

**Author's Preface:** The article which follows was commissioned in 2002 by the remarkable Viggo Mortensen, who starred as Aragorn in "The Lord of the Rings" movie trilogy, and who thereafter completely transformed himself to become Frank T. Hopkins for the film "Hidalgo".

Frank T. Hopkins was a real person of part American Indian ancestry, who as a youth in the 1870's had worked as an errand rider for the U.S. Cavalry on the Plains and who later became a skillful and successful endurance rider and circus performer. During production of "Hidalgo", Mortensen, who is interested in horses, mooted the idea of publishing a book about the various horse breeds involved in that film. The writer for Hidalgo was John Fusco, who also wrote the DreamWorks film "Spirit: Stallion of the Cimmaron" on which I worked as technical consultant. Fusco breeds mustangs and has also become a friend. He introduced me through correspondence to Mortensen, and the writing project evolved out of that. Unfortunately the book was destined never to be published, although a slightly shorter version of this article was posted for a time at the "Hidalgo" website. We re-post it here in hopes that it will continue to be of help and interest to horse lovers everywhere.

## **THE ORIGIN AND RELATIONSHIPS OF THE MUSTANG, BARB, AND ARABIAN HORSE**

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### **Horse and Human Come Together**

An icy wind tosses a skiff of powder-fine snow across frozen ground, swirling in hoofprints freshly hollowed by a band of horses. Snorting softly, the stocky and shaggy beasts bunch together for warmth and protection. So pale a shade of tawny are they that the herd almost vanishes against a mottled background of snow-covered rock and soil. Only the eyes of the most experienced predators would detect them. Yet despite the excellence of their natural camouflage, and despite years of negotiating Siberian terrain and climate, it is difficult for the oldest mare – leader of this little band – to find sure direction in a rising wind that blows all scent away. Uneasy, at last she turns and trots upwind, leading her band to shelter in a thick copse of stunted conifers.

The old mare's sense of unease is well founded, for she knows that there are predators, lovers of horseflesh, lurking everywhere. The most powerful of these predators – one that depends upon her kind for food as much as she herself depends upon the grass – has spread for thousands of miles along the glacial front from Europe to the eastern extreme of the Siberian plains. Penetrating even the frigid, marshy ground that connects the continents, these predators have crossed from Siberia to Alaska, always in pursuit of the horse herds. Twelve thousand years ago lived the most dangerous, savvy, and successful horse-hunters the world has ever known: human beings.

The scene shifts; the sky clears with the passing of millennia. The wind still blows, but this wind is like a blast from the mouth of an oven. Now the horses press their hoofs not into snow, but sand. Their fur is no longer shaggy and white but short and fine and glossy, and of a whole palette of earth-tones from rich mahogany, black, and ochre to golden or dappled grey. Their bodies are different too: they are taller, longer and finer of limb. They have slender necks borne with a fine arch, springing upward from withers as prominent and gracefully curving as waves of the sea. No longer do their manes stand naturally erect to serve as brushfulls of hair in the mouths of marauding cats and wolves, but grow long and soft as silken caftans to stream, like their tails, in the wind.

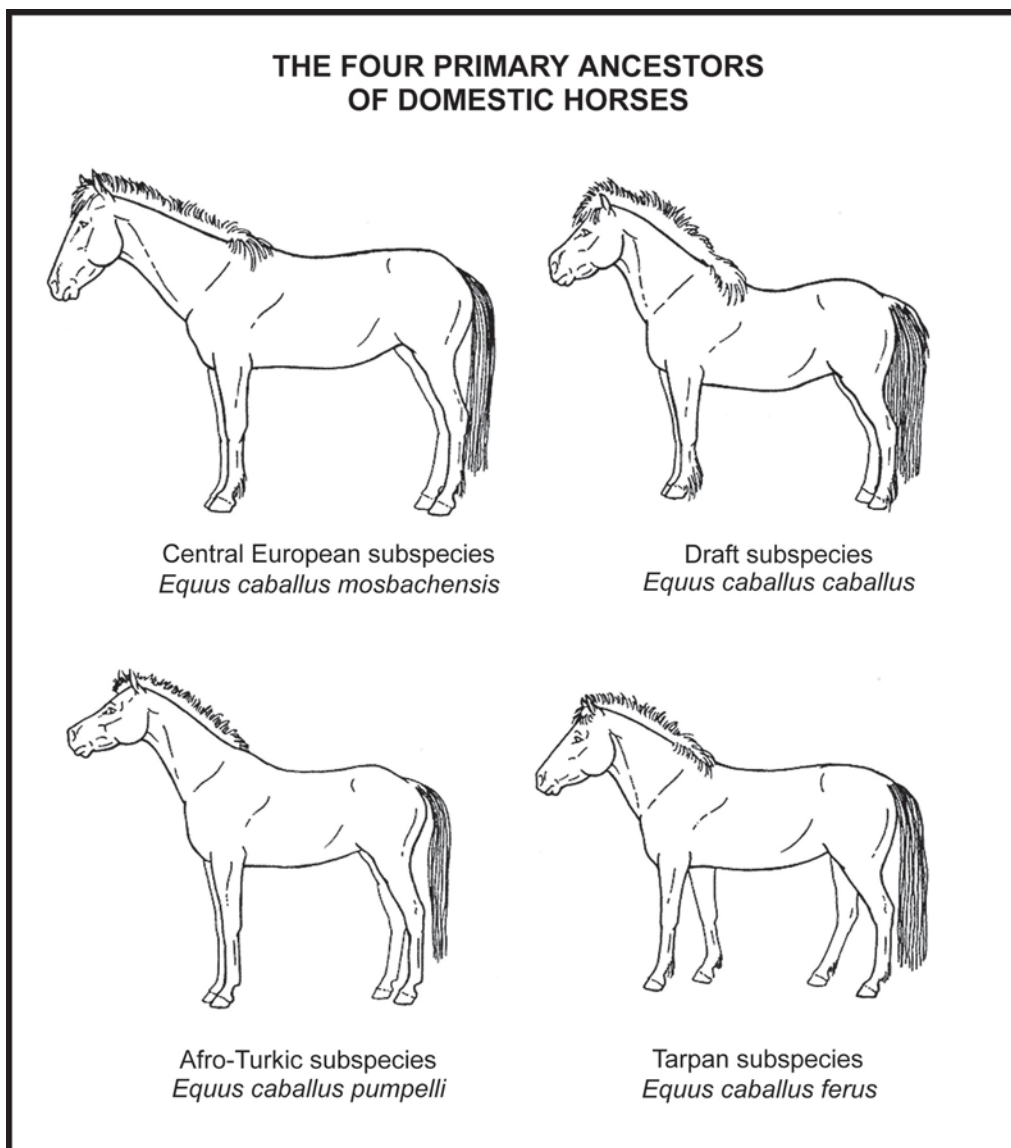


Fig. 1. The horse species was brought into domestication several different times, in different geographic areas. The Przewalski horse, pictured at lower left in Fig. 2, is the ancestor of only a few breeds in eastern Asia; it is not the horse's "primitive ancestor" -- in fact, it is not closely related to most domestic horse breeds. Most living breeds of horse descend from one, or from a mixture of more than one, of the four types pictured here. Of the four, three are still extant (see Fig. 4), while the Tarpan is extinct (drawing after Trumler, 1961),

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But there is one change still more astonishing and significant: these horses are not trying to flee from humans. Instead, they live with us. They even permit us to ride them. They live with us so closely that, by any proper definition, they and we must be considered symbiotes, each species depending upon the other for its welfare and even for its very survival. Human and horse, so very different in nature, have become inextricably intertwined. Beginning from the intimate dance of hunter and hunted, we have evolved to that no less significant interpassing of spirit and physical being which distinguishes all horsemanship of high caliber.

# **Distribution of Subspecies of the Horse** *Equus caballus* During the Last Ice Age

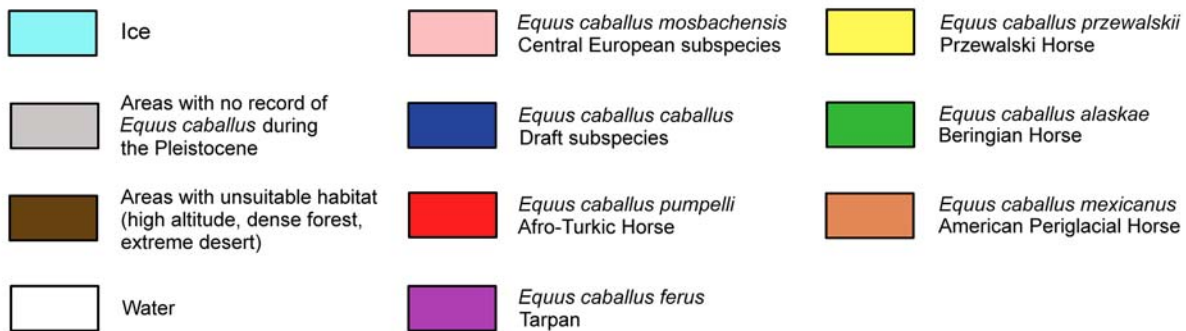
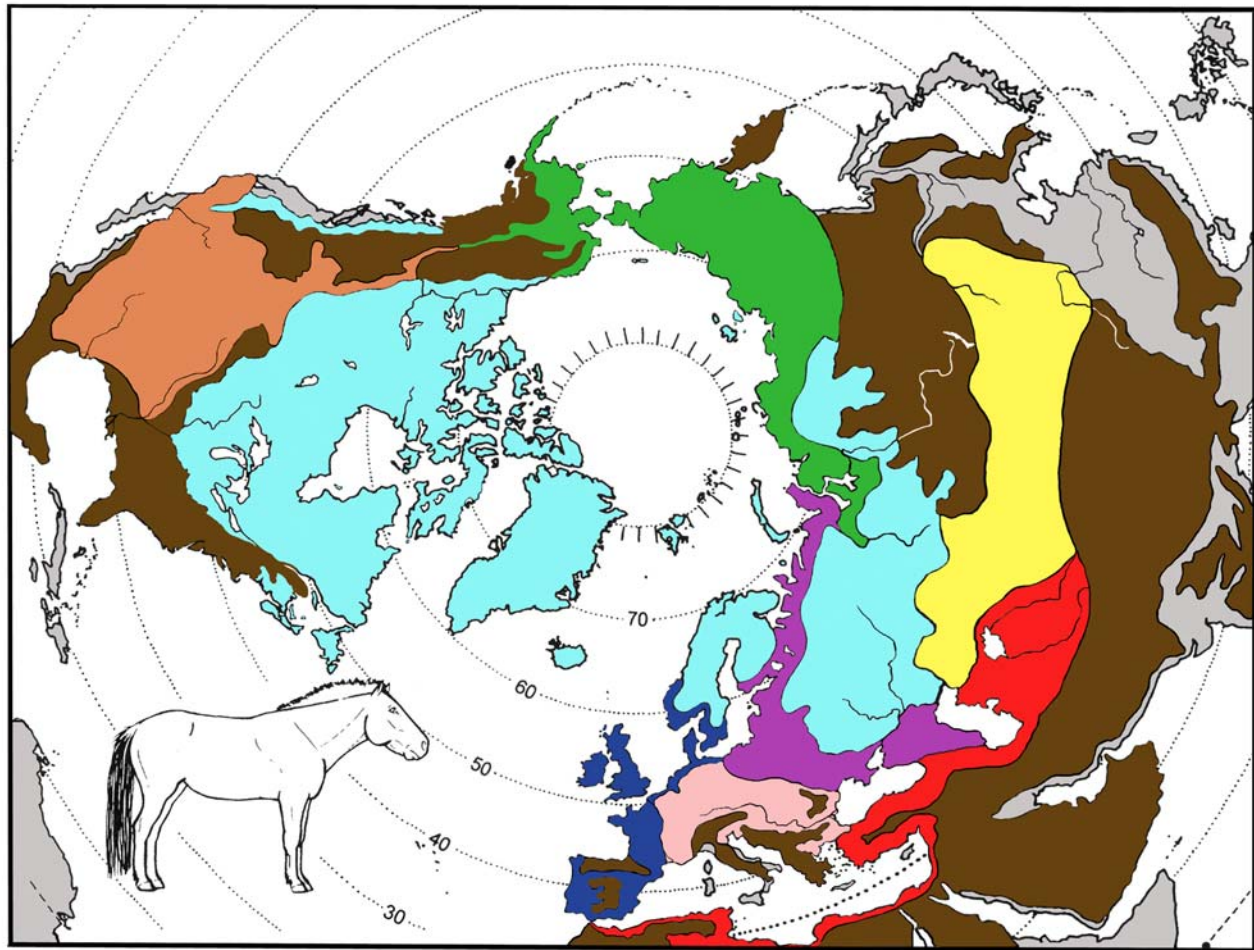


Fig. 2. This map shows where the horse species was living during the last Ice Age, just before people began to bring horses into domestication. Notice that, for the most part, horses are a northerly species; there are few records from anywhere south of 35 degrees North Latitude, and they ranged into the Arctic Circle. Horses prefer grasslands but can't survive in unwatered deserts or in vast tracts of boreal forest without human help (after Bennett, 1998 and Bennett and Hoffmann, 1999).

After a very long courtship lasting thousands of years, mankind finally got smart enough to realize that greater benefit might accrue from riding horses than from eating them. So, sometime between four and six thousand years ago, the horse was brought into domestication everywhere it then occurred in the world. There is a spread of dates for the “first” horse domestication, because the horse was tamed not once but repeatedly in different parts of its range. The idea of horse domestication appears to have originated in eastern Europe or the Crimea. Sheep, goats, and cattle had already been kept for at least 2,000 years, so the concept of penning, roping, haltering, herding, and overseeing the breeding activities of hoofed animals was hardly new. But the horse – not small or light and among the strongest of all animals for its size – posed some unique difficulties. Whereas sheep, goats and cattle quickly adapted to the herders’ nomadic lifestyle, the horse proved much less tractable and portable.

There is another important factor too: the first moment mankind bestrode the horse marked the beginning of modern warfare. The man on horseback became a conqueror who could raid his unmounted neighbor with impunity. Understandably he was slow to trade or gift away this animal that was to him the very embodiment of power and speed. For all these reasons, it was not herds of domesticated horses that spread over the expanse of the Old world, but the ideas and techniques that made their domestication possible. Thus, in contrast to dogs and sheep, the horse was domesticated at least four separate times: in eastern Europe and the southwest Russian steppe; in Western Europe; in Iberia; and in North Africa (Fig. 1).

### **Mapping the Horse Subspecies**

Basic differences between horse breeds stem from the fact of multiple domestication. The horse in the wild varied as all mammal species do, developing subspecies with different body forms – differences that specifically adapted each breeding population to the land and climate of a given geographic region. At one time prior to its domestication, the horse species manifested seven subspecies distributed in both the Eastern and Western Hemispheres. After the two North American subspecies became extinct about 12,000 years ago, five subspecies, whose distribution is shown in Fig. 2, remained. Of these, four (Figs. 1, 4) have significantly contributed to the gene pool of the domestic horse. They are its wild ancestors.

From a horse breeder’s point of view, the multiple domestication of the horse translates to a bundle of bloodlines, separate lineages of family descent (Fig. 11). Even in the world today, there remain a few bloodlines that descend wholly from a single wild subspecies. One example of such is the Arabian, especially the bloodlines cherished as “asil” or pure-in-strain by the black-robed Bedouins who were the sole creators and originators of this breed. As Fig. 3 shows, these horses descend exclusively from the Afro-Turkic subspecies.

### **Hybrid Vigor**

Horse breeds are like wine: the pure vintage of a single kind of grape, beautifully grown and tended, is a thing of beauty. But some very fine wines are blends, and to ignore them would be to diminish the richness of the feast. By analogy, crossing horse bloodlines has brought many unexpected delights. Genetically, this is in the very nature of hybridization, which makes possible at a cellular and molecular level some interactions between genes that would not otherwise have arisen. The release of superior qualities by crossing horses of different subspecies, that originated in far-sundered parts of the world, is a phenomenon called by biologists “hybrid vigor” and by breeders a “good nick.”

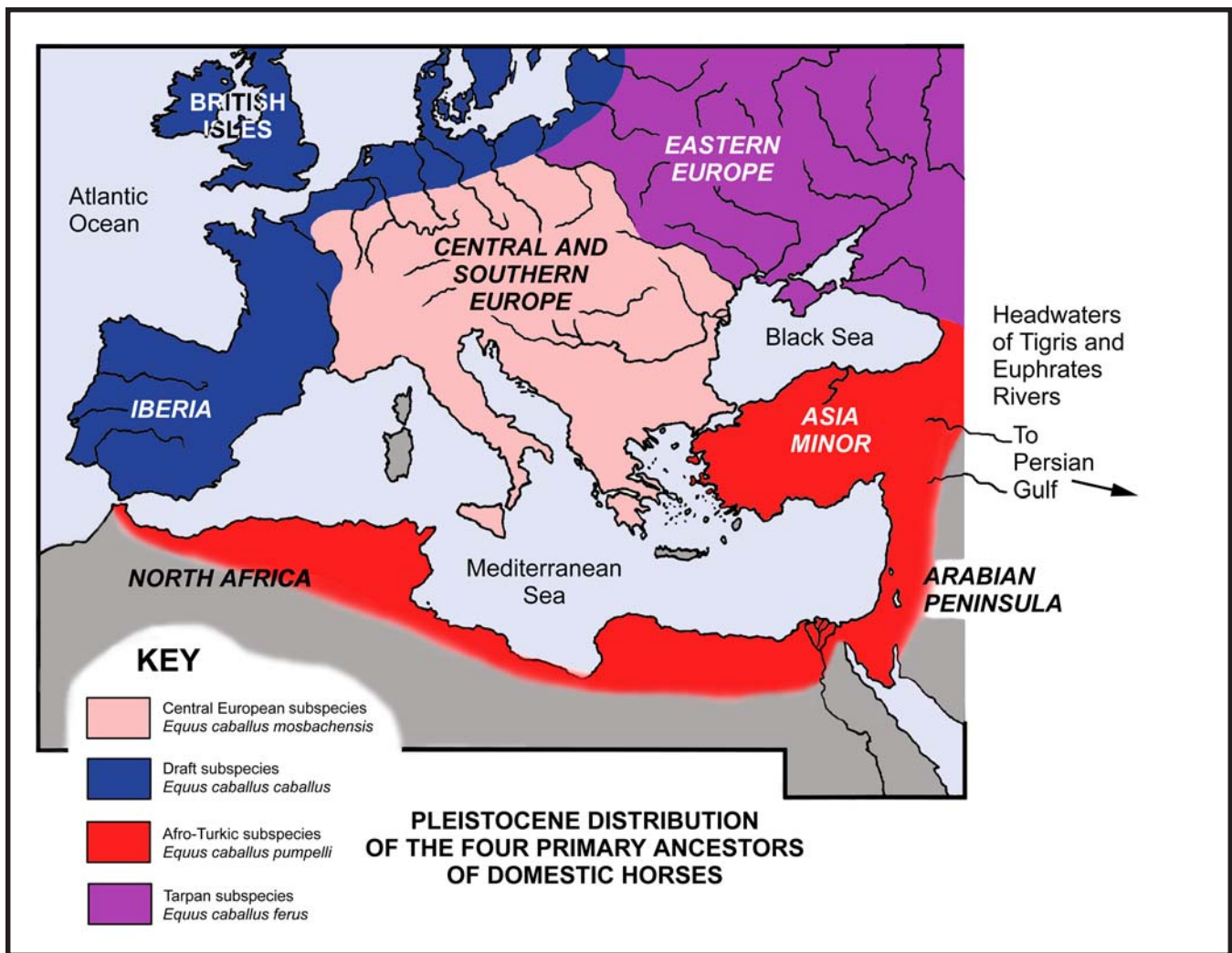


Fig. 3. This map focuses on western Asia, the Near East, and western Europe, the heartland from which the ancestors of domestic horses came. Note the distribution of the four subspecies around the Mediterranean Sea (after Bennett, 1998 and Bennett and Hoffmann, 1999).

As horse breeding evolved in different areas of the Old World, mankind was also perfecting another complex technology – shipbuilding and navigation. When people realized that horses could be loaded aboard boats, the possibilities for trade and conquest expanded mightily. For where roads were nonexistent or mountain ranges blocked the way, warriors could arrive with their mounts by boat like Agamemnon’s soldiers in *The Iliad*.

Already some 3,100 years ago, from home ports at the eastern end of the Mediterranean, mariners set out to explore unknown lands to the west. Loading their horses into open-hulled boats little larger than canoes, they set out for the “pillars of Hercules” – the Straits of Gibraltar that mark the boundary between the Mediterranean and the Atlantic. Making perhaps 50 miles a day, these seamen-trader-warriors crept westward along the coastline of North Africa, sailing or plying their oars by day, and hauling the boats up onto the beach at night. Thus by slow increments they at last reached Gibraltar and, still clinging to the shoreline, worked their way northward up the Atlantic coast of Iberia to the Galician headlands. From there they set off on daring over-water journeys to reach the peninsulas and islands which stood, for them, at the ends of the Earth: Brittany, Cornwall, Wales, and Ireland.



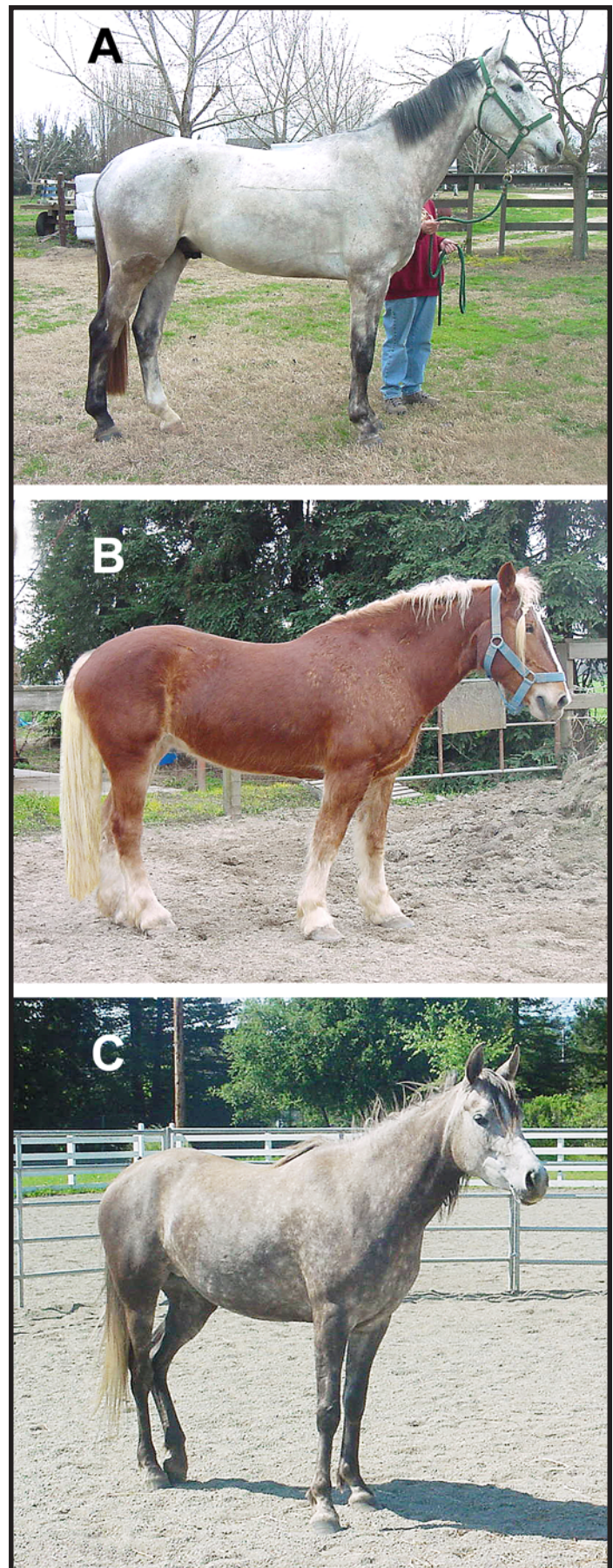
Fig. 4. Living horses that are the descendants of three of the four “founding bloodlines” of the domestic horse (Tarpans can’t be pictured because they are extinct).

A: A domestic horse of Warmblood extraction, who clearly demonstrates many of the primitive characteristics of the Warmblood, which is the oldest of the strains which gave rise to the domestic horse. Note the long and moderately heavy head, arched facial profile, small eye placed high in the skull, flat neck, long body, proportionally long and substantial limbs. In his natural state this horse would also have “feathers” -- long hairs growing from the backs of the cannons and fetlock joints.

B: This registered Belgian is of purely Draft extraction. Note the mare’s stout body, deep chest, heavy but relatively short limbs, long deep head, large round feet, woolly coat, and thick mane and tail. Adapted to cold, wet climates, this animal has “feathered” lower limbs, small terminal nostrils, and short ears relative to the length of the head.

C: This horse is of purely Afro-Turkic extraction. It is a registered Arabian, the most common strain of Afro-Turkic horse to be found in the U.S. Note the small overall size, compact build, dished facial profile, finer hair coat and thinner mane and tail than in either the Draft or Warmblood. The “jibbah” or bulging frontal sinus area, and the mare’s long ears relative to the length of her head are characteristics typical not only of Afro-Turkic horses but of many species of mammal adapted to living in areas of dry climate.

(Photos by the author).

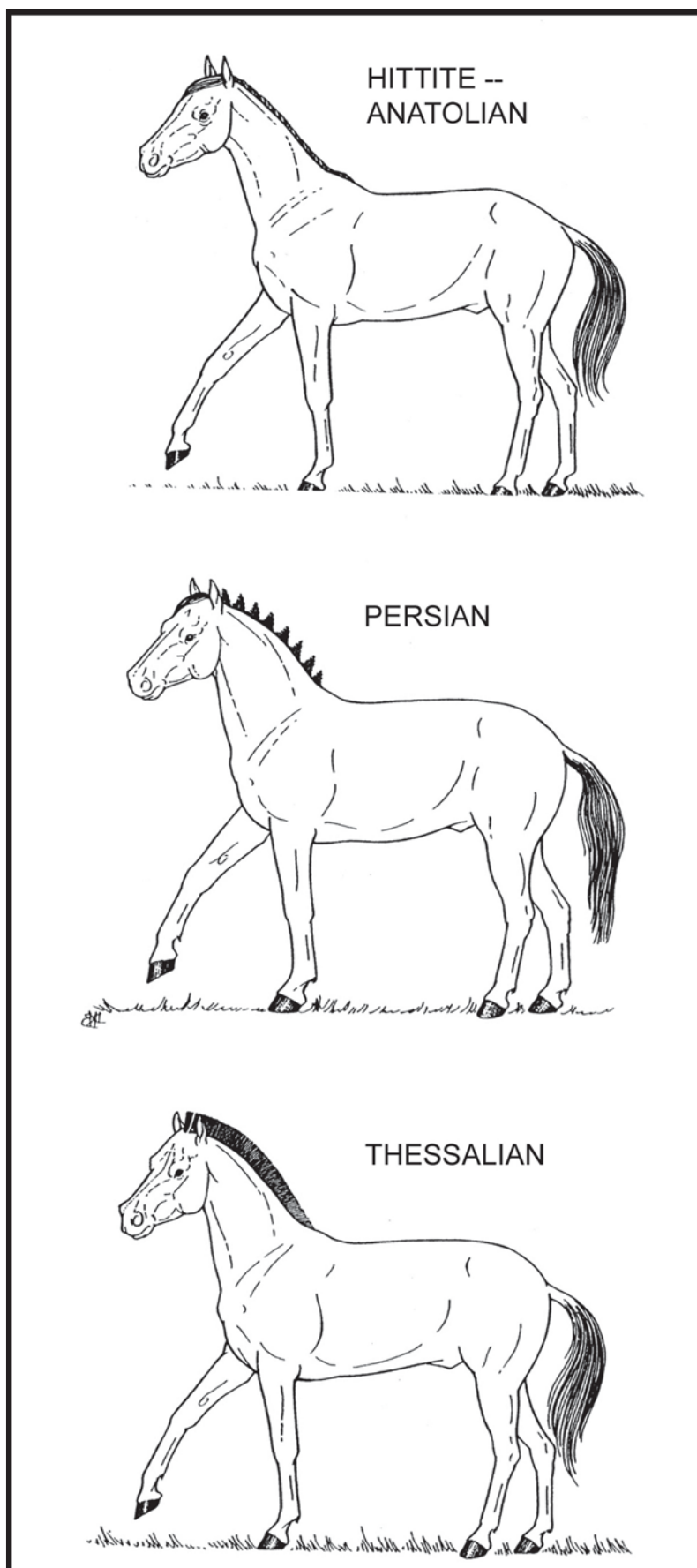


To all these places they brought stallions of Afro-Turkic extraction (Fig. 5). These horses were not Arabians, for the Arabian, although it too derives from the Afro-Turkic subspecies, is exclusively the product of Bedouin taste and cultural values which came into being only after their conversion to Islam in the 7<sup>th</sup> century of the current era. The mariners who first established forts and trading colonies in Iberia, the British Isles, western France and Ireland lived before the time of Solomon, more than 1,700 years before Mohammed or the creation of the Arabian breed.

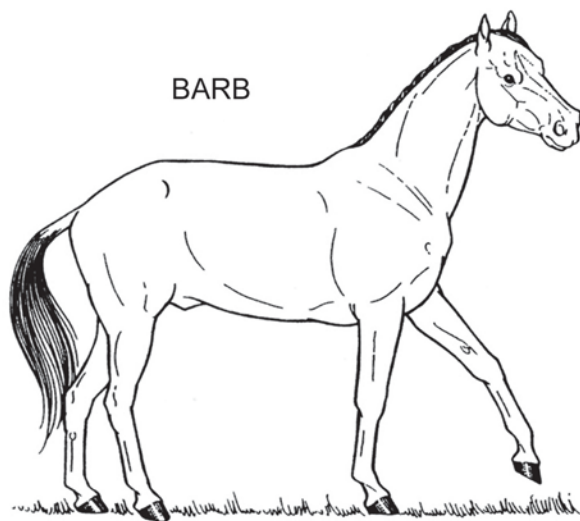
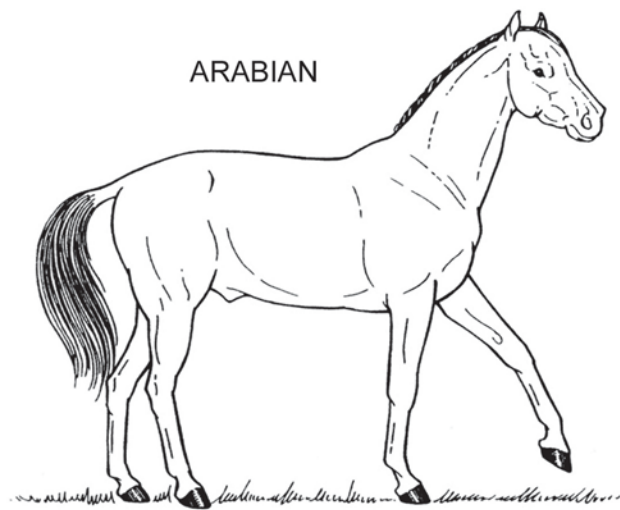
The mariners discovered when they arrived that the people of these northern and western lands had already domesticated the horse. But the type of horse native to this region was of the Draft subspecies (Fig. 3). A glance at Figs. 1 and 4 reveals great differences in the conformation and

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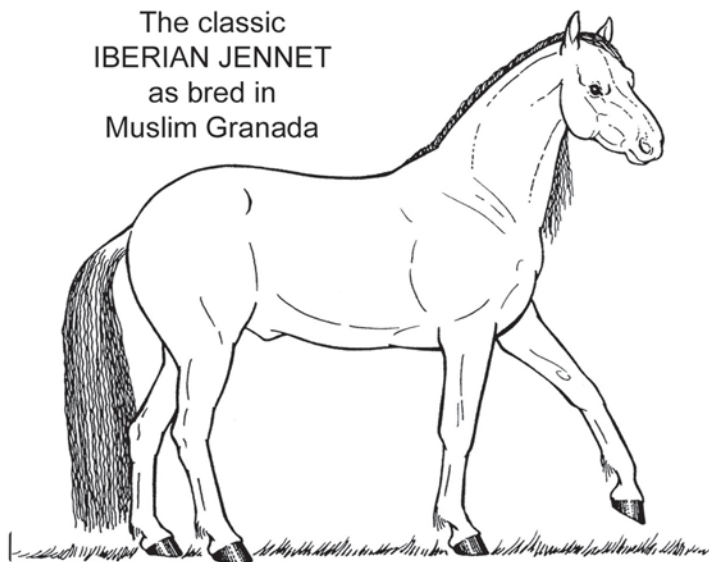
Fig. 5. Reconstructions of the appearance of three ancient Afro-Turkic breeds from the eastern Mediterranean that probably contributed to the development of the crossbred horses of the Iberian Peninsula in ancient times. These are the horses that the emissaries of Solomon and the seafaring traders of Phoenicia and the Greek islands loaded into their boats and brought to Iberia and the British Isles. Note that the crenellated mane in the Persian and the roached mane in the Thessalian are the result of trimming by their human keepers, reflecting fashions in the countries of origin, and are not the natural mane, which would have been long and falling as in all domestic horses (drawings by the author).







The classic  
IBERIAN JENNET  
as bred in  
Muslim Granada



head shape of these geographically far-sundered types.

The ancient mariners brought stallions of Afro-Turkic extraction to places where they would never, in the course of nature, have gone. Yet when those stallions were permitted to cover the Draft mares, something wonderful happened. The foals which resulted were larger and sturdier than their sires, yet possessed of a hardihood and capability for endurance entirely unknown in their dams. Suddenly, for the first time, there burst forth among the offspring a whole spectrum of colors unknown in the East. Many of the foals, instead of being solid shades, came out splashed with jagged patches of white. And as if this were not enough, many of the foals showed a propensity for a rapid, ground-covering and comfortable “fast walk” gait. Here in the hinterlands there grew up a treasure that was ultimately to be of greater value than any of the other goods the eastern traders had put on their boats.

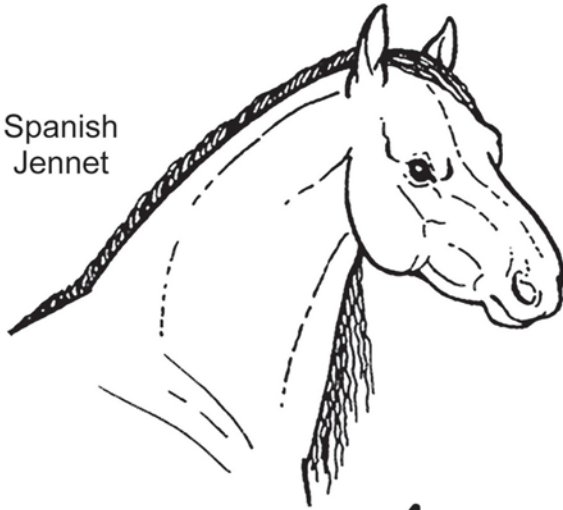
What the mariners unintentionally produced was the world’s first “outcrossed” horse lineage. The cluster of closely-related breeds that they created were the foundation of the modern Welsh and Breton ponies, and of several important but now-extinct breeds from the same region: the Irish Hobby, the Old Cornish, and the Galway of Scotland. And, of course, in Iberia the same cross formed the foundation of all modern Iberian breeds.

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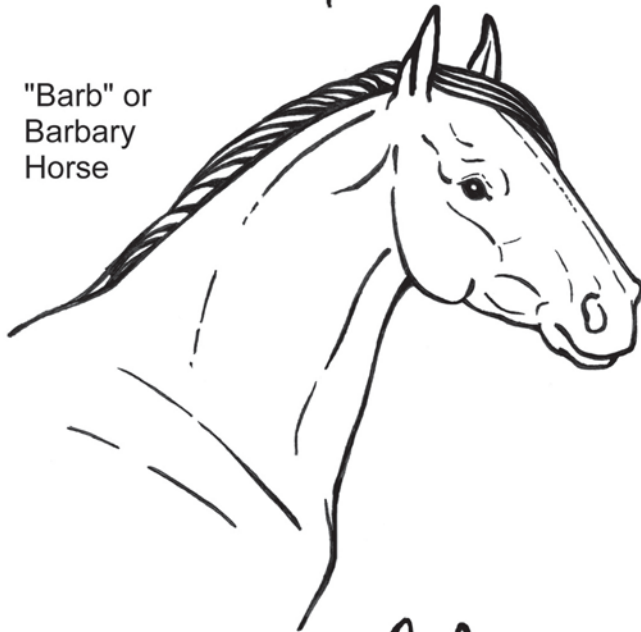
Fig. 6. Drawings to compare points of the Arabian, Barb, and Iberian Jennet (drawings by the author).



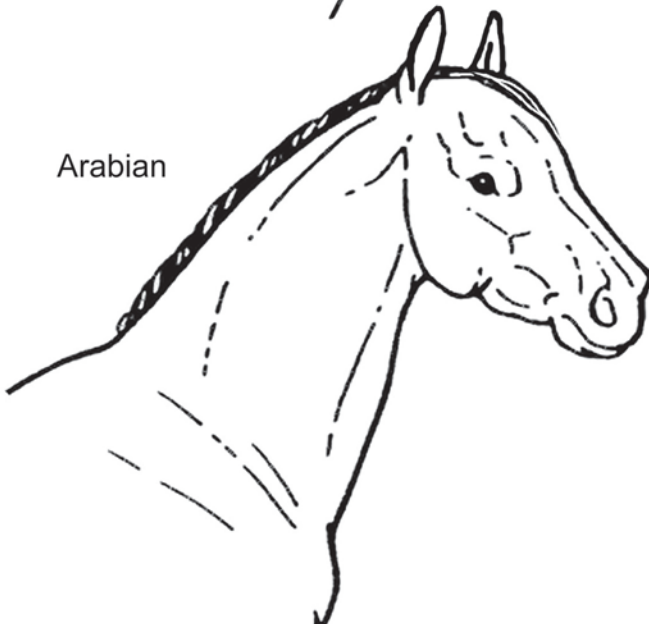
Spanish  
Jennet



"Barb" or  
Barbary  
Horse



Arabian



In tracing the history of the American mustang, this must be our focus.

There is a long history in Iberia of people who came there to trade or to conquer. But all alike continued to value the Iberian crossbred. Through the hands of Anatolian and Phoenician traders, in colonies founded in Iberia, passed this hardy and adaptable strain. It passed also through the hands of King Solomon's traders who sailed from afar to visit the land that later became Spain. Through the hands of the Celt-Iberians it passed, who lived and kept their herds in palisaded hillforts. With the march of centuries, Hannibal and his army of Carthaginians invaded the peninsula, mounting thousands of captured Iberian horses. Then, with Hannibal's defeat, the same horses passed through the rough hands of Roman legions, and through the kinder and more knowledgeable hands of Numidian cavalrymen, conscripted from North Africa by the thousands to serve in the Roman army.

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Fig. 7. Head studies of Jennet, Barb, and Arabian stallions. Particularly note the differences in facial profile, length and shape of muzzle (drawings by the author).

## The Origin of the Barb Horse of North Africa

With the fall of the Roman Empire in the fifth century A.D., over the passes of the Pyrenees there came northmen greedy for booty and land – Visigoths and Vikings. Sweeping southward through Iberia to Gibraltar, they built boats, loaded stolen Iberian horses, and took them by hundreds to North Africa. By this act, more significant than they could know, these most unlikely horse breeders began the “back cross” of the Iberian horse upon the herds of North Africa. These became the foundation of the Barbary Horse, or Barb (Fig. 6, 7, 10).



Fig. 8. the classic Iberian Jennet, from an altar retablo carved just after the surrender of Granada in 1492.

The Barb is important in this history, because within a few centuries of the Viking invasion of Morocco, there came to be large numbers of them. The Barb horse resembles the Iberian but, because of its higher percentage of Afro-Turkic blood, it is consistently lighter-bodied. It resembles the Arabian in having been selectively bred for endurance capability, with exceptionally sound, strong limbs and feet. Where the Barb and the Arabian most differ are in the front and the rear, for the Barb has always been bred for usefulness rather than beauty. Instead of the Arabian’s bulging forehead or “jibbah” and sometimes dished facial profile, the Barb’s head is straight or even slightly convex. Its muzzle is broader and its skull more substantial than the refined and dainty head of the Arabian (Figs. 7, 10).

Even more important are differences in the hindquarters. The Arabian is famous for its “flagging” tail, created by the unique construction of the pelvic and sacral bones which orients them more horizontally than in most other breeds, and which places the root of the tail comparatively high. The Barb by contrast retains from its Iberian ancestors the rounded haunches, sloping croup, and low tail-set of a horse built not as the Arabian is to race over flat ground, but to coil and spring. The hindquarters of the Barb are those of a horse that can easily perform the war maneuvers most valued in hand-to-hand combat. The Arabs excelled at raiding and their horses are bred for this style of warfare: quickly swooping down upon the enemy, shooting with bow and arrow or (later) the rifle, or throwing the light lance and then



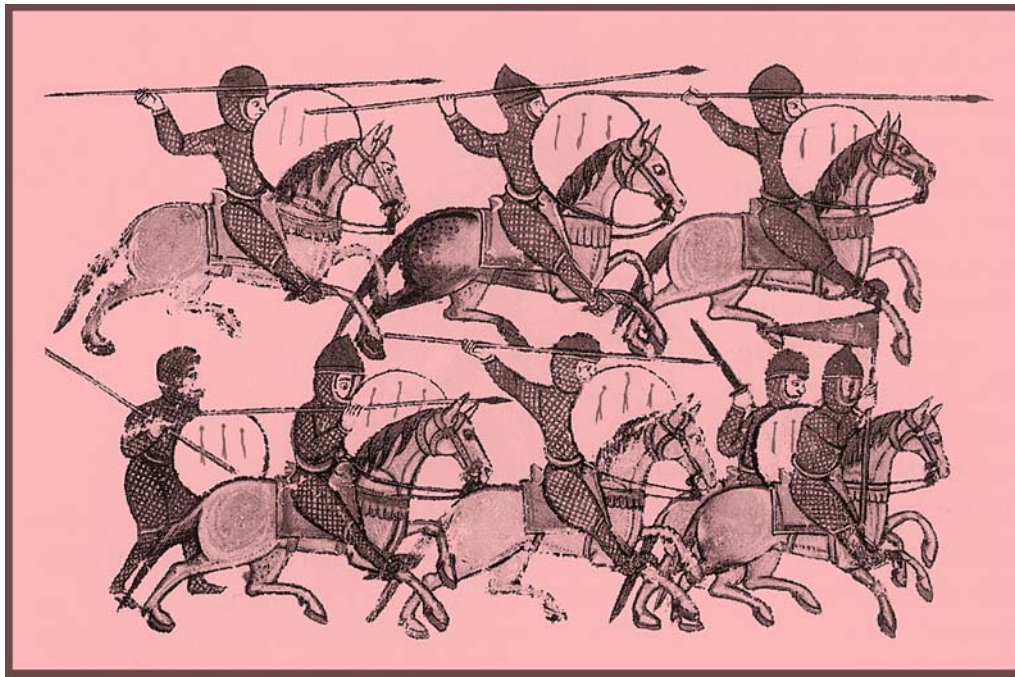


Fig. 9. Muslim warriors mounted on Spanish Jennets, from a manuscript of about 1200. the Jennet was the product of Muslim breeding during their long occupation of the Iberian Peninsula -- the cross of native Iberian Draft stock with Barb horses to produce a tough, agile, compact horse that could go to war and endure long marches. The whole troop of warriors is portrayed here as being in the canter gait, and all are on the same (left) lead. All details in this image, including armor, weapons, saddles, tack, and the leg positions of the horses in the canter gait, are quite accurate.

racing away in retreat. North African warriors preferred instead to close with the enemy, flashing scimitars whose curving blades were designed to slash the enemy without hurting the horse. They needed a mount that could cavort and wheel, and both the Barb and the horse of Iberia are built precisely for this.

### **The Origin of the Arabian Breed**

It is important to understand and appreciate the Barb horse, because as history drew down to the 7<sup>th</sup> century of our era, an event of the greatest significance occurred: the angel Gabriel appeared to Mohammed in a cave in Mecca, and made of him a most persuasive prophet. On fire with the new revelation and a rule for living that made sense to them, thousands of committed followers of Mohammed united to conquer and swiftly convert almost the whole of the Near East. Within a century of Mohammed's death, all of the old Persian Empire had accepted Islam. As brothers united in religious fervor, the Persians yielded up to their Arab conquerors all the deeper secrets of horse-breeding and horsemanship which had been their almost exclusive possession for many centuries. For the first time in their history, Arabian peoples acquired horses in numbers, and from the finest of these, which hailed from the foothill country at the headwaters of the Tigris and Euphrates Rivers, the Bedouin sheikhs at long last began to craft the Arabian breed.



After sweeping success to the east, the armies of Islam looked west. In the early decades of the 8<sup>th</sup> century they took lower Egypt, then Morocco and the rest of the north African coast. They brought few horses into this region, partly because of the barriers posed by the Sinai and the Nile, but largely in fact because the region was already full of horses apt to their purposes. Thus on a fog-shrouded day in the year 711, an Islamic scouting party embarked from North Africa. Landing upon the Iberian side and reporting little resistance, they were quickly reinforced by an armada bearing many mounted soldiers. The first great victory of Islam in Iberia was fought at Jérez de la Frontera in the very heartland of Iberian horse-breeding, the province of Estremadura. Within two years, the armies of Islam had completely overrun the Iberian Peninsula.

### Origin of the Iberian Jennet

Thus began nearly eight centuries of Islamic rule in Iberia. During the whole of this period, knowledgeable and discriminating Islamic leaders supervised the breeding of horses both for war and for pleasure-riding, and raised the art of horse-breeding to heights which have never been surpassed in Iberia or anywhere else.

One of their innovations was the pedigree. This came directly from Bedouin traditions in Arabia, where strict codes of honor forbade the falsification of a horse's ancestry. When in January of 1492 Ferdinand and Isabella, Christian king and queen, uprooted the last stronghold of Islam in Iberia by conquering the city and fortress of Granada, they took over not only the Grenadine stud but its

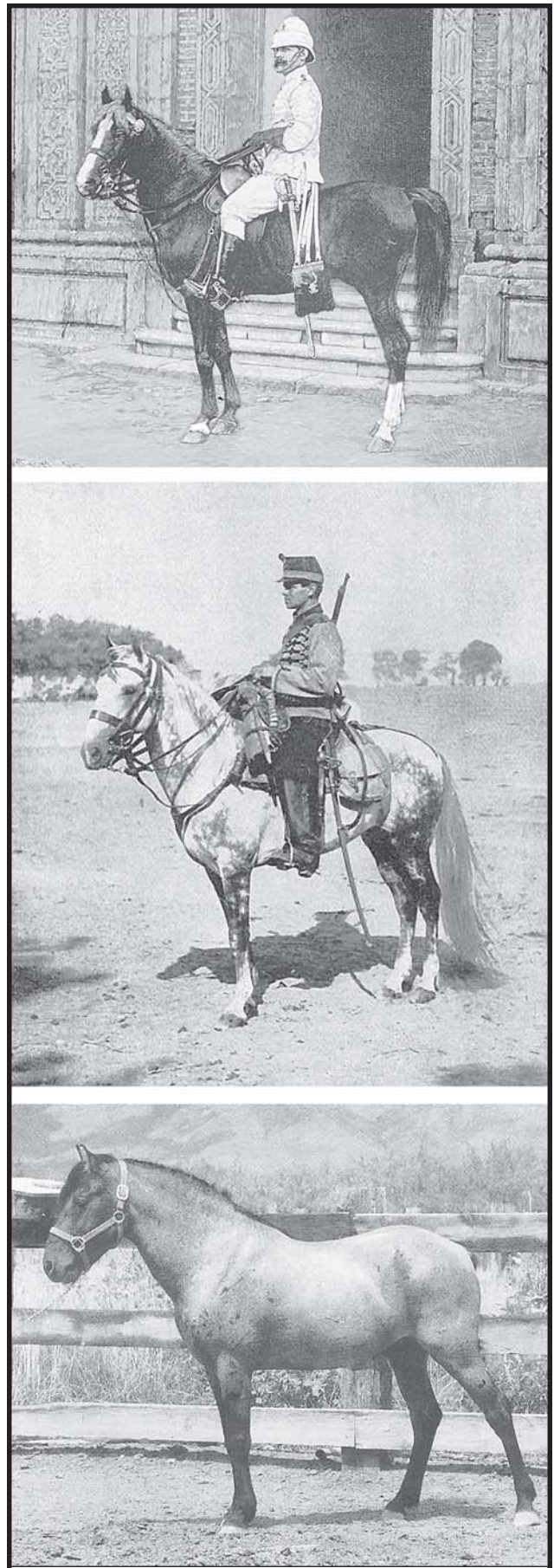


Fig. 10. Arabian, Barb, and Mustang compared. Above: British soldier mounted on a Syrian Arab, about 1895. Middle: Algerian regular mounted on Barb, about 1915. Bottom: Silver Hand, a registered Mustang from the Cerbat herd of Arizona (photo courtesy Phil Sponenberg, DVM). Note especially the difference in shape of hindquarter in the Arab vs. the Barb and Mustang, and the overall leaner, "drier" body morphology of the Arabian.

tradition of careful pedigree-keeping. This treasure the king placed in the hands of Carthusian monks – because they were among the very few in his kingdom who could read and write. The product of their breeding program eventually came to be known as the Cartujeno.

Such horses were then, and remain today, the cream of Iberian horseflesh. But what the king and his nobles do, the lower classes of society – the titled courtiers, the generals, the captains of cavalry, the merchants, and even the peasants to the best of their ability – imitate. And so it came to pass that in medieval Iberia a large population of horses of distinctive and nearly uniform character, and of a single blood ancestry, came to populate the peninsula. This type of horse, the Jennet, got its name from the usual riding style of the Spanish caballero, “a la jineta”, the style of the light-armored cavalryman. It is the style still used today by the *vaqueros* and *vaqueiros* – cowboys – and by the *rejoneadores*, the mounted bullfighters of Spain and Portugal (Figs. 6, 7, 8).

And it was this type of horse, the Jennet, which hailed from the horse-breeding provinces of Estremadura and Andalucia, which Columbus’ soldiers brought by boat to the New World. Because of their habit of referring to horses – and people – by their province of origin, the Spaniards called these horses “Estremadureños” and “Andaluces”, but they were not very much like the modern registered Andalusian, whose separate history was to unfold over the next several centuries in Spain. The mustang, in short, is not the descendant of the Andalusian, if by that term you mean the breed as it now is. Rather, the mustang and the modern Andalusian *both* trace back to the Jennet, their mutual ancestor in mediaeval Spain (Figs. 6, 7, 10, 11).

### **The Mustang in North America**

Beginning with Columbus’ second voyage in 1493, horses of Jennet type were successively imported to the Caribbean, Panama, Mexico, Colombia, Guatemala and Nicaragua. At a little later period, Spanish and Portuguese explorers, conquistadors, and colonists took them to Peru, Argentina, and Brazil. Last of all, some two centuries after Columbus’ initial voyage, they were brought from northern Mexico to Santa Fe, New Mexico. It was from this point in space and time that the dispersal of the mustang northward through the Great Plains of the U.S. and Canada began.

Technically speaking, a mustang is a feral horse – an escapee from domestication – rather than a wild animal. The mustang lives wild, by his wits and instincts, but somewhere deep inside every mustang is a memory of the more than two thousand year symbiosis with mankind in the Iberian Peninsula. People who can harmonize with this, who can understand it, sympathize with it and communicate with it, succeed with mustangs. Such were many Native American tribes in the arid southwest and the Plains, and such too are many people of other cultures and extractions who now live in North, Central, and South America.

Frank T. Hopkins was one man who had this ability. He could sympathize with a horse, could put himself in its place, and thus in the act of riding a horse he could effectively compensate for the stresses which riding necessarily imposes upon the animal. Sympathetic to an equal degree with their own horses are the Bedouins of Arabia. Cousins that they are, derivative alike of the original Afro-Turkic strain, both the mustang and the Arabian have inherited the physiology necessary for great endurance. More importantly, they both understand and are willing to tolerate people. They have great intelligence to go

along with great endurance; stout and generous hearts beating alike as even today they continue to leave footprints in the sand. This is the true circle of the relationship of the mustang and the Arabian – the full circle, thousands of years in the making.

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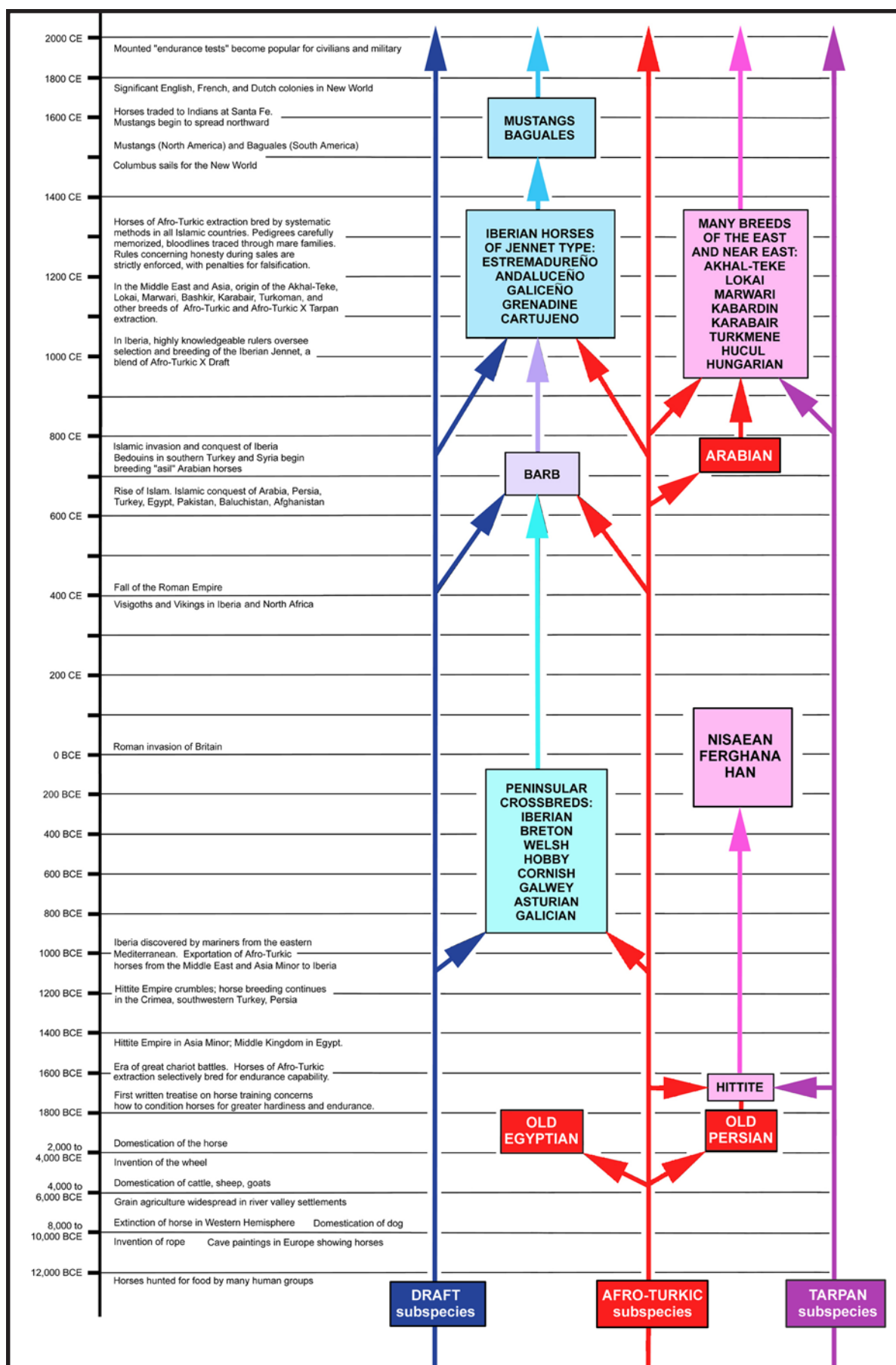
Bennett, Deb. 1998. Conquerors: The Roots of New World Horsemanship. Amigo Publications, Solvang, CA, 422 pp.

Important Note: Please see the next several pages for a complete bloodline chart, which shows the development of the Arabian, Barb, and Mustang through time.



Fig. 11.  
The  
bloodline  
chart.

Note:  
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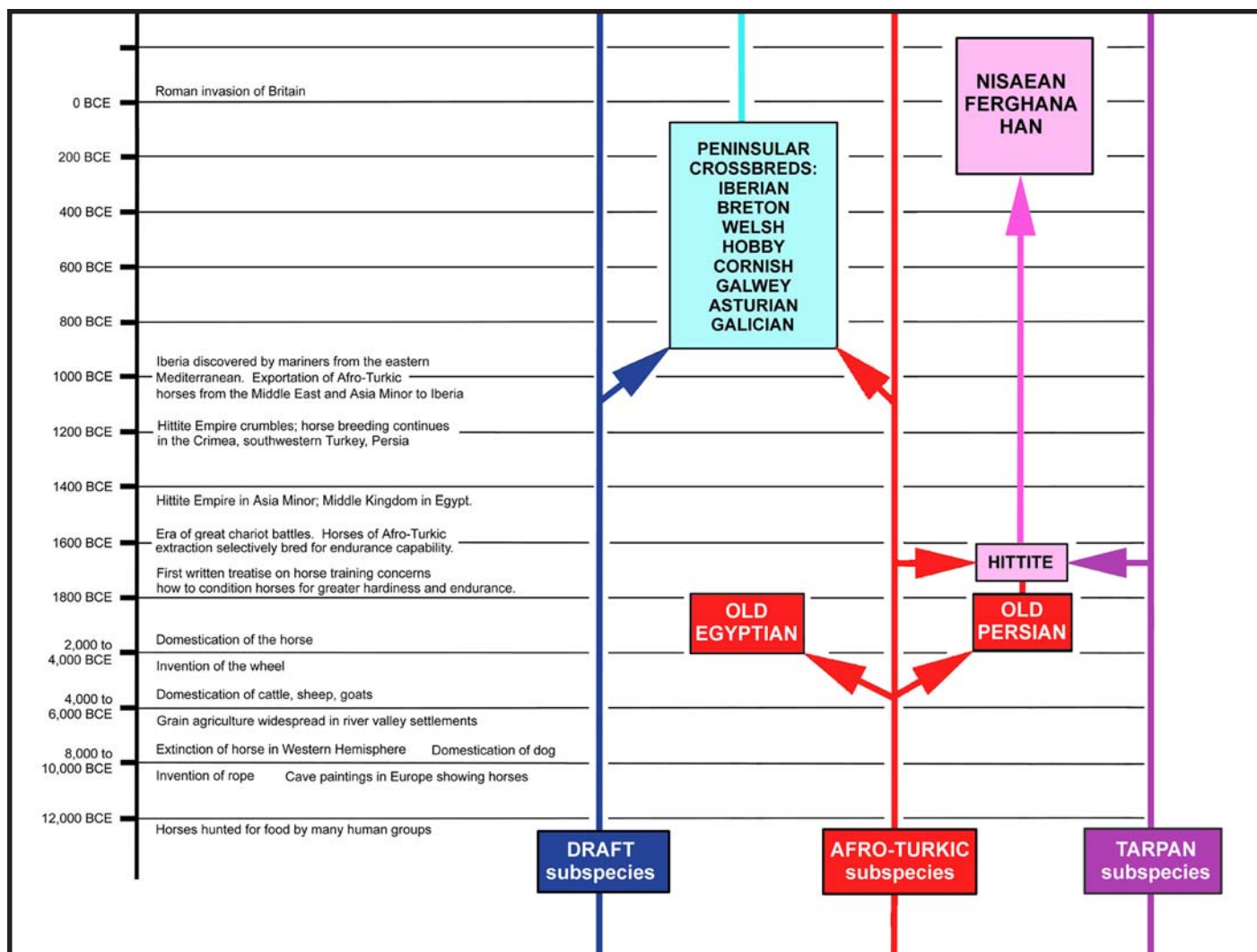


Fig. 11a. Bottom half of the bloodline chart.

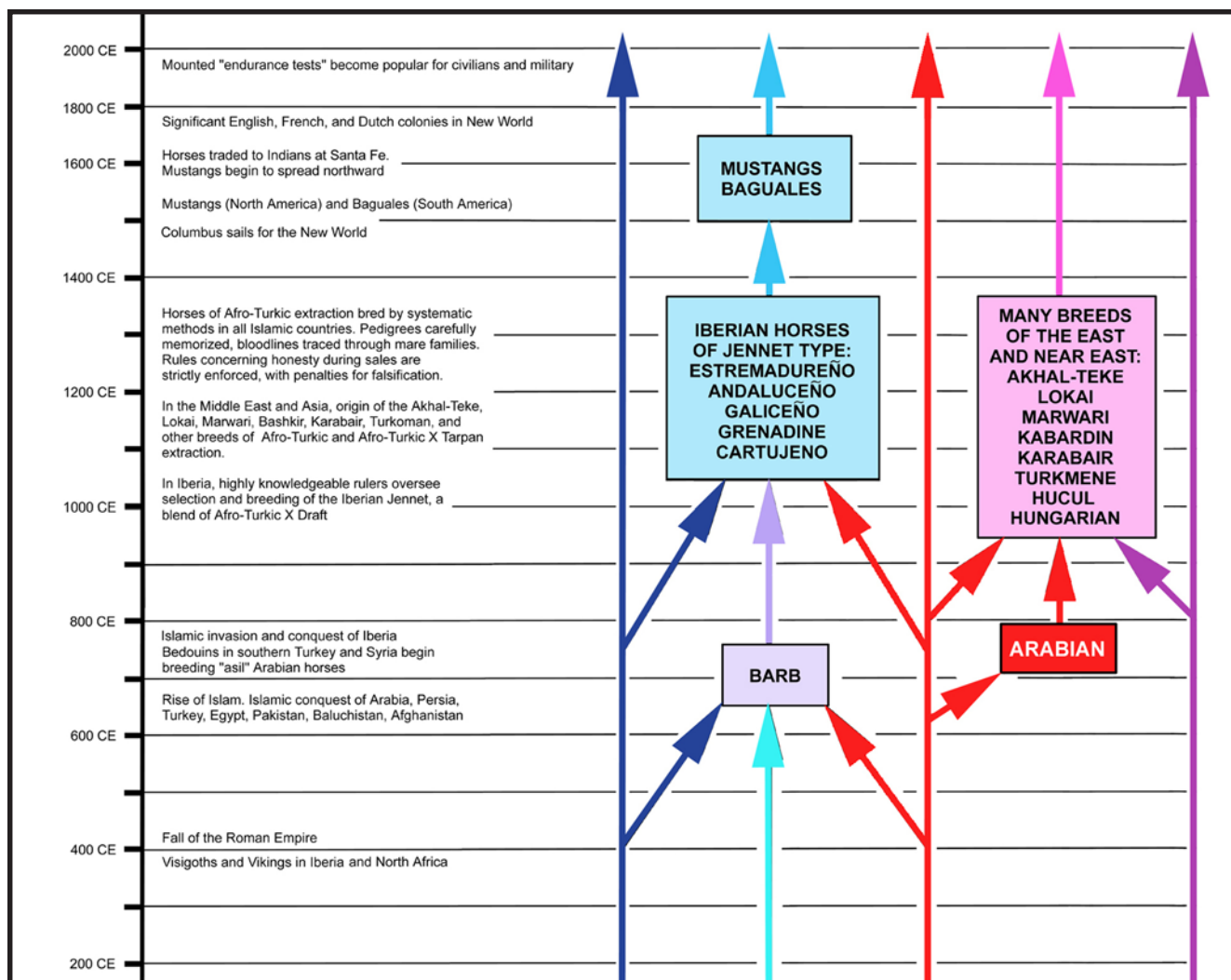


Fig. 11b. Top half of the bloodline chart.