ROCK CARVINGS OF LADAKH HIMALAYA:
A DOCUMENTATION AND CONSERVATION EFFORT

S. D. S. Jamwal and T. L. Thangspa

Academic interest and investigation on rock art is very limited in Ladakh. The rock art remains, spread over the great length and breadth of Ladakh are not only interrelated within the region, but also with the adjoining areas of trans-Pamir, Kashmir, Swat, NAO, Xininang and Tibet. There seems to be a historical continuity in this rock art tradition, perhaps from the prehistoric to the historical, and these valuable heritage remains are succumbing to the modern development. The present study, which is a team effort, particularly with the help of the district police network, is the result of thorough search of entire Leh district and some parts of Kargil district, covering several hundreds of sq km. The team documented and photographed thousands of petroglyphs that vary enormously in terms of chronology, subject and distribution and have never been reported earlier. With the initiative of first author, a police officer, and his department a large area near Taru Thang has been converted into a Heritage Rock Garden where boulders with rock carvings, which were in immediate danger of being lost forever, are relocated and put to display after duly recording their geo-coordinates with a GPS.

Keywords: Ladakh - Himalaya - Rock Art - Jammu and Kashmir India.

Introduction

Academic interest and investigation on rock art is very limited in Ladakh and these valuable relics have not found proper place in the history of Ladakh (Fig.1). Most of the inscriptions and rock art in Ladakh have been reported by travellers, missionaries or foreign scholars. The problem is compounded by factors such as the vastness of the area, inaccessible terrain, cold climate and a short, workable summer season. As a result, very little field research has been done in the past. The present study is a team effort, particularly with the help of the district police network. It includes thorough search of entire Leh district and some parts of Kargil district, covering hundreds of sq km. The authors were able to document and photograph the thousands of petroglyphs that vary enormously in terms of chronology, subject and distribution. Most of these engravings have not been reported earlier.

Previous Research

Petroglyphs/rock carvings, which are one of the historical and cultural sources of the past, were recognized for first time in mountainous region of Himalaya by August Herman Francke in the early twentieth century (1902, 1903, 1914, 1925). Following the pioneering study of Francke, who first brought these rock carvings to public attention and researchers like Gordon have studied them. Recently, Rohit

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Vohra (1993), Snellgroove and Skorupski (1977), and B. R. Mani (1989) have undertaken investigations. On the other hand in the areas of Gilgit, Baltistan, Skardu and Chilas of Pakistan administered Kashmir, detailed research has been done by scholars such as Karl Jettmar (1982, Jettmar et al. 1989), A.H Dani (1983a, 1983b) and Harald Hauptmann (1996). Most of this work has been done as a part of joint Pakistan-German project for the exploration of rock art sites along the Karakoram Highway since 1980. Studies of the rock have also been done on the Tibetan side, but there are fewer reports. John Vincent Belleza’s (1999) report on the Chang Thang region of Tibet gives us the idea of similarities between the two regions.

Despite these pioneering publications, no comprehensive study or systematic documentation has been made of the petroglyphs in Ladakh until now. These petroglyphs, scattered in the length and breadth of Ladakh are the fingerprints of communities that lived from the prehistoric times, and shed light on the religious, cultural, social and economic lives of the people who lived on this vast landscape.

We have tied up our studies with the researchers from Heidelberg Academy, Germany, who have done substantial work in the northern areas of Pakistan. Harald Hauptmann is helping the authors of this paper in systematic exploration, documentation and analysis of the petroglyphs discussed here.

Figure 1: Map of Ladakh Himalayas, Tibet and Central Asia
Aim of the Project

The aim of this study (in the longer run) is to make a complete documentation, study and publication of all the rock art sites and also to help in their conservation before they are lost to destruction and vandalism (Fig. 2), forever.

Figure 2: Vandalism of Rock Carvings

Study Area

For the convenience of our study, the Ladakh region has been divided into smaller areas as mentioned below:

1. Leh area (radius of ca.15-20 km around Leh)
2. Nubra Valley (Tangyer/Degar to Turtuk/Takshi)
3. Sham Valley (Nemo to Dha/Hanu)
4. Changthang region (Karu to Tangtse/Nyoma)
5. Kargil area
6. Zanskar Valley (Kargil to Padum)

While our study focused on these areas, Kargil and Zanskar are yet to be fully explored. Each of the study area is so vast that it takes several days even to have a short visit to each one of these sites. Although rock carvings are broadly distributed throughout the area or along on a particular route, but at many places they are also concentrated in a particular area. Many of these sites do not even have any name and therefore, they are just referred to in relation to a nearby landmark such as a village and bridge.

Background to the Study and Methodology

The current study began after a chance observation of one of the petroglyphs by the authors while on a tour in Ladakh in 2001. The first author holds a Master’s
degree in Botany and the second, in Zoology. As our interest in petroglyphs increased, we discovered a large number of rock carvings with a variety of figures, patterns, characters and even scripts from different parts of Ladakh. We came across another stark reality: the petroglyphs were getting destroyed. Some of them have vanished during the short span of less than two years from the start of our work. Most of them are threatened by quarrying for rock pieces for the construction of houses in Ladakh. Some of the carvings have been taken away by the tourists and security force personnel, who know their value, and many of them have simply been vandalized or altered by irresponsible tourists. Soon the reality dawned upon us that some steps need to be taken to save these masterpieces of history and that too very fast. A visit to the local office of Department of Archaeology was also not of much help. As these Petroglyphs were not protected under the any of the archaeology act, their conservation through law was not assured. Though neither of us was trained as archaeologist or historian, we attempted to document, analyse and conserve, as we thought were the best way of doing it. Though the lack of professional knowledge in documentation and conservation work of such serious nature was definitely an obstacle, we also had a huge edge in our favour.

Being the district police chief, the first author had full access to every the nook and corner of Ladakh, which no civilian, even of Indian origin can have on regular basis as more than half of the area of Ladakh is not open to civilians, since this area lies in the borders of China and Pakistan, and visits requiring special permission from the District Magistrate or District Superintendent of Police. Also the availability of human resources and transport was definitely an advantage.

Methodology

We adopted the following methodology for the project:

**Data Collection**

The first challenge in starting the project was to collect information quickly about the places where these petroglyphs existed. Various groups of people helped in this connection. We showed photographs to shepherds, labourers and villagers to know the areas where such Petroglyphs could be found. The police network was extensively utilized and photographs were sent to various police stations and posts of Leh and Kargil districts where they were shown to village Namberdars and Chowkidars, village level government functionaries who regularly visit police stations and report to police on different matters. Thus a rich database of petroglyphs across Ladakh was made which made further documentation and study very easy.

**Documentation**

Rock carvings were photographed comprehensively. Three different types of photographic techniques were used i.e. chrome/slide photograph, positive photographs and digital photographs.
GPS Position: Garmin 12 Global Positioning System was used to record the exact geo-coordinates of each site and rock. Parameters such as longitude, latitude and altitude of each boulders and rocks were recorded and these readings will be used in digital mapping of these sites in future. Other parameters such as orientation and face of the rock with carvings were also recorded.

**Description and Analysis of the Petroglyphs**

The rock carvings have can been grouped into according to the subject of representation, (Figs. 3-23) Table 1. Another categorization of the rock art of Ladakh can be made depending upon its origin, namely, local and exotic.
Local Rock Art Forms

Many of the carvings depict various aspects of local culture and mostly ethnic in nature. The most common depiction at these sites was “Ibex” which even today symbolizes the very basis of Ladakhi culture. Ibex is considered auspicious and worshiped as a sign of prosperity, fertility and strength in Ladakh. Many religious places have images of Ibex depicted at entry gates or doors. At the time of Ladakhi New year, “Losar”, people make an image of ibex from barley dough, which is baked and worshiped, in religious ceremonies. Many communities even today carve an image of Ibex on rocks and in its body cavity, a small ibex is carved (Fig. 24) with the belief that it would lead to conception of women and would bring offspring in the family. This practice in Ladakh is akin to practices of fertility cult being followed in many parts of the world.
### TABLE 1: CATEGORIES OF ROCK ART IN LADAKH

<table>
<thead>
<tr>
<th>Animals (Mammals)</th>
<th>Birds</th>
<th>Heavenly bodies</th>
<th>Religious Symbols</th>
<th>Anthropomorphic figures</th>
<th>Weapons and Tools</th>
<th>Other Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibex</td>
<td>Peacock</td>
<td>Sun</td>
<td>Trident</td>
<td>Humans in hunting</td>
<td>Spear</td>
<td>Cupules</td>
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<td>Mountain goat</td>
<td>Eagle</td>
<td>Moon</td>
<td>Swastika</td>
<td>Humans in rituals</td>
<td>Axe</td>
<td>Masks</td>
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<td>Antelope</td>
<td>Duck</td>
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<td>Group dance</td>
<td>Bow and arrow</td>
<td>Circles</td>
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<td>Yak</td>
<td>Mystical bird</td>
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<td>Chorten</td>
<td>Duel (fighting)</td>
<td>Sword</td>
<td>Meander</td>
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<td>Leopard</td>
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<td>Worship</td>
<td>Mace</td>
<td>Mountain</td>
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<td>Elephant</td>
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<td>Mother and child</td>
<td>Shield</td>
<td>Palm</td>
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<td>Bison</td>
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<td>Dagger</td>
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<td>Stick</td>
<td>Heraldic</td>
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<td>Wolf</td>
<td>Human like figures</td>
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<td>Kharosthi</td>
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<td>Dragon cat</td>
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<td>Tibetan</td>
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<td>Khyung</td>
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<td>Deer</td>
<td>Demons or spirits</td>
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<td>Chinese</td>
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<td>Horse</td>
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<td>script</td>
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<td>Double</td>
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<td>Humped Camel</td>
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Typology of Ibex Drawings

An analysis of the rock carvings of Ibex showed five types of ibex drawings.

1. Line drawing (Fig. 25) - Here the figure of ibex was the simplest, consisting of just lines. A single line formed the main body; four lines, the legs; two lines, the horns; a single line, the tail, and sometimes a single line for the sexual organ.

2. Angular form or Bi-triangular form (Fig. 26) - In this form, the main body of the animal is not formed of a single line, but two, which bisect the body and forming waist-like portion in the centre. As a result, the main body of the animal consisted of two triangles. Single lines formed legs, horn and tail of the animal.

3. Bi-Curvaceous form (Fig. 27) - In this type of carving, the animal body consists of two curves that face each other (Bi-concave), but do not meet or cut. As a result, the narrow portion of the body appeared like waist. Curves also form antlers, legs and tail of the animal. In some carvings, even hunter has also been depicted in curved form.

4. Fully filled form (Fig. 28) - Here the animal body is fully developed; emphasis is more on depiction of the body parts clearly. The body portion is fully filled by pecking. Outlines of the figure are clear and fine.

5. Stylistic forms (Fig. 29) - In this type of carving, the body is artistically made, body parts and body cavity shows “S” type pattern. The animal is always shown standing on the tips of its toes. This pattern is also called “tip-toe” pattern.
Figure 25: Line Drawing Pattern Near Skarbuchan, Leh

Figure 26: Bi-triangular form Phyang, Leh

Figure 27: Bi-curvaceous forms near Khalsi, Leh
Many other carvings, which were definitely of local origin, were found. Their local origin can be ascertained, since human figures dressed in traditional costumes (Fig. 16) and possess instruments and weapons, which are used even now (Fig 21). Depiction of contemporary hunting techniques (Fig. 20), cultural ceremonies (Fig 18) and scripts of Ladakh along with the carvings also suggest this. The fact that these were recorded from “Dhoks,” highland pastures and scattered villages where no foreigner would have ordinarily ventured also support this contention.

**Exotic Rock Art forms**

There are many rock art forms in Ladakh, which clearly show an exotic influence as described below.
1. They are stylistically very different from the images of local origin.
2. The likes of them are uncommon and some of them are found just on a particular rock or in a particular area and nowhere else.
3. Their distribution is along the ancient foot trails and trade routes or the banks of rivers.
4. Often, the subject matter and pattern of depiction in these carvings are recorded in other parts of the world too, e.g. in Tibet by Tucci; in Central Asia and Altai region by Kubarev; from Chillas and Thalpan by K. Jettmar; from southern Siberia by Sher and various places in central Asia by E.A. Novogrodova. Figs. 29, 7, 19 and 23 are the examples of exotic influence on rock art of Ladakh.

**Rock Art of Ladakh: Chronology and Dating**

No scientific dating is available for the rock art of Ladakh. Hence, the following techniques were adopted by the authors to establish the date of the rock carvings.

1. **Colour of the carving:** Since rock carving is made by scratching the glazy surface of the rock, the newly exposed surface after coming in contact with the atmospheric oxygen it begins to undergo fresh oxidation process and after years of oxidation, it acquires a dark colour called “patina.” Thus, as a rule, the darker the colour of carving, the older it is.
2. **Superimposition** (Fig. 30): Sometimes, more than one rock-carving from different ages are seen on the same rock. This can help to relatively date them.
3. **Analogy:** Comparison with similar motifs whose age is known (e.g. Types of weapons and tools displayed in carving): Carvings showing crude weapons such as stone mace, stone axe, bow and arrow (Fig. 31) can be considered older than those with modern weapons such as metal swords or daggers. According to Kubarev, spherical mace with stick is related to representation from the third and second millennia in Okunevo and Andronovo cultures of central Asia. However, this method is not reliable.
4. **Script:** Sometimes script occurs along with rock carvings and it helps to estimate the approximate age of the carving, as different scripts were popular in different periods. Sometimes, actual dates when carving was made have been found written on the rocks.
5. **Themes:** Same theme belonging to different periods may have different styles. Many of the hunting scenes with mounted men chasing a dong or yak are said to be pre-Buddhist by J. V. Bellezza’s description of Tibet art in *Images of Lost Civilization*. He also puts the figure of Khyung to the Pre-Buddhist period (Fig. 15). For example Deer (or usually wild animals)
with simple outline, disproportionately drawn, highly patinated may belong to early Neolithic (Fig 6). The mask and mask-like figures belong to the Okunevo and related Bronze Age cultures from third and second millennia BC (Fig. 12). The stylized stag (or ibex, horses), such as found at Domkhar, (Fig. 29) in which animal stands on the tip of its toes, and shows body-filled with “S” shaped spiral designs has been placed to the period of first millennium BC by K. Jettmar (1982, 1989). However, E.A. Novgorodova

Figure 30: Showing Superimposition of Rock Carvings

Figure 31: A Hunter with Bow and Arrow and Mace, near Dah-Hanu, Leh
has dated similar motifs recorded from Central Asia as belonging to the 8th and 7th centuries BC. Here we also find Chinese inscriptions, yet to be transliterated. Some sites, e.g. Chilling, show the Hindu traditions with images of elephants, peacock and linga (Figs. 5 and 15), trident and swastika (Fig. 11). There are many figures of archaic Stupa, (Fig. 22) which perhaps belong to the period of introduction of Buddhism in Ladakh. These stupas show some similarities with the stupas built by Rinchen Zangpo around the 11th century AD. These dates can be considered only tentative and scientific dating of these remains is essential.

Conservation Efforts

Rock art of Ladakh is facing grave threat because of a variety of reasons. First of all, rocks lying unattended are being destroyed by stonecutters who break pieces of rock to be used as material for construction of buildings. Secondly, since most of petroglyphs have been made along the ancient routes by travellers, many such rock art sites are under threat of extinction because of road expansion work, as roads are built along old the foot-routes across Ladakh. Thirdly, these Petroglyphs have been destroyed by overwriting, alterations and neglect by the local people. Many a times, these petroglyphs are being stolen by tourists and security force personnel, who know about their antique value. Keeping in view the varied nature of threat to petroglyphs from different quarters, we attempted to make people aware about the importance of the petroglyphs using electronic and print media. We also organized exhibition and made presentations of our work in various forums. We involved religious heads of various monasteries, students and other social groups to popularise the need for conservation of rock carvings. In spite of all these interventions, we realized that rocks were getting destroyed with each passing day. The situation was really alarming. It was clear that unless some drastic interventions are made, these masterpieces of human history would be lost forever. We ultimately decided to occupy a large tract of land near village “Taru,” about 20 km from Leh on Leh-Kargil National Highway. The reason for the selection of this site was the presence many rock carvings there and also since the spot is near Leh town and right on the National Highway, access to the site for tourists and art lovers would be very easy. After discussions with the local people and the district administration, we occupied about 55 ha of land at the site and started relocating rocks bearing petroglyphs, which were in immediate danger. We also established a temporary police post at this place to ensure that the rocks remain safe from human vandalism. Before relocating the rocks, we took the precaution of recording their GPS location, so that their original location is known which might be useful for any future references. So far, more than 20 boulders have been transported to this new location, which we propose to develop as a heritage rock garden. Flag posts have been put next to each boulder so as to help in easy identification of the
rock having petroglyphs from a distance. Placards have been put next to each rock, with description about the carvings and places from where they have been lifted. Finally, we have started an NGO, “Upper Indus Rock Art Society” (UIRAS) with its headquarters at “Central Institute of Buddhist Studies” (CIBS), Leh. This has been done to ensure more interest and involvement of the local community in exploration and documentation of petroglyphs from all parts so that the project reaches to its logical conclusion.

Conclusions
From this project, three things are evident: (a) the examples of rock art, spread over the great length and breadth of Ladakh are not only interrelated within the region, but also with the adjoining areas of trans-Pamir, Kashmir, Swat, NAoP, Xinjinang and Tibet; (b), however fragmented it may be, there seems a historical continuity in this rock art tradition perhaps from the prehistoric to the historical; (c) these rock art remains, as of today are succumbing to the modern development; many have vanished within our study period, while others lay unnoticed, simultaneously loosing to natural decay. It is this last reason that led us to work for the conservation of these historical relics. In this context with the initiative of first author, a Police officer, and his department, a large area near Taru Thang is converted into Heritage Rock Garden where boulders with rock carvings which were in immediate danger of being lost for ever are relocated and put to display after duly recording their geo-coordinates with a GPS.

References