

8. Summary

The aim of this thesis is to consider Egyptian rock art from a methodically and theoretically fresh perspective, namely that of their spatial location on the one hand and that of their social and communicative function on the other. This is a deliberate departure from a focus on the interpretation of the content and meaning of the petroglyphs, which is usually based on analogical interpretation of source material from dynastic or predynastic times. Such an approach is deemed problematic and will therefore not be followed here. The lack of reliable dating for most Egyptian petroglyphs is another problem. Methods of the natural sciences have so far only been applied to some cases in Egypt in order to achieve an absolute age of the rock art. The relative methods of dating are however prone to elements of uncertainty, particularly with regard to stylistic or typological comparisons. This is due to the long periods of use of most petroglyphs, except for a few clearly datable motifs like horses, camels or swords the figures cannot usually be connected with one specific stylistic period. Therefore the bulk of the panels cannot be precisely dated. This is however not the biggest problem, even those petroglyphs that can be reliably dated to the pre- or early dynastic era can no longer be interpreted or understood, because their original contexts and web of meanings as well as the rules for their interpretation have been lost. Consequently alternative approaches have to be taken in order to achieve an understanding of the functions and meanings of the rock art.

For the study at hand an approach was chosen that relies on insights from other fields of rock art research. One of the primary borrowings is the focus on the various semantic links between rock art and space, which makes it possible to avoid the problems of uncertain dating and lack of cultural context altogether. This orientation includes the adaptation of the concept of the social landscape, initially introduced to rock art studies by Paul Taçon (1994). This provides the opportunity to focus on the use of rock art in the context of various social activities within a landscape, without necessitating a detailed study of the actual meaning of the individual petroglyphs. In this sense, rock art is here understood as a means to integrate the surrounding space into a respective group-specific meaning, which then works recursively as a means to shape an identity in relation to this space.

In addition to the spatial component a further methodological aspect for analysing the petroglyphs was chosen, namely the use of their classification as a sign. A broadly semiotic approach makes it possible to decipher the communicative uses and functions of

8. Summary

rock art, whether in their use as an icon, index or symbol or in a more concrete manner as pictographic systems, non-textual marking systems, graphical memory aids or comics/graphic novels or graphic narratives. Based on these theoretical foundations and inspired by anthropological and ethnohistorical examples, it seems possible to classify the petroglyphs, at least roughly, into a broad functional frame, which can be understood as being secular, ritual, or territorial in nature as well as an expression of group identities.

For this purpose two different case studies were chosen. This was on the one hand an approximately 7800 km² large area in the central Eastern Desert, between Wadi Hammamat and Wadi Barramiya. While these petroglyphs could only be studied through secondary sources in form of catalogues and monographs, this research area had the advantage of allowing large-scale and statistical spatial studies. On the other hand a second study area on the west bank of Aswan could be included. With an area of approximately 1.7 km² quite small, it was possible to document this rock art and the spatial surroundings through fieldwork by the author. Thus, this allowed a small-scale, qualitative study of rock art, its spatial location and communicative functions.

In the first step of the analysis the natural spatial contextualization of the rock art was sought. Part of it was the reconstruction of climatic and environmental conditions in order to determine the broad frame of possible uses of these two study areas at different times, including periods that offered favourable conditions. Here a particular focus was placed on the now arid zones of the Eastern Desert. It was found that particularly the Early and Mid Holocene had favourable climatic conditions, with summer and winter rain regimes in the central Eastern Desert and probably some rain events in between these periods. As a result vegetation belts shifted up to 600 km to the north. Therefore, both regions would have benefitted from a higher vegetation cover as well as increased populations of various animal species. While the general composition of the flora did not change regarding the represented species their overall quantity must have increased. In a similar way this also applied to the fauna, an influx of species from the southern savannahs, like giraffes, can be assumed. Thus the two study areas cannot be regarded as, at the time, marginal areas, despite their position in or on the edge of the desert.

The second analysis focused on the reconstruction of the living environment of the rock art manufacturers in the two study areas. This was done with a focus on the lifestyle of mobile groups, since it is suspected in both areas, but particularly in the area of the Eastern Desert, that no permanent sedentary life was possible or chosen. Furthermore the environmental contextualisation confirmed that both areas provided suitable living conditions for mobile groups. This applies to hunter-gatherer groups as well as to pastoral nomads both of which are assumed to have used these areas on a seasonal basis for hunting, gathering, fishing and raising livestock. Thus it could be stated that the petroglyphs were created within the frame of the normal living environment of mobile groups, probably already from the Early Holocene onwards. For the dynastic period an increasing use of both areas by organized expeditions aiming at the extraction of raw materials, in particular stones and metals, as well as the crossing of these areas for the purpose of trading could be traced. It can be stated that beginning with the introduction of camels to Egypt

the areas in question, in particular those located in the Eastern Desert, were (again) used by nomadic groups.

In both cases it could be shown that the petroglyphs were placed in areas which saw a high degree of mobility, whether in the form of traffic routes or due to the frequent movement between pastures. In the course of these activities, which were essentially of an economic nature, it can be assumed for both areas of study that the scattered groups began to negotiate their social interests inside these spaces. In this context various locations seem to have been furnished with petroglyphs, which respectively took different functions inside the framework of social activities in these spaces. Predominantly elitist reasons, as have been postulated especially for the early dynastic petroglyphs, cannot be discerned in the majority of cases. Also the prevalent incorporation into a religious ritualistic background is not convincing. Instead the respective areas of study show a number of very different functions and uses, spatially as well as chronologically. It further transpires that the use of the petroglyphs occurred through a very long space of time and was at different points subject to various intensifications within the contexts of the respective social framework.

The starting point of the use of petroglyphs in both areas of study can only be stated very tentatively. Especially the reliably dated petroglyphs of Egypt (Gilf Kebir, el-Hosh, Qurta) suggest that the production of petroglyphs was a practice that set in during the Late Palaeolithic, or at the latest since the Epipalaeolithic. While neither of the two areas of study revealed any Late Palaeolithic examples, the use of petroglyphs there can however be assumed to have started from the Early Holocene, a tradition which seems not to have broken off until present times. This indication can definitely be confirmed for the corpus of petroglyphs of the central Eastern Desert. For the Eastern Desert rock art a usage was confirmed which lasted for a period of several thousand years, with the specific dating still fraught with difficulties. However, a significant difference in distribution and exploitation of the area marked by petroglyphs or inscriptions was recognized. While the dynastic period inscriptions or petroglyphs were to be found mainly along the main wadis (Wadi Hammamat and Wadi Barramiya), but also in a northwest to southeast direction extending to the mines in Wadi Hammamat, Wadi Abu Mu Awwad, Bokari or Wadi Barramiya, inscriptions and petroglyphs firmly dated to the Ptolemaic-Roman period are rare. For this time, however, a strong presence through infrastructure such as the construction of *hydreumata* or *praesidia* can be stated. But the distribution of these chronologically categorized markers differs from the allocation and distribution of the majority of the petroglyphs. This appears to coincide with the different uses of this area. While the centrally organized expeditions in the Eastern Desert from the dynastic period onwards are focused on the use of roads or the exploitation of stone and metal deposits, it can be assumed that the manufacturer of most of the petroglyphs used this part of the Eastern Desert as a normal seasonal subsistence base.

In this context it was found that in a north-south direction, parallel to the wadis with most of the petroglyphs, suitable soils, called Arenosols, were detected. Furthermore at some distance behind the Wadi Umm Salam a larger area with even more favourable

8. Summary

conditions could be traced. Here not only Arenosols, but also Fluvisols, were found, thus indicating greater vegetation, but also more water resources. This, in connection with the climate reconstruction, which suggests that the central Eastern Desert during a period between 9000–5000 years ago, at least during the peak era, probably benefitted from a greater portion of precipitation throughout the year, supports the assumption that people have moved into this area for subsistence already at this stage. This may equally apply to hunters as well as pastoral nomads.

The movements of these groups could then be traced following the distribution and frequency of the petroglyphs. This clearly showed that Wadi Umm Salam represents an area of special significance, both regarding the number of places with markings as well as the quantity of figures executed there. In explanation of this prominence of Wadi Umm Salam it could be shown that this place and the adjacent wadis Umm Hajalij and Abu Mu Awwad lay on the route to the aforementioned areas that offered favourable subsistence conditions. The analysis of the *Least Cost Paths (LCP)* which led from the assumed starting points in the Nile valley, Koptos and Edfu, to this area showed that the majority of the petroglyphs can be found precisely along these paths. This is only convincing as long as the availability of wells at regular intervals, approximately every 30 km, could be accounted for. This distance constitutes the maximum distance between the currently known wells in the central Eastern Desert and at the same time represents the limit of acceptable travelling distance for groups of hunter-gatherers and pastoral nomads. However, it appeared that a complete coverage of the area with water points was not possible, especially around the area of Wadi Umm Salam, where over a distance of 60 km a water-hole was missing. This could have been compensated for by the so-called “jacuzzi” in place SAL 14 in Wadi Umm Salam. This pool could have functioned at least temporarily as a water hole, so that an uninterrupted water supply throughout the area containing rock art was maintained.

Further analysis of the function and potential uses of the places where rock art was produced, based on their specific characteristics, resulted in the identification of different levels of use, including simple marking points without economic significance but also important places of gathering. The analysis e.g. supported the assumption that SAL 14 had a specific importance, because this place combines the highest number of figures with the characteristics of a favourable resting place. The fact that there is a high density of rock art locations clustered around this place, also containing a rather high number of individual rock art figures, makes it probable that this whole area of Wadi Umm Salam was an important gathering point for a larger group or a number of different groups. Next to its obvious economic importance a possible ritualistic and social function of this place can be merely guessed at. Similar areas, for which a simultaneous presence and usage by larger groups can be assumed, are found in the Wadi Abu Wasil, near Bir Min-ayh. Next to this stand rock art stations which show a usage throughout several millennia, within which they appear to have recurrently served as camp sites or rest areas. The majority of the rock art stations can be classified as temporary and small camp grounds

and resting places, however there are again many differences in regard to the characteristics of the places and the number of the associated images.

The concrete social context within which the petroglyphs of the central Eastern Desert were used could not be determined with certainty in every case but again diverse uses could be demonstrated. Transforming the insights of Layton (2000) and Sauvet et al. (2009) about the distribution and number of animal motifs within a totemic context to the Egyptian material, and assuming that in this case this context means a territorial or group-specific usage, within the group of animal representations a subdivision is apparent, which is expressed through different species.

The main distinctive species represented are camels and horses, elephants, lizards and cattle, but also ibex, ostriches/bustards and donkeys. The last ones have their sole major focus in Wadi Umm Salam, all others show additional geographical centres. In some cases this distinction seems to indicate a chronological development, especially concerning camels and horses, which are likely representative of relatively late antique-modern figures and, at the other extreme, the lizards, which could be classified as probably Epipalaeolithic because of their high position above ground and their accompanying repertoire of motifs. Cattle and elephant representations on the other side could show a cultural distinction next to the chronological one. Cattle representations could for example have been applied by pastoral nomads, with a possible link to the Nubian area, but also a “native” demarcation of pastoral nomads against hunters or dynastic travellers is conceivable.

In the case of the elephant representations there are perhaps two chronologically different types present. On the one hand the very early depictions in the Wadi Atwani, which probably show a representation of wild animals and on the other hand the representations in the Wadi Hammamat and south of it, which possibly stand in the context of the transport of war elephants during the Ptolemaic period and would thereby differ from the other images not only chronologically but also regarding their social and cultural contexts, having been made by populations in contact with the structures of the Nile Valley rather than by groups genuinely at home in the desert. Moreover, the distribution and geographical foci of the main motifs, boats, animals, geometric signs and humanoid figures is very diverse, so that a group-specific attribution also in these cases is not improbable. However, in addition to this further possible functional contexts can be found.

Apart from that an alternative function is suggested for the numerically largest class of animal figures, especially the ibex, and to a smaller degree also ostriches/bustards and donkeys. Based on their centre in Wadi Umm Salam as well as the generally fairly frequent occurrence throughout the area and the high overall number of such figures, a ritualistic context could be assumed. This again relates to the work of Layton (2000) and Sauvet et al. (2009), who suggest a shamanistic context for this ratio of distribution and number. However, the religious-ritualistic interpretation of the ibexes, ostriches/bustards and donkeys has to be viewed with caution, since the ibex, for example, also represents a

8. Summary

motif whose usage covers a very long time span, a simple fact that could also have contributed to the high overall number of such figures.

Apart from a few cases showing clearly datable objects or animals, the majority of the rock art can only be set in a very rough chronological framework. At least for those images, which are associated with the Wadi Umm Salam, it can tentatively be assumed that with increasing aridity the potential waterhole at SAL 14 lost its attractiveness and hence the importance of this wadi progressively diminished. Thus, a principal use in the humid phases would be likely, but this still spans a time frame between 9000–5000 years before present. However, the long use of some motifs and the invention of new ones up to the present shows that the tradition of rock art production is not chronologically limited, but in close connection to the mobile way of life still found in this area. This close relationship with the landscape is reflected in the choice of motifs and themes of the rock art in which mainly scenes or representations from the immediate living environment of the rock art creators are depicted. This is also true, in the broadest sense, for the depiction of boats, which can be classified as relating to the seasonal activities close to the Nile.

The various contexts of the use of petroglyphs also lead to different employments of these as signs. Rock art, which is used as a pictographic system, is for instance usually found in connection with landmarks whose principal function appears to be the communication of vital (or territorial) information within the difficult-to-trace paths through the desert. Next to this stands the employment of rock art as a graphic memory aid or as graphic narratives. In particular this can be assumed in the case of scenic representations of an apparently narrative nature, which help to visualise outstanding events like hunts and battles. Additionally the use of non-textual marking systems can be supposed. This applies specifically to the geometric signs, which, apart from a possible use as group-specific designation, strongly suggest a function relating to the respective maker, perhaps marking the presence of persons at a place or similar.

In general it can be said that the places as well as the petroglyphs in the central Eastern Desert show a variety of utilizations, spanning the whole spectrum of economic and social, and in connection with this also ritual, activities, which must be assumed for a nomadic lifestyle in this area.

Regarding the recurring question which archaeological culture was responsible for the rock art it must be said that there simply is not one single archaeological culture connected to it. Rather, it must be assumed that, in the course of millennia, the rock art was created by a variety of archaeological cultures, all of whom used the central Eastern Desert, be it in a more permanent or only a temporary way. The obvious examples that come to mind are the nomadic or semi-sedentary cultures of the Badari or early Naqada periods, but these were likely not the first and certainly not the last representatives who used the Eastern Desert as their living space. The supposedly close resemblance of their repertoire of motifs is put into perspective by the fact that the bulk of the motifs and themes in the rock art seem to be spatially determined rather than culturally. The point could be made however that perhaps new themes were introduced in them, as for example maybe

many of the early depictions of boats, and that this could therefore be regarded as a new expression of the socialization of the landscape.

It is however generally extremely difficult for archaeologists to trace the presence of any groups whose lifestyle excludes the production and ownership of significant numbers of artefacts as well as the use of assigned locations for burials. However, nomadic groups are known in the Eastern Desert both in the Dynastic as well as the Ptolemaic-Roman Period. How much more intense must the use of the Eastern Desert as a living environment have been at a time when the climate still provided favourable conditions? Native groups must have started relatively early to mark their living space and communicate their relation to it visually, especially where this happened as part of a discourse with other local groups. This was a practice that carried on for millennia. So at least approximately a timespan can be given for the rock art that stretches from the Epipalaeolithic to modern times, within which several thematic foci can be identified.

A similar, but still different picture emerges for the petroglyphs of Wadi Berber. The rather attractive location between the Nile and the Western Desert with a nearby access to routes leading to the West and South made Wadi Berber an interesting place, long before dynastic times. The petroglyphs and inscriptions reflect the different ways in which a respective space was used in the course of time. Starting with the most recent images, excluding the modern ones, the Ptolemaic, Roman and perhaps Coptic repertoire shows clearly that an intensive use of the Gebel Tingar as a quarry left markings which mostly comprise graffiti, hieroglyphic and geometric symbols. These would have functioned as personal markings of presence or possession, a group-related meaning of individual signs cannot be ruled out. On the other hand, there are some quarry marks whose function is less clear. They could likewise be interpreted as identity markers or be attributed to the field of magic or apotropaic usage. A reference of two of these signs, namely the hieroglyph hnm (W9), to the temple of Chnum at Elephantine Island is also conceivable. A few of these figures could even have served as orientation marks, or could have referred to burials. In all cases these markings, often Roman names or signs resembling hieroglyphs, are applied to places which show the characteristics of temporary rest areas and are often located next to minor roads, making them visible to passers-by. Because the markings relatively clearly show the characteristics of graffiti, and also some of the other signs can be similarly classified, it can be assumed that they are (non)-textual marking systems and much more rarely pictographic systems. These would not have had the function to communicate information and thereby address a recipient but would rather have exclusively served the maker's intention to record a personal relationship to the place. A possible use of the markings as a non-textual system to claim ownership of the place, or rather the mineable rock itself, is also feasible. Apart from that, in the case of one particular site it is possible to trace a most likely religious or ritualistic significance. Two footprints mounted horizontally on the rock as well as the close proximity of the site to the Nile and its orientation looking towards Elephantine Island underpin its probable connection to the temples thereon.

8. Summary

In contrast, the appropriation of this area in the dynastic period is reflected in the form of rock art mainly focused on the slopes and the entrance of Wadi Berber, and possibly also one cave on the Gebel Tingar quarry with a dynastic dating. Whether the latter, next to its obvious advantages as a camp site, might also have played a role in a religious or ritual context, as suggested by its inscription, remains to be seen. A possible connection of the use of this site with the crossing of the wadi or the work in the quarry is not attestable. Neither can a relation of the content to the Gebel Tingar “inscriptions rock” be proven. In most cases, however, the rock art of the dynastic period, placed near the wadi entrance, seems to be connected to the crossing of this area for reaching the quarries at Gebel Tingar or to the paths situated behind the wadi leading to the West or South. The attached petroglyphs here, scenic representations of a hippopotamus hunt, a herded goat and a herded cow seem to have been used as graphical memory aids or non-textual marking systems to help remember events or stories that can be deciphered with the necessary background knowledge of group members and may reflect an identity-building motive of the producer.

In addition to this a rather prominent location of a different nature, which exhibits dynastic figures, was found at the mouth of the wadi, on the northern slope. At this site the high number of humanoid figures, in conjunction with various inscriptions, point to a ritualistic-religious function of this place, in the context of which the petroglyphs were probably used as a non-textual marking systems to achieve a connection with the ritual landscape of the Middle and New Kingdom, centring around Elephantine Island and its temples.

However, the most intensive use of the petroglyphs lay outside the dynastic canon and must therefore be broadly termed prehistoric. This rock art is distributed largely over two very different areas, the hinterland of the west bank on the one hand and the mouth of Wadi Berber on the other. Based on the frequency of depicted motives but also with respect to the distribution of these images different contexts can be distinguished. The rock art at some places at the mouth of the wadi can be seen as an expression of group-specific boundaries or identity. In particular, the narrative-style scenes could have acted as a graphical memory aid or graphic narrative in order to remember important hunting events or other group-specific activities, which must not necessarily have occurred in the immediate vicinity. Rather, some of these representations, e.g. rock art station 1e, show connections to remote areas, which is indicated by the large number of ibex representations, as these animals are only to be found in the Eastern Desert. But whether the context in which the petroglyphs were created was of a ritualistic or maybe even secular character, cannot be clearly distinguished. It is however clear that the repeated application of certain figures, which took place at many of these sites, points to a more regular or long-term use of these places. This is also in line with the generally good conditions for using the area in front of the wadi mouth as campsite or resting place. In this context it should also be mentioned that due to the higher water level of the Nile in ancient times significant differences in the appearance of the landscape in front of the wadi mouth and its surroundings must be assumed for this period.

Apart from that further rock art places exist, which can be interpreted as pure marking points. These are distinguished not only by their position on the respective entrances to the wadis, at Wadi Berber, as well as at the small nameless wadi and at Wadi Sam'an, but also by the fact that their locations are unsuitable as resting places. Also the small number of figures they show points to the purpose of a pictographic system, communicating some form of important information to the onlooker, a reference to resources or territorial boundaries is conceivable.

A completely different picture can be drawn based on those images roughly classified as "prehistoric" and scattered across the hinterland of the wadi. Although these are conveniently located near the Sikket el-Agamiya or the el-Deir Road, both leading to the South/North and Southwest respectively, but their usage within such a placement is difficult to reconstruct. They show no characteristics of a campsite or rest area and their location on a flat plateau is rather exposed. The very distinctive complex of motives comprising mainly geometric rock art and the horizontal position of the panels does not suggest a communicative function. Regarding a function as a non-textual marking system or graphic memory aid, which would require easily distinguishable figures, it has to be said that these geometric symbols are not clearly enough categorically discriminable. This impression, on the other hand, could also be due to the lack of a detailed examination of this area. Generally, however, this rock art fits into a larger complex of similar sites covering the hinterland of Gharb Aswan. This centred distribution, and the fact that geometric signs do not appear in significant numbers anywhere else but at these sites, point to a distinct chronological or functional difference between this rock art and the one in the wadi. Based on these findings a ritualistic interpretation of the context of the geometric signs cannot be ruled out. Carefully guessed, this may be associated with longer distance travel into the southern and western regions which might have started at or around these points.

Chronologically both groups of prehistoric petroglyphs can only roughly be classified. Although geometric petroglyphs and especially those in the hinterland of Gharb Aswan were often dated to the Epipalaeolithic, or at least into the 6th to 5th millennium, this cannot necessarily be applied to all the ones here. As this dating is mostly based on the very dark patina which geometric rock art often shows, this patina could not be confirmed for all of the pictures here. Conversely, also some of the figurative representations at the mouth of the wadi show such a dark patina, so that the question arises, whether these two groups of petroglyphs can, despite their differences, be seen as roughly contemporary, or if the discoloration of the surface is rather owed to the conditions of the different locations and their respective proximity to the water. Generally, for the pictures at the wadi entrance a rough time frame can be given, starting at the end of the Wild Nile stage and ending at the start of the dynastic period.

Finally it can be noted that the methodology of examining the spatial context of petroglyphs and considering their communicative aspects, offered a variety of insights that would have been overlooked by other approaches. The lack of chronological clarity or firm assignment to a cultural frame is outweighed by the discovery of a pattern of a

8. Summary

practice which consisted for millennia and which can be considered as an expression of a very special form of human-landscape relationship.