- Rock Art in North-Western Central Namibia
 - its Age and Cultural Background

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A definition of rock art

The term "rock art" describes prehistoric or historic non-utilitarian human-made markings on natural rock surfaces. In southern Africa rock art is presented in two forms, namely paintings and engravings (alternative terms are "pictograms" and "petroglyphs", respectively). Paintings are made by applying a liquid mixture consisting of at least a pigment and a solvent using either the fingers or a brush-like tool on the rock surface. Engravings are made by abrasion of the rock surface, mainly by pecking, sometimes by incision with a pointed stone (Bednarik 2001: 1, 202). Paintings are usually to be found on vertical surfaces, within rock shelters or on side panels of boulders. In contrast, engravings are usually found on horizontal or at best vertical rock surfaces in the open.

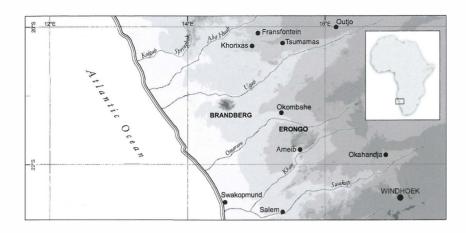
A brief review of rock art research in Namibia

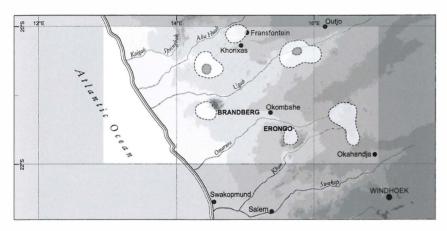
Concerning rock art, Southern Africa is among the most prominent areas on earth. Prehistoric rock paintings and engravings, particularly from South Africa, Zimbabwe and Namibia, have been well-known for a long time.

Already in early colonial times rock art attracted the interest of early travellers in the region of today's Namibia.¹ The discovery of the famous "White Lady" rock painting at the Brandberg by R. Maack in 1918 grabbed the attention of professional archaeologists and resulted in a number of publications by internationally renowned experts, such as H. Obermaier and H. Kühn, as well as L. Frobenius and H. Breuil.² In his search of archaeological sites Breuil had been assisted by two local amateurs, E.R. Scherz and his wife. Upon leaving southern Africa, Breuil encouraged Scherz to develop a systematic and comprehensive survey of Namibian rock art, which

became a lifetime dedication.3 In the 1960s, Scherz's work became part of the Cologne rock art research programme Felsbilder im südwestlichen Afrika. The project, funded by the Deutsche Forschungsgemeinschaft (DFG), also comprised the rock art documentation of G.J. Fock and D. Fock in South Africa and the archaeological excavations of Namibian rock art and non-rock art sites by W.E. Wendt.4 Between 1968 and 1970, Wendt excavated 26 archaeological sites which formed the basis for the research studies on the Later Stone Age in north-central Namibia and the Middle Stone Age in south-western Namibia by J. Richter (Richter 1991) and R. Vogelsang (Vogelsang 1998). An outstanding find was the discovery of painted slabs from the rock-shelter Apollo 11 by Wendt which turned out to be Africa's most ancient paintings (Wendt 1974).

However, due to demanding logistical requirements, the Brandberg, Namibia's richest rock art province, had so far been disregarded in all these projects. In the late 1970s R. Kuper initiated a new project in the Brandberg area to bridge this gap. H. Pager, who had gained international reputation for his Ndedema rock art documentation (Pager 1971), started an eight-year fieldwork programme in the Brandberg Mountain. Until his sudden death in 1985, he had located 879 rock painting sites in the upper Brandberg and had copied more than 43 thousand single figures. The editing, completion, analysis and publication of this really outstanding rock art documentation by T. Lenssen-Erz and his team culminated in 2006 with the publication of the 6th Brandberg volume.5 Accompanying archaeological excavations by P. Breunig between 1984 and 1987 established a chronological framework of the prehistoric settlement of the Brandberg Mountain, and linked the rock art with its cultural and ecological background (Breunig 2003).





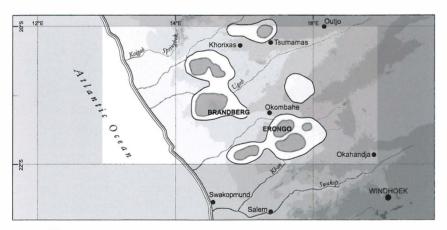


Fig. 1: The research area in north-western Central Namibia showing the main distribution areas of engravings (dotted lines) and paintings (continuous line). Site clusters are indicated in dark grey.

The regional distribution of rock art

A particularly significant factor regarding the regional distribution of paintings and engravings as a whole appears to have been the prevailing kinds of rock and relief forms in Namibia. Whereas engravings are usually found on horizontal to upright surfaces of sandstone, quartzite and diabase, and only rarely on granite and other rock types, paintings are usually found on vertical surfaces, within rock shelters or on side panels of boulders, which are typi-

cal features of plutonitic rocks,6 such as granites. These occur particularly in the western part of central Namibia, which is the regional focus of the considerations below. Here, plutonitic inselbergs, such as the Messum Crater, the Brandberg, the Spitzkoppe and the Erongo Mountains, dominate the landscape. Whereas the central eastern area, with its mostly flat quartzite outcrops, displays exclusively engravings, in the central western part of the country numerous examples of both kinds of rock art have been recorded (fig. 1). However, marked distributional differences can be observed: All principal areas of rock paintings are characterised by large clusters of sites. Their distribution denotes centres and peripheries. In contrast, the principal areas of rock engravings do not consist of large numbers of sites, but of only a few sites. However, some of these have yielded a considerable number of depictions - possibly an indication of a more continuous settlement of their artists.

The mapping of the distribution of paintings and particularly of engravings indicates a spatial clustering in both a western group and an inland group of rock art sites.

The motifs of rock art

Paintings and engravings differ essentially in terms of their themes (fig. 2). Scenic representations are common only to the paintings (fig. 3). Occa-

sionally these show hunting, dancing, and probably also some motifs related to trance and mythology, though, generally speaking, one can see groups of people on the move – normally without indications of gender – with hunter-gatherer equipment. Animals often form groups or lines with clear relation to each other. Human figures dominate the paintings, and animal representations are also quite frequent. On the other hand, hand prints, geometrical signs, symbols and other motifs are very rare.

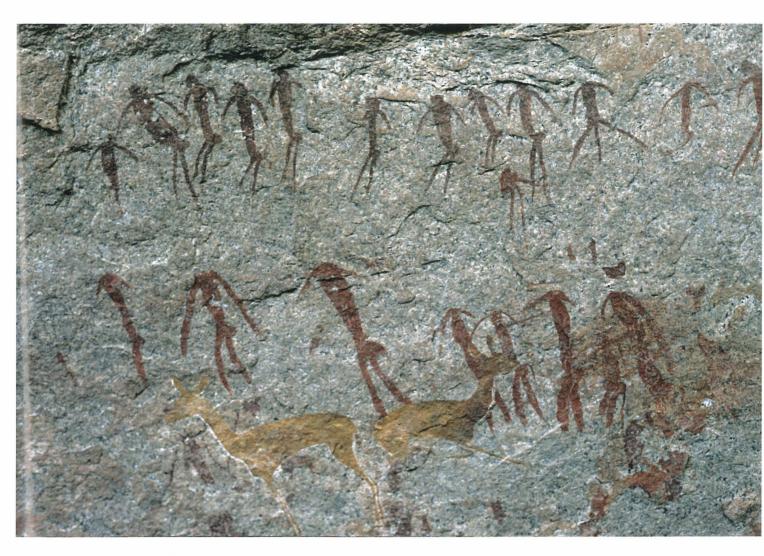
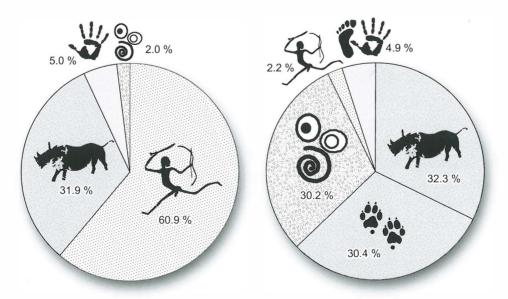


Fig. 3: People on the move and naturalistic animal representations are typical motifs of rock paintings (rock shelter Amis 10, Brandberg/Daureb).

Fig. 2: Motifs (animals, animal tracks, humans, handprints, geometrical signs) of rock paintings (n = 14,059 depictions from 272 sites) and rock engravings (n = 16,408 depictions from 134 sites) in Namibia (compiled after Scherz 1970, 1975, 1986).



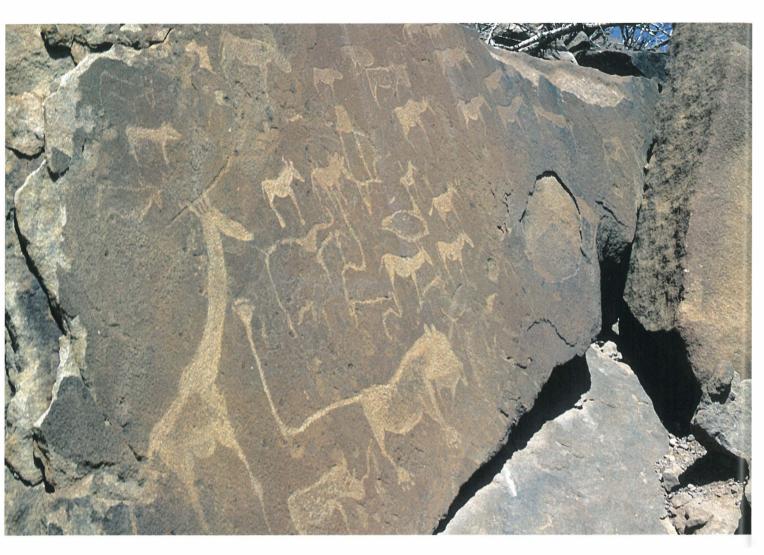


Fig. 4: Simplified animal representations and hoof prints are typical motifs of engravings (Twyfelfontein// Ui-//aes).

Completely different themes prevail among the rock engravings. Animal representations, animal tracks and geometrical signs are equally abundant, but humans, human hand-prints, footprints and other motives are very rare. Scenes almost never occur. As a rule, the individual representations do not relate to one other (fig. 4).

Styles and modes

Giraffes seem to have been of special importance for prehistoric hunter-gatherers in Namibia (Lenssen-Erz 2001: 137) and various types of giraffe representations are common to all rock art regions in the country (Scherz 1986). Therefore, they are a very suitable feature for the identification and comparison of different representation modes (fig. 5):

The giraffe figures show that, with a few exceptions, painted animal representations are natu-

ralistic reproductions of their living counterparts (representation mode 1). Among such paintings varied styles are present, which differ in their degree of stylisation. Whereas some paintings show specific attributes and characteristics such as details of particular skin patterns (representation mode 1a), others are more stylised representations (representation mode 1b). Representations of the second group exaggerate species-related attributes, such as the giraffe's oblique body, the embossment between its shoulders and neck, the long neck itself, and its typical skull shape, with its two horns and two ears, designed like an inversed comb.

The representation modes 1a and 1b are also to be found in rock engravings, but here additional modes, either absent or extremely rare in paintings, occur. These modes conform to special conventions, in which animal tracks play a major

role: Representation mode 2 comprises simplified animal representations (similar to those of representation mode 1b), however, the animal's hoofprints are linked to the animal's extremities. Representation mode 3 comprises highly simplified animal representations, though the tracks are not closely connected to the animal, but are indicated at some distance from the animal's body (which may raise the question whether both were made by the same artists). However, this mode appears to be very rare. Finally, mode 4 artists have completely omitted the body and make reference to the animal purely by its spoor or hoof-print.

A chronological interpretation of styles

The four representation modes can be arranged into a sequence (fig. 5), beginning with more naturalistic depictions (representation mode 1) and ending with symbolic track representations (representation mode 4). At the site of Twyfelfontein the mode 4 track representations frequently overlay mode 1b simplified animal representations, mode 4 thus being systematically younger than mode 1b. Whilst the chronological sequence 1b >4 is confirmed by superimposition, the succession of the remaining representation modes is purely hypothetical and based on an archaeological method invented by Montelius (1903). This is based on the principle that specific artefacts (e.g. arrowheads) can be ordered in a series of typological affinity ('typologische Reihen' = type sequence), which relates to their chronological development in terms of a 'cultural evolution'.

Applied to Namibian rock art, representation mode 2 (tracks linked to animal extremities) is closely related to representation mode 1b due to the similar style of animal body depiction.

The representation mode 3, with its more abstract animals and disconnected tracks, resembles mode 4.

Since paintings are essentially limited to representation mode 1, they might, as a whole, represent a shorter time range than engravings with 4 different representation modes. If this is the case, the artists responsible for representation mode 1 both painted and engraved. By contrast, the artists of modes 2-4 were responsible solely for engravings. The only exceptions are non-representational finger paintings that are ev-

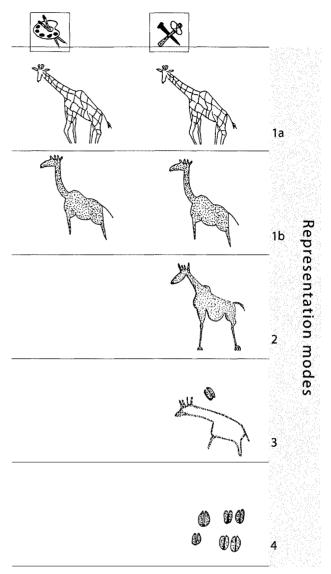


Fig. 5: Representation modes of engravings and paintings of north-western Central Namibia, ordered in a hypothetical chronological sequence from old (top) to young (bottom).

identially younger than the last "classical" rock paintings.⁷

Whereas ethno-historic sources from South Africa report 19th century painting activities⁸ the Namibian rock art tradition obviously did not extend to the recent past.

The age of Namibian rock art

The chronological classification on the basis of stylistic modes, superimpositions or techniques permits only a relative sequence with restricted validity (e.g. Breunig 1991: 118f.).

On the other hand, attempts to obtain numerical ages by the direct dating of paintings using scientific dating methods, such as the radiocarbon method, has rarely been successful up to now (e.g. Van der Merwe et al. 1987) or their methodological correctness has been disproven.9 Therefore, it was hoped to find clues to the age of rock paintings in the archaeological excavation of the occupation layers in the rock shelters (Wendt 1972). Whereas engravings are usually to be found on flat grounds and in no definite relationship to neighbouring settlement remains, the prehistoric paintings are frequently discovered in rock shelters with abundant traces of prehistoric occupation. In many cases archaeological layers are preserved in a sequence, allowing a chronological differentiation of the finds. A first success of this research strategy was the spectacular find of painted slabs that stem from an outstanding stratigraphy of several Middle Stone Age occupations at Apollo 11 Cave in Southern Namibia.¹⁰ These are around 27,500 years old (Wendt 1974) and, as such, are the earliest known drawings from the African continent. However, these pieces were never actually part of a larger wall painting, but are separate representations on loose slabs (so called 'art mobilier'). This fact, and the extremely old age, cast some doubt on the existence of a continuous rock art tradition linking these first pieces of art with the wall paintings discussed here.

So far, layers covering wall paintings or exfoliated fragments of paintings have not been found in Namibia. The only exceptions are several pieces that had been chipped off, or exfoliated, from a painting at the rock shelter Amis 10 at the Brandberg (Breunig 2003:77f.). It was even possible to refit one of the fragments to the original panel. This piece derives from a layer that has been dated to 2760 ± 50 years before present. The painting might, of course, be much older.

With the exception of this single piece of evidence the age of Namibian rock art is at present based on the general position of rock art sites within the settlement history of Central Namibia.

Excavations by the Cologne institute of approximately twenty archaeological sites all over central Namibia have suggested that the rock art tradition is very likely connected to one of six sequential stages of the Namibian Later Stone Age chronology (LSA phases A - F).¹¹ The earliest

rock paintings date from stage C (\sim 4000 BC – 0 BC/AD) – and within that stage predominantly to its later part (LSA-C2) in the first millennium BC (fig. 6), i.e. there is a constant co-occurrence of rock art with artefacts from the LSA-C phase. Occupation layers of that specific stage yielded numerous pigments and a great deal of grinding equipment, with adhering pigments thus attesting intensive use of colours. Most of the Namibian paintings and the corresponding mode 1 engravings seem to have been created during this period.

The subsequent stage LSA-D ($\sim 0-1000$ AD) saw the introduction of domesticated sheep to an economy which remained essentially within a hunter-gatherer system. Likewise, the oldest pottery of the region appears during this phase. Therefore, the few known paintings of fat-tailed sheep must belong to the latest phase of the rock painting tradition which can be dated to the C/D transitional phase. Extremely rare are finger paintings of abstract representations that are not part of the hunter-gatherer rock art tradition and might even date to stage LSA-F (Lenssen-Erz & Vogelsang 2005: 61).

The engravings in modes 2, 3 and 4 might have developed during the stages LSA-D, LSA-E ($\sim 1000-1500\,\mathrm{AD}$) and, possibly, LSA-F (younger than 1500 AD). The representations of animal tracks belonging to the presumably latest style (mode 4) are – just as hand prints – much more common to the inland group than to the western group. This might indicate a shift of settlement emphasis from west to east, towards the more favourable Savannah zone, possibly driven by the increasing importance of herding as a means of subsistence. At present, more excavations at open air settlements are needed to test this hypothesis.

The painters' way of life

Occupation layers of the LSA phase C (fig. 6) always contain a microlithic stone industry with up to 90 % geometrical microliths that were most likely used as inserts for arrows. In addition there are some larger tools, such as side-scrapers and end-scrapers, and a small number of heavy duty tools that were probably used for the working of leather and wood. Grinding stones for the

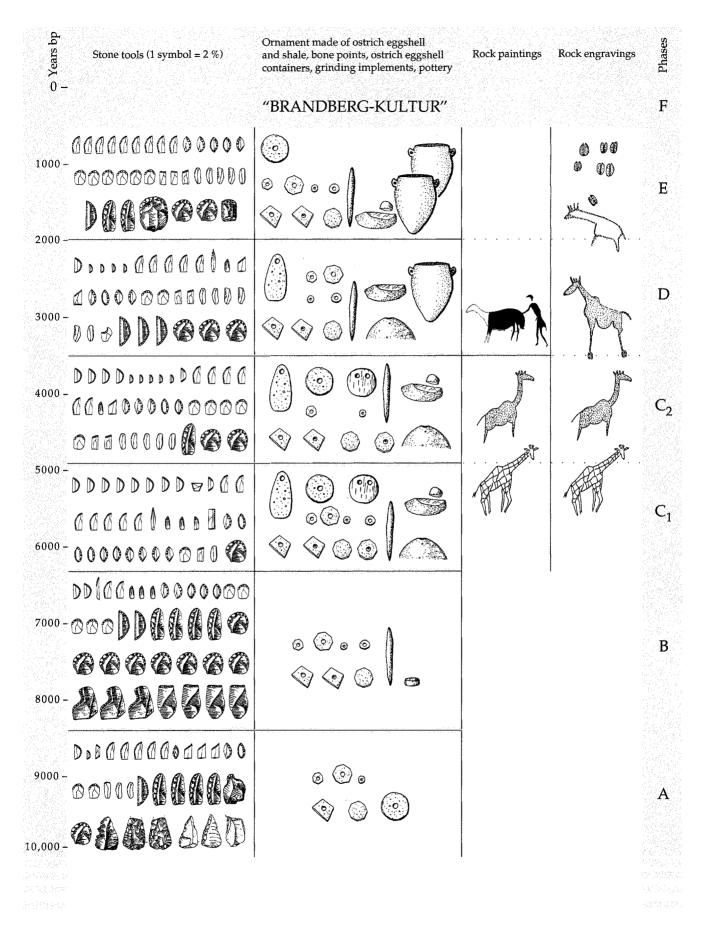


Fig. 6: Outline of the cultural sequence in north-western Central Namibia during the last 10,000 years (after Richter 1991).

preparation of pigment powder and perhaps vegetable food are also common. The bone industry is rich, with various bone points, spatulas and ornaments. Artefacts made from ostrich eggshell (beads, pendants, spoons, water containers) are frequent. Faunal remains are present, particularly from antelope. In the mountainous regions antelope are less common than smaller animals such as Rock Hyrax (dassies). The inventories of the phase LSA-C reflect the material culture of a hunter-gatherer society and do not show any signs of food production.

The spatial distribution of sites with LSA C inventories covers three different ecological zones (Mendelsohn et al. 2002: 98). From west to east these are:

The coastal plains of the Central Namib Desert characterised by extreme aridity and mostly void of vegetation; the Western-Central Escarpment and Inselbergs zone with grasslands and shrub vegetation; and the Tree-and-shrub Savannah of the Western Highlands where all-season subsistence is possible. By and large, the present picture reflects the ecological situation of the past millennia, as climatic variations seem to have been only minor during the Holocene¹² (Heine 2005: 127). Therefore, the distribution of archaeological artefact categories in relation to these different ecological zones provides an indication of their role within the economic system. Thus, most grinding equipment is to be found in the eastern area with its denser vegetation cover and points to activities connected with the preparation of vegetable food, such as the grinding of grass seeds. On the other hand, geometrical microliths that were most probably used as arrow points dominate the desert assemblages, where hunting was possible after ephemeral rains. Endscrapers are again more common in the inland savannah, which suggests that they were perhaps mainly woodworking tools. In general, the tool diversity of the inventories increases from west to east.

The multiple relations between archaeological findings and landscapes permit a detailed reconstruction of human land-use in central Namibia during the second and first millennium BC. The individual ecological zones and regions cor-

respond to different functions within the settlement system of a highly mobile hunter-gatherer society.¹³

The Erongo area with its thorn shrub and acacia savannahs offers a habitable environment all year round. Numerous Erongo sites are of large size and show high artefact diversity, which reflects the entire activity repertoire of the huntergatherer economic system.

The artefact spectra from the Twyfelfontein// Ui-//aes¹⁴ area are more specialised and reflect hunting activities, meat processing and leatherwork, but no processing of plant food. The waterhole at Twyfelfontein is not a "dubious" one as "Twyfel" implies, but very reliable and offered a source of water during the dry seasons. The rocks in the vicinity are decorated by thousands of rock engravings and there are several painted panels. The area must have been an important centre during the "social life season" when people gathered around waterholes.

On a larger scale, the Brandberg/Daureb area served a similar function, since cavities in the rock form natural basins that can hold water for several months after the rainy season. This might well explain the large number of prehistoric settlements on the mountain, as well as its richness in rock art. However, in very dry years, survival could become very difficult, even for small groups.

The Messum area was only rarely visited by humans to hunt antelope, usually after ephemeral precipitation in March/April. The inventories are highly specialised and feature hundreds of microliths. The enormous size of some inventories (e.g. approximately 50,000 artefacts in Messum 1) might be a reflection of a high tool recharge during the hunts. Since water is not available here, long stays are not to be expected. The remains of many ostrich egg containers indicate that water had been stored and may even have been brought in from great distances.

Most hunter-gatherer societies show seasonal patterns of aggregation and dispersal (Kelly 1995). The annual cycle of humans in central Namibia was determined particularly by the changing vegetation cover and the changing availability of water. The living conditions depended on the intensity of the rainy season,

which falls in central Namibia during March and April and in November. One might assume that, comparable to the annual cycle of the Ju'hoansi (Lee 1979), before the rainy season life was concentrated close to the remaining waterholes ("social life season" or "public life season" after Wadley 1987). This would have been the time during which relatives were visited, marriages arranged, gifts exchanged and rituals performed, such as trance dance and initiation ceremonies. After the rainy season water was available in many places and animals were more dispersed. This led to more extensive mobility. People lived in smaller family bands ("private life season" after Wadley 1987). From time to time, they went on hunting expeditions to the Central Namib Desert, and even the Atlantic coast was visited to harvest Nara plants, to collect seashells and to hunt seals.

Compared to the models outlined above, rock art by no means depicts solely aspects of daily life: the rock pictures are not just mere "reports from the stone age". The paintings rather reflect than describe a society of hunters and gatherers. As a matter of fact, women are not very frequently displayed with digging sticks, indicating gathering activities. Men are more frequently shown with bow and arrow. Interestingly, the majority of human figures cannot be classified to gender.15 The activities of these "persons" are unspectacular daily life activities. Individuals are not accentuated by special features, such as body painting or ornaments. The emphasis is placed on social affiliation and mutuality, which are important factors of a well-functioning hunter-gatherer society.

Their prey, above all antelope, is abundantly depicted. However, giraffe, which is a very common rock art motive, could not be detected in any of the faunal assemblages from central Namibia. The overrepresentation of giraffes in the rock art and their connection with eared serpents, a mythical animal often depicted with a giraffe head and/or skin pattern, point to a special position of these animals (Lenssen-Erz 2001: 137). Whereas humans display an idealised situation of social life, animals might represent an ideal of richly endowed nature. Only a small part of rock

paintings, such as the eared serpent and therianthrops¹⁶ refer to the mythological world. In any case, painting must have played a principal role in the life of prehistoric Namibians, for people even painted in places where only short stays were possible, such as the Messum Mountains in the Central Namib Desert.

Our understanding of the meaning of the rock engravings from the region is by no means conclusive. However, to date, no analysis exists that is comparable to the work of the Brandberg rock art team.¹⁷

Endnotes

- ¹ E.g. Anderson 1856, Hahn 1879
- Obermaier & Kühn 1930; Frobenius 1931; Breuil 1955, 1957, 1959, 1960
- ³ Scherz 1970, 1975, 1986
- ⁴ G.J. Fock 1979, G.J. Fock & D. Fock 1984, 1989; Wendt 1972
- ⁵ Pager 1989, 1993, 1995, 1998, 2000, 2006; Lenssen-Erz 2001
- ⁶ Bodies of molten rock (magma) that solidify underground before reaching the earth's surface.
- ⁷ Lenssen-Erz & Vogelsang 2005: 59f
- ⁸ Lewis-Williams & Dowson 1989: 21
- ⁹ E. g. amino acid dating by Denninger (1971), critical comments by Reinecke 1990
- ¹⁰ See here: Ralf Vogelsang, The rock-shelter "Apollo 11" evidence of early modern humans in south-western Namibia
- ¹¹ Wendt 1972, Richter 1991, Breunig 2003
- ¹² The Holocene is a geological epoch which began approximately 10,000 years ago.
- ¹³ Detailed in: Richter 1991: 214ff.
- ¹⁴ The vernacular name /Ui-//aes means "jumping fountain".
- ¹⁵ Lenssen-Erz & Erz 2000: 71f.
- ¹⁶ A creature that is part man and part beast.
- ¹⁷ Acknowledgement: We are most grateful to T. Lenssen-Erz for help-ful comments and to L. Clare for his help in correcting our English. We thank K.P.Wendt for help with the distribution map and L. Hermsdorf-Knauth for assistance with our figures.

References

Anderson, C.J. (1856) Lake Ngami. London 1856.

Bednarik, R.G. (2001) Rock art science. The scientific study of palaeoart. Turnhout 2001.

Breuil, H. (1955) The White Lady of the Brandberg. London 1955.

Breuil, H. (1957) Philipp Cave. London 1957.

- Breuil, H. (1959) The Tsisab Ravine and other Brandberg sites. Clairvaux 1959.
- Breuil, H. (1960) Anibib & Omandumba and other Erongo sites. Clairvaux 1960.
- Breunig, P. (1991) Datierung afrikanischer Felsbilder. Beiträge zur Allgemeinen und Vergleichenden Archäologie 11, 1991: 115-143.
- Breunig, P. (2003) Der Brandberg. Untersuchungen zur Besiedlungsgeschichte eines Hochgebirges in Namibia. Africa Praehistorica 17, Köln 2003.
- Denninger, E. (1971) The use of paper chromatography to determine the age of albuminous binders and its application to rock paintings. In: Schoonraad, M. (ed.) Rock paintings of Southern Africa. Supplement to the South African Journal of Science, Special issue No.2, 1971: 80-84.
- Fock, G.J. (1979) Felsbilder in Südafrika, Teil I: Die Gravierungen auf Klipfontein, Kapprovinz. Fundamenta A12, Köln/Wien 1979.
- Fock, G.J. & D. Fock (1984) Felsbilder in Südafrika, Teil II: Kinderdam und Kalahari. Fundamenta A12/II, Köln/ Wien 1984.
- Fock, G.J. & D. Fock (1989) Felsbilder in Südafrika, Teil III: Die Felsbilder im Vaal-Oranje-Becken. Fundamenta A12/III, Köln/Wien 1989.
- Frobenius, L. (1931) Madsimu Dsangara. Südafrikanische Felsbilderchronik, Band II: Die ethnographisch-prähistorischen Stile. Berlin/Zürich 1931.
- Hahn, H. (1879) Eine Reise von Otjimbingue zum Cunene im Jahr 1866. Petermanns geographische Mitteilungen 13, 1879: 284-298.
- Heine, K. (2005): Holocene Climate of Namibia: A Review Based on Geoarchives. African Study Monographs, Suppl.30: 119-133.
- Kelly, C.M. (1995) The foraging spectrum: diversity in hunter-gatherer lifeways. Washington 1995.
- Lee, R.B. (1979) The !Kung San: men, Women and work in a foraging society. Cambridge 1979.
- Lenssen-Erz, T. (2001) Gemeinschaft Gleichheit Mobilität. Felsbilder im Brandberg, Namibia, und ihre Bedeutung. Grundlagen einer textuellen Felsbildarchäologie. Africa Praehistorica 13, Köln 2001.
- Lenssen-Erz, T. & M.T. Erz (2000) Brandberg. Der Bilderberg Namibias. Stuttgart 2000.
- Lenssen-Erz, T. & R. Vogelsang (2005) Populating nomans-land Rock art in northern Namibia. South African Archaeological Society Goodwin Series 9, 2005: 54-62.
- Lewis-Williams, D. & Th. Dowson (1989) Images of Power. Understanding Bushman Rock Art. Johannesburg 1989.
- Mendelsohn, J., A. Jarvis, C. Roberts & T. Robertson (2002) Atlas of Namibia. A Portrait of the land and its people. Cape Town 2002.
- Montelius, O. (1903) Die älteren Kulturperioden im Orient und in Europa. I. Die Methode. Stockholm 1903.

- Obermaier, H. & H. Kühn (1930) Bushman art: rock paintings of South West Africa. London 1930.
- Pager, H. (1971) Ndedema. A documentation of the rock paintings of the Ndedema Gorge. Graz 1971.
- Pager, H. (1989) The rock paintings of the Upper Brandberg, part I: Amis Gorge (edited by Tilmann Lenssen-Erz). Africa Praehistorica 1, Köln 1989.
- Pager, H. (1993) The rock paintings of the Upper Brandberg, part II: Hungorob Gorge (edited by Tilmann Lenssen-Erz). Africa Praehistorica 4, Köln 1993.
- Pager, H. (1995) The rock paintings of the Upper Brandberg, part III: Southern Gorges. Africa Praehistorica 7, Köln 1995.
- Pager, H. (1998) The rock paintings of the Upper Brandberg, part IV: Umuab and Karoab Gorges. Africa Praehistorica 10, Köln 1998.
- Pager, H. (2000) The rock paintings of the Upper Brandberg, part V: Naib Gorge (A) and the Northwest. Africa Praehistorica 12, Köln 2000.
- Pager, H. (2006) The rock paintings of the Upper Brandberg, part VI: Naib (B), Circus and Dom Gorges. Africa Praehistorica 20, Köln 2006.
- Reinecke, B. (1990) Biogeographische Untersuchungen zu Inhalt, Darstellung und Altersdatierungen von Felsmalereien und Felsgravierungen im südlichen Afrika. Unpublished diploma-thesis, Saarbrücken 1990.
- Richter, J. (1990) Messum 1, Zentrale Namib. Prähistorische Jäger in extrem arider Umwelt. Beiträge zur Allgemeinen und Vergleichenden Archäologie, Band 9-10, 1990: 281-358.
- Richter, J. (1991) Studien zur Urgeschichte Namibias. Holozäne Stratigraphien im Umkreis des Brandberges. Africa Praehistorica 3, Köln 1991.
- Scherz, E.R. (1970) Felsbilder in Südwest-Afrika, Teil I: Die Gravierungen in Südwest-Afrika ohne den Nordwesten des Landes. Fundamenta A7. Köln/Wien 1970.
- Scherz, E.R. (1975) Felsbilder in Südwest-Afrika, Teil II: Die Gravierungen im Nordwesten Südwest-Afrikas. Fundamenta A7/II. Köln/Wien 1975.
- Scherz, E.R. (1986) Felsbilder in Südwest-Afrika, Teil III: Die Malereien. Fundamenta A7/III. Köln/Wien 1986.
- Van der Merwe, N.J., J.C. Sealy & R. Yates (1987) First accelerator carbon-14 date for pigment from a rock painting. South African Journal of Science 33, 1987: 56-57.
- Vogelsang, R. (1998) Middle-Stone-Age-Fundstellen in Südwest-Namibia. Africa Praehistorica 11, Köln 1998.
- Wadley, L. (1987) Later Stone Age hunters and gatherers of the southern Transvaal: social and ecological interpretations. Oxford 1987.
- Wendt, W.E. (1972) Preliminary report on an archaeological research programme in South West Africa. Cimbebasia (B) 2.1, 1972: 1-61.
- Wendt, W.E. (1974) "Art mobilier" aus der Apollo 11-Grotte in Südwest-Afrika. Acta Praehistorica et Archaeologica 5, 1974, 1-42.