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Martin Vernier

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Zamthang, epicentre of Zanskar's rock art heritage

By Martin Vernier¹

his paper intends to present the petroglyph site of Zamthang (*Zam thang*) located in the Lungnak (*Lung nag*) valley of Zanskar (*bZangs dkar*), Kargil district of Ladakh (*La dwags*), Jammu and Kashmir, India. It will show that this site can be considered as the most important one from about 20 known rock art sites in Zanskar. The paper starts with a brief history of the awareness and knowledge of the country's rock art heritage and its main actors before concentrating on the history of that particular site documentation itself. The problems and prospects of rock art conservation and development in this area will also be briefly discussed. Subsequently, the paper attempts a full description of the site's setting, its content and the chronology of its survey and documentation. The current condition of the site as well as the prospects for its enhancement and protection will also be presented. A brief comparative overview of some of the major and most relevant elements of its content will be discussed and aim at defining a timeframe. To conclude, the neighbouring rock art sites as well as other linked historical remains will briefly be presented together with some geographical specifications with a view to highlight the anthropological potential of the area and the much-required interdisciplinary and systematic study.

History of the researches on Ladakh's rock art heritage and their main actors²

Since the so called opening, or rather one should speak of a re-opening, of Ladakh to the rest of the world in the 1970s, local Rock

¹ Martin Vernier is a Swiss citizen and is based in Lausanne. He holds a Swiss federal degree in fine arts. He has been conducting archaeological surveys in Ladakh since 1996 almost on a yearly basis, focusing on the early history of the region. His main research interests are petroglyphs and early Buddhist stone carvings. His archaeological activities include the drawing of illustrations pertaining to Ladakhi archaeology, and various collaborations with NGOs engaged in conservation and protection. He is also a permanent member of the MAFIL (Indo-French Archaeological Mission in Ladakh). To contact him: zskvernier@gmail.com

² This passage is attempted as a supplement to the synthesis on the same subject published in the RET by Bellezza and Bruneau and adds more informal actors, see Bruneau et Bellezza, 2013.

Art heritage has received scant attention compared to the more visible and attractive, rich and various historical sites of the country. If one considers the attention art historians, restorers, architects and other researchers have paid to the religious artistic, as well as architectural heritage, we must admit that Rock Art has not received the attention that its local richness and diversity deserves.

It is not the intention of this paper to present a historical view of Rock Art research in Ladakh. Rather the aim is to put into perspective the changes that have occurred during the past fifteen years or so through a short chronological summary of the research carried out.

Towards the end of the nineteenth century the first mention of stone carvings, representing animals and human beings, was made by Ujfalvy³, an Austro-Hungarian travelling in the footpath of Csoma de Körös, and K. Marx, a Moravian missionary posted in Leh⁴. Then, in the first years of the last century, A. H. Francke was the first not only to mention the petroglyphs but to copy, describe and list some of them⁵. By commenting the motifs he indexed, their locations and physical features, Francke provides us with the first scientifically oriented data sheets concerning the rock art of Ladakh. In the 1930s de Terra took some photographs of petroglyphs and, although limited to the major sites along the Indus, he gathered sufficient material to present a first attempt at a chronology scheme based on stylistic classification⁶. Giuseppe Tucci, the well-known Tibetologist pioneer and explorer also took some photographs during his tour in Ladakh in the 1930s but unfortunately thereafter only published one⁷.

When in the mid 1990s I started paying attention to this specific form of historical heritage I soon realized that little was available on the topic prior to the re-opening of Ladakh in 1974, except for Francke's data sheets and comments. In fact almost half a century had passed without any new references to Ladakhi rock art. In 1977, Snellgrove and Skorupski wrote an inset about Alchi's rock art site in their "Cultural Heritage of Ladakh"⁸, but apart from these scant resources, even less was available on Zaskar, the area that retains my interest during the first decade of my Himalayan work⁹. Although researchers such as Rohit Vohra had already published a booklet called "Rock Art in Ladakh" through which he presented his field

³ Ujfalvy, 1884, p. 248.

⁴ Marx, 1897.

⁵ Francke, 1902.

⁶ De Terra, 1940, p. 48.

⁷ Tucci, 1958, p. 294, fig. 8.

⁸ Snellgrove and Skorupski, 1982.

⁹ I visited Zaskar in 1987, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2003, 2008, 2009, 2011, 2014.

trips' results (1979, 80, 83 and 86), it mostly contains pictures and focuses mainly on religious motifs such as chorten (*mchod rten* / *stūpa*), Buddhist low-reliefs and inscriptions¹⁰. To my knowledge Zanskar rock art sites, and amongst them Zamthang in particular, were first visited in 1976 by the French anthropologist and explorer Michel Peissel. He mentioned them in 1979¹¹ and further qualified the various petroglyphs he encountered during his trips as being "the prehistoric art of the Minaro"¹². In 1982 Klodzinski and Gouazé had published some of Zamthang's engravings under the name Char¹³, taking the name of the nearby village. In the early 1990s, the site was again referred to by H. P. Francfort who published some photographs of the latter mentioned explorers in a paper dedicated to the Protohistoric carvings of Ladakh/Zanskar¹⁴. Indeed, although almost twenty-five years have elapsed, this first scientific article from Francfort et al. remains one of the main references on the topic for this specific area. One may understand better how much things have changed since that time when we appreciate that whilst Francfort wrote his article on the basis of some thirty motifs, our current database contains about twenty thousand of them.

The ASI (Archaeological Survey of India) had also conducted several survey tours in Ladakh and adjacent areas but to our knowledge no detailed publication of the Rock Art data collected by ASI was ever published¹⁵. So, until the 2000s, documents on rock art, and especially on those from Zanskar region, were very few and none of them gave a list of sites, nor their detailed content. Neither did they attempt to draw a map of their distribution.

Fortunately, in the last decade or so, things have changed and it seems that the local rock art heritage has finally attracted the attention it deserves from various researchers, scholars as well as from the authorities and local NGOs. In this regard, the re-opening of previously restricted areas of Ladakh to a wide tourist industry, and that of trekking in particular, has undeniably favoured the growing

¹⁰ Vohra, 2005.

¹¹ Peissel, 1979, p. 215.

¹² Peissel, 2002, p. 54-5.

¹³ Klodzinski and Gouazé, 1982.

¹⁴ Francfort et al., 1990.

¹⁵ With his team, R.S. Fonia, then director of Srinagar ASI's circle had conducted a systematic exploration of the Kargil district (including Zanskar area). In his reports from his field mission in 1988-89 and 1992-93 he mentions the presence of rock art in the region and lists several locations. In 1994-95 he explored the same way the Rupshu area, east of Zanskar, and mentions some rock art there as well. In 1998-99 the ASI conducted two different projects of rock art survey, one lead by Fonia and another one by B. R. Mani. The latter subsequently published two papers dedicated to rock art (Mani, 1998 and 2001).

awareness of the importance of this heritage. Trekkers, who have been criss-crossing these mountains over the last thirty years have been the unofficial rapporteurs to the academic and scientific community. Their openness and desire to share data collected during their field trips, providing researchers with valuable first-hand information, deserves to be mentioned. Pioneers of this trekking wave, such as O. Föllmi, P. Chabloz, X. Lecoultre and others have played an undeniable role, others who have followed, may be less famous but have consistently played, and still do, the role of rapporteurs while accomplishing their activities as trekking guides and tour leaders. Among them J-L. Taillefer, N. Eakins and C. Chabert deserve special mention for their dedication to the specific cause of rock art preservation.

Indeed, some remarkable individuals deliberately decided to take on and support the conservation and protection of Ladakhi Rock Art sites, dedicating their time and energy to try to save this precious heritage. As early as 1997, Rob Linrothe published an article in the defunct *Ladakh Melong* newspaper and tried to alert the public about the on-going destruction of ancient engraved rocks, especially at Alchi bridge's plateau¹⁶. This pioneering article deserves a special mention as it was also translated in to the Ladakhi language, a rare thing when it comes to the documentation of the country's cultural heritage.

The figure of Tashi Dawa, a Ladakhi teacher based in Leh, must be quoted along with that of S. Jamwal, Senior Superintendent of Police, once posted in Leh, who, during his tenure, spent lots of time and energy documenting and trying to save a number of Rock Art sites¹⁷. More recently, Viraf Mehta, an anthropologist and independent CSR consultant based in Delhi with a special interest in the exploration of Ladakh's terrain, culture and, more recently, its rock art, should also be mentioned¹⁸. Within the framework of this new dynamic of protection and awareness of the rock heritage in Ladakh, several key persons such as Meenakshi Dubey-Pathak, who helps to protect Karu rock art site in Central Ladakh, and whole teams of various NGOs, local as well as nationals and internationals, have to be cited here. Indeed for a decade, one NGO, the INTACH (Indian National Trust for Architecture and Cultural Heritage) has devoted time and energy trying to protect and list rock art sites throughout the country. Ms

¹⁶ *Ladags Melong*, Spring 1997, p. 20-3. In the same article a footnote reports the destruction of some engraved boulders at Kaltse bridge witnessed by Bettina Zeisler.

¹⁷ S. Jamwal was posted as SSP in Leh between January 2001 and October 2002.

¹⁸ V. Mehta has to be mentioned here for the attempts he made to bring together the various rather "freelance" actors of the Ladakhi Rock Art conservation scene.

Tara Sharma¹⁹ should be mentioned here for her willingness to cooperate and collaborate, as well as for the efficiency of her own team including those members recruited locally. Thanks to Ms Sharma, our team worked jointly with hers to spread leaflets in Hindi, Ladakhi and English, dedicated to specific rock art sites and targeting particular actors involved in their protection such as the BRO (Border Road Organisation). The publication of "Legacy of a Mountain People" by the Ladakhi based NIRLAC (Namgyal Institute for research on Ladakhi Art and Culture), which lists many rock art sites and gives details of their present state of conservation, constitutes an important step towards a wide scale local awareness of the matter²⁰. To finish with this non-exhaustive list, The Snow Leopard Conservancy-India Trust deserves mention here for the attention and practical actions it has been taking regarding the protection and enhancement of engraved rocks in Ladakh and Zanskar. Indeed, as part of their wider plans of "Home Stay" improvement initiative, this NGO, among others, is trying to find the best ways to protect this heritage by turning rock art sites into tourist-friendly attractions and include some of them within their sustainable tourism projects as elements of cultural tours. While we are considering here the various initiatives for rock art site protection, with a view to turning them into tourist attractions the village of Domkhar has to be mentioned and stands as an example of private initiative. The establishment of the "Domkhar Sanctuary Camp" and its adjoining "Rock Art Heritage Garden", (which were officially inaugurated by prominent local political figures and religious incarnate lamas), as well as the various related side-effects on the site and the issues it raises, would deserve an interesting paper on its own. The site located next to Murgi village, in the Nubra valley, the biggest rock art site so far listed in the whole area, is another example of protection with a preoccupation this time with the wider public in mind – not just tourists. This site has been proposed and accepted for national protection following a proposal submitted by the ASI / MAFIL in 2013.

It is only during this last decade that the study of the Ladakhi rock art corpus has been undertaken by professionals in a scientific and systematic manner. The leading figure in this enormous task is Dr

¹⁹ Tara Sharma had been project consultant from 2010 to 2013 for the Ladakh Community conservation grant project of INTACH, which looked at community engagement with heritage conservation projects, she was director of NIRLAC from 2000-2006 and then project consultant with NIRLAC from 2006-2008. She has organized and managed several workshops and collaborative projects for rock art conservation as well as the publication of information leaflets to be distributed locally.

²⁰ NIRLAC, 2008.

Laurianne Bruneau, a French archaeologist who, on the basis of the database made by myself and in collaboration with me has completed a PHD work on the topic.

The whole process started a decade ago (2006) when Dr Bruneau first approach the author to share with him her then going on research on Ladakhi petroglyphs. In 2007 they spent time doing field-work together, survey new sites, and started their collaboration. Dr Bruneau finally and very successfully defended her doctoral thesis at the beginning of the year 2010. This pioneering study is now waiting to be published and the collaborative work, which generated many publications on rock art, is still going on.

Unfortunately it must be admitted that this interest is due in large part to the accelerated disappearance of rock art sites throughout the country. Indeed the development and modernization of Ladakh during the past three decades has generated an increasing need for building material. As rock blocks are the basic element of modern local architecture, many of the most accessible areas that are dotted with large boulders have been exploited regardless of whether they bear historical and proto-historical engravings or not. It is only very recently that the magnitude of such damage has been recognised whether by various local authorities and actors of the patrimony conservation scene or by a number of international specialists.

Various plans to save and promote the Zamthang site are part of this recent awareness. It was this project, initiated and partly led by Puja Batra²¹, and through The Snow Leopard Conservancy-India Trust, that first moved me to re-work on the Zamthang rock art site and to publish my material. I hope it will benefit those who are responsible for the fate of this site and are trying to promote it as well as protect it. More broadly, I think the descriptive section might be useful to those who are studying rock art in the Indian Himalayas but cannot afford to or find it difficult to make a visit to such remote sites, even major ones like Zamthang.

I hope it will be of use to those who are responsible for the preservation of this site and are trying to promote it as well as protect it. I would include in this, the various NGOs and individuals listed above who are striving to have these sites recognised as part of the country's cultural heritage.

²¹ P. Batra holds a PhD in ecology. She was previously the interim deputy director of SLC-IT and is working nowadays as an independent consultant in wildlife conservation and sustainable development.

The site of Zamthang

I first visited the rock art site at Zamthang in 1996²², while camping nearby during a trekking tour in the Lungnak valley of southern Zanskar. The site is a natural stopping place, located as it is on one of the main tracks that cross the great Himalayan range linking Central Zanskar to the foothills of Himachal Pradesh. The site stands on the northern slopes of the Great Himalayan range, roughly in the middle of the inhabited valley, locally known as Lungnak or Tsarap. It is located opposite the village of Cha tse rab²³ (*bCa / bya tse rab*) and was, at that time, within three days walk from Padum, the historical capital of Zanskar. A new road, still under construction, has now reduced this approach to a single day's walk and the arrival of the road at Cha tse rab village, opposite Zamthang site, is planned for 2016.

The rock carvings are situated 3800 meters above sea level, on a triangular shaped flat alluvial terrace overlooking the Tsarap River (locally called Lungnak chu, *lung nag chu*), which runs West to East. It faces the village of Cha and is linked to it by a suspension bridge below the site. The contemporary local toponymy derives from the presence of that bridge (*zam pa* bridge, *thang* plateau), (Ill.1 and fig.1). It is of interest to note that an old willow birch suspension bridge was situated a few tens of meters upstream from the modern one in use today, until it collapsed in 2003, and that even earlier dry stone bridge piers are still visible on the left bank, next to those of the birch bridge. This site has clearly served as a crossing point for some many centuries due, no doubt, to the fact that, while close to a major confluence, the river narrows here.

As discussed below, this ideal location within the valley on flat, high ground scattered with boulders, accessed by ancient routes close to an ideal river crossing would mark out the Zamthang site as an ideal resting place down the ages, whether as a permanent or temporary shelter²⁴.

²² I visited Zamthang site in 1996, 1997, 1998, 2000, 2001, 2003, 2008, 2011 and 2014.

²³ Further down simply referred as Cha village.

²⁴ Indeed several small flat areas, almost encircled by engraved rocks, must have presented ideal resting places through the ages.

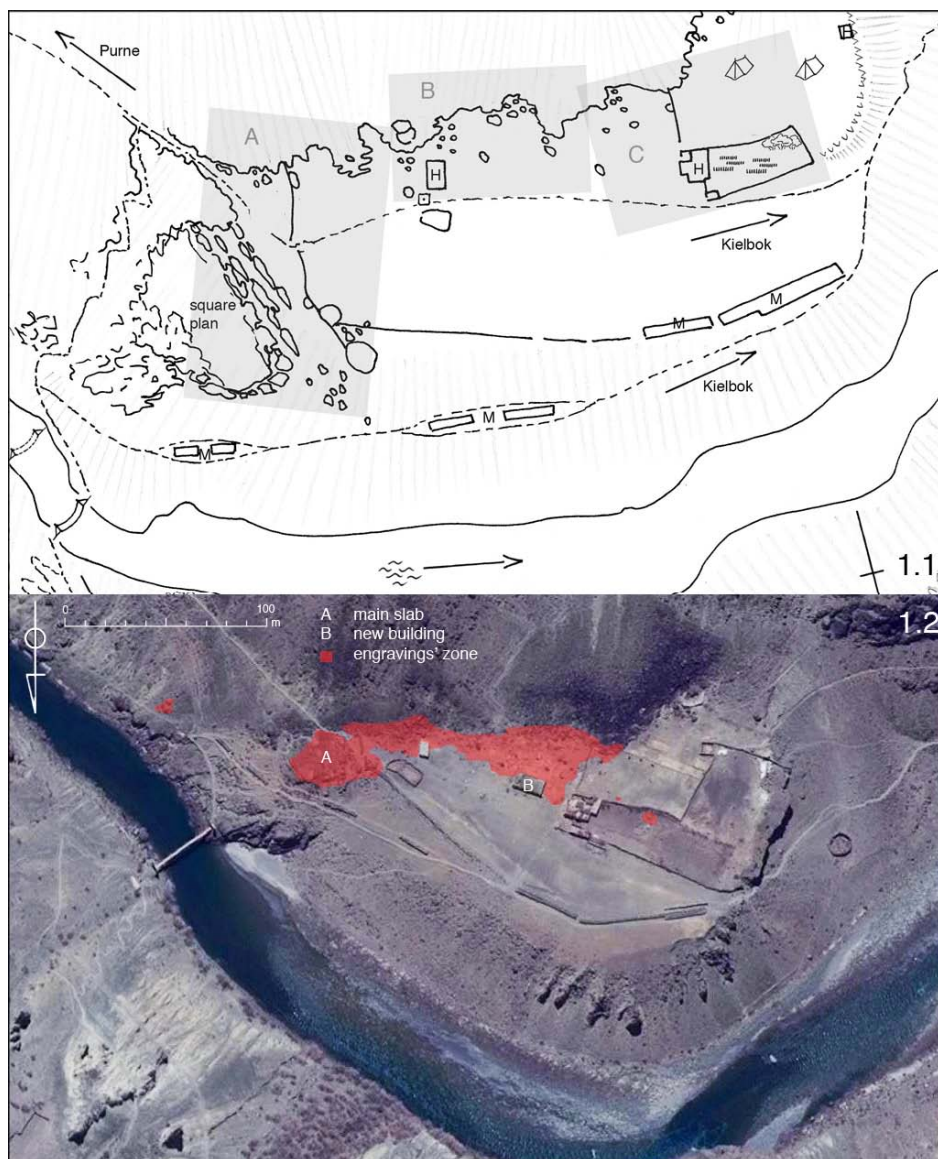


Fig.1 1.1, Sketch site plan of Zamthang, (Credits: M. Vernier, 1998)
1.2, Satellite image with indication of the engraved areas 2015 (from: <https://www.bing.com/maps/>, colour enhanced, 2015).



Ill.1 General view of Zamthang as seen from above Cha village (Credits: M. Vernier, 2014).

In fact, the Zamthang plateau is still a crossroads today. The plateau, being located on a major trans-Himalayan itinerary for centuries, comprises several traces of more recent man-made structures. It has been inhabited all year round for the past fifty years or so. One family has settled on the westernmost part of the plateau taking advantage of the small spring located on the heights of that part of the slope. This settlement is composed today of a rather large two storey farmhouse surrounded by an enclosed garden and few fields. The house also serves as an informal relay for caravans and travellers and a camping ground has been set up behind it, towards the south, to accommodate groups of trekkers. At the eastern end of the plateau there is a small windowless cubic building constructed by the local administration about twenty-five years ago as a “food storage godown”. Recently another more imposing single storey construction has been placed between these two buildings. This latest addition, due to its strong impact on the historical site, has been the subject of previous publications and notes by the author and his colleague L. Bruneau, and will be discussed in detail below²⁵. A rectangular animal enclosure made of dry stone masonry is located in front of the “Food storage godown”. A dry stonewall runs along the edge of the flat ground and extends from the Eastern end of the plateau to the

²⁵ Vernier, 2011; Vernier and Bruneau, 2013.

west of it for about fifty meters. Seven mane walls (*ma Ni*) and a chorten, are located on a line stretching straight from above the bridge to the westernmost part of the plateau and require mention to complete the list of these human built structures on the site.

Let us turn now our attention towards the engraved rocks. The petroglyph site stretches from the inside of the house's garden enclosure eastwards. The garden contains a few small engraved boulders, some of them partly broken, and extends, with most of the engraved rocks concentrated along the easternmost edge of the plateau, towards the bridge. The Eastern most part of the plateau ends in a large smooth slab outcrop covered with engravings, which constitutes its primary rock art component. One can therefore divide the site into three main zones: a Western and first zone (C on fig.1.1), located around the farmhouse and which extends a little towards East. A second and central zone (B), bordering the first one on its Eastern side and extending to the Eastern end of the plateau and a third one (A) located on the slope and constituted by the main slab and some subsidiary engraved stones located further down the slope toward the river, a little further upstream towards the old birch bridge and the ancient stone piers (fig.1.1 lower left). The first two zones are thus located on almost flat ground and on the southern side of the plateau. There, large boulders form a kind of natural fence between the flat area of the plateau and the mountain slope, the whole group overlooking the riverbed thirty to forty meters below. One can reasonably assume that the absence of rocks and therefore of engravings on the northern side of the plateau can be partly explained by the presence of the important mane walls. The steeper slope on that side of the plateau also explains the lack of engravings²⁶. The site, with a fairly large flat area set into the slope helps explain why most of the boulders are located on its southern part, at the foot of the slope where they naturally end their fall.

²⁶ Very few sites listed in our database are located on steep slopes, and those that are, count amongst the less significant ones.



III.2 The main slab covered with engravings (B4 section). (Credits: M. Vernier, 2004)

These dark brown reddish boulders vary with the engraved ones ranging from the size of a sheep to that of a car. They offer somewhat large flat areas, their surfaces being polished, soft, sometimes quite curved and coated with a thick, dark reddish desert varnish. The vast majority of the engraved stones are concentrated on the western end of the plateau, on the upper slope descending towards the river. Here lies Zamthang's epicentre, a large more or less square shaped slab of detritic stone measuring about seventeen meters across. The whole upper portion of which forms a continuous surface of a rather undulating aspect, streaked with cracks and entirely covered with engravings (III.2)

Survey of rock art at Zamthang

As previously mentioned, I first spent a rest day at the Zamthang site in 1996, during a tour in Upper Zanskar. Subsequently, in 1997, I stayed for a short period on the plateau itself to conduct a pre-study of its content. During both these stays I made numerous sketches of

some of the engravings, draft plans of the site and other neighbouring ones. I noted their location within the valley and took a few black and white pictures of the engraved blocks. In 1998 I spent four whole working days documenting the site. This survey of Zamthang site allowed me to assess my ability to conduct a proper documentation of a petroglyph site alone and with the limited resources at my disposal. I intended to use this documentation attempt as a test example to support an application for a research scholarship I was planning to submit the following year. This research project would focus on the survey and documentation of the rock art sites of Ladakh and Zanskar and was scheduled to last for two years. Most of my data of Zamthang dates back to this first period of fieldwork.

I had at my disposal very limited material that I had to carry from Padum, Zanskar's capital, three to four days downstream. These comprised loose paper sheets, notebooks, pencils, few carbon paper sheets, chalk and a chalk marker tape measure, a magnifying glass, and four rolls of black and white photographic film.

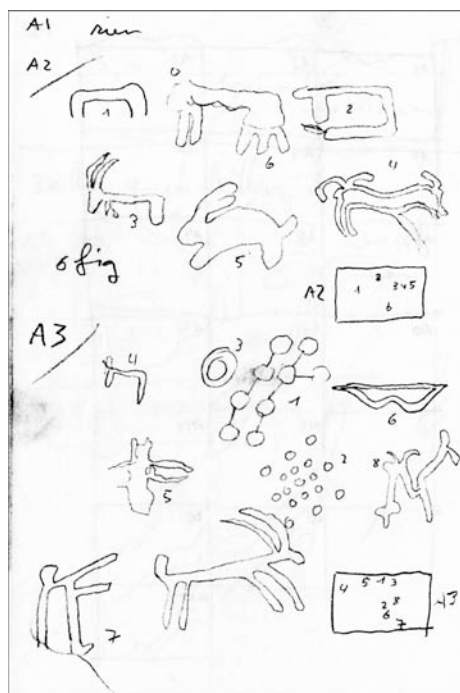
During this first working stay at Zamthang, I sketched a plan of the site using mainly my footsteps as a measuring unit, and pinpointed all the engraved boulders.

In a second stage, all the engravings were counted and most of the easily identifiable motifs were drawn on paper (Ill.3). In addition, a photographic survey was conducted and completed by some on-site rubbings. In this regard, the carbon paper technique proved reliable and gave good results. It provided a very good rendition of the stone's texture but proved difficult to handle under trekking conditions (Ill.4). On the main slab, a grid was drawn with the means of a chalk marker tape measure. I divided the whole surface into 119 rectangles of 100 x 70 cm. Every single figure located within each rectangle was then counted and a vertical picture taken of the rectangle while the location of each and every design was recorded in a sketch.

All this work was accomplished as a first major archaeological work experience by the author and of course it reveals several gaps and deficiencies²⁷. A new observation of the handmade enlarged photographic prints I made some fifteen years after the first print, shows that a certain amount of figures were not recorded properly. In some cases, groups of figures, for instance, were counted as a single one, while others, faded and barely visible, were not noticed at the time of this first study. Moreover, most of the non-figurative or incomplete figures such as lines or lines segments, groups of impacts, hammered surfaces, palimpsest and overlapping figures have, in most instances, not been counted as part of the site content. To illustrate this with

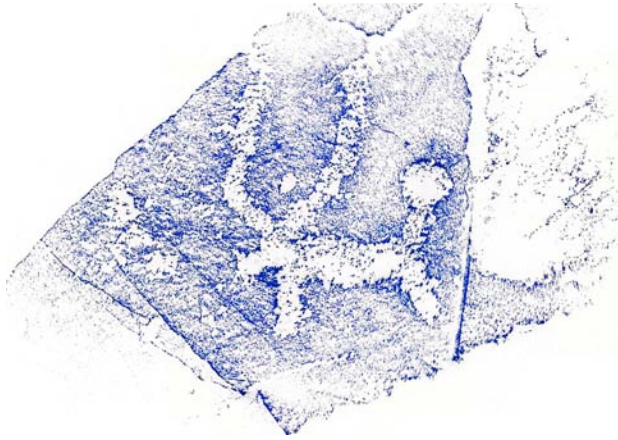
²⁷ The number of figures thus obtained, has to be treated with caution.

numbers: a new counting of the engravings from the main slab grid, made on the basis of digital photos taken during the 2004 visit, reveals 132 figures for section A (A1 to A17) of the grid, instead of the 75 initially counted (fig.2). Unfortunately, the same operation was not possible on the B and C sections of the grid, thus it was not possible to establish a more precise up to date content of the figures on that slab. Nevertheless we can reasonably assume that the total number of figures present on Zamthang site is well above a thousand instead of the 850 originally counted and the 892 entered into our database after a first recount based on the picture analysis²⁸.



III.3 A page from the author's sketchbook during 1998 survey of the main stone slab. (Credits: M. Vernier, 1998).

²⁸ The author rock art database includes 184 sites, out of which 117 have been systematically surveyed, and totals 12955 engravings. The whole, including the sites only superficially documented through photographic means, amounts to about 20,000 figures. Four supplementary years of fieldwork and new sites are still waiting to be entered in the system.



III.4 Carbon paper report showing a yak with ball shaped tail, not to scale.
(Credits: M. Vernier 1998, digitization L. Bruneau)

Following this first survey of the site, complementary recording work was done in 2000 during a day's stay at the site and another one in 2004, using a digital camera for the first time. In 2004, a number of drawings were made of the second slab, located near the bridge, and a new and more precise plan of the whole site was executed. It was during the 2004 stay at the site, that the nearby site of Char, on the other side of the river and located above the eponymous village, was systematically surveyed. Its content proves to be similar to that of Zamthang, without the recent depredations of the latter.

A brief visit was made to the site in 2006, during which I noticed an increase in vandalism in the form of painted and engraved graffiti. Interestingly enough, these strongly indicated the growing impact of outsiders within the valley's social and economic life and its links with the tourist related economy. Indeed a stone on the site's edge was freshly engraved with an advertisement promoting nearby homestay facilities, while another stone, fully engraved with figures from various periods, had been painted over with the web address of an NGO locally involved in developing a private school in a village upstream. There was worse damage when I revisited the site in 2011. A large learning centre had been built by a local NGO, the "Himalayan astro-medicines & ecological development society," about twenty meters east of the farmhouse, with financial help from two French associations. Shockingly, these organisations had used the stones bearing petroglyphs as building materials for this new construction. This had resulted in the disappearance, among others, of the two mask designs, the only known ones so far from the entire Zanskar

region²⁹. At the time of writing this article, a project for safeguarding the site was still under discussion, with the Snow Leopard Conservancy-India Trust³⁰.

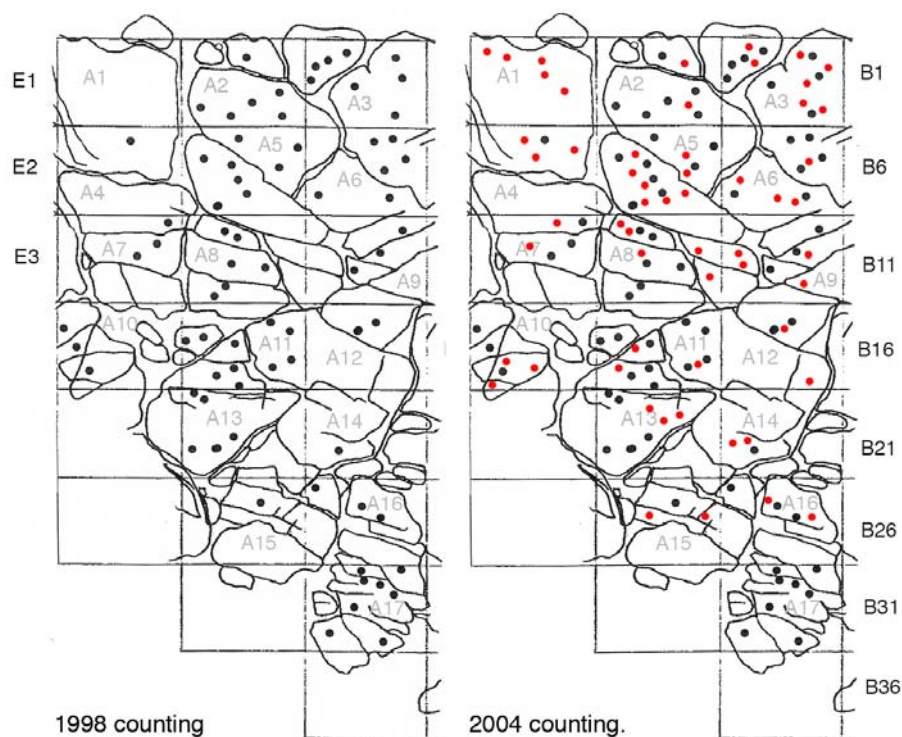


Fig. 2 Section "A" of the square plan of the main slab, first as reported in 1998 then its completion in 2004. (Credits: M. Vernier, 2014)

²⁹ I, jointly with my colleague Dr L. Bruneau, have twice published about the situation in Zamthang in 2011 and the issues it raises. Vernier and Bruneau, 2011 and 2013.

³⁰ Unfortunately, during my two visits to the site and Cha village in the summer of 2014 the project was still pending. I sincerely hope that this project, which involves the local village community, will come to fruition, and help to prevent any further attacks on the content of the site and protect it in a sustainable manner.

The types of engravings

Although the exact number of figures engraved at Zamthang is unfortunately not known to this day, its content deserves to be briefly reviewed. For this I will use here the assessment I made during 1998 survey, which was subsequently revised by my colleague Dr Bruneau while entering the site's content in the database. I remain, however, aware of the inaccuracies explained above, that the database still contains.

To start with, all motifs have been identified according to the figures they depict (ibex, chorten, circle, and so on), and this allows a first sorting of the whole into two main groups: identifiable or non-identifiable (Appendix.1). Identifiable figures have then again been sub-divided into five categories: zoomorphic, anthropomorphic, signs, architecture and inscriptions. Thereafter all identified motifs have been classified within their figure's category (for instance in the zoomorphic group: ibex, deer, yak and so on). Out of a total of 74 different figures listed for the entire Ladakhi rock art repertoire³¹, Zamthang includes 40. This gives the site an above average appearance when compared to other sites from Zanskar and even from the rest of Ladakh³². If we take the number of 892 figures for the entire site, these identified 40 different figures amounting to 571, leaving 321 unidentified ones. In case the identified figures are obviously part of a composition including several of them, the fact is mentioned. This is the case, for instance, when a herd of ibex or an adult ibex and its calf were represented, but also for more narrative scenes like hunting scenes involving a bow hunter an ibex and a dog, the most common scene found at Zamthang. In the case of such recurrent scenes, its title and number of elements has been specified (for example: hunting scene with one archer, one dog and one ibex or hunting scene with one archer on horseback and one yak).

During the survey of the site in 1998, as previously explained, I was still testing my methodology and thus only classified the engravings within the five different categories listed above. At that time I did not take any measurements, orientation of the figures or the in-

³¹ 74 different figures have been identified out of about 20'000 surveyed engravings.

³² For comparison, the largest surveyed site we have in our database counts 1731 motifs made of "only" 37 different figures. Neighbouring sites in Zanskar, even important ones like the site of Cha counts 14 different figures out of a total of 227 engravings, Pepul Thang 8 out of 32, Shi 6 out of 89 and Tanze 3 out of 16, thus clearly indicating the significant diversity of Zamthang's repertory. I would like to take the opportunity here to thank my colleague for allowing me to use our joint findings for my own purposes.

clination of the surface on which they were engraved. It is only from 2002 onwards, once I received the research funds I was applying for at the time of Zamthang's first survey³³, that my working method was made more complete by including a more systematic recording that included the size, orientation and inclination of each etched surface, the orientation of each figure, its size and identification as well as the darkness of its patina and its type of impacts (hammered or pecked). This protocol was more finely defined later on by the inputs of my colleague Dr Bruneau with whom I have since conducted several joint fieldworks.

Zoomorphic figures

The zoomorphic group is the most numerous one and totals 559 figures; of which 143 represent unidentified zoomorphic representations (unfinished and incomplete engravings, thus making it impossible to identify the animal, have been included in this category³⁴). The remaining 416 figures have been identified as belonging to 17 different species. Among these, the ibex, the emblematic figure of the Ladakhi rock art repertoire³⁵, is by far the most represented one occurring 195 times³⁶.

The ibex (*Capra ibex*) figure is, in most instances, clearly recognizable by its long backward curved horns, in some cases represented with their rings and tines. Other features of this animal that is sometimes represented as well include: a goatee, a short and up-raised tail, and in some cases the male's genitals (Ill.5, A).

³³ I was granted a two year research fund from the Italo-Swiss *Carlo Leone et Mariana Montandon Foundation*, they then funded the processing of data for another year and the publication of the results of this work (Vernier 2007).

³⁴ However it should be noted that whilst it is true that many zoomorphic figures may be unidentified at species level, they might be identified at a gender, genus or family level.

³⁵ Ibex figures accounts for 47 % of all the zoomorphic figures in our database.

³⁶ On the folk significance of the ibex in Ladakh and Zanskar see Dollfus, 1988. The ibex is indeed still present in traditions and in particular during the new-year (*Losar lo gsar*) celebrations. During my stay and work on the site in 1998 I documented several ibex figurines made out of tsampa and placed in Cha village's temple, just next to the petroglyph's site.



III.5 A: Ibex figure, B: deer, C: yak, (Z / ZMT 21.4 a-i). (Credits: M. Vernier, 2004, 2011)

The second animal species represented at Zamthang is the yak (*Bos grunniens*). In our identification process we did not differentiate between what might be domesticated yak, wild ones or hybrid specimens like dzos (*mdzo*). Actually, there are no demonstrable figures of domestic yaks (loaded, mounted or on lead) and the frequency of their representation as prey in the context of a hunting scene, tends to suggest they are wild. The horns' shape, which is one of the most characteristic features to distinguish dzos from yaks, is not applicable in the petroglyphs context as its depiction varies, regardless of the depiction of the rest of the body. Most of the time, the horns are represented as long and curved (sometimes even twice curved) and make the figure easily identifiable. Nevertheless some representations show the animal with rather straight horns inclined forwards, thus possibly identifying the figure as a dzo rather than a yak. Typical as well in these representations is the large hump on the back, a thick and bushy tail, sometimes raised up, both common features of the yak and its hybrid forms. Actually, the only physiognomic feature sometimes represented and which applies only to the yak is the representation of long hair on the front and rear legs, a feature that

gives the yak figure its typical outline, which the dzo does not possess. In Zamthang, out of 74 representations of yak related figures, 31 are clearly representing yaks and most certainly the wild sort. These representations bear stylistic features, such as a ball shaped tail, a stylistic trait considered emblematic of the Bronze Age in neighbouring areas (Ill.5, C, Ill.4, fig.4 right column). This will be discussed further, below.

The third most represented species is the “blue sheep”, also named Bharal or Naur (*Pseudois nayaur*) a species close to the Urial (*Ovis orientalis vignei*), the latter one having bigger horns but in the same shape as the bharal. In my census, since both species have massive short horns sweeping up and out, their representation in engravings is not distinctive enough to allow a dependable distinction and they have been counted together. Taken together, they account for 45 figures (Ill.6).



Ill.6 Bharal figure. (Credits: C. Chabert)

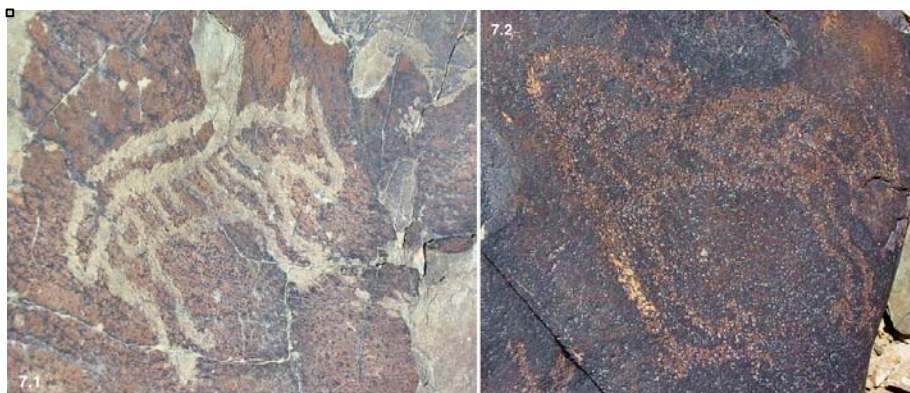
The 31 figures that have been recorded as “caprine animals” encompass the remaining representations of horned goat-like figures that are not identifiable with accuracy. These might be representations of the argali (*Ovis ammon*). The males of this species having two large corkscrew horns but the females, which also carry horns, having much smaller ones and less twisted they might be easily confused

with the blue sheep. Other figures might represent the Tibetan antelope (*btsod* / *Pantholops hodgsoni*), a species recognizable in the wild by its long straight horns but less easily identifiable in rock art representations. This group might also include wild goats and other horned mountain mammals locally known as *shapo* and *napo* and even more often as *ri-dwags*³⁷, all these terms being rather vague and unspecific. We could therefore also speak of about 76 (45 + 31) representations of “mountain hoofed wild animals” other than ibex and yak.

The site contains 18 representations of horses (*Equus caballus*) among which only 6 are not mounted by human figures. In the latter case, it is difficult to discern with certainty whether the engraved animal is a horse, and of which breed, a wild ass (*Equus kiang*) or a mule. Mounted or not, horses are sometimes difficult to determine. Although the depiction of their overall appearance helps, it is mainly the tail, long and straight which allows for correct identification. Straight and pointed ears as well as mane, when represented, provide further clues. Indeed, in few cases only the horses' riding-related gear, such as bridle and saddle have been represented at the Zamthang site, and several mounted horses might have been identified as unknown animals because they were not mounted and due to their lack of recognisable features.

Recognisable by their long and thick curling tail, felines represented at the site are of various types. Easily identifiable by their parallel and diagonally shaped stripes (in some cases horizontally V shaped stripes), tigers (*Panthera tigris*) amounts to 5, while snow leopards (*Panthera uncial*), with dots that either mark their fur or not, amounts to 10. Both species have large triangular ears, an open mouth and a tail with a curly end falling horizontally behind them or curved on to their backs (III.7).

³⁷ *ri dwags* is a generic term used in the local dialect for species in the mountains of Ladakh that include all hoofed wild animals such as ibex, Tibetan Argali sheep, Ladakhi Urial sheep bharal but also wild yak, Tibetan gazelle and Tibetan antelope. Due to the decreasing knowledge of nature among the young educated generation, many Ladakhis believe that *ri dwags* is a specific species and translate it as “deer” although there are no species of deer in Ladakh (I would like to thank here Rebecca Norman for sharing her sharp knowledge on Ladakhi language and for readily providing me with etymologic and linguistic clues).



III.7 Representation of felines

7.1: Z / ZMT D. D3 a

7.2: Z / ZMT 33 d. (Credits: M. Vernier, 2004, 2011)

Some of these figures are included in predation scenes and depict the feline hunting an ibex or a yak. The depiction of tigers at Zamthang, as elsewhere in Ladakh and Zanskar is indeed intriguing and questions the origin of such representations. Were there ever tigers in the area or did locals, who may have heard of them, represent them or did outsiders arriving from areas where tigers were to be found, draw them? The presence of deer, discussed below, at some point in the past, remains an open question, while there is very little chance that tigers ever inhabited Zanskar.

Dogs (*Canis lupus*), wolves (*Canis lupus himalayensis*) and foxes (*Vulpes ferrilata*) are more difficult to differentiate between. The ones associated with bow hunters are obviously dogs. They have in almost all cases their tail curled over the back, an anatomical feature specific to dogs. Nine such figures have been counted. Wolves have been identified in 8 cases. They have a long and rather thick tail hanging or slightly raised behind them, long triangular ears, sometimes an open mouth and are pictured hunting. As previously mentioned, there is still doubt over their identification. Foxes with short legs, long bushy tails and triangular ears have been counted 4 times. Birds are represented 6 times on the site and in various designs and styles. One representation stands apart from the rest: the figure of a bird, represented in profile with a hooked beak and a threefold crest on its head and a threefold tail (III.8)³⁸. This representation is unique to this site, and as far as I know, in the whole of Zanskar. Since this figure, which can be compared to “animal style” related images, and is asso-

³⁸ This figure has been published by Francfort, see Francfort et al., 1990. On the representation of birds in Ladakhi rock art see Vernier and Bruneau, in press.

ciated with an ibex, is an obvious recurrent feature, it will be discussed in more detail further on in the paper. Other bird figures are also represented: one in profile and two others as seen from the front with their wings spread open. None of them bears enough details to allow an identification of the species depicted.



III.8 Bird representation (Z / ZMT 48 b, c) depicted next to an ibex, a recurrent feature, a very similar one is known at Domkhar, lower Ladakh. (Credits: M. Vernier, 2008)

Zamthang counts 4 deer figures, the animal is represented in profile, and the V-shaped straight branching antlers appear as though seen head on, a common feature all over Ladakh (III.5 B). Some have a short tail. Although today there are no deer in Zanskar, their recurring representation in the Ladakh rock art repertoire suggests that deer once inhabited the area. Indeed and unlike the above mentioned case of the tiger, two species of deer are native from the Tibetan plateau: the white-lipped deer (*Cervus albirostris*) and the Tibetan red deer (*Cervus elaphus wallici*) while the Kashmir stag (*Cervus canadensis hanglu*), also called hangul deer, is still found in the Kishtwar valley, on the other side of the Umasi pass and very close to Zanskar indeed. It is conceivable that one of this species, all now highly endangered, once inhabited the Ladakh and Zanskar regions. The numerous 18th

and 19th centuries tales of hunting recounted by travellers, suggest that deer were no longer there³⁹.

To conclude I must mention the rather anecdotic presence of 2 flying insects (bee? wasp?), 2 hares (*Lepus* / *Lepus yarkandensis*) represented in such graphic detail that can leave no doubt about their existence. Finally a camel and an elephant have also been documented. While the former can still be found in the Nubra valley, north of the Indus, and its representation being attested there as well in the Indus valley itself around Leh, the latter has obviously never set foot in the Himalayas.

The petroglyph repertoire mainly depicts the local fauna and so provides us with a great deal of fascinating insight into its composition at the time, such as the deer for example. It also gives clues as to the relation between some animal species and humans: domestication of the dog, horse and camel. However, and somewhat surprisingly, a number of species that were very common in the area are scarcely represented. These include fox, hare, chukar partridge (*Alectoris chukar*), and lizards while other major species are simply missing (marmots, bears and fishes). Therefore, this corpus of zoomorphic figures cannot be regarded as an objective and representative inventory of the local wildlife at a given moment in the region's local history.

Among the unambiguous narratives involving animals depicted alone, most are concerned with the theme of predation. Examples of ibexes, caprine or yaks chased by wolves or feline are quite common. One features females nursing their young and another unique scene may depict a mating episode.

Graphic investigations

The ways of graphically representing animal figures present lots of variations. In a general manner, the images in our database, as per recognised international practice, have been divided into two groups: silhouette drawings and contour line drawings. This method of sorting engravings according to their graphical outlook is the most obvious and user-friendly way. However, at the Zamthang site, I used the engravings of animal figures to test another way of approaching the graphic evolution of the drawing method. Accordingly, this corpus has been divided into three groups instead (this is true only for some animal representations). This type of sorting shall be treated with caution, and as an experiment more than a strict demonstration, as the aim here is more focused on the nature of the drawing and the

³⁹ See Stockley 1928 and Ader 1899.

graphic vocabulary used to differentiate the various representations of a given animal species (fig.3). Moreover, these different groups sometimes overlap, thus rendering it more difficult to achieve a strict classification. Particular cases and hybrid examples are indeed numerous, and each group has its own graphic diversity of kinds. This attempt does not, of course, negate the “silhouette/outline” sorting method, and neither has it replaced it in my subsequent work. As it was used at the time of the site’s first survey, I thought it might be of interest to some readers to have it presented here. Furthermore, the fact is that at Zamthang, a way to represent animal figures (group 2) emerges from the more usual “silhouette/outline” duet and accounts for more than 10% of the total number of figures identified as representing animals.

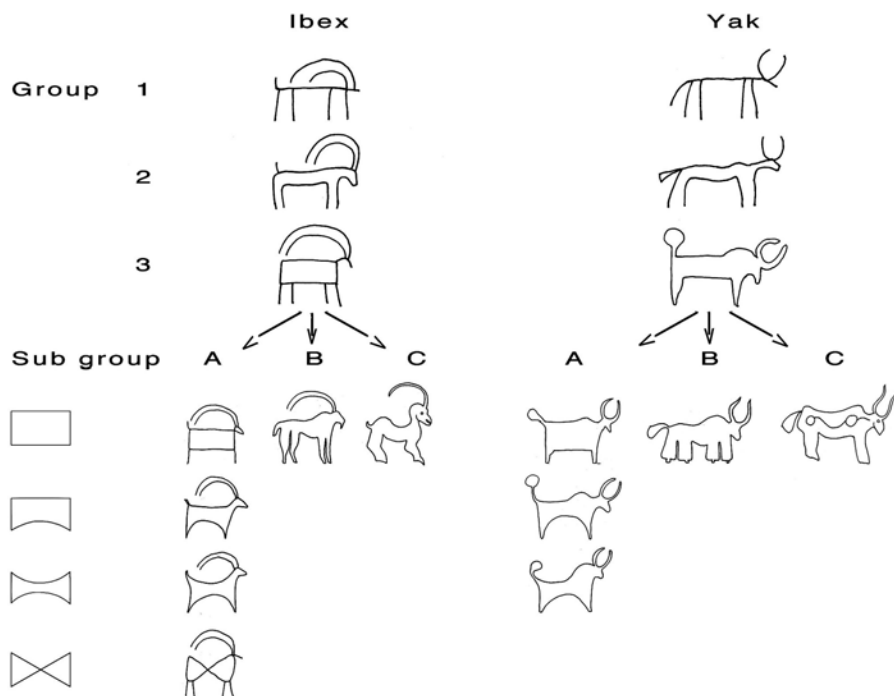


Fig. 3 Table of graphic/formal evolution for yak and ibex figures at Zamthang. (Credits: M. Vernier, 2014)

A first group (group 1) consists of figures designed through rectilinear and straight lines, almost devoid of curves, to signify the body. These amount to 51% of the identified animal figures. While working on my first rock art census (1994-96) I used to call these basically drawn figures, "baton" / stick style, as they appear straight and rigid and could well be re-made with segments of simple lines. In this group, figures are depicted with 2, 3 or 4 legs; the neck is not always represented, and the head is mostly depicted and simply reduced to a change of angle of the back line that comes at the end of it. The phallus is sometimes represented and oversized, whilst eyes are rarely depicted. The figures are static, almost schematic, and the criteria to differentiate the various species are highly stereotyped: one or two long curved lines on the back represent ibex horns (almost always oversized), semi-circular horns and round tails for yaks, straight falling tails for horses, and the tail curled over the back for dogs (fig.4.1).

The second group (2) is a hybrid one between the first and the third. This group has been separately recorded at the Zamthang site only, and amounts to 11% of the identified animal figures. In this type, two more or less parallel lines represent the figures. A main and longer line depicts the rearmost leg, the back and the head of the animal from front to rear. A second and shorter line depicts the inside rear leg, the line of the abdomen and the inside front leg. In this group, particular cases and hybrid examples are indeed numerous, but such figures have been counted in this category only when the drawing leaves an opening in between the rear legs and the front legs. Thus the contour of the animal's body is more precisely defined than in the first type of representation, but the figure is left open thereby keeping a certain level of abstraction. In these cases, the figure is always represented with 4 legs, whilst the head is depicted as outlined by the upper line or represented in silhouette, and with a flat surface rendering (fig.4.2). In some cases, the legs are folded and some curves introduced to represent the back hump of a yak or an ibex's chin. The movement is sometimes represented by an inclination of the legs. In a few cases the eye is marked. As it is specific to the depiction of four-legged animals, this drawing technique is mostly used at Zamthang for ibex and other caprines, sometimes for yak, horse and deer, and in one case for a feline, but never for dogs or smaller animals (hare, fox).



Fig. 4 4.1 Animal figure of linear (1) type.
 4.2 Animal figure of type 2 (parallel lines).
 4.3 Animal figure of the third sub-group (Credits: M. Vernier and C. Chabert)

The third group (3) comprises figures drawn with a contour line but, and this is where this classification differs from the “silhouette/outline” one, the interior of the figure is left plain, partly or completely hammered/pecked, or in some cases decorated with lines or circles. This group forms the most complex one and represents 37% of the identified animal figures (fig.4.3). It includes rather crude figures built up from a rectangle, some drawn on the same geometrical canvas but with very gracious curved lines in a very realistic manner to represent the silhouette of the animal. The widely used bi-

triangular style (surprisingly, a feature almost unseen at Zamthang) and the characteristic "animal style" method of representing animals form a part of this third group. Consequently this category has been divided into three sub groups: the geometrically based figures (A), the realistic (almost physiognomic) oriented figures (B) and the decorative or stylized/idealised decorative oriented figures (C), this latter group being a graphical stylized ornamentation of the previous one.

At the Zamthang site, these three sub groups (A, B, C) primarily apply to the ibex and yak representations, the ibex being the most obvious as well as the most represented one.

The first sub group (A) includes all the figures clearly constructed from a rectangular or even square starting shape. This rectangular shape is then broken down into multiple variations, through changing geometry, up to the bi-triangular shaped one (a rectangle whose lower long side is bent towards the interior of the figure, a rectangle whose both long sides are curved towards the interior of the figure (tending to join) and ultimately the resulting bi-triangular figure. Ibex figures are represented by each of these versions, plus a variety of intermediary shapes (fig.4 right).

The B, or second sub group includes the most realistic representations. They reflect a high sense of observation and a sharp knowledge of the various animal specificities. The designs portray very accurately the animals in their most characteristic postures. The arching of the back often anatomically close to that of the real animal, the differentiation between the front legs and the rear ones, and species-specific details such as ears, horns or tail shape, goatee, are examples of what is represented.

The third (C) group contains decorative figures - those in which the animal's appearance is exaggerated and stylized, with a view to giving the figure an ornamental appearance. Figures represented on the tip of the hooves or with an exaggerated curvaceous body are also assigned to this third category. The figures are always drawn in outline style, sometimes with decoration lines within the body (volutes, scrolls). These figures are akin to the "animal style" related ones, and will be discussed more in detail below (Ill.12).

Signs

Second in order of prevalence are the various signs and symbols engraved on the site. The total number of signs and symbols recorded by the author is 156, of which 103 have yet to be identified. The identified ones have been sorted into 18 different figures. Motifs such as moon crescents, circles or discs, suns, cross figures and other similar

non-figurative motifs have been classified as symbols because of their semantic potential. In fact, some figures that were not identifiable as zoomorphic or anthropomorphic representations have been quoted as unidentified signs as well, thus explaining the rather large number of these.

The most frequently represented signs on the site are "S" figures, numbering 9 in total. They are represented mostly in pairs, and their shapes vary in their degree of coiling. The second most frequently represented figures are the swastika signs, right or left rotatory, numbering 7 in total. These two main categories are followed by representations of segments of lines and circles, various geometrical figures (including "glasses" design and other such circles linked together by lines and disposed in a geometrical pattern), groups of dots, "8" shaped figures, scrolls, zigzag lines. Additionally, 1 cross, 1 wheel, 1 rather elaborate floral design and few depictions of religious Buddhist objects such as vajra, ghanta and religious banners complete the list of these diverse signs.

Signs are graphically represented in silhouette or in outline according to their shape. As implied by logic, circles, "8", vajra and ghanta designs are rendered in outline style whilst cross, line, "S" and other basic designs, are rendered in silhouette.

Although it is beyond the scope of this paper to discuss the potential symbolic meaning of these various signs or their possible use as ideograms or pictograms, thus implying some form of written code if not proto-writing, the issue deserves mention. In this regard, their study, based on a single site and focussing on 53 signs is insufficient. However, the few thousand of them recorded in our database definitely deserves a proper study⁴⁰, with the repetitive representation of specific signs in association with others or with some animal figure remaining deserving special analysis. We can only hope that a wider-scale and repeated publication of the Ladakhi petroglyphs' corpus will start the debate and shed light on this possible archaic form of communication.

The presence of signs among other figures strongly reinforces my belief that one should consider the various engravings as part of a whole and with a possible link to each other, rather than as isolated motifs.

⁴⁰ The list of all signs entries in the data base is as follow: "8" motifs, "S" motifs, banners designs, circle fragment, arc, circles, crosses, disc, fishbone design, floral designs, ghanta, glasses design, group of dots, line, moon crescent, point, quadrangle figure, scroll, suns, swastikas, vajra, wave / zigzag line, wheel.

Anthropomorphic

There are 60 representations of human beings found engraved at the Zamthang site. Among these, 30 represent archers, and 12, horse riders. 2 "hand prints", 2 "foot prints" and 2 masks design or "mascoïd" figures have been placed in this category as well. Thus, human figures amount to 60 out of a total of 571 identified designs, representing less than 10% of this corpus. Despite their relatively small number, these representations of human beings possess several, potentially important, information. Their interactions with animals (hunting, riding) inform us about their economy and capabilities, while their various attributes (bow, sword, mace, clothing, headgear) give us clues about their level of technological development. As they portray the people who most probably once lived there, human figures deserve serious questioning. However, it must be admitted that the ways of representing human beings through engravings at Zamthang site remains basic and varies little; this is only partly true for the rest of anthropomorphic figures all over Ladakh. No bi-triangular or strongly "V" shaped human figures are found at Zamthang, but we do note some with a rather mildly "V" shaped torso emphasizing the shoulders. Only a single figure clearly depicts a garment's shape. Anthropomorphic figures in Ladakh are usually constructed using simple lines, producing a rather schematic rendering. Nevertheless, a few figures show a certain degree of dynamic, even if slight, in the pose of the subject. It is interesting to note that the gender is very rarely expressed. As for the rest of Ladakh, no ithyphallic figure is seen, and very few possess what might be a representation of masculine genitals. When they do seem to appear, the disproportionality is such that it could be a mace hanging from a belt or sash, rather than a phallus. The fact that most figures are represented with weapons, hunting or mounted on horses tends to identify them principally as representations of masculine gender⁴¹.

Therefore, interesting information sources are frequently found in the various attributes held by the figures more than in the figure themselves. Bow and arrows are common and vary little in their representation, and they are obviously depicted as hunting devices only. Unlike at other sites, no fighting or war scenes are depicted at Zamthang. A series of composite attributes represented at the waist level as well as at the shoulder level of some figures, raise interesting questions; are they representing quivers? An object represented by a

⁴¹ Indeed representation of definite feminine figures are extraordinarily rare in Ladakhi rock art corpus, three scenes of childbirth are known and a few anthropomorphic figures are uncertain regarding their gender allocation. No sexual scene has been so far reported.

straight line linked to a disc shape is recurrent and might represent maces. These maces are, in a few cases, linked to some less identifiable attributes as part of a set itself linked to the figure at the waist or the shoulder level. Maces, as fighting and hunting weapons, are represented in Central Asian engravings and attributed there, although indirectly, to the Bronze Age⁴². Their relatively important number at Zamthang (8 to 10 representations were counted) is indeed exceptional for the region (Ill.9).



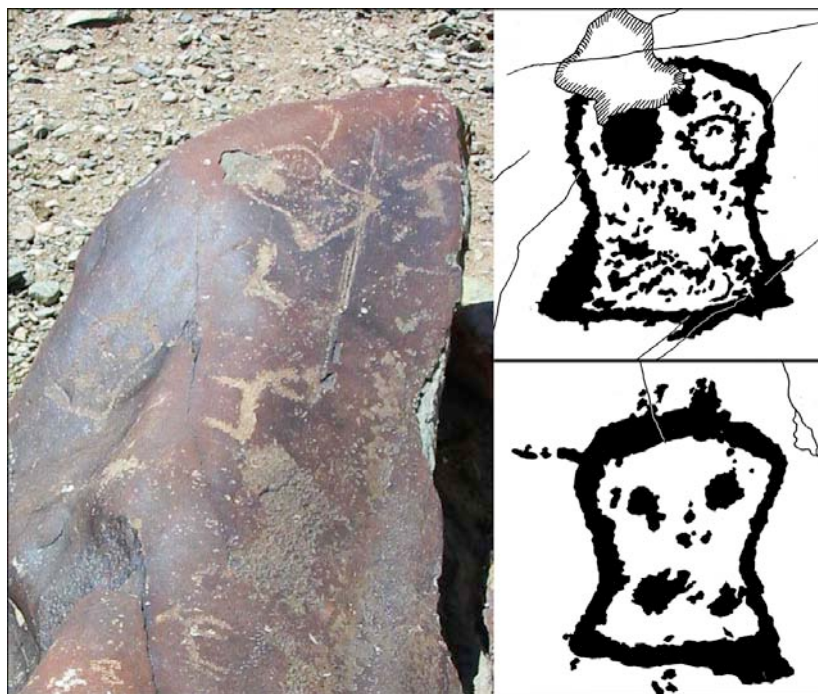
Ill.9 Anthropomorphic figure with mace of arm throwing arrow at an ibex (Z / ZMT 8 a-d). (Credits: M. Vernier, 2004).

Some anthropomorphic figures at the site bear what is obviously a headdress. At the neighbouring site of Cha, less than a kilometre northward, across the river, a nicely and rather large engraved anthropomorphic character is depicted with a triangular pointed hat and a mace at the waist. At Zamthang, the few characters with headdresses are less obvious than that aforementioned one, but still sever-

⁴² Bruneau and Bellezza, 2013, p. 45.

al of them have a mushroom type of headdress which is clearly visible⁴³ (Ill.9).

Two mask designs, represented on a boulder at the western entrance of the site used to be a focal point for international rock art experts in Zamthang. The past tense has to be employed here because, as previously mentioned, a large building was built on the site in 2011 using some of the engraved stones as building materials. The two mask designs were among the rocks lost, incorporated into the walls.⁴⁴ The figures were of an uncommon type of mascoïd, showing a pronounced bell shape with eyes clearly apparent (Ill.10).



Ill.10 The two mask designs of Zamthang (Z / ZMT 76 m,n) picture and report on transparent plastic sheet. (Credits: M. Vernier, 1999, 2004)

⁴³ About mushroom head style characters in Ladakh see Bruneau, 2010; Kubarev, 2004, p. 75. About a possible origin of the mushroom shape headdresses, see Molodin and Cheremisin, 1997.

⁴⁴ This building, to be used as learning centre, was built on the site by the "Himalayan astro-medicines & ecological development society"» thanks to the financial help of two French associations and in collaboration with the local communities. What is even more disappointing is that this NGO had to move its centre to a different place during summer 2014, leaving the building redundant, meaning the destruction of some key motifs on the site lacked any purpose whatsoever.

One of them had two short lines on top of the figure and a longer line on the side level with the eyes, a recurrent feature in the representation of mask figures found mostly, as far as Ladakh is concerned, in the Nubra valley. Indeed, the presence of mask designs at Zamthang, according to the latest research, is unique in Zaskar and therefore highly significant. Out of more than a hundred such figures only six to seven are, as far as we know, located outside the Nubra Valley. Two are found along the Zaskar River, close to its junction with the Indus at Sumda Do Thang, some hundred and fifty kilometres downstream; another one over a hundred kilometres downstream in the lower Indus area at Kanutse; and two at Stagmo, a few kilometres upstream from Leh. One or two other possible mask designs cannot be identified with total certainty. The fact is that these two images were the only ones known for the whole Zaskar area⁴⁵. These mask-figures have been published by Francfort et al. and formed important elements of his argument⁴⁶. According to him these masks refer to similar engraved images found in Central Asia and date from the Bronze Age (2500-300 BC). Most experts agree upon the links established by Francfort with the Okunevo culture⁴⁷.

Architecture

During my survey in 1998, a total of 25 chorten (stupa) representations were identified and counted. These architectural Buddhist symbols are of various types and shapes⁴⁸ and are, in some cases, linked to dedicatory inscriptions in Tibetan script. The variety of shapes in these representations matches the patina sequence and stretches from very basic "stair-like" modules, to the more contemporary and widely established Tibetan-style shape. In some instances, the more basic chorten-like structures represented could be ascribed to some kind of lhatho (*lha tho*) or other stylized shrines or altar⁴⁹. In this regard, a figure, which has not been classified in the architecture group, raises questions. The figure obviously represents a structure comparable to a religious structure such as a lhatho, and, in this case, is framed by a rider on one side and by an ibex on the other side⁵⁰.

Out of these 25 figures of chorten, 12 have been engraved on top of previous petroglyphs. This superimposition process is well attested throughout Ladakh and is generally interpreted as part of a con-

⁴⁸ On the various types of chorten and their specificities see Bruneau, 2010.

⁴⁹ About similar cases of such representations see Vernier, 2013, p. 91. For a photograph of these see Bellezza, 2012, fig. 12.

⁵⁰ A pre-buddhist structure of Bön faith origin is conceivable as well in this context.

juration process⁵¹. In the present case, this hypothesis seems to be confirmed by the fact that almost all the representations of chorten are located on the plateau itself and along the pathway, the main slab having been spared, and no such designs are found engraved on it. Several of these chorten figures engraved on the main boulders standing on the pathway have been over-engraved and redrawn, presumably several times over. Taking into account the protective function traditionally attributed to chorten in Ladakh and Zanskar, the location of these figures as well as their subsequent "reactivation" tends to confirm this exorcism-related function. At least two of these chorten-style figures have "eyes" in their domed summit part⁵². The superimposition of these motives over pre-existing engravings is in most cases corroborated by a much lighter patina thus rendering the chronological sequence very clear. However, while the religious connotation of these figures is obvious, it is difficult to date them with any accuracy because it is still unclear historically when Buddhism arrived in the Zanskar valleys.

Inscriptions

Thirteen engraved inscriptions have been counted on the site: the various contemporary painted graffiti have not been considered, neither were the stones and pebbles, engraved with mantric lettering, and stored on the mane walls along the path. The majority of these inscriptions are written in Tibetan characters, and only two are in Latin script: one name (Dorje), engraved on the main slab and another recent one (2006) has been engraved on a boulder next to the foot-path on the easternmost part of the site and reads: "CHA / STANZIN / THINLAJA / ZURKHING / JA PA" obviously promoting M Tenzin Thinla's house at Cha village, on the other side of the river!⁵³. Among the Tibetan inscriptions only one is located on the main slab and reads "*dge ouar bcu nang la ci?*"⁵⁴ This may well refer to the first

⁵¹ Similar conjuration process over ancient Rock Art is known worldwide. R.Q. Lewis reports such iconoclastic work made by the Spanish missionaries in Bolivia as part of their "Idol Eradication Policy" as late as following the second council of Lima in 1567. Lewis, 2014, p. 73.

⁵² About the "eyed" chorten in Ladakh, see Kimmet and Kozicz, 2012, p. 46.

⁵³ As V. Mehta rightly reminded me, advertising on rocks is a common phenomenon in Ladakh and the rest of India. In Ladakh, it is unfortunate that these coincide with some excellently located rock art sites. Irony aside, it is interesting to note that the use of stone as a writing medium is a thousand-years old tradition that endures in this Himalayan region, the engraving of "Mane-stone" being another historical derivative still widely in use.

⁵⁴ Interrogation mark (?) stands for undecipherable characters.

one of the ten Buddhist principles: "one should not kill any living being." This hypothesis is ascertained by the fact that it is engraved more or less in the middle of the engraved surface of the slab and is surrounded by many hunting scenes.

Another inscription is engraved on a large boulder located on the side of the main slab. It is nominal and reads: "*tshe ring brag??m*". A third inscription is located nearby, that one in cursive (U-med) Tibetan script and too faint to be deciphered: "*ge ??? la gya?*". Other inscriptions are located next to the footpath on rather prominently visible boulders. Denwood and Howard have published one of these inscriptions⁵⁵. This peculiar inscription is one of the most ancient testimonies to the presence of Tibetan army officers originating from Khotan (Xinjiang, China) in Ladakh in the 8th-9th centuries AD. Luckily enough, this inscription located next to the new building has been spared during its construction. Another rather long inscription has been engraved next to the design of an elaborate chorten figure and reads: "*stong ba'e / ngpol po khrom / g(gi)s bzhings / su gsol ba*". This dedicatory inscription is interesting in that its letter shapes correspond to van Schaik's square style⁵⁶. However, although van Schaik's palaeographical method is based on manuscripts and not engravings, the correlations are surprising and match very well the dates proposed by Denwood and Howard for the other inscription nearby, both graphs being very similar. This is especially true for the trapezoidal shape of the "ba" and the first part of the "ga", "sa" and "nga" also match the characteristics van Schaik describes. A rather clear inscription is located next to a group of chorten, but it has been so much redrawn and over-scratched that it is now undecipherable. Other inscriptions consist of scattered letters or groups of letters, one of them being a duo of "ka" and "a": the first and last letters of the Tibetan alphabet.

Patina

Examining the iconographic, and to a lesser extent the epigraphic content of the site, proves to be rich and varied in terms of both content and representation. Re-workings and redrawings are certainly occur, but their relatively minor frequency is more helpful in establishing a chronological sequence thanks to the variety of patina they provide, rather than seriously undermining the site's integrity.

⁵⁵ Denwood and Howard, 1990.

⁵⁶ See van Schaik, 2013.

The desert varnish/patina has been used as a means to estimate the age of the engravings or rather to establish a chronological sequence at the site, or even on a single boulder. One needs to bear in mind that the patina can also vary significantly on the surface of a single rock according to its orientation and inclination. Although it provides important relative information to gauge the physical characteristics of an engraving, it is not a reliable dating tool in itself. Since modern scientific tools that involve high tech equipment were out of the question when I first started my Himalayan investigations, I combined my observation of the patina with stylistic ones, subject matters, overlaps and the physical environment in general to propose a chronological sequence, that I confess is a rather broad sweep.

At the site, patina that has formed over the engravings range from very dark ones, almost matching the shade of the untouched surface (Ill 8, Ill.9), to very light ones that are the most recent. During my documentation work at the site in 1998, I used five different categories to sort the site's content into the following categories: very dark, dark, medium, light, fresh. These categories have been kept for our further surveys until today, and despite their relative imprecision, they help to sort the corpus into rough groups, and prove relevant once combined with stylistic groups. Most of the engravings at Zamthang are included in the dark and medium categories.

Dating the site

I have pointed out the presence of several remarkable motifs found at the Zamthang site. In some cases, similar motifs are present at sites in Central Asia, Western Tibet and Northern Pakistan, regions that are culturally linked. Some sites in these areas have been the object of thorough scientific archaeological investigations, including excavations, and propose, through stratigraphic evidences, a reliable chronology, and even a rather precise time frame for some of them. One can therefore cautiously attempt a stylistic connection between some of Zamthang's most remarkable motifs and similar ones present in some scientifically studied sites for which the cultural context has been roughly ascertained. These comparison methods, widely used in similar geographical and climatic constraining cases, have proved successful in their attempts to draft the various chronological periods of rock art sites⁵⁷. This attempt of mine to further deepen stylistic comparisons undertaken by Francfort, should be treated with all due caution.

⁵⁷ See Bellezza, 2008, 2001, 2002.

To start with, the undeniable stylistic similitudes of certain figures (themes and motifs) in Central Asian petroglyphs allow us to attribute some of Zamthang's engravings or engravings' features to the Bronze Age. In fact, the general body shapes (rather rectangular with realistic inputs such as the dorsal hump) of large representations of yaks and ibex are similar to representations of known Bronze Age sites in Central Asia⁵⁸. But as shapes and contours of figures are subject to a large degree of subjectivity and interpretation, and are thus more delicate to ascertain, it is more useful to concentrate on some of the more precise features and attributes. For instance, the ball-shaped tail of yaks, a feature frequently noted at Zamthang, and which is a stylistic trait recognised as from the Bronze Age in Central Asian rock art⁵⁹, is an obvious case. The mace, a stem ending in a disc shape and hung at the waist, is also well represented at Zamthang. The significance of this attribute although controversial in its significance, is also accepted as dating from the Bronze Age⁶⁰.

The mushroom-shaped headdresses represented in few cases at Zamthang and in addition on anthropomorphs carrying a mace, are as also representative of the Central Asian Bronze Age typical mark⁶¹. Another motif characteristic from the Bronze Age is the so-called "glasses" sign, two circles linked by a line (three such designs are found engraved at Kanutse site in the Lower Indus part of Ladakh). Zamthang has a similar motif, even though more elaborate, as it consists of nine circles disposed in two rows of four and linked with lines one to each other, with one of the row having an extra circle linked to it on one side. Similar so-called glasses signs have been noted from Tamgaly in Kazakhstan and attributed there to the Bronze Age⁶². The supposed stylistic, and possibly chronological, link established here with Tamgaly is even more intriguing, given that as the Kazakhstan site is known for its representations of mounted horses, represented with 'fake' ibex horns. It is worth noting the fact that the neighbouring site of Pepul, just a few hours walk downstream from Zamthang, has a large flat stone engraved with many ibex and some anthropomorphic figures and that, among the scenes engraved there, one finds what looks like an ibex represented with an anthropomorphic figure with raised arms standing on it and another similar

⁵⁸ For instance at Tamgaly, Oglakhty I and III, and Tepsej.

⁵⁹ See Bruneau, 2013, Bruneau et Bellezza, 2013, p. 60-1, Bruneau, forthcoming.

⁶⁰ For a systematic comparative analysis of these motifs between Ladakhi rock art and Central Asian one see Bruneau, forthcoming and Bruneau et al. 2011 for a preliminary study.

⁶¹ See Bruneau, 2010, Kubarev, 2004.

⁶² For images of these glasses types of designs see Mar'jasev, et al. 1998, Pl. 6.15; Martynov et al., 1992, photo 8, 24; drawing 20, 38, 44; p. 34-35.

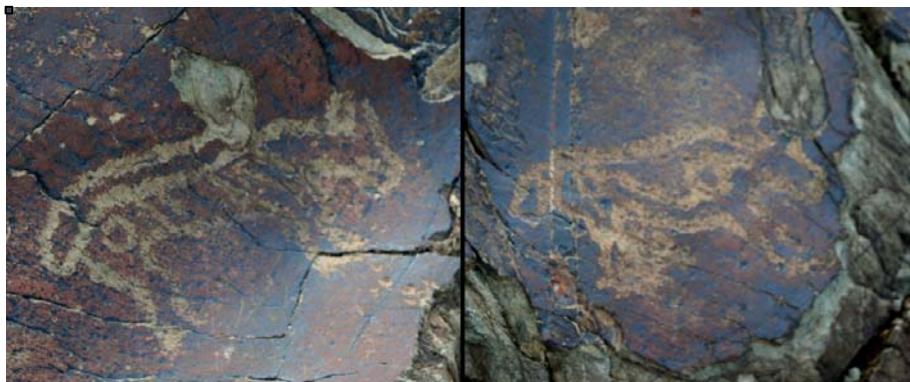
supposed ibex with a saddle on and an anthropomorphic figure with raised arms standing next to it (Ill.11). Although the connection appears tenuous, it is nonetheless intriguing to have these two different figures closely located and both, even though in different ways, proposing possible links with the famous Bronze Age site of Tamgaly.

We have previously discussed the two mascoid figures and their attribution by Francfort to Central Asian Bronze Age. The fact that the few mascoids designs that are known today in Ladakh, south of the Indus, while obviously connected to a same stylistic whole, bear very distinctive graphic features from those noted in the Nubra Valley. This might imply a local development of an external given model. The development of such a possible indigenous sub-style, tenuously connected to its supposed models of inspiration, implies that the time frame during which it was established might well be different from the period linked with the model it refers to⁶³. This stands true as well for the supposed “animal style” related figures that will be discussed below and should prompt us to remain cautious in extrapolations, although these might be tempting.



Ill.11 Pepul main stone slab (Z / PPT 5, a-r), depicting “mounted” and saddled ibex. (Credits: M. Vernier 2004)

⁶³ For an analysis of the mascoid designs see Bruneau and Bellezza 2013.



Ill.12 Yak and tiger/feline figures representation related to the “animal style” (Z / ZMT D. D3 a, and Z / ZMT D. D3 b. (Credits: C. Chabert)

At the site, around twenty figures, including “s”, “8”, and scroll shapes, show some “animal style” or Central Asian steppe art typical features. To briefly describe these, we may highlight the fact that the zoomorphic figures are represented on the tips of their hooves, sometimes with the head twisting backwards, with all four or two legs shown flexed, the eyes clearly marked and the body drawn in a highly decorative and gracious curved outline style. Curled lines forming a kind of hook or a spiral on the shoulder and the thigh of the animal are recurrent themes. Decoration of the inner space of the figure with ornamental “S”, wavy and /or coiled lines or circles, parting lines on the hindquarters of the animals are also characteristic of this style.

Throughout Ladakh such images account for only a very small percentage and their repartition is even more intriguing⁶⁴. At the site, five animal figures are directly linkable to the animal style type, three of them being truly representative. They are located along the path, on the southern side of the site. An ibex figure is also represented on top of the hooves, with two flexed legs, a very arched back and a rounded fore-chest. A bird figure, standing next to the former, bears very similar features to another bird figure engraved at Domkhar site, in the lower Indus valley, some 150 kilometres downstream (Ill.8). It is represented as seen from the side with both the eye and the beak clearly marked. The two legs are depicted according to the style’s graphic convention. It also has a threefold crest and tail. These two figures were previously published by Francfort⁶⁵ and are the

⁶⁴ See Bruneau and Bellezza 2013.

⁶⁵ Francfort et al., 1990, p. 16; 1992, p. 154-55, Fig. 22.

most typical "animal style" related figures at Zamthang. A third one, much less visible, is located next to the previous ones and represents a deer, with its head twisted backwards. The general appearance fits well with convention the mouth and eyes are marked, the legs are folded, but the figure is clumsier and less graceful.

Two more figures, forming a predation scene, are located on the main slab and require mention here because of the decorative marks on their hindquarters. A tiger is represented behind a yak -both animals have a circle on the thigh, the yak has a second one on the shoulder linked to the one on the thigh by a wavy line⁶⁶. The tiger has six stripes represented in a diagonal manner with its tail raised over its back and following it in parallel on most of its length (III.7.1, 7.2).

Other figures potentially linkable to the animal style consist of "s", "8", scroll and volute designs. These decorative elements are present in Central Asian but also in Mongolian and south Siberian rock art, and have been dated from the Iron Age for these areas⁶⁷.

The presence of some "Animal Style" related images in Zamthang, even if they accounts for less than twenty in total, raises the issue of their origin, their date and their provenance. Were these artistic stylistic traits a distant echo resulting from a fascination with the great neighbouring cultures or were they the odd depiction by people who had arrived from such regions? In other words, were they directly or indirectly transmitted, and by what means: trade, military campaigns, intellectual, or religious links? Frequently quoted in the literature is a small metal piece in the shape of a bird and bearing clear steppic characteristics that was acquired in Leh⁶⁸. Even if its purchase in Leh is not at all a proof of its indigenous origin, it nevertheless points to the possibility that such small and easily transportable artefacts could have been seen in the region and serve as a model. Indeed, in his paper dealing with some of Zamthang's figures, Francfort, even though carefully mentioning that these are formal parallels only, made some comparisons with western Zhou China designs⁶⁹. This being said, and to relativize the debate a little, we must admit, when debating about these particular figures of the Ladakhi petroglyphs, that the representations of steppe inspired designs in Ladakh have not, given the current state of our knowledge, reached the level of development of those in Central Asia. No repre-

⁶⁶ Similar inner body decorations by means of circles on the shoulders and hips of animals are attested in Mongolian Xiongnu culture, the general shape of the body being in some extent similar as well. For a picture of such a decorated bronze figurine of an ibex see: *Mission archéologique française en Mongolie* 2003, p. 69.

⁶⁷ Francfort et al., 1990, p. 13-15; 1992, p. 150-153.

⁶⁸ Koenig 1984, p. 320; Francfort et al., 1990, p. 26, note 137.

⁶⁹ Francfort et al., 1990, fig. 10, 11.

sentations of mythical animals, or of animals with twisted hindquarters or stylised in circle have ever been found in Ladakh. Regarding the Zanskar area itself, we observe that the few representations found there do not reach the level of artistic mastery of those found at Domkhar site in lower Ladakh⁷⁰. This latter site stands out as an iconic repository of the animal style related representations for the whole of Ladakh. This tends to point to a scenario in which a degeneration of the original stylistic model happens over successive transmissions as well as in proportion to the remoteness from its original model.

As for the motifs that are regarded as being characteristic of the Bronze Age, as also the Animal-Style or Central Asian steppe art related figures found at Zamthang, show some original declinations, even if in this case these consist more in gaps and simplifications than in additions or formal variations. Whether this represents a bastardisation of an imported model, a local interpretation of an outside iconography, an identity quest through assimilation, or the result of the expression of few isolated travellers, these distinguishable indigenous traits might well characterise a sub-style specific to Ladakh.

Neighbouring sites

I have previously alluded to the several rock art sites close to Zamthang, as some of them bear motifs similar to those found at Zamthang. This is especially true for the nearest site of Cha (map 1). This site is located above the eponymous village, and constitutes a large slab outcropping the hill and divided in several contiguous surfaces. There, anthropomorphic figures with maces and swords, some headed with triangular shaped hats, echo some of Zamthang's most typical characters, and in many cases, even aesthetically surpass them. Ibexes and yaks figures engraved there are mainly variations of the A and B sub-group types of the group 3 discussed for the Zamthang repertory. This rather small site comprises 227 figures in total, out of which 17 are anthropomorphic figures (4 of them being horse-riders). Ibexes, yaks, dogs and various signs, constitute the balance. This site is exceptionally well preserved; almost all figures are of a very dark or dark patina, and of a very uniform type of design, with no later additional figures being engraved on the slab. As Zamthang can be seen from the Cha site, and reciprocally, their closeness leads me to take them as a coherent whole. To my view, a proper and systematic documentation of Zamthang site should indeed include Cha site as well and would prove very interesting.

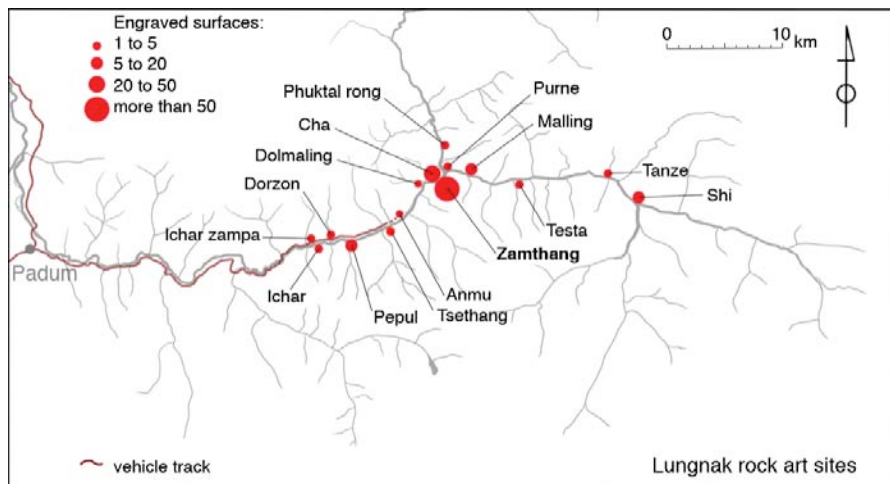
⁷⁰ On Domkhar site engravings see Bruneau Vernier 2007.

Next in order of vicinity, and previously mentioned, is Pepul (Pepula, Pepul Thang). This site is located on a small plateau overlooking the river some ten kilometres downstream towards Padum. Despite its relatively meagre 32 engravings, it deserves to be given due consideration as it includes the previously cited mounted ibexes and anthropomorphs with raised arms in connection with ibex. The other representations at Pepul are of another kind, executed with less precision and with a coarser tool. The rocks on which the engravings have been carved are also different, more angular and their surfaces much less smooth, which accounts for the type of images found here. Thus, the site's content can be divided into two distinct phases: a first one that includes representations of ibex, anthropomorphic, dogs, horses and a few signs, and a second set of engravings of a later phase which include chorten designs and few inscriptions in Tibetan script.

A single and very minor site is located a few kilometres further downstream from Pepul, on the opposite side of the river at a picturesque village called Ichar. The site consists of a few rather faded zoomorphic figures, mostly ibexes. The interesting aspect of Ichar lies more in the situation of the site than in its content. The engravings are located next to the site of the traditional bridge that spans the river, at a place where its banks narrows, definitely a recurring feature in Ladakh for rock art sites.

A single block engraved with a swastika, a flower design and a footprint deserves mention. The engraved boulder lay on the pathway, between Zamthang and Pepul, overlooking the riverbed above another ancient and contemporary bridge location. On the right bank of the river, between Cha and the village of Anmu, a few boulders are engraved, a single one being at first glance comparable to Cha-Zamthang group, it is engraved with a very dark ibex and stands next to the isolated Dolmaling nunnery.

Upstream from Zamthang, a few small groups of engraved rock are present along the two arms of the river and at their confluence. One engraved rock has been documented in the river gorge leading to Phuktal monastery (Phuktal Rong), about midway between Purne and the monastery, and consists of 4 ibexes and an indefinite motif.



Map 1: site counting plate (Credits M. Vernier 2015).

Two boulders have been found immediately upstream of the confluence next to Purne village. They show a few ibex and other indefinite and rather faded figures.

A small site is located in the upper Lungnak valley, a few kilometres upstream from its confluence, on the left bank, just before Malling hamlet. There, overlooking the gorge and, where again there is an old suspended bridge, on a small grassy plateau dotted with angular dark-grey blocks, are about fifteen engravings of various zoomorphic figures such as deer, ibex, horses and dogs and at least one anthropomorphic figure. The set is completed by a later addition of a chorten design and, quite intriguingly, what might well be a mask design. However this later motif looks very recently engraved and rather sketchy⁷¹.

On the same side of the riverbank, a few kilometres upstream, a few engravings are dispersed around Tanze village. This site includes 16 motifs, mainly ibex figures. A deer figure and two wavy designs have also been documented. Locals interpret these two figures as snake representation⁷².

A last neighbouring site is found at the level of the valley's uppermost main confluence, opposite the village of Shi. This site is the

⁷¹ Actually plenty of examples of later attempted copies of older motifs can be found all over Ladakh, especially on the sites located on all times tracks.

⁷² Snakes are not physically present in Zaskar (neither in upper Ladakh) but their heraldic figure is well attested in the local culture. The traditional peyrag head-dress (*pad rag*) for instance is said to represent a cobra head. Snakes, embodying water spirits (*klu* / *naga*), are often found engraved on *par shing* such as *tor par* in which case their representation is also reduced to a wavy line.

last one to be found before the pass that marks the westernmost limit and boundary between the Zanskar valleys and those of Himachal Pradesh. Located at an altitude of 4060 meters, it is also the highest one surveyed in Zanskar. This site comprises 89 figures among which 39 are ibex representations, a few chorten designs, and at least two anthropomorphic figures and also several geometrical designs including triangles, circles and some unidentified compartmentalized geometrical figures. Despite the relatively large number of engravings, taking into account its relative isolation and remoteness, the diversity and quality of the site's content proves poor.

On the right bank of the river, from Shi village level down to Zamthang, only a very few scattered rocks have been found with few clumsy ibex or chorten figures engraved on them, the whole not amounting to more than ten designs.

The distribution of the rock art sites in the Lungnak valley clearly presents a central group organized around Zamthang and constituted by the sites of Cha, Pepul, Purne and Maling. At least nowadays, Zamthang and Cha form the very nucleus of that area. The localisation of this central group of sites and their peripheral satellite-like sub-sites (Phuktal Rong, Ichar, Tanze, Shi, Dolmaling) is included with consistency in the surrounding geography. The group centres itself at the junction between the gorges leading to the Central Zanskar area on the east, those of the Tsarap River on the northeastern side and the Upper Lungnak valleys that open onto the alpine plains towards the southeast. Although located near this natural geographical crossroad, the Zamthang-Cha sites are relatively sheltered from it, tucked away as they are in a meander of the river. Furthermore, on the right bank, the Cha side opposite Zamthang, the large plateau and the gently rolling hills area that extends between Cha village itself and the confluence of the rivers less than two kilometres upstream, offers an unusually mild climate as well as a protected terrain in an otherwise harsh environment. However the terrain and climate may well have been quite different at the time the earliest motifs were engraved.

This vision of Zamthang as the epicentre of the upper Zanskar group matches the presence of what most probably is an ancient necropolis located in the very vicinity of the Cha site. This amazing discovery is due to the increasing possibilities afforded nowadays by the various geographical information programs providing images obtained from satellite imagery. Thanks to these systems the surroundings of these remote valleys can nowadays be explored in detail on a laptop or computer. These first computer-made investigations have been verified in the field during summer 2014 and have proven successful (Ill.13).



III. 13 Satellite image with highlight on the necropolis areas (from: <https://www.bing.com/maps/>, colour enhanced), an over sketched view of the funerary site, (Credits M. Vernier 2015).

Located on the gentle slope of the escarpment, a hundred metres above the village of Cha, this ancient burial ground is presently in a dilapidated state. However, on a square surface of about a hundred meters, some forty shallow basins are distributed. Each of these, rectangular in shape, measures about 7 by 5 meters externally and 1.2 by 2 meters internally. The centre of these small basins are situated less than a metre below the surrounding ground level and are filled with large stones, some of them still lying in an organized way. The side of these basins is bordered toward the slope by half buried and aligned large stones. There is little variance in the size and appearance of these structures, and none of them presents clear signs of subsequent excavation or signs of looting activities⁷³. If this site is indeed a necropolis, and so far the only one known in this part of Zanskar⁷⁴, its possible connection with the nearby major Rock Art sites is a truly exciting prospect, although until any confirmation or invalidation by means of proper excavation or trial trenching, this hypothesis remains, of course simply a hypothesis.

Nevertheless, the Zamthang-Cha group, whether completed or not by the presence of a necropolis, involves setting up a way to cross the river and thus questions the degree of technological skill and development of these Zamthang inhabitants.

Conclusion

As stated at the beginning of this paper, and as is confirmed as we reach the end of it, Zamthang emerges from the little-known Zanskar rock art group as the most important one from about 20 known rock art sites in the Zanskar region. This status is accorded on a quantitative as well as on a qualitative level, given that it includes over a thousand motives of various periods stretching from the early Bronze Age, if not earlier, to historical times. Besides this historical significance, the site can be viewed as the epicentre of the whole of the Lungnak rock art network. It has then to be considered together with major sites such as Murgi in Nubra valley, Domkhar zone in Lower

⁷³ I was nevertheless informed during my stay in the village that stories about gold artefacts findings on the site were still told by the elders. (Oral communication by Phalgon Rigzing, July 2nd 2014.)

⁷⁴ Necropolis or supposed ones, as they have not yet been investigated are known in central Zanskar in Tsazar (private communication by Q. Devers, August 2011) and lower Karcha (private communication by Phalgon Rigzing, July 2014). Howard reported a cist burial 2 days upstream Zamthang along the Tsarap River: see Howard 1999.

Ladakh and the Chilling group along the Zaskar River next to its confluence with the Indus.

The discussion about various figures and designs attested in more or less neighbouring Central Asian areas at dated periods shown some similarities but has also highlighted some questioning specificities. This is especially true with regards to the “animal style” related figures present in Zaskar. The persistence of some “Animal Style” related art, even though crossbred and reinterpreted, is attested in the Xiongnu culture of Mongolia up to a relatively late period⁷⁵. Similarly peripheral to the initial core of this specific style, the Zaskar area could well be the most southwest counterpart of such a rather late and adapted mode of subsistence.

Indeed, this rock art site network-like system in which Zamthang stands as the epicentre pushes us to wonder about the ways of exchange and circulation of the region and thus offers a promising research field in which archaeology and anthropology could fruitfully meet. The heavy climatic and geographic constraints of this particular milieu imply a high adaptive capacity and thus a developed sense of innovation and renewal. The graphic diversity and variety of accuracy in representing the animal life at Zamthang site echoes this level of development and supposes as well an intimate knowledge of the various animal species, their behaviour and particularities. Hunting with bow and arrows and horseback riding implies a material culture that might include, among other things, a familiarity with metallurgical manufacturing and therefore an economic and spatial management of the territory.

In this regard, the petroglyphs corpus of Zamthang forms a visual remnant, which questions a wide range of various aspects that remain to be defined. Through means of repeated hypotheses and investigations, the rough identification of rock art authors tend to slowly emerge. The specifications of the ancient populations of Ladakh and Zaskar still need, for the most part, to be discovered. For the time being their distant Central Asian neighbours stand as a comparison.

I hope that this presentation of the state of my knowledge of this site and neighbouring ones will motivate a systematic and multidisciplinary study, as Zamthang has not yet revealed its full potential in terms of the lessons it can teach us.

⁷⁵ Jettmar, 1965.

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Finally I would also like to mention Anne Chayet to whom I am extremely grateful, for her availability, her wise comments and inspiring character. This modest article is dedicated to her memory.

Appendix 1

Zamthang, identification and figure counting:

		Identified + unidentified
Total zoomorphic figures	559	416 + 143
Total signs	156	51 + 105
Total anthropomorphic figures	66	
Total architectural motifs (stupa)	25	
Total inscriptions	13	
Total identified figures	571	
Total unidentified figures	321	
Miscellaneous unidentified		75
Unidentified zoomorphic		143
Unidentified signs		103

Particular:**Zoomorphic:**

Ibex	195	
Yak (& dzo, bovine animals)	74	
(with ball tail)		31)
Wild sheep	45	
canine animals	31	
Total representations of horses	18	
(Without rider on)		6)
Feline (leopards)	10	
Dogs	9	
Wolves	8	
Birds	6	
Tiger (feline with striped coat)	5	
deers	4	
Foxes	4	
Hare	2	
Flying insects	2	
Camel	1	
Flattered animal coat	1	
Elephant	1	

Signs:

"S" motifs	9
Swastikas	7
Circle fragment, arc	4
Quadrangle figure	4
Group of dots	3

Circles	3	
Wave/zigzag line	3	
Vaira	3	
"8" motifs	2	
Scroll	2	
Suns	2	
Banners designs	2	
Crosses	1	
Wheel	1	
Floral designs	1	
Point	1	
Line	1	
Ghanta	1	
Anthropomorphic:		
Total representations of human beings	60	
Archers		30
Human figures		18
Riders on horses		12
Hands	2	
Foot	2	
Mascoid	2	
Inscriptions:		
Inscriptions in Tibetan	11	
In U-chen script		10
In U-med script		1
Inscription in latin	2	
Architecture:		
Stupa designs	25	
("eyed" Chorten		3)

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