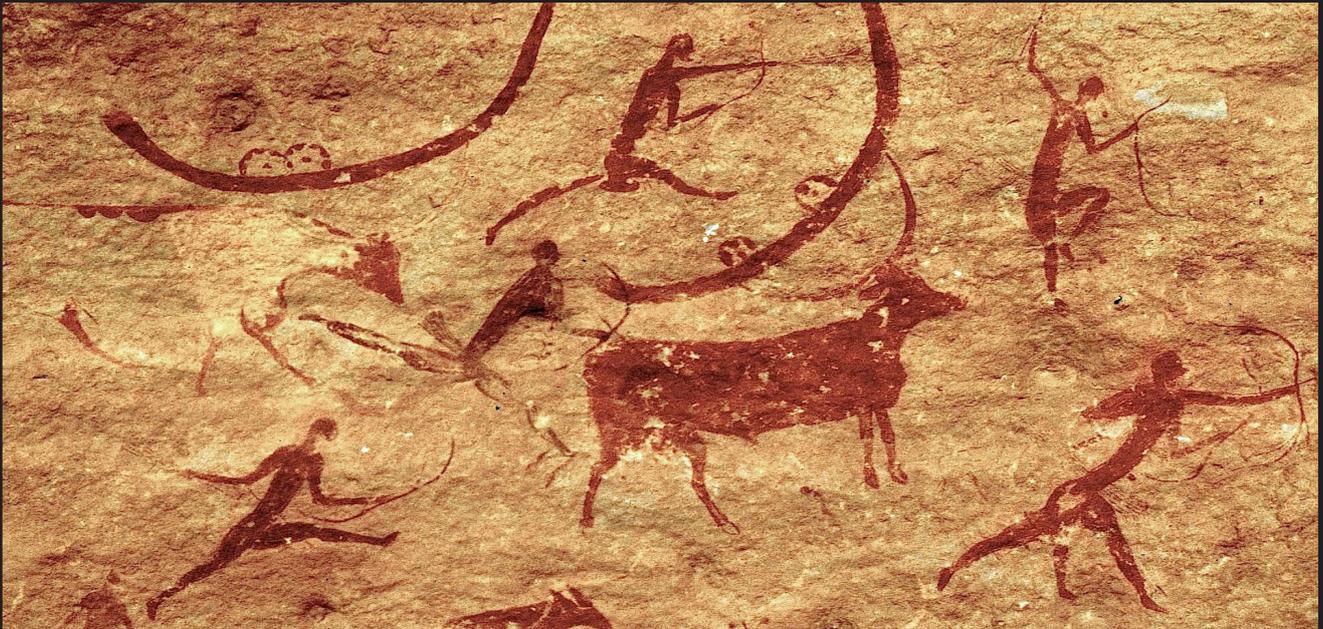


Sahara Rock Art II.





The Sahara region was periodically more densely populated than today. In the past 200,000 years the climate changed various times. During three wet periods the Sahara was a green landscape with rivers, lakes, trees and bushes. These periods lasted up to 20,000 years and offered our ancestors ideal living conditions. These wet periods started about 120,000 years, again 50,000 years and finally 14,000 years ago. But in eastern Africa the latter period started only 6,000 years later. Arid climate and finally desertification set in about 6,000 years ago and became even drier until today.

Example Mediterranean

The impact of changing climatic conditions can be best understood by the drastic rising sea levels of the Mediterranean. Between 13,000 to 8,000 years ago its sea level rose thirty meters. During the following 5,000 years it increased by another twenty meters and until today again twenty meters. If we go further back in history the sea level rose even over one hundred meters. The result was that the coast line was flooded and moved step by step around ten kilometers further inland. Unfortunately, many prehistoric traces disappeared this way.

Neolithic Rock Art

Sahara rock engravings and paintings do not belong anymore to ice age art like those in Europe, because they are younger. The oldest engravings were created about 14,000 years ago. In Europe our ancestors started about 30,000 years earlier. That is surprising, because Afri-

ca is regarded as the cradle of mankind. Homo sapiens for example developed 300,000 years ago in Morocco as the latest research results established. Further astonishing is that the Sahara people started suddenly to create highly artistic engravings of animals which look very real and naturalistic. There was no starting phase with simple and archaic pictures and slow development into the impressive rock art repertoire found here.

Sahara Region

The Sahara belt spans about 5,000 kilometers across the African continent along the Tropic of Cancer and has a width of 2,000 kilometers. For climatic reasons this belt moved in history up to 1,000 kilometers north and later southwards again. Today the Sahara area is as large as the United States of America. Prehistoric rock art was created mainly in Morocco, Algeria and Libya as well as further south in Mauritania, Mali, Chad and Niger.

Cultural Differences

Hunter and gatherer clans from different ethnic groups roamed the Sahara area. But why did these groups not create next to the many animal engravings or paintings any cultural scenes to demonstrate their traditions and rituals. Only their clothing shows these differences. Prehistoric rock art was not used by our ancestors as expression of art but as message of ritual character and played an important role in their religious beliefs.

These ideas and values we can only imagine if we try to understand their nomadic living con-

ditions and convictions closely connected to nature as well as their close social and tribal bands.

Great Similarities

Therefore, prehistoric rock art pictures and compositions in this huge area show regional, cultural, ethnic and time related differences in the huge variety of images. Nevertheless, it is surprising how similar many engravings and paintings are compared to those in other continents. Some human figures are so similar to the San bushman rock paintings 7,000 kilometers further south, that you could mix them up. Did an early cultural exchange exist through long distance trade already? This is not as strange as it sounds on first thought.

Bubalus Period

Experts have tried to classify the impressive Sahara rock art image repertoire. This is not easy as certain dating technologies could not be used. If no organic pigments have been used radio carbon dating is impossible. But a dating via motives is a possibility. We know that the so-called bubalus buffalo died out in the Sahara region about 5,000 years ago. So, we can conclude that most of these large images together with wild animals depicted belong to this period. Some experts also call it the hunter period. Sometimes it was possible to use the thermoluminescence dating for artefacts found in the archaeological horizon which could be linked to these engravings and paintings. These established an age of 10,000 to 9,000 years.

Round Head Period

After that followed a period with human im-

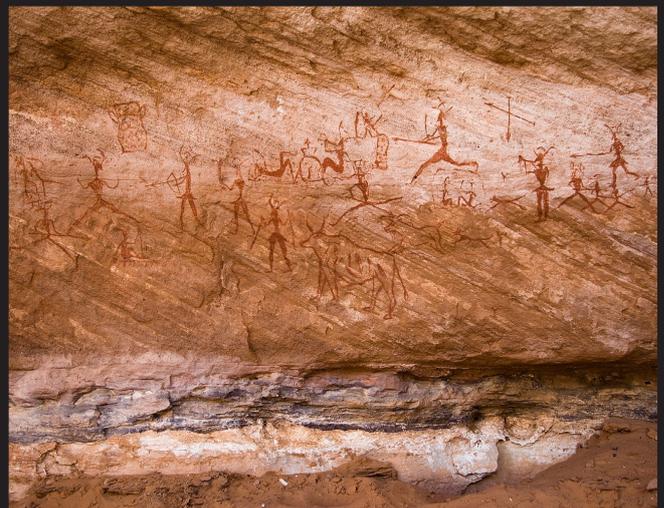
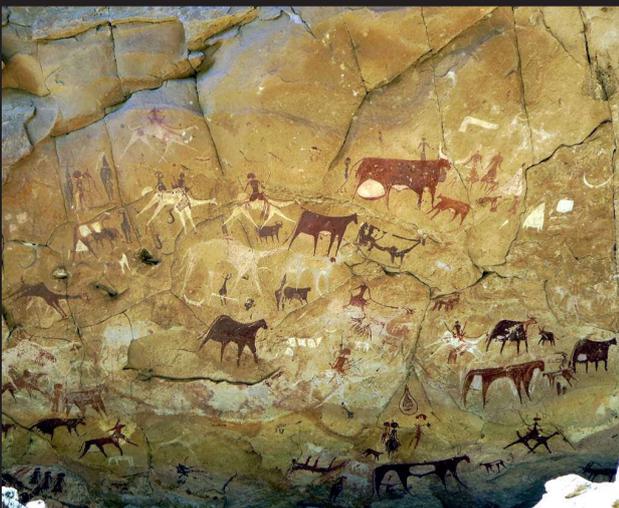
ages depicted with round heads. These paintings could possibly be explained easily. Helm and other masks have been used in Africa for ritual dances for a long time. In neolithic times our ancestors have used dance rituals on all continents and documented these important scenes in their rock art. Often they were wearing animal masks which represented certain gods or ghosts. Shamanism with trance dances and costumes were also a common feature. Another explanation could be the laborious formed hairstyles which served as tribal indication or beauty ideal. These hair does can be well seen on some of the paintings.

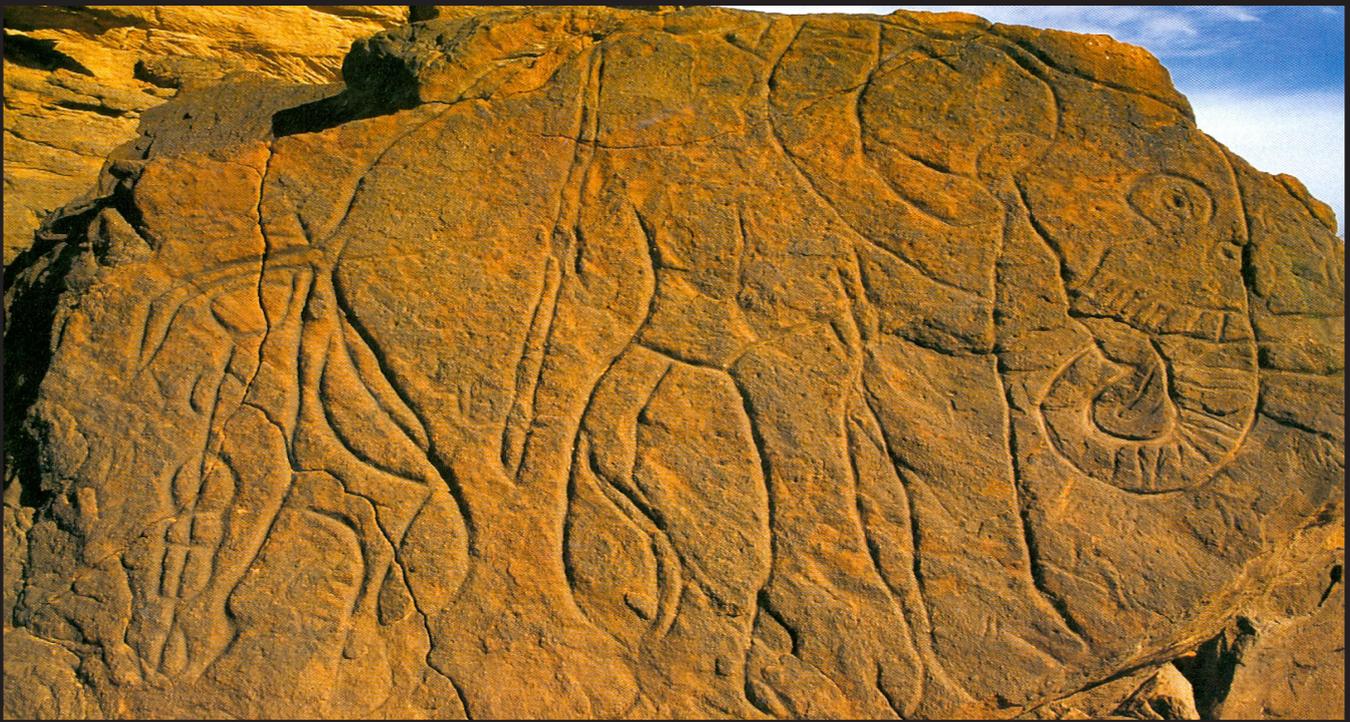
Cattle Period

During this period domesticated animals were depicted for the first time. In the Sahara the so-called Neolithic Revolution arrived about 4,000 to 6,000 years later. This important development in the Fertile Crescent spanning from the Taurus mountains via Iraq and Syria to the Mediterranean coast brought about first domesticated animals and organized farming. It was an important game changer for the nomadic hunter and gatherer clans who became pastoral shepherds and farmers over time. Latest research indicates that the domestication of einkorn, barley and other wild plants happened in some areas up to 5,000 years earlier than previously thought. Therefore, experts believe that the nomadic hunter and gatherer clans lived for longer time in coexistence with upcoming shepherds and farmers. Possibly they were the same clans following a dual life style which gave them changing advantages for each season.

Horse Period

About 4,000 years ago horse images did ap-





pear for the first time. We can assume that they were used at that time in the Sahara. The first horse charts were engraved four hundred years later. If they were really used in the already arid and sandy region is uncertain. Possibly these images were the result of intense trade with Egypt where these charts were in use.

Horse Chart Images

On the Arabian Peninsula horse chart images were created at the same time. But experts are certain that not war or transport horse drawn carriages were used there. Surprising is also the same rather naive way to show these charts. The charts were not created like all other images of animals and human figures in profile, but in a bird like view from the top. They look very unreal with the drawbar in the middle and the horses lying on their side with their legs stretched out to both sides plus flat lying wheels as well.

Earlier Domestication

Most intriguing are also the latest research results from al-Magar north of Najran on the Arabian Peninsula. These overthrow the previous theory that horses were domesticated about 4,500 years ago in Kazakhstan. The discovered stone sculptures of horses with painted bridle plus further artefacts were dated to have an age of 9,000 years. Is the Arabian Asil horse the first domesticated race? We had the chance to investigate this and think it is possible. Many new research results push the time horizon further back for various prehistoric developments.

Camel Period

This began only 2,000 years ago because camels were domesticated rather recently in history about 3,000 years ago. On the Arabian Peninsula donkeys have been used before for transport. This was possible as monsoon rains created large lakes between sand dunes. Bedouins called them sabhka and they are still visible today as white dusty areas. It is assumed that camels were domesticated for the important transport of incense.

And surprisingly two different camels were bred. A little camel with smaller foot print to better manage the narrow and stony mountain trails. And a big camel with larger feet not to sink too deep into the sand. A bigger hump could store more water and longer legs increased the step length and reduced energy consumption. These camels could master a daily desert caravan stage of fifty kilometers.

Sahara Geology

To better understand Sahara maps here are some helpful explanations. The plateau like stone and rock deserts are called hammada and cover seventy percent of the Sahara. The sand dune areas of which ten large deserts exist are called erg, edeyen or iguidi and make up twenty percent. The remainder ten percent are pebble and rubble deserts named serir or reg. Mountain areas are defined as adrar, tadrart or tassili. The valleys are labeled oued, wadi, kori or enneri.



Many Languages

The different designations result from the many used languages. Today about 200 languages are used in the vast Sahara region. They are spoken by many different tribes and ethnic groups. In the whole of Africa more than 2,000 languages exist. 14,000 years ago, with the beginning of prehistoric rock art certainly they were much less. But then no script existed yet. The first script was used only about 5,000 years ago and developed in the Near East. Certainly, it took time to arrive in Africa and the Sahara.

Therefore, only a few engravings have been added with inscriptions. Tifinagh is one of them. It is a Tuareg script but with Berber origins. It can be read by Berber scholars. But as it is an ancient form, they do not understand it's meaning. It is assumed it developed in Libya from the Phoenician alphabet. Many of the signs appear familiar to us from script we have seen on the Arabian Peninsula. There we have investigated a dozen old scripts inclusive Bedouin wusum.

Rock Art Areas

Mountains have been holy places and residences of gods and ghosts for our ancestors. Mountain springs were the source of vital water and rock overhangs were used as protecting camping sites and caves as ritual locations. These sites including exposed cliffs were used for engravings and rock paintings.

The most important mountain massifs are the Atlas in Morocco and further south in Algeria Tassili n-Ajjer, Tassili Hoggar, Tassili Immidir and Tadrart Acacus. In Libya they are the plateaus of Messak Settafet and Mellet both situated close to the Algerian border. In the east of Mali it is Adrar Ifoghas, in Niger



Air and in Chad they are Tibesti and Ennedi.

Tassili-n-Ajjer

This sand stone mountain range in southern Algeria close to the Libyan border is 500 kilometers long and famous for its over 300 impressive natural arches. The highest mountain raises over 2,000 meters. The discovered rock engravings belong to the early period and are around 10,000 years old. Have a look at these remarkable buffalo and wild animal images to get an idea of the amazing rock art skills of our ancestors. Over twenty important rock art sites exist here like: Jabbaren, Ozaneare, in-Aouanrhet, Ralan-Rala, Tan-Zoumaitek, Tamrit, Tissoukat, Sefar, Tikoubaine, Ti-Leh-Leh, Ti-n-Ben-Nour, Abaniora, Iheren, Tahilahi, Oued Djerat and Tanguet. The area was declared early as national park and 1982 as world heritage site and later also as nature reserve.



Hoggar Massif

The highest peak of this volcanic massif is nearly 3,000 meters high. This huge region in the south of Algeria close to the Niger border is as large as France and lies southwest of Tassili-n-Ajjer. Uncounted rock paintings and engravings were discovered here. The area was inhabited until 8,000 years ago. After more arid conditions began people moved into fertile oasis areas and to the Mediterranean coast and Nile delta. Tamanrasset is the most famous town and important oasis with 90,000 inhabitants and a magnet for many Sahara tourists. Famous for its rock art is also Wadi Igharghar which runs several hundreds of kilometers through Hoggar.

Tassili Immidir

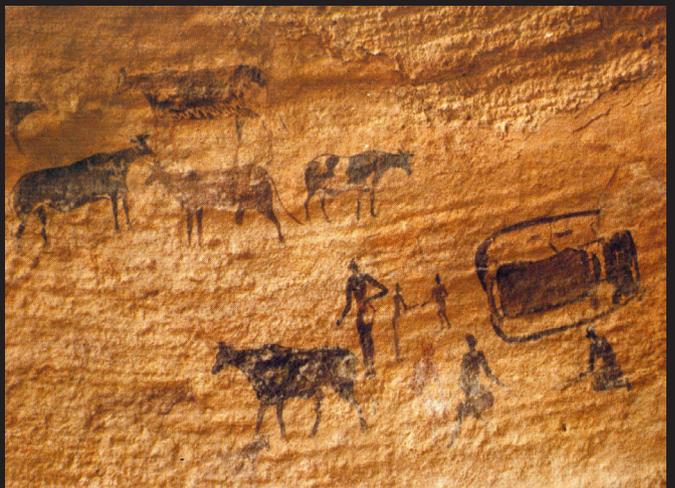
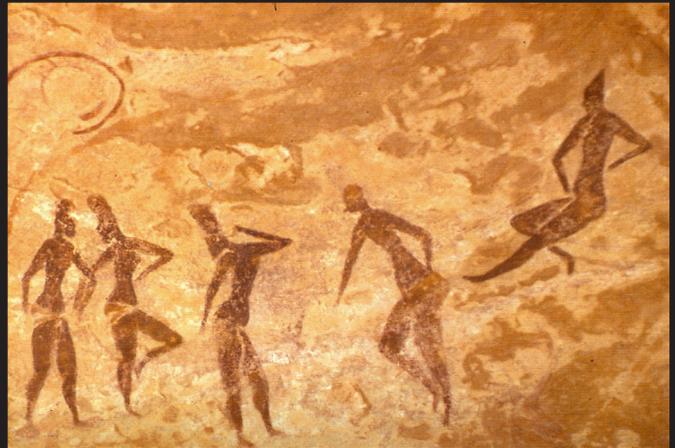
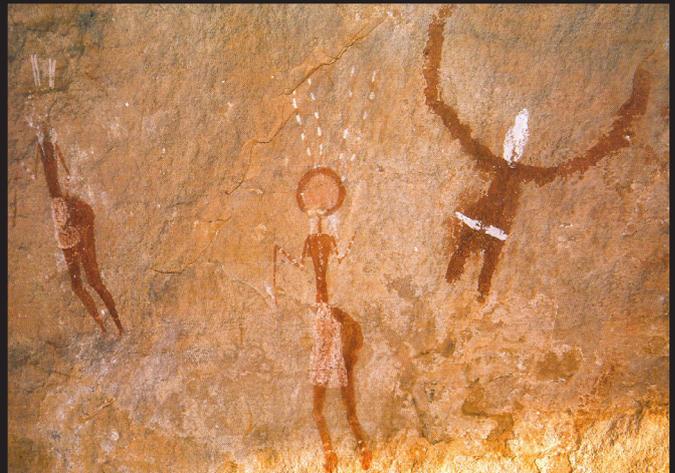
Situated west of Hoggar this mountain range is not very high and also called Mouydir. Its mountains do not surpass 500 meters in altitude. Its narrow valleys offer shade, water holes and small lakes so that still today animals gather here for drinking. To the most famous rock art sites belong: Ekaham-Oua-n-Telokat, In-Aglim, Oued I-n-Tekaratin, Oued I-n-Teral und Tafarakrak.

Tadrart Acacus

This small range lies in the southwest of Libya along the border with Algeria. Archaeologists have documented thousands of engravings which belong to all five periods being created over 10,000 years. Unfortunately, many have been destroyed by jihadists in 2014. In some caves motives such as elephants and water buffalos have been found, which confirm a wetter climate at that time. The area has been elected as UNESCO world heritage site in 1985 already. In its south lies the town of Ghat from which the area can be well explored.

Messak Settafet & Mellet

This mountain range is situated in the south-east of Libya and east of Tadrart Acacus. Here our ancestors only created engravings but they include all five periods from 12,000 to 2,000 years ago. To the most famous count over twenty sites: Wadi Tekniwen, Wadi Adro, Wadi Iser, Wadi Alamas, Wadi Beddis, Beddis Iser, Wadi Eghaghar, Wadi Takbarkabort, Wadi Ti-n-Ainessis, Wadi Ti-n-Iblal, Wadi Tilizaghen, Matkhendush, Wadi Tiksat-in, Wadi Imrawen, Wadi Meseknan, Wadi In-Aramas, Wadi In-Hagarin, Wadi Tiduwa and



Ti-n-Sharuma. Various other sites situated around the town of Germa which is center of the historically important Garamantes tribe.

Air Mountains

Situated in the north of Niger its peaks reach 2,000 meters. On its southern border tourist stopover in the famous town of Agadez. In the northeast one has to cross the huge Tenere desert. To the list of prehistoric rock art sites belong: Adrar Bous, Kori Mammanet, Kori Tagueit and Tagalagal. Not to forget one of the most important excavation sites for dinosaurs skeletons Gadoufaoua.

Rock Art Techniques

There are areas where mainly engravings or paintings have been created. Only few sites have both forms of depictions. Paintings were only possible where colors could be mixed from natural pigments found. Few engravings were done on hard rock. But softer sand stone was an ideal working surface for our ancestors.

Engraving Techniques

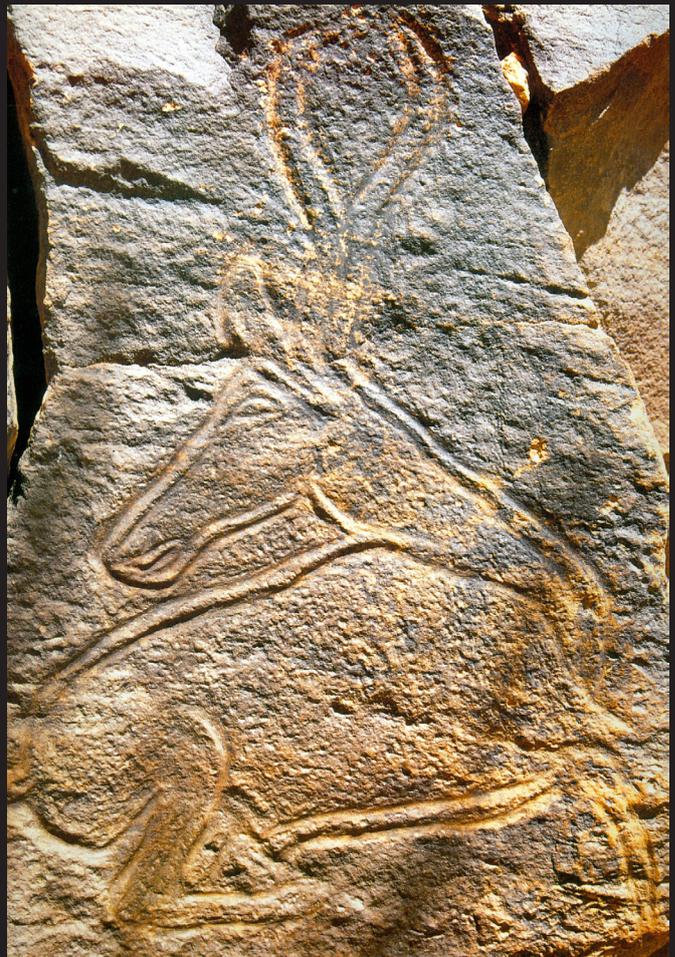
Four different techniques were used and partly combined. With direct picking using a hand axe rough lines and spaces were engraved. Precise lines were done through indirect pecking with two tools a hammer and chisel.

Through forth and back scratching with a sharp scraper deeper and smooth lines of animal bodies were worked out. Using various scrapers at an angle created deep reliefs with lines having a perpendicular and a flattened side which increased the impression of the relief image.

The body spaces were either left natural or were covered with slight picks to give the impression of animal hair or fur. Often the bodies were elaborately polished blank to produce a different color and shiny reflection with sun shine.

Painted Motives

Painted motives were smaller compared to engraved images and were created in red or white. Red was produced using ochre and white with lime or dust from grinded shells. It is interesting that painted motives were done in a much finer way with many details such as hairdo and clothing. Human images from the round head period were mostly painted poly-



chrome and bodies fully painted out.

Engraved Motives

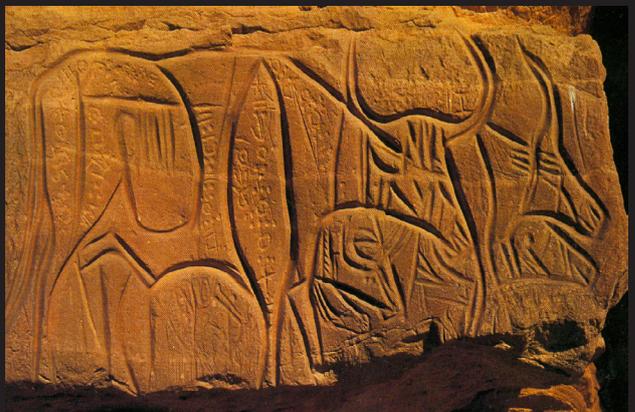
Our ancestors depicted animal species as they roamed in different areas of the vast Sahara depending on the existing climatic conditions during the respective periods. The earliest engravings were created 14,000 years ago when a wet period set in. The animal images can be divided into two groups herbivores and carnivores. To the first belong giraffe, elephant, hippo, rhino, water buffalo, aurochs, zebra, ibex, various antelope, wild donkey, wild boar and various ape species. The list of carnivores include lion, leopard, cheetah, hyaena, jackal and crocodile.

Later the motives included also domesticated species like cattle, sheep, goat, hunting dog, horse and finally camel. The latter two were also depicted with riders. All motives were shown in profile mostly with two front and hind legs. But the head or horns are slightly turned so that both horns can be seen. Horns seemed to have been important to our ancestors because they were always engraved in detail and rather elaborate. Some images give the impression their creators have exaggerated the size of horns on purpose.

Animal Species Details

One of the common animal images in prehistoric rock art are those of buffalos. This included aurochs and an ancient larger African buffalo which both died out about 5,000 to 4,000 years ago. From the latter the smaller modern African buffalo developed. Often engraved species can only be distinguished by their form of horns. The aurochs had huge horns up to 150 centimeters long. Going horizontal to the side and then ninety degrees upwards they look impressive.

Interesting are different horn forms like those parallel going up and then bent forward which gives the impression like a unicorn. We have seen very similar pictures in Wadi Dam near Tabuk on the Arabian Peninsula. But these are much older. Some experts believe that the old buffalo did not die out because of changing climatic conditions. He became extinct through over hunting as he was the favorite prey of neolithic hunters at that time.



Both rhino species black and white were engraved here. But they can be distinguished by their head size and position. White rhinos are grazers with their larger head on the ground. Black rhinos feed from bush leaves with their heads raised. White rhino horns are with 100 to 150 centimeters longer than black rhinos.

Further Animal Species

From the range of antelope images both painted or engraved we have recognized eland, hartebeest, oryx, gazelle, bushbuck and sitatunga. Rare are reptiles such as lizard and snake. Same for birds like crow, bustard, owl, and various water birds. Not to forget ostrich which was important to our ancestors for three reasons. Its huge eggs with a volume of a dozen chicken eggs were an important protein supplier. The egg shells were used as water containers at a time when pottery did not yet exist in the Sahara. A rock art image shows the plucking of ostrich feathers. These were used as hairdo or clothing decoration. Finally, ostrich meat is healthy and this was already known to our ancestors. The repertoire of prehistoric rock art also included fish and hare which were also consumed at the time.

Motive Size

The largest engraving of a giraffe is over life size with eight meters. It was found in the Djerat area near the town of Illizi in the south of Algeria. Further large giraffe images were created 100 kilometers north of Agadez near Dabous. An elephant image is nearly five meters high which again is about one meter higher than its life size. The smallest motives measure only five to ten centimeters. But on average engravings are half to one meter high. Paintings are normally smaller than engravings.

Human Figures

These are surprisingly detailed and show varied and rich ornamented clothing. Most of the figures are painted and survived well under rock overhangs or in caves. Painted human figures are smaller than engraved ones and animal depictions. The normal size ranges from ten to eighty centimeters. Most figures are standing alone, two together or in small groups distributed over the painted rock panel. Some images show two sit-



ting persons around a fire or work place. It is difficult to distinguish if sitting persons are male or female. The gender distribution is even on image compositions except for hunting scenes. Dancing scenes are also to be seen and in two images we discovered very expressive dance poses. The typical adoring position with raised arms is also not missing. Female figures often are depicted with larger buttocks. This is common to prehistoric rock art on all continents.

No Specific Persons

Experts established that human figures never are intended to represent a specific person like tribal chiefs. They were depictions with a specific meaning like staging a hunt or dance rituals including shamanic procedures and ceremonies. Therefore, some figures have no heads or only minimal indications thereof like a simple thin line. But the rest of the body has been painted very realistically and in detail. The missing heads are no sign of lack of talent to paint them. That was certainly not the case.

Richly Decorated Clothing

The clothing helps to indicate the various ethnic groups. We see nearly naked persons



as well as half or fully dressed figures. In most cases the upper body is uncovered. A loin cloth in various forms seems to have been the typical Sahara clothing. Another clothing item in use is the half long or long skirt. On one picture we see a group of two men and women. The men wear a knee long skirt possibly made of leather bound around the waist. The women wear a long dress slitted on the side. Of interest are the clearly to be seen laced up sandals.

Living Condition Influence

At the time of pastoral shepherds, the figures were depicted with richly ornamented long clothing. These shepherds are holding various cattle on leashes. Some seem to carry a saddle with ornamented saddle cloth and even a saddle spar. These attributes we have not seen anywhere so far. Possibly because our ancestors gave up creating rock art in other parts of the world about 3,000 years ago due to changing climatic conditions or beliefs.

Jewelry, Bodypainting & Tattoos

Some images show complex necklaces, arm and ankle rings and rich hair decorations with feathers and pearl like colored strings. And wide variety of body paintings are part of clan and tribal signs and belonging.

Tattoos are also to be seen. These were used to improve the immune system and reduce pains. This has been proved for the tattoos of the ice man. This body was found in the Italian alps over 25 years ago and dated to be 5,300 years old.

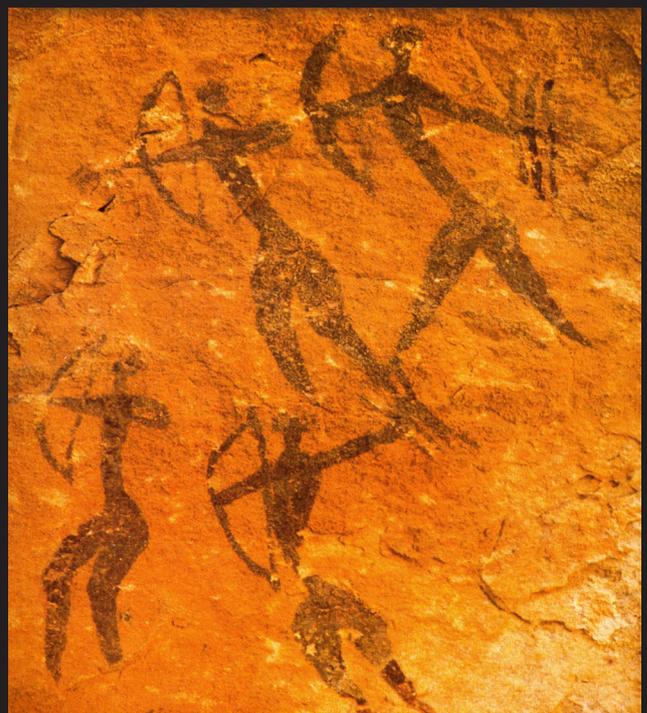
Anthropomorph Figures

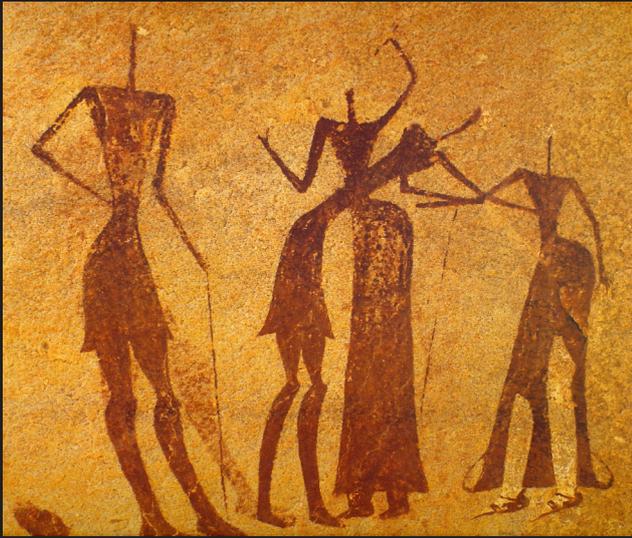
We have already spoken about shamanic trance dances and other transformational rituals. These were common at the time and still today in the whole of Africa. Therefore, it is not surprising that mix creatures of man and beast were created in prehistoric rock art. And both types exist of human body with animal heads or vice versa. These so-called zoomorphic or anthropomorph figures play an important role in various rituals for example for healing, contact to gods, ancestors or underworld and ghosts. Many of these mixed creature engravings are found in the Messak area in Libya.

Human Animal Interaction

There are either hunting or herding scenes. Most are painted compositions. Normal prey

in ancient rock art are middle sized animals not the large herbivores like elephant, hippo or rhino. The hunter clans were at the time smaller family groups. Hunting larger prey created a problem of meat conservation. But much more important was the fast cutting up and transport of meat not to attract dangerous carnivores. Hunting dogs are also depicted together with men. They had a dou-





ble function as chasing dogs and protection against lions.

Weapons Used

At that time bow and arrow were the common weapon as well as troughing stick in form of a boomerang, spear and even harpoon for fishing. All these weapons can be seen in the images. Hippos were hunted in the Nile area, but in the Sahara region no such depictions do exist. So, it can be assumed that hippos were not hunted here. Possibly they were a kind of totem animal with a ritual importance to represent a divine power and giving hunting luck. This might also be true for elephants.

Rock Art Specialties

In comparison to other sites, we noticed that in Sahara rock art animal feet and hooves have been engraved and painted very much in detail. In addition, the creators of certain elephant, hippo and rhino depictions have included skin folds at the right places where they appear with movement. On the other hand, eyes, ears or heads are sometimes overproportional larger. Of interest are the mother child images of elephants, hippos, buffalos and crocodiles. Many of these are life size. It is noticeable that only few images of plants do exist. Does this prove an early desertification?

Late Rock Art Start

If Africa was the cradle of mankind and the first walking upright human species developed on this continent than the most important question is. Why were the first engravings created here only 30,000 years after those in Europe? The time sequence and

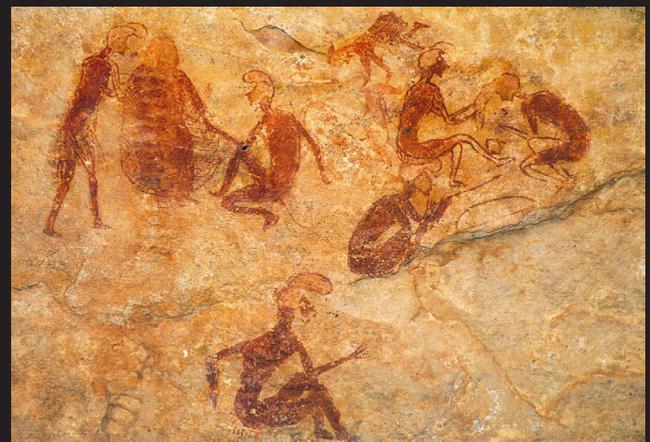
happenings should be the other way round. A scientifically founded explanation does not exist. But let's look at the facts. The different climatic and living conditions in both continents might give an explanation.

Time Factor

In Africa the hunter and gatherer clans were permanently on the move. Their prey were wild animals and hunting them took much time. In Europe our ancestors lived to eighty percent from easy reindeer hunting which existed in large herds. Nevertheless, they had to protect themselves from mammoth, bison, woolly rhino, cave bear and lion. The clans used protected seasonal camps under rock overhangs and cave entrances. Therefore, the time factor allowed them to create images on rock surfaces. Experts established that carving a simple animal figurine out of mammoth ivory took 20 hours. For the famous large lion man figure one man needed even 400 working hours.

Climate Factor

As second important factor we see the different climatic conditions. The different ice age periods in Europe gave our ancestors



passing the long winter time in caves enough time. Firstly, to carve beautiful figurines out of mammoth ivory and secondly for ritual purposes paint images on walls mostly at the deepest end. In Africa they only started to engrave and paint on rock surfaces after the Neolithic Revolution arrived from the Near East finally in the Sahara region. This changed their living conditions and tribal population grew rapidly. Social structures became now important with rituals and beliefs in higher powers.

Summery

The prehistoric rock art in the Sahara does not belong to the oldest examples of human created images. Nevertheless, it is most interesting because of its many detailed and skillfully engraved animals and human figures. Despite the changing climatic conditions which influenced our ancestors in their work we are surprised by the wide range of motives. Like at many other rock art sites worldwide similarities exist but also unique creations. We are always impressed by human depictions because they can tell us a lot about our ancestors. In the Sahara region the ethnic mix of light and dark-skinned groups with different clothing styles and hairdo is amazing and unique. In some scenes one can see how hunters and gatherer clans became step by step pastoral shepherds and farmers. Unfortunately, there is not the same amount of literature available for the Sahara rock compared to other continents.

References

For your better understanding of prehistoric rock art, we propose to read the following articles on this website:

Sahara Rock Art (first article on this topic), rock paintings: Bushman Rock Art (in South Africa), Introduction Saudi Arabia cave paintings in Europe: Chauvet, Lascaux, Altamira, Cave Painting Styles, Human Depictions, Development of Mankind, First Arab Script.

We recommend also the following literature:

Yves and Christine Gauthier, Alain Morel, Thierry Tillet, L'Art du Sahara, Archives des Sables, Seuil Paris, 1996, ISBN 2-02-029754-X and Bruno David, Ian McNiven, The Oxford Handbook of The Archaeology and Anthropology of Rock Art, Oxford University Press, 2018, ISBN 9780190607357

