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978-1-107-50223-9 - The Origin and Influence of the Thoroughbred Horse

William Ridgeway

Excerpt

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## CHAPTER I.

## INTRODUCTION: THE ANCESTORS OF THE EQUIDAE.

Multaque tum interiisse animantum saecula necessest  
 nec potuisse propagando procudere prolem.  
 nam quaecunque vides vesci vitalibus auris,  
 aut dolus, aut virtus, aut denique mobilitas est  
 ex ineunte aevo genus id tutata reservans.

LUCRETIVS v. 855–9.

NEXT to the history of the various branches of the human race there is no more interesting and important subject for man's study than the origin and development of the breeds of domestic horses, the noblest of all the creatures that man has subdued to his will, and the acquisition of which has been, as will be shown presently, one of the chief factors in the rise and supremacy of the great nations of the ancient, medieval, and modern world. It has long been a matter of dispute among naturalists whether all our domestic horses have had a multiple or a single origin. Colonel Hamilton Smith<sup>1</sup> held that they are descended from five primitive and differently coloured *stirpes*—the bay (represented by the *tarpan*), the white, the black, the dun with a striped back (represented by the horses of the Ukraine), and finally the piebald stock of Tibet. M. Sanson<sup>2</sup> went further and divided the *Equides caballines* of our actual epoch into eight species (*espèces*) which have severally their

<sup>1</sup> "The Horse," *Naturalist's Library*, Vol. xii. pp. 160 sqq.

<sup>2</sup> M. Sanson first published his subdivisions in his "Nouvelle Détermination des Espèces Chevalines du genre Equus" (6 Dec. 1869), *Comptes-Rendus*, Lxix. pp. 1204–7; then in *Migrations des Animaux Domestiques*, p. 9, and in his *Traité de Zootechnie* (ed. 2), Vol. iii. pp. 9–105.

own osteological types. The district where each is principally found is denoted by its Latin praenomen:—(1) *Equus caballus asiaticus*, (2) *E. c. africanus*, (3) *E. c. germanicus*, (4) *E. c. frisius*, (5) *E. c. belgicus*, (6) *E. c. britannicus*, (7) *E. c. hibernicus*, (8) *E. c. sequanius*.

Sanson divided all the horses hitherto known as ‘Oriental’ or ‘Arab’ between his two first species—*Asiaticus* and *Africanus*, as he conceived that they had two separate places of origin denoted by the names which he assigned to them. The *Asiaticus* he conceived to have originated and been domesticated in central Asia, whilst from the existence of a peculiar breed of black horses, commonly with white feet, known as *Dongolawi*, from the fact that they are found round Dongola in Nubia, he was led to maintain that this breed had “originated in north-east Africa, probably in Nubia.” He declares that there are distinct osteological differences between *Asiaticus* and *Africanus*, holding that the former has a flat forehead, and a straight chaffron, which gives its head a rectangular profile, that it has prominent orbits projecting beyond the plane of the forehead, a long head, a large chest, a round barrel, a large rounded croup, and a tail borne far from the body, whilst *Africanus* has a forehead rounded like the segment of a globe, and the lower part of the chaffron slightly convex, features which give its head a *bousque* or *moutonné* look; the orbits are not salient, the ears are longer and are less divided apart at the base, the body not so capacious, the chest not so large, the sides less curved, the croup more like that of a mule, the tail carried near the body, the thighs always slender, and the legs longer than in *Asiaticus*, and it differs from the latter in the number of its lumbar vertebrae, and by the absence of hock callosities<sup>1</sup>.

Sanson derives ultimately his remaining six classes from his *asiaticus*; several of them are known by other names, *germanicus* as Danish, his *frisius* as Flemish, whilst his *britannicus* comprises the Norfolk or Black Horse, the Suffolk Punch, and in France the Boulonnais and Cauchois (Caux), his *hibernicus* includes all the ponies of the United Kingdom and

<sup>1</sup> *Op. cit.* (ed. 4), Vol. III. p. 52: “Les membres postérieurs sont dépourvus de châtaignes.”

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the Breton in France, whilst finally his *sequanius* is identical with the Percheron so highly esteemed in France.

M. Piètlement<sup>1</sup> adopted Sanson's principle of an eightfold subdivision, but carefully restricted the term *species* to *Equus caballus*, describing the eight classes as *racés*. But not believing that the argument based on geographical distribution was of itself sufficient he rejected Sanson's *africanus*, and on the grounds that Sanson admitted that his *asiaticus* originated in central Asia, he assumes that it was primarily domesticated by the Aryans, and accordingly terms it *aryanus* to distinguish it from what he holds to be the other Oriental race (wrongly regarded as African by Sanson). As Piètlement considers that the latter was domesticated in central Asia by the Mongolian or Tartar-Finnish peoples, and that it was brought thence by the Hyksos into Egypt, he gives it the name of *mongolicus*. The *aryanus* and the *mongolicus* of Piètlement thus correspond respectively to the *asiaticus* and the *africanus* of Sanson. It will however be observed that Piètlement's nomenclature is based on several unproved assumptions; first, that the original home of the Aryans was in central Asia, secondly, that the Dongola horse was brought into Africa from Asia some two thousand years before Christ, thirdly, that it was the Hyksos who brought it there, and fourthly, that the Hyksos were Mongols. We shall presently see grave reasons for doubting the validity of the grounds on which M. Piètlement has based his terminology.

Darwin<sup>2</sup> rejected not only Hamilton Smith's five *stirpes*, but also Sanson's *E. c. africanus* on the ground that the latter involved the assumption "that osteological characters are subject to very little variation, which is certainly a mistake," and he was thus inclined to follow those naturalists who "from the fertility of the most distinct breeds when crossed, look at all the breeds as having descended from a single species," and he held<sup>3</sup> "that it is not probable that each larger breed, which in the course of time has supplanted a previous and smaller

<sup>1</sup> *Les Chevaux préhistoriques et historiques*, pp. 13 sqq.

<sup>2</sup> *Variation of Animals and Plants under Domestication*, Vol. I. pp. 53-4 (ed. 2).

<sup>3</sup> *Ibid.* Vol. II. p. 423.

breed, was the descendant of a distinct and larger species: it is far more probable that the domestic races of our various animals were gradually improved in different parts of the great European-Asiatic continent, and thence spread to other countries." He thus left Africa out of account as a possible source for a race of horses. It will be observed that those who hold a single origin for all domestic horses base their belief on "the fertility of the most distinct breeds when crossed." Yet this cannot be regarded as a true criterion, for animals which are admittedly distinct species, such as the dog, the wolf, and the jackal among carnivores, and the common ox, the zebu (*Bos gaurus*), and the yak (*Bos grunniens*) among herbivores, freely interbreed and produce fertile offspring. But though Darwin leaned to the belief that all our horses come from a single stock, he carefully pointed out that, "as several species and varieties of the horse existed during the later Tertiary period, and as Rutimeyer found differences in the size and form of the skull in the earliest known domesticated horses, we ought not to feel sure that all our breeds are descended from a single species<sup>1</sup>." He elsewhere<sup>2</sup> points out that "as the savages of North and South America easily reclaimed the feral horses, so there is no improbability in savages in various quarters of the world having domesticated more than one native species or natural race."

Since Darwin wrote it has been generally held that all our domestic horses have had but a single source, whether they be the fine horses of slender build and great speed, of which the Arab is the type, or the heavy cart-horses, whose origin is commonly found in the coarse, thickset horses of Europe and upper Asia, of which the unimproved Mongolian pony is the representative, or hunters, roadsters, carriage-horses and trappers, which are as everyone knows, the result of a judicious blending of the two first-mentioned classes. Thus M. Sanson<sup>3</sup> now holds that all our domestic breeds had a single origin, and divides recent horses into two groups—long-headed and short-headed—

<sup>1</sup> *Variation of Animals and Plants under Domestication*, Vol. 1. p. 53.

<sup>2</sup> *Ibid.* Vol. 1. p. 54.

<sup>3</sup> *Traité de Zootechnie* (ed. 4, 1901), pp. 2, 3.

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each of which consists of several races, while Capt. M. H. Hayes<sup>1</sup> maintains that "no breed of horses possesses any distinctive characteristic which serves to distinguish it from other breeds." But on Dec. 2nd, 1902, Prof. J. Cossar Ewart, F.R.S., read before the Royal Society of Edinburgh a paper in which he pointed out the existence in the Western Islands of a variety of horse hitherto unnoticed. A week earlier the present writer had laid before the Cambridge Philosophical Society a summary of the evidence which led him to conclude that the hitherto generally received notion that the Arab horse was the ultimate source of our thoroughbred and half-bred horses had no historical foundation, that the Arabs had only got their fine breed of horses from North Africa at a period later than the Christian era, and that on the other hand there was the clearest evidence of the existence in Libya of a fine breed of horses for a thousand years before the Arabs ever bred a horse, and finally it was maintained that from this North African stock all the best horses of the world have sprung, and that it is a variety entirely distinct from the clumsy, thickset, slow horses of Europe and Asia.

The object of the following pages is to set out at length the evidence for the conclusion just stated, and to trace the important part played by this Libyan horse and its descendants in the history of the world.

It was only at a comparatively late epoch in the history of mammals that the ancestors of the horse made their first appearance, for it is not until the Tertiary period that hoofed animals begin to occur. It is among two extinct families of the Perissodactyles—the Lophiodontidae and the Palaeotheriidae—that we meet what appear to be the earliest ancestral forms of the horses and the tapirs of to-day, though it cannot be affirmed that an unbroken line of descent from any forms yet known can be made out for the existing Equidae. Yet we can at least point to a series of forms, the salient osteological features of which have led to a belief in the relationship of our horses to these primeval Perissodactyles<sup>2</sup>. We may start with certain

<sup>1</sup> *Points of the Horse* (3rd ed., 1904), p. 422.

<sup>2</sup> Beddard, *Mammalia* (1902), pp. 247–8; Flower and Lydekker, *Mammalia* (1891), p. 380.

forms in the Eocene of both Europe and America. In the *Phenacodus* of the American Lower Eocene the feet still retain the primal five digits, whilst in the Eocene of both Europe and America occur the diminutive *Hyracotherium*, which had its fore-limbs four-toed, but its hind three-toed (as is the case with the tapir, which is in many respects the most ancient of existing forms referable to the Perissodactyle order), and also *Eohippus* belonging to the same sub-family, but which is slightly more primitive, as its hind feet have a vestige of the first digit. *Pachynolophus* (or *Orohippus*), found in both Europe and America, shows molars somewhat more advanced towards the equine type. From this last form the *Anchitherium* found in the Upper Miocene is not far removed in structure; but, though it is a little nearer to the horse in several respects, it is not now considered to be in the direct line of descent, as it is considerably larger than some succeeding forms. Since both *Hyracotherium* and *Pachynolophus* occur in both the Old and New Worlds, from them may have sprung the true horses of both hemispheres. But from this point there is now a bifurcation. for *Mesohippus*, the next step towards *Equus*, is as yet only known in America, as is also the case with its successors *Miohippus*, *Desmatippus*, and *Protohippus*. The last-named (found in the Lower Pliocene), and which was about the size of a modern donkey, had three toes on each foot. As *Mesohippus* has not been discovered in the Old World we are left only with *Anchitherium* (already described) and *Hipparion* (which had come from America) in that area. The latter was very widely distributed, occurring not only in North America, but also in Asia, Europe and Africa. Its remains have been recently found in considerable numbers at Pikermi near Athens (a fine specimen from which place is now in the National Museum of Natural History), in the isle of Samos, and in Egypt. In the typical North American and European forms there were three digits, but in the Indian *Hipparion antelopinum* the lateral digits seem to have disappeared.

We have already given reasons for not placing *Anchitherium* in the direct line of ancestry of the horse, and zoologists now hold that *Hipparion* must likewise be excluded. It became extinct probably owing to excessive specialization.

Three years ago the American Museum set on foot under the direction of Prof. Henry Fairfield Osborn a special exploration into the fossil history of the horse. "The object was to connect all the links between the Lower Eocene five-toed, and Lower Pleistocene one-toed horses and to ascertain the relations of the latter to the horses, asses, and zebras of Eurasia and Africa. The first great result obtained is the proof of the multiple nature of horse evolution during the American Oligocene and Miocene. Instead of a single series as formerly supposed there are five, one leading to *Neohipparion* the most specialized antelope-like horse which has ever been found, a second of intermediate form probably leading through *Protohippus* to *Equus* as Leidy and Marsh supposed, a third leading to the Upper Miocene *Hyphippus*, a persistently primitive probably forest or swamp-living horse with short crown teeth adapted to browsing rather than grazing, and three spreading toes; this horse has recently been found in China also. A fourth and fifth line of Oligocene-Miocene horses became early extinct. This polyphyletic or multiple law," says Prof. Osborn<sup>1</sup>, "is quite in harmony with the multiple origin of the historic and recent races of horses as recently established by Ridgeway and Ewart. The Pliocene horse of America still requires further exploration before we can positively affirm either that all the links to *Equus* are complete, or that America is indubitably the source of this genus. The Lower Pleistocene of America exhibits a great variety of races ranging in size from horses far more diminutive than the smallest Shetland to those exceeding the very largest modern draught breeds. Yet all these races became extinct, not surviving into the human period, as was the case in South America. The relation of these North American races to those of South America and of Asia and Africa is again a subject requiring further investigation in which it is necessary to exercise the most extreme accuracy."

In the recent Equidae each foot consists of a single complex digit, but digits II. and IV. are complete in the embryo and also survive though degraded in the adult, and there is a callosity

<sup>1</sup> "Evolution of the Horse," a paper read before the British Association (Section D), Tuesday, Aug. 23, 1904 (*Nature*, 22 Sep. 1904, p. 520).

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(termed castor or chestnut) on the inner side of the fore-leg above the carpus; the tail is furnished with long hair, either at the end or throughout its whole length. The lateral digits sometimes survive to a considerable extent, as was apparently the case with Julius Caesar's favourite charger<sup>1</sup>.

Fossil remains of horses are found abundantly in deposits of the most recent geological age in almost every part of America, from Escholtz Bay to Patagonia. According to Sir C. Lyell<sup>2</sup> remains of no less than twelve species referred to seven genera have been discovered in the Pliocene and Pleistocene formations of that country. Recent investigations show that North America in pre-glacial times possessed at least nine perfectly distinct wild species of Equidae. These varied much in size; thus *Equus complicatus* of the Southern and middle Western States and *E. occidentalis* of California were as large as small cart-horses, *E. tau* of Mexico was extremely small, whilst others, such as *E. fraternis* of the South-eastern States, were intermediate. "Some of the American pre-glacial Equidae were characterised by very large heads and short, strong limbs, some by small heads and slender limbs; and though the majority conformed to the true horse type, two or three were constructed on the lines of asses and zebras<sup>3</sup>." Yet no horses, either wild or domesticated, existed in any part of America at the time of the Spanish conquest, which is all the more astonishing having regard to the very favourable conditions of soil and climate as demonstrated by the thousands of horses now ranging the Pampas of South America, all descended from seven stallions and five mares introduced by the Spaniards<sup>4</sup>, whilst the mustangs of Texas, sprung from a like small beginning, prove that North America was no less suited to be the nurse of horses.

Dr Munro<sup>5</sup> has ingeniously suggested that a satisfactory

<sup>1</sup> Pliny, *N. H.* viii. 42. 64.

<sup>2</sup> *Principles of Geology*, Vol. II. p. 340 (11th ed.).

<sup>3</sup> J. C. Ewart, "The Multiple Origin of Horses and Ponies," *Transactions of Highland Society*, 1904, p. 2.

<sup>4</sup> Azara, *Natural History of the Quadrupeds of Paraguay and the River La Plata* (Eng. trans.), pp. 4—5.

<sup>5</sup> "On the Prehistoric Horses of Europe and their supposed domestication in Palaeolithic Times," *Archaeological Journal*, Vol. LIX. pp. 112-3.



explanation of the course which led to the extinction of the American horses will be found in the fact that after coming to the end of their evolutionary tether in the attainment of speed—the sole means by which they could escape from their enemies—they fell an easy prey to one or more of these animals, who meanwhile had succeeded in improving their methods of warfare in the struggle of life.

But it is obvious that if the great carnivorae had exterminated the horses, and thereby brought about their own destruction, they would certainly have eaten up the bisons and tapirs before they themselves had perished of hunger, for it cannot be supposed that these animals escaped because they were fleet of foot than the Equidae.

It may well be that the destruction of these American horses was due not to the continual ravages of mighty carnivores, but to the insidious inroads of far meaner foes, for we must not forget that there are no feral horses in Paraguay, because an *Hippobosca* or an *Oestrus* attacks the umbilical region of young foals, and produces ulcers, which invariably cause death unless human aid is interposed<sup>1</sup>.

I do not for a moment suggest that the extinction of all

<sup>1</sup> Col. Hamilton Smith, "The Horse," *Naturalist's Library*, Vol. XII. p. 248, Edinburgh, 1841. Though Azara does not mention this in his Spanish version (from which the English trans. was made), yet (English trans., p. 66) speaking of the wild cattle of Paraguay he says that "from August to January, which is the calving time, the cows are driven in Paraguay twice a week to the rodeo, in order to free them from a certain worm which infests them, more especially the calves, at the umbilicus, and to such an extent that, without this assistance, they would inevitably perish. The same malady occurs in Corrientes and the Pueblos of the Missions; but in Monte Video and Buenos Ayres it is so little known that it demands no particular attention; nor are the herds during the above-mentioned months collected so frequently as usual, for the pregnant cows might be injured thereby, and many of the young calves would be lost." My friend Prof. Graham Kerr writes as follows: "The fly appears to be the ordinary blow-fly, which lays its eggs in the drying-up end of the severed umbilical cord and on the blood round it. The larvae hatch out in a few hours and cause ulceration and the death of the calf. Estancieros regularly round up the cattle every few days, and dress the calves affected with medicated glycerine. I have not personally seen the maggots on calves, but I have seen them on adult cows." Darwin cites Azara for the statement about the horses, but he used Azara's French edition, and probably Col. Smith did the same, as we shall see later on.

the Equidae on the American continent was due solely to the insect scourge of modern Paraguay. But as it is clear that though lions abounded in South Africa and preyed largely on zebras, they never threatened extermination to the horse family in Africa, whilst on the other hand the tsetse-fly and horse sickness are as deadly to *Equus caballus* in certain areas of that region as is the insect pest of Paraguay, it seems far more probable that the extinction of the horses of North and South America was due to the inroads of mean and obscure forms of life rather than to the onslaughts of the great flesh-eating monsters of the young world's prime.

It is generally admitted that the ancestors of the living Equidae passed from America into the Old World, for before the Ice Age it was perfectly possible for American horses to cross into Asia by land bridges in the vicinity of Behring's Straits; thence they extended into Europe, and finally reached Africa either from Asia or by the land bridges which then linked Europe to North Africa. "One of the earlier immigrants, *Equus stenonis*, has left its remains in Pliocene deposits of Britain, France, Switzerland, Italy, and the north of Africa. While *E. stenonis* was extending its range into Europe and Africa, two others, *E. sivalensis* and *E. namadicus*, were finding their way into India, and yet other species were doubtless settling in Eastern Europe and Central Asia<sup>1</sup>." Thus, as Africa now contains several species of zebras, so Europe at the Pleistocene period was inhabited by several species of horses. Some palaeontologists believe that the Indian species *E. sivalensis* and *E. namadicus* became extinct, and that *E. stenonis* gave rise through one variety (*E. robustus*) to the modern domestic breeds, and by another (*E. ligeris*) to the Burchell group of zebras. *Hipparion* and certain prehistoric South American species were characterised by a *fossa* or depression in front of the orbit for a facial gland (probably similar to the scent gland in the stag), found also in *E. stenonis*<sup>2</sup> and its later ally *E. quaggoides* and in *E. sivalensis* (cf. p. 150).

In some modern horses, which have so-called Eastern blood

<sup>1</sup> J. C. Ewart, *op. cit.* p. 3.

<sup>2</sup> R. W. Lydekker, *Proc. Zool. Soc.* (1904), Vol. I. p. 427.