fact, the Kumauni women have been oppressed and exploited by their menfolk more than anybody else. They have to cook food, fetch water and fuel often from long distances, work in the fields, bring up the children and attend to other household chores. The men enjoy their ***hookah, bhang*** and country liquor, and when they get bored, beat up their wives. In fact, this pitiable condition of the hill women goes back to historical times.

Adhikari (1988: 81) seems to think that during the Khasa kingdom of greater Nepal, the wives of some of the kings were regarded as the wives of gods and identified them with Bhumi and Sri. In fact, king Krachalla mentions only his mother's name in great praise and does not refer to his father's name at all.

During the early days of the British raj, the husband used to pay the bride- price to the parents of the girl and it established his right to freely dispose of the wife. "Even if the wife contracted a second marriage, the aggrieved husband filed a suit for the recovery of his bride-price. Regardless of his second marriage the husband sold off his wives to the highest bidder and in the event of the death of the husband, the heirs disposed of the widow without any compunction whatsoever" (Tolia 1994: 49-50). At least the British raj was more liberal, and the courts set the wife free but did not punish the seducer or the purchaser. He further says that, "The magnitude of crimes and the meanness of the crimes committed against women equalled or surpassed those committed anywhere.... Women received no better treatment than mere chattel and they were bought and sold like any property." The Naik community sold their female children into prostitution. The *Paturs*, the dancing women of Almora, openly bought young girls to groom them for prostitution.

There is a lot of agitation in Kumaun, in recent times, against alcoholic liquors. The government vacillates between extreme positions of total prohibition to free sale of liquor and politicians use it as a convenient handle for their petty interests. The womenfolk are against alcohol as their men waste their hard-earned money on drinks and then behave cruelly with the women. Wife bashing is their favourite pass-time. Whatever we do, it is impossible to banish liquor.

This has been tried in the USA, USSR and in Gujarat in India. Such forcible bans only lead to loss of revenue to the government and inevitably help develop a nexus between the politicians and the bootleggers. The so-called mafia of the USA is a product of prohibition. In Kumaun, one has to openly admit that the real fight of the hill women is not against alcohol but against male chauvinism and exploitation. There was a revealing experiment carried out in the Garud area. They introduced white soy bean which brought in lot of cash.

The men drank off the earnings and during lean months there was no food at home. The government then decided to pay half the purchase price to the womenfolk of each household. Again, the men drank off their share and then beat up the wives to extract theirs. As a result, the women preferred to go back to growing cereals so that they could at least have some food to feed the family round the year. But this again shows that unless the hill women take up the cudgels and fight their own menfolk, such evils like drunkenness, gambling, etc., cannot be wiped off.

Nanda is the most favourite goddess of Kumaun. In a way, she symbolizes the culture of Kumaun. Even her legend bears testimony to the domination of men over women. Every 12 years, Nanda is taken in a religious procession (*jat*) from her mother's place (*mait*) to her husband's. As she was married to Lord Siva, she is taken to mount Kailash. Below we will discuss the symbolic significance of Nanda but here we are quoting this tradition only as a reminder that even Nanda was periodically shown her place by taking her to Kailash, away from the mother's home where she enjoys special privileges (Sax 1991: 77-84).

Nanda is an interesting legend as it reflects the life of an average village girl. In the Jagars and the legends associated with her, her intense attachment to her *mait* and the cruelty she encounters in her *sauras* are very well depicted. According to one version, she was the daughter of the king of Kumaun and married to the king of Garhwal. "She suffered there, she wasn't eating at her husband's home. She returned to her *mait*.... They forced her to leave. She held the dagger between her teeth so that she wouldn't cry out and plunged the sword in her chest.... Mistreated in her conjugal home and denied a place in her natal one, this princess had literally no place to go" (Sax 1991).

There is a controversy about the original home of Nanda, mainly because Nanda represents the story of every hill woman. "Indeed, every village where Nanda devi is worshipped is thought by its inhabitants to be her *mait*, a place of love and abundance as compared to her husband Shiva's home" (Sax 1991: 116). Sax further says that in Uttarakhand, "Marriage does not replace one set of relations with another but rather adds a new set of relations to a pre-existing one. The process is traumatic, and the new configuration is not necessarily stable: in Uttarakhand it may be repudiated simply by changing residence. For all inevitable changes of life, a woman indeed could not possibly cease to be the *dhiyani* of her *mait*."

It is good to see widespread education among the Kumauni women now. In fact, from the bazaars from where we (DPA) come, the girls are not only more educated but have a much higher percentage compared to the boys. A lot of girls are now employed in essentially low paid jobs of clerks, teachers and such like. The dowry system which was unheard of has become common now. As a result, in the towns quite a large percentage of unmarried girls can be found. From the custom of paying bride-price to the other extreme of giving dowry has not changed the lowly and exploited conditions of the hill-women—a sad legacy of the past which will have to be eradicated in the future. The hill-woman will have a pride of place in the newly emerging Uttaranchal.

7.3 Uttaranchal—Questions of Viability

Compared to the other states which are linguistically and culturally homogeneous and cohesive, Uttar Pradesh, in contrast, is an eclectic conglomerate comprising disparate cultural and linguistic units. From this point of view, Uttaranchal forms a coherent unit to some extent. But as we have seen through the history of Kumaun, there is no uniformity or homogeneity based on a pure ethnic stock. Once one goes into smaller units, it is very difficult to draw the line. Sankrityayan and others have remarked that linguistically and even culturally, the differences between Garhwal and Kumaun are deeper and much older. As we have seen (in chapter 5), the cultural mosaic that has developed with time has the composite contributions of a number of ethnic stocks that came through the millennia: from the Australoid Kols to Indo-Aryan Khasas, Kiratas, Kinnaras and many other cultural streams have commingled here. Nor can we gloss over the traditional rivalries and battles fought between Garhwal and Kumaun. In fact, we find it very interesting that the Pandava tradition is very strong in the folklore of Garhwal; they even celebrate Pandava lila. It is said that the Pandavas went to the Garhwal Himalayas for their final end. Garhwal region has yielded several PGW sites. As we know, B.B. Lal has identified the PGW culture with the Pandavas. So far Kumaun has not yielded any PGW sites and is dominated by Rama's folklore, including the Ramlila during Navratri. Do they reflect much deeper rooted cultural differences between the two?

Such differences manifest themselves in various ways. For example, they could not develop a consensus regarding the location of a university and as a result two universities with several campuses had to be established. We are sure, deciding the location of the capital of Uttaranchal is going to be much more controversial. Finally, it should not turn out to be a conglomerate like Jammu and Kashmir where Jammu, the Kashmir valley, the Ladakh valley and the Kargil areas are culturally basically very different from each other. If they decide upon adopting a language for Uttaranchal the problem will become much more intractable. In our view, therefore, cultural differences between different regions of Uttaranchal, appear more irreconcilable than the question of economic viability. Let us also have a look at the problem of economic viability.

Economic Viability

The proposed Uttaranchal will extend between 70° 34' 27" to 81° 02' 22" E and between 28° 43' 24" to 31° 27' 50" N and in the Central Himalayas covering an area of 51, 122 sq. km., which is about 17.4% of U.P.'s total land area. The population was 58, 72, 533 in the 1991 Census (Bhandari 1993: 149-62).

The present level of cereal production (Tripathi 1993: 36-58) is in fact surplus to the extent of 276,400 metric tonnes during 1988-89. Pulses, however, are available only to the extent of 2.22 (against required 2.72) kg per capita per year. Oil production also will require an increase of about 70,000 metric tonnes. In fact, in most of the food products, Uttaranchal will be deficient. The surplus in cereals is mainly due to production in the Tarai and Bhabar areas which are basically in the plains though within Naini Tal district. Various measures have been suggested to increase the production of crops, pulses and oil seeds (Tripathi 1993: 52-53) into which we would not go here.

As expected, in fruits, there is a surplus of 2.92 lakh million tonnes per annum and vegetables also show a surplus of 1.3 lakh million tonnes.

One has, however, to concede that a small state like Himachal Pradesh has done much better than the U.P. Himalayas. For example, the production of apple per tree or per acre of land in Himachal Pradesh is three times more than U.P. Similarly, the net returns per acre are four times higher in Himachal Pradesh compared to U.P. (Mehta 1993: 59-70). The proportion of sale of apples through contractors in U.P. is 98% compared to 58% in Himachal Pradesh. The sale of apple to retailers and consumers is 36% in Himachal Pradesh compared to 2% in U.P. Thus the benefits of higher production bring more prosperity to the local people, compared to U.P. where most of the profits are cornered by middle men from the plains. Even the price that the grower of apples gets in U.P. is only Rs. 2.39 per kg compared to Himachal Pradesh where he gets Rs. 3.89 per kg. One can thus hope that the smaller state of Uttaranchal should be able to increase its production severalfold and the local people get the maximum share of profits.

With the new winds of liberalization of economy, with trade barriers under attack, and with Switzerland as a model of prosperous hilly country, economically there is nothing seriously unviable about Kumaun. Left to us, we would have aimed at self-sufficiency, a Swaraj with the modest aims to provide for the basic needs of the people, for their shelter, food, fuel, some culture and education. Ultimately whatever the model the people decide to follow, a smaller state will do better than a bigger one - that is for sure.

Relevant to the viability of Uttaranchal are its historical relationships with Tibet and Tarai-Bhabar. It was wise of the Chand rulers to extract concessions from the Moghul kings to include Tarai-Bhabar in Kumaun. Today, Tarai-Bhabar is the grain bowl of Kumaun. Traditionally, the village folk of Kumaun have been migrating to the Tarai region for nomadic grazing and limited cultivation during the lean winter months. This sort of transhumance has been going on for a long time. These regions were called Chaurasimal and Naulakhiamal during the Moghul period and were kept reserved for the Kumauni folk. After the partition in 1947, the Tarai region was used for rehabilitation of refugees from Punjab and the hill people were squeezed out, except for the freedom fighters who were allocated some plots of land in this region. Similarly, China's annexation of Tibet and the closure of the Indo-Tibetan border after the Chinese-Indian war, the traditional mutual trade between Kumaun and Tibet came to a complete halt. With better relations with China now, one hopes that this traditional trade will be fully resumed.

For the industrial development of Kumaun, there is greater hope as it is well endowed with mineral resources. For exploitation of minerals, the difficulties are there regarding fuel, labour and transportation. We saw above that, in Kumaun, the pucka roads per thousand sq. km are only one-third of the average for U.P.

Of the minerals, there are sizable reserves (1.5 million tonnes) which can provide strategically important tungsten. As discussed in chapter 4, there are several mining areas yielding high grade iron and copper ores. Even in ancient times, haematite, magnetite, goethite and pyrites of high grade were used for iron smelting. We give below the main mineral

categories found in Kumaun:

1 Ferrous minerals: haematite, magnetites, goethite, pyrites and scheelite (for tungsten).

2. Non-ferrous: copper, zinc, lead ores; placer gold; arsenopyrite, antimony (stibite), platinum.

3 Atomic minerals: uranium.

4 Industrial minerals: limestone, magnesite, dolomite, talc, gypsum, phosphorite, baryte, asbestos, feldspars, *Silajit*.

5. Building stones: slate, quartzite, granite, basic rocks.

Magnesite has a great potential in the manufacture of synthetic rubber, plastics, paints, cosmetics, paper, textile and pharmaceutical industries.

Thus we see that, given proper infrastructure, efficiency of a small state and adequate funds, Uttaranchal has a great potential to grow into not only a viable state but also a prosperous one.

GLOSSARY

Aggradational	:	Sediment accumulating type
Anthropomorph	:	Copper Hoard artifact in human form
Arsenopyrite	:	Arsenic bearing mineral
Asuras	:	Early iron technologist tribe
Azurite	:	Copper oxide mineral
Cairns	:	Burial covered with stone heap
Calibrated	:	Corrected for past carbon isotope variations
Capstone	:	Covering stone of a cist grave
Chalcolithic	:	Belonging to a period between the Harappa culture and the Iron Age
Cinnabar	:	Arsenic mineral
Cire-perdue	:	Lost wax process of metal casting
Cist	:	Burial with side and capstones
Cleavers	:	An early Stone Age tool type
Cromlechs	:	A megalithic type
Cup-mark	:	A pit on a rock
Dolmen	:	A megalithic type
Epigraphy	:	Study of ancient inscriptions
Ethnography	:	Study of tribes
Flakes	:	Chips produced while making stone tools
Haematite	:	A type of iron ore
Green poling	:	Stirring molten copper with green twigs to oxidise hydrocarbons.
Gneiss	:	Banded metamorphic rock
Goethite	:	A type of iron ore
Iconography	:	Study of icons
Jagar	:	Folk epics sung on special occasions
Jat	:	A religious/cultural procession
Kudaikal	:	A megalithic type
Magnetite	:	A type of iron ore
Mait	:	Natal home of married woman

Malachite	:	A carbonate copper ore
Megalith	:	A burial with large stones
Menhir/Monolith	:	Burial marked by a large upright stone
Mesolithic	:	Period between Old and New Stone Age
Microlith	:	Tiny stone tools of late Stone Age
Neolithic	:	New Stone Age marking the domestication of plants and animals
Numismatics	:	Science of studying coins
Orthostats	:	Side stones of a cist grave
Palaeolithic	:	Belonging to Old Stone Age
Palaeography	:	Study of ancient scripts
Palaeozoic	:	Geological period covering 570-245 million years
Petroglyph	:	Man-made bruisings on rock surface
Pleistocene	:	Ice Age beginning two million years ago
Precambrian	:	Geological period covering 3,800-570 million years
Porthole	:	A hole on the capstone
Protohistoric	:	Period between prehistory and history
Pyrite	:	Iron/copper ore
Sauryas	:	Husband's house
Scheelite	:	Tungsten bearing mineral
Schist	:	A regionally metamorphosed rock
Silajit	:	Black ooze from rocks used for Ayurvedic medicine
Stibite	:	Antimony bearing mineral
Tertiary	:	Third stage in the formation of rocks beginning 65 million years ago
Trans-humance	:	Seasonal migration of people
Tuyere	:	Clay pipe used in smelting
Uttaranchal	:	Uttarakhand comprising the divisions of Garhwal and Kumaon
Uttarakhand	:	Comprising the divisions of Garhwal and Kumaon

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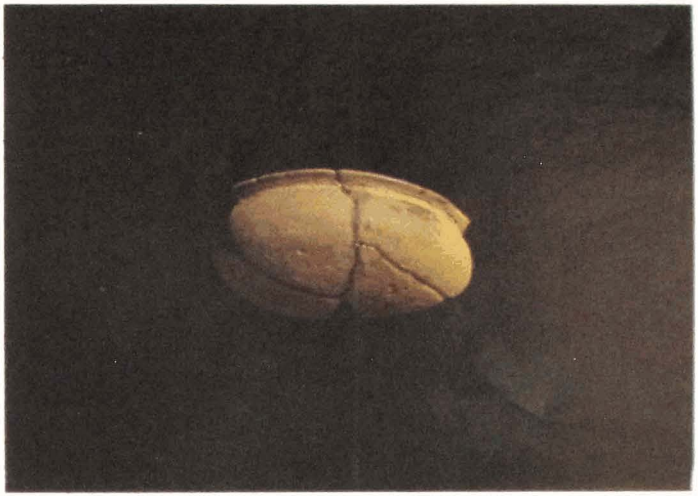

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