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CONFERENCE PROCEEDINGS: ANCIENT LIVES, NEW STORIES: CURRENT RESEARCH ON THE ANCIENT NEAR EAST[2]

Looking for Realism: Neo-Assyrian Horses Through the Prism of Reality

Margaux Spruyt

Abstract: Neo-Assyrian reliefs have been studied as a coherent whole in number of publications, including the notable works by Pauline Albenda and Elena Cassin. Choosing the representation of equids, largely represented in the reliefs, and more precisely the depiction of their expressions, allows us to raise new questions. What was the essence of the relationship between humans and horses in the empire? Did neo-Assyrians really observe their stallions? Are the depictions of horses really accurate?

In order to carry out this project, a comparative analysis method has been designed, using tools developed by veterinarians to help understand the animal's expression (EquiFACS). It brings into perspective photographs of actual horses taken during etiopathy sessions and the representations within the reliefs. The main idea is to compare images of horses in stressful or painful context to neo-Assyrian stallions depicted in violent scenes, where they might express the same feelings. This research enhances our perception of the observation quality of the Neo-Assyrian artists themselves.

For the present paper, only two reliefs from Ashurbanipal's reign will be studied (BM 124858 and BM 124876). Now held in the British Museum, they bear specific representations of horses being harnessed, or in lion hunting scenes. Bulging eyes, ears pointed to the back, mouth wide open are signs expressing difficult emotions such as fear, distress or pain – emotions which can also be observed on real life horses. These characteristic signs reflect the subtlety and the ability of the Neo-Assyrian artists in their depictions of these animals – emblematic of the empire.

[2]**Ancient Lives, New Stories: Current Research on the Ancient Near East** was a conference held at the British Museum in London between 1st and 2nd December 2018, organised by Xosé L. Hermoso-Buxán and Mathilde Touillon-Ricci. This paper is part of the proceedings of that conference and have been edited by the organisers, with the support of *Papers from the Institute of Archaeology*.

Introduction

Harnessed to the yoke or used in cavalry, horses were the striking force of the empire. An essential resource, horses were an important part of annual tributes from distant lands such as Urartu or Media. Neo-Assyrian kings held counts of the number of horses they received each year in specific documents that scholars (Postgate 1974) have called 'Horse Reports'. For instance, during Esarhaddon's reign (680-669 BC), a group of 20 letters – dating from the same year – gives us information about the number of equids (horses and mule) the king received from different lands: Nubia and Mēsu (east of Assyria), for instance. In total there are 2911 animals, which represents almost 100 animals per day (Postgate 1974: 14). The number of mules is rather small, only 136 whereas the number of horses is important: 2725. Three types of horses are identified[1]: yoke horses, stud horses and draught horses. The first ones form the largest group as chariotry is – since the conception of the light chariot in the Bronze Age (Moorey 1986: 196) – the most common way to go to war (Limet 1992: 38). The last ones are the fewer probably because cavalry (Dalley 1985: 37), which was first developed in Assyria during Ashurnasirpal II's reign (883-859 BC) and was mostly enhanced during the Sargonid period (Limet 1992: 38) (c. 722-610 BC), was not at its most significant development at that time (Noble 1990: 61). Indeed, military tactics prove it to be too dangerous for horses and their rider to strike against foot soldiers. It appears more efficient to harass the side of the enemy's army (Limet 1995: 36; Noble 1990: 61). The cavalry would gain in force throughout the empire (Dalley 1995: 418) and reach its climax as both a discipline and a striking force during Ashurbanipal's reign (669-631/627 BC).

This king developed in his North Palace at Nineveh one of the largest iconographic programmes known from the Neo-Assyrian period (Barnett 1976; Brereton 2018; Layard 1853). Composed mostly of alabaster reliefs, the programme displays the king in battle scenes, hunting scenes (of lions, cervids and wild asses) (Lion & Michel 2006) but also religious ceremonies and libation scenes: the monarch seems to be everywhere (Bahrani 2009: 150). He is usually accompanied by many equids. Strong

stallions, the King's exclusive mounts, were employed both for hunting and war purposes. And as shown by their omnipresence in the reliefs, horses played an important part in all these actions. Neo-Assyrian soldiers seem to have developed an intimate relationship with their horses[2] as is shown by several images within Ashurbanipal's relief programme. Therefore, an iconographic study[3] of two reliefs from Nineveh presenting the king's horses in a hunting context provides information about the nature of that relationship and the way Neo-Assyrians sought to represent equid emotions and behaviour – which in turn indicates how they observed their mounts.

Contrary to other contemporary civilisations such as the Neo-Babylonians or the Achaemenid Persians[4], Neo-Assyrian centred horses in the iconographic programs developed within their palaces. If their presence in battle or hunting scenes seems quite comprehensible, how can we explain their representation in ceremonies or libation scenes? What does their representation bring to the narration or to the image itself? Furthermore, why do some appear to be marked by vivid expressions, showing strong and varied emotions? To respond to these questions, a precise study of the horse's motif must be conducted in the corpus of images dating from Ashurbanipal's reign. Indeed, after a thorough observation of the reliefs from the North Palace of Nineveh, it was possible to observe that if human beings are engaged in violent actions as documented by their sudden moves, their faces show no emotions. Human beings seem to be mostly marked by calm and serenity; they appear almost to be encompassed in an impassive concentration. On the contrary, animals, among them horses, seem to be in the grip of their passions. And if similarly to human beings they are represented in various postures, they reveal numerous facial expressions. How did Assyrian artists seek to represent equid emotions and behaviours? To what extent does the representation of horse's expression in neo-Assyrian reliefs echo a detailed observation of the precise behaviour of these animals while participating in the development of a striking image for the viewers? Therefore, we intend to present an iconographic study of two reliefs representing horses with striking facial expressions. These two reliefs, uncovered at Kouyounjik are now held in the British Museum and both present the king, on his chariot or on horseback. The horses are, in the first relief (Barnett 1976: 37, pl. V: BM 124858) refusing to be harnessed to the yoke or in a neutral attitude and in the second one (Allen 2005: 17: BM 124875; Barnett &

Foreman 1959: pls. 85, 89; Barnett 1976: 51, pl. XLIX) facing a lion jumping at its throat. Twice the king is showing no emotion towards the occurring action whereas the horses are both showing impressive and perhaps dramatic expressions.

Focusing on the animal's expression means to pay attention to the details[5] of its face and muscular contraction. In order to observe it carefully, veterinarians have developed several tools to document and interpret equid facial features. Veterinary studies (Dalla Costa et al. 2014; Gleerup et al. 2015; Jacques 2001; Wathan et al. 2015) have tried to identify thoroughly the way horses contract their muscles when they experience feelings such as pain, fear, anger, or discontent. The main purpose of these studies is to provide a helpful scale to veterinarians so that they can correctly translate the horse's behaviour and prevent it from feeling unnecessary pain. Scales of analysis have therefore been developed, and if two of them (Dalla Costa et al. 2014; Glerrup et al. 2015) focus on the expression of pain which will be helpful for the second case study (relief BM 124875), one special tool called EquiFACS (Equine Facial Action Coding System, Wathan et al. 2015) references all sorts of feelings horses can express. Developed on the basis of FACS (Ekman, Friesen & Hager 2002a; 2002b), a tool referencing facial expressions thanks to the observation of muscular contraction of human beings, EquiFACS has been specially adapted to horses: 'EquiFACS provides a comprehensive list of all the facial movements that horses can produce' (Wathan et al. 2015: 2). Therefore, this tool helps us observe and identify all sorts of muscular contractions on horses' faces and gives us an analytical framework upon which it is possible to relate to understand any emotions the animals might feel. Thus, the accuracy of the representation of horses' emotions on the two reliefs will be analysed through a comparative method with images of the reality and the analytical framework of EquiFACS. If it could be possible to consider this comparison as anachronic, it is important to remind ourselves that if the horse's appearance and anatomy might have changed through time and especially because of human manipulation and selection (Hanot, Herrel, Gunitard & Cornette, 2018: 2), their muscle arrangement and general form has not changed for several centuries (Eisenmann 2010: 7; Molen 2009: 62) Horse anatomy is well-known over a long period thanks to dissection studies and several artists such as G. Stubbs (1766)[6] using their knowledge of horse anatomy to reproduce them as accurately as possible.

Based on FACS, the elements understood as Action Units are codes compiling the 'contraction of a particular facial muscle (or set of muscles) and the resulting facial movements' (Wathan et al. 2015: 2) For the analysis of human beings' expressions, they cover a large number of muscles that, when contracted, provoke a variation of the face. But, for this specific study of the way Assyrians translated the emotions of their horses, only four muscles are relevant:

- *M. zygomatic*
- *M. masseter*
- *M. caninus*
- *M. levator anguli oculi medialis*

When contracted, these muscles modify the horse's face and expression mostly around the mouth, by modifying the position of the lips, but the *M. levator anguli oculi medialis* modifies the upper part of the eye.

Figure 1: CAD – contracted horse's eye. Image: M. Spruyt after Wathan et al. 2015.

Figure 2: Contracted horse's eye. Photo: M. Spruyt.

This particular contraction helps the animal to express discomfort, fear or pain and is quite easily noticeable when looking at photographs of horses or when studying horse behaviour. Therefore, to corroborate the analytical method developed for the study of neo-Assyrian images, through the prism of EquiFACS, we will compare the reliefs to photographs taken during etiopathy sessions.

Etiopathy Sessions

Etiopathy, from the ancient Greek 'attia' which means cause and pathos, suffering, is a therapeutic treatment method based on manipulation (Tredaniel 1979)[7]. Like FACS, etiopathy was first developed for the treatment of human beings, but as it has been proven efficient, it was adapted to animals and particularly to horses. This discipline does not use any tool or medicine, it only relates on massage and

movements to research and cure a pathology. The discomfort felt by horses during these sessions is brief and if it can be impressive to an amateur because horses react to the manipulation sometimes with fierce refusal, the main purpose of etiopathy is to prevent further and extended pain provoked by bad posture.

The studied horse

The horse observed during an etiopathy session is a stallion, aged four years old (in 2016), of Trotteur Français breed, still in training to become a race horse. It is a young and muscular horse, treated in order to maintain posture and give a proper position to his internal structures.

Figure 3: Horse trying to bite its owner during an etiopathy session. Photo: M. Spruyt.

During the treatment, he has shown signs of discomfort leading him to express stress, refusal of the treatment and possible pain. These emotions have been

observed through the several expressions the horse has adopted and also by the undisciplined behaviour it has shown.

Comparative elements

Using EquiFACS gives us a panel of primary selected elements adapted for comparison. The precise list of Action Units adapted to horses takes into account all sorts of facial and ears movements. From that important list, we have selected the ones that seemed to cover most of the elements to study in the reliefs. For instance, we have used two codes given for the study of ear movement, AU 101 Ear forward and AU 103 Ear flattener, to establish a basis of comparison. In order to complete the study, we have added two larger elements (not considered as Action Units by EquiFACS) which are the position of the neckline and of the head in general.

Therefore, we have established the analysis on six major parts of the face – the neck, the head, the ears, the mouth, the nostrils and the eyes – to which correspond one or several Action Units from EquiFACS:

1. Neck: depending on its position, the neck helps to witness a tension, especially if there is a rearward movement of the animal.
2. Head: its position follows the neck. If the head is held up straight, it may help confirm the tension in the neck and corroborates the same rearward movement.
3. Ears: their position translates several emotions such as happiness, concentration, drowsiness, anger, fear, pain. The ears can either be displayed in front, held back, held low or asymmetrically (AU 101 – ear forward and AU 103 – ear forward).
4. Mouth: openness and looseness of the lips bear the marks of different muscular contractions, which can indicate the level of nervousness (AU 10 – upper lip raiser, AU 16 – lower lip depressor, AU 122 – upper lip curl, AU 24 – lip presser and AU 25 – lips part).
5. Nostrils: strained or dilated, they can reveal a tension (AU H13 – nostrils lift and AU 38 – nostrils dilator).
6. Eyes: orbital closure (AU 143 – Eye closure) or openness and the contraction of the *M. levator anguli oculi medialis* (AU 101 – inner brow raiser) can translate

as either calmness or anxiety. An intense stare and its direction can also indicate the painful area of the horse's body.

Comparative Studies

The results obtained through the comparison of photographs and the reliefs both analysed using EquiFACS are focused on three horses and will be presented successively.

The king's chariot horses

The first scene shows the king on a chariot to which three men are harnessing two horses. The first horse appears to be calm and patient whereas the second one, on the background seems to be showing reluctance to be harnessed[8]. Indeed, it is holding back its head and trying to escape the men's grip by a complete rearward movement. The horse positions its hooves on the toe while pushing back its entire body. The horse's head and expression show its tension.

Figure 4: Detail, relief BM 124858. Photo: M. Spruyt.

If the scenes depicting the king's preparation with his soldiers and his horses before going to the battlefield or before hunting are not rare in Ashurbanipal's iconography, this particular scene differs from the other because here the action is unfinished: the horses are still being harnessed to the yoke and one of them does not want to cooperate. The representation raises several questions, as to study whether or not the depiction of the horse's expression and behaviour in the relief can be based on the observation of real horses' behaviour. Can this relief give us clues concerning Neo-Assyrian interest in realism and careful representation of the animal's emotions? One way to do so is to specifically study the horse's attitude and its expression and compare it to real animals in the same circumstance. The use of EquiFACS will bring us a comparative basis on which we can rely. Therefore, the comparison of the reluctant king's horse and another non-cooperative horse during an etiopathy session brought the following results:

Figure 5: Horse in a reluctant attitude. Detail, BM 124858. Photo: M. Spruyt.

Figure 6: Reluctant horse during an etiopathy session. Photo: M. Spruyt.

Neo-Assyrian relief **Fig. 5**	**Comparative elements**	**Etiopathy** **Fig. 6**
Tense, held back Rearward movement	**Neckline**	Tense, held back Rearward movement
Held back Rearward movement	**Head**	Held back Rearward movement
Held back AU 103 – ear flattener	**Ears**	Held in front AU 101 – ear forward
Largely opened AU 25 – lips part	**Mouth**	Open, upper lip held high AU 10 – upper lip raiser AU 122 – upper lip curl
Medio-lateral dilatation AU 38 – nostrils dilator	**Nostrils**	Medio-lateral dilatation AU 38 – nostrils dilator

AU H13 – nostrils lift		AU H13 – nostrils lift
Intense stare forward Frowned eyebrows tension of the *m. levator anguli oculi medialis* AU 101 – inner brow raiser	**Eyes**	Intense stare backwards Frowned eyebrows tension of the *m. levator anguli oculi medialis* AU 101 – inner brow raiser

Table 1: First Comparative Study Results

Here the similarity of the position of the horses' neckline, jugular furrow, head, mouth and nostrils prove that they adopt the same general posture and expression. But several differences remain, for instance, in the direction of their sight. The Assyrian horse stares forward whereas the horse in Figure 6 stares backwards. In both cases they are looking at the action around them: on the one hand the horse looks at the two caretakers trying to harness him to the yoke, on the other hand, the horse is focusing on the manipulation of the etiopath on its posterior leg. Nevertheless, the direction in which the animals are looking does not matter so much, because the importance lies in the way they focus their attention and translate it through their sight. And as shown by the analysis of their ocular movement and the similar contraction of their muscle *M. levator anguli oculi medialis*, they both have bulging eyes. These elements of comparison prove they are experiencing discomfort and they are showing it by refusing to cooperate with the human interacting with them. Their refusal attitude can perfectly and easily be perceived by the observant, who, in both cases, cannot misunderstand the horses' expressions.

Therefore, the comparative study and the use of EquiFACS as a basis of analysis gives us new ways of interpreting Neo-Assyrian images and helps to confirm the precise observations the Assyrians made prior to depicting the action. The horse here studied is engraved with naturalistic realism.

Moreover, the comparison between this horse and the one next to it, placed in the foreground which is impassive and calm, shows us that Assyrian artists are deliberately marking specific animals with this type of behaviour. Compared to the

behaviour of the same real horse observed at rest before the manipulations of the etiopath show the following results:

Figure 7: Horse in a neutral attitude. Detail, BM 124858. Photo: M. Spruyt.

Figure 8: Horse before an etiopathy session. Photo: M. Spruyt.

Neo-Assyrian relief Fig. 7	**Comparative elements**	**Etiopathy Fig. 8**
Held straight	**Neckline**	Held straight
Held straight	**Head**	Held straight Neutral position
Held in front EAD 101 – ear forward	**Ears**	Held in front EAD 101 – ear forward
Opened AU 25 – lips part	**Mouth**	Closed
Neutral position	**Nostrils**	Neutral position
Stare forward	**Eyes**	Stare forward

Table 2: Comparative results – horse neutral face and posture

Here the results indicate that the horse in the relief is indeed calm and shows a neutral face (Wathan et al. 2015: 17). It holds its neck and head straight, its ears are placed forward, its nostrils are not tensed. The open mouth position, which is not found on the comparative horse (Fig. 8), can be caused by the presence of the bit in the mouth of the Assyrian horse. This harnessing element, placed on the tongue, at the level of the bar, actually hinders the closing of the mouth.

Thus, the very presence of calm and neutral animals in the reliefs shows that the distinction between different types of behaviour exists and therefore that the representation of vivid expressions (Fig. 6) is the result of specific research on the part of the image creators.

The horse facing the lion

The second comparative study focuses on a relief depicting a horse facing a lion. The equid belongs to the royal cavalry, as the king himself rides it, and is, therefore, a strong muscular horse. The relief shows a hunting scene, and the large composition places several lions against the king, his men and his horses. Bearing symbolic values (Albenda 1972; 2002; Cassin 1981; Reade 2018: 53), this theme has long existed in Near-Eastern iconography, but, the Assyrian representation shows different construction, as it is reflected by the wild expressions of the animal and the absence of emotions shown by the king. Our experimental study tries to identify these emotions. The lion hunting scene is mainly represented on the reliefs BM 124874 and BM 124875. The lion hunting scene takes place on the two upper registers. On the superior register, the action takes place on foot, the king and his men hunt the feline without horses, whereas the scene on the median register is a cavalry scene. Therefore, our attention will only be focused on the median register and the central action as follows:

Figure 9: Median register BM 124875. Photo: M. Spruyt.

Two horses are attacked by two lions. The one on the left-hand side is figured in a special posture called 'flying gallop'[9] whilst a raging lion, wounded by three arrows, jumps at its croup. In front of them, the king rides a large horse represented in the posture named 'elongated prancing'[10]. This animal faces a lion jumping at its throat, the king sticks his spear in the lion's mouth, causing it to die, although that is not yet happened. What strikes the observant's eye is the lack of emotions shown by the king. The animals are the only ones expressing their feelings. Both lions seem to express anger and rage: their claws are out, ready to seize the enemy, their ears are held back, and their noses show the multiple wrinkles induced by their widely-opened mouths. The horses are also expressing their feelings, but the climatic point of the representation seems to lay on the image of the king's horse facing the lion, on the right-hand side. Therefore, this equid will be our object of study. It will be analysed through the frame of EquiFACS and compared to a photograph of the young stallion during its etiopathy session.

Figure 10: Detail, BM 124875. Photo: M. Spruyt.

Figure 11: Horse during etiopathy session, expressing pain. Photo: M. Spruyt.

Neo-Assyrian relief **Fig. 8**	**Comparative elements**	**Etiopathy** **Fig. 9**
Tense Held straight	**Neckline**	Tense Held straight
Held straight Slight rearward movement	**Head**	Held straight Elongated Flattened profile
Held back AU 103 – ear flattener	**Ears**	Held back AU 101 – ear flattener
Largely opened AU 25 – lips part	**Mouth**	Closed, teeth held tight AU 24 – lip presser
Medio-lateral dilatation	**Nostrils**	Medio-lateral dilatation

AU 38 – nostrils dilator		AU 38 – nostrils dilator
Intense stare forward Frowned eyebrows tension of the *m. levator anguli oculi medialis* AU 101 – inner brow raiser	**Eyes**	Intense stare forward Frowned eyebrows tension of the *m. levator anguli oculi medialis* AU 101 – inner brow raiser

Table 3: Second Comparative Study Results

In both cases, the animals seem to express their anxiety. Etiopathy sessions can be hard on the treated horse as some movements realised by the etiopath can induce pain. The animal can clearly feel discomfort during the treatment, as we can easily perceive through its frowned eyebrows, its intense stare and its largely open nostrils. Moreover, the position of its ears, held back, contributes to the elongation of its flattened profile and therefore accentuates its frightened expression. The neo-Assyrian horse's expression is really similar to that of the young stallion, and indeed, it is figured in the most stressful situation as a lion jumps at its throat. The way the Assyrians engraved horses seems once more to be imbued with naturalist realism as is documented by the position of its ears, nostrils, eyes and neckline.

In addition, not only the representation of this horse translates its anxiety, but it also reflects on another emotion: pain. The position of the animal's ears, the intensity of its stare and the contraction of its eye (AU 101 – inner brow raiser) to which we can also add its nostrils' dilatation (AU 38 – nostrils dilator) indicate signs of pain. And this feeling can be observed by the context and the action itself. The lion is, in the representation, coming from the left-hand side of the horse he is attacking. Indeed, the way the horse and the lion's bodies mix indicates that the lion is not jumping in front of the equid, but from a side, or diagonal. The horse's head is in the background, when the lion's head is in front of it, but the horse's legs are in the foreground, which means that the lion is placed between the head and the legs of the horse. This mix accentuates the violence of the collision between the two animals, a collision which can induce pain. And, not only does the lion collide with the horse, but it also sticks its claws into the equid's chest, which induces a striking pain. In conclusion, the comparative study of this particular relief through the analytic frame

given by EquiFACS, proves that the representation of this horse's emotions is accurate and translated by the right expressions.

Conclusion

To sum up, we have seen that the use of veterinary tools is helpful in the comprehension and analysis of the representation of horses in neo-Assyrian reliefs as it provides a specific and accurate frame of comparison. The understanding of the horse's muscular movements and their visual consequence on its face allows the viewer to perceive more accurately the horse's feelings. That is the reason why this experimental study brings new light to the way we can analyse the reliefs which is imbued by naturalist realism. The specific cases chosen for this study offer a panel of very different emotions – anxiety, pain, refusal of cooperation – which horses convey with a variety of expressions. The preciseness of their representation as proven by the comparison with pictures of young stallions and EquiFACS, gives us clues to understand the close relations Assyrian developed with the mounts, they knew them well enough to be able to represent them in the most accurate way. Therefore, this experimental study enhances our knowledge of the Assyrians in their capacity of creating a vivid image and, at least when it came to animal behaviour, their commitment to realism in the depiction of emotions and behaviour – a fascinating contrast to the treatment of human emotional expression.

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[1] Others textual sources indicate the presence of specific horses, identified by their origin and rarity, such as the Egyptian horses. See Heidorn 1997 and Dalley 1985: 43, Ashur Prism.

[2] Limet 1992 and 1995; see also Clutton-Brock 1992 and Lafont 2000 for horses and other types of equids, or Hyland 2003.
[3] Several studies have focused on the representation of horses in order to enhance our knowledge of the human/equid relationship. For instance, see Francfort 2008; Francfort and Lepetz 2010; Baker 2001, Breniquet 2002 or Clement, Spruyt, Mohaseb et al. 2020.
[4] Gabrielli 2006. Horses in Achaemenid Persia are represented on the Apadana of Persepolis, but it remains a unique case of horses' representation compared to the large iconographic programs developed in royal palaces and complex such as Susa or Pasargadae.
[5] Following D. Arasse's method (see ARASSE 1996), we will focus on horses' facial expressions as it is a detail and its importance lies in its function. It may be used to enhance the message developed by the artist, as Alberti's *storia* (see Alberti 1435, Livre I), but it can also help to promote a different one. The displacement of the main focus point, from the scene as a whole to a simple part of it allows us to perceive more accurately the way the image strikes the viewer's eye in order to deliver the message (see CICERO *De oratore*, 2, 57, 358, see also Lazaris 2012: 5).
[6] On the study of the head, see p. 30, Tab. VII.
[7] This discipline is close to chiropracty and osteopathy.
[8] These signs of resistance are also depicted in the iconography of the third and second millenia BCE. See Recht 2019.
[9] « Galop volant », Reinach 1925: 6. It is possible that this posture – figuring a rapid pace – results from the adjunction of the 'elongated prancing' and the horse's tail hopping or kick.
[10] « Cabré allongé », Reinach 1925: 6.

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