

StoneWatch

Society for coverage of prehistoric and ancient rockpaintings

Rock Art of Timna Valley



Eine Foto-Dokumentation von Josef Rahm Otto

Timna Valley

Text and fotos by Josef Tej o 'Otto

The Timna Valley has an area of approximately 60 square kilometers and is surrounded by a 850 meters high chain of mountains consisting of sandstone, chalk, dolomite, and marly lime. It has an opening to the east into the Araba Plain. There are a few isolated kibbuzim growing fruit and vegetable. Nomads, descendants of the former lords of the desert, is a rare sight in our days.

This has not always been the case. In virtue of its horseshoe-like shape, the valley offered favorable conditions for plants, animals and human dwellers. Petrified tree trunks of a length 25 meters and more are a testimony of a rich forest vegetation giving not only shade to men and animal (see page 8). A subtropical climate of 45 centigrades in average is prevailing in the valley, and undecayed fossil wood of original size is a witness of humid soil and water which has almost entirely disappeared. Relicts of ancient plants prove that the region must have been fertile and nutritious enough for herds of bison which need an ample pasture. Engravings of horned cattle on the rocks are the last traces of their existence.

Timna Valley is one of the major excavation sites with a history of more than 6000 years and more than 300 archeological finding places exhibiting not only an antique culture but also a remarkable industrialization in those times. Copper ore was the magic item that made people come and settle. Ancient Egyptians, Romans, Arabs, and their descendants were eager to exploit the precious mineral. Timna is one of the rare places where old technologies of copper mining and processing can be studied over a long period of time.

North Arabian tribes were dwelling in the valley already 3000 years ago. They also made profit of the copper deposits using the smelting pits left by the Egyptians in the 12th century.

The Egyptians had been very busy especially during the reign of the Ramesside dynasty. These kings employed highly organized working teams, just as illustrated by many of the engravings. They embossed their typical Egyptian battle and hunting sceneries in the sandstone but also examples of a high standard of labor and every-day life. The furnaces were already equipped with bellows. There were jets made of clay to avoid extreme suffering from the heat which was an enormous achievement of technical progress.

Erroneously the copper mines have often been referred to as King Salomo's but the remnants found on the spot do not support this hypothesis (see page 6, the so-called Columns of King Salomo).

In the 2nd century A.D. the Romans came into the copper business in succession to the Nabatean reign. When the Araba district was occupied by the 3rd Cyrenaica Legion, the engineers started to bore tunnels into the sandstone with iron tools. This was done to increase the output. The smelting job was relocated further to the south where the necessary wood and water was available. But the design of the furnaces remained very similar to those used by the Egyptians and basically unaltered until medieval times, additionally to the typical Roman method of crucible casting for making ingots and tools.

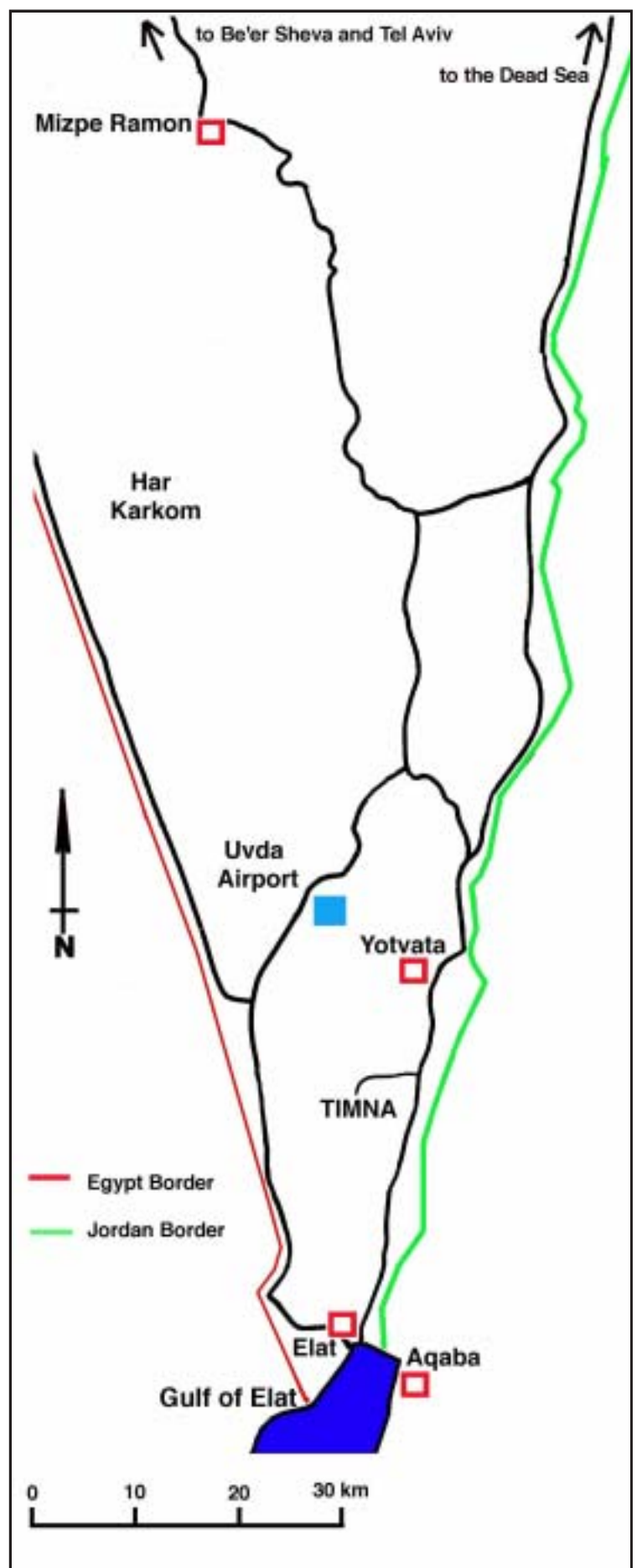
There are not only traces of copper processing on the site but also more than 15000 items of religious souvenirs, earthenware, stone paintings, and metallic devices as used for divine services in the honour of the goddess Hathor who was the primary patroness of the place. At the end of the 12th century the temple was destroyed, probably by an earthquake. The Midianite people succeeding to the Egyptians removed the ruins and restored the building topping it with a tentlike roof so characteristic for desert dwellers. The object of supreme worshipping became now the gold-crowned copper snake.

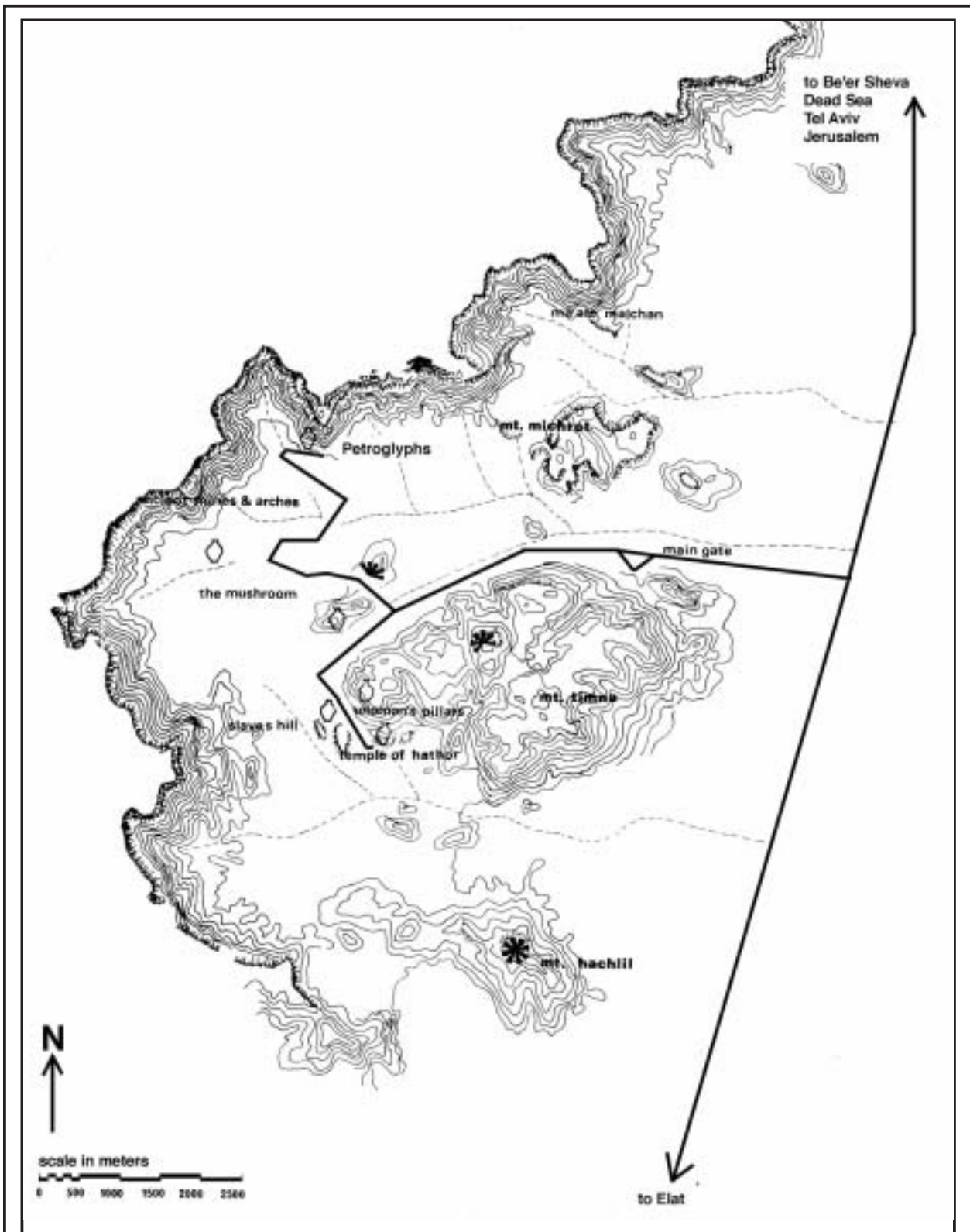
It was J. Petherick who first mentioned the antique Timna Valley copper finding place in 1868. In the following decades, investigators like Musil (1902), Frank (1934), and Glueck

(1935) came to the conclusion that this arid landscape conceals more than only some copper mining. Glueck and Nelson, e.g., discovered 7 melting spots surrounded by heaps of cinder which is the most reliable indication of copper processing. But whether they found traces of copper ore or the ore itself is not noted in their reports. Nevertheless these findings inaugurated new investigations started by a campaign under the direction of Beno Rothenberg in 1959. The expedition scanned the valley systematically for other traces of antique copper mining. They were soon rewarded with success as they detected traces of deposits unknown so far.

The mining spots hypothetically located in the past were now definitely pinned down and set up to a scheme of a large-scale mining industry of the ancient world. And not only the expansion but also the development of mining technology in three major epochs can be studied. While traces on the cliffs rather refer to open pits the horizontal tunnels and the deep-sunken shafts belong clearly to underground mining. In the beginning of the research work, nobody really could imagine how to harmonize the artefacts with the different finding places chronologically as the former were too heterogeneous. Not only prehistoric flint tools were found but also ceramic fragments of the Iron Age as well as potsherds of Roman and Arab origin. Thus after a relatively short time, further mining spots were added to those already located by Frank and Glueck.

On the other hand, many new ceramics scattered all over the ground could be neither classified nor dated in absolute lack of reference material. Caused by a cer-





tain prejudice in respect to the Mines of King Salomo and the corresponding dating of a period between the 10th and 6th centuries B.C. there seemed to be an obvious contradiction to the dating of the newly found artefacts. It was only after completing the systematic and total excavation campaign and

subsequent archeological and metallurgical material testing that a determination of the different mining technologies was possible. These investigations had to incorporate findings of the Araba District and the Sinain Peninsular. These regions form, so to speak, the background of one permanent technico-





cultural development. The oldest human settlements of Timna Valley and the oldest man-made articles and building structures found on its ground trace back to the Chalkolithic Era (the Copper Age) about 4000 years B.C. This means that the Mesozoical copper deposits had been exploited already 6000 years ago.

Only the detection and excavation of a chalkolithic copper melt could set the starting point to a well-organized metallurgical industry. And at the same time it proved that constant labor in the region

brings about uninterrupted inhabitation of the region, of the adjacent southern part of the Negev Desert and the Sinain Peninsular. Some finding places in Central and South Sinai even go back to a preceramic period named Neolithic B and deliver indications of prehistoric interaction between Asia and Egypt.

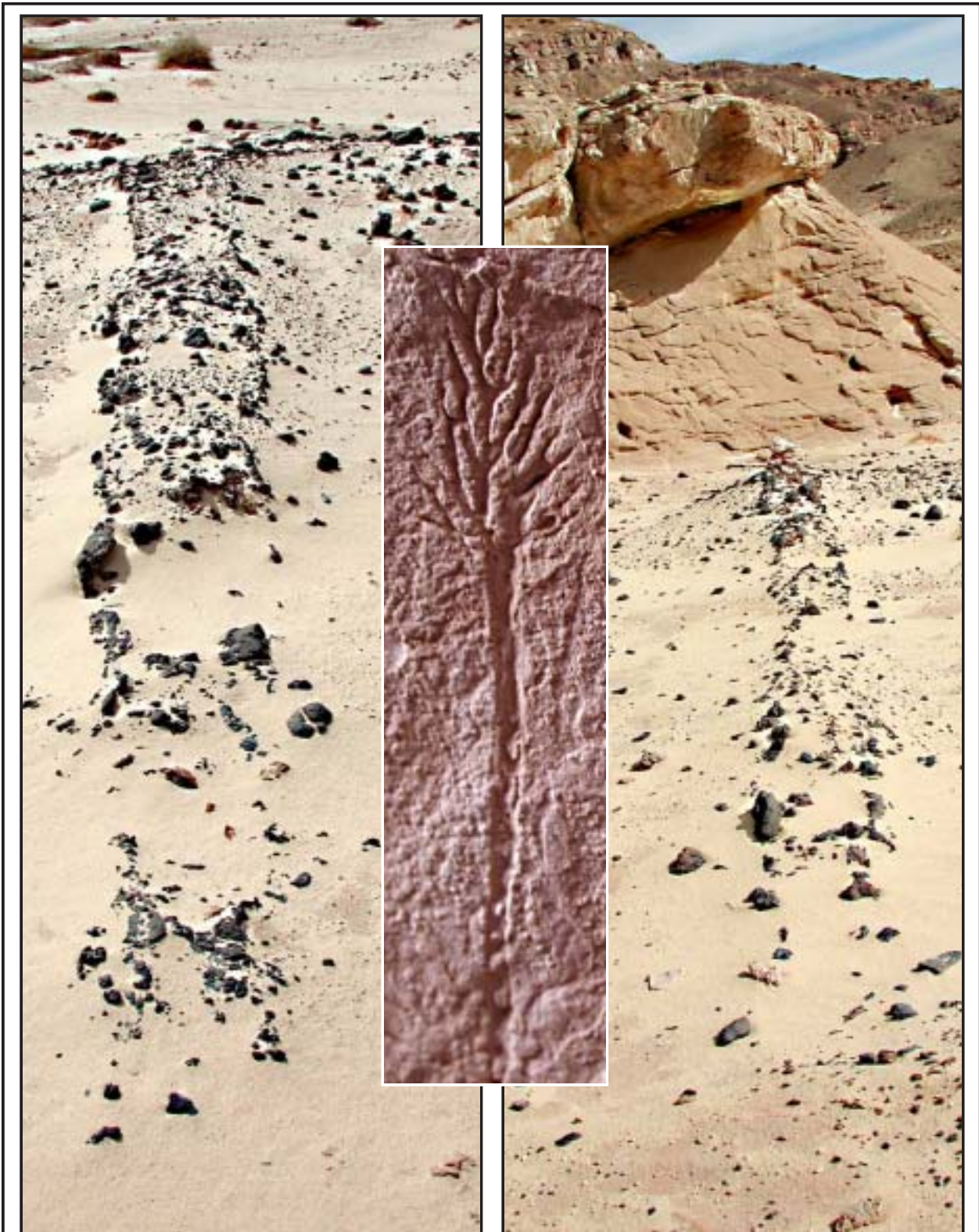
On the whole, field work has proved that we are dealing with undertakings of the pharaohs of Ramses the Great and his descendants (the Ramsessides), with the assistance of local families of Midianite and Amalectic tribes.

The following kings whose teams were engaged in copper digging during their reign are documented in written:

Setos I (1318-1304 B.C.);
Ramses II (1304-1237 B.C.);
Merenpath (1236-1226 B.C.);
Sethos II (1216-1210)
and Queen Twosret (1209-1200? B.C.).
All these rulers were members of the 19th dynasty.

From the 20th dynasty, Ramses III (1198-1166 B.C.), Ramses IV (1166-1160 B.C.), and Ramses V (1160-1156 B.C.) are well-known representatives.

Special interest deserve some fragments of bracelets with inscriptions like "Hathor sovereign of the turquoise" and "King of Upper and Lower Egypt". Unfortunately, nothing is known about their wearers. The three ethnical groups collaborating in mining right from the beginning of the Iron Age differ also in respect to their sanctuaries found in Timna Valley.



Two tree trunks about 25 m long lying longways in the sand



Detail of fossile wood





Northwest rock wall

Southern end of the valley with round heap of stones





Melt plugs; the sandstone layer around the plug was eroded by water.

A bore hole. Some boreholes are up to 40 meters deep or long.





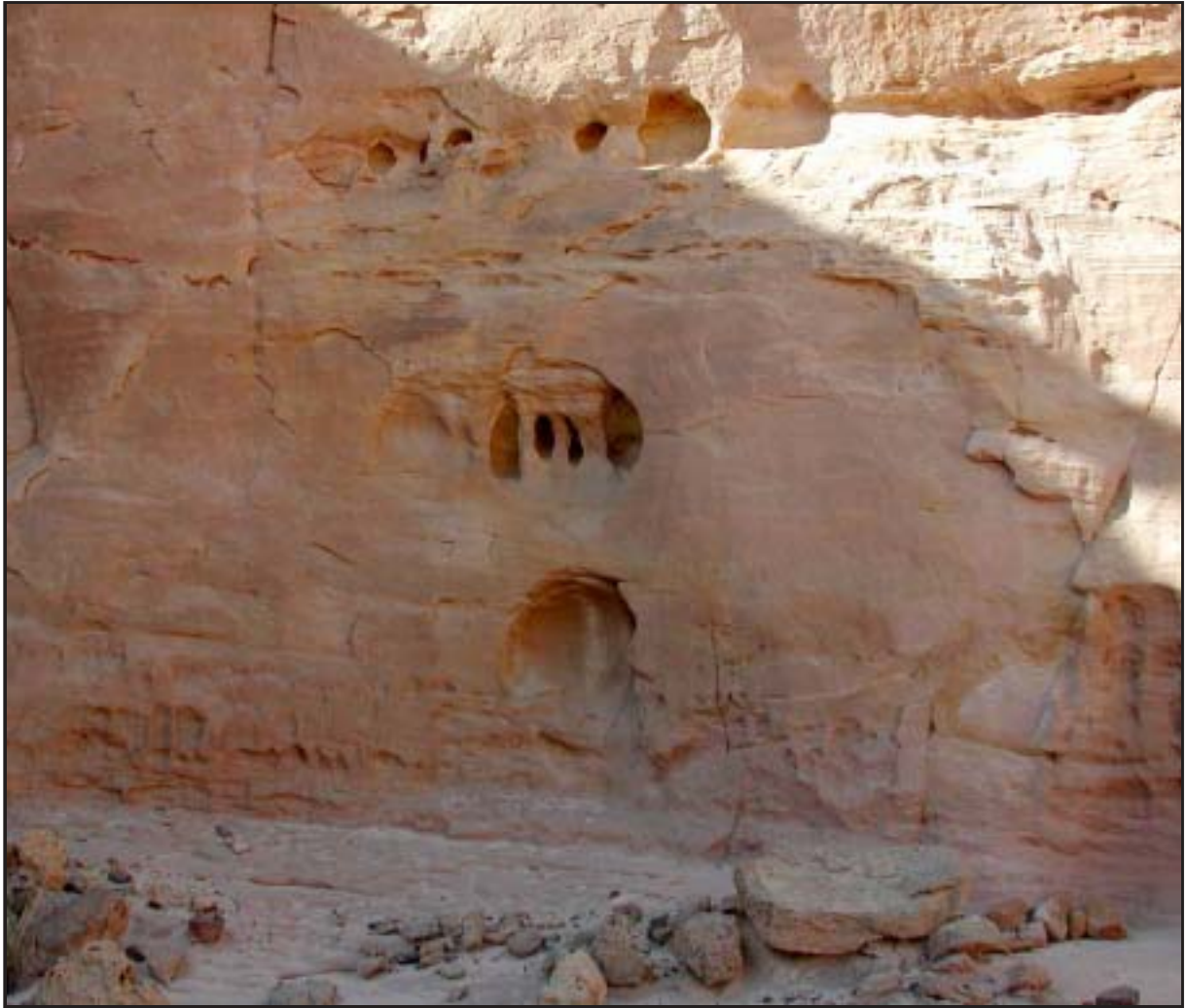
Tunnel wall with more than 30 entrances leading up to 20 meters deep into the rock.





Manganese ore body clods or bulbs as to be found all over Timna Valley.





A cliff of an altar-like structure probably caused by washout.

A stone trough for grinding mineral dyestuff or corn.



Peculiar traces in the rock structure, i.e. two opposite manganese layers washed out from the softer mainstone.

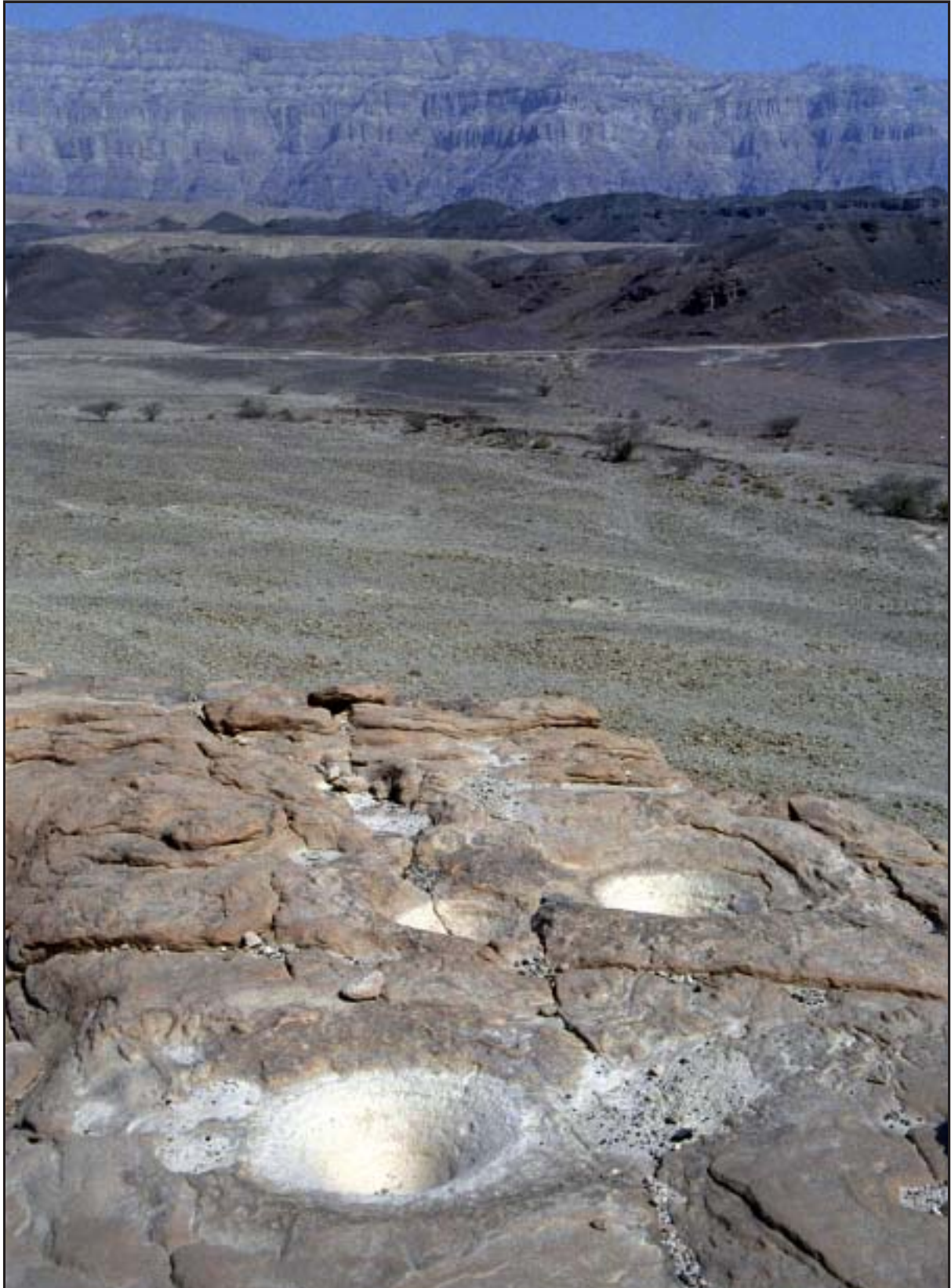


Manually shaped flintstone as to be found everywhere.
Center, one weatherworn bone of a spinal cord.



An ibex





On the top of a mountain in the middle of the valley, opposite to the so-called Salomo's Columns, remainders of a grotto sanctuary can be seen. Shallow hollows or troughs, by scientific agreement called Cups, artificially made, refer to sacrificial rites of the ancient inhabitants. The Cups are up to 25 centimeters in depth and up to 40 centimeters in diameter.



Although the mountain on its plateau offers ample space all the cups are located at the easterly periphery.



On the Mountain's plateau there are altogether 38 cups of different sizes.



An engraving alongside with the cups.



Stretching out to an Eastern direction lies another set of cups arranged in a way as if used as a sacrificing altar.



Originally, the surface of this stone may have been even on the same level as its surrounding but by washout a tray-like socle has formed containing cups out of which 5 are up to 30 centimeters and more than 20 up to 10 centimeters in depth.

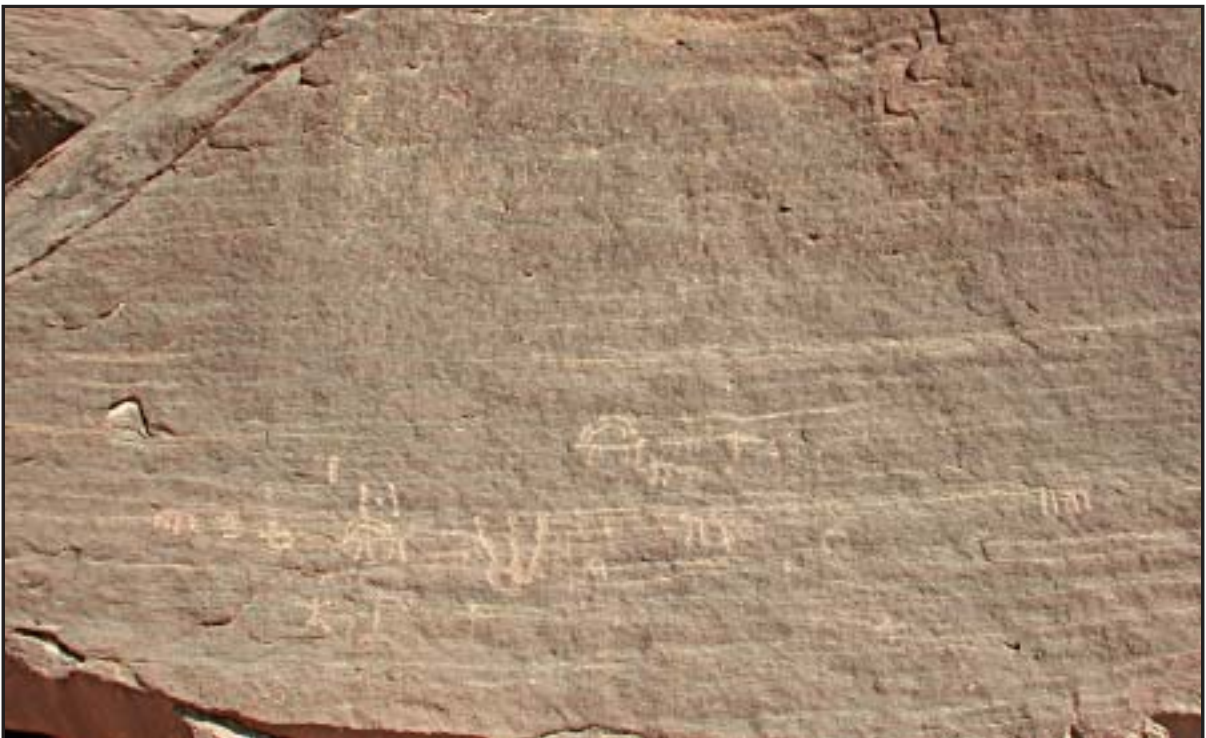
The larger cups have a fringe of radial grooves.

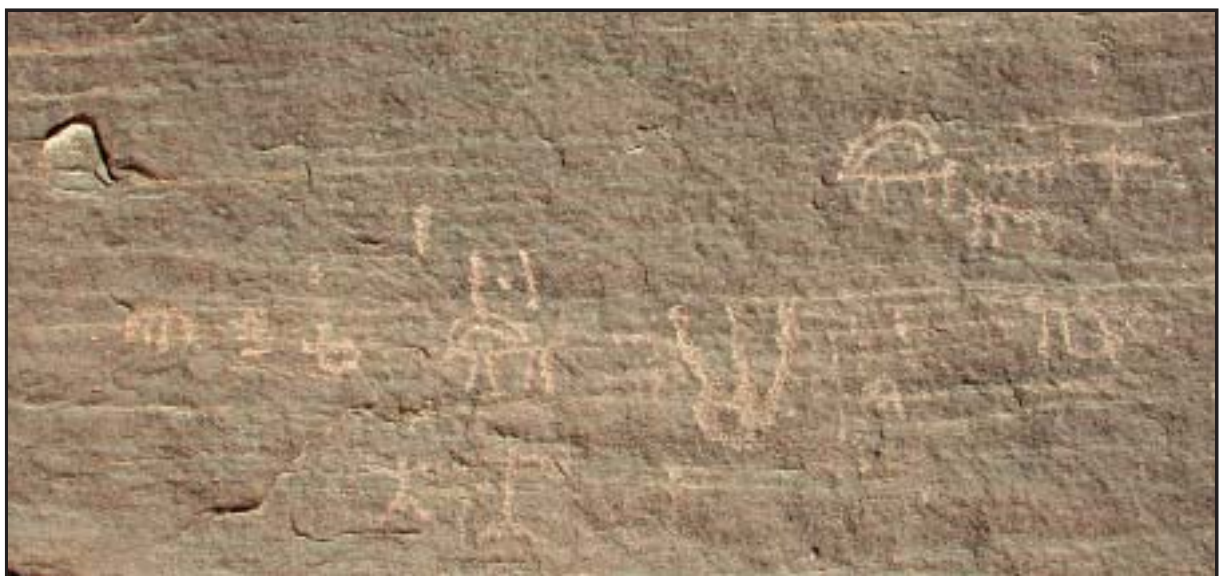




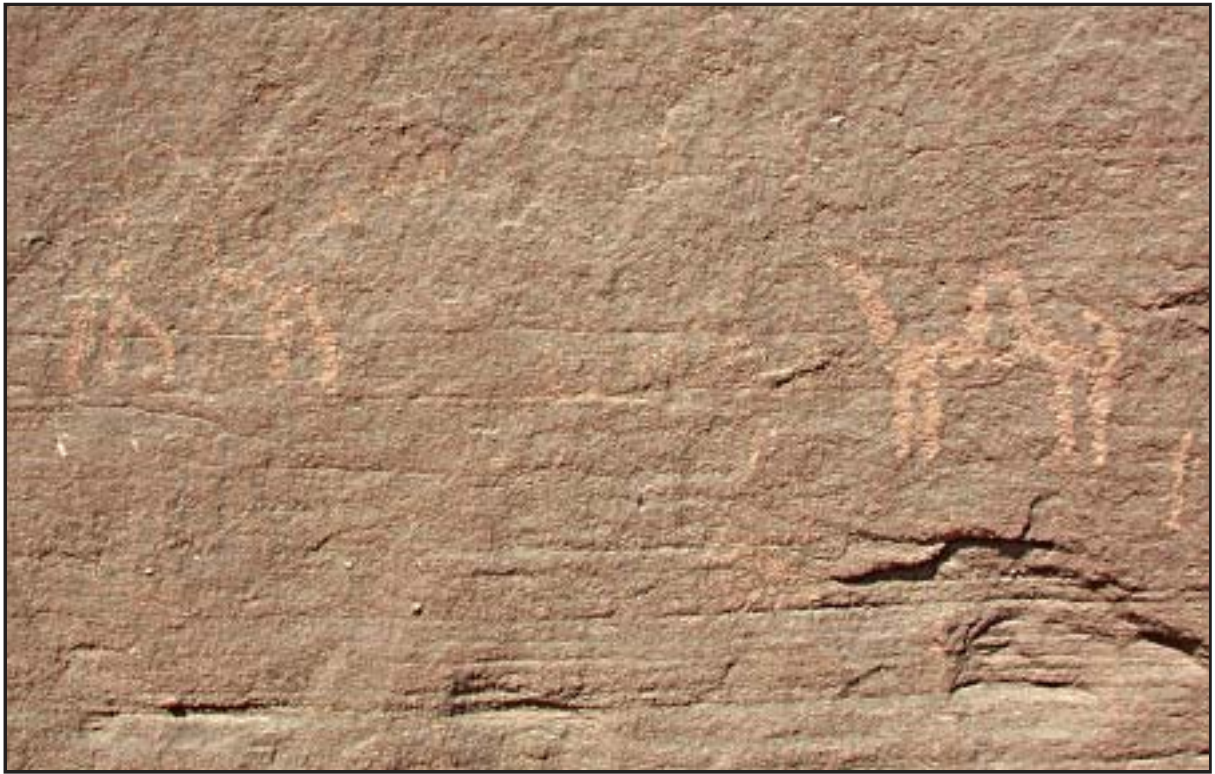
Some of the grooves are connected among themselves by tiny channels.

A short distance from the cups and east of them there are several engravings and Wasems or Bedouin totems on the cliff surface.





Wasems , camel and /or Bedouin totems on the cliff surface.



Two ostrich-like birds and a camel



A typical wasem



A ploughshare with symbolized draft animals arranged vertically. In the left bottom corner, a single figure, a barely visible depiction of the typical Timna style, with a plough under it.





A man with a third line between his legs which may be a penis but also can mean a piece of clothing characteristic for classical Timna figures (see page 69). The man holds his arms up with a ring in his right hand and a spear or lance in his left hand. There is another drawing of a four-legged creature above him, perhaps a dog.



The engravings of the so-called Alfonso Cave are accessible for visitors only under official guidance. The Alfonso Cave, first mentioned in 1974, is formed by a boulder lying in an inclination of about 25° in east-west direction.

On the upper surface of the stone there are three engravings to be classified as typical Timna stile. The engraving is pecked and shows an ibex with horns bending backward, and one dog-like animal. The size of the depiction is 16 to 20 centimeters. The method of enching, its make and actual condition imply a more modern creation in comparison to the engravings underneath. They belong, together with the classical Timna pictures, to the intermediate period of the Stone-and-Copper Age (Eneolithic Era) 2800 years B.C.

The original position of the stone and the cause and time of its tilting are not definitely investigated so far.





The bottom side of the boulder bears engravings minimum of four epochs. They consist of lines pecked in dots, solidly or in combination of the two methods.

Overall view of the cliff with engravings right down to its footing and partly even up to 20 centimeters deep into the soil. Below, some punched holes as can be found with the classical Timna petroglyphs.





The second epoch of rock writing from the Neolithic Age is characterized by symbols of abstract art, circles, symbols of men, of the sun, of beasts, forming sometimes little sceneries, as, e.g., we find a reptile and the sun on top and a man with ibex (capricorn) at the bottom.





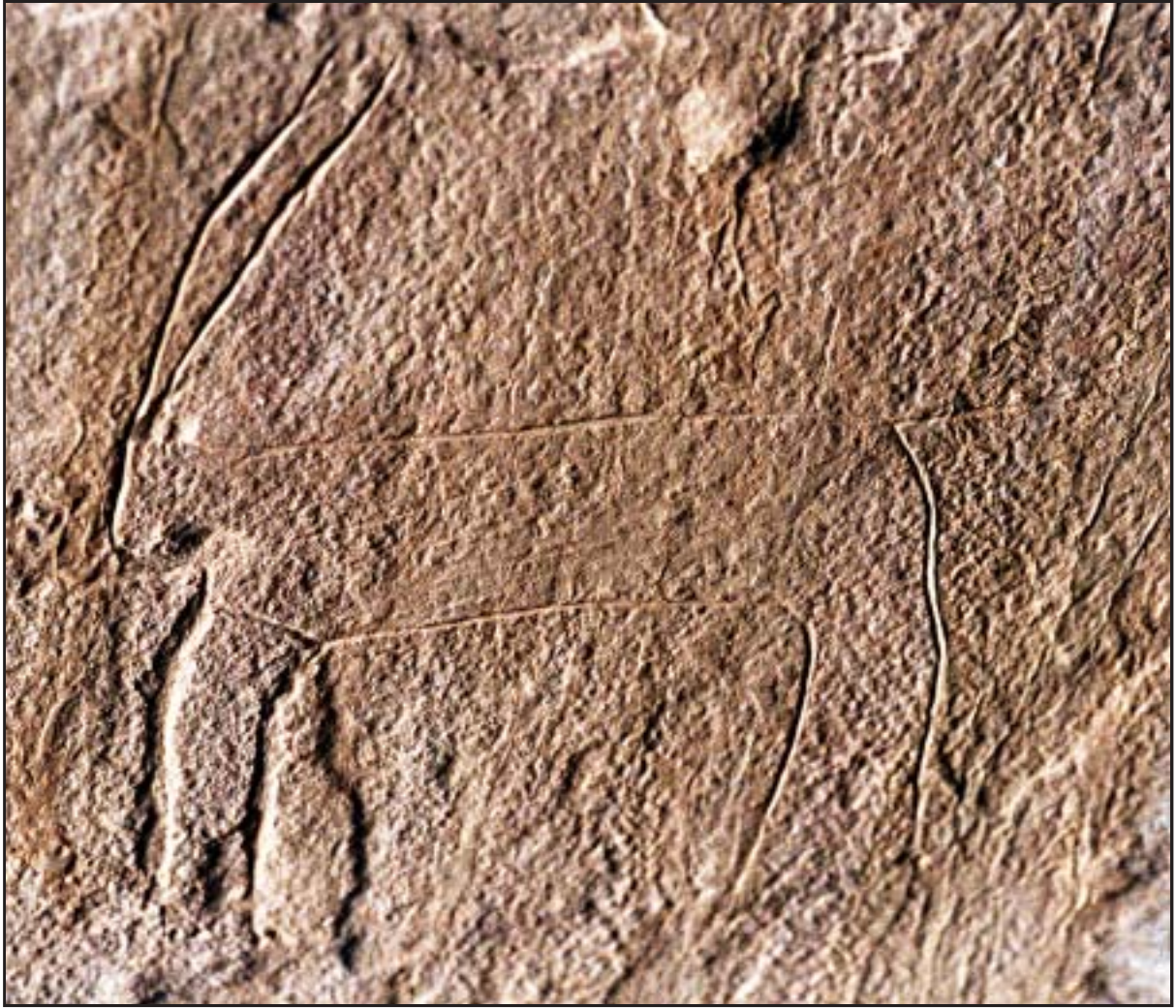
Here we have two epochs together - the engraving below deriving from the Middle Stone (Mesolithic) Age (maximum 8000 years B.C.) revealing its naturalistic tradition and at the same time trying to simplify symbols and to limit the number of elements, but always to guarantee a certain level of accuracy in the reproduction of their models. In this case, it refers to the hoofed animals and their horns.



Picture of a capricorn drawn in continuous lines but with clearly visible additional dots at its horns.

Also a capricorn but obviously made with shaky hands so that the lines do not appear stilistically genuine.





This engraving is identical with the one on page 31 bottom.

Detail: A fully lined depiction of an Oryx Antelope (*Oryx leucoryx*) with straight horns.



Lines in form of a tent roof

Some uncompletely sketched quadrupeds, right-hand an animal reminding of a goat.

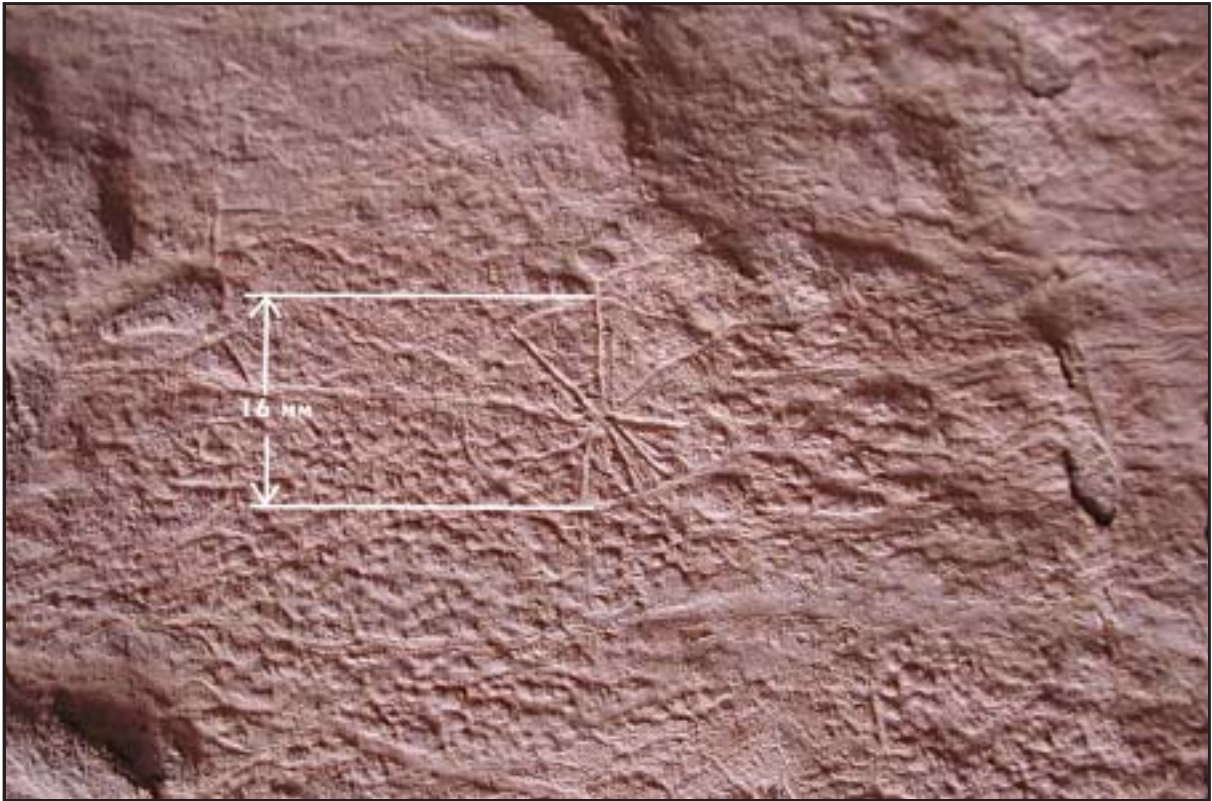




Here on a very coarse top layer which partly already separates from the basic rock a rump with four legs is drawn up but with the head missing it is difficult to say what sort of animal the author had in his mind.

Also on uneven surface, probably a hyena.





A wall well fitted with emblems and symbolic depictions, in this case a circular pattern on a stem with regular intervals and an opening to the right.

An inscription or Wasem, or a marking, unfortunately, meaningless for us.





This engraving is located almost in the middle of the wall, with a distance of some 60 cm from the ground. There is a high probability that it represents a fence or trap and that the same artist created the drawing at the bottom also depicting a game catching facility.





Two triangles pointing at each other with similar forms underneath the game traps.

Elegant dots in triangular shape and other lines which a cautious interpreter may declare as a human body with bended legs; on the left-hand side the beginning of a script.





Full sight of the script of page 38, its height being about 2 centimeters.

Some lines, an arrow and a writing in Greek letters.

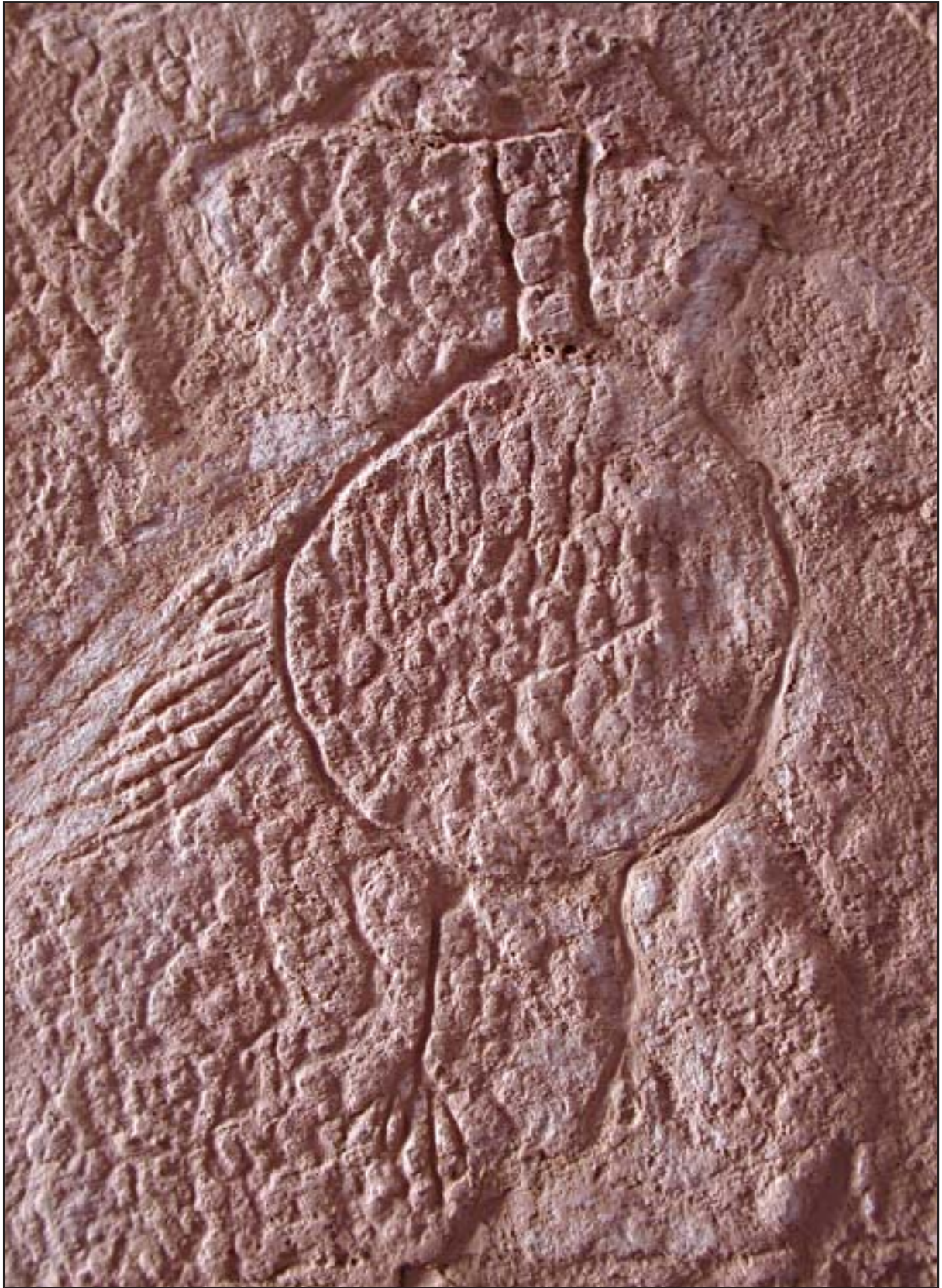




Detail of the Greek inscription. Distinctly readable are the words EUTYXIA and ES OT which means as much as "luck to the owner (or holder)". As the ending of the first word is rather shabby, it is possible that the two words read EUTYXIA ES OT thus meaning "Eutyxis the happy (or lucky) man".

For comparison purposes, Greek letters from a cavern about 3 kilometers away, more precisely, Romain epitaphs in Greek script, very probably a memorial in the honour of dead miners. Their names are Aurelios, Eutyxis, Xanthios, and Theon, cf. page ..





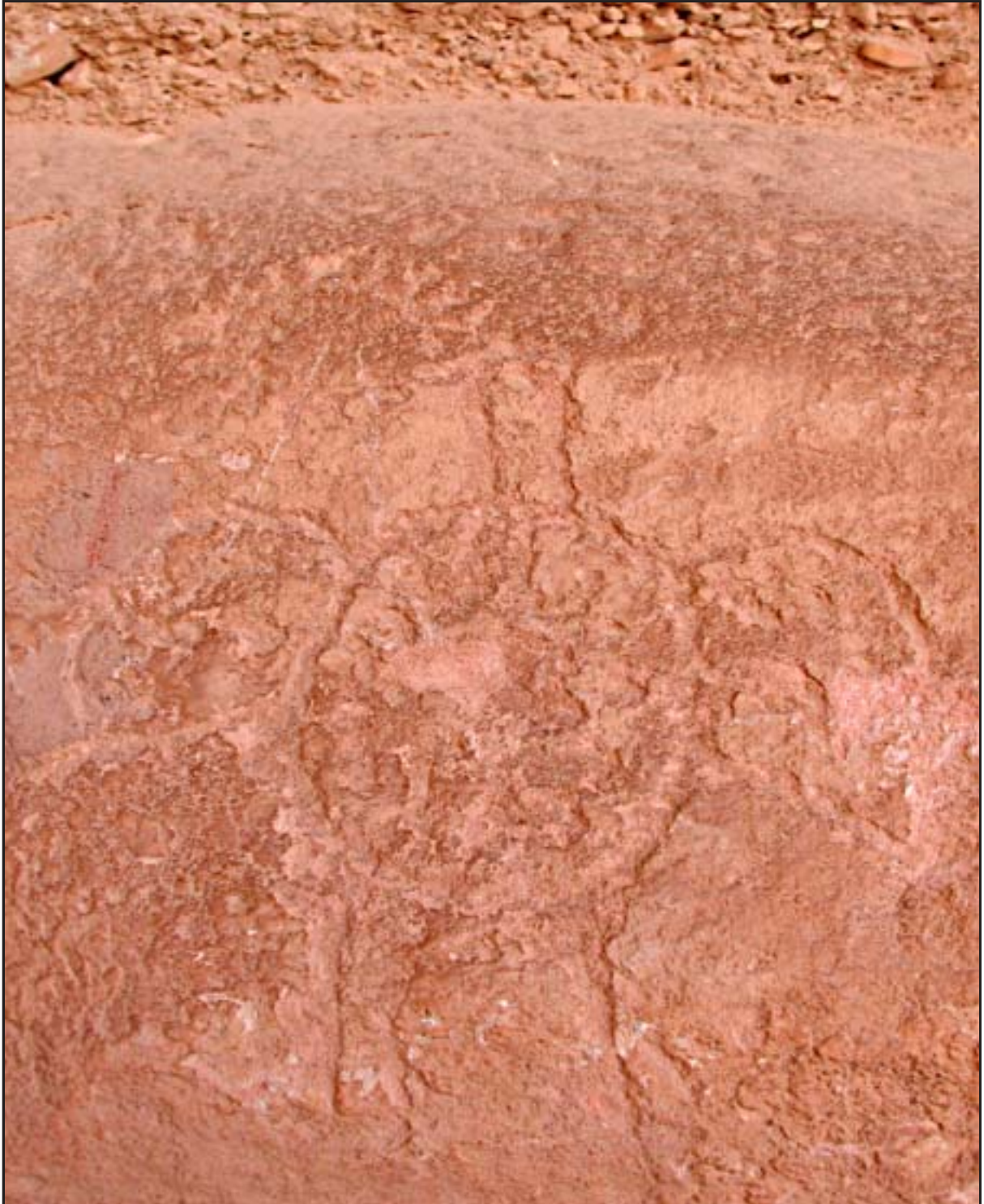
One of the most beautiful engravings in the wall, a bird with a large beak showing to the left, with a round body and feathers stretched leftward and both legs ending in very birdlike feet. The whole image has a tendency to the left side, i.e., a depiction in profile must have been the purpose.



The bird hovering over a sort of cage or box bearing a mark or a character. Both parts were chiselled at different epochs. The bird's size is extremely small, only 9 centimeters. It is a real work of art, maybe surpassed only by one other portrait described later.



The small box of page 44 with its contents. Hard to determine what it can mean.



One more bird, found in the aforementioned cavern with the Greek inscriptions.
This bird represents a Romain heraldic eagle.



Overall view of bird and box and the surrounding area. A miniature piece of art unique among the treasures of the Near East is displayed here on a square of 36 cm in width and 27 cm in height.



On the left, a capricorn decorated with delicate lines and horned with additional holes and in front of it a small male, maybe a young deer from another epoch. The lines running down from the top probably mark a separation with another engraving left-hand, below the big capricorn, showing an unfinished image of a buck. In the right top corner near the box a linear structure the continuation of which, unfortunately, ends in a section that had already scaled off the wall. See detail on page 47. At the bottom, detail of the decorated capricorn the length of which is 11 cm.





Detail of the little buck of page 46, probably a young animal, but stilistically from another epoch. It lines run partly parallel from top to bottom and have no distinct start, or ending.



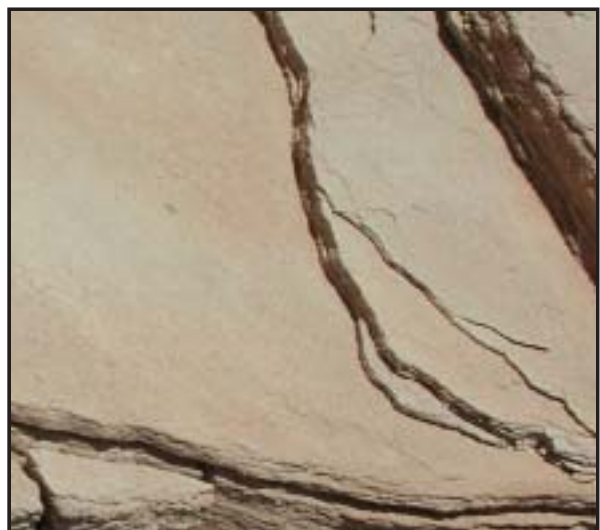
Detail of page 46 precisely showing that some part has fallen off. This picture demonstrates convincingly that the whole section is bound to split off if the climate changes dramatically.





One more case of damage resulting from scaling; the engraving on the right possibly being a human figure.

Many of the encountered stones lie in layers resulting from the fact that they are falling down as scales and undergoing further decomposition on the ground. The layers are sometimes only 2-3 cm thick and they had peeled like blisters under the impact of heat and condense water between them. The next step is splitting away - and hence another time witness disappears in the sand.

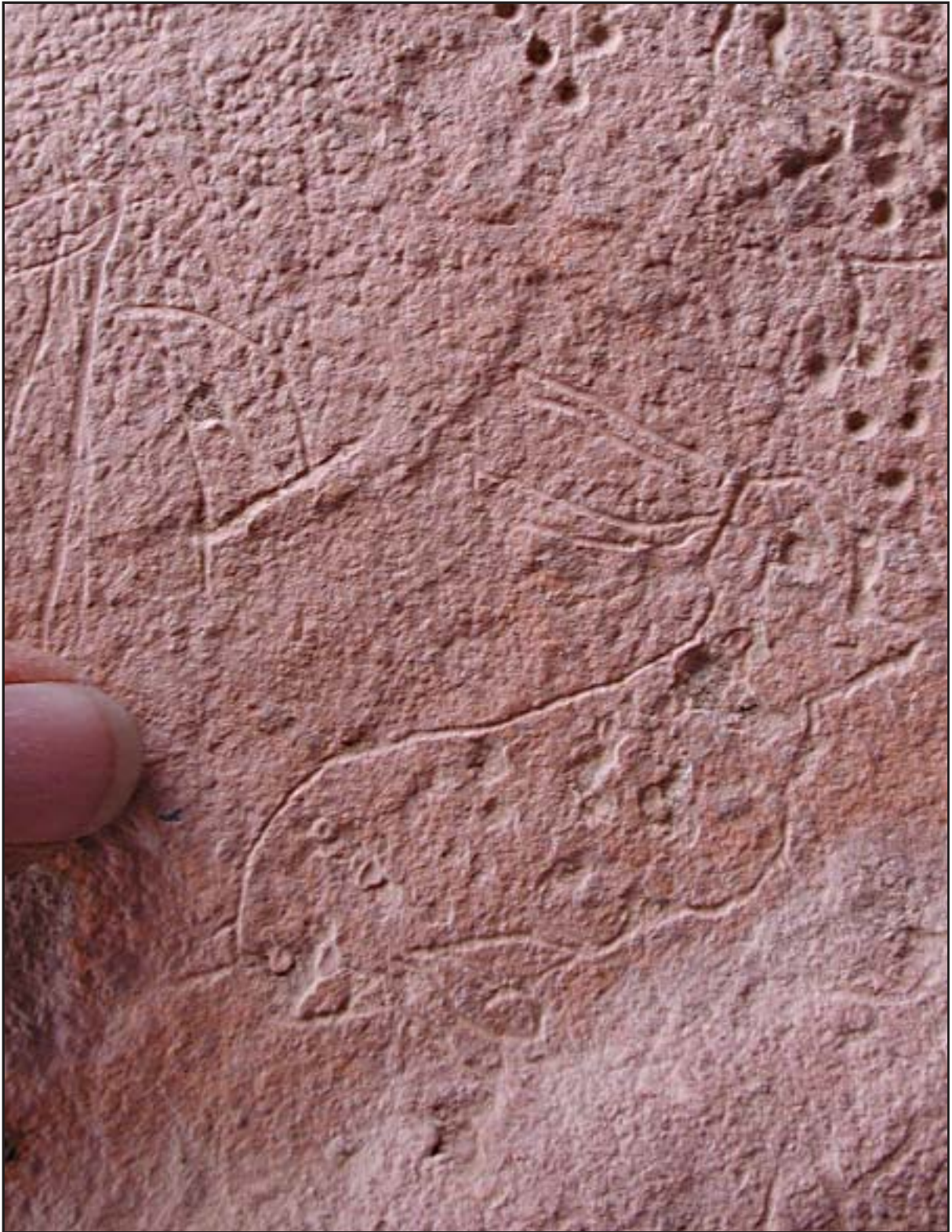




This detail of the large composition of page 46 is barely 5 cm high and shows a tree and a young animal rampant as if preparing to jump. The fine manner of elaboration in its peculiar position is an extraordinary precious piece of art.



Detail of bottom part of page 38 showing 3 triangulars of 6 tiny holes each and a sort of circle with the same kind of holes occupying the right side of the picture. Its main object is an animal which is untypical for the region today, i.e., a wild cow or bison resting on the ground in an attitude characteristic for the species. This engraving demonstrates that the region must have been quite humid once in the past because ages elapsed since these animals have been able to survive.



Detail from page 51. The actual dimensions of the bison measuring approximately 6 cm in length, in comparison with a human thumb.



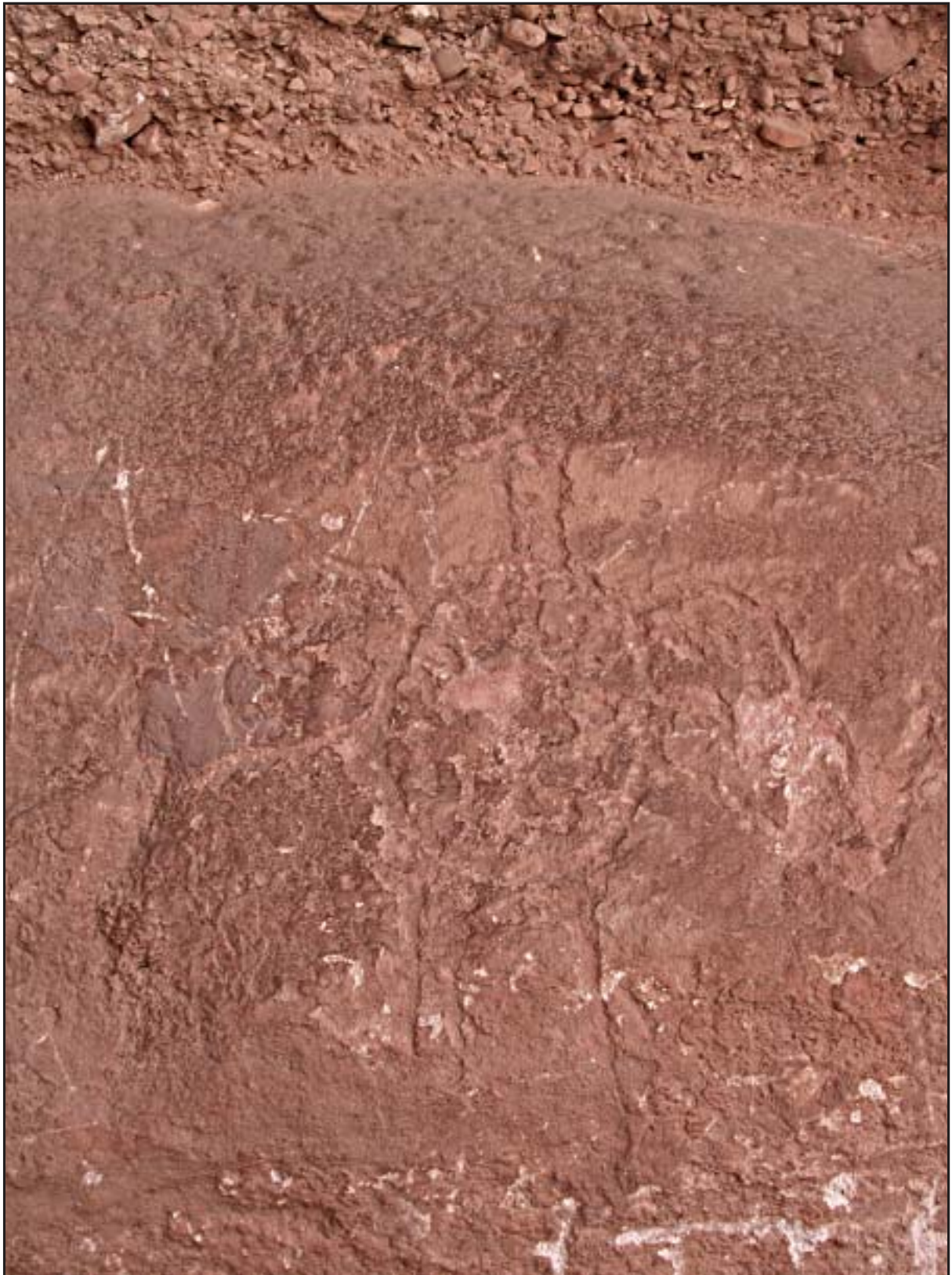
The final highlight of fine engraving art is this picture. On the left, an edifice, as to the plan view probably the nave of a church divided into several sections or divisions. To the right of it, a soldier wearing a spear with a heart-shaped head blade in his right hand pointing upward.



Detail of the soldier representing with great probability a warrior of the Romain or Byzantine era.



On his way to another engraving places the visitor meets a big boulder decorated, together with other stones, with pompous horns. A pity it is that naughty ignorants were unable to refrain from informing posterity about their personal attendance.



The Romain eagle described already on page 42, also marred with emblems and characters added by disrespectful tourists.

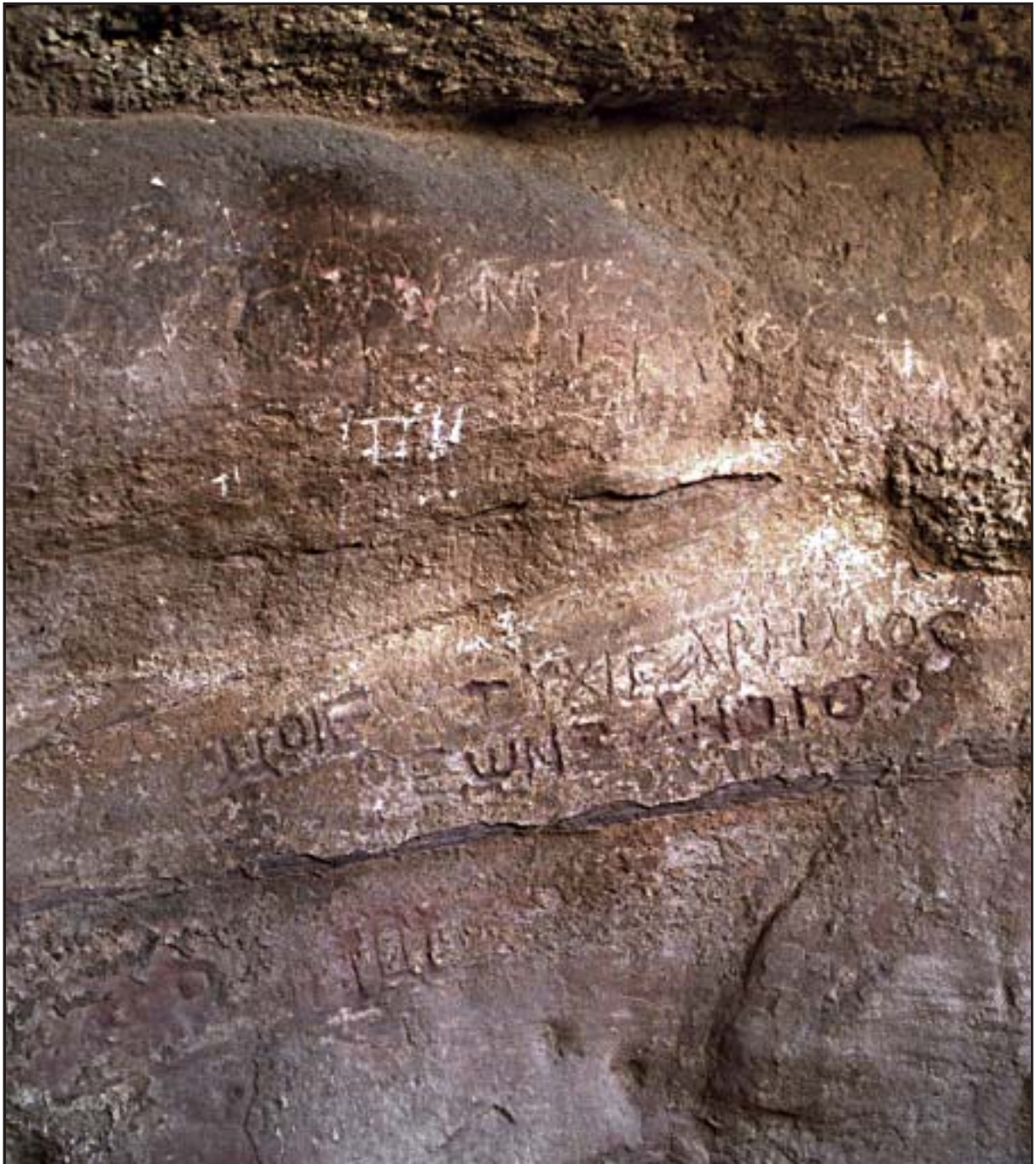


These engravings are Romain inscriptions in Greek writing.
 As aforesaid (see page 40), the words EYTYXIA ES OT mean "luck to the owner (holder)" or "Eutychis the happy (lucky) man", respectively.





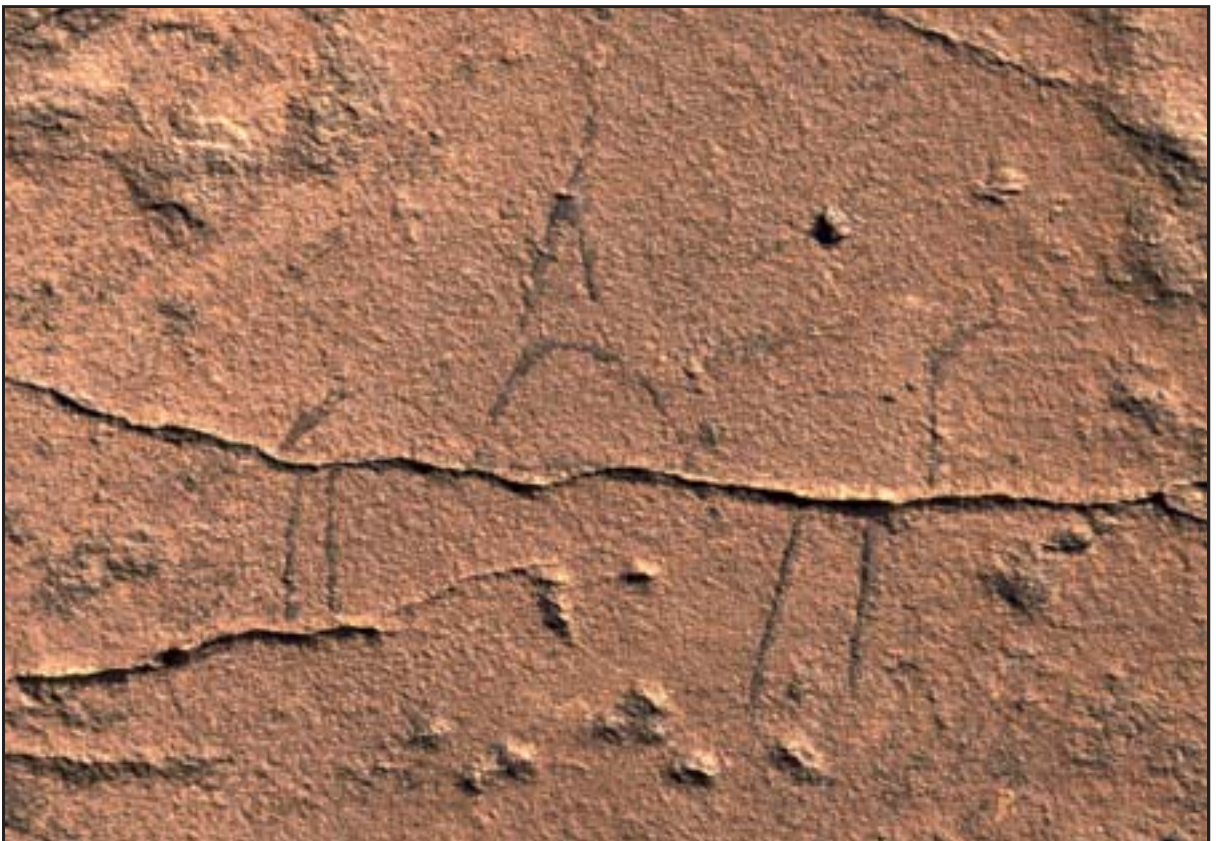
The Romain eagle together with a scale measuring a height of 29 cm.

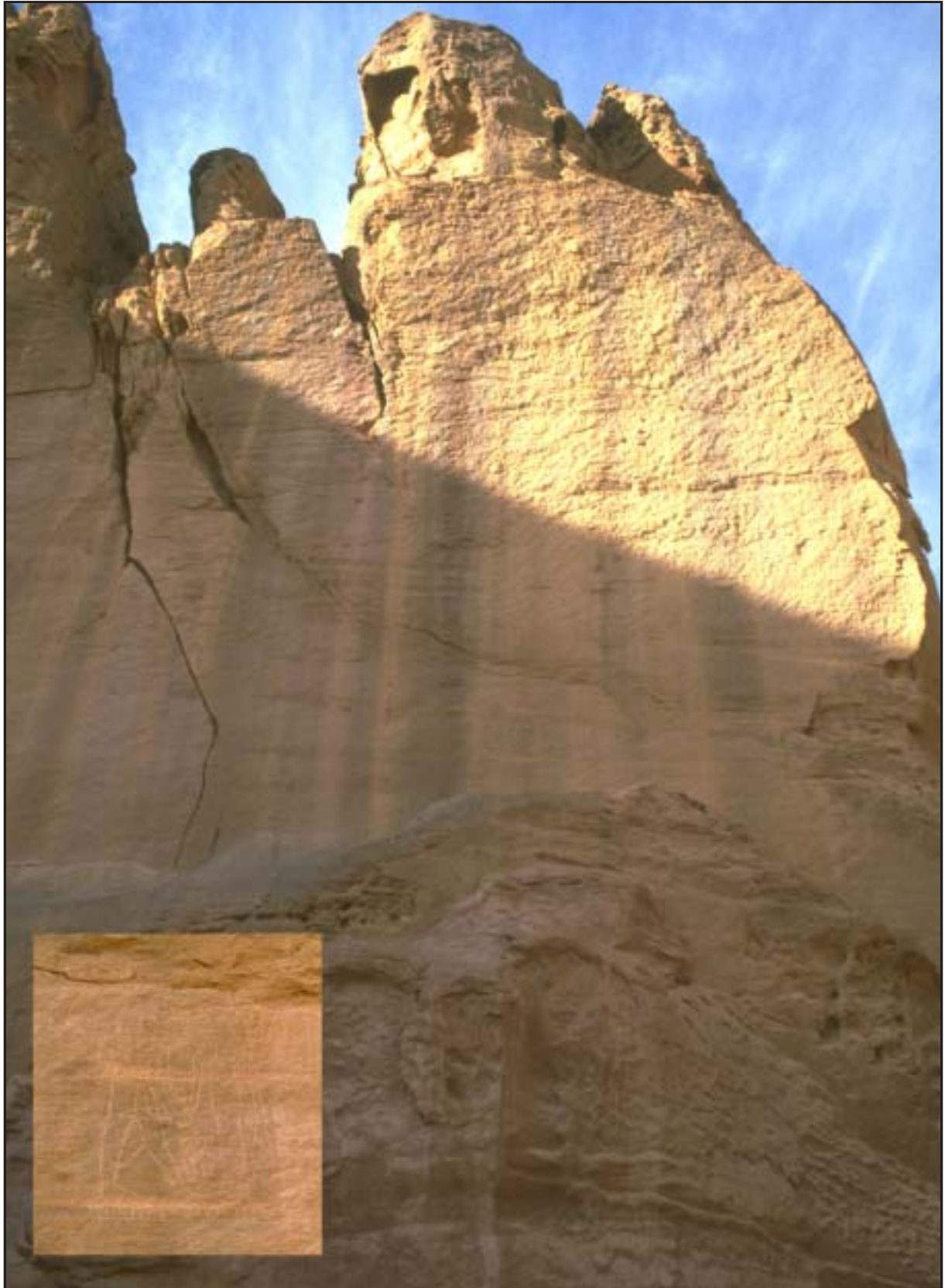


Eagle and script as well as tourists' relics. At the bottom of the picture very faint depiction of a gateway arch and two pillar-like objects.



detail of page 59. This engraving shows an archway between two palmtrees, or, otherwise, it can mean a tall gateway with a peaked roof. Bottom, probably another archway-type construction found on the mountain with the Cups.



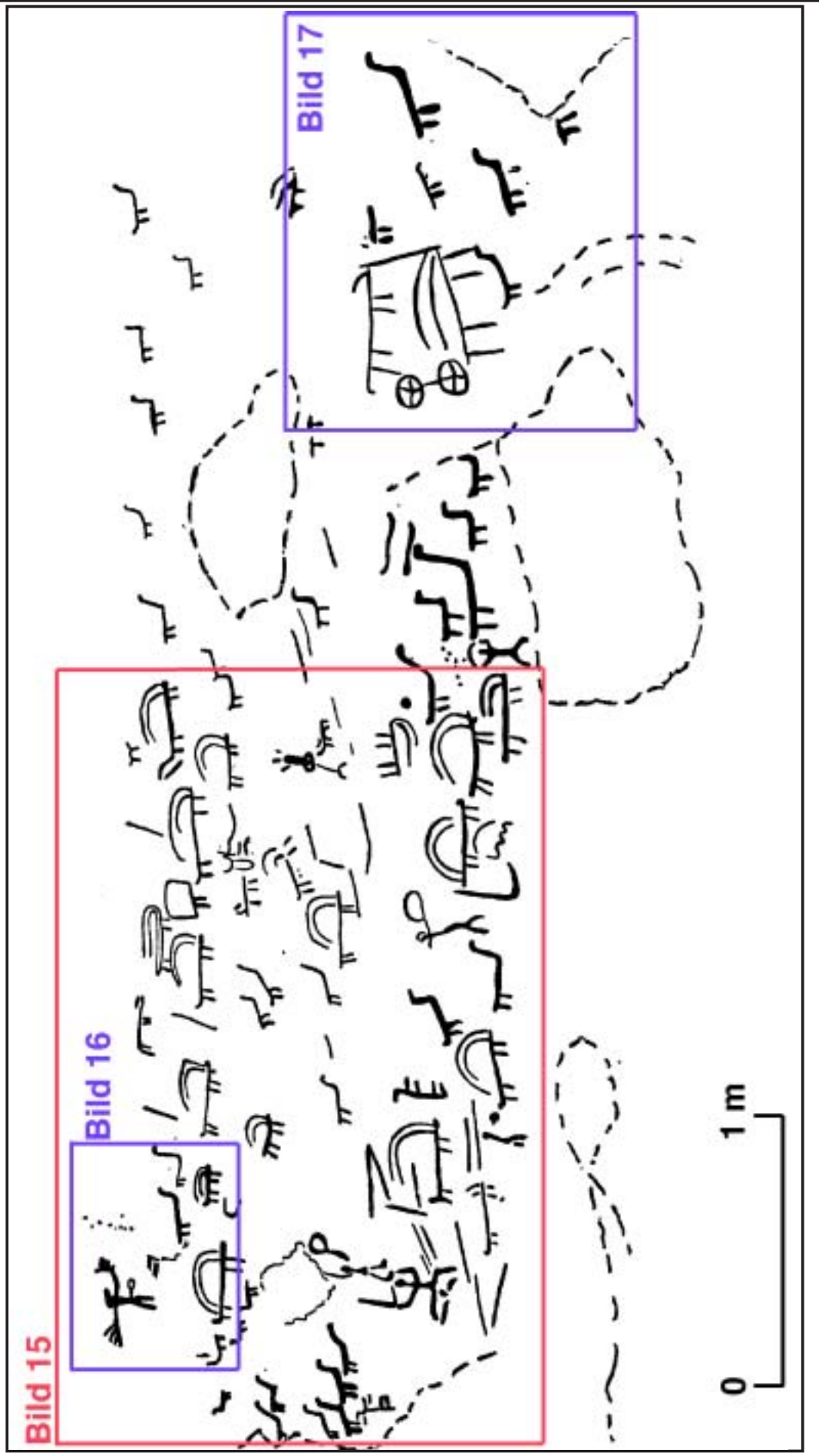


Inherited from the Egyptian epoch, there is an engraving on a rock stretching in an southward direction that shows Ramses III offering a sacrifice to the goddess Hathor. The inscription beneath the two figures, unfortunately, is destroyed and no more readable.



These are engravings of the finding place position 1, with lines retraced for better visibility and accessible to tourists, on a surface of 5 meters in length and 2 meters in height and about 2 meters above an accumulation of crushed stone and gravel at the bottom of the southern mine walls. The gravel is perhaps the debris of a collapsed rock and forms an 8 meters high heap of material above the present ground level which must have been situated much higher in the old times. The depictions are systematically done obviously not under any spontaneous impetus. It cannot be decided whether they are made by one or several artists.

The figures are scratched deep into the rock wall with a sharp and pointed instrument. Within an imaginary frame, they are interrupted by small series of holes, mainly in the left part of the picture. The meaning and the purpose of these holes has not been determined so far. The whole panel is distinctly made up of three rows of compositions with the center one telling the gist of the story, but, alas, being the worst in quality.





In the center one recognizes a human figure with arms stretched apart and four fingers at both hands also spread out. Remarkable is the sexual organ of the figure, erected and oversized. The off-side position of the person and the fact that it is male and thus his authority superior to all other subjects leads to the idea of a special context. Similar figures with enlarged phallus are found quite often in the Araba Plain.

Below, in the 3 picture strips underneath, prevalent figures are capricorn (*capra ibex*), ostrich (*struthio camelus*), and some species of gazelles (*gazella* sp). Several human figures among these rows of beasts may be hunters, warriors, or herdsman each holding a shield or lasso in his left hand. One of the capricorns lies on its back. In the upper row there is also a strange square on two feet, a figure that occurs still in another place of the Araba Plain.

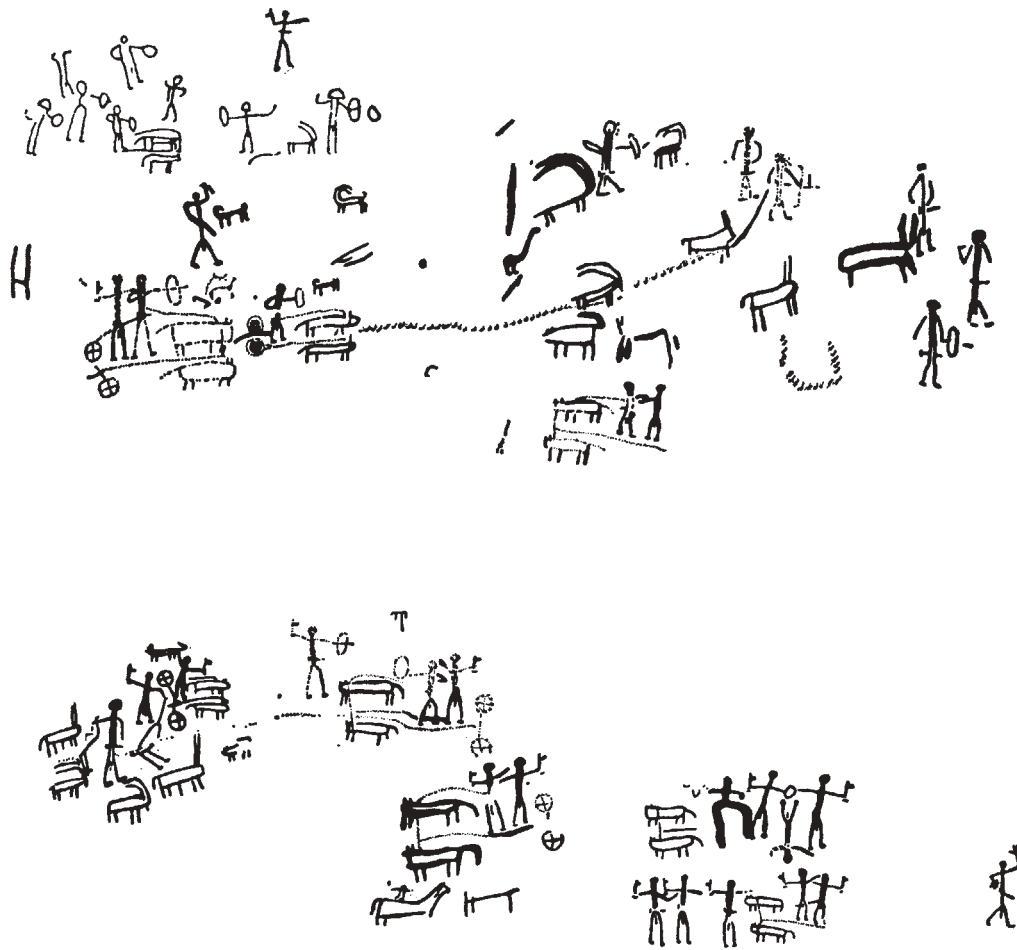
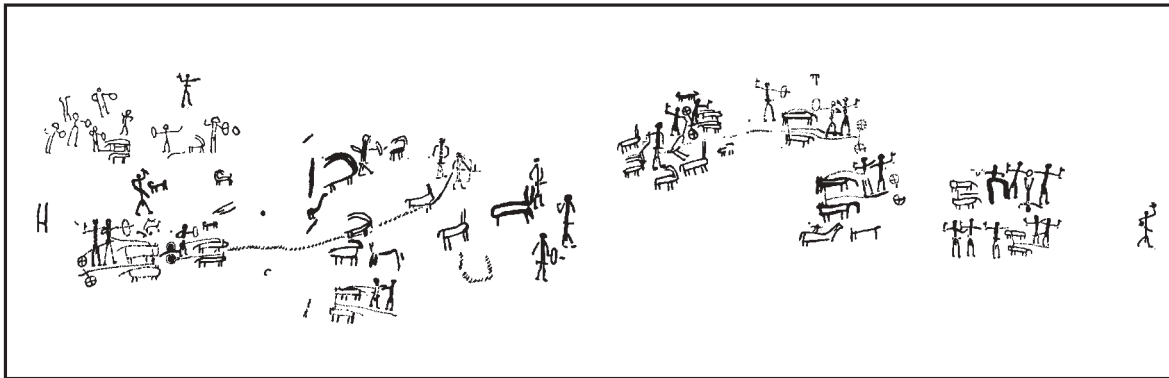




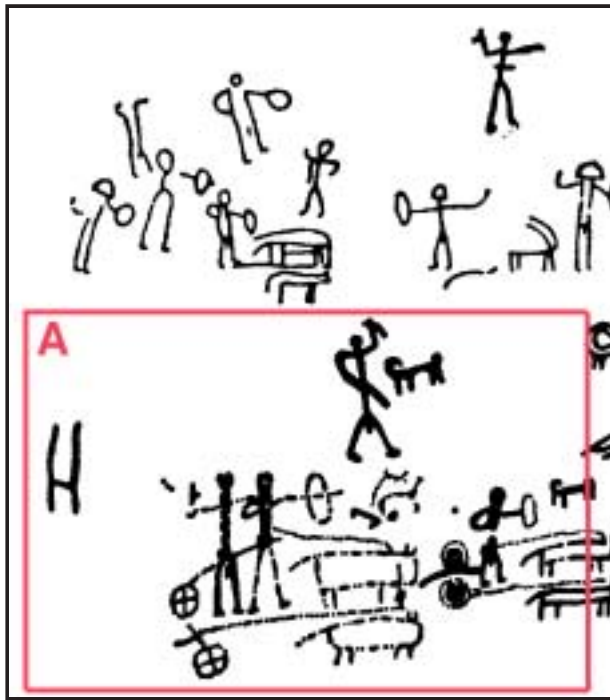
In the bottom row on the right side a depiction of a cart can be found but only its axles and wheels are clearly visible. It is not distinguishable whether the cart has a platform, and how it is pulled by draft animals. Heavily damaged by erosion, two big capricorns with long horns bent backward and a sort of a yoke on their heads can be made out only with great difficulty. It is possible in this case that the engraver has pictured something seen in another place. This suggests a special type of depiction as the larger part is drawn naturalistically and only the cart schematically.

General view of the wall



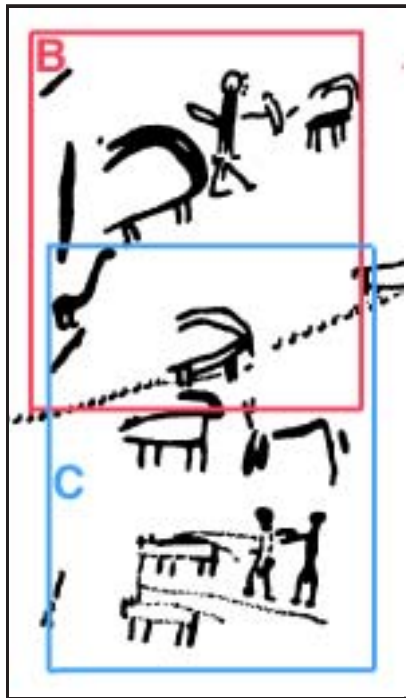


Also accessible for tourists and about 120 meters further to the west at the same cliff there is a crevice about 3-5 meters broad and 20 meters deep. On the overhanging cliff at the opening of the crevice a panel of 9 meters length and 1.50 meter height can be inspected. The panel's engravings are carved with a pointed and very hard instrument and additionally filled with red and white paint which lends them an outstanding impressiveness. The whole panorama conveys a mass of information but most of it is obscure, since reference pictures are missing.



The prevalent objects are manned war chariots with four-spoked wheels and their axle a little displaced to the rear. A railing to protect the drivers against falling from the vehicle cannot be detected. Oxen-like beasts are pulling the chariot by means of a yoke.

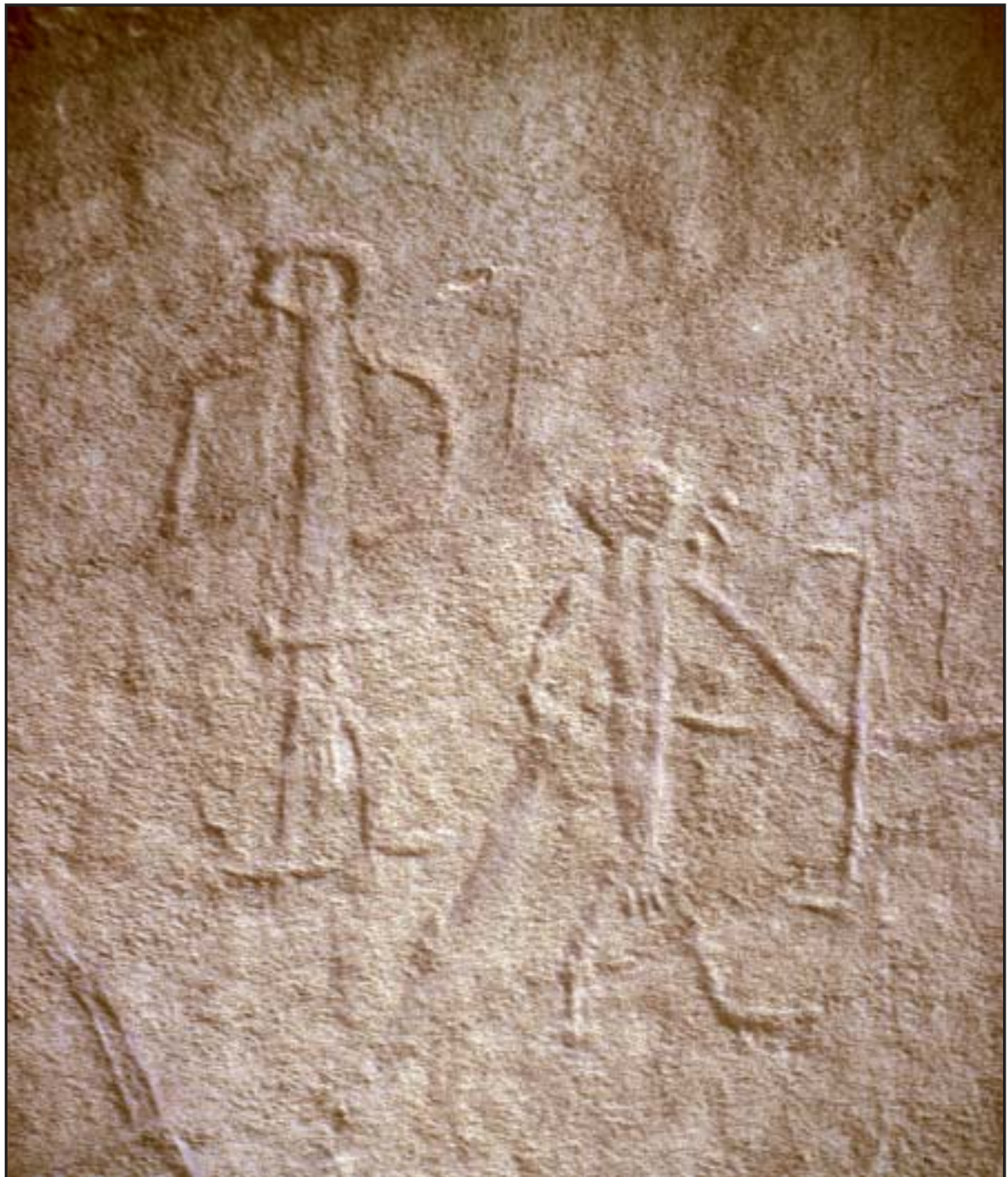


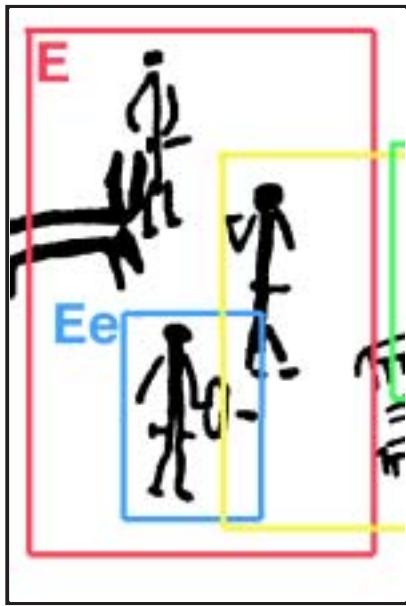


A hunter shoots an arrow at a capricorn.



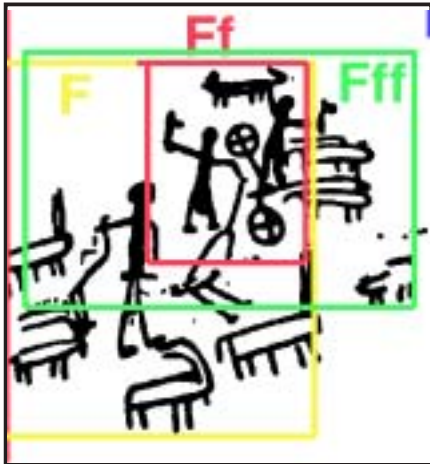
A bowman with bow and arrow in the right part of the picture and another warrior with a dagger or sword hanging on his belt.





A new type of depicting human beings. Their body consists of two vertical lines which may indicate unnormal body height. Their heads are not shown in the normal round shape but as if wearing helmets. They are dressed in frock-like clothing with fringes and carrying long swords with sheath. Besides, warriors with shield and dagger or sword and among them a capricorn.

Warriors with sword and buckler or bow.



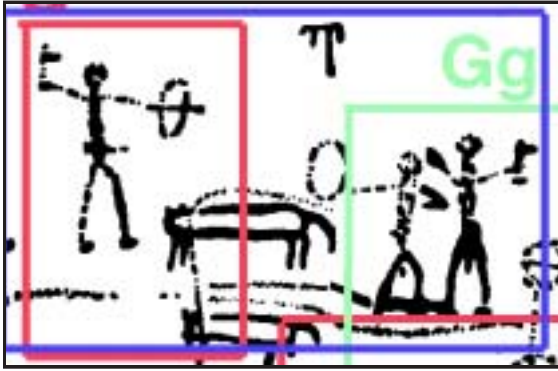
Here, more animals can be seen than in the rest of the panel: capricorns, ostriches, dogs and some of the very rare Oryx antelopes (*Oryx leucoryx*) with their typical straight horns. This kind of antelope is not to be found in any other rock writing in the Near East although it occurs still in South Arabia. A warrior in the middle keeping watch, as it seems, over a herd of cattle, and a war chariot span on the right.



Detail of the war chari-
ot span of page 73



its driver in detail



The halt or stop symbol, a warrior with arms stretched apart and holding an axe in his right hand and a shield in his left.

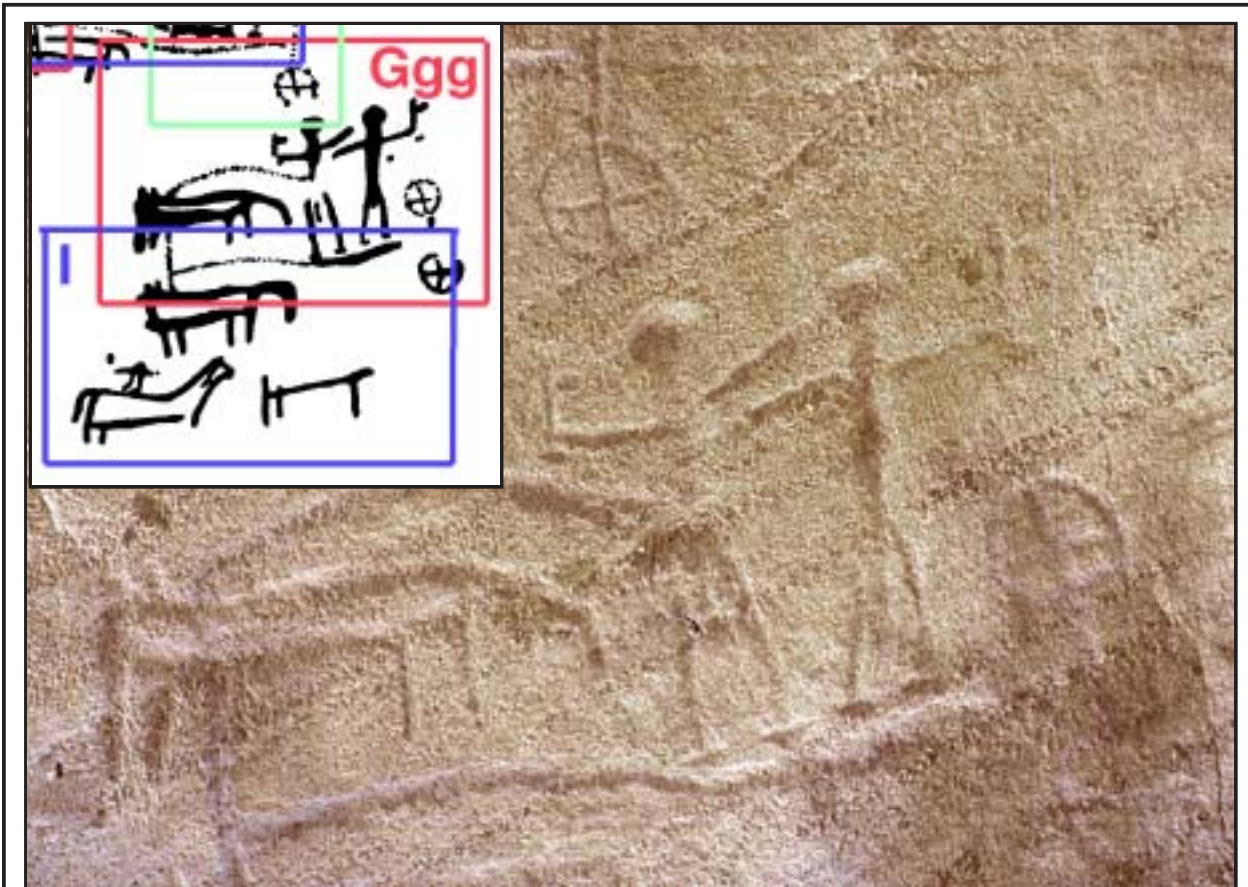


Below, a warrior standing in front of his chariot .





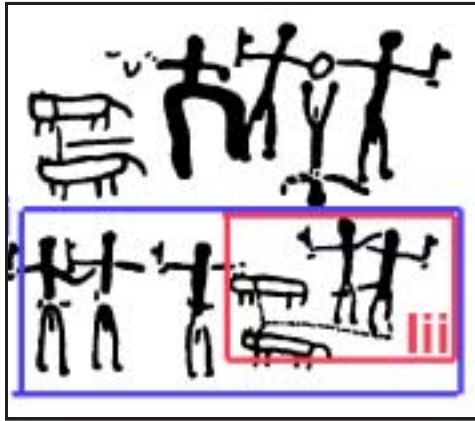
One or two armed men standing on the platforms and carrying bucklers or bows. Almost all soldiers have additionally a battle axe and some of them also a killing knife. These circumstances are characteristics of a certain period of the New Kingdom of Egypt. In order to have their arms free for fighting they used to lash the bridles around their hips. This peculiarity we can find also on Egyptian wall paintings of the New Kingdom (15th to the beginning of the 14th century B.C.). Warriors on the chariot of the picture on page 73 with arms held up, the left warrior bending his bow.



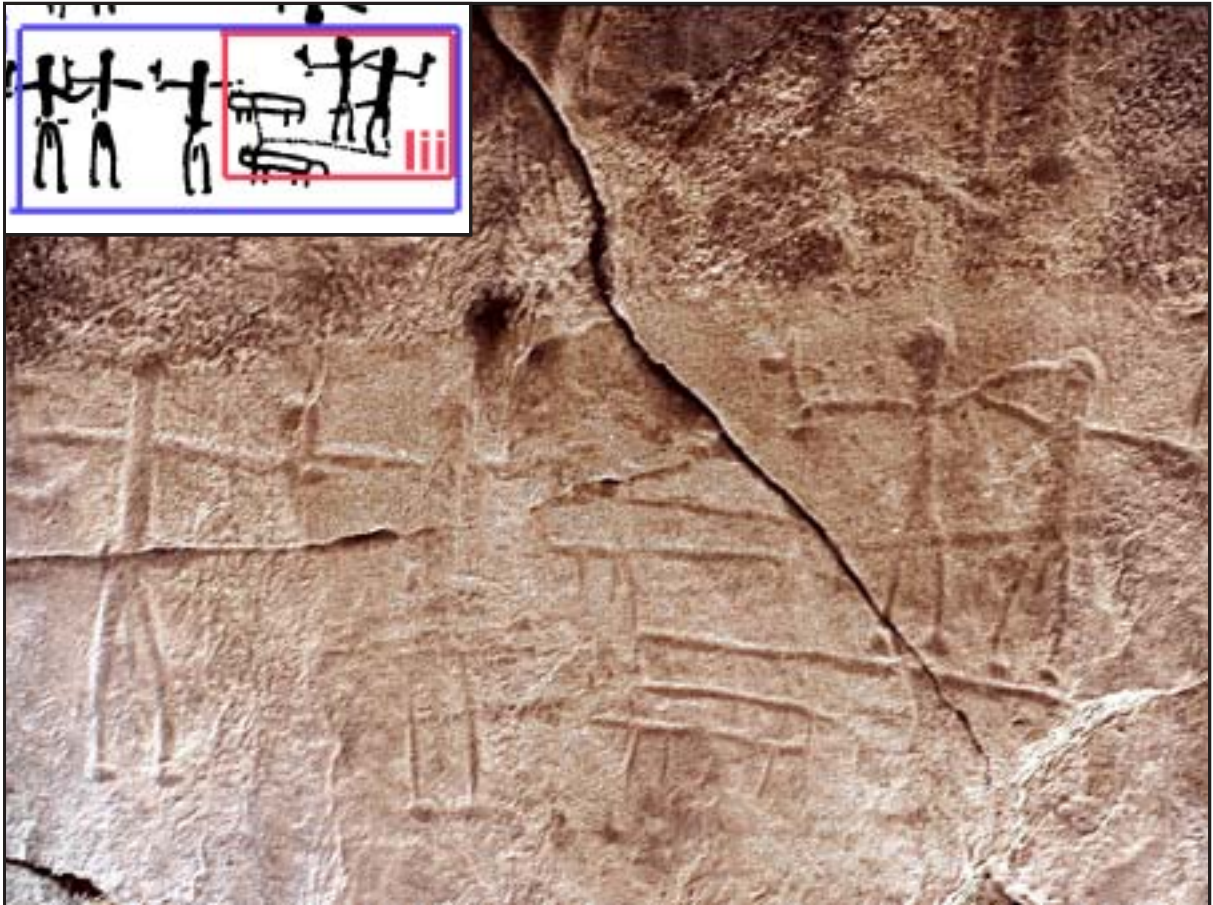
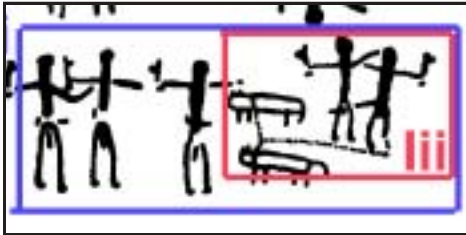
Warriors on a chariot



A quadruped resembling a dog



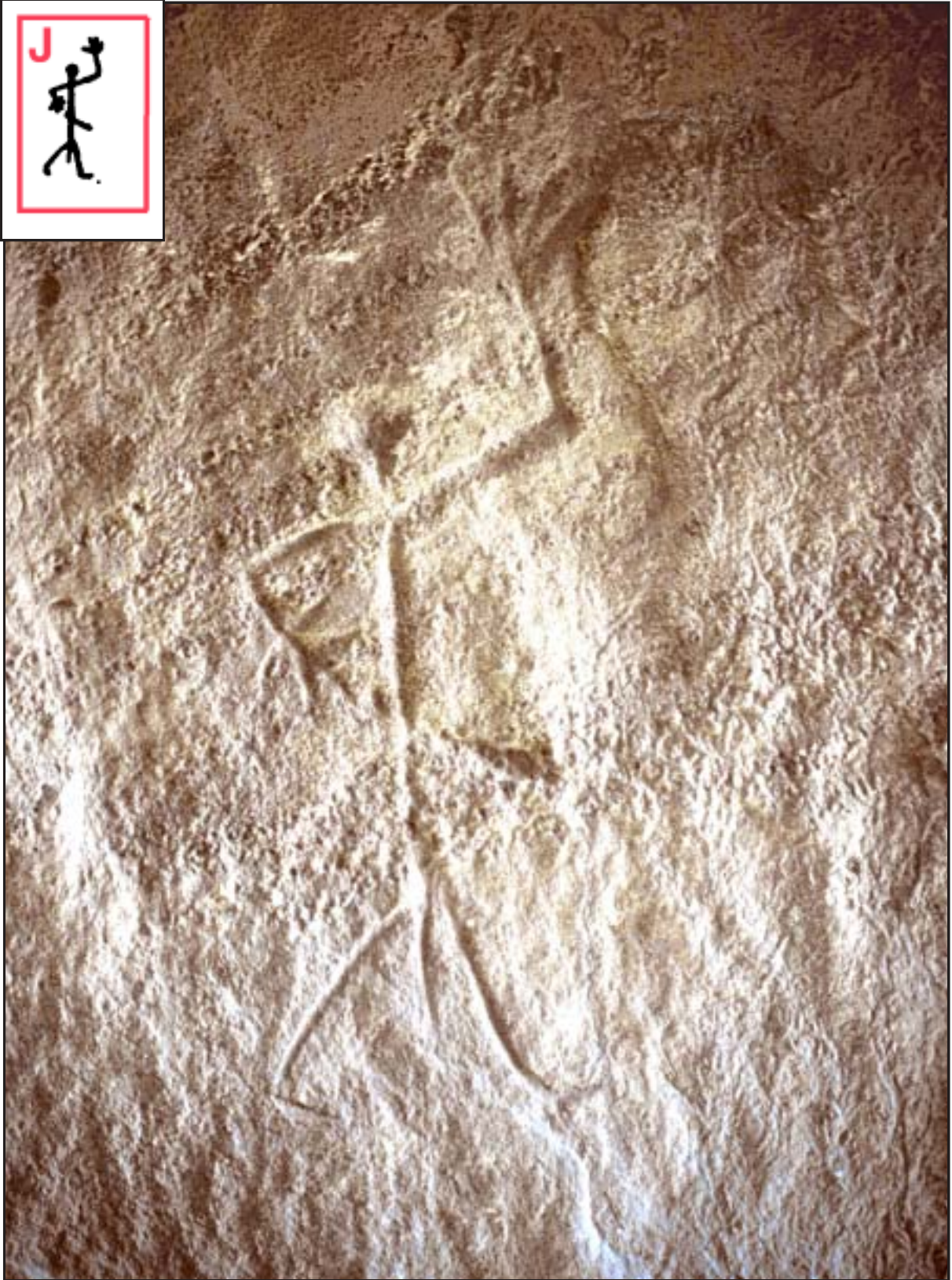
Having a close look at the group of people behind the individual, it becomes obvious that the group consists of three persons with the third figure from the right engraved with double intensity, and that on the same level there is another couple of two persons. The right hand of the one touches the left hand of the other. The point of contact is marked with a circle, and exactly in this spot a man is standing on his head. He is the only figure of the whole panel shown with his head down. Head down means dead, i.e., we are dealing here with a person killed in a quarrel, and if so, the precedent person with one hand up may be interpreted as being a scout.



This picture shows three persons in a line as if barring the passage for somebody else. On their right side two men on a chariot.

in detail, the two chariot riders





Here we have a single man leaving the whole composition of the panel behind himself. He appears already on the preceding one (position 1 on page 64) and likewise stands isolated off-side, rising his left arm and spreading his left hand with only four fingers. His right hand he holds hip-high with bent elbow and also four spread fingers. He has an overexaggerated phallus. On this picture, the man leaves all other people behind himself, waving his arms, while on the other picture he has everybody under himself as subordinates.

The story of this panel seems to refer to three topics. The first topic concerns page 70 where people or rather the local population was confronted with newcomers in strange dressing. Thus the subject of the story is pure information of something new. The second topic told by several sections of the total composition can be the field of hunting. The third topic deals with war and war insignia, weapons, emblems of quarrel and power, and also consists of a series of individual pictures.

The dating of the origin of these engravings must be done on the basis of characteristic components and these, in return, refer to a period of the 19th and 20th dynasties of the Egyptian kingdom.

The engravings in the valley of Timna as a whole represent a maximum history span from 9000 years B.C. until Roman classical era ending at about 500 years A.D. with an ultimate fourth epoch when the Bedouin emblems or Wasems were produced by strolling nomads.

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