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## WADI ZREIDA — A NORTH-FEZZANESE ROCK-ART SITE\*

**ABSTRACT.** — *The paper deals with the rich rock carvings and engravings in Wadi Zreida in northern Fezzan visited four times by the author in 1977–1982. The site is a contact locality of the south-eastern or “Sudanese” style and of western bovidian influences. The earliest engravings are interpreted as a local style of the pre-pastoral period with religious ceremonial meaning. The paper interprets also several examples of other local rock art complexes.*

Wadi Zreida is situated near the village of Gira, 15 km east of Brak, a Fezzan oasis. The wadi with its rock art sites is some 1000 m long and is oriented in the north-to-south direction. In its central part we can find late Acheulian stone tools scattered on the surface; most of them are of clactonian technique. In three other places we can find Neolithic sites. The first site is situated in the central part of the wadi on a sandy terrace on the eastern side of the valley, 2 m above the river-bed (Fig. 1).

The stone tools found here are mostly made of local material, but also of chalcedony and chert. Some are of microlithic type. The second site is situated outside the wadi on a flat plain. Once it was a workshop. We found here mostly flakes, broken pieces, but no finished tools. The third locality, a living site, is at the northern end of the wadi, some 8–10 m above the river-bed on a small circular plateau (Fig. 2).

The distribution of engravings and paintings



FIGURE 1. *The neolithic site situated on the gravel terrace in the central part of Wadi Zreida.*



FIGURE 2. *Neolithic living site at the northern end of Wadi Zreida.*

illustrates also the chronology of the local rock art. In the river-bed proper we can find only engravings belonging to the youngest period, namely some pecked pictures of ostriches and giraffes, often accompanied with tiffinaq inscriptions and with primitive pictures of horses and camels. We do not find so low in the wadi engravings of cows or wild animals, such as antelopes, elephants, rhinos, etc. The latter are situated on the rock walls higher up, on both sides of the valley (Fig. 3).

The southern end of the wadi starts with low rock walls often desintegrated into boulders. Here we can find mostly pictures belonging to the youngest

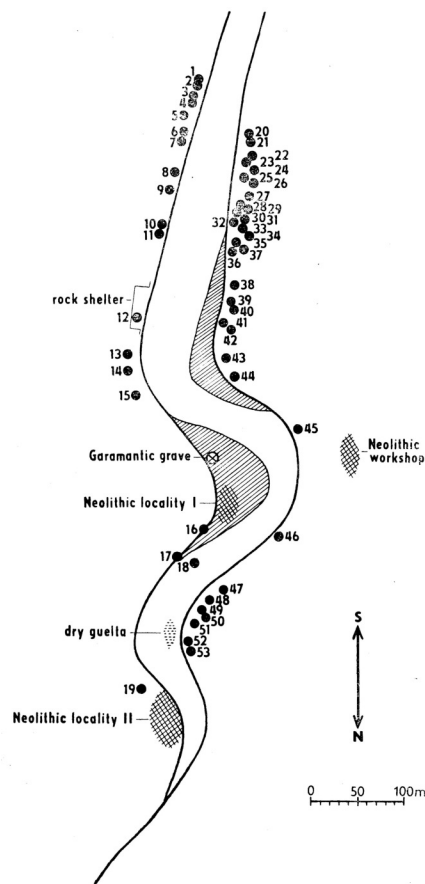


FIGURE 3. Wadi Zreida situation with its rock art and with neolithic sites.



FIGURE 4. Poor engravings of a horse mounted hunter chasing an ostrich, of human and of other animal figures. They are of the camel period, only the giraffe figure is older (horse period).

group. In the central part of the wadi the rock walls are higher, in some places forming huge cliffs of 30 m or even higher. On the eastern side there is a large rock overhang, a place suitable for living shelter. On the opposite bank of the creek there are clay sediments that might contain valuable stratigraphic evidence. The northern half of the wadi is narrower and deeper. At its end we can find several big boulders in the river-bed. There is also a deep hollow, originally the deepest waterhole of the wadi. Rich engravings on the western rock wall indicate that this place was one of the favourite living sites of the area. Close to it there is a site with Neolithic stone tools.

Today the vegetation is limited to the wadi, we can find here only a few acacia shrubs and low trees. Outside the wadi there is a barren black plain covered with rocks.

#### DESCRIPTION OF THE ROCK ART

If we start from the southern end of the eastern side of the wadi, we find simple engravings of camels, horses with riders and several pictures of

giraffes dispersed on the boulders. There is an uaddan figure (Saharan wild sheep) and a horse-mounted hunter chasing an ostrich (camel period. No. 1). A simple human figure in standing position (camel period) is 30 cm high, while the giraffes are 48 and 45 cm (horse period) high (No. 2). Next to them there are several engravings of poor quality, representing camels and an ostrich (No. 3). (Figs. 4, 5). Adjoining them is a simple human figure, some tiffinaq inscriptions and several poor pictures of horses with riders (camel period. No. 4).

No. 5 A poor picture of a giraffe and of a camel. They are contemporaries as indicated by their position and by the degree of weathering (camel period).

No. 6 Inscriptions in Arabic.

No. 7 A human figure, two wheels (probably symbolizing a cart) and dogs. The style, weathering, as well as the subject show that the pictures are very late (camel period).

No. 8 Human figure and giraffe (pecked). Horse period.



FIGURE 5. Horse and camel figures, uaddan, bird and giraffe (camel period).





FIGURE 6. *Cattle paintings of the bovidian period.*

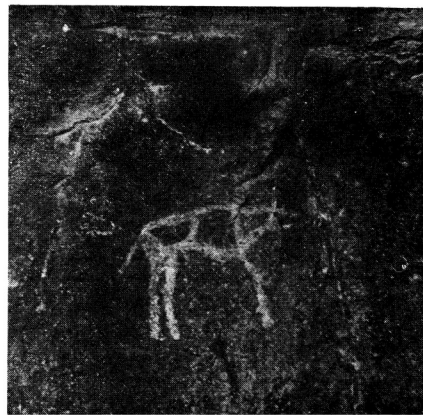


FIGURE 7. *Another cattle painting of the bovidian period.*



FIGURE 8. *Badly weathered sheep paintings (bovidian pastoral period).*



FIGURE 9. *Badly weathered bovidian paintings of cattle and human figures with animal heads.*

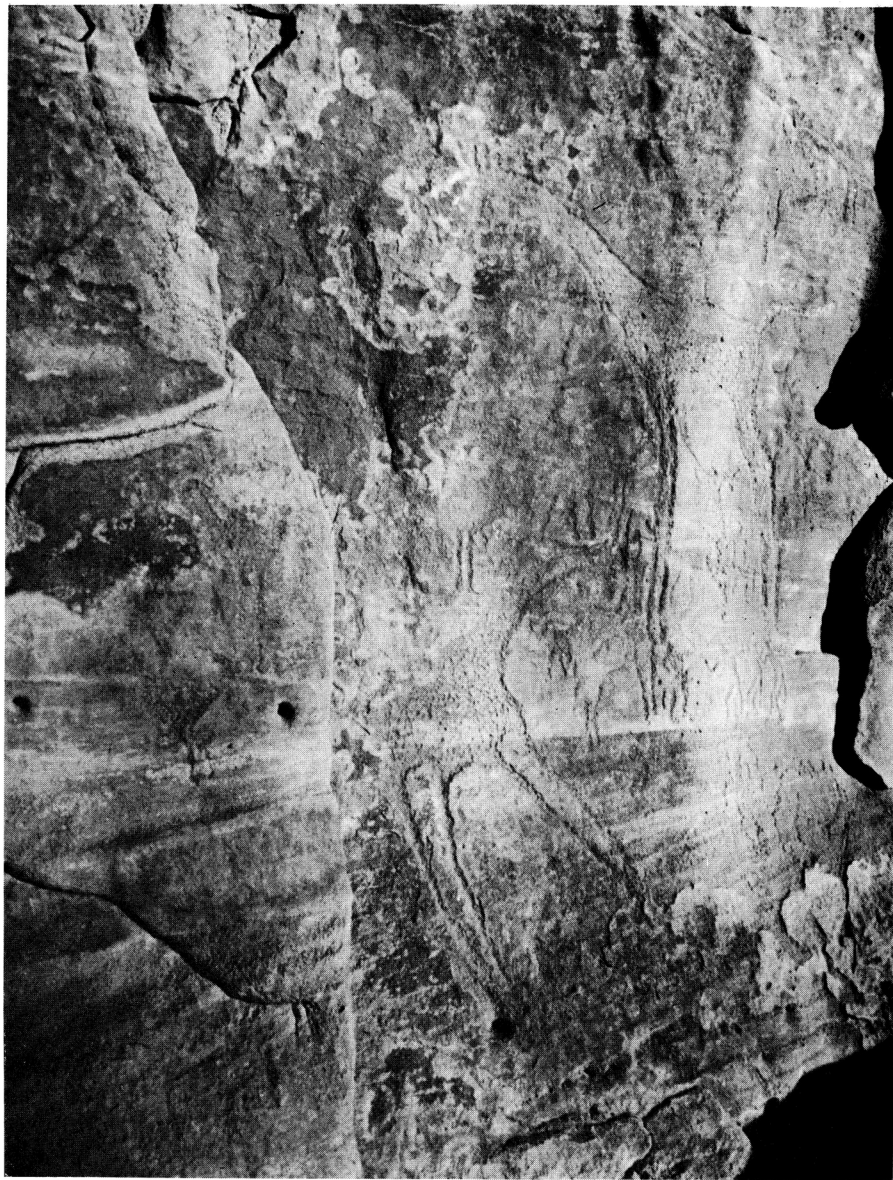


FIGURE 10. Engravings of two giraffes and other animal and human figures (pastoral and horse periods).



FIGURE 11. Detail of the above figure showing human and animal figures covered by later engravings of two large giraffes.



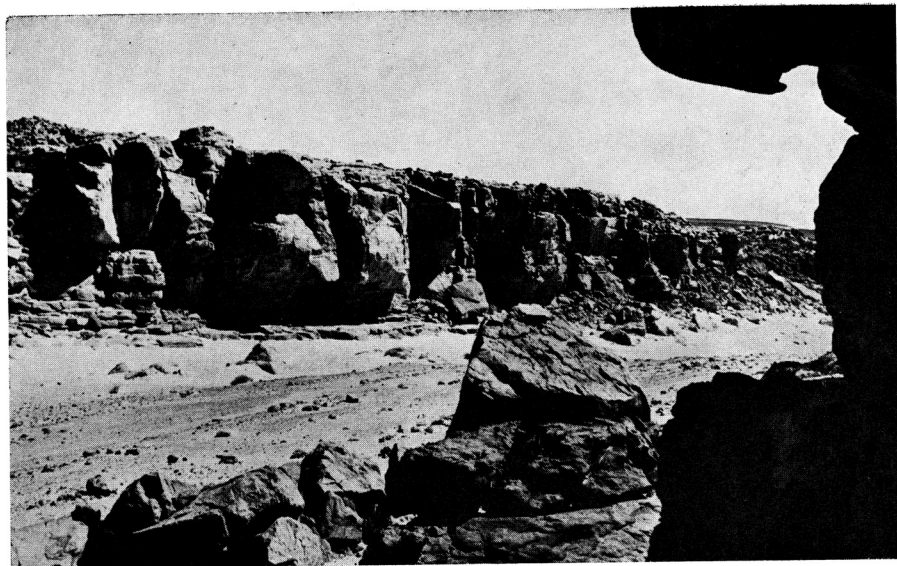


FIGURE 12. Central part of the wadi with high rock cliffs with overhangs.

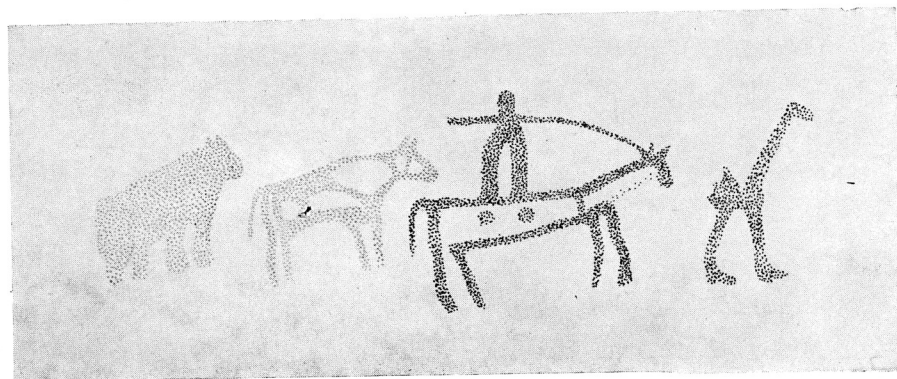


FIGURE 13. Pecked hyena (horse period) and antelope figure (bovidian period) and a horse man and ostrich (camel period).

No. 9 60 cm large engraving of a giraffe with an engraved design inside the body (horse period). In front of the animal there are seven human figures measuring 15–18 cm in height, some of them with raised arms. The first human being has a tail, forming part of its costume (pastoral period with some archaic characters. Earlier than the giraffe).

No. 10 Further to the north there are two pecked giraffes, the first of them is 60 cm high (horse period).

Higher on the same rock wall there are remains of rock paintings. We find here seven cows painted in red, yellow, white and orange. In some cases the colour has turned white through oxidizing. The cows — measuring 16–18 cm in height — have their horns characteristically curved forward. There are several sheep painted on the same rock wall. They are 20–24 cm long. We can see also some human figures in dynamic positions, some with animal heads. This complex painting originally covered a rock face measuring more than 15 m in length. The whole style, the subject of the painting, the colours used and the size of the figures indicate that it belongs to the Neolithic bovidian pastoral population, whose paintings abound in Acacus and Tassili (Figs. 6, 7, 8, 9).

Together with these paintings we found the engravings of two giraffes and several small human figures below one of them.

No. 10 The giraffe with the human figures below it is 75 cm high and its forelegs overlay an earlier cow (antelope) engraving (Fig. 10). The male figures are 13–14 cm high and wear costumes with tails. They hold various implements in their raised hands. They are of the pastoral age the same as the cattle figure. The giraffes were a later addition probably of horse period. The detail demonstrates that the bovidian bovid figure has lyre shaped horns (Fig. 11). The legs of the giraffe are engraved over the bovid neck.

No. 11 Several simple colour paintings of cows dispersed over the wall. Pastoral period.

We shall now proceed to the big rock overhang. On its floor there is a flat stone with 5 artificially hollowed stone cups in it with a piece of red haematite. On the wall above it we can see red and white paintings of geometric signs. They may be remains of a tiffinaq inscription, exceptionally not engraved but painted with colours.

No. 12 Above the big overhang there is a rock wall with a simple engraving of a cattle figure and of an ostrich (measuring 56 cm). Horse period.

No. 13 Further to the north, high on the slope, there is a 20 cm large engraving of an animal with characteristically sloping back and without tail. This pecked picture seems to represent a hyena, an animal very rarely appearing in the rock art (Fig. 13). The hyena engraving is later (horse period) than the neighbouring cattle figure (bovidian). The figure of a horse man chasing an ostrich is of camel period age. Lower on the rock face there are two simple human figures and one animal figure. The first human figure is in frontal view, it measures 19 cm and it has a tail. Horse period.

No. 14 Next we can see remains of paintings in poor state of preservation. In fact we can recognize only the colour, without the outlines of the figures.

No. 15 Engravings of three antelopes. Horse period.

When we continue further to the north, we reach a sandy gravel terrace 2 m high above the river-bed. At its southern end we find a small stone mound, a Garamantic-type burial. In the central part of the terrace there are numerous Neolithic tools, indicating that once there was a Neolithic living site here. At the northern end of the flat terrace there is a boulder with late pecked figures and with Arabic inscriptions (No. 16). Camel period.



FIGURE 14. Engraved giraffe figure situated on the flat boulder in the river-bed (horse period).

No. 17 A simple cattle engraving. Horse period.

No. 18 On a flat boulder in the river-bed there are two kinds of engravings — the younger are represented by the engravings of a horse and of an ostrich, while the older by two giraffe engravings. One of the giraffes is fully pecked and its length (head-to-tail) is 65 cm (Fig. 14). The other giraffe is 45 cm long (head-to-tail) — with a body design.



FIGURE 15. Other engravings with the ostrich waving its wings (camel period).



FIGURE 16. An ostrich, human figure, antelope and other engravings of the horse period.

Horse period. The ostrich (20 cm high) is waving its wings. The engraving of the ostrich is very late, it is contemporary with the simple horse engraving aside (Fig. 15) (Camel period).

No. 19 Late engravings of cattle found near the third Neolithic locality (living site). Camel period.

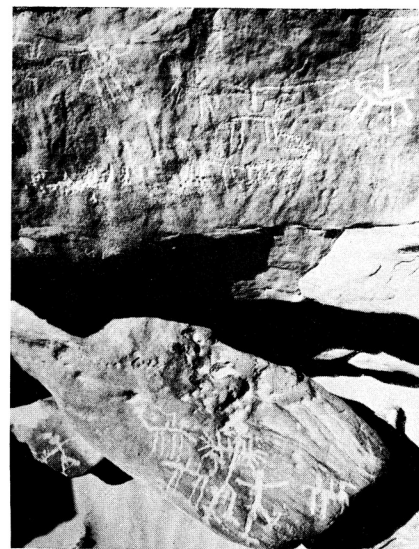
If we return to the southern end of the wadi and start surveying its western side, we shall find the following engravings:

No. 20 A 36 cm long engraving of a rhino (?) in very poor state of preservation (compare with similar engravings in the northern part of the wadi, No. 52). Probably pre-pastoral period.

No. 21 A group of late simple engravings.

No. 22 A group of cattle figures. The finest of them is 20 cm long. Bovidian period.

No. 23 A group of an ostrich, of a human figure and antelope (20 cm long) engraved over earlier engravings — the latter in very poor condition. Horse period (Fig. 16).



FIGS. 17, 18. Fighting scene with five horse riders. Note the type of saddles (horse period). Left down is an Arabic inscription and right down an antelope (camel period).

No. 24 A fighting scene with five horsemen. The principal figure of the group, a rider with his horse, is 17 cm long. Note the characteristic saddles of the horses. Several other human, horse and antelope figures in very rough style are situated on the rock wall and on the boulder nearby. Close to the fighting figures there is an Arabic inscription. On the same rock wall there are some older engravings, mostly of cattle. They are in a very poor state of preservation. Camel and horse periods (Figs. 17, 18).

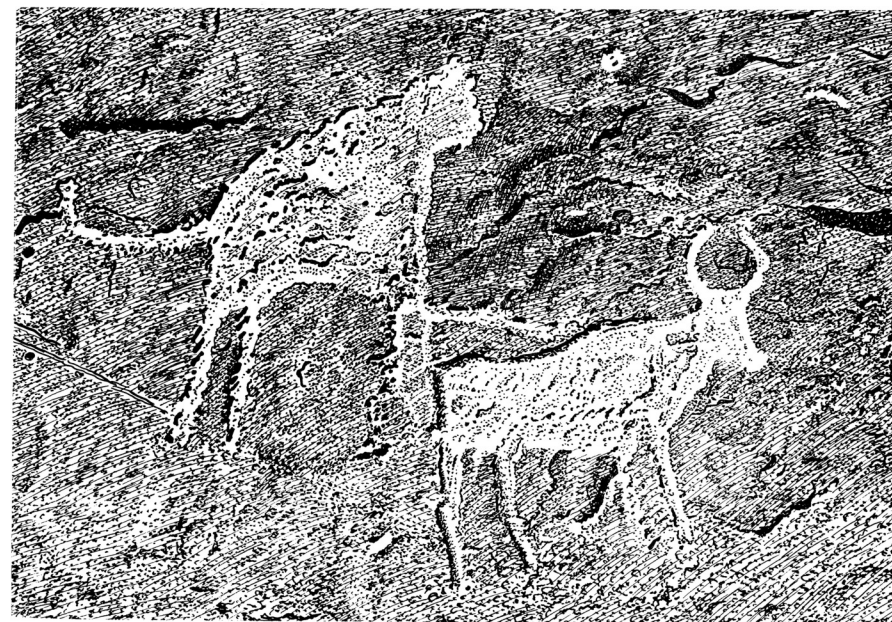


FIGURE 19. Pecked figures of a lion and a bull (horse and bovidian periods).



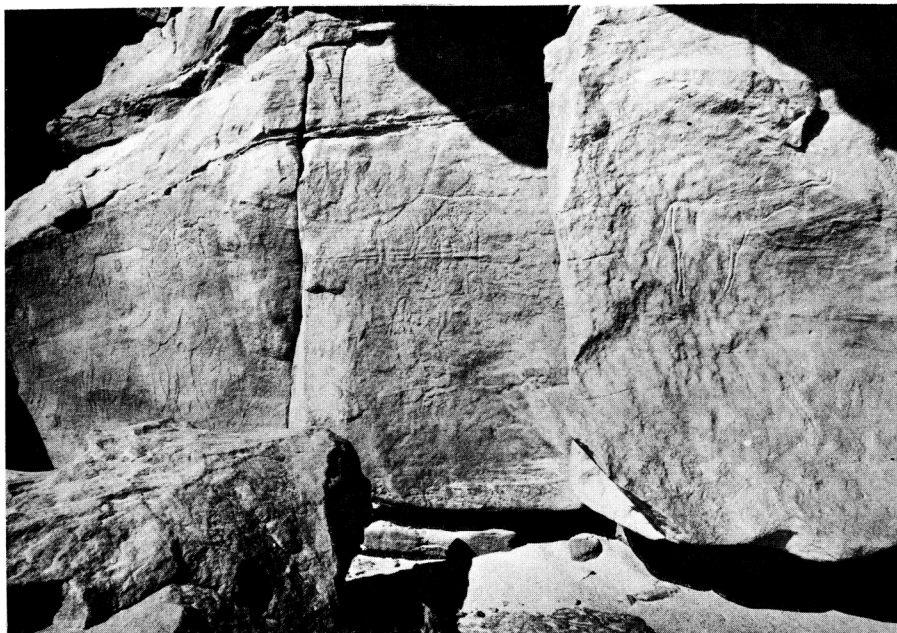


FIGURE 20. Three rock faces with engravings.



FIGURE 21. Figure of an antelope (bovidian period).

No. 25 A lion (30 cm long) and a bull. The lion is pecked and has a characteristic short head and long tail. It is younger than the bull and not so well executed. The bull is of the same type, size and form as the bull paintings of the Neolithic pas-

toral period. The legs and body are perfectly rendered. Horse and bovidian periods (Fig. 19).

No. 26 Simple engravings of camels.

No. 27 A small engraving of an antelope with a human figure standing in front of the animal. The two figures are 22 cm large (together). Horse period.

No. 28 On the three nearby rock walls (Fig. 20) we can see several engravings. A beautiful engraving of an antelope in lateral view is on the right. It measures 48 cm in length (Fig. 21). The head and the neck of the animal are roughly pecked. On the middle rock wall there are badly weathered engravings of two giraffes and of a cow. On the left rock wall we can see three weathered pecked giraffes (horse period) and higher on the same rock wall there are two cattle figures (Fig. 22). The left one, measuring 59 cm, is very well done and is partly ground. The horn of the animal is characteristically curved forward. The second cattle figure is roughly pecked and is smaller. Bovidian and camel periods.

No. 29 Simple engravings of antelope and cattle figures.

No. 30 On a round big boulder there are four ostrich figures and one antelope figure. Horse period (Fig. 23).



FIGURE 22. Two cattle and four giraffe figures. The first cattle figure partly ground is the earliest. The second cattle figure, pecked is the latest (camel period). The four weathered giraffe figures are of the horse period.



FIGURE 23. An antelope and several ostrich figures. Horse period.



FIGURE 24. An antelope (bovidian period) and two other figures (horse and camel period).



FIGURE 25. A pecked antelope with a human figure. Note the bow and the tail in the human figure (horse period).

No. 31 Badly weathered pictures of cattle, horses and camels. Camel period.

No. 32 Engraving of an antelope accompanied with two later figures (an ostrich and an antelope), both in very poor execution. Bovidian and camel periods (Fig. 24).

No. 33 A pecked antelope with a human figure, measuring 36 cm together. The man has his both arms raised and is holding an implement, probably a bow. He has a tail as part of his costume. Horse period (Fig. 25).

No. 34 Next we find a rock wall with further three antelope figures, 16.5 cm, 19 cm and 23 cm high. They are adjoined by a giraffe and by other three animals (probably other type of antelope), with a long tail (Fig. 26). Horse period.

No. 35 A semicircular symbol (24 cm large) and two antelopes. The first is 40 cm long, with characteristic horns. The second (60 cm large) has its horns joined at their points, forming thus a circular symbol, sometimes occurring also in other Saharan rock art localities. Late bovidian period.

No. 36, 37, 38 and 39. Poorly made, not quite clear engravings of animals, mostly of cattle and some human figures.

No. 40 27 cm high pecked cow figure and a human figure strongly reminding of the human figures in the paintings of the pastoral (bovidian) populations (similar to human figures in No. 9). Bovidian or horse period.

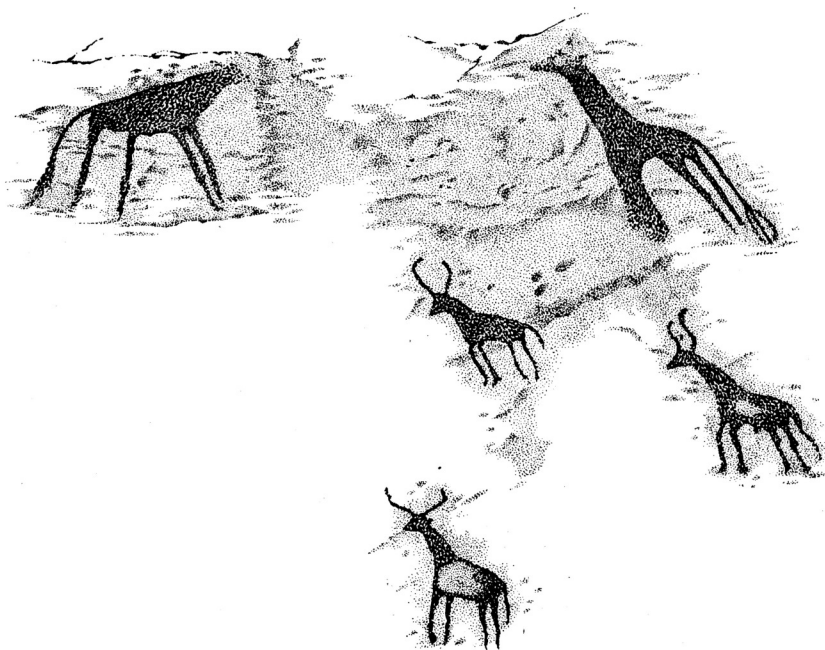


FIGURE 26. Three antelopes, three other animals with long tail and a giraffe (horse period).

No. 41 On the lower part of a rock wall there are two large engravings of different size representing two adax antelopes. Both (horse period) are well outlined and are completely pecked (Fig. 27). The left one is 102 cm long and the second measures 132 cm in length. The two engravings have been pecked over the smaller figures of other adax antelopes and cows. On the upper part of the rock wall there are two pecked cattle figures (Fig. 28). Bovidian period. Further to the right there is a group of six human figures (17–20 cm high). Pastoral (bovidian) period.

No. 42 15 metres north of the above-mentioned rock-wall (No. 41) there are the pecked pictures of two giraffes and of a man with a tail. Horse period.

No. 43 Further to the north we can find under a rock overhang strongly weathered cattle engravings with a giraffe. Horse period.

No. 44 This is a fairly big rock overhang some five metres above the river-bed. There are few weathered prepastoral cattle engravings. In the neighbourhood of the overhang we find a boulder with several simple late figures. There is a rather



FIGURE 27. A rock wall with two large adax engravings and with many other human and animal figures. The adax figures are the latest (bovidian and horse periods).





FIGURE 28. Detail of the fig. 27 showing a human figure overlaid by the great oryx horns (right down). The two cattle figures higher up are of the bovidian period. The human figures are earlier.

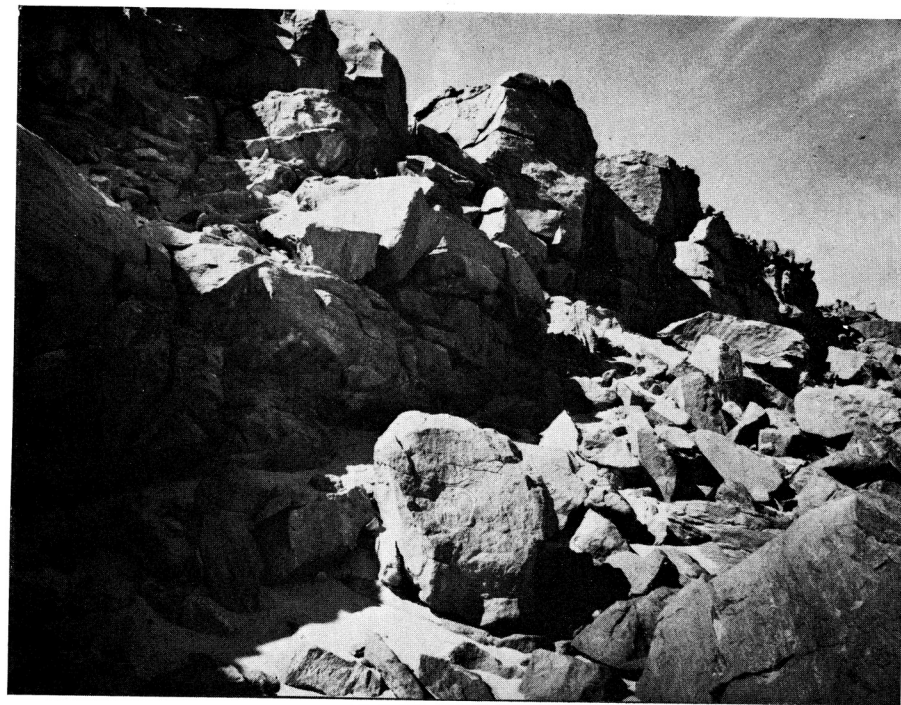


FIGURE 29. Camel period engravings situated on a boulder.

conspicuous 20 cm large circle with two animals pecked inside (Fig. 29). Outside the circle there are three ostriches and a human figure (Fig. 30). The style, as well as the absence of patina indicate that the figures are very late, of the camel period.

No. 45 Some 50 metres further to the north on a rock wall facing north, we can see a group of simple animal engravings without any patina. They picture an ostrich, a horse, cows, goats and some smaller animals (Fig. 31). These pictures belong to the horse or camel period. The ostrich figure is 27 cm long and 30 cm high, the figure of an old goat measures 42 cm, and that of its young kid is 22 cm large. The two antelopes measure 41 cm. There are altogether 12 figures on the wall.

No. 46 Not too high above the river-bed there is an isolated boulder with a pecked figure of a big and heavy animal on it; a bull (Figs. 32, 33). It is 75 cm large. Horse period.

No. 47 Further north there are some badly weathered cattle engravings. One of them, fully pecked, is 25 cm high. The other is 27 cm high. Horse period.

No. 48 On a rock wall facing south and situated in a broad fissure there are several pecked figures; a bull, an elephant and four human figures (Fig. 34). The bull figure is almost fully pecked, with a rather unusual presentation of horns (Fig. 35). The elephant measuring 85 cm has its outline, parts of legs and trunk pecked (Fig. 35). There are two different kinds of human figures. Two of them (21 and 24 cm high) are roughly pecked, similarly as the elephant (pastoral period). Both have tails and one of them holds a curved object, probably a knife, in a raised hand (compare Ziegert 1976 from Djebel Ben Ghnema). The other two figures (20 and 21 cm high) are of similar size, but they are finely engraved, without the tail and with their legs straddling. They show also signs of more advanced weathering (prepastoral period). Prepastoral—pastoral period. The elephant figure of the prepastoral period was later renewed by pecking.

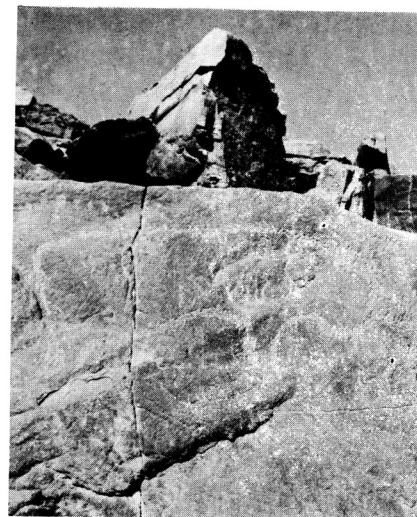
No. 49 On the flat side of the next rock there are nine animals in rich superposition. The lowest are two roughly pecked cattle figures (Fig. 37). It is quite difficult to follow their shape since they are



FIGURE 30. Detail of the camel period engravings.



FIGURE 31. A group of animal engravings probably of the horse period.



FIGS. 32, 33. Pecked bull figure of the bovidian or horse period.



FIGURE 34. The elephant with four human figures.

No. 52 Above a deep waterhole (now completely dry) there is a high rock wall rising. Its lower part is richly decorated with rock engravings. The central figure is a simple deep engraving of a 75 cm high elephant. Its legs are slightly ground. In front of the elephant around its trunk and behind its body there are two groups of human figures. All are finely engraved without tails and with their raised arms they give the picture a dramatic atmosphere. Pre-pastoral period (Fig. 41). Lower on the rock wall there are two engravings of animals, most probably of rhinos. (Pre-pastoral period.) Marginally we can see on both sides several cattle figures (6 on the right and 10 on the left side). They do not interfere with the central group of the elephant with human figures and are later in age. Some of them are pecked. The rhino figure is 50 cm long (Fig. 41).

No. 53 The last figure at the north end of the wadi is a 30 cm long pecked picture of a cow. The joined horns form a circular symbol above the head. Pastoral (?) period.

#### TOPICS AND SUBJECTS OF THE ENGRAVINGS

The subjects pictured in the studied engravings can be divided into human figures and animals. Symbols appear only exceptionally. The earliest human figures are not isolated, we find them always associated with animals. Isolated simple

in poor state of preservation covered by many other engravings. Over them are engraved the bodies and legs of three giraffes and of a cow, the latest figure is engraved over the giraffes. Three other cows are engraved in the upper part of the rock face and other two have been pecked into the lower part of the boulder. They are the latest in the superposition. The rightmost of the three giraffes is turning its head back. The whole rock face is 90 cm high and 74 cm broad. Different parts of horse period.

No. 50 Three metres above these engravings there is a group of six human figures and of three animals (Fig. 40). Some of the human figures have tails. The finest antelope figure is 28 cm long. Late bovidian or horse period.

No. 51 There is an elephant figure engraved on the neighbouring rock wall (it is 70 cm high; Fig. 38). The figure is deeply engraved, its trunk is ground. Lower on the rock wall there are three cattle figures (Fig. 39). Two of them are deeply engraved and partly ground. This method of engraving technique and the shape of the elephant signals the prepastoral or pastoral period.



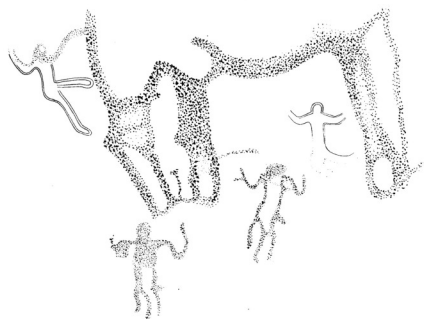


FIGURE 35. Detail of the elephant with four human figures. The two lower of them are with tails and pecked (bovidian), the other two are engraved. They seem to be earlier in age.

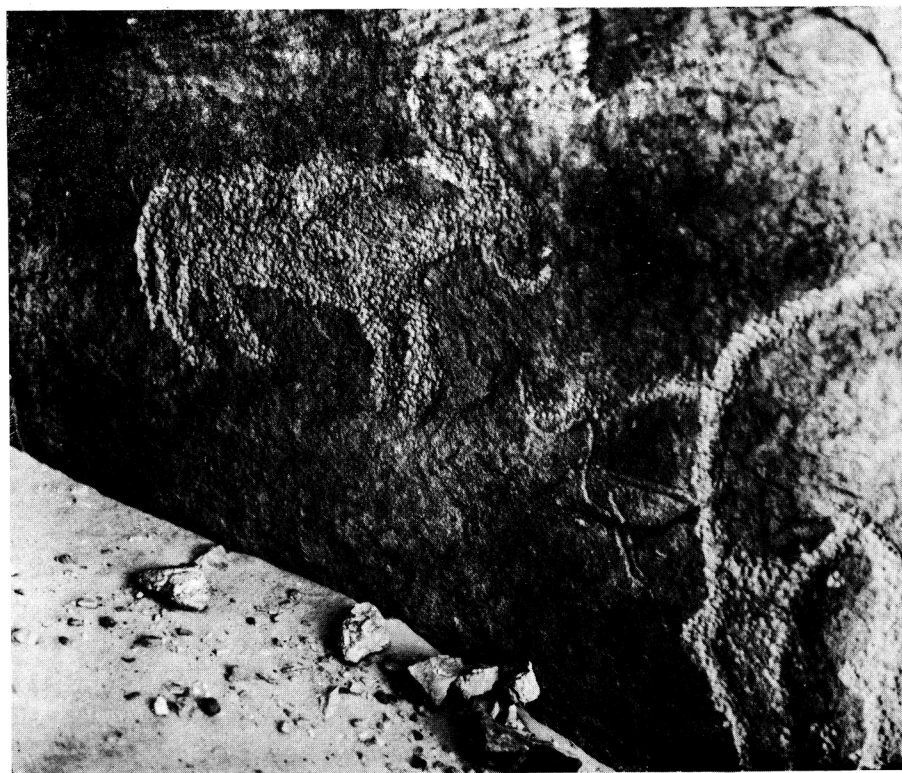


FIGURE 36. Almost fully pecked bull figure.

human figures can be found only at the southern mouth of the wadi. They appear among the latest, strongly stylized engravings. The earlier human figures are sometimes pictured with tails, forming part of a simple costume made of raw hide. Some of them are ityphalic. The hands are often raised, probably in devotion, some of them carry bows documenting their hunting character (Fig 25 showing a hunter and an antelope), and some have a throwing knife in their raised hands (Fig. 35). This is usually interpreted as a southern, negroid cultural feature. They appear both in frontal and in lateral views. We find human figures associated with elephants, giraffes, or antelopes. They cover wide time, prepastoral, pastoral and horse periods. In the latest figures of the horse and camel periods we find also horse or camel riders, sometimes in a scene. The engravings of elephant (Figs. 38, 41), together with rhinos (probably three examples) belong among the oldest prepastoral engravings.



FIGURE 37. Giraffes and cattle figures in superposition. Horse period.



FIGS. 38, 39. An elephant and three cattle figures, two of them ground. Non-pastoral period.



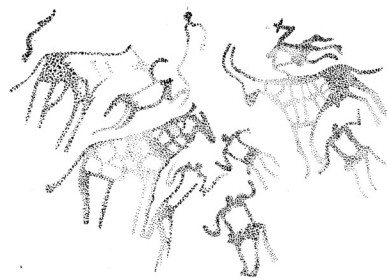


FIGURE 40. The group of six human and three animal figures. Late bovidian period.

The figures of lion and of hyena occurred only in one example. Giraffe appears often in various styles of different ages. In the southern part of the wadi there is a simple late engraving of a horseman hunting an ostrich. Some other ostrich engravings (pecked) are without doubt much earlier. One late engraving represents a fighting scene with 5 horsemen two of them shooting at each other.

Very interesting are the various cattle engravings. They cover a large span of time ranging from the prepastoral to the latest period. Most of these animals have characteristic horns curved forward, which is typical of the Saharan cattle (*Bos primigenius*) in the prehistoric period. Some of the cattle figures show body colour division, namely the body is divided into ground or pecked parts.

In one place of the wadi we found also rock paintings. They show human figures with animal heads and with herds of cattle and sheep. The antelopes, fairly frequent in the Wadi Deb-deb rock engravings, are of at least two different kinds. One is big, it is an oryx with long, slightly curved horns. The other is a horse antelope with long neck and lyre-shaped horns. Exceptionally we find among the latest simple engravings the figure of an uaddan (wild Saharan barbary sheep) with its characteristic horns.

#### THE WEATHERING

On comparing the differences of weathering in various rock art galleries and in various engravings of the same gallery it is easily understood that the degree of weathering depends on the climatic conditions, i. e. on the degree of exposure of the studied engraving to sunshine, wind and rain.

Weathering caused by sunshine. The rock faces with engraved figures are often facing north or they are situated under large overhangs offering shelter, comfortable to stay and to repose. These places are well protected against sunshine and the rock carvings in these shelters are less weathered than the carvings exposed to direct sunshine. The engravings exposed to sunshine are often black, of the same hue as the

natural rockface while engravings of the same age, but protected against direct sunshine are not so dark in colour, compared with the natural rock surface they are in most cases lighter.

Wind weathering, in most cases combined with erosion caused by sand raised by the wind is more advanced in carvings situated low above the floor than in rock carvings situated higher on the rockface. This type of erosion is not accompanied by any colour change, it results in a slow corrosion of the rock, making the rock carving less distinct in the first stage and eroding it completely in a more advanced stage.

Rain water or surface water is a most destructive factor causing the defoliation of the rockface with the engravings and destroying them completely. Fortunately rain is very rare in Fezzan, that is why I put this destructive factor on place No. 3.

Of course there are also some other factors contributing to the weathering process (e.g. the day-night temperature changes, mineral chemism, etc.) however, the three principal factors demonstrate that weathering can be used only as a relative dating factor in relation to the concrete specific situation in each gallery and in each rockface of the studied gallery, depending on several factors such as exposure to climate and the degree of climatic effects in the past. Only with all these factors in mind can we use the degree of weathering as a relative age-marker.

#### TECHNIQUE, STYLE AND CHRONOLOGY

The technique of the engravings, their comparison with rock paintings, the degree of their weathering and superposition are some of the most important clues enabling us to establish their chronology.

The earliest engravings are two elephant figures, accompanied by human figures, some engraved and ground cattle (bull) figures, rhinos and bull with human figures.

These figures or groups of figures show certain archaic features usually found with the earliest engravings of the pre-pastoral or hunting populations. These are: Faunal elements (elephants, rhinos), the technique of grounding parts of the engraving, the human figures associated with animals, simple costume, without tail.

Elephant No. 34 is accompanied with two groups of smoothly engraved (no pecking) human figures realized in simple lines without tails. Two associated figures of rhinos (round head style) and a bull are deeply carved and partly ground in a similar way like the elephant. This technique links them with the early rock carvings from Fezzan and together with other archaic characters this complex group of carvings ranks with the earliest in Wadi Zreida and without the slightest doubt it comes from the non-pastoral style. Some few cattle figures are carved and ground in the same way (Fig. 22). At the classical Fezzanese localities like Ma-



FIGURE 41. A rock wall with elephant, human figures, rhinos (round head period) and later cattle figures.

thrdush, In Abeter or Tilizahren we find the rock carvings of the "great archaic fauna" (bubalus period) done in the same way.

The archaic characters are as a rule not limited to a single period or artistic style only. The simple costume with tail is e.g. to be found in many figures of the bovidian period, and in some cases they appear even in paintings and engravings of the horse period. Elephants and rhinos occur in the bubalus period, with round head period paintings and engravings, but exceptionally also with bovidian period paintings. Carved and partly ground figures are known in the early styles of the bubalus and round head periods, but exceptionally also in pastoral period the human figures associated with animals in certain religious, mythological and erotic relations belong mostly to the round head or pastoral periods. This and other characters common to the early rock art style of the hunters and to the later pastoral, and sometimes even to the horse periods prove that the tradition (artistic, as well as mythological or religious traditions) of these different periods are not completely different and are not produced by different migrating populations as usually believed. As a matter of fact on studying Saharan rock art we must take into account not only possible cultural contacts, but even continuity of cultural traditions.

We found three elephant figures and their comparative analysis is of great use. The earliest one (No. 41) is only partly ground (the legs and trunk) with associated human figures without tails. The second elephant figure (No. 38) was realized with a similar technique, it is also partly ground (but a larger part of it than in No. 41) and its outline is carved. There are no human figures but two bulls engraved below the elephant figure on the rock wall. They were carved and ground in a similar archaic way as the elephants.

The third elephant figure (No. 34) has a pecked outline and parts of its body, namely the legs and trunk, are fully pecked, not ground. The associated bull figure is also fully pecked. As far as the four associated human figures are concerned, two of them have pecked outlines and tails and the other two are carved with no tails. One of the carved human figures is situated behind the elephant and is superimposed by the elephant's pecked tail. This shows that the two engraved human figures are probably older than the pecked elephant. The other two figures are of similar size as the first two, but they are pecked, ithyphalic with a "tail" and one of them is holding a crooked implement probably throwing knife in his raised hand (bovidian period). Their relation to the elephant figure and the degree of their weathering support the view that they are of the same age as the elephant figure. If we consider the shape of all three elephant figures, they fall far from the realistic elephant engravings known from central Fezzan (Mathrndush, In Abeter) and are reminding of the shapes known from the round head period paintings in Tassili. The elephant figures in Wadi Zreida are not realistic and not dynamic and have their stiff four legs enlarged at their circular ends. Also

the head with the trunk is less naturalistic, somewhat clumsy but expressive. The same holds for the rhino figures. Their bodies are similar, reminding of cattle and their head and horns are far less naturalistic than any of the examples of the archaic Saharan art of the bubalus period. Their style points to the round head traditions. The two elephant engravings (Figs. 38, 41), come from the non-pastoral period, but their different technique signals that they probably come from different age. They do not correspond to the earliest Fezzanese rock carvings. They show rather common features with the paintings of the round head period. The pecked elephant figure belong to the bovidian period.

The bull figures have forward curved horns and there are often patches of unpolished places on their bodies, simulating colour differences, as often seen on the painted cattle figures of the bovidian pastoral period, so well documented in Acacus, Tassili and even here in Wadi Zreida.

One of the ways of establishing chronological sequence is the study of the superposition of engraved figures. Take e.g. the rock face with the two large adax figures (No. 27). The horns of the first and bigger adax go over a small human figure, showing that the adax was engraved later, although we cannot say how much later. Anyhow, the large adax figures are completely clean, not covered by any other figure, but covering numerous small animal figures. This proves that the adax figures are the latest made on this rock face. In the upper part of the rock face there are numerous human figures, mostly ithyphalic and with raised hands and with tails. Some of them hold something like a crooked knife in their hands, probably not a hunting tool (bovidian period). Important are the two well represented small cattle figures. Their degree of weathering does not differ from that of the adjoining human figures. The artistic style of these cattle figures ranks them with the pastoral period. The figures engraved on this rock face belong definitely at least to two different periods. The earlier are small human and animal figures of the bovidian age. Later are the large adax figures probably of the horse period. The human figures are not linked with the much later adax figures. They are pecked and ithyphalic in contrast to the engraved and non-ithyphalic figures around the elephant No. 41. The position and general shape of the humans is the same, but the style of the engravings differs. As this indicates chronological difference, it is also a good example of different rate in the change of form and of content in artistic representations.

We learn from the study by H. Ziegert on Djebel Ben Ghnema (Ziegert 1967) and from some shorter papers by Huard (1976) that more to the east we can find another archaic art style, somewhat different in technique, with less naturalistic figures and representing a different artistic tradition, growing from related roots of archaic hunting populations. The contact area between the eastern Saharan archaic style on the one side and between the "bubalus" or "great wild fauna" and round head style is in the Tibesti Mountains and the eastern influence

is very strongly felt in Djebel Ben Ghnema and is reaching to northern Fezzan, namely to Wadi Zreida. We are sure there are more such localities like Zreida in northern Fezzan.

This explains the similarities and differences in the Wadi Zreida rock art compared with the archaic Saharan "round head period" rock art.

The earliest figures of the pre-pastoral and pastoral age are concentrated mostly in the northern and central part of the wadi in the neighbourhood of the deep waterhole and of the largest overhang and near the northern and central Neolithic living sites. The majority of the engravings, namely in the southern part, belong to the late horse period, and even to the camel period. They show signs of the well-known artistic decadence of the later periods.

Links with Fezzanese rock art centres are evident. The south-eastern or "Sudanese" influence penetrating here through Djebel Ben Ghnema has already been mentioned. All this makes the Wadi Zreida locality a unique combination of the two styles; in fact it is the westernmost locality with south-eastern influence, and at the same time it is the easternmost site of the typical bovidian pastoral paintings.

#### THE SOCIAL MEANING OF THE WADI DEB-DEB ROCK ART

One of the most striking elements about the earliest elephant engravings are the associated small human figures. They are often grouped in front or behind the animal. Their arms are usually raised, indicating some ceremonial, mythological or reli-

gious relationship to the animal. They certainly do not represent hunting scenes.

Small human figures associated with animals in a similar way are frequent also in the "round head period" paintings in Tassili.

The tails representing part of the costume are well-known from the pastoral paintings from Tassili and Acacus. Some engravings picture human figures with a bow, facing an animal. This can be a historical report (if engraving followed the hunt) or magic (if engraved before the hunt) and it is hard to say whether they represent real events or mythology. They have a very broad scope of possible interpretation.

The situation about the isolated animal figures is even more complicated and we can only guess as to their meaning. A good example of historical record is the fight of the five horsemen, a late "horse period" engraving found at the southern end of the Wadi Zreida site.

These few, but rather illustrative examples demonstrate the different social meaning of rock art in different periods, and probably in the same period as well.

\* Note: During my visit in Florence 1982 when this paper was in press I found that Prof. P. Graziosi visited and studied the site earlier and now his study is in press as well.

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