



THE GEOGLYPHS OF HAR KARKOM (NEGEV, ISRAEL): CLASSIFICATION AND INTERPRETATION

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Abstract - The geoglyphs of Har Karkom (Negev, Israel): classification and interpretation

There is a debate on the possible interpretation of geoglyphs as a form of art, less durable than rock engravings, picture or sculpture. Also, there is a debate on how to date the geoglyphs, though some methods have been proposed. Har Karkom is a rocky mountain, a mesa in the middle of what today is a desert, a holy mountain which was worshipped in the prehistory. The flat conformation of the plateau and the fact that it was forbidden to the peoples during several millennia allowed the preservation of several geoglyphs on its flat ground. The geoglyphs of Har Karkom are drawings made on the surface by using pebbles or by cleaning certain areas of stones and other surface rough features. Some of the drawings are over 30 m long. The area of Har Karkom plateau and the southern Wadi Karkom was surveyed and zenithal pictures were taken by means of a balloon with a hanging digital camera. The aerial survey of Har Karkom plateau has reviewed the presence of about 25 geoglyph sites concentrated in a limited area of no more than 4 square km, which is considered to have been a sacred area at the time the geoglyphs were produced and defines one of the major world concentrations of this kind of art. The possible presence among the depictions of large mammals, such as elephant and rhino, already extinct in the area since late Pleistocene, may imply a Palaeolithic dating for some of the pebble drawings, which would make them the oldest pebble drawings known so far.

Riassunto - I geoglifi di Har Karkom (Negev, Israel): classificazione e interpretazione

È in corso un dibattito sulla possibile interpretazione dei geoglifi come una forma di arte, meno durevole delle incisioni rupestri, della pittura o della scultura. Inoltre non c'è consenso su come datare i geoglifi, sebbene siano stati proposti alcuni metodi. Har Karkom è una montagna rocciosa, una mesa in mezzo a un territorio oggi desertico, una montagna sacra venerata nella preistoria. La conformazione piatta dell'altopiano e il fatto che la sommità sia stata proibita ai popoli per molti millenni ha permesso la conservazione di molti geoglifi sulla sua superficie piatta. I geoglifi di Har Karkom sono disegni realizzati con allineamenti di pietre o ripulendo aree di superficie dalle pietre esistenti e da altre irregolarità. Alcuni disegni sono lunghi oltre 30 m. È stata esplorata l'area dell'altopiano e della parte meridionale del Wadi Karkom, ed è stata realizzata una documentazione fotografica per mezzo di una fotocamera digitale appesa a un pallone aerostatico. L'esplorazione aerea dell'altopiano è stata diretta a 25 siti con geoglifi concentrati in un'area limitata, non superiore a 4 Km², che si ritiene sia stata un'area sacra al tempo in cui furono realizzati i geoglifi stessi, e definisce una delle maggiori concentrazioni al mondo di questo tipo di arte. La possibile presenza fra le figure di larghi mammiferi, quali elefante e rinoceronte, che si estinsero nell'area nel tardo Pleistocene, implica una datazione al Paleolitico per alcune di queste, il che farebbe di questi geoglifi i più antichi finora conosciuti.

Résumé - Les géoglyphes de Har Karkom : Classification et interprétation.

Les géoglyphes de Har Karkom pose de problème d'interprétation entant que une forme d'art moins durable de graveurs rupestre. Il pose également un problème de datation malgré le fait que certain critère de datation on été proposé. Har Kharkov une montagne au cour de ce que aujourd'hui cet un désert à des nombreux vestige du culte, la plus part de géoglyphes se son conservé sur son plateau. Ils ont été réalisé par des alignements de pierre ou bien nettoyant des pierre sur ce surface. Certain de ces image ont de dimension que supère le 30 m. la documentation photographique a été réalisé avec l'aide d'un ballon aérostatique. 25 sites des géoglyphes se trouve concentré dans un espace de 4 km² qui ont considéré comme une aire sacré a l'époque du géoglyphes mémé. Il s'agit des plus important concentration de ce genre d'art dans le monde entier. L a possible présence de large mammifère, tel que l'éléphant e le rhinocéros, qui on disparu de cette région dans le pléistocène tardif impliquerez une attribution de certain de ce géoglyphes au paléolithique, ce qui ont ferait le plus ancien géoglyphes au monde

INTRODUCTION

Drawing geoglyphs in the landscape or on hillside was used since the ancient times. Figures were rendered on the ground by cleaning the surface, or by building up platforms made of hearth and stones, or even by aligning stones on the flat surface. Contours and figures have different colours

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from the natural ground, and many of them have giant dimensions which make them well visible from an aerial view, but scarcely discernable from the ground.

Scholars were able to date some geoglyphs by different methods, like the White Horse in England [Miles D. 2003], dated back to 1400 BC by stimulated optical luminescence, or the Great Serpent Mound of Ohio [Glotzhober R.C. 1994], dated back to 2900 BP, or to 900 BP, according to different ¹⁴C analyses [Fletcher R.T. 1996, Saraceni J. 1996]. Contemporaneity of Nasca geoglyphs to the Cahuachi ceremonial centre and Nasca culture (1400-2100 BP) was evidenced [Dorn R.L. 1992].

Many others have not been dated, or there was no convincing evidence of proposed dating.

Large size geoglyphs are known on the Har Karkom plateau [Anati E. 1996] and preliminary investigation by means of aerial photographs suggested some of them to represent large mammals already extinct since the end of Pleistocene in the whole Syro-Palestinian area [Mailland F. 2009a & 2009b].

The aerial investigation of the geoglyphs of Har Karkom continued during the campaigns 2009 and 2010 and zenithal pictures were taken by means of a digital camera hanging from a balloon at a distance of 50-150 m from the ground. Balloon flotation due to wind was reduced by use of double rope. In this way the zenith position of the camera was secured and inclusion of anchor in the picture field was avoided. Once the camera was in the desired position, photographs were taken by means of a remote control and sent by the camera to a laptop for checking.

The aerial survey group included Filippo Mailland, Enrico Mailland and Anat Volcani, under the direction of the Author. The explored area included the northern half of the plateau and the western valley, in a rectangle included in the coordinates WGS84 30°19'N-30°17'N and 34°42'E-34°45'E.

Over 2,000 pictures were taken by this technique and the material is still under investigation. Preliminary data are reported here.

FINDINGS

Further figures have been identified in the area of HK/197a-d, where a >30 m long rhinoceros figure had been recognized during a previous campaign [Mailland F. 2009a].

The geoglyph reported in figure 1 represents a quadruped, rendered by aligning white yellowish stones on the brown surface of the *hamada*. The body of the animal is represented by two lines, dorsal and ventral, the four legs by short lines of stones. The animal figure has a long, curve neck, also rendered by two stone alignments, which ends in the head turned bottom, in an aggressive bearing. A short cue is also represented. The figure is 10.5 m long and the line head-cue is orientated south-north. By proportions this figure is similar to the figurine of horse, belonging to Aurignacian, from Vogelherd cave in southern Germany [Riek G. 1935].

The second figure in the same area is another quadruped, drawn by the same technique of the previous geoglyph, with a rectangular head and erected cue (figure 2). This figure has been interpreted as a wolf or a dog. It is 9.3 m long and the line head-cue is orientated west-east.

In figure 3 are reported picture and drawing of an anthropomorphic figure found in the extreme north of the plateau. The site HK/190c lies in an area where the remains of Palaeolithic campsites were found, belonging to Middle Palaeolithic and early Upper Palaeolithic (HK/190, HK/190b, HK/105 and HK/106). This figure also was rendered by aligning white stones over the brown *hamada*. We can distinguish an upper part representing the trunk: there is no head, the eyes are represented by two large slabs, 60 cm long, and the arms begin directly from the trunk, there is no shoulders. The lower part represents the curve legs, and ends in two very small standing stones (the feet?). The ensemble results in a funny figure, with a vaguely anthropomorphic shape. It is 7.2 m long and the line head-feet is orientated west-east.

HK/10b is a site which overlooks a small wadi in the north-western side of plateau. Some stone alignments were found there, which may have been ancient geoglyphs and represent animal figures. Those figures are in the context of BAC sites, where early Bronze age findings –flints and pottery– were found. The picture and drawing of one of those figures is reported in figure 4. It represents an ostrich, rendered by white limestone on the brown surface. The body and the head are drawn as a full figure, stone alignments suggest the legs and the cue. The figure is 4.7 m long, and the axis head-feet is orientated south-north.

HK/38b is a site in the middle of plateau, where BAC remains were found. There is the geoglyph of a quadruped, represented by contour lines of white stones on the brown *hamada* (figure 5). It has been rendered by a dorsal line, ventral line, four lines for the legs, square head and a long cue. It has been interpreted as a feline, maybe a leopard. It is 14.5 m long and the line head-cue is orientated southwest-northeast.

HK/212c is a small anthropomorphic geoglyph drawn on a promontory of the plateau facing the western valley (figure 6). It has been drawn by putting 30-50 cm long stones on the soft ground. It probably represents a female figure, as a circle of stones around a small flat, empty area comple-



te what should have been intended as the inguinal part of the figure. The arms are rendered by a unique, straight line and the head is represented by a vaguely anthropomorphic stone (figure 7). A disturbed figure nearby (not represented) may have been a male anthropomorphic figure.

HK/127b is a small geoglyph which at the origin should have represented an elephant rendered by a full figure (figure 8). Though the geoglyph has been disturbed, it is still possible to recognise the dorsal line, part of the body, the head and the erected trunk. The residual figure is 2.5 m long and has an orientation head-cue by west-east.

HK/56c is a BAC site at the western foot of Har Karkom where a figure of a quadruped was rendered by cleaning the ground surface of the brown stones, leaving the white-yellowish colour of loess appear (figure 9). Difficult to interpret the animal depicted, probably a sheep. The figure, drawn on the slope, is about 5 m long and the line head-cue is orientated northwest-southeast.

HK/193 is a large size Palaeolithic site on the north-eastern edge of the Har Karkom plateau. A large size geoglyph has been identified there, drawn by a mixed technique, in part clearing up the brown *hamada* surface and in part adding stone alignments and limestone white spots in the same figure (figure 10). It represents a large size mammal (hippopotamus?), well preserved in its dorsal line, back and head. On the contrary, its ventral part was disturbed by the superimposition of another geoglyph, rendered by a different technique, made with negative contour. It represents an ostrich overlapping the a.m. mammal figure. The mammal is about 50 m long and the line head-cue is orientated south-north. The ostrich is 25 m long and the line head-cue is orientated southwest-northeast.

CLASSIFICATION

The above results led to define five styles in HK geoglyphs:

Style I – full figures were executed by completing natural limestone outcrops with stone alignments. Large size mammals are represented, animals extinct at the end of Pleistocene. Located in Palaeolithic sites or in their immediate vicinity (HK/197a-d).

Style II – images made by a mixed technique, in part clearing up the brown *hammada* surface and in part adding stone alignments and limestone white spots in the same figure. The most representative depiction of this style is a large size mammal in a Palaeolithic site (HK/193).

Style III – contour drawings made of alignment of white stones on the brown ground, or alignment of brown stones on a white-yellowish ground. Animals and geometric figures are represented. They are located in the context of either Palaeolithic (HK/197a-d, HK/190c) or BAC (HK/10b, HK/38b) sites.

Style IV – drawings made by negative contour. The most peculiar picture belonging to this style is an ostrich overlapping a large mammal of style II (HK/193).

Style V – full, negative figure obtained by clearing stones from the surface. The only one figure till now discovered, which was made by this technique, is located in a BAC site (HK/56c).

DATING

Geoglyph dating is always problematic and the geoglyphs of Har Karkom do not represent an exception. For many of them, the risk of trying scientific methods is to date the stones instead of the drawings. Nonetheless, there is a peculiarity of some geoglyphs over Har Karkom plateau which lead speculate on their possible dating. The mountain was sacred over millennia and the peoples were forbidden to climb the mountain. Only few, elected persons were allowed to reach the top. This was the main reason why very ancient remains, like the Palaeolithic campsites, are still well preserved *in situ* like they were left few time ago. Furthermore, deep erosion unearthed ancient remains which remained probably under the flat surface for several millennia.

This is the context in which many pebble drawings lie on the flat surface of plateau. In the previous report on Har Karkom geoglyphs [Mailland F., 2009a], figures of large mammals, like a rhinoceros, and an elephant, were recognised as having been drawn before the end of Pleistocene, when those animals were still living in the area. The present investigation put in light other figures of animals, living in the Negev during Palaeolithic ages and extinct at least 28,000 years BP, when the worsening of the climate conditions rendered the area unsuitable to life. Those figures include at least the horse of figure 1, the elephant of figure 8 and the large mammal of figure 10. The location of those figures in Palaeolithic sites is also consistent with a possible dating to Palaeolithic.

Conversely, some other figures, like the ostrich of figure 4, the leopard of figure 5 and the human being of figure 6, are compatible with the BAC period. The represented animals lived in the area since the humid Neolithic and similar figures were represented in the rock engravings belonging to Bronze age. Palaeolithic age and Early Bronze represent the two main periods of frequentation of Har Karkom area and the possible attribution of geoglyphs to either period may not be unlikely.

SIGNIFICANCE

There is a debate on the possible interpretation of geoglyphs as a form of art, less durable than rock engravings, picture or sculpture. There is no reference to other Palaeolithic sites with any geoglyph in the rest of the world, thus the significance of the geoglyphs during Palaeolithic should be considered in the context of the other Palaeolithic forms of art. Magic and rituals may have been at the basis of drawing large size geoglyphs, even 50 m long. Any aesthetic or decorative intent should be excluded for pebble drawing, as the figures are hardly visible from the ground.

The hypothesis of propitiatory rites to hunting was refused by Leroi-Gourhan. According to his analysis [Leroi-Gourhan A. 1992], the disposition of animal figures in the Palaeolithic parietal art is not casual, but responds to a general scheme, a structure, an organisation which constitutes a kind of symbolic language through constant association of depicted animals. The main theme is the primordial couple Bison-Horse, which represents a cosmology based on the separation of the world between male and female elements.

Another hypothesis to give interpretation of Palaeolithic art [Lewis Williams J.D. 1991] is based on the consciousness alterations which happen in shamans, including dreams, visions, hallucinations. The figures depicted would be lines, geometric symbols, and animals seen by the shaman during trance.

Does the disposition of Palaeolithic geoglyphs on the plateau of Har Karkom respond to a similar design? Did the Palaeolithic pebble drawings transmit a message that the modern people are no more capable to understand? What could be the key to an understanding of that message?

At present, trying to give an answer to these questions may be too early. Further investigation is needed to complete the corpus of Har Karkom geoglyphs, to do statistics of the animals depicted and to study the disposition of the drawings in those sites where a concentration of pebble drawings was recognised, in particular the site HK/197a-d. The study of proportions, of the relative positioning among the geoglyphs, and any relation between figures and Palaeolithic hut floors, would add pieces of information to the puzzle.

Could a different interpretation be given for those geoglyphs which were likely performed during the Bronze age? To answer this question, we should first understand whether the people of Bronze age were aware of ancient (for them) giant pebble figures lying on the plateau surface. In at least two occasions we know that they did not know, or did not give value, to ancient geoglyphs: one is the case of a cist grave from Bronze age overlapping an elephant figure [Mailland F. 2009a], the other one is the V style ostrich of Figure 9 overlapping and disturbing a previous mammal figure.

A characteristic of the pebble figures of the Bronze age at Har Karkom is that they were mainly drawn in proximity of tumuli, of funerary fields or boulders with rock engravings. In other words, stone alignments, circles of stones, geometric figures, but also animal figures (ibex, ostrich) would have been drawn as markers of holy places during the Bronze age.

Further data is needed to confirm or refuse this hypothesis.

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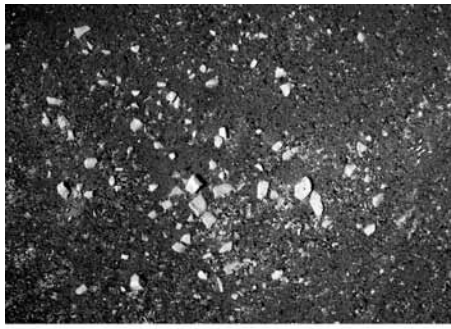


Fig. 1: picture and drawing of a horse-shaped geoglyph of style III

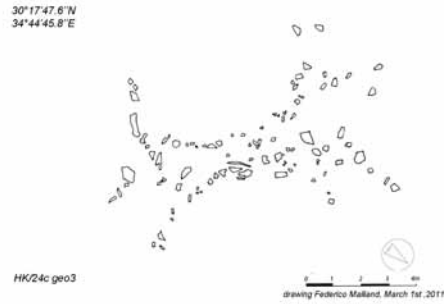
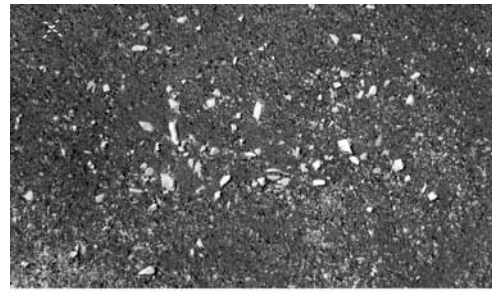


Fig. 2: picture and drawing of a canine-shaped geoglyph of style III

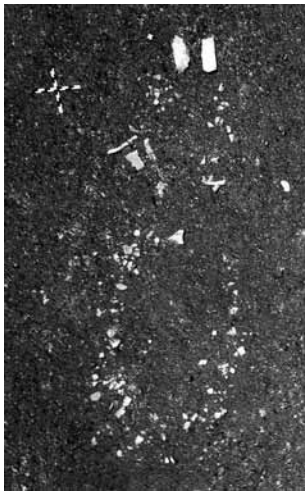


Fig. 3: picture and drawing of an anthropomorphic figure of style III

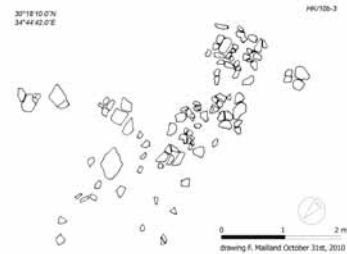


Fig. 4: picture and drawing of an ostrich figure of style III



Fig. 5: geoglyph of a quadruped, represented by contour lines, style III



Fig. 6: small anthropomorphic geoglyph drawn on a promontory of the plateau, style III



drawing Federico Malloni, March 7th, 2011

Figure 7: head of the anthropomorphic geoglyph of figure 6. It has a vaguely anthropomorphic feature



30°17'58.87N
34°44'36.37E

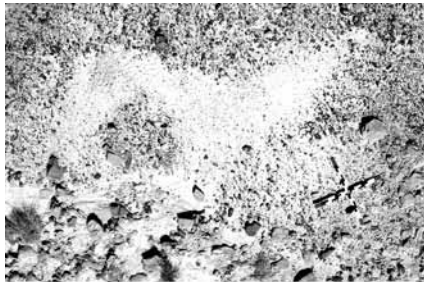


180:3276

0 1 2 m

drawing Federico Malloni October 21st, 2010

Figure 8: part of a small geoglyph with elephant shape. Style I



30°18'04.17N
34°44'01.47E



180:3276

0 1 2 m

drawing Federico Malloni February 24th, 2010

Figure 9: figure of a quadruped rendered by cleaning the ground surface. Style V

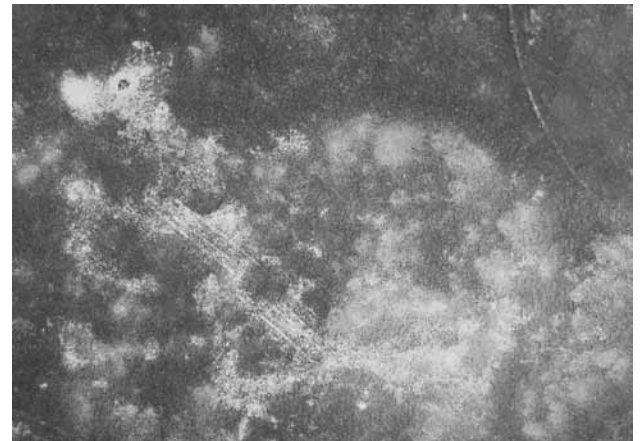


Figure 10: large size geoglyph of a mammal (hippopotamus?), style II. It is well preserved in its dorsal line, back and head. The figure is overlapped by another geoglyph, made with negative contour of style IV, and representing an ostrich