THE HORSE AS SEEN BY A MEDIEVAL ARAB SCHOLAR
ABU 'UBAYDA: KITĀB AL-HAYL

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The subject of this article is the body-parts of the horse as Arabic authors observed them. The horse, thanks to its elevated role among the Arabs inspired many writers, poets and scholars to write about it. For example, Abū 'Ubayda, Ibn al-Kalbī, Ibn al-Aʿrābī, Ibn Qutayba (Maʿānī), Ibn al-Anbārī, al-ʿAṣmaʿī, an-Nuwayrī (Nihāya X, 342 ff), Ibn Sida (Muhassas II, 138-145), Muḥammad b. Ḥabīb, an-Nahlās, ar-Riyāṣī and so on.

The books about the horses are – sometimes literally – similar to each other in many aspects, such as the commentaries to the various body-parts and the quotations from some verses to support them. The Arab authors usually borrow explanations in their entirety from each other then record variations of the body-parts, distinguished by special features. By choosing one of the descriptions, the others can be understood too. The main source of this article is Abū ‘Ubayda’s Kitāb al-hayl, compared to relevant chapters in Ibn Qutayba’s Maʿānī, Ibn Sida’s Muhassas and an-Nuwayrī’s (Nihāya) where the views of many different authors are expounded.

Abū ‘Ubayda (d. 209/824-5) the scholar from Baṣra in the 8th century, about whom Abū Nuwās wrote that “he was a skin stuffed with knowledge”¹, knew all the names of the horses and their riders, their stories and their origins in the ǧāhiliyya as well as in Islam. According to reports on him, it would not have been possible for two horses to meet in the time of Islam, without his knowing their names and their riders’ names.

He wrote ten books about horses: Kitāb al-hayl (The book of horses), K. ʾad-dībaṭa (The book of prestige), K. ʾasmāʿ al-hayl (The book of the names of horses), K. ʾudr al-hayl (The book about the horse’s gallop), K. sīfāt al-hayl (The features of horses), K. faḍl al-sarās (The book of the advantageous features of a noble mount), K. al-liǧām (The book of the rein), K. ʾas-sarāq (The book of the saddle), K. biṣṭaʾ al-hayl (The book of the castration of horses). He gave a detailed description about the body-parts of a horse in his book Kitāb al-hayl, where his knowledge about the horse compares with that of the Baṣran philologist al-ʿAṣmaʿī (d. 213/828)². It is said in later times too that they were like two horses of betting, who reach the goal all together but for a nose’s length (aṣ-šalqānī 1977:84). A lot of anecdotes were hatched about the

¹ Cited by Gibb 1963:54.
distinction between the two scholars, and one of these concerns a story that happened during one of their visits to al-Faḍl b. Rabī‘a. Making an account of the body-parts of a horse, al-ʿAsmaʾi turned out to be able not only to list and show them on the horse presented, but to recite a poem too on each of them. Abu ʿUbayda retreated by referring to his being a philologist and not a veterinary. Thus the winner was al-ʿAsmaʾi, who riding on the visual aid would remind Abu ʿUbayda several times of the distinction between the two of them (al-Qifti, Ruwāt 2, 202). Although the winner was not Abu ʿUbayda, his book about the horse had nevertheless become a classic on the subject.

The account of the body-parts of the horse in his book resembles that in the anatomy books of European scholars, but his description is not an exact work of anatomy. It is instead, partly a visual account and partly a scientific description. Therefore it is rather difficult to find the exact equivalent of the various parts in another language. It seems that the Arab authors in the Middle Ages had looked at a horse quite differently from the way European authors did or do. For example, the accounts of the parts of the forehead and the croup of a horse, and their names, reflect a view from the outside and are not a result of an exact account of the muscles under the skin.

Abu ʿUbayda divided the forehead into three parts, in the upper part of the forehead is the nāsiya (under the forelock) and below this is the ǧabba, while at the bottom of the forehead between the two eyes is the ǧabīn. At the lower part of the nāsiya, where the two bones leading to the eyes fork off, is the muhāyya, and in the middle of the ǧabba is the latma or latāt (Abu ʿUbayda, Hayl 125-129). In a simpler manner, Western anatomical description does not differentiate between these parts and only uses the words forehead or ‘parietal bone’.

Abu ʿUbayda uses different names for the various sections of the back’s stringy muscle of the croup. The part above the tail, where the two muscles join, is the ǧurāb. The upper part of the semitendinosus muscle (ǧāʾirat) near to the tail is the ʿalā and its lower part is the kādatān, at the upper part of the hind leg. The upper part of the croup is ḥaḍabatān (Abu ʿUbayda, Hayl 143-144, 213).

The description includes some inner parts too, but these also seem to result from simple observation. This and the comments offered on the names of the various body-parts show that an Arab author would describe the muscles in relation to one another, sometimes giving them names of animals (perhaps because the resemblance). For example,

sparrow (ushur): the root of the forelock;
owl (hamā): top of the head;
fly (dubāb): iris, corpora nigra or the tip of the ear;
titmouse or finch (surrad): vein at the bottom of the tongue;
butterfly (farrāša): fine bones at the top of the head;
bee queen (yaṣūb): white stripe on the nose that reaches neither the forehead above nor the nostrils below;
young eagle (nāhib): the fleshy part of the humerus, biceps brachii;
falcon (ṣaqr): hair ridge at the groin;
sandgrouse (qāṭā): place behind the rider on the horse’s croup;
crow (gurāb): the upper part of the croup above the tail, where the two muscles join;
male bustard (harāb): hair ridge at the loin;
eagle (nasr/nusūr): frog;
Elanus Caeruleus (zurraq): whiteness in the eyes.

Abū ‘Ubayda lists 16 animal species or more accurately, 16 species of animals that fly (Hayl 153 “asma’ at-ṭayr fi l-faras”). Other authors, like al-Aṣma’ī, mention further animal species like the ostrich (nāṭāma), the pigeon (ṣadāna), and the hawk/falcon (bāz) (ad-Dāmirī Hayl II, 160).

Abū ‘Ubayda listing the names of species, does not juxtapose explanations, so the reader has to find them elsewhere in the book, among the explanations on the various body-parts. Sometimes the reader may suspect that the writer hides himself behind the veil of simplicity, leaving the task of precise identifications to the reader. For example, the ḥadaqa is, in his description, a black circle in the eyes, whereas the insān is the blackness in it (Abū ‘Ubayda, Hayl 129). The iris is a ḡubāb. Or, in another passage, the musḥulān is a well visible bone inside the carpus (Abū ‘Ubayda, Hayl 135). In the account of some body-parts, all the writers whom I have consulted tell the same commentaries, word by word, while in other cases they differ totally from one another.

Ibn Sida (d. 488/1066) summarizes best the various commentaries (Muhassas VI, 135-204). For example the ḥāfir in most descriptions means the hoof, yet in the opinion of Ibn Sikkīt it may also mean the ankle (ḡubba). According to Ibn Sida, the ‘usfūr is the area extending from nāṣiya down to the eyes (mā taht an-nāṣiya ilā l-ṣaynayn). Abū ‘Ubayda says that the ‘usfūr is the root of the nāṣiya (Hayl 125). As regards the ḥawšab, Abū ‘Ubayd (d. 224/838) states that it is the interior of the hoof (Ibn Sida, Muhassas II, 145) whilst Abū ‘Ubayda holds that it is the two bones of the pastern (ḥawšabān) (Hayl 137).

Abū ‘Ubayda describes the horse together with its rider mounted on its back, which can be gathered from the commentaries on the body-parts: the mustaṭ‘ām is the place between the halter’s nose-strap (mawsin) and the lips (Hayl 130), the ṣālīfa is the place where the collar is put (Hayl 132, 185), the qaṣara is the place on the neck of a horse behind the collar’s position (Hayl 133), the saṣḥa is the place on the horse’s sides which the horseman’s thighs touch (Hayl 139, 204), the ma‘add is the place on the sides of a horse pressed by the horseman’s feet (Hayl 134), the marqal is the place on the horse’s sides where the rider urges him for a gallop (behind the elbows) (Hayl
139, 191). The qadāl is the place behind the nāsiya, where the halter’s forehead-strap is (Hayl 128).

Sometimes the descriptions concern various regions of the horse’s body, and not concrete things, and the adjoining parts with the same function bear the same name. For example, the nāsiya is the forelock and the part of the forehead under it, just as sāliṣa means a part of a neck and a mane above it (Abū ‘Ubayda, Hayl 125, 185). There are some parts of the horse which European scientists totally neglect, but the Arabs do not: wrinkles at the throat (girān), the place before the rider on the withers of a horse (kāṭiba) and so on (Abū ‘Ubayda, Hayl 133, 186, 188). The Arabic descriptions about the horse include some variations according to features in addition to the general commentaries, for instance, long or the short ears, with straight or loose edges, hairy ears or smooth ears and so on, and these types have different names. This kind of description confirms that the aim of describing the horse in the Middle Ages was not only to have a sound knowledge of the horse, but to prove the author’s ability to collect ever more words referring to the horse. In this mentality, I see both the characteristic Arab competitiveness and the precision of the philologists. The books about the horses were written by philologists or more accurately, by real factotums who aspired to learning everything they could. The horse thus all but became secondary in the books written about it, the main thing being to prove one’s superior knowledge.

In the collection of Abū ‘Ubayda we find some words which he mentions several times, relating to different body-parts. Examples include the ḍubāb and the radfa: ḍubāb means the tip of the ear (Hayl 125) or the iris in the eyes (Hayl 129), radfa means a separate bone in the hoof, in the knee or in the joint between the cannon and the pastern (Hayl 136, 137). It is likely to be not a bone but a cartilage in all the three cases and they could have taken the same name because of their identical function.

Abū ‘Ubayda names three different bones in the hoof. I could identify one of them with certainty which is the coffin bone, that the hoof surrounds. One of the other two bones is the aforementioned radfa (alʿazm al-munqat i fi ṣawaf al-hāfīr) and another bone is perhaps the navicular bone (azm fi ṣawaf al-hāfīr fi baṭinihi) whose other name is diṣda‘ (frog) (Hayl 137-138). This latter is used by the European scientists for the horny-matter part at the sole of the hoof, between the sulci. In the Arabic texts however the frog corresponds to the nusūr (mā irtafa‘a fi baṭin al-hāfīr min a‘lābū) that is what protrudes from the sole of the hoof, namely at its surface and not within (Hayl 138, 201). The wautra is the place between the two nostrils (flat tendinous plate) and the place between the hock and the outer side of the knee (Hayl 130, 145, 218).

The idea of making a vocabulary on the body-parts of the horse is rooted in the fact that it could greatly facilitate the understanding of other parts of the book of Abū ‘Ubayda, and other medieval works about the horses. For example, the Kitāb
al-hayl of Abū ʿUbayda, as such Arabic works in general becomes after a long introduction profoundly absorbed in the explanations of the body-parts of a horse from its head to its tail, then continues to use these words without any further pieces of information. With the vocabulary, the description of the horse became easier to survey, while the illustrations make these commentaries visible.

Unfortunately, Abū ʿUbayda’s book does not include figures or pictures to aid his descriptions, therefore it was necessary to use European anatomy manuals to identify the various body-parts. The difficulty lay in the fact that the descriptions had resulted from an outside observation which made it highly ambiguous what is really meant by the ‘inside’ or the ‘outside’ of this or that, or what might be ‘a well visible bone’ or ‘tendons without flesh’, or which are ‘the two veins in the thigh’ and so on. Since Abū ʿUbayda describes the body-parts in relation to one another, this helped identification. Whenever the names of the body-parts could be identified with European definitions they are given in this way instead of the original commentary.

The body-parts of the horse
An Arabic-English vocabulary based on Abū ʿUbayda’s Kitāb al-hayl

head
forelock
forelock and the forehead under it
root of forelock
mane plus part of the neck above the forelock
place behind the forelock where the halter is put
place behind the nucha, occiput
top of the head
line of occiput
nasal ridge
fine bones of the top of the head
part of the forehead under the ears
part of the forehead above the eyes
the place of the forehead, where the two bones leading to the eyes fork off
centre of the forehead
the two bones above the eyes, temporal gossa
the fleshy part at the holes above the eyes,
adductor muscles and temporalis muscle
palpebra
eyes
upper eyelids
black circle in the eyes, corneoscleral junction

3 It is outside the scope of the present paper to compare these words to those amassed by Raswan (1945) among nineteen Inner Arabian camel- and horse-breeding Bedouin tribes.
blackness inside the *hadaqa*
iris, corpora nigra
palpebrae
palpebra which is not included in *hiğâğ*, palpebra teria
derge of the eyelid
eyelashes
bulbus oculi
tip of the ears
back of the ears
nasal orifice
face
caput mandibalarae
concha nasalis
nasal bones
the nose from the ridge to the nostrils
well visible bone under the eyes, facial crest
the place of the halter’s nose-strap, caninus muscle
flat tendinous plate
medial and lateral alae of nostrils
lips
corner of the mouth
the place between the halter’s nose-strap and the lips, zygomaticus muscle
mandibula
tactile hairs of maxillary labium
temporo mandibular joint
masseter
maxilla
tonsils
part of the maxilla nearest to the nose
tongue
root of the tongue
two veins in the tongue: arteria and vena lingualis
derge of lingua
palate
gap between the palate and the nose, rima glottidis
teeth
the two front teeth
the two medial teeth
the two corner teeth
eye-teeth
molar teeth
diastema
mane
fluff at the root of the hairs
mane crest
two sinews under mane crest
two sides of the neck, musculus splenius
the fleshy part of the cervical vertebra
cervical vertebra
marrow
musculus cleidotransversarius
protruding bones behind the ears
hair ridges of groin
neck
the part of the neck behind the ear bones
the part of the neck behind muddammar
place of the collar, upper part of the neck up to the ear bone
sternohyoides muscle, the part connecting the head to the neck
two veins in the neck
gullet
part of the neck behind a place where the collar is put
creases in the throat
the part connecting the neck and the withers
the nethermost part of the neck at the chest
back
'upper half' of the withers
withers
place on the withers before the rider
scapula
the rider's seat on the back of a horse
the line of the backbone
back strap
thoracic vertebra
intervertebral disc
the vertebra and the intervertebral disc together
each side of the horse
back
back of the two scapulas
place behind a rider on the back of the horse, upper part of the croup
upper part of the croup where the two muscles join
 groove between the two gluteus muscles on the top of the croup
back of the croup
thorax
two sides of a horse at the place of a rider's feet
shoulder
back of the shoulder
 sinews in the back of the shoulder
point of the shoulder
shoulder, the part connecting the scapula to the humerus
humerus
fleshy part near the point of the shoulder, biceps brachii
fleshy part near the elbow, triceps brachii
groove between the two muscles of humerus
breast, pectorals
upper part of the chest, musculus pectoralis descendens
protruding part of the chest near the shoulder, musculus cleidomastoid
the chest as a whole
sternum
forearms of the forelegs
elbow, olecranon
olecranon
upper part of the forearm, where it joins the humerus
thick upper part of the forearm
joint
sinews
place inside the forearm, which is not hairy: chestnut, tarsal pad
vein inside of the forearm
fine lower portion of the forearm
place under the asla, which is not hairy: chestnut
visible bone inside of the carpus
the part connecting the radius to the cannon bone
round separate bone in the rukba: patella
sinews joining to the patella
fat in the joint
round mobile bone at the back part of the rukba, accessorial carpal bone
cannon
cannon bone
protruding bone on the inside part of the cannon
sinew inside the cannon, joining it to the accessorial carpal bone
veins between the sinews in the cannon, arteria digitalis palmaris communis
sinew between the cannon and its root, musculus flexor digitorum superficialis
split bone
extremities of the cannon’s sinews
lower side of sinew
pure sinew with no flesh on it
sinew at the back of the ankle connecting to the hoof,
  musculus flexor digitorum profundus, manica flexoria
chestnut on the front part of the ankle
long hairs in the back side of the pastern
ankle, between the pastern and the cannon
bone between the pastern and the cannon, large metacarpal bone
pastern (between ankle and hoof)
the two bones of the pastern
bone between the tunna and the umm qirdān, long pastern bone
short pastern bone
sesamoid bones
ring above the coronary band
hoof
coronary band
coffin bone
bulbs of heel
part of the hoof between al-amār and as-saḥn
bone inside the hoof, navicular bone
part of the hoof between al-futūr and as-sālīm, sole
part of the hoof at the edges of an-nusur, bar of wall
protruding part of the sole, frog
the sole as a whole
paracuneal sulcus and junction between frog and sole
interbulbar groove
groove in the back side of the hoof
upper part of the hoof’s back
fleshy part above the coronary band at the back side of the hoof
muscles of the chest that reach the earth if the horse lies down,
musculus pectoralis transversus
the outer side of the ribs
the part of the thorax from the first rib to the sixth
the third rib
the last rib out of the zawr
the place on the horse’s sides
where the rider urges him for a gallop, behind the elbows
two sides of the thorax of the horse where the rider’s thighs touch them
ribs
creases
the last ribs
the outer side of the ribs
the inside of the horse
aorta
heart
vena
larynx
gullet
hepar, liver
lungs
kidney, renis dexter and sinister
intestines
belly
ventriculus
lobus hepaticus
part of the belly in front of the navel, where the veterinary stings it
the lower part of the liver
navel
the navel and its vicinity
navel
the navel’s vein
aorta and vena epigastrica caudalis superficialis,
aorta and vena mammaria media
penis
testicle
region among the penis and the testicles and the inner side
of the knee (tawina): inguinal region
prepuîtium
prepuîtium
urethra
veins (pipes?) originating in the scrotum (testicle)
part between the perineum and the testicles, perineal region
the back part of the belly
converging hair ridge on the groin
croup, gluteus
upper part of the croup
upper part of the thigh
back part of the croup between root of the tail and semitendinosus
semitendinosus
muscle with no bone underneath
root of the tail, dock
tail bone
hairs of the tail
musculus sphincter ani externus
anus
anus
musculus levator ani
preputial raphe
vulva
vestibulum vaginae
musculus constrictor vestibuli
musculus constrictor vulvae
ventral commissure, the lower part of the vulva
musculus semimembranosus
musculus gracilis
grooves between fleshy parts
fleshy parts in the thighs
joint between femur and tibia, on the outer part of patella
joint between femur and tibia, on the inner part of patella
thigh, tibia
fleshy upper part of thigh
sinews
two veins in the thigh
two tendons between ‘urqub and ma’bīd
pure tendons (with no flesh on them)
    between the upper fleshy part of the thigh and the hock
The image contains an anatomical diagram of a horse, labeled with various muscles and tendons. The text in the image is in Arabic and English, indicating muscle names and their locations. The labels include terms such as "نحاسية" (najaseh), "الثديين" (al-thadiyan), "الثديان العضليان" (al-thadiyan al-ussaliyan), and "الثديي بسيط" (al-thadiy basit). These labels correspond to muscles and tendons in the horse's body, providing a detailed anatomical reference.
point of the hock, calcaneus

two bones of the hock
tendo calcaneus communis (Achillis) and calcaneus

cannon (between the ankle and the hock)

front part of the cannon

ankle between cannon and pastern

hair on pastern

superficial flexor tendon

back part of ankle

the lower part of the knee (carpus) and the hock on the cannon

upper part of the hind legs

the lower part of the semitendinosus

back part of fahidán under the kādatān

hair ridges, tufts of hair

converging hairs at the bottom of the upper part of the forehead

converging hairs in the middle of the forehead

two hair ridges in the middle of the forehead

hair ridge in the middle of the neck at the front part

two hair ridges in the front part of the chest

hair ridge in the first part of the thorax, behind the elbow

hair ridge in the loin, before the knee

hair ridge on the semitendinosus

hair ridges between the top of a croup and the last rib, at the groin

hair ridge at the place of the saddle, on the horse back

hair ridge at the throat

hair ridge on the temporomandibular joint

hair ridge at the place of the collar

An alphabetical list of the body-parts of the horse

4 The words are arranged in strict alphabetical order. The numbers in brackets refer to the numbers given in the vocabulary.
REFERENCES

A. Primary sources


B. Secondary sources

