

Article

Historical Photographs of Kucha: Retracing Lost Caves and Related Thoughts

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Abstract: Historical photographs of Kucha, mostly those taken by the Turfan German Expedition (1902–1914), can be used to recover information concerning the caves lost over the last century and features that cannot be seen any longer. The analysis of photographic material can help to individuate patterns and trigger thoughts leading to a better understanding of the sites, appreciate lost features, reveal the likely location of caves presently covered by debris, understand how caves were restored in antiquity, and suggest better ways to preserve and use rock monastery sites. Though this article focuses on Kucha, the proposed method can be used at other archaeological sites.

Keywords: Kucha rock monastery; archaeology; historical photographs; restoration techniques

1. Introduction

Over the last two centuries, ancient Buddhist monasteries have been discovered and excavated across Asia. This has led to a large body of literature which, for the most part, has focused on the art contained in them. The study of the Buddhist rock monasteries in Kucha has followed this pattern. My research aims to examine the study of rock monasteries as meaningful religious settlements by carefully analyzing all the remains and not just the artworks found there.¹

Crucial information about Buddhist rock monasteries, in fact, might be gathered from features usually left out of the discussion: niches and caves of small dimensions, caves left undecorated or that have lost their decoration, caves that are exceptionally damaged or partially buried, connective architectures, and marks from now lost timber structures. In most cases, such marks have been obscured by preservation efforts or eroded since the photographs were taken.

Since the monasteries are in a state of continuing degradation, early documentation needs to be scrutinized to acquire a deeper understanding of the rock monasteries, as the locale where particular forms of Buddhism developed in a specific historical period and showcased the culture of the Kucha kingdom (Figure 1).²

An untapped source of information comes from historical photographic records; most of the explorers who visited Kucha at the beginning of the 20th century documented their visits to the sites extensively. These records also included photographic surveys, with the German Turfan Expeditions (1902–1914) being the most thorough.³ While written sources have been carefully studied, these photographs have not received the attention they deserve. More specifically, photographs taken by early explorers show the rock monasteries in a better state of preservation compared to the present, with several of the above-mentioned features still detectable. They not only stand as a persuasive testimony to the degradation by weathering and human activities in the last century, but they also allow the recovery of lost data that can offer a broader comprehension of the rock monasteries and may assist in the selection of preservation techniques in the future.

Analysis of historical photographs from Kizil has, for instance, permitted the identification of features below the present ground or lost during the last century. Additionally,



Citation: Giuseppe, Vignato. 2023. Historical Photographs of Kucha: Retracing Lost Caves and Related Thoughts. *Religions* 14: 903. <https://doi.org/10.3390/rel14070903>

Academic Editors: Patricia Eichenbaum Karetzky and Tianshu Zhu

Received: 6 May 2023

Revised: 28 June 2023

Accepted: 29 June 2023

Published: 12 July 2023



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the features of damaged caves and paintings allow for an understanding of the changes the sites went through over the last 120 years.

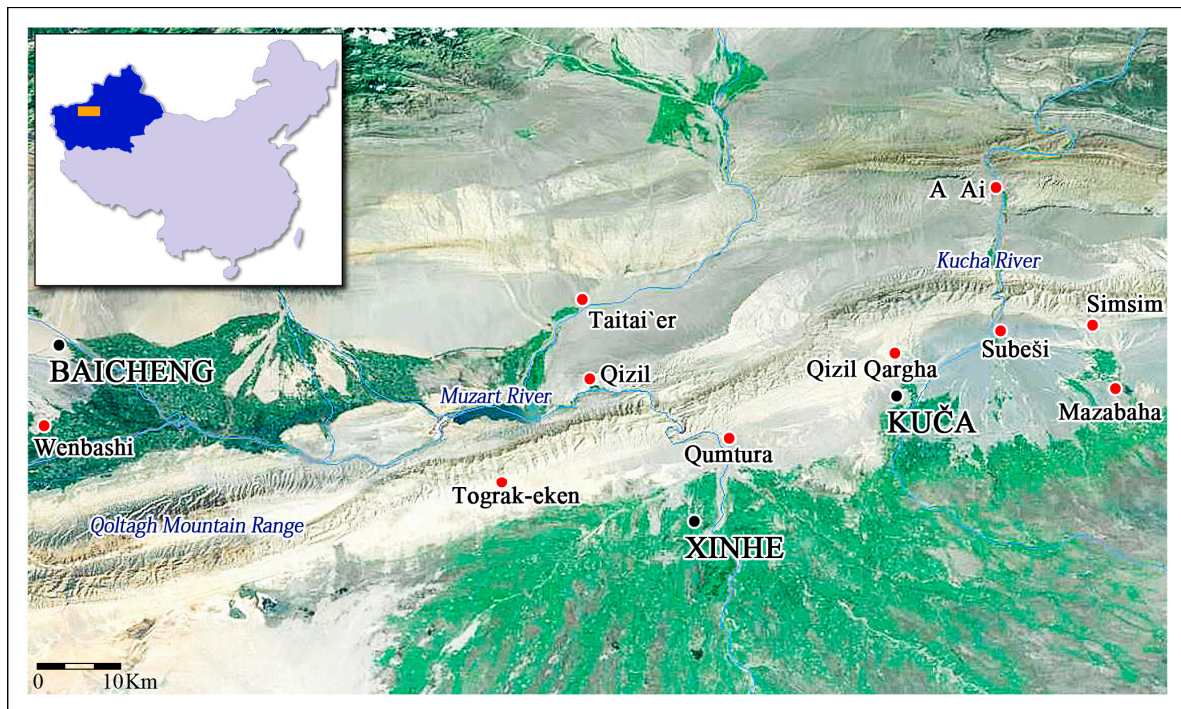


Figure 1. Location of the main Buddhist sites of the kingdom of Kucha. Modified from “Mapworld” (www.tianditu.cn, accessed on 10 December 2012). County towns are written in capital letters; rock monasteries in small letters; rivers and mountains in blue.

The following study relies on data acquired from historical photographs and my own fieldwork. Since only a few historical photographs can be published in this short study, the discussion herein is limited to a few crucial samples, to point out patterns and paradigms and propose a method through which these and similar collections of photographs can be analyzed. A comprehensive study is beyond the remit of this paper.

2. Features Detected in Historical Photographs

We gather data by comparing the two-dimensional features provided by photographs to similar ones that can still be observed in the rock monasteries of Kumtura, Simsin, and Kizil. At first, we can immediately notice that, though they had already been affected by weathering, the caves in the pictures appear much closer to what they might have looked in antiquity than their current appearance.

In our investigation, there is a need to constantly reassess the present position of the caves on the cliff against the original ground level. For example, the photographs taken by the German Turfan Expedition show some evident changes in the setting. The stunning scenery surrounding the Kumtura North Monastery (库木吐喇窟群区) has been altered significantly in recent decades. The construction of a hydroelectric power plant downstream has raised the water level of the river. Moreover, in 1981, massive dam-like concrete walls were set up to protect the caves from flooding; in 1991 some of the wall paintings were detached and stored;⁴ and the inner walls of the caves were strengthened with potassium silicate (PS) and concrete. The area between the massive concrete dam-like walls and the caves was filled with a thick layer of pebbles, in places to a depth of five meters; thus, not only does the height of the caves on the cliff not correspond to the original one, but the caves can now be accessed only by climbing down and not ascending to them, as was possible originally. The addition of an electric fence and surveillance cameras on high poles in recent years has further impacted the landscape. These interventions deeply affected the

caves and definitively ruined the atmosphere of the setting; they not only hinder the view of the caves from a distance, but they also obstruct the view of the surroundings from the caves (Figure 2).



Figure 2. Kuntura North Monastery, area between Caves 7 and 33. Photograph by the author, 2016.

The caves facing the Muzart River have been divided into two districts (Southern District 南区 Caves 1–39, partially seen in Figure 3, Northern District 北区 Caves 53–72). Large sections of the cliff between Caves 6 to 33 had already collapsed.⁵ Most of the antechambers had already suffered much damage and, in some cases, sections of the main chambers too.⁶ The damage started occurring to the caves while the site was still in use and continued through the centuries.⁷

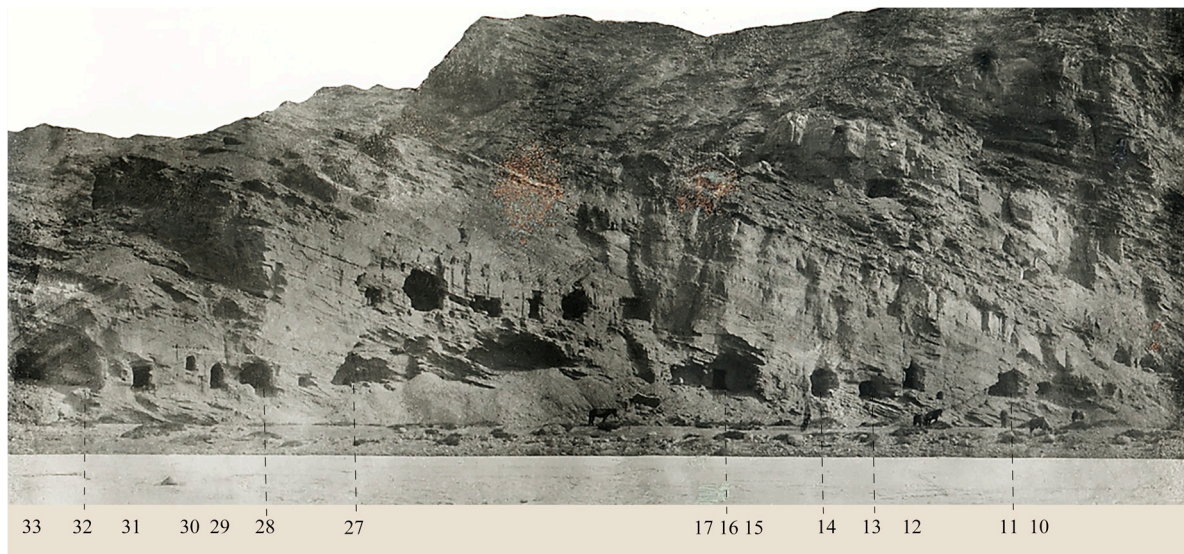


Figure 3. Kuntura North Monastery, Caves 7–33. Photograph adapted from B 1553 © SMB, Museum für Asiatische Kunst.

Photographic enlargement allows for a detailed analysis of the section of the cliff between Caves 23 to 33 (Figure 4).⁸ After a collapse of the cliff that wiped away the rock-carved antechambers, a timber balcony was set up in their place; the presence of this structure is indicated by the row of rafter holes carved at the same height across the cliff, preserved above Caves 30 and 27. This timber structure would have provided a roofed activity

area for all the caves in this section.⁹ Interestingly enough, the historical photographs reveal the presence of five small niches in this relatively short section of the cliff; we will mention them as they are provisionally referred to.¹⁰ Only one niche, Cave 30, is now visible; it was carved in a higher position than the other four.¹¹

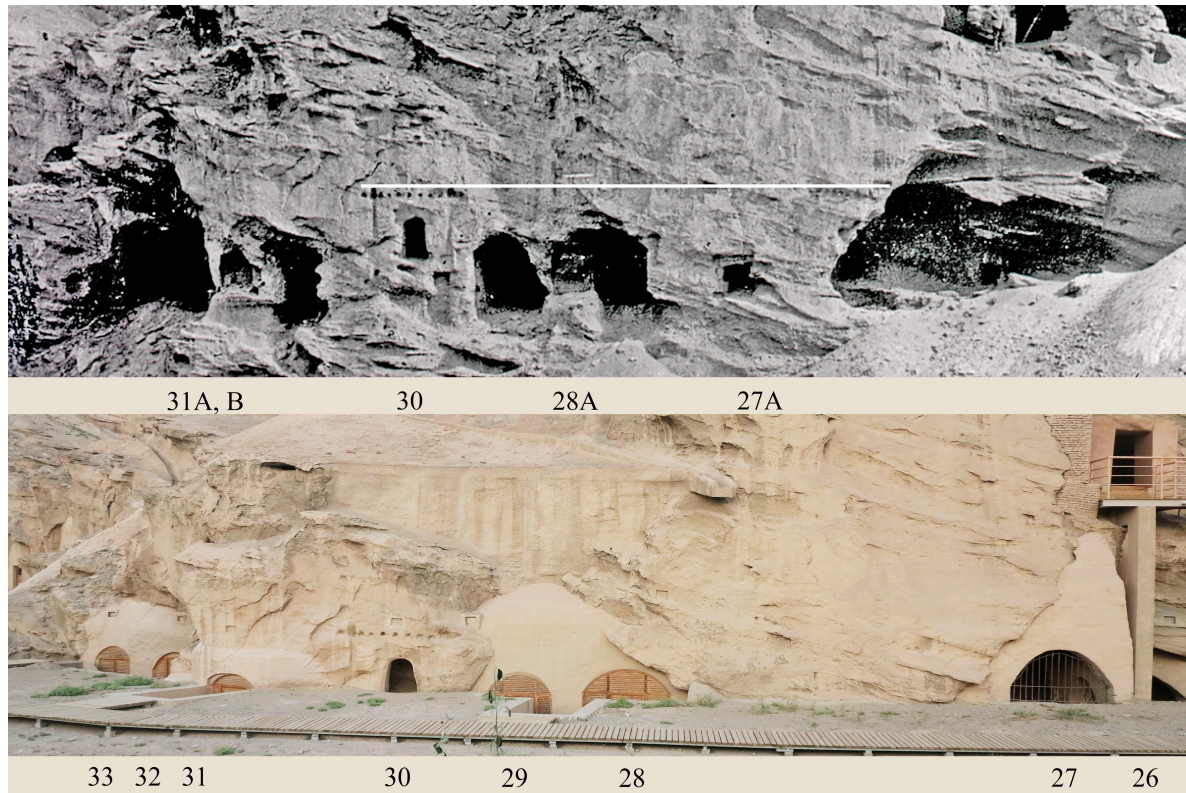


Figure 4. Kumtura North Monastery, Caves 27–33. Above, the caves at the time of the Third German expedition (1906). Photograph adapted from B 1553 © SMB, Museum für Asiatische Kunst. Below, the caves today. Photograph courtesy of the Kizil Cave Institute, 2022.

The second niche, carved between Caves 27 and 28, Cave 27A, displays grooves on the four sides, indicating that it was fitted with a small door. The third niche, Cave 28A, was carved between the central pillar Caves 28 and 29; it was carved in a section of the rock exposed following the collapse of the antechambers and a section of the front walls of the main chambers of the two larger caves at its sides. The fourth niche, Cave 31A, was carved after the collapse of the front wall of the main chamber of Caves 31 and 32, a situation comparable to that of Cave 28A (Figure 5). The fifth niche, Cave 31B, was then carved beside it, partially overcutting it.¹²

The analysis of the historical photographs of the cliff between Caves 27 and 33 has revealed some crucial facts. It has shown that the carving of the niches and the installation of the porch must have been carried out after the damage incurred earlier by the larger caves. Therefore, the caves continued to be locations of religious observance after restoration was carried out.

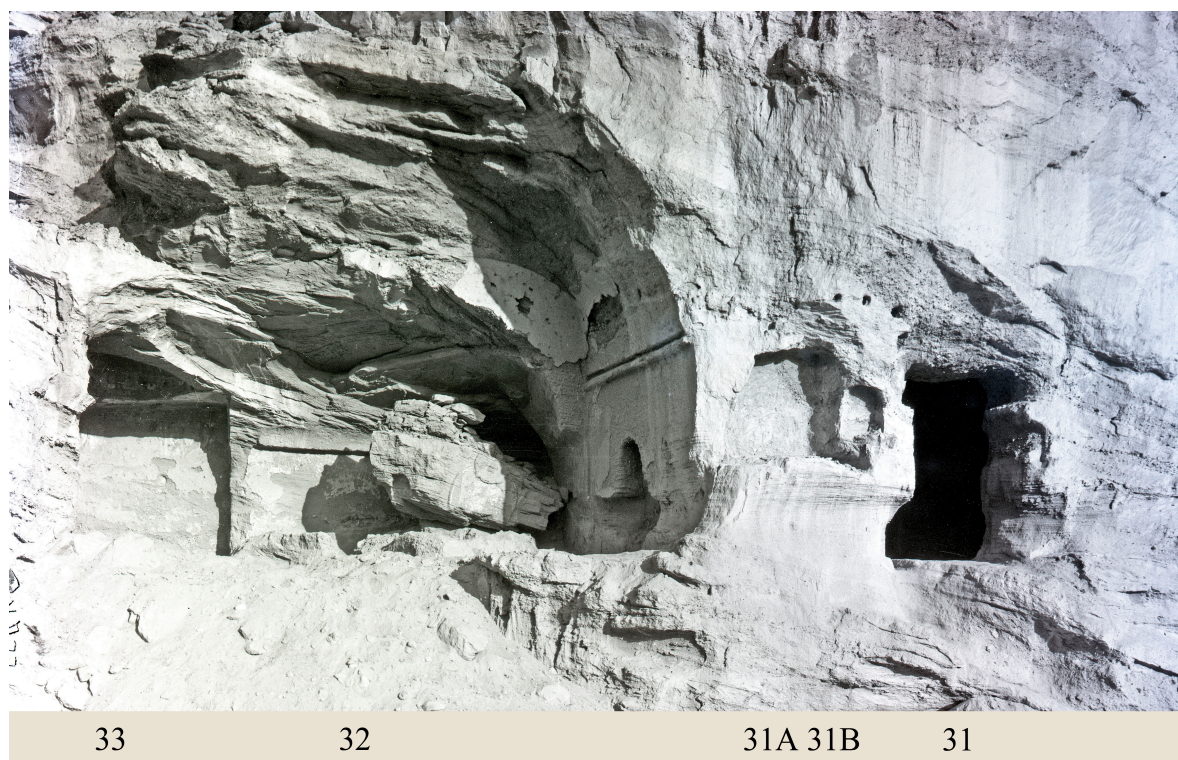


Figure 5. Kumtura North Monastery, Caves 31 (right) and 32 (left). Niche Caves 31A and 31B were carved in between. The peg holes carved in a curved line above the niches are a possible later feature. Photograph adapted from B 1259 © SMB, Museum für Asiatische Kunst.

Other interesting facts emerged from the examination of photographs of the southern section of the same cliff, between Caves 10 and 15.¹³ Caves 10–11 were reached through a stairway carved in the rock, provisionally numbered Cave 11A, which was subsequently damaged by the collapse of the cliff; such a staircase was still present at the time of the Turfan expedition (Figures 6 and 7). It was a quarter-turn stairway, with the lower flight of steps entering perpendicularly into the cliff and the upper flight carved within, parallel to the cliff facade. Originally, the only part of the stairway visible from the outside would have been the access door. Note the small doorway on the rear wall of the landing (11B), likely leading to a small deposit cave.¹⁴ At that time, the stairway reached the antechamber of square Cave 11 from the left, while a doorway hewn into its right wall gave access to the antechamber of Cave 10.¹⁵ The traces of this stairway indicate that the outer face of the cliff in front of the two caves collapsed to a depth of over three meters.¹⁶ On the right-hand side of the photograph, we can identify three small caves, provisionally named Cave 10A, 10B, and 10C, that are carved on the same level as Caves 10 and 11. It can be conjectured that these caves were reached through a passage carved on the right wall of the antechamber of Cave 11 (Figure 8). From the photographs, we can infer that these three barrel-vaulted ceiling caves were above a meter in height and about one meter wide.¹⁷ Their size and type allow us to interpret them as meditation caves.¹⁸

After the outer portion of the cliff collapsed, the lower flight of steps was completely lost, while the upper flight became exposed. Note the very small niche above it, slightly to the right (11C). If we consider the depth of this niche and compare it with the original cliff facade (note 16), we realize that the niche itself could only have been carved after the collapse of the outer section of the cliff.

Access to Cave 10 was granted by a doorway dug through the right wall of the antechamber of Cave 11. Thereafter, a passage hewn into the right wall of the antechamber of Cave 10 allowed access to Caves 10A, 10B, and 10C. A small niche (11C) was carved into

a newly exposed section of the cliff after a large collapse of the cliff, which revealed the stairway and devastated the antechambers of both Caves 10 and 11. The absence of grooves and postholes suggests that these caves were not restored after suffering damage.¹⁹



Figure 6. Kumtura North Monastery, Caves 10 (right) and 11 (left). Photograph courtesy of the Kizil Cave Institute.

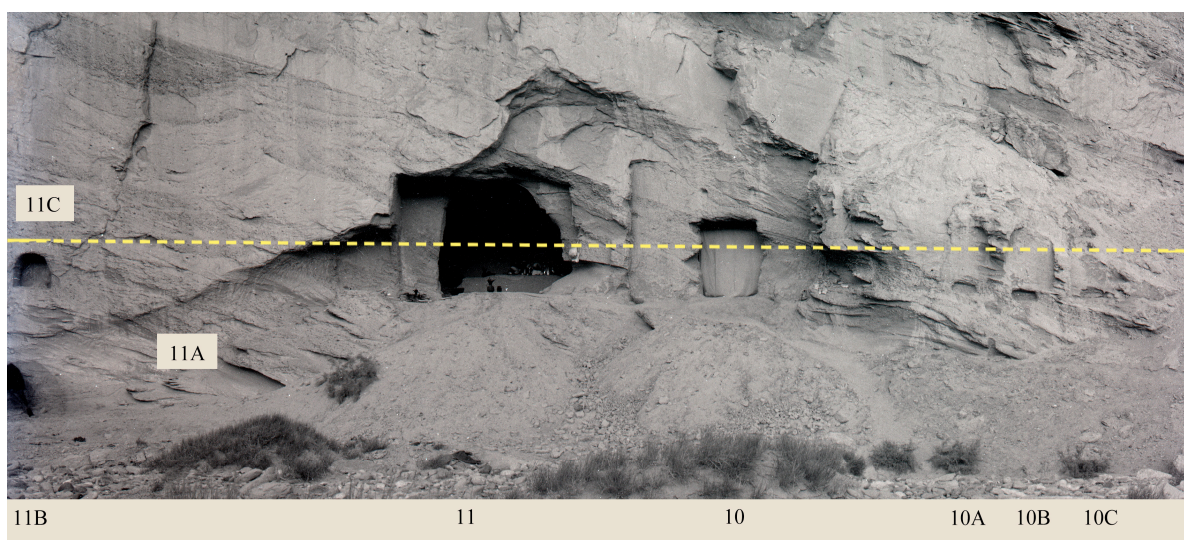


Figure 7. Kumtura North Monastery at the time of the Fourth Turfan Expedition (1913–1914). At the center are Caves 10 and 11. From the left, Cave 11B and Cave 11C above it, and the stairway Cave 11A. On the right of Cave 10 are the three niches Cave 10A, 10B, and 10C. Adapted from B 1093 © SMB, Museum für Asiatische Kunst.



Figure 8. Kumtura North Monastery, the individual antechambers of Caves 10 and 11. On the left, the upper end of the stairway opens on the left wall of the antechamber of Cave 11. Marks of a doorframe are also seen in the section of the rock separating the antechambers of Cave 11 from those of Cave 10, indicating a connection between the two caves. Photograph adapted from B 1202 © SMB, Museum für Asiatische Kunst.

Slightly to the north of this group are Caves 12, 13, and 14. In modern times, the area in front of them has been filled with strata of pebbles and can now be accessed by descending three separate stairways (Figure 9). Through examination of historical photographs (Figure 10), it has become possible to determine their relationship. It can be seen that the central pillar Cave 13 and square Cave 14 were carved at the same level in a relatively high position on the cliff and were presumably reached via a stairway. The floor joist holes and rafter holes indicate that the two caves were repaired after the collapse of their rock antechambers and were connected through the installation of a timber balcony. Therefore, these two caves formed a group similar to the one comprising central pillar Cave 10 and square Cave 11. Cave 12 was carved close to Cave 13 but at a slightly higher position on the cliff. It is an independent later cave, as can be assessed from the Uighur-style paintings.²⁰

The clearest example showing that niches were carved after the collapse of earlier larger caves is the niche carved between Caves 7 and 8, provisionally numbered Cave 8A. The caves have almost completely collapsed; the area in between the rear walls of the rear corridors of the two caves was exposed by the collapse. The exposed section of rock between them was subsequently chiseled even, and within this rectified space a niche was then carved (Figure 11).

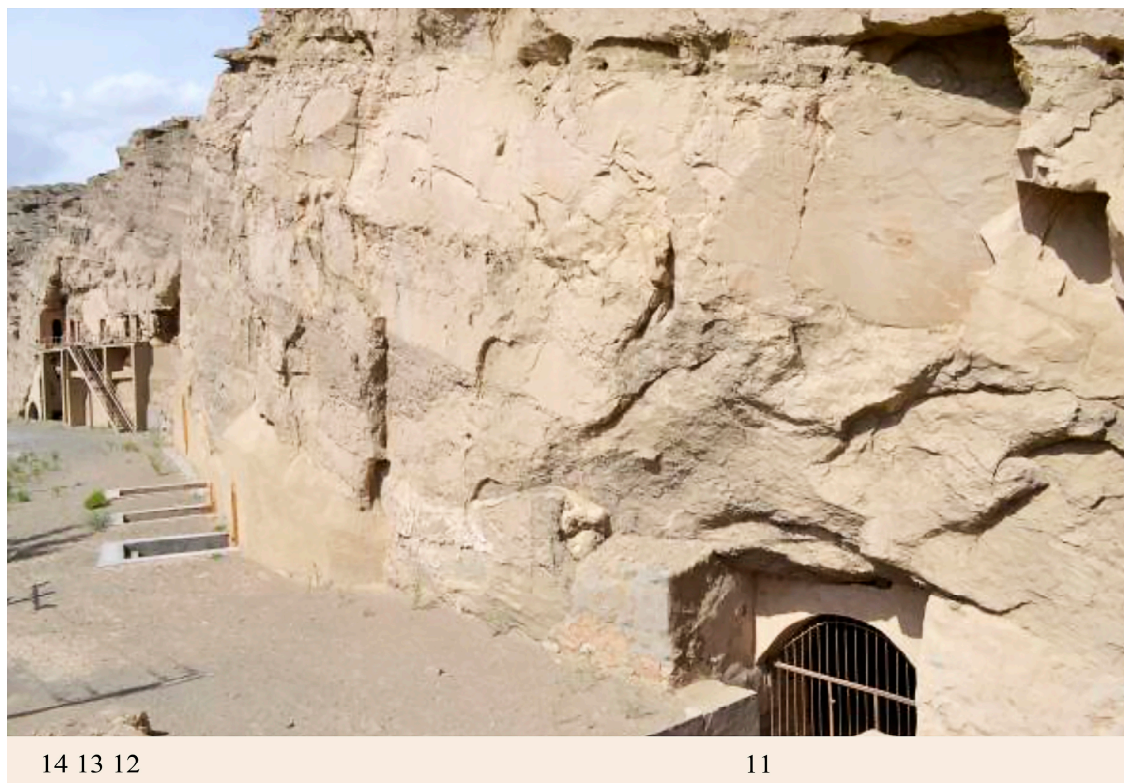


Figure 9. Kumtura North Monastery, Caves 11, 12, 13, and 14. Presently the caves are accessed by descending cement stairways constructed at the end of the last century. Photograph courtesy of the Kizil Cave Institute, 2022.

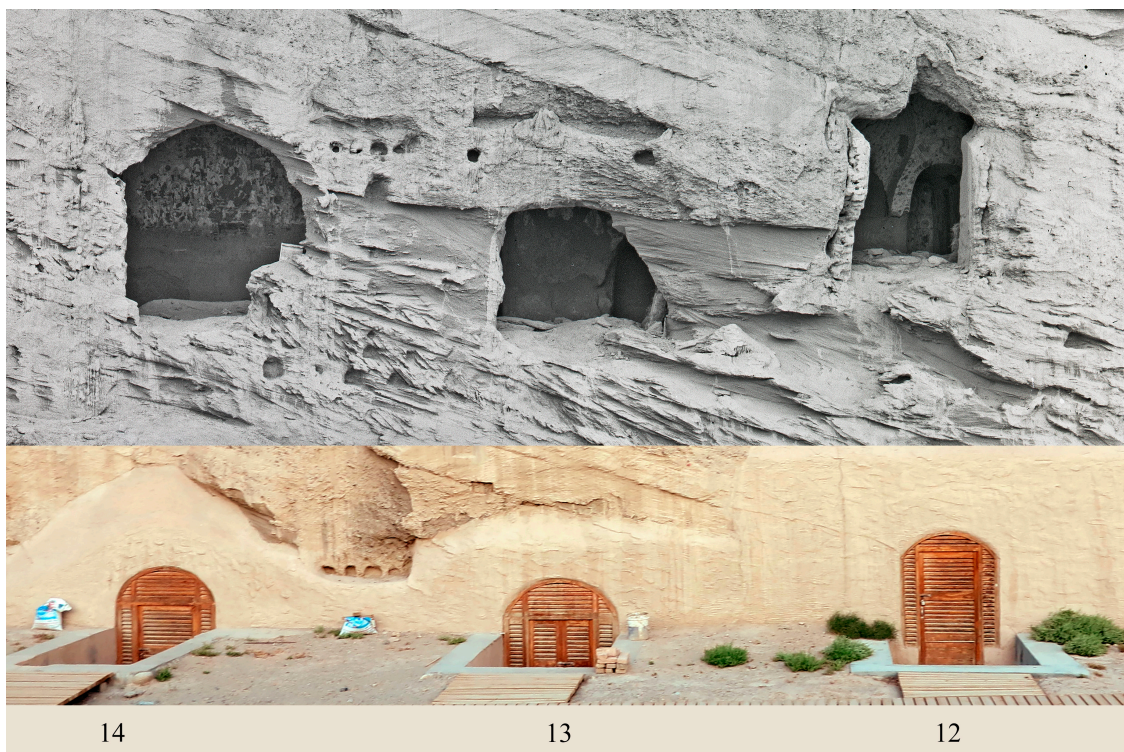


Figure 10. Kumtura North Monastery, Caves 12 (right), 13 (center), and 14 (left). Above, photograph adapted from B 1236 © SMB, Museum für Asiatische Kunst; below, photograph courtesy of the Kizil Cave Institute, 2022.

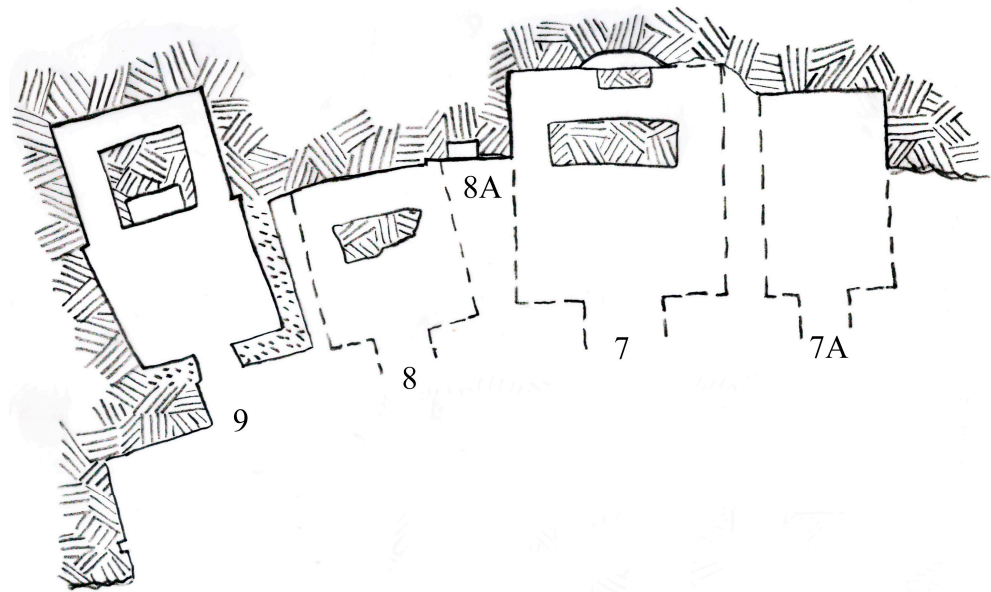


Figure 11. Kumtura North Monastery, Caves 7A–9. Note the location of the niche 8A. Diagram by the author.

The analysis of the historical photographs recording the cliff facade of Kumtura North Monastery from Cave 6 to Cave 33 (Southern District 南区) has revealed several important features that are presently unseen. We learned that the original ground level was much lower than the present one, and therefore the caves were in a more prominent position. They were originally ascended to via stairways, which were carved within the cliff, while they are now climbed down to via modern concrete stairways that give rise to a completely inaccurate impression. Up to nine caves or niches of different sizes and functions and a stairway have been individuated. While some features belonged to the original plan, at least five niches were carved after the cliff collapsed, causing damage to earlier larger caves.

Aside from the large cement wall and the pebble filling in front of the caves, there have been significantly fewer changes in the Northern District (Caves 52–72, Figure 12). The niches carved in between the larger caves are still visible today and have, therefore, received an official number. These niches reveal similarities with the ones discussed above. Starting from the right in the photograph, Caves 55A and 57 are two niches carved on each side of Cave 56. Since symmetry is a paramount feature in the art and architecture of Kucha, these niches' different size suggests they were not the result of a unified plan. The state of the cliff indicates that the two niches were carved after the antechambers were damaged. Further north, past the heavily damaged Cave 63, there are three niches: Cave 64A, 64B, and 64C. They were protected by the large wooden antechamber that extended from Cave 63 to Cave 65. These three niches are likewise different in size and shape. Cave 64A is a fully painted shallow cave. Cave 64B hosted a clay statue set against the rear wall. Cave 64C presents an opening on its left wall connecting it with Cave 64. Although the relative chronology of the above-mentioned niches remains to be ascertained, the asymmetry and difference in size and shape indicate the lack of a unified plan and suggest they were carved in different periods.

The identification of a pattern in the historical photographs of Kumtura—that is the carving of small niches after the collapse of larger caves—has led to the study of similar features that are still visible, and therefore measurable, in other rock monasteries.

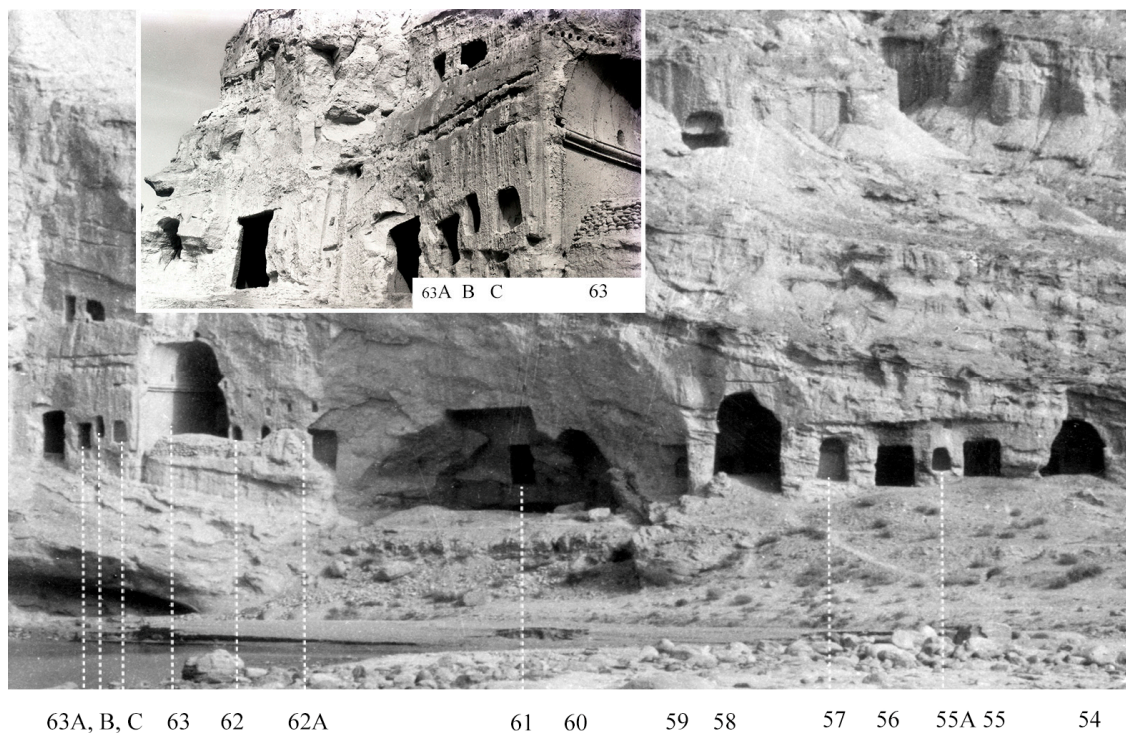


Figure 12. Kumtura North Monastery, Caves 54–65. Photograph adapted from B 1617 © SMB, Museum für Asiatische Kunst. The smaller photograph is adapted from B 1170 © SMB, Museum für Asiatische Kunst.

A full discussion of the Simsim monastery is beyond the remit of this study.²¹ In this context, we only examine three caves: Caves 36, 32, and Cave 8. Cave 36 is a small niche carved next to the central pillar Cave 35, the largest of this type on the site, which is almost completely preserved except for its antechamber and a small section of the main chamber. The modern cement wall, meant to prevent further collapse, has foreshortened the internal space significantly. Cave 36 is a niche carved on a section of rock exposed by the collapse of the front part of Cave 35; again, the placement of this niche means that it could not have been part of the original cave (Figure 13).



Figure 13. *Cont.*

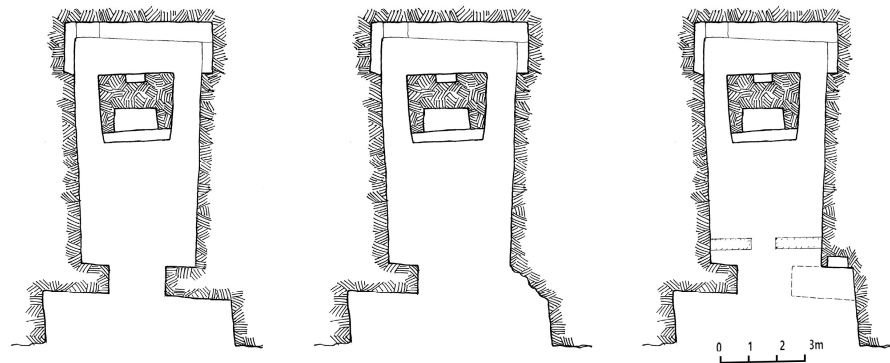


Figure 13. Simsim, Central pillar Cave 35 and niche Cave 36. The diagrams represent Cave 35 at three different stages: as it was originally carved (left); after the collapse of its front part (center); after the carving of niche Cave 36 (right). Photograph courtesy of the Kizil Cave Institute, 2022; diagrams by the author.

Simsim central pillar Cave 32A illustrates a similar situation. After the collapse of the cave, only the left and main wall of the main chamber and most of its rear areas remained intact. The location of the small niche on the left indicates it was undisputedly carved after the large collapse affecting the front part of the cave (Figure 14).

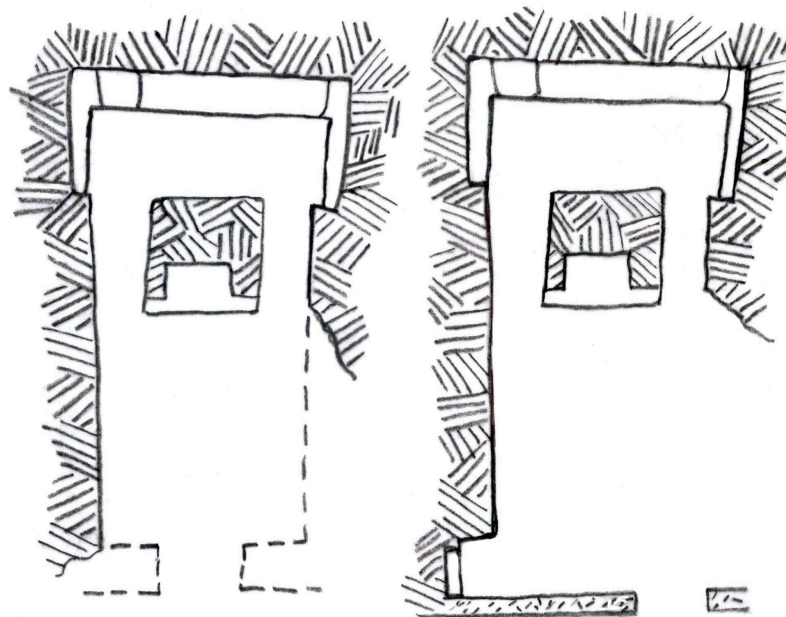


Figure 14. Simsim, reconstruction of Cave 32. To the left, the original cave; to the right, the way the cave was after it suffered a collapse and a niche was carved. Diagrams by the author.

Finally, Simsim Cave 8 is a small cave carved in a high position between Caves 7 and 9. The virtual reconstruction of the large antechamber of Cave 11 shows that this niche could have been carved in such a location only after this antechamber and that of Cave 7 to its left had collapsed (Figure 15).

The construction of these small niches in Simsim parallels the scenario seen in Kumtura: after a collapse that damaged several caves, a small niche was carved in the newly exposed section of rock. A similar reaction to adversity also occurred in Kizil.

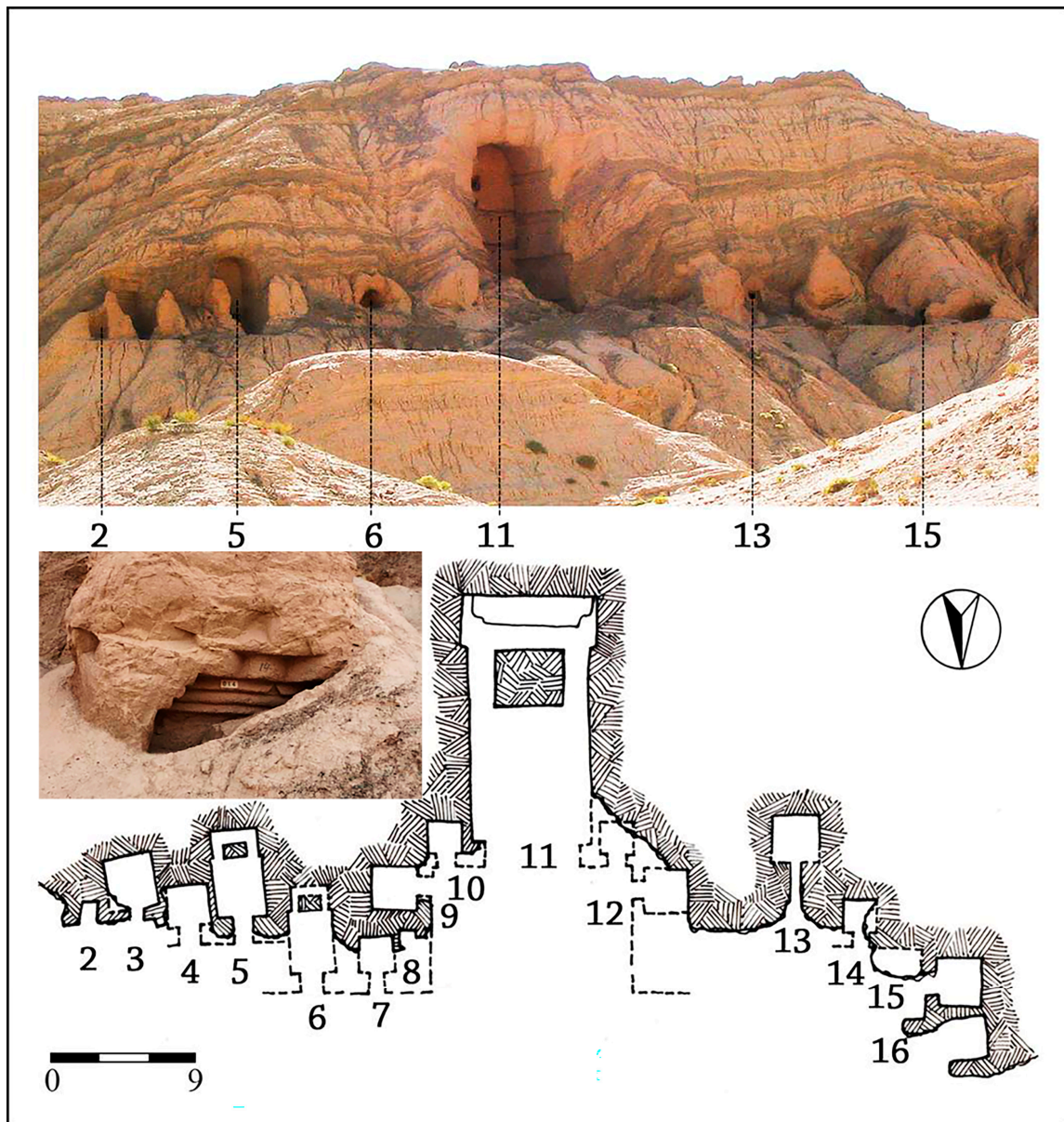


Figure 15. Simsim, Caves 2–16. The dashed line indicates the size of the antechamber of Cave 11. Note the relative location of Cave 8, indicating it could only have been carved after the collapse of the antechambers of Caves 7 and 11. Photographs by the author.

The tallest cliffs used to carve rock monasteries in Kucha are in Kizil. Large and deep scars in the rock are witnesses to the extent to which weathering has affected the site. The section of the cliff above New Cave 1 and Cave 69 shows marks of a large landslide that damaged both caves (Figure 16). Originally, these were two square caves, here numbered New Cave 1[1] and 69[1]. After the collapse, niches Caves 90-7 and 90-9 were carved between New Cave 1 and Cave 69, and between Caves 69 and 70, respectively. Then, the two larger caves were repurposed into central pillar caves, New Cave 1[2] and Cave 69[2].²² The niche's similarity in size and structure, the fact that each niche had a recess for the installation of a small statue in the rear wall, and their being decorated with the same colors suggest the two niches were carved at the same time. The relative location of the two niches stipulates that they could have been carved only after the collapse of the section of the cliff comprising New Cave 1[1] and Cave 69[1]. Ensuing collapses sealed the caves and niches with debris that contributed to their preservation, since further deterioration would

have wiped them out entirely.²³ These niches present us with a new situation. While, in Kumtura, some features seen a century ago cannot be presently seen, these were discovered in recent times and therefore unrecorded in historical photographs. Certainly, there are also some niches that were visible then and can still be seen now. Once more, this study requires a combination of fieldwork and close examination of historical photographs.²⁴

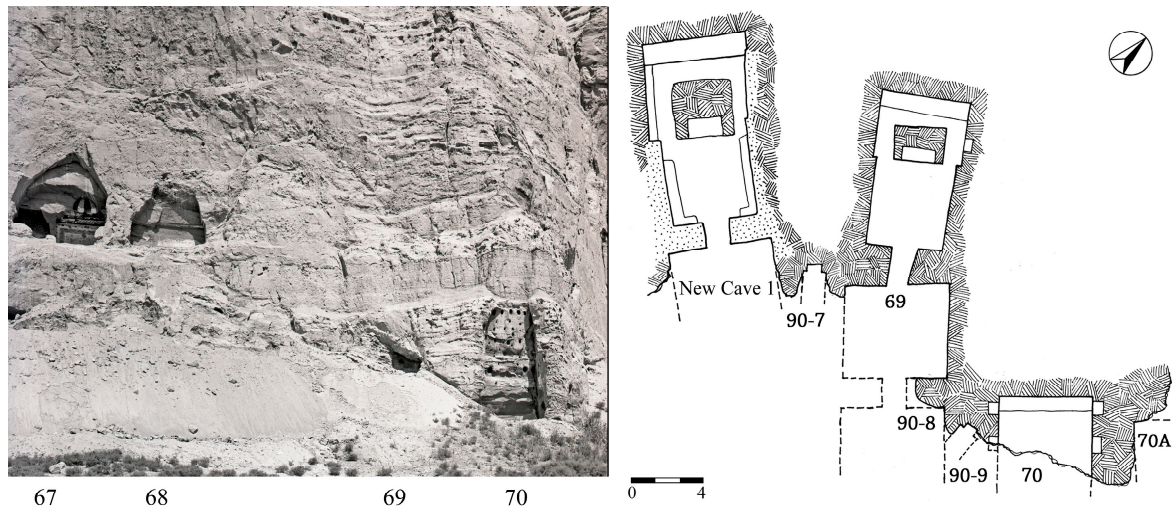


Figure 16. Kizil. The diagram shows the relative position of Caves New Cave 1 and 69, as well as that of the niches Cave 90-7 and 90-9. Photograph adapted from B 1381 © SMB, Museum für Asiatische Kunst; diagram by the author.

We might summarize the above findings. Historical photographs have revealed significant data about crucial features in the rock monasteries that have been lost during the last century. Among them are niches, stairways, and installation marks of wooden balconies that were lost either to collapses and weathering or to restoration in modern times. Once the pattern of niches carved in segments that had been exposed following the collapse of earlier caves was pointed out, several other extant samples were identified. These were then studied, in order to gain a better understanding of the data seen in the historical photographs. The total number of these niches, comprising those seen in the photographs and those still in view is impressive, even without considering those likely lost.²⁵ The presence of these niches provides new data for the understanding of an activity that appears to have occurred in rock monasteries in the Kucha region: the carving of small niches following damage incurred in earlier larger caves. Another important piece of information concerns the position of the caves in Kumtura and Kizil on the cliff, much higher than the current appearance of the sites would indicate.

3. Features below the Present Surface in Kizil

A significant number of caves remain buried under the present ground level in Kizil. Identifying them and clearing them from debris would provide a more complete set of data from which to build a better understanding of the layout and development of the site.

Monastic cell Cave 42 and central pillar Cave 43 in Kizil District Four form a group. The two caves are presently slightly above ground level, but the historical photographs show that the group was at a higher position on the cliff. It was accessed via a quarter-turn stairway that opened through the right wall of the rock-carved antechamber shared by the two caves. The presence of this stairway can be ascertained from historical photos taken during the Turfan expeditions (Figure 17).²⁶ The presence of the stairway indicates that the ground level in front of the caves was at a much lower position than at present. The installation marks of a cantilevered structure in front of the two caves, set up after the collapse of the rock-carved antechamber, also indicate that the caves were carved at a rela-

tively high position in the cliff. The accumulation of debris at the foot of the cliff following the collapse of the antechamber has raised the ground level to just below the caves.

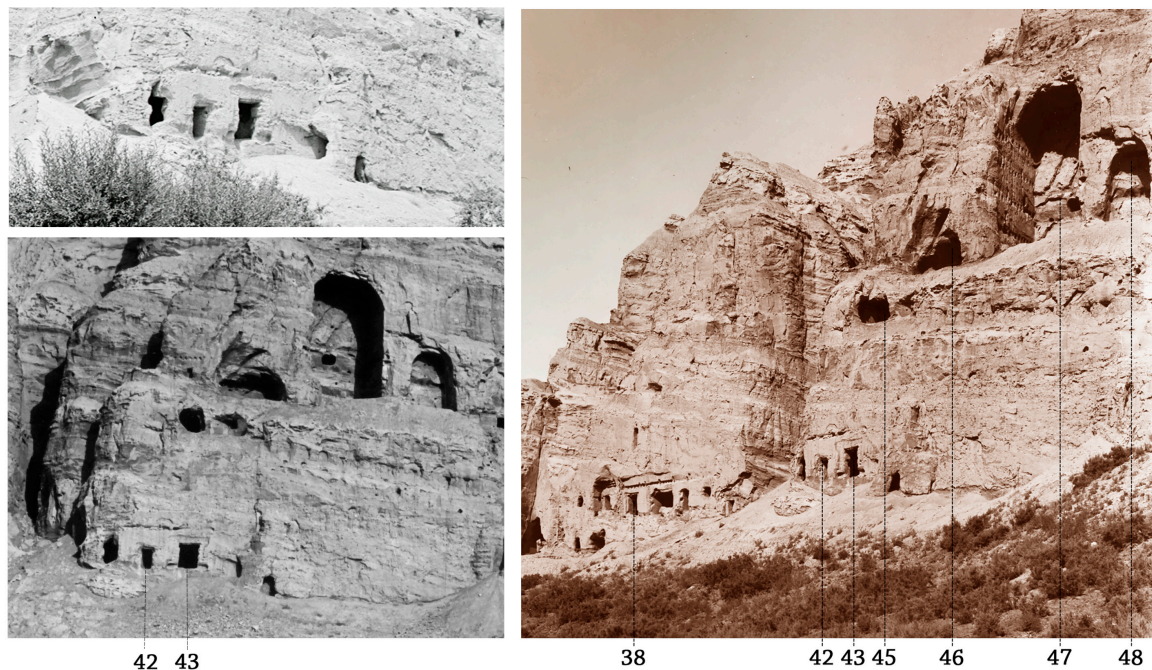


Figure 17. Kizil, Caves 42–43. Close scrutiny of several historical photographs clearly indicates the presence of a stairway leading to Cave 43. Photographs adapted from B 1418 (**upper left**), B 0643 (**lower left**) adapted from, B 0607 (**right**) © SMB, Museum für Asiatische Kunst.

Further to the west, a few historical photos show part of a cave below and to the right of Cave 35, provisionally named Cave 35A (Figure 18). Its size and shape suggest it was the corridor of a monastic cell.²⁷ Neither the historical photographs nor Grünwedel's notes record whether there were other caves carved next to it. The location of this cave, more than five meters below the floor of Cave 35, leads to the conjecture, based on typology, that it might have been part of a row of caves, since in District Four monastic cells were typically part of groups and never carved in isolation.²⁸ Grünwedel drew the stairway leading to Cave 36, but he did not record the two lower flights of steps seen in the photographs.²⁹ This stairway was perhaps the most complex in design, with four flights of steps articulated in quarter turn and half turn. Planning and carving such a structure would certainly have required a considerable amount of labor and planning. The two lower parts of the stairway unearthed by the Germans, Cave 35A, and possibly other caves might still be preserved below the present surface. The photographs also help to recreate the original setting of Caves 38, 39, and 40, which were carved in a much higher position than presently seen.

Caves 33–35 formed a complex group that developed over time.³⁰ The extant rafter holes and floor joist holes indicate the presence of a cantilevered timber balcony. This implies that the group was carved in a relatively high position on the cliff, since a cantilevered wooden structure would have been useless for caves carved at ground level (Figure 19). The high location of the group on the cliff means that the presence of caves below it cannot be excluded, especially considering the closeness of Cave 35A; a likeliness that deserves to be investigated by clearing the area in front of the cliff. Concerning the westernmost section of the cliff in Kizil (Guxi), there might be another row of caves below the present surface, approximately between Caves 32 and 43 (Figure 20).

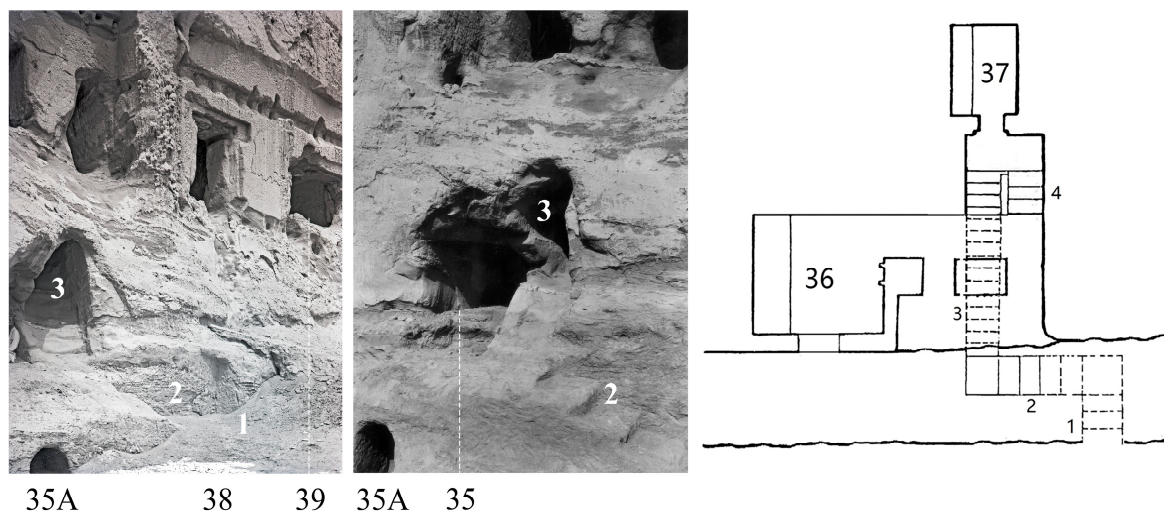


Figure 18. Kizil, the section of the cliff next to Cave 38. The photographs show the flights of steps 1, 2, and 3, and the presence of the currently unseen Cave 35A below (**left**), and the same area seen from a different perspective (**center**). The diagram by the author of the proposed reconstruction of the complete stairway starting from Grünwedel's drawing (Grünwedel 1912, Fig. 121 p. 62), on the basis of data emerging from several relevant historical photographs, and the systematic study of stairways in Kucha (**right**). Photographs adapted from B 1305 (left), B 1828 (right) © SMB, Museum für Asiatische Kunst.



Figure 19. Kizil, Caves 33–36. The postholes between Cave 33 and 34 indicate the presence of a timber structure in front of the cave. Unseen in the photograph is a lower row of corresponding joist holes. These sets of holes indicate a cantilevered structure was installed in front of these caves; therefore, they were built in a high position on the cliff and likely reached through a stairway. It cannot be excluded that there were other caves carved below. See the approximate location of Cave 35A (see also Figure 18). Photographs adapted from B 0788, B 0703 © SMB, Museum für Asiatische Kunst.

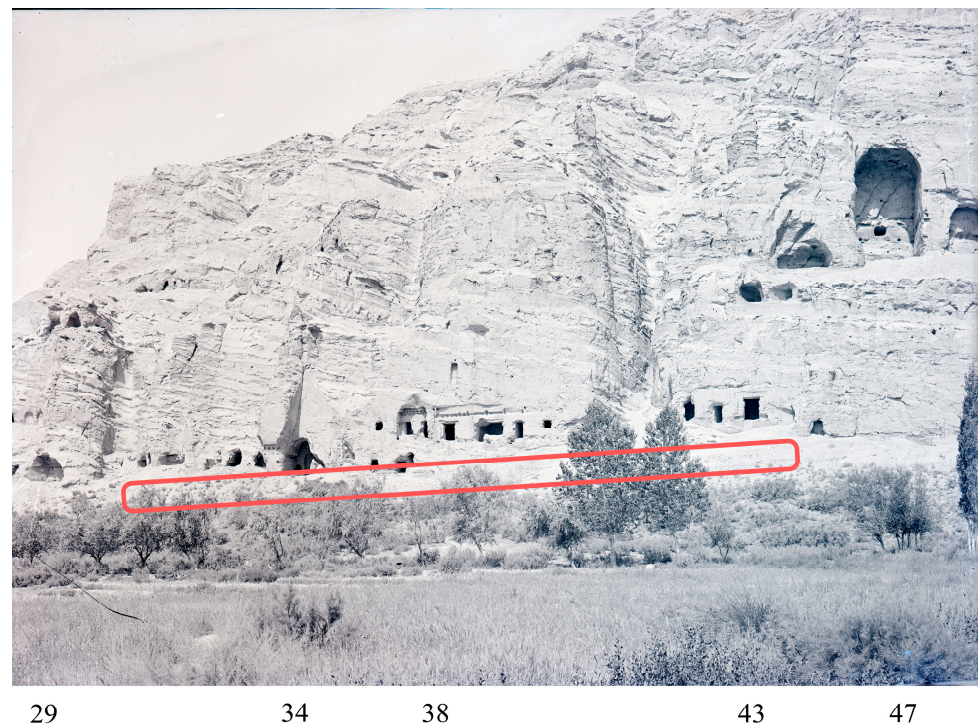


Figure 20. Kizil, the area between Caves 29 and 48. The box indicates the area where there are possibly more caves covered by the thick layer of debris. Photograph adapted from B 0788 © SMB, Museum für Asiatische Kunst.

District Two consists of deposit caves of different shapes and sizes, randomly carved at various heights in the cliff. The lack of order strongly indicates that they were carved in different periods and for different purposes. The complex situation of this district is not conducive to deductions about the presence of other caves below the present floor level. Note, however, that the clearing of debris in the lower section of District Two in 1998 and District One in 1990 brought to light more than 30 previously unknown caves (Xinjiang Qiuci Shiku Yanjiusuo 2000, pp. 95–111). Comparing the thick layer of debris in the historical photographs and the situation after clearing, one cannot but wonder how many caves might still be buried in District Two.

Several caves await excavation in District Three. Among these, two partially exposed caves are located at the southern end of Gudong (Caves 136, 137).³¹ Cave 139A shows that other smaller caves could be carved below monumental image Cave 139 (Figure 21). Similarly, there is a presently unnumbered cave partially emerging from the ground to the left of monumental image Cave 154. Continuing eastwards, Caves 164–170, carved below Caves 163 and 171–172, suggest that other caves might also be buried under the thick stratum of unexcavated debris in the area between Caves 154 and 164 (Figure 22).³²

In recent years, a new cave, Cave 119A, was discovered in Gunei (District Six) in front of Cave 119 (Xinjiang Qiuci Shiku Yanjiusuo 2001, pp. 47–64). Other caves were identified during fieldwork in a high location on the cliff; they were reached through the much-damaged rock-carved stairway, Cave 113.³³ On the west cliff of Gunei, an intriguing cave was cleared of debris at the time of the German Turfan Expedition; their written record is quite puzzling, since there are little remains of a cave south of Cave 92, provisionally called Cave 92A, that might be the one recorded by them.³⁴

Limiting our attention to Kizil, we have indicated that several caves emerging from the present ground level are awaiting excavation and that others might have been carved in the lower reaches of the cliff, presently covered with debris. This conjecture is based on the combined use of historical photographs, in situ observations, the rationale behind the concept of districts and group types, the fact that cantilevered structures were used for the

restoration of caves carved in a higher position on the cliff, and the recollection of people witnessing their uncovering in previous decades.

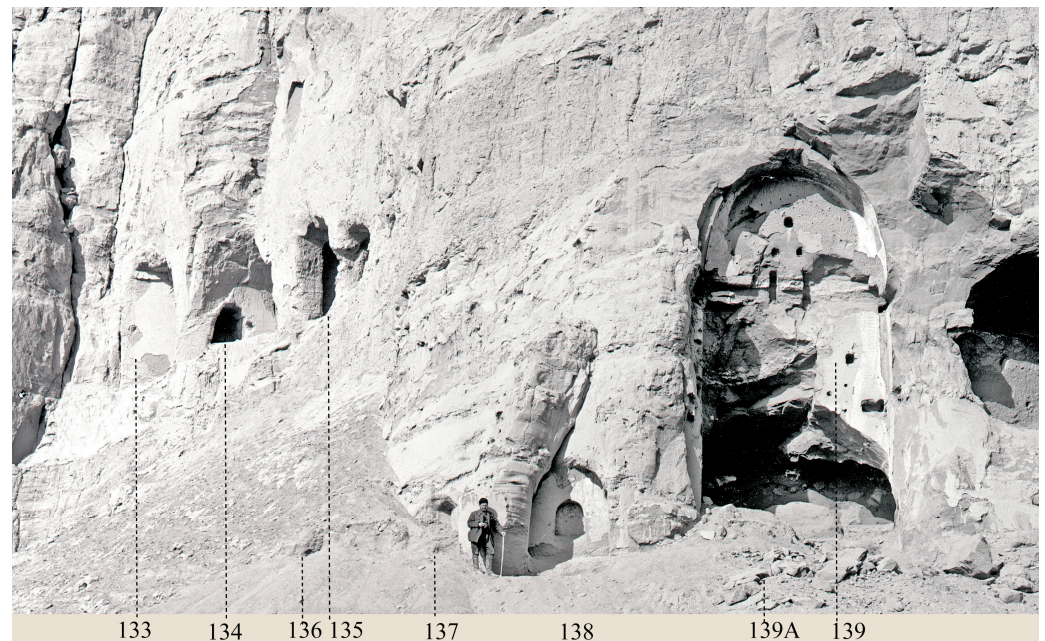


Figure 21. Kizil, Caves 133–140. The area in front of Cave 139 was cleared from the debris and revealed the presence of Cave 139A just below it. Presently Caves 136 and 137 are partially in view. These data strongly suggest there might be another row of caves presently covered by debris. Photograph adapted from B 1795 © SMB, Museum für Asiatische Kunst.

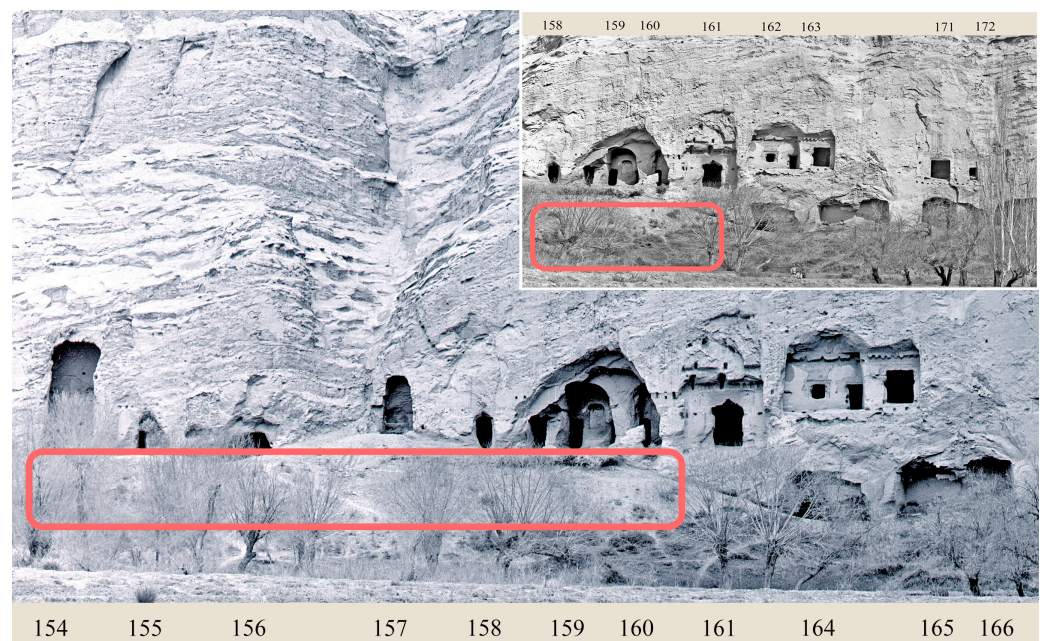


Figure 22. Kizil, Caves 154–172. The two photographs show the location of the likely presence of a lower row of caves in the lower right section and a thick layer of debris on the lower left. To the left of Cave 154, not visible in the photograph, is a cave partially emerging from the ground, while another cave was discovered in this general area when consolidating the cliff (both caves are unrecorded). These data suggest there might be a lower row of caves from below Cave 181 to the left of Cave 154. Photographs adapted from B 1766, B 1386 © SMB, Museum für Asiatische Kunst.

These new data further improve our understanding of the site. The caves in the cliff facing the Muzart River were carved in a higher location than appears today. Those caves that are still visible in Kizil appear to follow a pattern whereby caves were carved into the lower reaches of the cliff first. Only when the lower sections of the cliff were used up were caves carved in suitable layers of rock higher on the cliff. This means that it is possible that the earliest caves at the site are still hidden below the present ground level, awaiting excavation.³⁵

4. Rescue of Information about Damaged Caves and Paintings

The unceasing deterioration of the cliff has, in some cases, made it difficult to discriminate between man-made caves and natural formations. Historical photographs can assist us in these cases. We look at a few examples from Kizil.

The cave type that has suffered the most damage in Kizil is the small individual meditation cell. We can see this in the group comprising Caves 12 and 13, and Cave 24. This group also included several meditation cells: two on the left of Cave 12 are still visible today, as well as one on the left of the monastic cell Cave 24. The latter is a much-damaged feature that can be identified as a meditation cell on the basis of the historical photographs (Figure 23). The rear wall of the large antechamber of Cave 24 can be clearly seen in the photograph and shows that the tunnel used to reach meditation cells Caves 25, 25A, 25B, 25C started from within the antechamber of Cave 24, indicating that the four meditation cells were part of the same complex group. Historical photographs have been crucial for gaining a thorough understanding of this group, which included at least seven meditation cells.

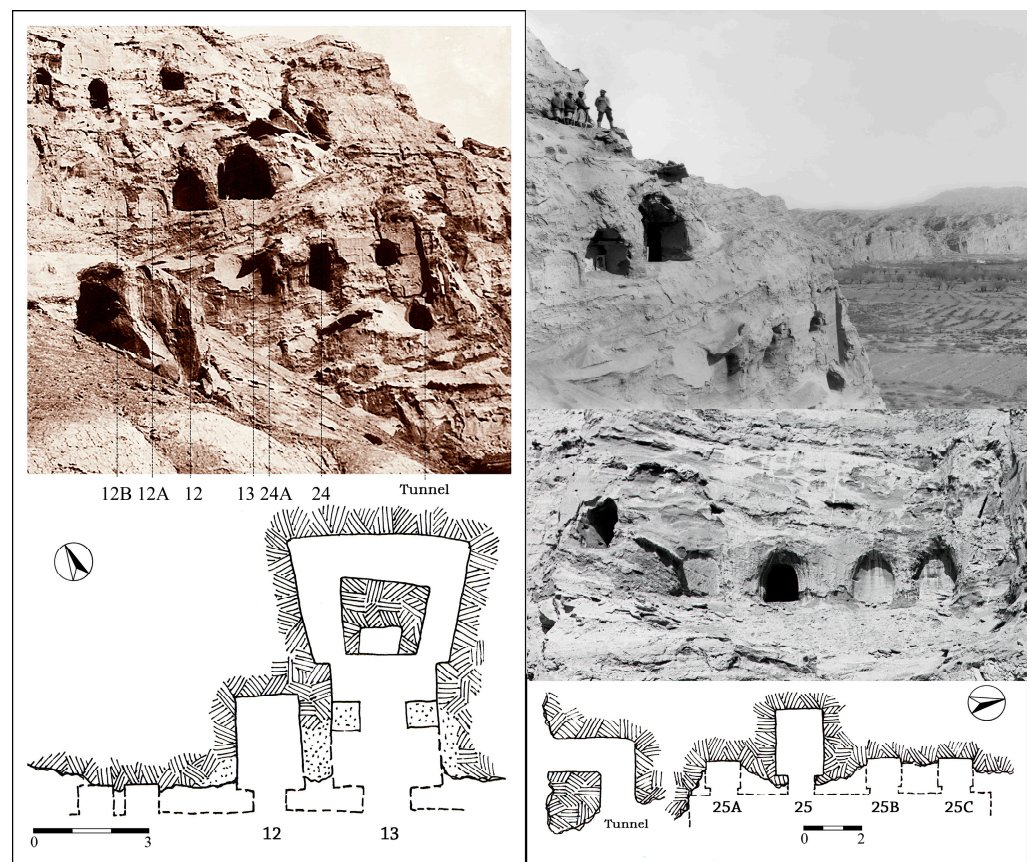


Figure 23. Kizil, the group formed of Caves 12, 13, and 24, and the monastic cells connected with them: Caves 12A, 12B, 24A, 25A, 25B, 25C, and 25D. Photographs adapted from B 0786 (upper left), B 2158 (upper right), B 1253 (center right) © SMB, Museum für Asiatische Kunst; diagram by the author.

The group comprising Caves 216–218 in Kizil also included three meditation cells, respectively Caves 216A, B, and C, carved above the larger caves (Figure 24). The three caves are presently damaged to the point where it has become almost impossible to identify whether they were natural formations of the rock or man-made structures, but the latter hypothesis can be confirmed on the basis of the historical photographs that clearly show straight contours.³⁶

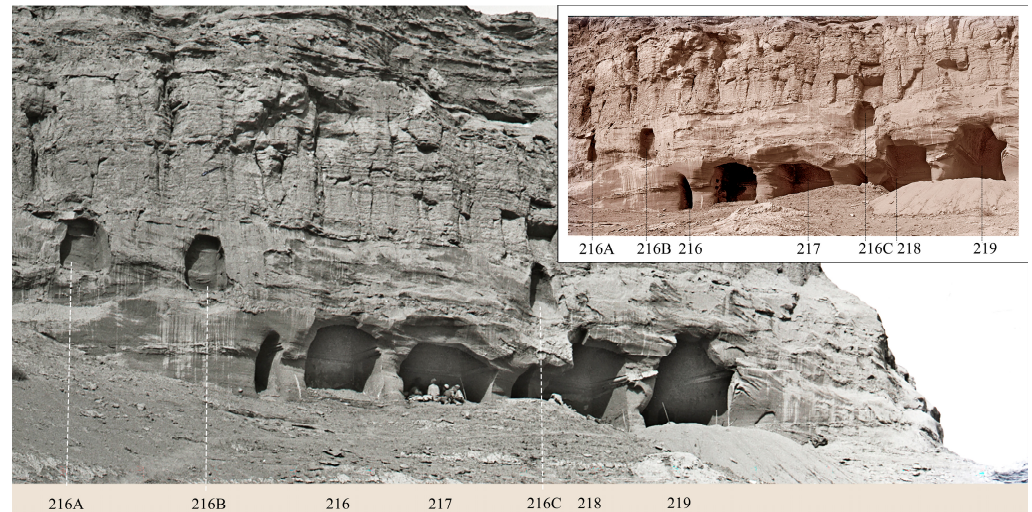


Figure 24. Kizil, the group formed of Caves 216–219. Above these large caves, there are three smaller meditation cells: Caves 216A and 216B to the left of Cave 216, and Cave 216C between Cave 217 and Cave 218. Photographs adapted from B 1738 (above), B 1383 (below) © SMB, Museum für Asiatische Kunst.

Many of the caves in Kucha were carved in high positions on the vertical cliffs, therefore needing stairways leading to them, to give a small taste of their original situation. There were certainly more stairways than the few damaged or heavily restored samples we can still see.³⁷ The extant samples help us familiarize ourselves with the different types of inner stairways used: straight (Simsim, leading to Caves 48–50), quarter turn (most common, such as the one leading to Kumtura Caves 10–11 Figure 7 and Kizil Caves 42–43 Figure 17), half turn (Kizil below Cave 38, Figure 18), curved stairways (Kumtura, leading to the Five Joined Caves). In addition, wooden ladders were needed to climb cantilevered structures. The study of these structures can help individuate similar remains and better understand those recorded in historical photographs. A thorough and systematic collection of data concerning these stairways and their study will clarify the way in which caves carved in high positions on the cliffs were reached, thus improving our understanding of the way the site was utilized.

Historical photographs can also be used to reconstruct decor. Natural and human-made damage led to the loss of much statuary and paintings. Large sections of the paintings were detached and are now preserved in various museums. To facilitate their removal and transportation, they were sawn into relatively small sections, but their reassembly has not always been successful. Problems range from the attribution of the paintings to a specific cave, the position within it, and the sequence of scenes. Several of these problems can be solved by referring to historical photographs. Kumtura Cave 12, mentioned above, is a typical case. In the reassembly of the paintings on the rear wall of the main chamber, unrelated pieces were joined together, giving a distorted reconstruction of the iconography. This fact was pointed out by comparing the reconstruction with the historical photographs taken before the painting was detached (Liu 2017).

Historical photographs taken from within the caves have been used for the reconstruction of paintings. Shots taken from a distance can also be used. A high-definition histori-

cal photograph allows for enlargements that show the paintings within the caves through doors and windows. Although the resolution is insufficient for iconographic and stylistic analysis, the images unarguably show the original layout of the paintings and can be used to verify the accuracy of the reconstructions (Figure 25). In other cases, photographs show the paintings in the antechambers, a largely understudied topic—some of these antechambers have subsequently collapsed (Figure 26).³⁸ Photos were taken in the antechamber of Kizil Cave 76, which was almost completely intact at the time of the Turfan expedition. These photographs were meant to show the relative position of the unearthed relics, but they show the wall in the background where part of the paintings described by Grünwedel can be seen. The antechamber of this cave has now collapsed, but luckily part of the paintings can be seen in the photographs.³⁹

Finally, historical photographs offer a term of comparison to assess the deterioration of wall paintings over the last century, a precious term of comparison, not only for the study of the site, but also for eventual restoration activities.



83

84

Figure 25. Kizil, Caves 83 and 84. The enlargement of the photograph below shows the paintings in their original location within the caves. Photograph adapted from B 0611 © SMB, Museum für Asiatische Kunst. Most of the paintings from these two caves were subsequently detached and brought to Berlin, where they are presently preserved. Photographs adapted from III 8443 (left), III 8444 (right) © SMB, Museum für Asiatische Kunst. A similar situation is seen also in Figures 9 and 14.

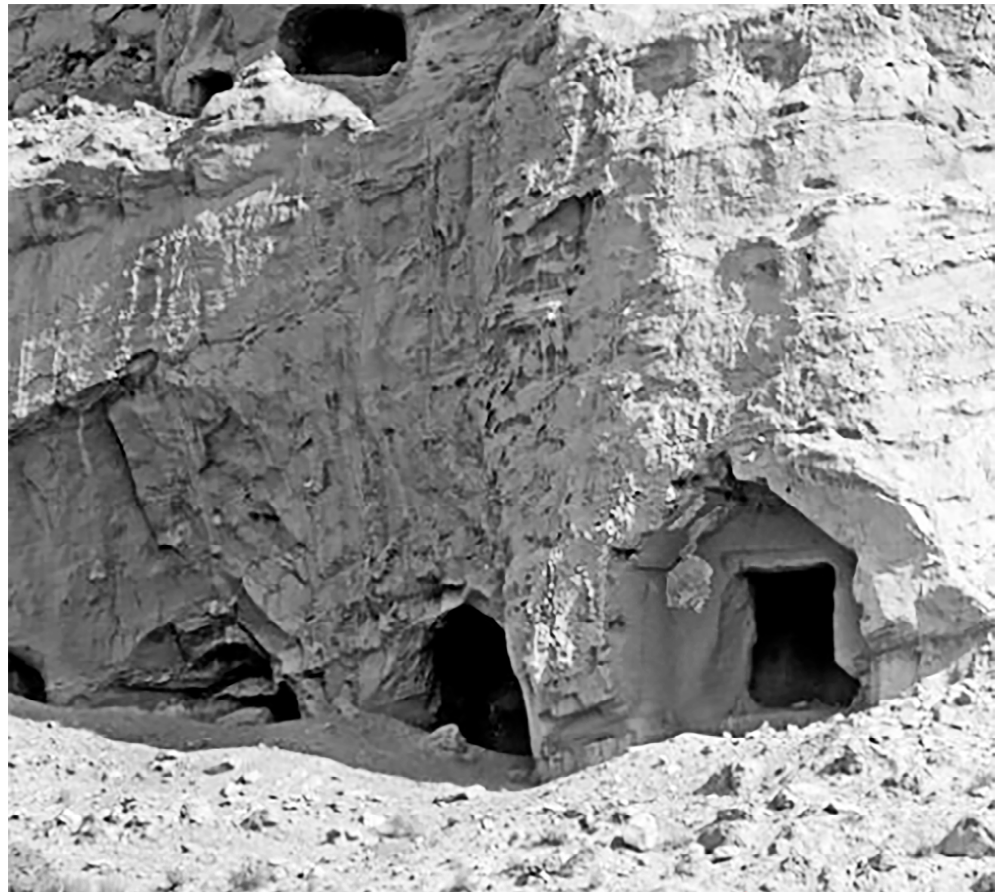


Figure 26. Kizil, Caves 130A, 130, 131, and 132. On the rear wall of the antechamber of Cave 132, part of the painting is preserved and shows the head of a standing Buddha. The painting is presently covered by the cement wall constructed as a reinforcement of the cliff and could be easily overlooked. Photograph adapted from B 1796 © SMB, Museum für Asiatische Kunst.

5. Lessons Learned from the Past

Cliffs are in a constant state of erosion, caused by weathering and earthquakes, as well as human activity. When monasteries were in use, damaged caves were promptly repaired, and no effort was spared in order to keep the monastery operational. Depending on the severity of the damage, different restoration techniques were used. Their marks were more visible a century ago and recorded in photographs. They deserve to be thoroughly inventoried and seriously studied. They range from small repairs, such as the application of new plaster in place of fallen plaster⁴⁰ and the filling of large and smaller cracks in the rock,⁴¹ to large interventions, such as the excavation of a new cave through the rear wall of an earlier cave that had incurred heavy damage (Kizil Cave 69, Figure 16), the rebuilding of walls and ceiling with mudbricks and wooden beams (Kumtura North Monastery Cave 63), the setting up of cantilevered timber balconies for caves located in a high position (Figure 22), or light porches for caves carved next to the ground (Figure 4).

By keeping the caves in use, the cliff was continuously stabilized. After the abandonment of the sites, the cliff continued to deteriorate and debris accumulated in the lower reaches, covering and protecting the lower caves from further erosion and collapses. In the last century, debris in front of the cliffs was cleared, in order to study the caves, an action that often caused further damage. The historical, photographic, and written records bear witness to the state of the cliff before or at the time of the clearing. In addition, photographs show that after clearing, even the clearing carried out in recent decades, the degeneration of the cliff sped up. A clear example is Kizil Cave 76. The photographs of the German explorers show that the cave was almost completely buried under debris.⁴² The 1906 exca-

vation was also well documented with photographs and drawings by Grünwedel ([Grünwedel 1912](#), pp. 87–88). The antechamber was almost completely preserved, with parts of its decor in situ. A few decades later the antechamber collapsed. To keep the cave from collapsing further, in the 1970s, the front wall of the main chamber was reinforced with concrete; concrete was poured into the floor of the original antechamber, leveling it with the floor of the main chamber and connecting it with the gangway linking it with the caves to its right and left. In this way, the three steps between the antechamber and the main chamber recorded by Grünwedel cannot be seen, thus giving a distorted understanding of the cave. Further impairment was caused by the concrete cantilevered stairway built to reach the caves at this upper level, making it impossible to reconstruct the way the caves were reached at the time of use. In addition to this, the gravitational weight of gangways and stairways puts a constant strain on the cliff.⁴³ Though many crucial features have been lost because of further weathering and restoration, without a thorough scrutiny of texts, drawings, and photos, Cave 76 would be wrongly interpreted.

Caves 2–6 in Kizil are another telling example. Historical photographs show that the upper section of the caves had already partly collapsed by the beginning of the previous century.⁴⁴ The plan of the cave drawn by Grünwedel after it was cleared encompassed a large section of the antechamber shared by Caves 2 and 3, as well as of the individual antechamber of central pillar Cave 4 ([Grünwedel 1912](#), p. 44, fig. 87). These caves were again cleared in the 1980s as part of the activities leading to the publication of an archaeological report ([Beijing Da Xue Kaoguxue Xi, Kezi'er Qianfuodong Wenwu Baoguan suo 1997](#)). The maps, drawn more than a decade before publication, show that the front section of the caves had been lost and that concrete walls had already been set up to impede further collapses, a response to the deterioration that had sped up since the time of the Turfan Expedition ([Beijing Da Xue Kaoguxue Xi, Kezi'er Qianfuodong Wenwu Baoguan suo 1997](#), p. 13, fig. 10). Deterioration was further triggered by the clearing at the time of the report and is presently ongoing.

This state of affairs is especially common in most rock monasteries of Kucha and across the Xinjiang-Gansu area, due to the geological makeup of the cliffs, which are mainly composed of mudstone, sandstone, and conglomerate layers. The stability reached with the progressive accumulation of debris in front of the cliffs is compromised by debris removal. A comparison between historical photographs and the present state of the cliffs indicates that damage accelerates after the debris are removed, while it is slower in areas still covered by debris. An understanding of the damage ensuing from the clearing of the caves would call for a slowing down of interventions, especially those not essential for the upkeep of the cliff and monuments. In the future, when debris need to be removed, the stabilization of the cliff must be promptly addressed.⁴⁵

Modern restoration ought to take into consideration the original layout of the monastery, especially the way caves were connected to form groups, the direction from which these groups were accessed, the empty spaces in front of the caves, and the surroundings. In one of the above examples, Kizil Caves 42–43, the original stairway ascertained on the basis of historical photographs gave access to the caves from the right. The modern concrete stairway, instead, reaches the cave from the left. Similarly, the partially preserved stairway leading to Caves 110–111 was carved on the left of the group, while the modern cement stairway has been constructed on the right. A bulky concrete stairway has been constructed to reach the largest monumental cave in Kizil, Cave 47. Apart from being displeasing to the eye, the structure misinterprets the original plan. The monumental cave was carved on top of a 20 m tall vertical section of the cliff (Figure 17). This section of the cliff was left “empty”, that is, no caves were carved into it, because it was meant as a large pedestal for the colossal Buddha within the cave. Apart from being unnecessary—the cave can be accessed by walking from the east, as in the past—the modern staircase exerts constant tensile stress on the cliff.

The study of the layout of the monasteries in Kucha is just beginning, since past studies mainly focused on individual caves. There is a strong need to understand the plan of

the whole rock monastery, in addition to the above-mentioned issues, before any large-scale restoration takes place. The rationale behind recent interventions seems aimed to satisfy the needs of the tourist industry, often disregarding the original inner logic of the monastery layout. Heavy interventions over the last few decades have defiled the site, taking away from its pristine beauty and sacredness, and misleading tourists and scholars alike (Figure 27).

Historical materials and techniques should also be considered, since in many cases they have survived the test of time or at least did not inflict further damage.⁴⁶ Money was not spared for the construction and also for the restoration of the caves. The restoration relied on good quality wood, carefully chosen clay for plaster and sculptures, and gypsum for the floor. Skilled artists used expensive natural pigments and complicated techniques for the paintings (Taniguchi 2022). The upkeeping of the caves required large amounts of work and resources.

The rock monasteries were inserted in stunning landscape locations. Their mingling with nature greatly contributed to the religious experience the monastery was intended to evoke in residents and visitors alike. At the beginning of this paper, the pitiful present state of Kumtura was described. The large valley in front of the cliffs of Kizil was a place of pristine beauty. Although part of the land in front of the Kizil caves was given to agriculture, as informed by the historical photographs, the extent and speed of the damage inflicted on the site and the landscape since the Kizil Cave Institute has been set up have no precedent in the biography of the site.

6. Final Remarks

Available for over a century, the historical photographs of the rock monasteries of Kucha have been rarely used in academic research. In numerous cases, however, the photographs record features that have since been lost, and therefore they should be regarded as first-hand material. Fieldwork and in situ observations remain the primary research tool and complement each other. To reach a more comprehensive understanding of these rock monasteries, the method proposed in this paper is a combination of the two activities. Historical photographs not only reveal lost features but in doing so could trigger a new understanding of presently visible ones. The analysis of historical photographs has a great value for assessing certain architectural features otherwise difficult to appraise. Among these are the identification of much-damaged caves, the rediscovery of niches that collapsed or were buried in the last century, and the location and typology of inner stairways. Moreover, at times, they record statuary and paintings subsequently lost.

Rock monasteries had more caves and buildings than presently seen, a fact that is frequently forgotten when carrying out research. Damage and loss of information occurred at the sites over the centuries, but this has accelerated in recent times, comprising much human-caused damage. Historical photographs reveal the state of the monasteries close to how they appeared several centuries ago.

This study has shown that in the lower section of the cliffs in Kumtura North Monastery, there were no other caves except those recorded in historical photographs. Conversely, in Kizil, thick strata of debris still cover the lower section of the cliff. The sections cleared in several campaigns over the last hundred and more years revealed the presence of a large number of caves and surface structures. Historical photographs show some caves that have been subsequently lost or covered by debris. These data, considered together with the caves partially emerging from the ground and others that can be conjectured on solid ground, present a strong case indicating that, in Kizil, there are presently a considerable number of unseen archaeological features that might reveal crucial aspects of the early life of the site.

Connective architecture was more common than might be acknowledged through present-day surveys. While some of the rock-made structures can still be seen, in spite of having suffered damage, the wooden ones have been completely lost. Nonetheless, reconstruction can be attempted on the basis of the installation marks on the cliff. The recent

work to consolidate the cliffs and the reparations of caves has modified the outer facade of the cliff and covered many features (Figure 27). Historical photographs have been a crucial material for the accurate study of these features. The lack of attention given to these documents has led to the “invention” of new ways to connect the caves, disregarding the original ones. Understanding how the rock monastery was in the past will help carry out a more accurate restoration. In addition, one also has the opportunity to reassess the original landscape and the visual impact of and from the caves.

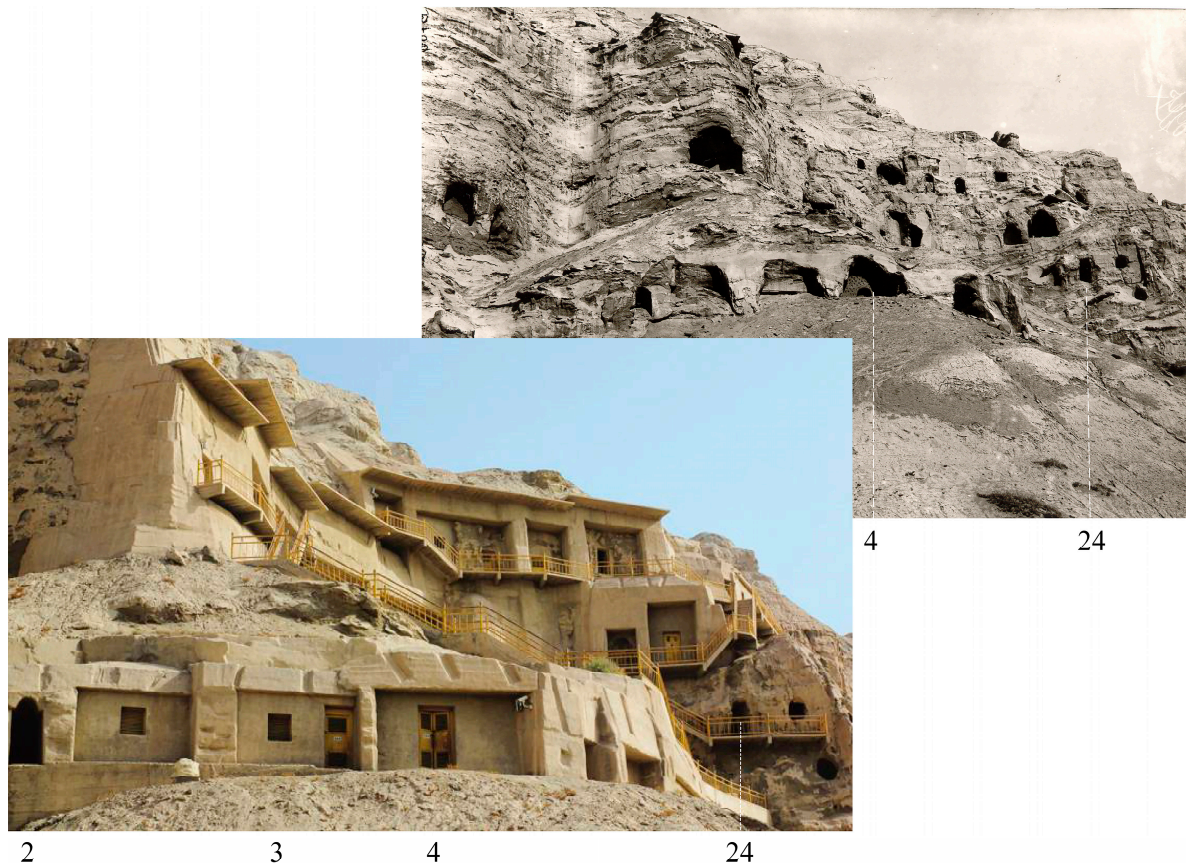


Figure 27. Kizil, western end as it appeared in 1906 and as it appears today. Photograph adapted from B 0786 © SMB, Museum für Asiatische Kunst above); photograph courtesy of the Kizil Cave Institute, 2022 (below).

Marks of reparation carried out during the period of monastic occupation are seen in all the rock monasteries of Kucha. The scale of the repairs is impressive, denoting the determination to keep the site in use in the face of continuous damage. Apart from the initial financial and human resource investment, a substantial amount of funds were made available for the upkeep of the rock monasteries. In the larger ones, we can imagine the noise of percussion tools and wood saw cutting of beams and planks; indeed, workers would have continued to tend these sites for centuries and the monasteries can hardly be considered silent places conducive to meditation.

Last but not least, we take up again the issue discussed at the beginning of this paper. The presence of many niches carved in sections of the rock exposed by the collapse of earlier caves shown by the historical photographs has attracted attention to similar extant cases. We have pointed out a recurring pattern of carving niches after earlier large caves suffered damage, a fact that deserves some explanation. This peculiar *modus operandi* allows us to glimpse a minor religious practice taking place within the rock monasteries. The carving of these niches might be interpreted either as an intercession to avert further collapse or as a reparative action aimed at making amends for the carelessness in the choice of the location

that brought the collapse of the cave. This paper intends to do the same: to ask the Buddha to prevent the rock monasteries from incurring further damage and to ask competent authorities to carry out sensible restoration, preserving them for future generations to see.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: <https://themen.crossasia.org/deutsche-turfanexpeditionen/?lang=en>, accessed date 15 June 2023.

Conflicts of Interest: The author declares no conflict of interest.

Notes

- ¹ This paper was presented at the European Association for South Asian Archaeology and Art, on 5 July 2018. An updated version was also presented at the ‘Commemorating the 100th anniversary of the birth of Mr. Su Bai’ lecture series (纪念宿百先生诞辰一百周年), 20 October 2022. It has been largely rewritten and expanded. I have been hesitant about publishing this paper because of the difficulty of combining fragmented data into a cohesive whole. But considering that a large amount of data will be lost in the next decades, and the fact that a similar method might be applied to rock monasteries other than Kucha, I decided to make this study available. Several people have contributed to the improvement of this paper through discussion, suggestions, and helping improve the English: He Lique 何利群, Li Hong 李红, Peng Minghao 彭明浩, Francesca Monteith, and Julian Perozzi. Thanks to Yu Yue 余悦 for the digitalization of the images.
- ² Kucha refers to an ancient kingdom in Xinjiang, China. Although Buddhism might have arrived much earlier, most of the caves in the extant rock monasteries can be dated between the 4th and 9th Centuries. An overview of the early schools of Buddhism in the area has been recently proposed: [Vignato and Hiyama \(2022\)](#).
- ³ The Museum für Asiatische Kunst, Berlin, has collected and classified these photographs. Collections of historical photographs are held in other institutions: those of the Pelliot Expedition in the Musée Guimet, Paris; those of the Otani Expedition in the Ryukoku University, Kyoto; and those by the Russian explorers in the Hermitage Museum, St. Petersburg. In this paper, I rely almost exclusively on the images of the German Turfan Expeditions now available online in the CrossAsia project: <https://themen.crossasia.org/deutsche-turfanexpeditionen/?lang=en>, accessed on 10 February 2023.
- ⁴ These paintings have been successively restored and a report was published, see [Zhang \(2019\)](#).
- ⁵ The information that can be gathered from a single photograph is often scanty. It is advisable to look for as many historical photographs as possible since pictures taken from different angles, at different hours of the day, or in different seasons might highlight different features. In some cases, a section of the site was photographed before and after the removal of debris. It is then imperative to scrutinize all photographic records on the basis of one’s knowledge and data collected during fieldwork.
- ⁶ In Kucha the vast majority of caves comprised an antechamber carved out of the rock. The best-preserved case is the one of Kumtura Five Joined Caves (五连洞 Caves 68–72, see [Wei 2013](#), p. 83). In a few cases in Kumtura, Kizilgaha, Simsim, and Mazabaha timber antechambers might have been planned from the beginning.
- ⁷ We know that damage began at the time the rock monasteries were still in use because restoration was systematically carried out. The most common way to repair caves carved in a high position on the cliff was to install cantilevered wooden structures. For caves at the ground level, it was sufficient to set up light wooden structures consisting of poles sustaining rafters with one end inserted into the rafter holes purposely carved into the cliff (Figure 4). All these structures are now lost, but marks of their installation prove their existence. Such large-scale restorations would not have been needed if the monastery was already abandoned.
- ⁸ For those interested in a thorough study of this section of the cliff, there are other historical photographs that can be scrutinized: B 1215, B 1216, A 640, and B 1237.
- ⁹ Wooden structures relying on a cliff or a massive wall were, and still are, common in Xinjiang; see for instance photograph B 1632.
- ¹⁰ Four of these five niches were not described in the Comprehensive Catalogue of the Kumtura Caves ([Xinjiang Qiuci Shiku Yanjiusuo 2008](#)) and went unnumbered. The provisional number used in this article has been added to the photographs to facilitate their identification.
- ¹¹ The disposition of statuary and paintings indicate clearly that Cave 30 was intended to be seen from below. It hosted three statues, along the rear sidewalls, set on a tall platform to allow them to be seen from below; it was painted in Tang Style. The grooves carved along the sides of the doorway were meant for a wooden frame, possibly sustaining a small door that could be opened and closed.
- ¹² There is no easy explanation for this peculiar situation, further complicated by the fact that there is a set of holes above the niches, indicating the intention of carving a still larger niche to include both of them.

Other images crucial for the assessment of the area are B 1236, B 1553, B 1093, B 1202.

This interpretation is based on a similar case, Kizil Cave 37. This is a small cave accessed from the landing of the stairway leading to Cave 36. [Xinjiang Qiuci Shiku Yanjiusuo \(2000, pp. 45–47\).](#)

This connection between caves carving a passage on the side walls of the antechambers is best preserved in the case of the Five Joined Caves, Caves 68–72 in the same site ([Wei 2013, p. 83](#)).

The depth of the collapse is calculated by considering the width of the stairway, usually just below one meter, and the need to have well over one meter of rock on the outside. A second element is the conjectured depth of the antechambers, most likely over two meters deep, to which one has to add the depth of the front wall.

The location and relative depth of the three caves suggest they were preceded by a shallow antechamber. An intriguing feature is the grooves in the lower part of the rear wall of each cell, unseen in similar caves. From the photographs, it remains difficult to tell whether this was an original feature or if it was carved at a later period.

This corresponds to the measurements of the individual meditation caves in Kucha. See [Howard and Vignato \(2015, pp. 87–91\)](#).

The location of the small niche 11C suggests that the collapse that damaged the large caves and stairway might have happened in a period in which religious activities were still carried out in the monastery.

As far as the caves fully decorated in Uyghur-style paintings, the dating in Kucha spans between the 8–13 centuries.

This site has not received the scholarly attention it deserves; its structure and some interesting features have been discussed in [Howard and Vignato \(2015, pp. 14–21\)](#).

For a detailed description of the complex situation see [Howard and Vignato \(2015, p. 81\)](#).

The small size of the niche implies that a small damage or wearing out of the rock could eliminate any trace of its presence. In the case of larger caves, instead, only the outer part will be damaged, leaving traces that help re-create the structure of the site.

Several other similar cases would deserve to be carefully recorded, but cannot be listed in this short paper. The niches discussed here—carved in sections of the rock exposed by the collapse of earlier caves—should be carefully distinguished from the niches planned in the antechambers of larger caves, those carved in later periods in unused sections of the cliff, or meditation cells.

The number of extant niches carved in segments exposed after the collapse of earlier caves presently known is close to 30. It has to be noted that many similar caves might have been lost in ensuing collapses without leaving traces, especially because they were exposed and of small size.

Only three photographs can be reproduced in this paper. One could compare the following photographs of the German expedition: B 606, B 788, B 1855, B 1516.

I saw part of the floor underlay of this cave during my fieldwork in 2002, but no records were taken. Much damage has occurred in this area in recent years by the rainwater that flushes through this general area.

For a discussion on District Four see [Vignato \(2005\)](#).

[Grünwedel \(1912, p. 62, fig. 121\)](#). The drawing of the stairway is incomplete and does not reflect the situation seen in the photographs.

For a discussion of the different phases of development and the reconstruction of the antechamber see [Vignato \(2005, pp. 197–214\)](#). The double row of rafter holes—the lower one filled with mudbricks and plastered over during the monastic occupation of the site—indicate that the earlier wooden balcony was heightened and likely expanded in a later period, indicating a very complex history of the group.

[Xinjiang Qiuci Shiku Yanjiusuo \(2000, p. 163\)](#). Cave 136 is classified as a central pillar cave—I did not see any element leading to this identification. The type of Cave 137 has not been identified—likely a square cave with statuary along the walls.

Two caves have been found in this area while reinforcing the cliff and channeling the water away from it: they have not been recorded. According to the recollection of those present at the time, both could have been monastic cells (personal communication). There are several photographs that could be scrutinized for a better understanding this area: B 1210, B 1270, B 1617, B 1798, B 1826.

The discovered caves have been summarily described in [Howard and Vignato \(2015, pp. 87–91\)](#).

Unrecorded in [Xinjiang Qiuci Shiku Yanjiusuo \(2000\)](#), part of the cave can still be seen to the left of Cave 92. The state of the cave during excavation can be seen in photograph B 0613.

The rock monasteries appear increasingly as complex settlements comprising caves and surface structures. It would be advisable to carve in front of the cliff until the level of the virgin soil is reached, and then prolong the trench and investigate whether there are traces of surface constructions or in front of the original activity areas.

In this and similar cases the weathering has not only caused the loss of the plaster but also possible traces of percussion marks. In these cases, it is difficult to prove whether we face a cave or a natural formation. The well-defined silhouettes seen in the photographs can help assess the presence of a cave and also the cave type.

There were different ways to reach the caves, as discussed in [Wei \(2018\)](#).

Most of the décor of the antechambers is now lost. See for instance Kizil Cave 132: while in the main chamber the side walls were left unpainted, with paintings limited to the Laternendecke ceiling, a large Buddha image was painted on the front wall, well seen in the Historical photograph.

- 39 A clearer image can be seen in [Vignato and Hiyama \(2022, p. 344\)](#) (B 794). A similar case is that of Kizil Cave 135, photographed during the Pelliot expedition (Musée Guimet no. AP 7478, see [Vignato and Hiyama 2022, p. 407](#)).
- 40 In several cases sets of small holes were drilled into the cliff, ca. 1 cm in diameter; then, small wooden pegs were then inserted into them and cut at 1 or 1.5 cm from the face of the wall in order to sustain the plaster to be applied on the surface. An example is the left section of the antechamber of Kizil Cave 76.
- 41 The restoration of a fracture in the rock was carried out by making small holes on the two sides of the gap to insert wooden pegs, then filling the opening with plaster. The pegs kept the plaster in place.
- 42 [Vignato \(Vignato 2016–2017, pp. 24–25\)](#), see B 0794, B 0795, B 0797, B 0798, B 0799.
- 43 A massive boulder has fallen on the landing of the stairways carking it. Although the repercussion of this event on the caves has not been assessed, it warns about the danger of similar occurrences in the future. This could be avoided by using wooden structures, as it was done in antiquity.
- 44 [Beijing Da Xue Kaoguxue Xi, Kezi'er Qianfuodong Wenwu Baoguansuo \(1997, p. 13, fig. 10\)](#). See photo B 0786, Figure 27.
- 45 The recent large-scale excavation of the Thousand Buddha Caves in the Tuyuq Valley (Turfan) might have benefitted from a careful study of the historical photographs and the ensuing damage that occurred to the site. It would be wiser in the future to carry out small-scale clearing followed by prompt stabilization of the cliff, before proceeding to clear another small section.
- 46 In the last decade, for example, the way to stabilize detaching plaster from the wall has shifted from the use of cement to the ancient technique of applying mud.

References

- Beijing Da Xue Kaoguxue Xi, Kezi'er Qianfuodong Wenwu Baoguansuo 北京大学考古学系, 克孜尔千佛洞文物保管所. 1997. *Xinjinag Kezi'er Shiku Kaogu Baogao* 新疆克孜尔石窟考古报告 [Archaeological Report of the Kizil Grottoes in Xinjinag]. Beijing: Wenwu Chubanshe 文物出版社.
- Grünwedel, Albert. 1912. *Altbuddhistische Kultstätten in Chinesisch-Turkistan. Bericht über archäologische Arbeiten von 1906 bis 1907 bei Kucha Qarašahr und in der Oase Turfan*. [Königlich Preussische Turfan-Expeditionen]. Berlin: Georg Reimer.
- Howard, Angela, and Giuseppe Vignato. 2015. *Archaeological and Visual Sources of Meditation in the Ancient Monasteries of Kuča*. Leiden and Boston: Brill.
- Liu, Tao 刘韬. 2017. *Kumutula Kuqunqu di 12 Ku Kuming Kaizheng yu Huasu Ticao Chonggou* 库木吐喇窟群区第12窟窟名考证与画塑题材重构 [Verification on the Name and Reconstruction on the Theme of the Wall Paintings and Statue in Kumtura Kuqun Qu Cave 12]. Nanjing: Nanjing Yishu Xueyuan Xuebao (Meishu Yu Sheji) 南京艺术学院学报 (美术与设计版), vol. 2, pp. 96–103.
- Taniguchi, Yoko. 2022. Paintings materials and techniques: A comparative study of different styles in Kizil—With a focus on Caves 167, 68[2], and 224. In *Vignato and Hiyama, Traces of the Sarvāstivādins in the Buddhist Monasteries of Kucha*. New Delhi: Dev Publisher & Distributor, pp. 283–98.
- Vignato, Giuseppe. 2005. Kizil: Characteristics and Development of the Groups of Caves in Western Gu Xi. *AION* 65: 121–40.
- Vignato, Giuseppe. 2016–2017. Monastic Fingerprints—Tracing Ritual Practice in the Rock Monastery of Qizil through Archaeological Evidence. *Indo-Asiatische Zeitschrift* 20/21: 22–38.
- Vignato, Giuseppe, and Satomi Hiyama. 2022. *Traces of the Sarvāstivādins in the Buddhist Monasteries of Kucha*. New Delhi: Dev Publisher & Distributor.
- Wei, Zhengzhong 魏正中. 2013. *Qudian yu Zuhe* 区段与组合 [Districts and Groups]. Shanghai: Shanghai Guji Chubanshe 上海古籍出版社.
- Wei, Zhengzhong 魏正中. 2018. Qiuci Shiku Siyuan Zhong de Liantong Jianzhu 龟兹石窟寺院中的连通建筑 [Connective architecture in the caves of Kucha]. *Dunhuang Yanjiu* 敦煌研究 2: 22–33.
- Xinjiang Qiuci Shiku Yanjiusuo 新疆龟兹石窟研究所, ed. 2000. *Kezi'er Shiku Neirong Zonglu* 克孜尔石窟内容总录 [Comprehensive Record of Contents of Kizil Grottoes]. Urumqi: Xinjiang Meishu Sheying Chubanshe 新疆美术摄影出版社.
- Xinjiang Qiuci Shiku Yanjiusuo 新疆龟兹石窟研究所编, ed. 2001. *Kezier qianfodong gunai qu dongku qingli jianbao* 克孜尔千佛洞谷内区洞窟清理简报 [A Brief Report on the Cheking up Work of Kizil Grottoes at the Inner Valley]. Xinjinag Wenwu 新疆文物. Urumqi: Xinjiang Uygur Autonomous Region Cultural Relics Bureau Tulufan District Cultural Relics Bureau 新疆维吾尔自治区文物局吐鲁番地区文物局, vol. 1–2, pp. 47–64.
- Xinjiang Qiuci Shiku Yanjiusuo 新疆龟兹石窟研究所, ed. 2008. *Kumutula Shiku Neirong Zonglu* 库木吐喇石窟内容总录 [Comprehensive Record of Contents of Kumtura Grottoes]. Beijing: Wenwu Chubanshe 文物出版社.
- Zhang, Xiaotong 张晓彤. 2019. *Kumutula Shiku yi Jiequ Bihua Baohu XiuFu Yanjiu Baogao* 库木吐喇石窟已揭取壁画保护修复研究报告 [Report of the Conservation, Restoration, and Study of the Detached Frescos of the Kumtura Caves]. Beijing: Wenwu Chubanshe 文物出版社.

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