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Defecating Elephants in Messak Rock Art. An Anomaly?

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INTRODUCTION

In prehistoric times uncountable rock art images of mammals and anthropomorphs have been manufactured across the globe. It is now a fact that in real life most of those creatures discharge all kinds of tangible stuff, as well as intangible sounds and energy. All those discharges leave the body (of an average human being) through at least five million openings, most of which are pores. In this study discharges of perspiration via pores will be ignored, as it is unlikely that this kind of excretion will ever have been depicted in rock art (however, Pecos Style images from southern Texas, USA, are said to sometimes show "armpit-hair", which might in fact symbolise sweat as well).

Instead, the focus will be on the representations of defecating elephants in African rock art, mainly concentrating on the petroglyphs of the Messak Plateau of the Central Sahara. Despite the fact that those discharges are very common in real life, it proves that they are only extremely rarely depicted in rock art and, moreover, many such representations are often ambiguous. It must also be emphasised here that in many cases (if not in the great majority) the rock art images of those discharges may well concern a more metaphorical than a literal event. Finally, this study does not pretend to being comprehensive, especially as I certainly will not claim to know all instances depicting (defecating) elephants in African rock art. There definitely are more examples unknown to me, while preparing this study.

Figure 1. Pictograph of a possibly defecating anthropomorphic figure in the rock shelter at Arakoukam, central Algeria. Drawing © by Maarten van Hoek, based on an illustration by Brigitte Choppy (2007: Fig. 18)

DEFECATION IN ROCK ART

Although in real life all mammals must defecate, in rock art biomorphs only very rarely have been depicted while defecating. In only rare cases the faeces dropping out of an animal is depicted, either by a single cupule or by a row of cupules or circles/ovals very near the bottom of the mammal, mostly just below the (often upraised) tail. Rock art images of defecating anthropomorphs are extremely rare. I know of only very few (possible) examples. One concerns a petroglyph on Boulder 20 of the Luahiwa complex on the Big Island of Hawaii (LEE, STASACK 1999: Fig. 8.38). A row of five cupules seems to be excreted from the genital area of an otherwise un-sexed figure. My interpretation is that this row of cupules *might* represent faeces. At the site of Tissoukai, in the Tassili-n-Ajjer, Algeria, Brigitte and Ulrich Hallier recorded on one panel the pictographs of two squatting individuals of which they tentatively suggest that they may be defecating (2011: 143; 144; Fig. 27). A much more convincing example has been recorded by Brigitte Choppy (2007: Fig. 18) in the rock shelter at Arakoukam, central Algeria. It concerns the pictograph of a bent-over anthropomorph with a string of vertically arranged dots from its bottom (Figure[1] 1).

In contrast mammals have more often been depicted while defecating, although still very rarely. A regionally very rare

1 An important note about my illustrations. They are my copyright, but only when it concerns the way the illustrations are presented in this article. The original illustrations are the copyright of the author(s) mentioned in the captions.

(unique?) example concerns the deer petroglyph ridden by a warrior on Rock 57 at Naquane in the Valcamonica of northern Italy. The animal has four cupules below the tail that may be associated with the animal and if so, they just possibly may depict or symbolise defecation.

Also in North America rock art images of defecating mammals are extremely rare. An example (of uncertain status, though) of a petroglyph of a defecating sheep – with raised tail – has been recorded on a rock panel at Nine Mile Canyon, Utah, USA. However, in some instances the association between animal and their supposed excrements is uncertain. For instance, the petroglyph of a quadruped at Alta in the far north of Norway has one cupule just to the right of its bottom and is therefore said to be defecating, possibly also because the animal shows the uplifted tail. Also the petroglyph of a quadruped recorded at the remote and very narrow slot canyon of Wire Pass, Utah, USA, is said to defecate, but the amorphous cluster of crude peck marks may not necessarily be associated, although – again – the uplifted position of the tail seems to suggest defecation. The same may be true for a rather exceptional engraving from La Silla, northern Chile, where a human figure seems to be catching or leading a clearly male camelid that has a dot (probably not a deep cupule) between its legs (Ballereau 1981: Fig. 30.a). The dot might represent a dropping, but the whole configuration (notice the drooping tail!) may equally symbolise dual-gender, as a dot between the legs also may indicate a vulva.

Northern Africa

Although the African elephant is no longer seen in the whole of Africa, it is a fact that in earlier days the animal could be spotted at many spots from the far north to the deep south and from the deep forests of Central-West Africa to the areas east of the mighty Nile. For that reason rock art images of the elephant are found in many parts of Africa, also in the area what is now the Sahara Desert. Rock art images of elephants have for instance been recorded at high altitudes in the High Atlas, as well as in the rugged Tassili-n-Ajjer mountains, the remote Djado Plateau and in the Eastern Desert of Egypt, to name just a few examples. In contrast, there are areas rich in rock art that are said to have "no" images of elephants. For instance, Berger *et al.* 2003: 132 remark (however, see D'Huy, Le Quellec 2009 for information that seems to prove otherwise): "*Most interesting is the petroglyph of an elephant, apparently the first one documented in the Jebel Uweinat / Gilf Kebir region*" (roughly 1400 km ESE of the Messak).

There are also areas that are said to be bereft of rock art images of elephants, while examples have been recorded there after all. For instance, regarding the distribution of elephant images in Egypt, D'Huy and Le Quellec (2009: 91) claim that "*Si nous cherchons au nord-est de la ligne allant de Siwa à Abu Simmel, nous ne trouvons aucun éléphant*". However, at the rock art site of Khor Abu Subeira (originally discovered by G. W. Murray in 1930), only 12 km north of Aswan and just to the east of the Nile, at least two very ancient petroglyphs of fully pecked elephants have been recorded (Lippiello, Gatio 2010: Fig. 5). These two elephants are relevant for this study and will be discussed further on.

There are, however, *only* two areas in Northern Africa that stand out for having an above average number of petroglyphs depicting *defecating* elephants. The Messak Plateau plus the neighbouring Tadrart-Acacus – our Study Area – is the most important of those two areas.

The Messak

Our Study Area (the Messak Plateau and the neighbouring Tadrart-Acacus; see the map of Figure 2) measures about 95.000 km^2, that is more than twice the roughly 41.800 square kilometres of the whole of the Netherlands. Moreover, unlike the easily accessible Netherlands the Study Area consists of very rugged, inhospitable mountainous terrain and endless deserts and it is moreover located in an extremely dry part of the Sahara Desert where temperatures often reach scorching heights. Yet, several adventurous rock art researchers have surveyed the Messak, discovering numerous rock art sites with many, often enigmatic rock art images of the several cultures that once inhabited the area, especially in better and wetter days. It is important to know that many petroglyphs of big game in the Messak-Tadrart area belong to the so-called *Bubalus* Style. Van Albada A. and Van Albada A.M. estimate that the *Bubalus* rock art tradition on the Messak Plateau started around 6500 BCE and ended around 3800 BCE, when a serious drought commenced.

Indeed, the Messak Plateau houses one of the most interesting and fascinating collections of rock art (mainly comprising petroglyphs) in northern Africa. It is located far inland in the SW corner of Libya, roughly 780 km south of the capital Tripoli on the Mediterranean coast. The Messak is often divided in the Messak Settafet (the larger part to the north) and the Messak Mellet to the south (Map Figure 2), but that distinction has nothing to do with rock art distribution. The sandstone plateau – now sandwiched between the sand seas of Ubari in the

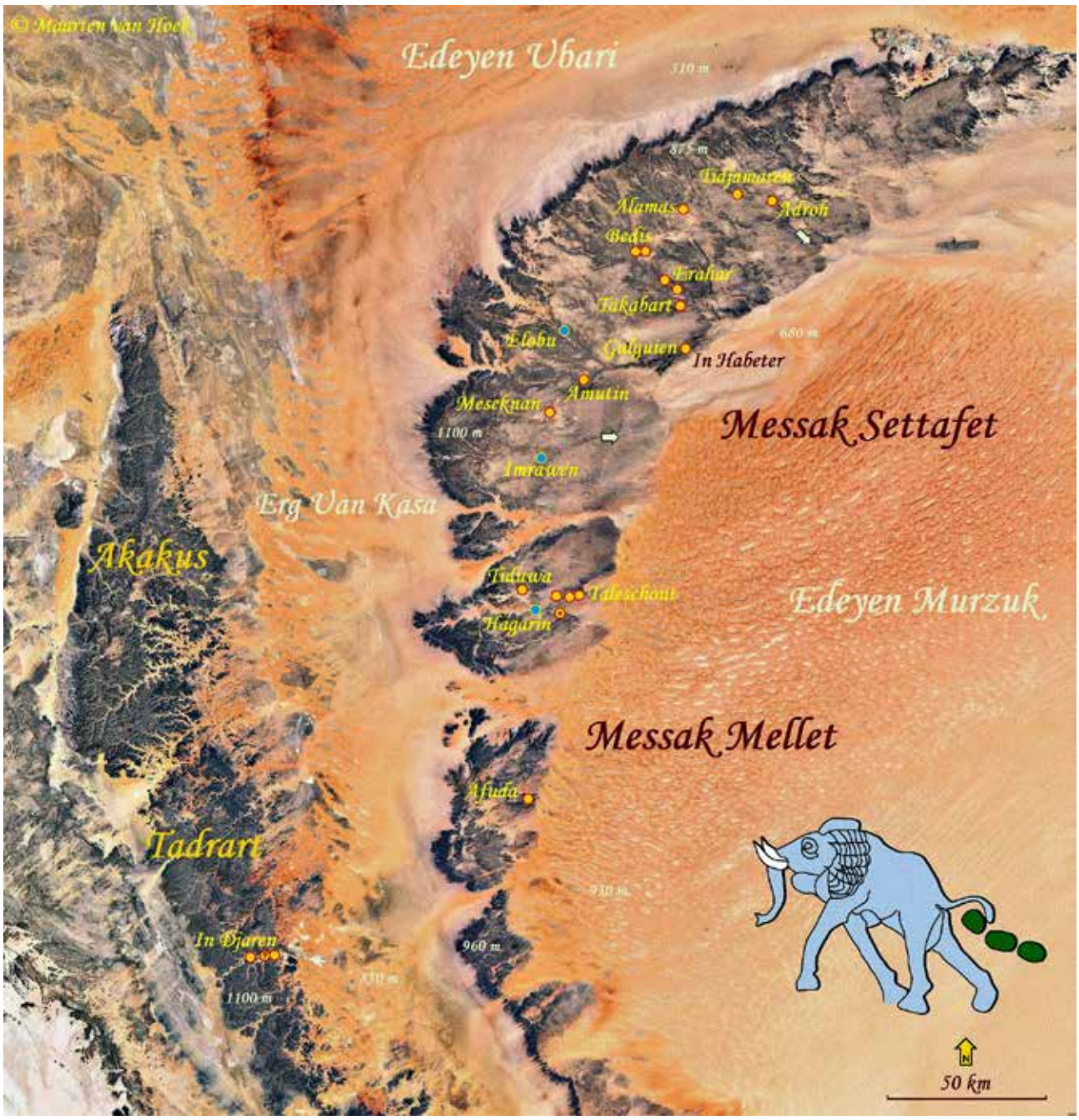

Figure 2. Map of the Study Area. Map © by Maarten van Hoek, based on *Google Earth*

north, the Erg Uan Kasa in the west and the Edeyen Murzuk in the southeast – has a crescent shape measuring roughly 340 km in length and about 75 km in width at its maximum. The plateau slopes from north and west to respectively the south and east and consequently the thirty or so major wadis run in the same direction, often "parallel" to each other with numerous tributaries. To the north the plateau ends with an up to 160 m high cliff that dominates and overlooks Wadi Irwan and the plateau's northern foreland (the sand sea of Ubari). As far as I know no rock art has been recorded on boulders and outcrops at that cliff or at the foot of the cliff. The highest Messak rock art sites are found about 3 km distant from the cliff's edge. A few wadis cut right through the plateau, offering easy through routes, while most other wadis (just) do not reach the edge of the cliff and it is there where the final upstream rock art sites are found. Yet, most wadis are relatively easily accessible and – what is more – at several places in the wadis there are *gueltas*; spots were drinkable water is available, often only at certain times of the year.

Rock art sites or clusters are mainly found at the cliffs bordering the wadis that cut through the plateau and it is therefore quite obvious that prehistoric peoples entered the wadis from the south and east (from the area what is now the sand sea of Eyeden Murzuk). Many wadis have rock art images of elephants, but at least nine or ten wadis have petroglyphs of defecating elephants. The wadis with petroglyphs of defecating elephants

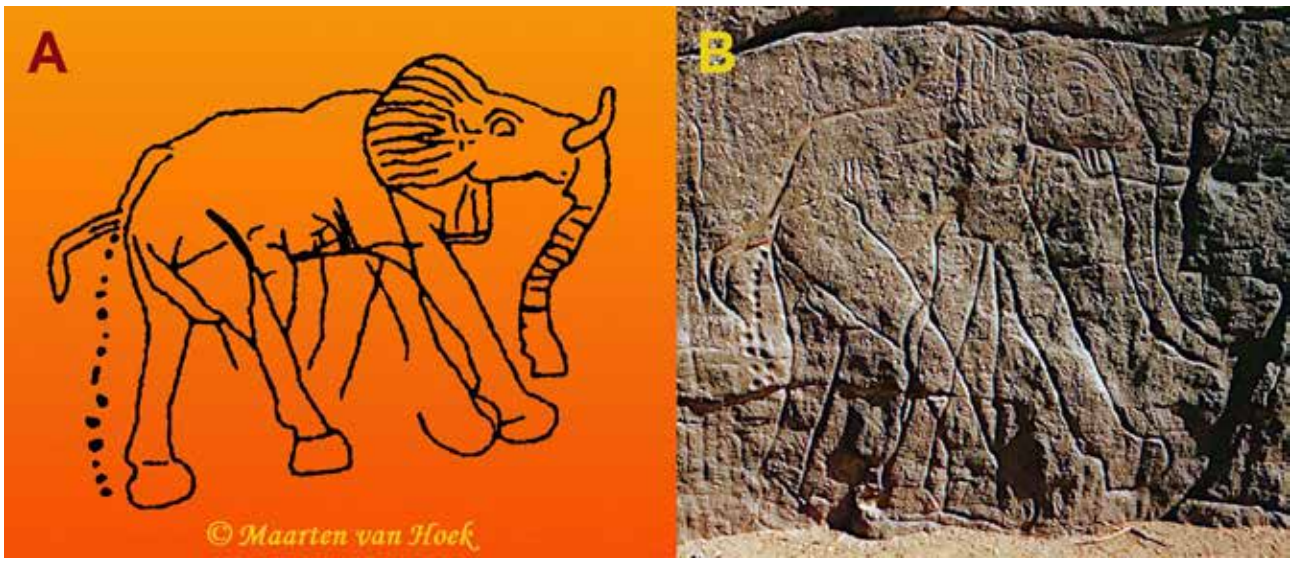

Figure 3. A: Petroglyph of a defecating elephant at Wadi Adroh, Messak, Lybia. Drawing © by Maarten van Hoek, based on an illustration by VAN ALBADA, VAN ALBADA 2000: Fig. 107. B: Petroglyph of a defecating elephant at Wadi Tidjamaren, Messak, Lybia. Photograph © by VAN ALBADA, VAN ALBADA 1994: 40

will be discussed from the NE to the SW, starting with Wadi Adroh. When the location of the panel involved is more or less known to me (thanks to the several maps – including especially the *Google Earth* map – published by Axel and Anne-Michelle Van Albada), the sites with petroglyphs of defecating animals have been indicated with a red-yellow circle on the map (Figure 2: One yellow-red circle with a "?" in Wadi In-Djerane only indicates the wadi, not the exact location of the panel). As I have not visited the Messak myself, the descriptions are all based on the surveys and publications or on personal information received from other rock art researchers and on reliable illustrations/information that I found on the internet.

ADROH

About 38 km NW of the entrance of Wadi Adro(h) – thus following the wadi upstream – is the north-easternmost site with a petroglyph of a defecating elephant in the Messak. It is marked as Site 91 on the *Google Earth* map provided by Axel Van Albada (2020: pers. comm.). The almost vertical rock wall located on the north side of the wadi features the petroglyph of a large elephant (about 280 cm in height) that is clearly defecating (VAN ALBADA, VAN ALBADA 1996a: Fig. 11; *IID*. 2000: Fig. 107). It cannot be decided if the elephant (with five legs?) is male. A vertical row of 14 cupules emerges from just below the tail (Figure 3A), which is bent in a specific position, described as a "*queue coudée*" ("bent tail") by GAUTHIER, GAUTHIER 1996: 91. According to Gauthier Y. and Gauthier C., such an uplifted, bent tail may in itself be related to defecating (1996: 92). However, there are Messak elephants that have this type of tail without showing excrements (for instance at sites in Wadi Tiduwa).

TIDJAMAREN

A tributary to Wadi Adroh is Wadi Tidjamaren. About 12 km upstream from the confluence and 10 km WNW of Site 91 in Wadi Adroh is an important site, marked as Site 102 on the *Google Earth* map provided by Axel Van Albada (Alex Van Albada 2020: pers. comm.). The almost vertical panel is also located on the north bank of the wadi (VAN ALBADA, VAN ALBADA 2000: 117). It shows a defecating elephant (very similar to the one at Adroh) with – however – two rows of cupules (Figure 3B). The longer row has eleven cupules, while a shorter row of four cupules runs parallel to the lower end of the longer row. Van ALBADA, VAN ALBADA 1994: 40 describe the scene as follows "*Two elephants – part of a frieze of four walking elephants – The animal to the left seems to avoid the excrements of the animal in front of him*". The elephant – overlooking *guelta* 1055, which is not indicated on the map by Van ALBADA, VAN ALBADA 2000: *Document-Planche* 2 – is oriented to the right and thus downstream.

ALAMAS

Roughly 25 km west of Panel 1 in Wadi Adroh is a rock panel in Wadi Alamas (about 47 km NW of the entrance, probably indicated as Site 163 on the *Google Earth* map provided by Axel Van Albada [without mentioning defecating elephants, though]) with a scene described by VAN ALBADA, VAN ALBADA 2000: 120 as: "*Sur le promontoire du dernier meander de ce centre, des hommes-chiens et des éléphants sont mis en scène. Deux hommes-chiens entourent un éléphant et l'un d'entre eux semble récolter les excréments*". It seems as if one of the therianthropes ("*hommes-chiens*") is collecting the excrements of a clearly male elephant. However, Van

Figure 4. Petroglyphs of an elephant and two therianthropes at Wadi Alamas, Messak, Lybia. Drawing © by Maarten van Hoek, after an illustration by Van Albada, Van Albada 1993a: Page 48; Fig. 1

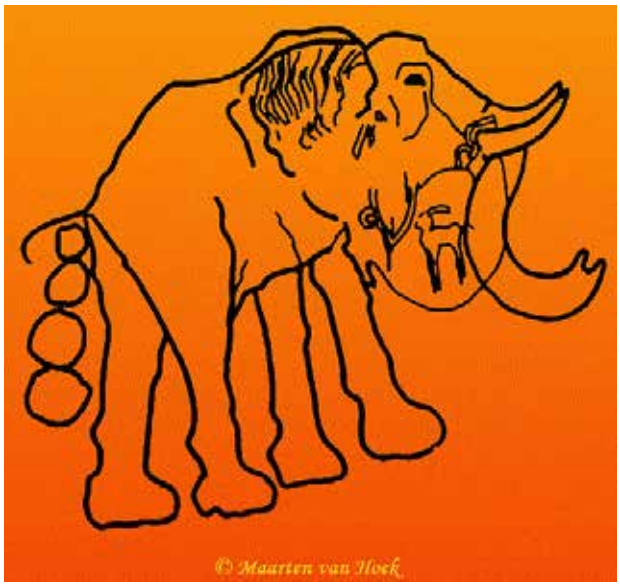

Figure 5. Petroglyph of a defecating elephant at Wadi Bedis, Messak, Lybia. Drawing © by Maarten van Hoek, after an illustration by Van Albada, Van Albada 1992: Fig. 4.1

Figure 6. Petroglyph of a defecating elephant at Wadi Bedis, Messak, Lybia. Drawing © by Maarten van Hoek, based on an illustration by David Coulson (Museum number: 2013,2034.2986; https://www.britishmuseum.org/collection/object/E_2013-2034-2986)

Albada and Van Albada illustrate this scene (1993a: Page 48; Fig. 1) and it proves that no actual excrements have been depicted (Figure 4).

Bedis

Further south is Wadi Bedis (or Beddis or Geddis). At one of the numerous rock art sites in this wadi (Site 811 on the *Google Earth* map provided by Axel Van Albada) – and located about 48 km from Wadi Mathendous – Van Albada A. and Van Albada A.M. recorded a petroglyph of a defecating elephant on a panel at the north side of the wadi (1992: Fig. 4.1). David Coulson also photographed this petroglyph in 1998[2]. Four large circles below the tail clearly indicate the dropping excrements (Figure 5).

Only 470 m further east in the same wadi and also on the north bank (Site 220 on the *Google Earth* map provided by Axel Van Albada) is a large detached boulder with the deeply carved petroglyph of an elephant, also photographed by David Coulson in 2000[3]. Immediately below its tail (again in that specific bent position) is a large circle from which a line runs vertically to the imaginary ground level (Figure 6). This line bisects five more circles; the whole concatenation claimed by Coulson to represent faeces. Confusingly, another photograph by Coulson of the same panel[4] is also labelled as "Wadi Mathendous", a wadi which is located much further south. Fortunately, Axel Van Albada confirmed that the panel is in fact located in Wadi Bedis (2020: pers. comm.).

Erahar

About 12 km to the SE of Wadi Bedis Site 811 is Site 302 in Wadi Erahar (as indicated on the *Google Earth* map provided by Axel Van Albada), which features a large panel in a small rock shelter on the north (left) side of the wadi featuring the petroglyphs of a number of bovines and a row of two elephants, the much larger of which is clearly defecating as it has four circles emerging below its tail (Figure 7A). A fifth circle seems to have been broken off (Van Albada, Van Albada 1995a; *Planche* 4; 1996b: *Planche* 1).

About 6 km downstream and to the SE of Site 302 is a second site in Wadi Erahar (Site 296 on the *Google Earth* map provided by Axel Van Albada) with the petroglyph of a defecating elephant orientated to the right. Importantly, the eight faeces (five circles and three possible cupules) seem to be less patinated; later additions? This panel is also located on the left side of the wadi and thus this elephant is walking downstream as well (Figure 7B).

2 Museum number: 2013,2034.3015; https://www.britishmuseum.org/collection/object/E_2013-2034-3015
3 Museum number: 2013,2034.2986; https://www.britishmuseum.org/collection/object/E_2013-2034-2986
4 Museum number: 2013,2034.2600; https://www.britishmuseum.org/collection/object/E_2013-2034-2600

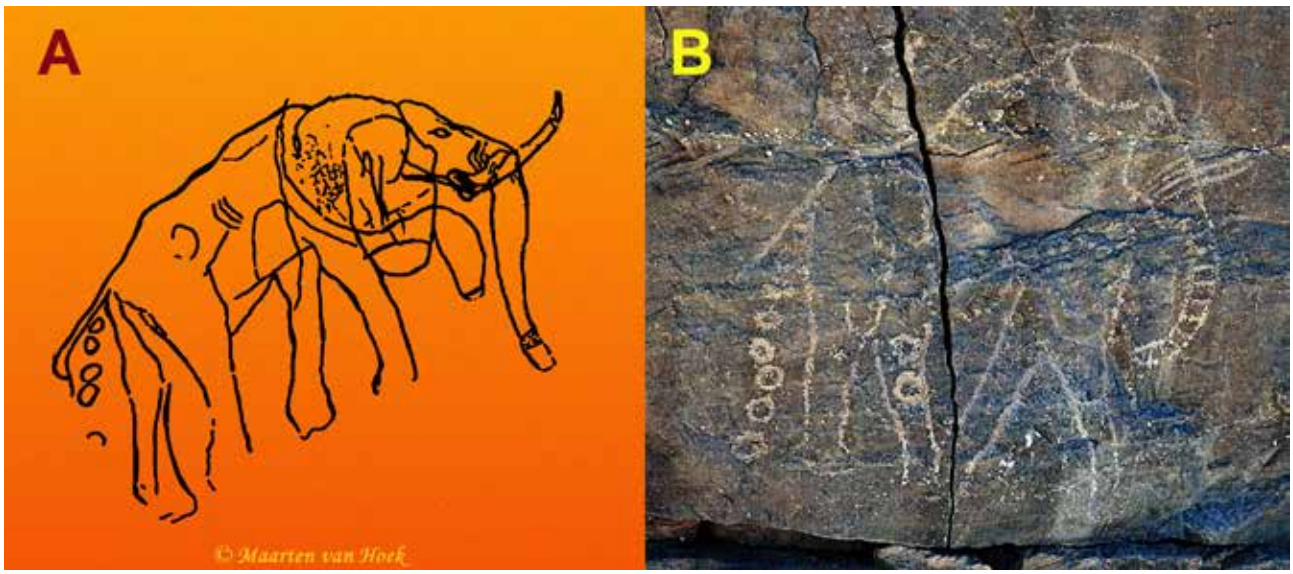

Figure 7. Petroglyphs of a defecating elephants at Wadi Erahar, Messak, Lybia. A: Site 302. Drawing © by Maarten van Hoek, after an illustration by VAN ALBADA, VAN ALBADA 1995a: Planche 4. B: Site 296. Photograph © by Alex Van Albada

TAKABART SUD

About 5 km SE from Site 296 in Wadi Erahar is Wadi Takabart. This wadi does not penetrate the plateau very deeply, but it has many tributaries. At a site in one of those tributaries – Takabart Sud (Site 397 on the *Google Earth* map provided by Axel Van Albada) – is a complex scene of petroglyphs described in VAN ALBADA, VAN ALBADA 2000: 108 as (my translation): "*Two beautiful frescoes, one of which shows tangled giraffes and the other a defecating elephant embedded in a complex scene comprising a man (or a woman?) with a bird's head located among a large number of remarkable petroglyphs, including a frieze of donkeys and schematic cattle*". VAN ALBADA, VAN ALBADA 1993b: Fig. 2 correctly state that the "*deux éléphants se dirigeant vers l'aval*" because the elephants are found on the north bank and are oriented to the right and thus are facing downstream. However, the alleged dung-element proves to be only one small sickle-shaped "emission" below the tail and it is questionable whether indeed dung has been depicted (Figure 8).

Figure 8. Petroglyph of a "defecating" elephant at Wadi Takabart Sud, Messak, Lybia. Drawing © by Maarten van Hoek, after an illustration by VAN ALBADA, VAN ALBADA 1993b: Fig. 2.

MATHENDOUS

Probably the most visited wadi of the whole Messak Plateau today (and possibly in prehistoric times as well) is the 22 km long, SW-NE running Wadi Mathendous with many well-known petroglyphs. The area near the western end of the wadi is known as In Habeter. In 1998 David Coulson photographed a large running elephant with three large ovals ejecting from its bottom[5]. It was said by Coulson to be located in Wadi Mathendous, but it is unknown whether the actual site was meant or the wadi-drainage in general. However, Yves Gauthier informed me (2020: pers. comm.) that this petroglyph is actually found in Wadi Tin Amoutin, the name for the upstream continuation of Wadi Mathendous (see the Tin Amutin entry below).

IN-GALGUIEN OR AL-AWRER

In 1998 David Coulson also photographed a badly eroded and cracked rock panel allegedly located in Wadi Mathendous at the rock art site of In Galguien, also known as In Galgiwen[6]. The much eroded panel shows the petroglyphs of three elephants, one of which most likely is defecating, as it has a vertical line from its bottom that bisects at least one large circle (compare this with the Bedis elephant).

5 Museum number: 2013,2034.2906; https://www.britishmuseum.org/collection/object/E_2013-2034-2906

6 Museum number: 2013,2034.3211); https://www.britishmuseum.org/collection/object/E_2013-2034-3211

Figure 9. Petroglyph of an elephant at In-Galguien, Messak, Lybia. Drawing © by Maarten van Hoek, after an illustration by Jelínek 2004: Fig. 9.1

This elephant is not mentioned on the *Google Earth* map provided by Axel Van Albada, but possibly it concerns either Site 408 or 409 (In-Galguien) or even Site 404 (Al-Awrer).

Also at In-Galguien (or at Al-Awrer, 3 km further SW from In-Galguien?) is the petroglyph of a clearly male elephant[7] that has a line emerging from its bottom, which ends in a small, irregular oval shape enclosing two cupules (Figure 9). This shape may represent the simplified head of a cat, images of which with comparable heads also occur at other sites in Wadi Mathendous and elsewhere on the plateau. It is unknown to me whether this element has anything to do with defecation.

Tin Amutin

Interestingly, at a rock art site in Wadi Tin Amutin (Tin Amoutin or Ti-n-Amoutin), Gauthier Y. and Gauthier C. photographed (on two adjacent panels) a rather enigmatic composition involving (on the right-hand panel) a defecating elephant and (on the left-hand panel) an elephant associated with a therianthrope (most likely a "dog-man"). The location of those panels is indicated as Site 428 in the *Google Earth* map compiled by Alex Van Albada (not mentioning the defecating elephant[s], though; Alex Van Albada 2020: pers. comm.). Interestingly, as far as I can tell, this is the only defecating elephant in Messak rock art that is running to the left, yet still running downstream (except for perhaps the one in Wadi Meseknan).

The most relevant image is the clearly defecating elephant of about 85 cm in height (A in Figure 10), which – erroneously – is said by David Coulson to be located "in Wadi Mathendous", roughly 30 km to the ENE. There is no illustration in the publication by Gauthier, Gauthier 1996, but Yves Gauthier kindly provided me with good photographs and his personal drawing of the scene, which has been used by me to compose an illustration (Figure 10). The freely translated quote (with my additions in black) describing the scene is given here: "*On the right an elephant (with "*queue coudée*" – bent tail) ejects a string of enormous excrements* (Elephant A)*; in front of him, on the other side of the therianthrope, a second elephant* (Elephant C) *is followed by a therianthrope with a dog-like head whose action is difficult to guess with certainty. Does he lift the elephant's tail to collect the dung? The much weathered rock and unfavourable lighting do not allow a definite confirmation*" (Gauthier, Gauthier 1996: 92). However, just possibly oval-shaped Element "E" between the possible therianthrope and Elephant "C" represents an unfinished dropping (as its shape is comparable with the oval droppings from Elephant "A").

On these two panels there are petroglyphs of two more elephants that (possibly) are associated

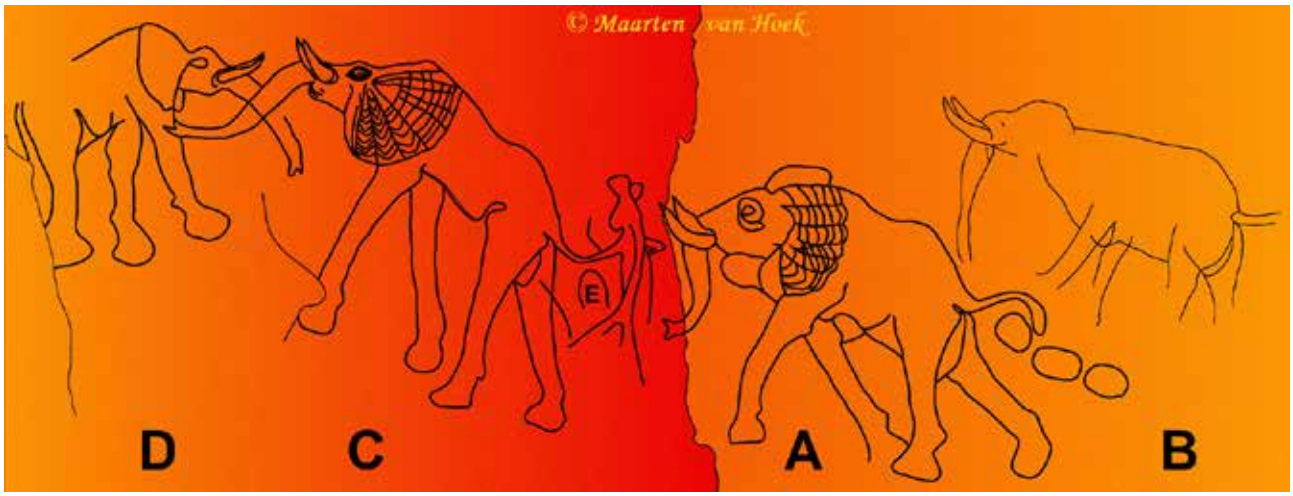

Figure 10. Petroglyphs of elephants and a therianthrope (?) at Wadi Tin Amutin, Messak, Lybia. Drawing © by Maarten van Hoek, based on illustrations kindly shared with me by Yves Gauthier: his copyright (2020: pers. comm.)

7 Museum number: 2013,2034.2824; https://www.britishmuseum.org/collection/object/E_2013-2034-2824

with this scene, but in my opinion they represent later additions. Elephants D and – especially – B seem to represent rather poorly manufactured copies of the earlier elephants (A and C), a practice occurring more often in Messak rock art.

MESEKNAN

The most comprehensive *Google Earth* map compiled by Axel Van Albada mentions the petroglyph of one defecating elephant at Site 459 in Wadi Meseknan (or Wa-n-Imeseknan), located on the north bank, about 18 km from the entrance of the wadi. The site is indicated but not numbered in the map by VAN ALBADA, VAN ALBADA 2000: 100. Most likely this defecating elephant has been described by VAN ALBADA, VAN ALBADA 2000: 121 as follows "*Plus en amont, un petit homme-chien brandit une hache et touche la patte arrière d'un éléphant. Un autre homme-chien piqueté touche un bel éléphant anciennement restauré*". It is unknown to me which elephant is actually defecating, or in which direction they are walking.

Figure 11. Petroglyphs of two defecating elephants at Wadi Tiduwa, Messak, Lybia. Drawing © by Maarten van Hoek, based on an illustration by GAUTHIER, GAUTHIER 1996: Fig. 99

Figure 12. Petroglyphs of a defecating elephant and three therianthropes at Wadi Taleschout, Messak, Lybia. Drawing © by Maarten van Hoek (omitting natural features), after an illustration by GAUTHIER, GAUTHIER 1996: Fig. 87a.

TALESCHOUT

This case is a good example of how confusing published names of rock art sites can be. There are at least three (perhaps four) petroglyphs (on two or three panels) of defecating elephants in this wadi and one possible example on another panel. One panel with two defecating elephants in a row (Site 567 on the *Google Earth* map provided by Axel Van Albada) is said by VAN ALBADA, VAN ALBADA 1996a: Fig. 8 and *iid*. 2000: Fig. 64 to be located at 26 km from the entrance of Wadi Taleschout (or Taleshut), which is correct. However, GAUTHIER, GAUTHIER 1996: Fig. 99 refer to this specific scene as being located at "Wadi Tiduwa" (and at Tidua by JELÍNEK 2004: Fig. 88), while in another publication Van Albada and Van Albada refer to the same scene as Wadi Taleschout (1995: *Planche* 19.3). Therefore Wadi Tiduwa perhaps once was the name for the western (upstream) part of Wadi Taleschout. Yet, it is – according to Yves Gauthier (2020: pers. comm.) – an erroneous label. To avoid confusion, this specific panel with two defecating elephants (Figure 11) has been marked on my map as Tiduwa.

In 1998 David Coulson photographed a petroglyph of a large (60 cm in height), male elephant[8], located in Wadi Taleshut. This panel – located on the right bank – is indicated as Site 563 on the *Google Earth* map provided by Axel Van Albada. The elephant is deeply incised (like most of the *Bubalus* images in the Messak). However, below the almost horizontally positioned tail are five depressions, (some of) which could represent anthropic (pecked) cupules. This irregularly arranged row could represent an attempt at depicting (adding?) the excrements of the elephant. Also this elephant is walking downstream (Alex Van Albada 2020: pers. comm.).

According to VAN ALBADA, VAN ALBADA 2000: 127: Fig. 81, see also *IID*. 1995b: 32, *Planche* 19.3, at about 10 km from the entrance of Wadi Taleschout (marked as Site 549 on the *Google Earth* map provided by Axel Van Albada) is a scene of a clearly male, defecating elephant, the dropping excrements of which seem

8 Museum number: 2013,2034.3336; https://www.britishmuseum.org/collection/object/E_2013-2034-3336

to be touched and "licked" by a small therianthrope (in Messak rock art representing an anthropomorph with an often fierce-looking dog or fox-like head; Figure 12). Two similar, much larger therianthropes seem to be part of the scene (Gauthier, Gauthier 1996: Fig. 87a; Jelínek 2004: Fig. 84). This panel has been marked on my map as Taleschout.

Van Albada, Van Albada 2000: 127 possibly mention another defecating elephant on a panel at about 8.5 km from the entrance (Site 548 on the *Google Earth* map provided by Axel Van Albada) "*Une palette d'hommes-chiens irrésistibles se succèdent: l'un d'eux, griffu, suit un éléphant déféquant (km 8,5 RD)*", bringing the total of defecating elephant petroglyphs in Wadi Taleschout-Tiduwa to four panels with altogether five (possible) defecating elephants.

Afuda

In their comprehensive work about Messak rock art Van Albada and Van Albada include a photograph of a petroglyph of a defecating, distinctly male elephant at Wadi Afuda in the Messak Mellet (2000: Fig. 125). Although the bottom part of this petroglyph is partially missing and the panel is badly cracked and eroded, at least four large circles clearly indicate the excrements. This elephant is marked a Site 624 on the *Google Earth* map compiled by Axel Van Albada (2020: pers. comm.).

TADRART

About 90 km SW of Wadi Afuda (in the Messak Mellet) is the southern part of the Tadrart-Acacus mountains that primarily are composed of sandstones as well. The area is cut by several west-east oriented wadis, many of which have rock art sites. Several rock art images of elephants (mainly petroglyphs) have been recorded in the southern section of this much fragmented, mountainous area. Interestingly, at least three of those elephants are clearly defecating and – even more remarkably – all three are concentrated in a relatively short section of one wadi (along with many other petroglyphs of elephants).

In Djaren

At the petroglyph site of Moul n'Aga (G12 according to Allard-Huard 1993: 225; also labelled Ouan Iska [Allard-Huard's site G13]) in the Wadi In Djaren (also known as Wadi In Djeran[e] and even as Ued D'Jerane) in the Tadrart Acacus of Algeria there is an enormous boulder engraved with a herd of six running elephants on one panel. The final (eighth) elephant in line is manufactured on the adjoining panel to the right together with a seventh, less well executed elephant. According to Léone Allard-Huard (1993: 227) this seventh example represents a later addition (a copy?). The elephant shows six small circles below the tail (Figure 13A) and is said to defecate while running (Coulson, Campbell 2001: 181). It may be significant that the excrements are drawn below a "*queue coudée*", which may represent a link with the Messak "tradition" to depict elephants (but not all!) with such a specific bent tail.

In the same area Egmont Strigl photographed a panel with the petroglyphs of a row of (at least) two running elephants. The larger, leading elephant is clearly defecating as it shows three small circles from below the tail (Figure 13B). Because its location is unknown to me, the panel has been marked with a "?" on my map.

Further west from G12 and to the left of an enormous rock shelter is a large outcrop cliff on the southern side of Wadi In Djaren with petroglyphs of another herd of (five) elephants; all carefully pecked, although some lines seem to have been incised (afterwards?). This site is labelled G4 by Allard-Huard 1993: 225, but has no specific name, as far as I know. Again the largest and also the last elephant of the herd is clearly defecating. However, the line of excrements (four or five lightly pecked and superficially executed cupules) and a possible "collecting object" are not shown by Allard-Huard 1993: Fig. 61 and Huard, Leclant 1980: Fig. 144.1 (Figure 14A and B). Those omissions are most likely due to the fact that the missing features are very faint, especially in unfavourable light.

What is interesting and possibly unique is that behind the elephant an anthropomorph has been engraved who holds (or rather lifts) the tail of the animal (compare this action with a possibly similar scene at Elephant

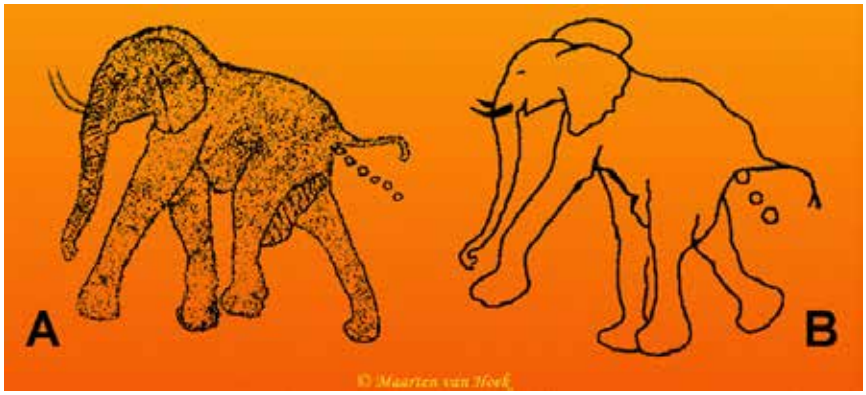

Figure 13. A and B: Petroglyphs of defecating elephants at Wadi In Djaren, Tadrart, Algeria. Drawing © by Maarten van Hoek, based on illustrations by Egmont Strigl.

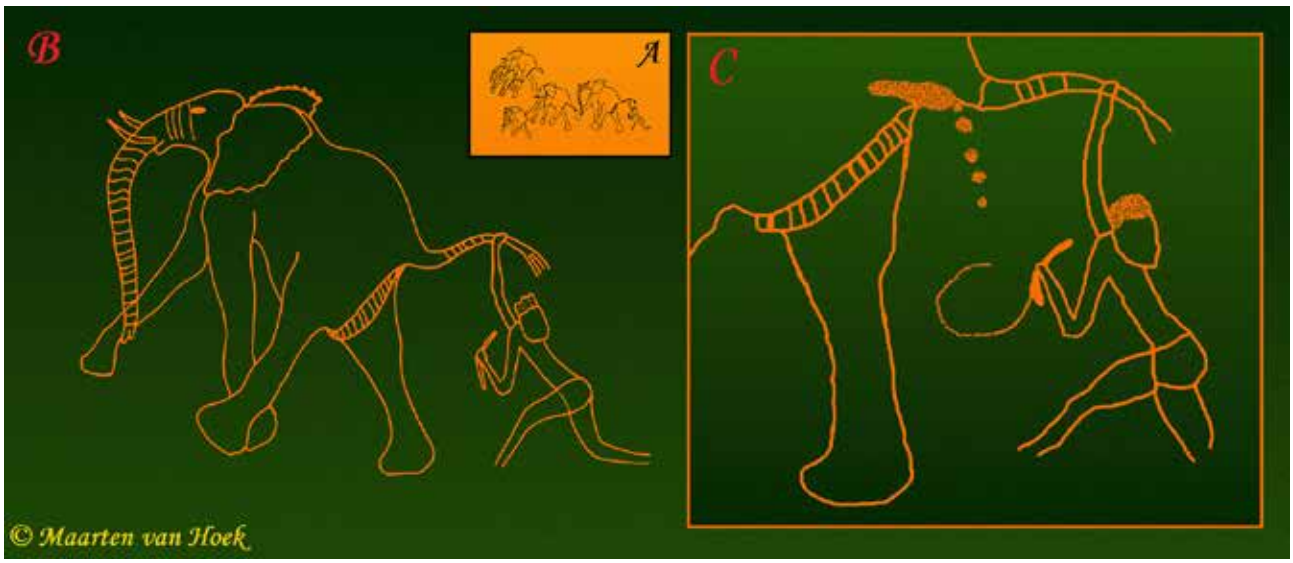

Figure 14. A and B: Petroglyphs of elephants (one defecating) at Wadi In Djaren, Tadrart, Algeria. Drawing © by Maarten van Hoek, based on illustration by Léone Allard-Huard (1993: Fig. 61). C: Detail of the defecating elephant and the anthropomorphic figure. Drawing © by Maarten van Hoek, based on an illustration by András Zboray (2017: http://www.fjexpeditions.com/frameset/tassili17.htm)

"C" at Wadi Tin Amutin; see Figure 10), while in the other hand he seems to hold two objects. One object seems to be a throwing stick (according to ALLARD-HUARD 1993: 225), while – according to GAUTHIER, GAUTHIER 1996: 91 and András Zboray (2017) – a large incomplete, roughly pecked circle (unnoticed by Allard-Huard) seems to depict a device to collect the dung of the elephant (Figure 14C). This "collecting device" is not really held by the anthropomorphic figure and thus may represent a later addition. A similar scene of an anthropomorph holding up the tail of an elephant (not defecating, though) has been recorded on a large petroglyph panel at Wadi Imha, Acacus (LE QUELLEC 2004: Fig. 15).

FURTHER OBSERVATIONS REGARDING THE MESSAK-TADRART

STATISTICS

Although up-to-date statistics of all rock art images of the Messak are not available to me (if even such statistics exist), David Coulson (2013) claims that on the Messak Plateau around 20 cases of rock art images depicting defecating elephants have been recorded so far. In the publications that I have available and among the many thousands of photographs that I have scanned when browsing the internet, I could trace 17 (possible) examples in the rich repertoire of the Messak rock art imagery and three in the Tadrart. Of great help was the *Google Earth* map provided by Axel Van Albada showing the locations of all the known rock art sites of the Messak, together with some condensed but useful information. Together with the three petroglyphs of defecating elephants in the Tadrart the grand total of allegedly defecating elephants in the Study Area is 20 (still a minimum; there may be more examples, of course).

However, there are in fact only 14 petroglyphs of elephants that indeed show defecation in the Messak. Firstly, the petroglyph in Wadi Alamas does not involve any faeces and, secondly, the example in Wadi Takabart Sud does not involve any cupule or circle. Only a "strange" crescent-moon shape has been depicted; an unlikely shape for a dropping. Moreover, the only (?) petroglyph of a possibly defecating elephant in Wadi Taleschout that is orientated to the left has only rather ambiguous faeces below its tail. The irregularly arranged row of – only possibly anthropic – depressions could be fortuitous and not even be associated with the elephant at all. However, the number would rise to 15 as indeed the unfinished (or partially weathered off) Element-E below the tail of Elephant-C at Wadi Tin Amutin (see Figure 10) originally was intended to depict an excrement. However, it could also have been added at a later stage, imitating the large ovals clearly representing dung of Elephant-A. Copying earlier images (often less sophisticatedly) occurs rather often in Saharan rock art.

This brings me to suggest that even allegedly unambiguous examples – like the two defecating elephants in the Adroh drainage – may have started off as "just" images of elephants. The vertical row of cupules below the crooked tail could very easily have been added (a long time?) after the elephants had been manufactured. The typical "*queue coudée*" ("bent tail") offers room to add such a row of cupules. In this respect it must be mentioned again that the

"*queue coudée*" is found in several other (non-defecating!) elephant petroglyphs in the Messak, for instance in the sophisticated elephant petroglyph at In Galguien with its enigmatic "feline-like head on a string" (see Figure 9), in the allegedly urinating (or ejaculating?) elephant in Wadi In Hagarin (Figure 15) and in the non-defecating elephant in Wadi Takabart (Van Albada, Van Albada 2000: Fig. 93; Site 290 on the *Google Earth* map provided by Axel Van Albada), which has also plenty of room for excrements to be added. Also the faeces of the defecating elephant at Site 296 in Wadi Erahar seem to be later additions, as especially the ring-shaped droppings seem to have a lighter patination. Moreover, two similar circles seem to have been *added* onto the legs of the animal (see Figure 7B). I therefore recommend that the possibility of excrements having been added should be considered and – even better – examined by experts in the field.

The truly unambiguous examples are the elephants that have a row of rather large (sometimes bisected) circles or ovals depicting the excrements, the best examples – in my opinion being the petroglyphs in Wadi Tin Amutin (see Figure 10), Wadi Bedis (see Figures 5 and 6) and Wadi Tiduwa (see Figure 11). Finally, it must be mentioned that a least one elephant with circular faeces – the one in Wadi Taleshout (see Figure 12) – does not have a "*queue coudée*". Obviously there is no rigid "law" that dictates how images should be manufactured.

Figure 15. Petroglyph of a urinating elephant at In Galguien, Messak, Lybia. Drawing © by Maarten van Hoek, based on an illustration by Jelínek 2004: Fig. 41

Other Defecating Animals in the Study Area

Besides elephants only two other mammal species have been depicted in the rock art of the Study Area while defecating (one doubtfully, though). On a rock panel just below the well-known "fighting cats" panel in Wadi Mathendous is the petroglyph of a single "cat" that might have two small (natural? – anthropic?) cupules/holes immediately below the tail (faeces?). However, in my opinion, even when natural, those small holes could have been incorporated on purpose in order to represent faeces.

In the Messak there are also at least three sites with petroglyphs of defecating rhinoceroses, discussed here from north to south. According to the *Google Earth* map supplied by Axel Van Albada there is one petroglyph of a defecating rhino at Site 654 in Wadi Amam Hagarnin (or Elobu). Further south, in Wadi Tin Kiwa (a tributary to Wadi Imrawen) one big petroglyph of a defecating rhinoceros has been recorded (Van Albada, Van Albada 2000: 125; Site 496 on the *Google Earth* map supplied by Axel Van Albada). In Wadi In-Hagarin – about 47 km to the south – three petroglyphs of rhinos (Figure 16) have been recorded (Van Albada, Van Albada 2000: Fig. 45; Site 575 on the *Google Earth* map supplied by Axel Van Albada). According to Van Albada, Van Albada 1995b: *Planche* 12.1 the largest (upper) rhino is certainly defecating. They also suggest that the rhino touched by a female figure is possibly defecating.

Figure 16. Petroglyphs of three rhinoceroses and a human figure at Wadi In-Hagarin, Messak, Lybia. Drawing © by Maarten van Hoek, based on an illustration by Van Albada, Van Albada 1995b: *Planche* 12.1)

In the same wadi (4.6 km further east) is – according to Gauthier, Gauthier 1996: 93 – a unique image of a possibly urinating (or ejac-

ulating?) male elephant (Gauthier, Gauthier 1996: Fig. 98; Jelínek 2004: Fig. 41; Site 685 on the *Google Earth* map supplied by Axel Van Albada), its phallus bisecting a large circle (see Figure 15), which – according to Gauthier, Gauthier 1996: 92 – may symbolise a puddle of urine. In view of the phenomenal amount of elephant urine impressively released in one go, it is indeed more likely that urinating has been depicted. Compare this bisected feature with the bisected circles in the Wadi Bedis elephant.

Distribution and Orientation in the Messak-Tadrart Area

In the Tadrart the three examples of petroglyphs of defecating elephants known to me seem to be concentrated in only one (major) wadi (roughly 5 km apart): Wadi In Djaren. In this west-east running wadi the three defecating elephants (and all the other elephants on the three panels) are orientated to the left. However, as two examples are found on the northern bank and one at the southern bank, it seems that a prevailing orientation is lacking in Wadi In-Djarane, as the group of elephants on the southern bank is oriented towards the Messak and the two examples on the northern bank towards the Tassili-n-Ajjer. Perhaps the (defecating) elephants (and all other images) in this wadi "only" indicate an east-west through route (and *vice versa*).

In contrast, it proves that the (up to 20?) petroglyphs of defecating elephants are rather unevenly distributed across the Messak. In the Messak nine examples of defecating elephants (plus one defecating rhino) are found north of the Wadi Amutin – Wadi Mathendous drainage, while a lesser group of up to six examples (plus three possibly defecating rhinos) is found south of that drainage, however with a marked concentration in the Wadi Tiduwa – Wadi Taleschout drainage.

Regarding the orientation of the petroglyphs of the defecating elephants it may be significant that most truly defecating elephants are orientated in a downstream direction (I have no information about the orientation of the allegedly defecating elephant in Wadi Meseknan). With the exception of the elephant petroglyph at Alamas (which shows no excrements!), all known petroglyphs of defecating elephants are found on the left side of each wadi (and thus they are looking downstream), except for the one (or two?) example(s) in Wadi Amutin that is (are) found on the right bank of the wadi. However, while both images in Wadi Amutin are oriented to the left, they still are oriented downstream. This would implicate that indeed possibly all known examples of definitely defecating elephants (except perhaps for the Meseknan example) are oriented downstream and thus directed to the entrance of the wadis and to what is now the inhospitable sand sea of Edeyen Murzuk. Whether this (possibly dominant) downstream orientation conveys a specific message is unknown to me, but it may well be significant.

Moreover, in the Messak there sometimes seems to be an association between the direction in which the petroglyphs have been depicted and the existence of *gueltas* (semi-permanent water sources), like the two elephant petroglyphs "walking" towards a *guelta* very near a site in Wadi Tekniewen (Van Albada, Van Albada 2000: Fig. 13). However, Van Albada A. and Van Albada A.M. remark that there are *gueltas* without any petroglyph in their neighbourhood and that there are wadis (like Wadi Taleschout) featuring many petroglyphs of especially aquatic animals (for instance dozens of hippos) without any *guelta* (2000: 38). Moreover, in Messak rock art there may have existed a *general* preference to manufacture images of big game with an orientation to the right.

In my opinion the relationship between the images of (defecating) elephants and present-day *gueltas* is questionable. Probably elephants did visit (some) *gueltas* in ancient times to drink. Important in this respect is that most (if not all) sites with images of (defecating) elephants are rather easily accessible for big game as the wadis are rather wide, having a relatively flat floor, ranging from 100 m near the entrances to 10 m much further upstream. But why would elephants penetrate a wadi for so many kilometres? To drink in one of the many *gueltas*?

First of all, there are petroglyphs of (defecating) elephants in wadis – like in Wadi Adroh – where no *guelta* exist. And secondly, there probably once was sufficient water in the area what is now Edeyen Murzuk. Finally, it also seems to be contradicted by the actual situation. For instance, the petroglyphs of the elephants at Site 397 in Wadi Takabart Sud are found at about 17 km from its entrance (the confluence with Wadi Mathendous and Wadi Bedis – In Tullult). If elephants would have walked up to Site 397 (where no *guelta* has been indicated), they would have passed Guelta Takabart (*Guelta* 1016 on the *Google Earth* map provided by Alex Van Albada), but also unnamed Guelta 1015 further downstream, very near the confluence with Wadi In Tullult. Moreover, further upstream in Wadi Takabart Sud no *gueltas* have been recorded, while two kilometres further upstream petroglyphs of elephants have been recorded. The same situation occurs in other wadis as well, for instance in Wadi Erahar, while other wadis, like Wadi Adroh (with at least one petroglyph of a defecating elephant) has no *guelta* at all (there is one *guelta* in the tributary of Wadi Tidjamaren,

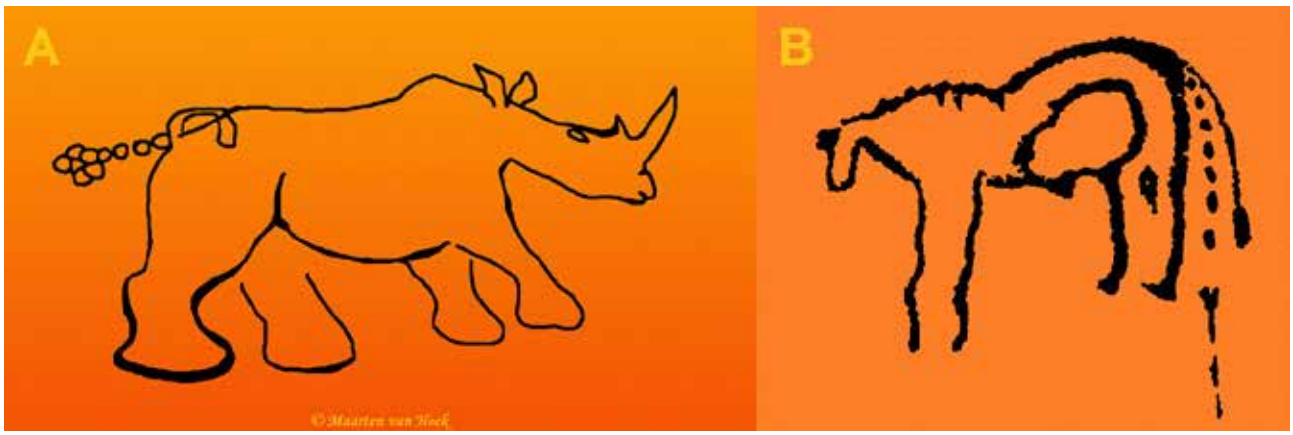

Figure 17. A: Petroglyph of a defecating rhinoceros at Wa-n-Khalia, Aramat, Lybia. Drawing © by Maarten van Hoek, based on an illustration by Masy, Soleilhavoup 2003: Fig. 15; B: Rock art image at Ifregh-I in the Ahaggar. Drawing © by Maarten van Hoek, after Franz Trost (1979: Fig. 67)

though, overlooked by the petroglyph of a defecating elephant). Consequently, in my opinion the petroglyphs of elephants (and other animals?!) in the wadis most likely are mind-images.

Concluding, the dominant downstream orientation of images of (defecating) elephants may be simply be a question of a general preference of the ancient manufacturers. However, the preferred orientation may have been related to the existence of an once enormous Pleistocene lake – called the Megafezzan – that more or less engulfed the Messak Plateau to the north, east and south-east. Importantly, the area that is now the inhospitable sea of sand, the Edeyen Murzuk, probably once was an attractive mix of savanna and steppe and also the wadis would have been equally more attractive than today. After that phase – in the Holocene – the Megafezzan dried up, but the drainages from the Messak still supplied enough water to create *gueltas* in the wadis and smaller lakes in the area bordering the plateau and what now is Edeyen Murzuk (information based on Van Albada, Van Albada 2000). It is most likely that in that pleasant landscape also big game once roamed.

In my opinion the distribution patterns in the Messak seem to indicate that prehistoric people entered the Messak from the SE, not to cross the plateau, but (mainly?) in order to manufacture their images onto the rocks. Most petroglyphs are in fact created on the rocks of wadis that do not cut right through the plateau. When manufacturing their images, the focus of the prehistoric artists therefore was oriented on the area what is now the Edeyen Murzuk and on its water and on the game resources. However, this does not explain why relatively so many *defecating* elephant petroglyphs have been manufactured in the Study Area. There seems to exist a distribution anomaly regarding defecating elephant images in Africa.

The African Distribution Anomaly

Although the grand total of "only" 20 petroglyphs of defecating elephants in our Study Area seems to be statistically unimportant in view of the enormous amount of rock art images of elephants in African rock art, it still represents an exceptional statistical anomaly, because it represent a *relatively* very high number. In fact, in the whole of Africa I know of only three or four other rock art areas where some images of (possibly) defecating elephants occur. Also defecating rhinoceroses seem to be "over-represented" in Messak rock art with four examples. Yet, like the Messak defecating elephants (I am referring to the three Tadrart elephants here), the Messak defecating rhinos also have a "very close" neighbour.

The Aramat Massif

About 195 km to the WNW of the defecating rhino in Wadi Elobu and across the Erg Uan Kasa, the northern Acacus and the sand sea of Erg Titersine, is the exceptional petroglyph site of Wa-n-Khalia (a recently invented name, referring to the discoverer) in the Aramat Mountains. Among many zoomorphic petroglyphs are also four rhinoceroses (Le Quellec 2008: 55 mentions the occurrence of six petroglyphs of rhinoceroses), one of which (in Sector IV) is clearly defecating (Figure 17A).

However, probably because the almost vertically arranged emissions are small and circular, Masy and Soleilhavoup suggest that the animal may as well be urinating (2003: Fig. 15). Yet, there is a cluster of droppings at the very end of the emission and therefore it may as well represent an ejection of excrements. I for one hold that the nature of the emission is undecided. As far as I know, the Wa-n-Khalia example seems

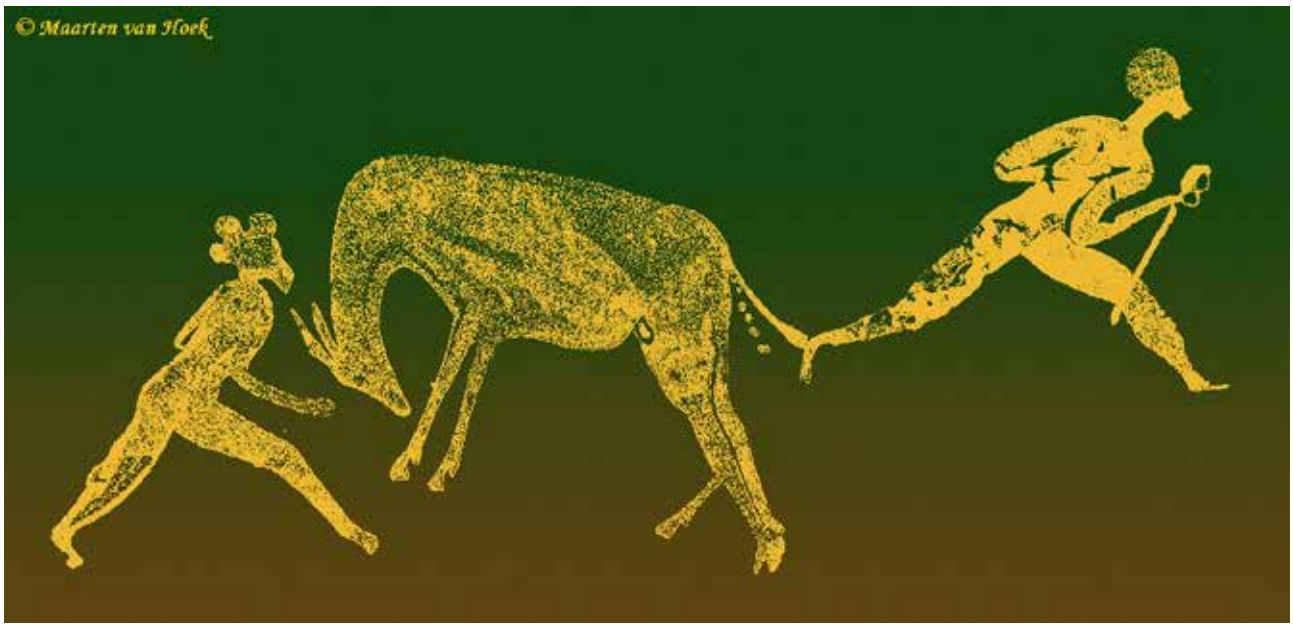

Figure 18. Pictographs of a defecating (?) antelope and two humans at Ebérère, northern Tassili, Algeria. Drawing © by Maarten van Hoek, based on an illustration by François Soleilhavoup (1997: Fig. 6)

to be the only rock art image of a possibly defecating animal in the "direct" neighbourhood of the Messak-Tadrart. Roughly 600 km to the SW of Wa-n-Khalia are the Hoggar Mountains, where another case of a rock art image of a defecating zoomorph has been reported.

The Hoggar Mountains

It seems that – according to GAUTHIER, GAUTHIER 1996: 80, referring to information by Jean-Loïc Le Quellec – somewhere in the Hoggar or Ahaggar Mountains a rock art image (a petroglyph?) of one defecating animal had once been recorded. After a personal communication with Jean-Loïc Le Quellec in September 2020, he confirmed to me that it proved to represent a zoomorphic image of an unidentified species (but definitely not an elephant) at the rock art site of Ifregh-I in the Ahaggar (Figure 17B).

Tassili-n-Ajjer

In a rock shelter (*Abri* 2) of the rock art site of Tissoukaï, located about 30 km north of the town of Djanet in the Tassili-n-Ajjer and about 215 km west of the Messak, Suzanne Lachaud recorded an outlined pictograph of a mouflon that apparently is defecating (2011: 188; Fig. 43.g). Two small circles and – after a small gap (with weathered-off circles?) – one larger, bisected oval are visible below the tail. She further

Figure 19. Scene with dropping water drops on a wall at the Luxor Temple, Egypt. Photograph © by Maarten van Hoek

argues that such a scene is rare. In my opinion it might as well be a unique example among all mouflon depictions. I already mentioned the two pictographs of possibly defecating humans at this site.

François Soleilhavoup (1997: 75; Fig. 6) mentions and illustrates the rock painting of an allegedly defecating antelope, recorded by him in a rock shelter at Ebérère, northern Tassili (about 340 km NW of Tissoukaï and roughly 550 km west of the Messak Plateau). However, it is possible that the animal is actually urinating, as drops of liquid are sometimes graphically depicted as a straight line of cupules or dots (Figure 18). For example a scene on one of the walls of the Egyptian Temple of Luxor clearly shows a string of liquid (water?) drops that are being col-

Figure 20. Petroglyphs of two (or three?) elephants superimposed by images of dogs (depicted in yellow) at Khor Abu Subeira South-l (KASS-1), Egypt. Drawing © by Maarten van Hoek, based on an illustration by Lippiello, Gatio 2010: Fig. 5

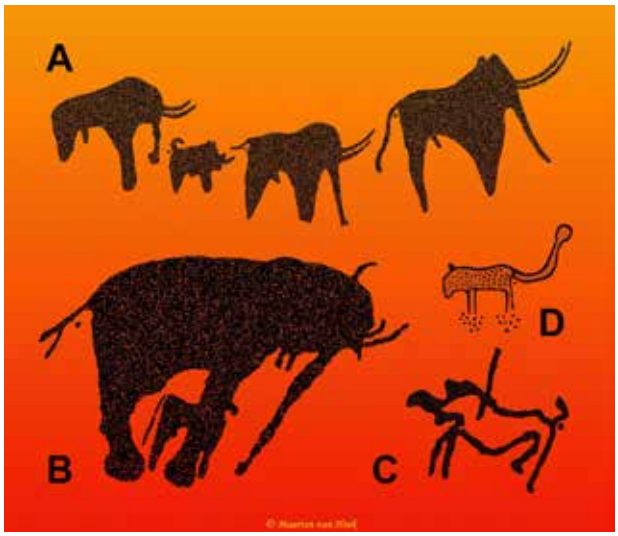

Figure 21. A: Petroglyphs of the frieze at Oukaimeden Site VI – L'Assif N'Talaisane, High Atlas, Morocco. B: Petroglyph of defecating elephant at Site IX-36, Yagour, High Atlas, Morocco. C: Petroglyph of defecating rhinoceros at Site XI-454, Yagour, High Atlas, Morocco. D: Petroglyph of defecating feline at Site XI-210 Yagour, High Atlas, Morocco. Drawing © by Maarten van Hoek, all based on drawings by Alain Rodrigue (1999)

lected in a small bowl (Figure 19). For our next examples we now will travel from Luxor upstream along the Nile for about 160 km.

Ennedi

Yves Gauthier photographed a pictograph panel in the Central Ennedi of Chad on which – among other figures – a clearly defecating zoomorph is visible. However, also because of some damage, it cannot be established which species has been depicted (Yves Gauthier 2020: pers. comm.).

Khor Abu Subeira

A very short distance east of the river Nile, at the rock art site of Khor Abu Subeira South-l (2130 km east of the Messak Plateau) located along a lateral branch of the main southern tributary of Wadi (Khor) Abu Subeira (Subayrah), north-northeast of Aswan, Egypt, are several petroglyphs of elephants. At Locus 5 – Panel 7, Lippiello, Gatio 2010: Fig. 5 illustrate the deeply patinated petroglyphs of two elephants that caught my attention. Both have two tusks and a trunk and four thin legs (a third "elephant" seems not to have a trunk; it may be a bovine with lowered head seen from above, in twisted perspective). At the rear both elephants have one long tail, but also – below that tail – a much shorter and thicker appendage, claimed by Lippiello, Gatio 2010: 284 to represent a phallus; in my opinion a rather illogical placement of the phallus of an elephant. Therefore I would like to suggest that the shorter appendage may represent the dung being excreted by the animal (Figure 20). In the literature available to me and on the internet I could not find similar depictions of elephants in the rock art of Egypt, nor anywhere-else in northern Africa.

The High Atlas

More important in the scope of this study is a statistically and graphically remarkable group of petroglyphs of defecating animals in the rock art of the High Atlas of Morocco. Surprisingly, defecating elephants have also been depicted in that area. There are, however, two marked differences. Firstly, in the High Atlas several petroglyphs of defecating elephants have been manufactured fully pecked (the Messak examples are all outlined). And secondly, the purported dung is represented only by one single cupule.

At Oukaimeden-VI or L'Assif N'Talaisane (at an altitude of about 2560 m O.D.) Alain Rodrigue recorded a frieze of six, fully pecked animal petroglyphs including four (clearly male) elephants, one rhinoceros and a feline (Rodrigue 1999: 180). This scene is accompanied by two small anthropomorphs, possibly hunters with a bow. The images of two of the elephants and the rhinoceros have been depicted with a cupule just behind their bottoms and directly below their tail, depicting (or suggesting?) defecation (Figure 21A). When reporting this frieze, Alain Rodrigue did not include the cupules/faeces in his illustration (1987: 44), but he included them in another publication, together with photos (1986-1991: Fig. 2.1), which confirmed the presence of the cupules.

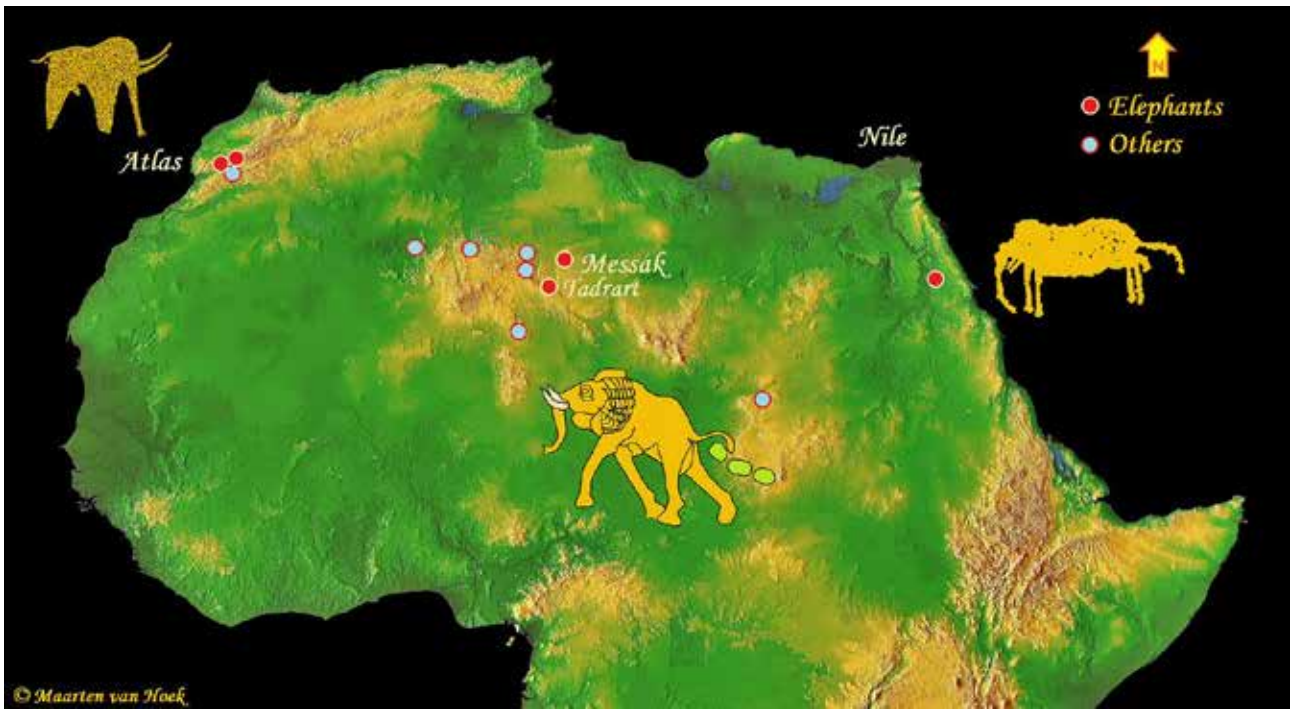

Figure 22. Map of northern Africa only indicating the rock art sites featuring (possible) defecating biomorphs (notice the difference in layout). Drawing © by Maarten van Hoek

Two more petroglyphs of large, outlined elephants at Azib Abadsan, Oukaimeden (roughly 1.7 m ENE of L'Assif N'Talaisane), have a similar cupule below the tail (RODRIGUE 1999: 217 and 218). Importantly, Rodrigue argues (1986-1991: 184, freely translated, my emphasis) that those cupules may represent "*the faeces of certain animals marking their territory. This habitual behaviour in wild animals (but not in rhinoceroses!) had certainly not escaped the Neolithic hunters, familiar with reading the tracks of game*". His general suggestions sound very plausible, but – although dominant rhinos also use their faeces (and urine) to mark their territory – it does not explain why a small defecating rhino has intentionally been included into a row of elephants. Moreover, it seems that elephants are not really territorial.

Also at the rock art complex of the Yagour Plateau (altitude 2200 to 2700 m; 27 km NE of Oukaimeden and 2000 km WNW of the Messak) a few petroglyphs of defecating animals have been recorded. At Site IX-36, a fully pecked, defecating elephant superimposed (?) upon an earlier zoomorphic image (Figure 21B) and, at Site XI-454, an outlined defecating rhinoceros (?) each show a tail-dot similar to the Oukaimeden examples (RODRIGUE 1999: respectively 266 and 365) (Figure 21C). It is unlikely though that big game like elephants and rhinoceroses ever roamed the inhospitable and rugged High Atlas at those high altitudes. It is more likely that the elephants once roamed the more accessible parts of the Anti-Atlas to the south of the High Atlas (where many petroglyphs of elephants have been recorded; none defecating though). Then the elephant and rhino images of the High Atlas will probably have been mind-images.

Finally, among the numerous petroglyphs of the Yagour Plateau Rodrigue also recorded up to six petroglyphs of felines with a small cupule just below the tail (1999: 248?, 283, 323, 335, 362 and 372). This cupule may also represent faeces, but it is unknown to me whether feline dung (containing much less fibre) was used in prehistoric times in the High Atlas or anywhere-else. Therefore those cupules at felines may have had a different (symbolic?) meaning or they may indeed symbolise the marking of their territory (Figure 21D).

The Little Karoo

About 6700 km SSE of the Messak Plateau, in the Little Karoo of South Africa, a painting of an elephant defecating has been reported (TOWNLEY JOHNSON, MAGGS 1979: 59). It represents – as far as I know – the only rock art image of a defecating elephant manufactured by the San people in the whole of southern Africa, where numerous rock art images of elephants have been manufactured.

The Species Anomaly – An Explanation

From the above discussion about the distribution of rock art images of defecating zoomorphs in northern Africa (Figure 22), it proves that actually only two species: elephants and – to a lesser extent – rhinoceroses have relatively often been depicted in rock art while defecating. The antelope and the

mouflon from the Tassili-n-Ajjer are (unique?) exceptions and the feline petroglyphs of the High Atlas are considered by me to concern a regional anomaly. Concluding, it is most remarkable that only rock art images of defecating elephants are shown "in abundance" in Messak rock art. Why no giraffes or hippos; animals that are also frequently depicted in Saharan – and in Messak – rock art?

Indeed, an animal that is known to mark its territory with its faeces in real life is the hippopotamus. Rock art images of this most dangerous animal occur quite often in Sahara rock art and is also rather common in the Messak (especially in for instance the wadis Imrawen, Tin Einessnis and Taleschout). But – as far as I know – none of the rock art images of the hippo shows defecation, possibly because much of the hippo defecation occurs under water.

Likewise, none of the numerous rock art images of giraffes in African rock art is shown defecating. The only possible exception – that I know of – is an enigmatic petroglyph scene recorded at the rock art site of Oua-n-Recha in the Central Hoggar. It concerns a row of two large running giraffes preceded by a therianthrope with a giraffe neck and head; all depicted in profile (Allard-Huard 1993: Fig. 98.1). Léone Allard-Huard remarks that "*Curiously, both have a second tail, pecked and less patinated, and clearly later additions. They may be interpreted as showing that the animals are moving*" (1993: 287). Although I do not reject her interpretation, I prefer to suggest that the thinly added (straight and thus still) lines *might* depict defecation, although – in my opinion – it is more likely that those (female?) giraffes are urinating (Figure 23). Interestingly, Jan Jelínek (2004: Fig. 76) illustrates the same panel, which also includes two elephants curiously joined by their tails.

There is another notable zoomorph that does not seem to have been depicted while defecating in rock art: the bovine. This is remarkable because the bovine was of major importance to the peoples of the desert. In Sahara rock art there are exceptionally many rock art images of bovines and also of female bovines nursing their young, images of isolated cows with udders and even some scenes where a bovine is nursing humans; most likely to be children (Allard-Huard 2000: Fig. 107.1). In the Messak are also petroglyphs of bovids being milked by humans (Allard-Huard 2000: Fig. 178.4). I am not aware of rock art scenes in which the milk of female mammals is actually clearly visible during the process of nursing. However, at the rock art site of Gorgod on the left bank of the Nile there is a nursing scene where some small dots *might* have been intended to depict milk (Allard-Huard 2000: Fig. 27.1). A second – still ambiguous – image concerns Petroglyph 65 recorded by Alain Rodrigue at Site O-III of the Oukaimeden complex in the High Atlas of southern Morocco (1999: 162). From the large udder of a bovine runs a long meandering line, which just possibly could symbolise the milk. All those numerous rock art images of bovines confirm the enormous importance of bovines in the ancient subsistence economies of north of Africa. It is therefore most surprising and unexpected that *none* of the far more numerous depictions of bovines shows defecation. At least I could not find any example in the publications that I have available (for example Allard-Huard 1993, 2000; Huard, Leclant 2009), nor in the numerous photographs that I scanned on the internet.

This leaves us with a few questions. Why do rock art images of defecating elephants "only" occur in the Study Area (the Messak-Tadrart)? In other words, why are there no rock art images of defecating elephants in the rich rock art repertoire of rock art regions further west, in the neighbouring Tassili-n-Ajjer, or to the south, on the Djado Plateau, or anywhere-else in northern Africa (except for the High Atlas, Morocco, and Wadi Abu Subeira, Egypt)? And how to explain the statistical abundance of def-

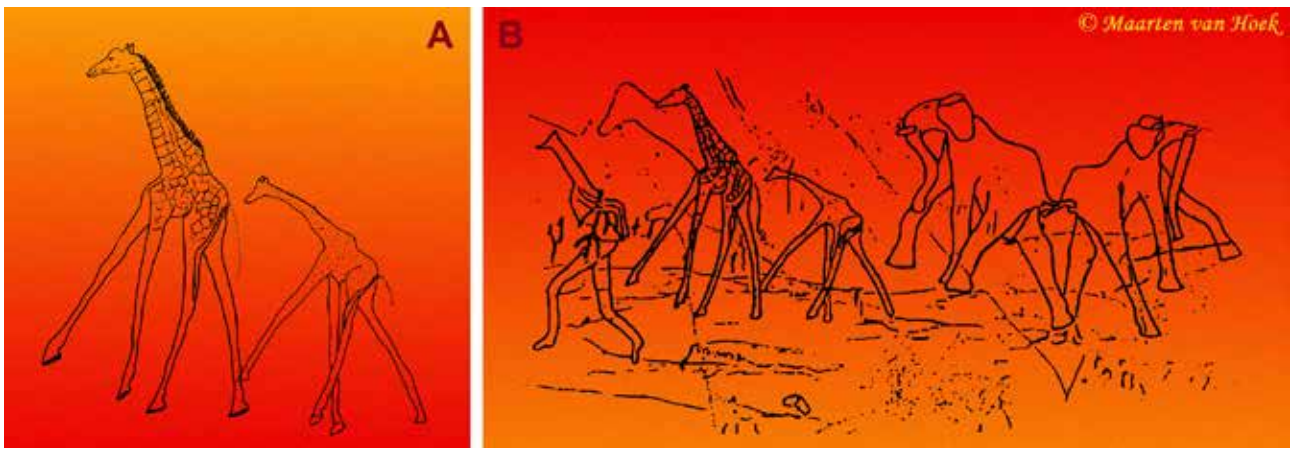

Figure 23. Petroglyphs of urinating or perhaps defecating giraffes at Oua-n-Recha, Central Hoggar, Algeria. Drawing © by Maarten van Hoek, A: based on an illustration by Léone Allard-Huard (1993: Fig. 98.1), B: based on the illustration by Jan Jelínek (2004: Fig. 76)

ecating elephants in the relatively very small area of the Study Area? Finally, why are there no depictions of defecating giraffes, hippos and – above all – bovines in the rock art of northern Africa?

One of the reasons why rock art images of the defecating elephant and even the "*queue coudée*" in itself (also examples without adjacent excrements) are so (relatively) abundant in the rock art of our Study Area is that the scenes are possibly fertility related. GAUTHIER, GAUTHIER 1996: 92 express this idea as follows: "*Peut-on en conclure que dans les conventions graphiques, la queue coudée soit synonyme de défécation – même si l'éléphant n'est pas explicitement dans cette attitude – et par voie de conséquence, synonyme de fécondité?*". As Gauthier Y. and Gauthier C. also acknowledge the special relationship between therianthropes and big game (elephants and rhinos), they continue to say that "*The therianthrope-elephant-fertility combination asserts itself very clearly through these strange compositions. In this context, we understand much better why, of all animals, the elephant alone is drawn defecating: the extraordinary qualities of its manure are probably at the origin of the adoption of the pachyderm as a symbol of fertility in animals*". But why selecting the elephant, not the rhino; an animal that is also – though less frequently – depicted while defecating?

It seems that – in the worldview of the manufacturers of Messak rock art – especially the elephant was considered to be superior to all other animals, even to the powerful rhino. Importantly, VAN ALBADA, VAN ALBADA 2000: 88 notice a possibly salient difference between elephants and rhinos in Messak rock art. Rhinos have been depicted with tethering stones attached, carried by humans and in inverted position indicating that they are dead. However, at least one Messak elephant is shown with a tethering stone (GAUTHIER, GAUTHIER 1995: *Table* 1). Also the relations between the fearsome therianthropes and elephants are of a different order. Even when elephants sometimes seem to be harassed (or rather, caressed?) by therianthropes, elephants never appear in an inferior position, although Van Albada A. and Van Albada A.M. also suggest that – possibly – one therianthrope depicted on a rock panel at Wadi Tin Sharuma is carrying a young elephant (1992: Fig.9).

There are also scenes in Messak-Tadrart rock art where the excrements of defecating elephants get special attention of therianthropes or humans and – possibly – even of elephants. The last circumstance seems to have been depicted on the rock panel at Wadi Tidjamaren where the elephant following the defecating elephant is said to possibly avoid the dropping droppings (VAN ALBADA, ALBADA 1994: 40).

The importance of elephant dung is further graphically accentuated by a few scenes in which either a therianthrope or a human seems to be collecting the excrements when being released by the elephant. This is evident at the rock panel in Wadi Tiduwa, where a therianthrope is not only touching (collecting?) the dung, it also seems to be licking it. A rock panel in Wadi Tin Amutin depicts a therianthrope that is lifting the tail of Elephant C possibly to collect the dung (Element E?). Also one scene in Wadi In-Djerane, Tadrart, seems to involve the collection of dung (added at a later stage?). Other scenes involve anthropomorphs or therianthropes lifting the tail of a (non-defecating) elephant, like at Wadi Alamas. Van Albada A. and Van Albada A.M. remark in this respect that "*perhaps the therianthropes appropriated the strength of the elephant through its excrements, which seems to be of great importance to the ancient artists*" (2000: 88; Fig. 81). All those scenes seem to establish the elephant as the most powerful and awe-inspiring of all animals for the ancient peoples of the Messak.

It is established that elephant dung is very fertile and not only in northern Africa. For instance, it is known that also San hunters and gatherers in southern Africa followed elephants to recover the nuts from the elephants" dung, where they were dropped. Those nuts were nonetheless very well edible and it was also understood by the San that nuts from the elephant dung produced new nut trees, which also relates to the concept of fertility. More practically, the shells and the dung were also collected to be burned as fuel by the San (and probably by many more peoples). However, if elephant dung is known to be very fertile and useable throughout Africa, why then has only the Messak-Tadrart such an abundance of rock art images of defecating elephants?

A Distant Parallel

As there is no way to get informed knowledge about the meaning of the Messak defecating elephant petroglyphs, any explanation must come from the graphical information available on the panel, from the archaeology of the site (including the whole corpus of rock art images) and the archaeology of the entire neighbourhood (in this case the Messak-Tadrart region). It has been established that there is a specific – but still enigmatic – relationship between images of defecating elephants and therianthropes. It has been suggested – but this is not proven – that therianthropes acquire elephant power through licking, touching or collecting elephant dung. It is also conceivable that defecating elephants depicted in rock art (with or without being associated with humans or therianthropes) express the concept of fertility.

There is a distant parallel that seems to confirm the idea that defecating animals in rock art are sym-

bols of fertility, observed by me on Panel 12 at Aspeberget, a petroglyph site in the rich rock art concentration of Bohuslän on the west coast of Sweden, 3650 km north of the Messak (and thus not culturally associated in any way). On this outcrop is a large group of petroglyphs including many boats, anthropomorphs and zoomorphs. The latter group also includes five large bovids (four of which clearly depict phallic bulls, although the smallest may represent a calf). Interestingly, three of those bulls clearly have a cupule intentionally placed between the their bottoms and the tail. This single cupule may well symbolise the idea that the animals are defecating. Interestingly, there is a possible clue as to the meaning/function of the cupule on the same panel. Two of the defecating bovids (Figure 24) appear to have deliberately been arranged in a row, comprising three bovids shepherded by a person at the rear. Just below this row is a phallic anthropomorph steering a plough in the same direction as the row of bulls. Although it is uncertain if indeed there is a premeditated association between the ploughman and the defecating bulls, it is highly likely that the whole *scene* is intentional and – in my opinion – clearly fertility related. The *phallic* bulls, the dung (*fertiliser*!) and the *phallic* farmer ploughing the dung into the soil all express the connotation of fertility. Importantly, this symbolic scene clearly was an expression of an agricultural group.

Just possibly Messak people started to use elephant dung at a certain stage, for instance when agriculture slowly replaced the hunter-gatherer economy. Around that time people also may have started the manufacturing of images of defecating elephants (or adding dung to existing elephant images?).

Conclusions

It is important to realise that all images of defecating elephants in the Messak-Tadrart belong to the so-called *Bubalus* Style group and therefore roughly date from Large Wild Fauna Period (also called the *Bubalus* Period, although it is more appropriate to speak of the "*Bubalus* Style" rather than the "*Bubalus* Period"), which ranges from about 10.000 B.C. to 4.000 B.C. Although the *Bubalus* Style is found (from west to east) in the Saharan Atlas, the Tassili-n-Ajjer, the Hoggar, the Tadrart-Acacus, the Messak, the Djado, and in the Western Tibesti (a NW-SE distance of about 2200 km), this study clearly demonstrated that rock art images of *defecating* elephants (and rhinos) of the *Bubalus* Style are found in a much smaller area; only in the Messak-Tadrart area (conveniently ignoring the High Atlas group here, which has different style characteristics and another cultural context). Moreover, such images (all comprising petroglyphs) are found distributed erratically across much of the NW-SE sloping Messak Plateau, which – in my opinion – may indicate that prehistoric artists entered the wadis of the Messak from the accessible southeast and east, also because the convex side of the plateau comprises an up to 160 m high cliff, which was much more difficult to access.

The Messak-Tadrart rock art images of defecating elephants are unequalled regarding style and numbers. They therefore are – in my opinion – undoubtedly an exclusive regional expression aiming at a specific result. This exclusivity means that images of *Bubalus* Style elephants occur in a much larger area (for example in Wadi Djerat, Tassili-n-Ajjer, 340 km further west), but – as far as I know – *Bubalus* Style defecating elephants only occur in the Study Area. This phenomenon may be compared (to a certain extent, though) with the exclusive Dinwoody anthropomorphic figures of Wyoming, USA, or the unique petroglyphs of the so-called "Buddhas" at Yerbas Buenas in northern Chile. Another comparable group of idiosyncratic images comprises the petroglyphs of anthropomorphic "dancers" and zoomorphic

Figure 24. Petroglyphs of defecating bulls at Aspeberget, Sweden. Drawings © by Maarten van Hoek, based on photographs by the author. My photographs have not been used here because the petroglyphs have been painted in red, which I find unacceptable

"spitters", which only are found in an extremely limited area (the Majes Valley in southern Peru), but they still belong to the typical Majes Style rock art imagery, which is found in a much larger area (VAN HOEK 2018). Very tentatively I have attempted to link the abnormally high numbers of "dancer" petroglyphs in the Majes Valley to environmental and climatic disasters; like prolonged periods of severe drought. Would it be possible that the same idea applies to (only) the Messak-Tadrart *defecating* elephants?

Most *Bubalus* rock art consists of depictions of zoomorphs that would have been abundant in the region when the area was wetter and more fertile. It mainly concerns almost life-size, fairly realistic images of giraffes, elephants, rhinoceroses, hippopotamuses, large antelopes and a now-extinct species of bovine known as *Bubalus antiquus*. Although the environmental and climatic details of the area are far more complex, it may be concluded that around 5000 BP – after a relatively wet period – a severe drought (called the "*Gran Crise Aride*" by VAN ALBADA, VAN ALBADA 2000: *Document* – *Planche* 3) caused the departure of the pastoralists who manufactured the *Bubalus* Style petroglyphs. Before that disaster the plateau constituted a perennial hunting reserve and a sanctuary of wild animals. Of course the "*Gran Crise Aride*" did not start abruptly, but progressed only slowly. Is it now possible that in a more final stage of petroglyph production images of defecating elephants were manufactured and that – possibly – at existing non-defecating elephants dung was added, all in a ritualistic attempt to avert the increasing drought?

Of course, this is only a speculative hypothesis. But it would be worthwhile to investigate the idea of a rather late rock art practice of the *Bubalus* "Period" and to consider whether especially the defecating elephants of the Messak-Tadrart are indeed related to climatic changes in the Central Sahara. But most likely we will never know what the true reason has been to manufacture an abundance of defecating elephant petroglyphs especially in this area. It may refer to fertility, to marking territory, to averting progressing drought or to something completely unknown. Whatever the reason, the petroglyphs of the defecating elephants in Messak rock art will probably remain an anomaly in African rock art.

Figure 25. I spotted this elephant only 4 km from my home in the Netherlands. This animal has never defecated and never will

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