



KEYWORDS: *Buddhist grottoes – ‘Counting inscriptions’ – Upper Mustang – Nepal*

PRELIMINARY ANALYSIS OF ‘COUNTING INSCRIPTIONS’ IN BUDDHIST GROTTOS IN THE CHHOSER AREA, UPPER MUSTANG, NEPAL

Ewa Paśnik-Tułowicka and Marta Żuchowska

Abstract. The main purpose of this article is to provide a preliminary analysis of the inscriptions found in two previously undescribed grottoes in Upper Mustang, Nepal. The inscriptions probably aided in counting prayers, mantras, or time. The analysis provides a basis for further research and is an important addition to this area’s existing body of research.

Introduction

The subject of this article is a preliminary study of ‘counting inscriptions’ found in two previously undescribed grottoes in Upper Mustang, Nepal (Fig. 1). These inscriptions are sequences of vertical lines, crosses and asterisks, the position and notation of which suggest that they form a whole. It is difficult to determine their role definitively, but they were most likely used as an aid to count prayers, mantras recited or perhaps time spent in the cave.

The photographs made during a visit in 2014 are most probably the only existing documentation of the layout, paintings and inscriptions in these caves. This paper analyses one type of inscription in two rock units located north-west of Garphu village in the Chhoser region: Gadenling and Nopchokling (Fig. 2). The description and preliminary analysis discussed below provide a basis for further research and an important addition to this area’s existing body of research.

The history of research on Mustang and its caves has been covered in detail by R. Dhungel in his *The Kingdom of Lo (Mustang)* (Dhungel 2002: 21–39). It is also worth mentioning a fieldwork project conducted in the 1990s by Angela Simons, Werner Schön and Sukra Sagar Shrestha in Lower Mustang (Simons 1993; Simons et al. 1994, 1998), Christian Luczanits’ analysis focused on paintings from the

Cave of Great Adepts (2014) and the project conducted by Agnieszka Helman-Ważny, together with Charles Ramble and others, concerning the manuscripts found in the Mardzong cave (Helman Ważny et al. 2018), as well as the master’s and doctoral research by Marion Poux (n.d.).

As mentioned earlier, neither the two grottoes described below nor the inscriptions present in them have previously been investigated. Little information is also available on the ‘counting inscriptions,’ so addressing this topic is new to research on caves or grottoes in Nepal.

Grottoes

Upper Mustang is a mountainous area stretching along the upper stream of the Kali Gandaki River in the

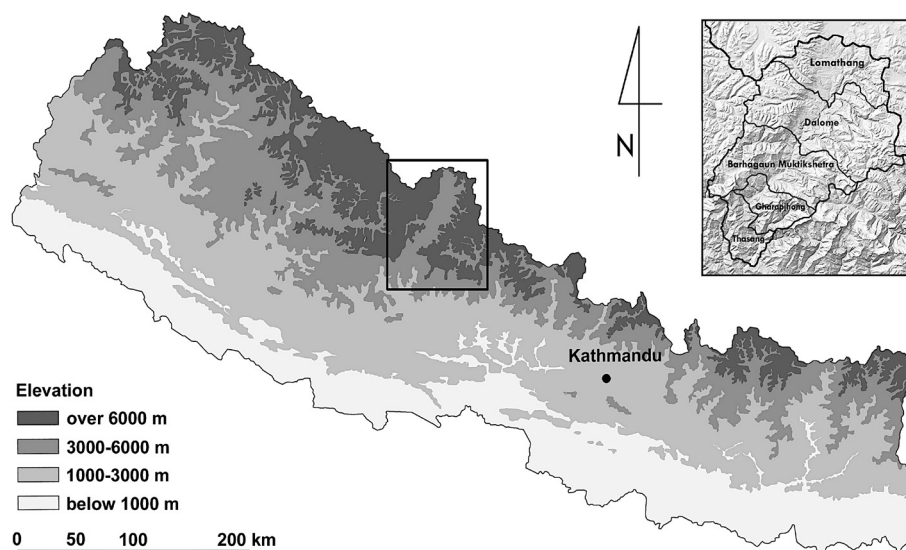


Figure 1. Localisation and divisions of Mustang district in Nepal (drawing R. Żukowski).



Figure 2. Localisation of described grottoes and closest modern village Garphu, Lomathang, Chhoser area (drawing R. Żukowski).

northern part of central Nepal. Because of its location in the Trans-Himalayan zone, north of the Annapurna and Dhaulagiri ranges, it is protected from the monsoons and is a highly arid area (Khatti and Pandey 2021). The geological structure of the upper sediments in this area, known as the Thakkola formation, shows the predominance of diverse conglomerate layers composed of sandstone, limestone and siltstone, sandstone and granite pebbles and gravel, as well as lenses of diverse intrusions. The lower parts of the Khali Gandaki valley and the beds of its tributaries are covered by moraine deposits lying over the Tibetan sedimentary sequence (Adhikari and Wagreich 2011). Due to the dynamic of the geological processes in this area and the natural features of the local rock, natural caves are abundant and easy to adapt for various purposes.

They were often adapted by cutting bigger rooms, smoothing the walls, as well as building masonry walls dividing the inner space and narrowing the entrances to use them as dwellings, stores and burial places, but also for diverse religious purposes (Simons 1993; Simons et al. 1994; Simons et al. 1998). Many of the rock complexes also have related mudbrick structures: stupas (small Buddhist sacred structures in the shape of a mound, whose structural elements have a strong symbolic meaning, often containing the relics of monks or nuns or other sacred items like scriptures, sacred images, robes of great masters etc.; stupas could be built to commemorate an important event or for a votive function) and other building relics in front of the cliff and monumental walls with towers on the top of the rock. While the stupas had obviously religious functions, it is rather challenging to determine the use of the other structures. The buildings in front of the rock complexes could have economic or domestic functions, while the walls and towers seem to have rather a defensive character and could be used as refugia. The towers also offered good views of all access roads, so they could be used as beacon towers. The mudbricks were probably produced in the valley, as they are up to nowadays, and transported to the top. They are relatively easily accessible through narrow but stable paths today, but given the high degradation process of the rock, it is impossible to assess how the mudbrick structures were connected to the natural features of the terrain in the past.

Gadenling is a well-preserved grotto located on a high cliff about 1.5 hours' walk north of Garphu village. It is now difficult to access, but there was probably a path leading to the entrance in the past. A few remains of mudbrick stupas can be recognised



Figure 3. Localisation of Gadenling grotto and neighbouring structures (photo MŻ).

on the way between the valley and the cave. There are the remains of a mudbrick tower and wall on the top of a neighbouring cliff located to the east, and a stupa is erected on the path joining both peaks. Below the tower, there was another grotto, located in the upper part of the cliff. It was originally carefully plastered and painted with red paint but was largely destroyed because of rock erosion, and its internal structure cannot be restored (Fig. 3).

Originally, the Gadenling grotto was composed of two caves open to the south. To fit the needs of the occupants, it was visibly transformed.

The larger western part was divided into two spaces separated by a brick wall, but the large passage along the southern wall ensured communication between these two rooms. The openings of the original caves were partially closed by brick walls, so only large, roughly rectangular windows/doors were left, and a small door between the two caves was cut into the rock to form a three-room unit (Fig. 4).

Room No. 1, irregular in shape, is located on the western edge of the unit and probably served as a utility room. A large, rectangular, trough-like structure in a small niche is carved in the north wall, and a stove is in the northeast corner. A few shelves were carved into the walls. The ceiling and walls have no traces of painting or plastering. They are covered with black residue, perhaps blackened from cooking using a fire inside the room.

The central room (room No. 2) is large and roughly square, with a slightly curved north wall. It has a separate entrance from the outside with stone frames plastered and painted in red. The room is equipped with a long shelf carved into the northern wall. The walls were plastered and covered with red paint. On the eastern wall is an ornament of lotus leaves and two lines of inscription, of which only a few letters can be recognised due to the fading of the pigments.

Room No. 3, located on the eastern edge of the complex, constitutes a smaller rectangular space with a large square window in the southern wall. Its quite regular shape suggests that it was probably strongly modified from the original cavity to fit its religious purposes. A shelf was carved into the western

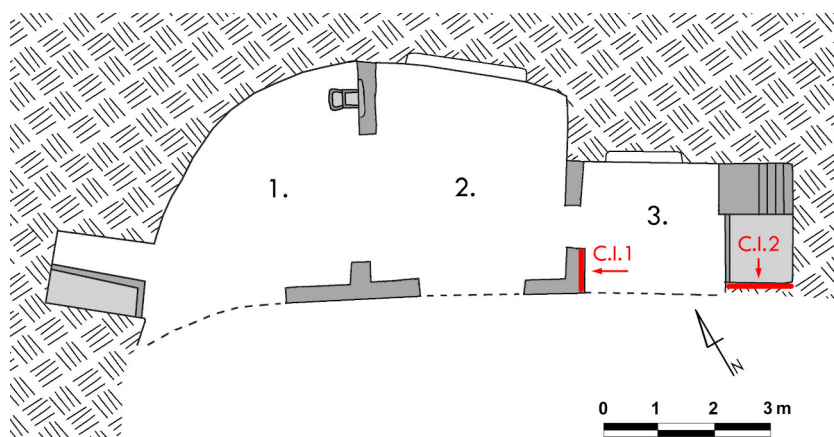


Figure 4. Sketch plan of Gadenling grotto and the location of inscriptions (drawing MŻ and R. Żukowski).

part of the northern wall. The north-eastern corner is occupied by a structure composed of a low, square platform for burning incense and a four-step altar for offerings. The front of each of these steps was decorated with white paint and small black and red circles in regular alternate rows. In the corner, a rectangular space adjacent to the altar is separated by a low wall, probably as a place for seated meditation.

Next to the altar, on the north wall, there is a small painting of a Buddha or an enlightened master (guru) in a sitting position surrounded by a halo. The painting itself is too schematic and, in addition, too damaged for detailed analysis, but it can be noted that it is a figure in monastic robes as both overlapping halves of the robe can be seen, which may exclude most Buddha depictions as they often show the upper body only partly covered (Min Bahadur Shakya 1994: 47–74). The figure also looks as if he is wearing some kind of hat. The ears and the characteristic 'updo' hairstyle on top of the head are completely invisible, which might



Figure 5. Gadenling grotto, room No. 3. The western wall with an altar and a place for meditation (photo MŻ).



Figure 6. Nopchokling rock complex (photo MŻ).



Figure 7. Nopchokling. The wall and tower on the top of the southern part of the cliff (photo MŻ).

suggest a Pandita hat. The hands are also invisible, so it is not possible to determine in which symbolic hand gesture (*mudra*) they are positioned; it is only possible to see that the right hand is bent as if it was raised at chest height as in the Dharmachakra Mudra (Fig. 5).

All the walls were plastered and painted. On the column forming the passageway between rooms 2 and 3 from the western side of the entrance, there is only a partly preserved written Tibetan *mani* mantra. The word mantra can be briefly and superficially defined as

sacred sounds, words, syllables and phonemes to which practitioners attribute magical powers that perform spiritual and religious functions. *Mani* mantra consists of six syllables and is associated with the bodhisattva of compassion, Avalokiteshvara. It is very popular among Tibetan Buddhists. Above it, there is a part of another Tibetan word. A counting inscription (C.I.1) is located below the *mani* mantra. Another, more complex one (C.I.2) is on the southern wall of room 3 (Fig. 4).

Nopchokling is a large rock complex on the western bank of the valley leading north from Garphu village. It is composed of multiple grotto units on multiple levels, many of which are inaccessible and well-preserved. On top of the southern part of the rock is a massive mudbrick structure composed of a wall and a tower with a rectangular plan. A small mudbrick stupa is preserved in front of the rock (Figs 6, 7).

A small three-room grotto is located in the northern part of the cliff. The front wall has eroded, and all three rooms are strongly damaged. On the southern edge of the unit, there are remnants of a utility room (room No. 1), with multiple shelves carved into the wall and much black residue on the walls and the ceiling (Fig. 8).

Next to it, the remnants of the small and low room No. 2 are preserved. It was only 2 m wide, 3 m deep and 1.4 m high. Its walls were carefully plastered with clay. Faded traces of red pigment and a white horizontal line below the ceiling are still preserved in some places. A counting inscription (C.I. 3) is located above the white line on three room walls. The room's small dimensions suggest that it was a meditation cell (Fig. 9).

Rooms 1 and 2 were probably joined by an internal passage cut through the rock. It is impossible to determine where the main entrance to the grotto was, but if any of these two rooms had one, it probably opened to the east. Room No. 3 was larger and square. It opened to the south, but there are no remains that could suggest whether and how it was connected with the other two.

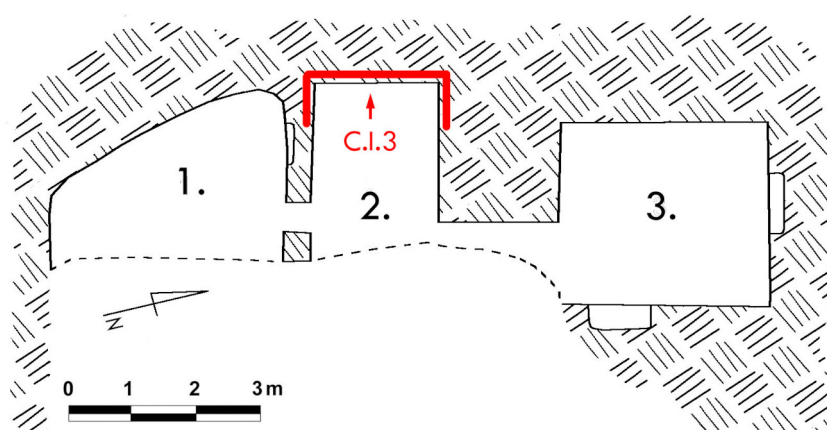


Figure 8. Nopchokling. Sketch plan of the grotto unit on the northern part of the cliff and location of the counting inscription (drawing MŽ and R. Żukowski).



Figure 9. Nopchokling. Room No. 2. 1-m scale visible below the central wall (photo MŽ).



Figure 10. Nopchokling, Room No. 3, with auspicious symbols on the walls (photo MŽ).

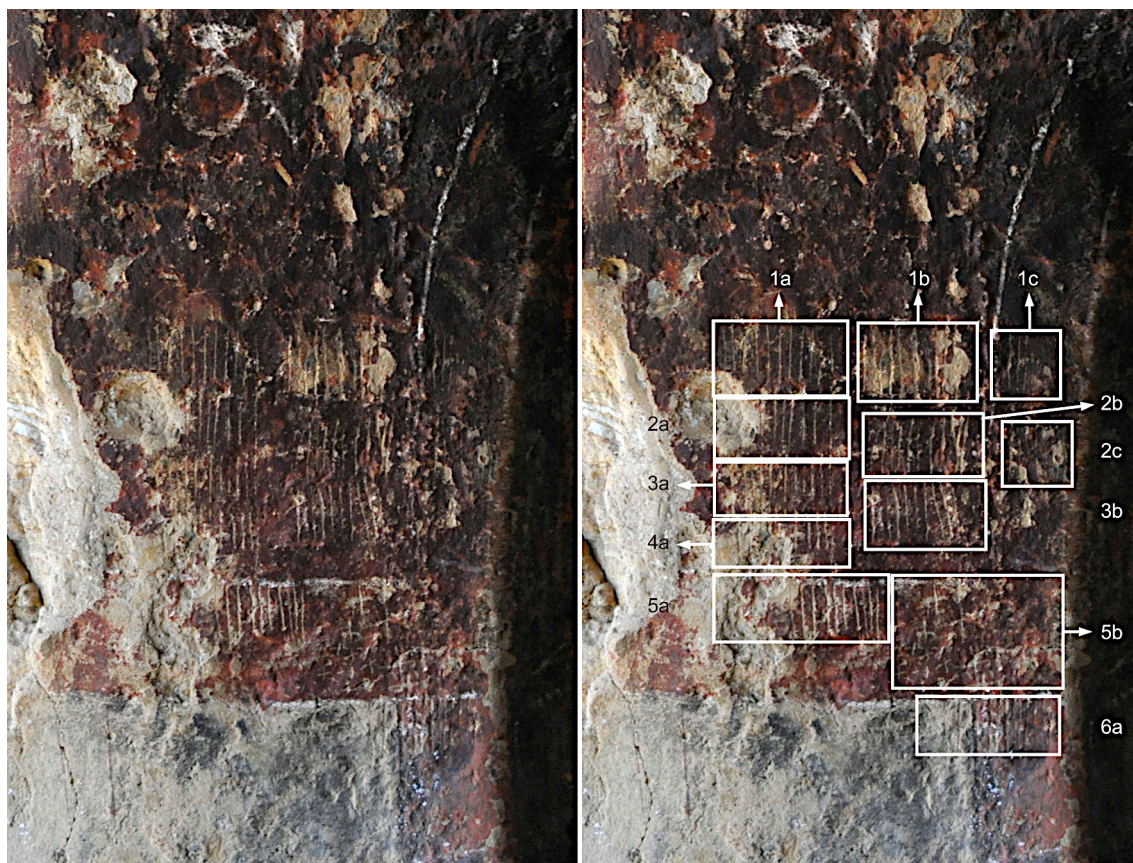


Figure 11. Gadenling. Counting inscription on the western wall of room No. 3. Original photo (left) and proposed sections division (right) (photo MŻ, drawing E. P.-T., R. Żukowski).

It was carefully plastered and painted in red, with a thick white line below the ceiling. The walls were decorated with white, black and yellow paintings of five out of the eight auspicious Buddhist signs (Diener et al. 1994: 98–99). The one preserved on the western wall is too damaged to be deciphered, while those on the northern wall represent the conch and the golden fish, and on the eastern, the endless knot and the wheel of dharma can be seen (Fig. 10).

'Counting inscriptions'

Gadenling

The first set of counting inscriptions (C.I.1) is located on the column forming the passageway between rooms 2 and 3 from the western side of the entrance to the grotto. They have been carved just below the partly preserved *mani* mantra. They consist of eleven groups of short vertical lines and one group of randomly distributed crosses made up of horizontal and vertical lines crossing at right angles (Fig. 11).

The total number of lines is hard to determine due to extensive damage to the column, especially as the number of lines in each group is not fixed. Six sections in a vertical arrangement can be distinguished in the inscription, each section consisting of one or more groups of lines. There are three groups of lines in the top row (1a, 1b and 1c); the first from the left (1a) has nine vertical lines, as does the one next to it (1b), while the third (1c) has only five visible. In the second row

below (2a, 2b and 2c), there are seven clearly visible lines in the first group from the left (2a), but as this group is exactly below group 1a, it could be suggested that originally there were also nine (or more) but the first lines have been obliterated. However, the second group in this row (2b), although also located below the middle group of the first row (1b), has 11 or 12 lines. The third group (2c) most likely has nine lines, but they are very indistinct, so the actual number is difficult to determine. There are only two groups in the third row (3a and 3b). In the first group from the left (3a), 11 or 12 lines can be seen, while in the second group (3b), which is inscribed slightly lower, 10 lines are visible. The groups below (4a, 5a, 5b and 6a) do not adhere to this reasonably orderly structure, and although the first group (4a) is exactly below the one in row three (3a), next to it, there are no more lines. Below it is another, the fifth-row group (5a), which probably has 10 vertical lines. Next to that is a fairly space-occupying group of at least 13 chaotically arranged crosses (5b). The last clearly visible group of lines (6a) is located directly below the crosses and has about 10 vertical lines. It is possible that there are more lines on the next wall of the column, but they are not visible due to damage.

It must be stressed that the impression that this is a coherent structure composed of vertical sections, or indeed any type of sections, is only valid to provide a reasonably orderly description. However, it is not

possible to state categorically that the inscriptions were drawn up according to any predetermined order.

The other inscriptions discussed in this article seem to be much more structured and written according to a specific order. The above-described inscription C.I.1 is rather chaotic and the most difficult to assess in terms of exact purpose. It can be assumed that since it is located at the entrance to room No. 3, which undoubtedly served for meditation and other religious practices, the inscription was used to count the number of entries into the meditation room or as a measure of time.

The second inscription found in Gadenling grotto (C.I. 2) is the most elaborate and complex (Fig. 12). It is located in room No. 3 on the wall right next to the place probably intended for sitting meditation, so it is reasonable to interpret that it was made for some purpose related to religious practice. The inscription undoubtedly represents some carefully planned, integral whole because all the lines are enclosed in a rectangular frame.

It consists of vertical lines and crosses, which in this case are written in the form of the letter 'X' and 'asterisks', which consist of four lines, two of them forming a letter X plus one horizontal and one vertical. They are arranged in a repeating pattern.

The whole is divided into five distinct sections (S1, S2, S3, S4 and S5) separated by decorative blank rows (D1, D2, D3 and D4). The first (S1) is made up of 8 rows, inscribed according to the following pattern: after each group of 9 vertical lines, there is an X. Such a pattern is also repeated a total of 9 times, and the whole sequence (nine groups consisting of nine vertical lines ending with an X) ends with the final group of 9 vertical lines with an 'asterisk' instead of X. The first part (the first eight rows) contains 7 complete sequences and a fragment of the eighth, which consists of three groups of vertical lines ending with an X and three free vertical lines at the end. It is worth noting that although the sequence repeats meticulously, the ends of the rows do not match the ends of the sequences. Therefore, in the first row, the last full group of 9 vertical lines ending with an X is followed by 4 vertical lines at the end, and the second row begins with five vertical lines (to make 9) and is, of course, completed by an X. This row ends evenly after 9 vertical lines, and so the third row must begin with an X, and so on.

The ninth row (D1) has no lines. It is completely



Figure 12. Gadenling. Counting inscription on the southern wall of room No. 3, with section numbers (photo MŻ, drawing R. Żukowski).

empty, divided into two roughly equal parts, each of which has a small decoration. Below is another row (S2), which forms the second section of the inscription and is completely filled with numerous vertical lines without any Xs or asterisks. The next eleventh row (D2) looks identical to the ninth row. Below that are seven more rows (12th–18th), forming the third section (S3) and arranged just like the first eight rows. The nineteenth row (D3) looks almost exactly like the ninth and eleventh and is followed by the fourth section (S4), which consists of seven rows repeating the sequence as in the first and third sections. It is followed by another decorative row (D4), after which there were probably four rows for section five (S5). It can be assumed that they were constructed like the previous sections (S1, S3 and S4), but it is hard to determine definitely as they are almost completely invisible, not only due to dam-

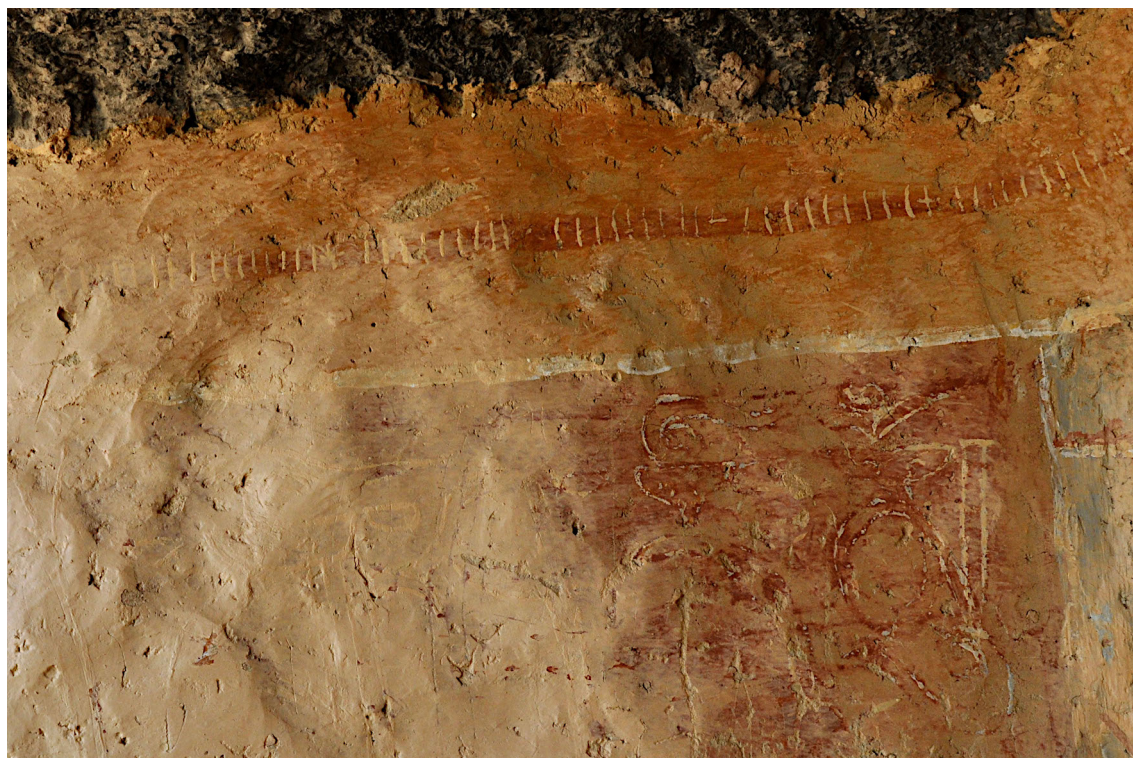


Figure 13. *Nopchokling. Details of the counting inscription in room No. 2 (photo MŻ).*

age resulting from natural conditions but also because of vultures nesting near the inscription when studied.

The inscription's structure may suggest that it records the number of repetitions of various mantras and/or prayers or prostrations that make up one particular practice or retreat.

As mentioned earlier, the most likely function of the vertical lines, Xs and asterisks in sections S1-S5 is some form of counting. However, without knowing the practice to which the inscription refers, it is difficult to say definitively whether the rows marked 'D' are merely decorative, acting to separate the different sections from each other, or decorative while simultaneously conveying further information as well. It is also puzzling that there are no marks denoting tens or hundreds in the second section. This may suggest that the inscription relates to a practice or mantra, the number of repetitions of which is limited and fixed and does not require additional markings.

Nopchokling

Although the form of the inscription in the Nopchokling grotto (C.I.3) is much simpler than the one described above, its content, the repeated sequences, is the same. It is also located in a room most probably intended for meditation, as indicated by its low height, which prevents even a particularly short person from standing up straight, thus suggesting it was designated for seated meditation. The inscription was placed on a specially prepared strip of darker paint covering the wall just below the ceiling. Since less than three walls have survived from the room in which it is located, it is not known how the inscription looked in

its entirety (Fig. 13).

The strip of dark red paint on which the inscription was created surrounds the room, starting in the middle of the southern wall, extending along the western wall and disappearing in the middle of the northern. The visible part of the inscription begins with 9 vertical lines ending with an asterisk. Then, as in the previous inscription, there are nine groups of 9 vertical lines, each ending in a cross (rather than an X) and a tenth group ending with an asterisk. After two complete sequences ending with asterisks, several free lines become less and less visible until they finally disappear on the northern wall.

The inscriptions described above are, with certainty, for counting. This is indicated by the decimal system used for the latter two, where a vertical line marks one, an X or a cross marks ten, and an asterisk marks a hundred. In both of these cases, it is most likely that the inscriptions were related to counting some activities performed during religious practices.

The Nepalese monks themselves also confirm this. The Upper Mustang native Geshe Sonam Gurung, who was consulted about the paintings and inscriptions in these two caves, stated that he counted down the repetitions of mantras himself. A similar supposition regarding these inscriptions was also drawn by Charles Ramble, who mentioned other unpublished inscriptions of this type during a webinar on the caves held at the end of February 2022. In the same way, the wooden 'covers' of religious texts are sometimes marked with the number of times they have been read (Geshe Lodoe Tsukpud, the teacher in Triten Norbutse monastery in Nepal, private consultation

on 14 Dec. 2022).

However, one of the most important issues is to answer the question of what this 'one', expressed by a single vertical line, means. According to Geshe Sonam Gurung, it is not fixed or certain. It may, for example, depend on whether the practitioner uses prayer beads called *mālā*. In this case, one turn of the *mālā* (108 repetitions) could be written with a single vertical line, which means an X or a cross would then signify around a thousand repetitions, and an asterisk would signify around ten thousand.

Looking at the complex form of the inscription in Gadenling, one may also wonder if it is a record of the number of repetitions of some religious activity, and it is not at the same time an instruction to perform some complex practice. Of course, being able to read such an inscription would require detailed knowledge of what practice the inscription refers to, which is impossible to determine at present.

Another possible function of such an inscription is suggested by an attempt to answer the question of to whom exactly the information contained in the inscription is addressed. Carving in wood or using paint on the wall implies a desire for permanence; also, if the inscription was merely a counting tool, is it necessary to embellish it to distinguish individual parts? Mark Aldenderfer (2012: 129) notes that hermitages, where the great lamas or yogis dwelt temporarily, were unique places saturated with spiritual power, which also accumulated through the religious practices of their occupants, and such an inscription could, therefore, serve as proof of its presence.

However, the first inscription appears to be of a different nature. Firstly, the structure indicative of the decimal system is not preserved, or at least at present, it cannot be ascertained. It is also unclear what the zone containing the chaotically placed crosses might have signified and whether the crosses still represented a value ten times higher than a single vertical line. Perhaps the activity expressed in this inscription did not require many repetitions. For example, it may also have referred to the number of days or months spent in the cave or the number of entries into the cave.

Conclusion

The preliminary analyses presented above are based on very scanty material collected during a short visit to the Garphu area. The lack of evidence does not allow for any hypotheses concerning the chronology of the grottoes' use and abandonment. There are also some aspects of the ritual practices revealed by the remains documented in these two units, particularly the counting inscriptions, which do not have any analogies in other areas and obviously need further research. Therefore, any conclusions must be limited to cautious and general statements. The contrasting accessibility and locations of the caves in relation to the settlement and food and water sources suggest they had different functions within the complex structure of religious

life in the Upper Mustang region. The internal layout of the units also reflects their different use, although meditation seems to be a crucial element of practice in both grottoes. The three counting inscriptions, two in Gadenling and one in Nopchokling seem to have diverse purposes, although at least two were probably related to religious practice. More in-depth research covering multiple cave complexes and units in the area, including sampling and material analyses, could provide much more data concerning the structure and functions of the particular caves and throw more light on religious life in Upper Mustang.

Acknowledgments

The research has been financed by a grant from the University of Warsaw, Initiative of Excellence – Science University, Archeooriental Studies Program. The study was based solely on photographic documentation from a trekking expedition to the Chhoser area in 2014. We would like to express our deepest thanks to all the people who helped us to prepare this text: Paula Rettinger, Eliza Kugler, Krzysztof Gutteter and Krzysztof Podnisiński, the participants of the Mustang Expedition in 2014, to Sonam G. Sherpa who took care of all the logistic and administrative issues and Lama Lakhpa from Garphu monastery who helped us to understand the spiritual aspects of the local tradition, as well as Tsewang Bista and all our friends in Mustang who explained us many aspects of the local culture, and to all members of the local community who kindly shared their knowledge and experiences with us. We would also like to thank Geshe Sonam Gurung for his inspiring discussion and explanations of inscriptions and paintings. Special thanks go to Prof. Charles Ramble and Dr Christian Luczanits for their wise advice and help with work on aspects of the art and culture of Mustang.

Dr Ewa Paśnik-Tułowicka
ORCID: 0000-0003-0679-350X
University of Warsaw, Faculty of Oriental Studies
ewa.pasnik@uw.edu.pl

Dr Marta Żuchowska
ORCID: 0000-0002-1238-3665
University of Warsaw, Faculty of Archaeology
marta.zuchowska@uw.edu.pl

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