

Introduction to Volume II

If you are reading this without having read the introduction to Volume I it probably means that you are desirous to dive right into the subject matters that are related to the breed. There is absolutely nothing wrong with that and in fact that is why this book is written in two volumes, as I realize that the priorities of readers can differ. I would still suggest that you take the time to read the foreword and introduction that appear in Volume I as these present the reader to the entire works of Volume I and II. Therefore I will not repeat the topics there in and instead this second introduction will be for the specific subject matter at hand in Volume II.

As the subtitle alludes to, Volume II is related to the subject matters that deal directly with the **Chilean Horse** breed. In my over three decades as an adult professional I must say that I have struggled with the word “breed”. Throughout my life I have found it to be used as an ambiguous expression that is much too loosely applied in animal production. As a result many registries differ greatly in their objectives and I think this is unfortunate because it permits a wide range of standards in purebred animal production. On more than one occasion I have read commentaries that a breed can be defined by however its representative organization wishes to describe themselves. In other words a breed has a *carte blanc* to be whatever it wants to be. I could not disagree more!

It is my belief that the choice purebred enthusiasts should exercise is in regards to what breed they choose to get involved in, rather than how they capriciously care to define a breed. I also feel breeders have the choice of establishing other types of organizations that do not adhere to the concept of a breed, but in such a case the correct term should be used to describe the association that unites this group of animals. I feel strongly that the basic principles of what constitutes a breed should be just as defined as what makes up an Order, a Family, a Genus or a species. Only in this manner can breeders and their organizations strive to defend, promote and improve the future of their breed within the confines of a word that has some ethical foundation. I will come back to this topic a little later, but first let’s look at why we strive to reproduce animals within the confines of a breed concept to start with.

Our Fascination with the Natural Order of Life Forms

Although mankind has long been interested in animals we must recognize that large game did not become our focus until about three quarters of a million years ago. As opportunistic omnivores our diet was composed of both plant and animal sources of nutrients. As hunter/gatherers during most of our existence, we took advantage of whatever edible matter crossed our paths. As members of small family bands, large mammals were probably the least dependable sources of nutrients during 85% of the time man has existed.

It was not until our hunting abilities improved some 80,000 years ago with the development of tools such as a stone-tipped spear that a closer interest, observation and understanding of other animal species arose. Striving to kill our prey offered the possibility to expend energy in return for a complete package of raw material for many of our primitive needs that went beyond our nutritional requirements. Killing a wild animal not only offered us edible muscle, tallow, organs, marrow and cartilage, but it also provided us hides and fibers to warm and cover our bodies. Bones, ligaments, horns and antlers became important tools for our day to day lives; hooves provided raw material for glue and water repellents; and the bowel contents were both a source of useful microbes as well as a potential source of fuel for combustion.

The thousands of years that our race has spent scouting, tracking, stalking and passively observing the animal kingdom around us, has made us aware of a natural order. For the most part, God’s creatures were homogenous groups of animals with similar characteristics and lifestyles that to some degree or another interacted with their own kind to assure their survival. We could not help but notice how neatly each kind of animal fit into the biological scheme of things taking advantage of certain elements of climate, topography and position in the food chain to contribute in some manner to the interrelated events we call life.

Long before we started to organize our thoughts as intellectuals with a rich spoken and written language, we surely observed the many kinds of animals that were in our midst. We admired the close similarity of characteristics that established an easily distinguishable arrangement in which we were capable of making many useful generalities and conclusions regarding aptitudes, behavior and potential resources. I am sure the organization of life forms on earth has always captured our attention and left us in awe with the Creator of such an efficient plan. However, beyond the appreciation of the world that surrounded us, it has also been to our best interest to be keen observers of the characteristics that distinguished the various animal groups so that we might best take advantage of what they had to offer.

Bringing the Mountain to Mohammed

As mankind happened upon a concentration of harvestable resources the nomadic lifestyle of hunter/gatherers made a transition to a more sedentary existence. Remaining in the vicinity of these natural assets instilled a more possessive mentality that was a product of our identity with a defined territory. The overabundance of plant and animal resources gave us the opportunity to consider creating larger social groups and what started as family bands, gave way to tribes, chiefdoms, nations and empires. Jared Diamond's Pulitzer Prize winning book, *Guns, Germs and Steel* offers the fascinating development of society that is surely worthwhile reading for a better understanding of how and why mankind has chosen to assemble in larger groups over time. However, what is pertinent to our discussion is that the territorial and materialistic tendencies in our social evolution made the accumulation of assets a priority we did not even take into consideration when we were hunter/gatherers. In so far as our growing dependency on animals was concerned, this moved us past settling in areas of high concentrations of prey animals to serious contemplation of domesticating the animals that showed the temperamental predispositions to establish a relationship with man.

As a result, long before having any inkling of establishing some sort of classification of the wild fauna on this planet, mankind jumps into the role of planner and care taker of plant and animal production schemes within restricted territorial limits. In a sense, by not having to go out and hunt for animals we now controlled close to home, man was able to "bring the mountain to Mohammed". Such a novel accomplishment led to our aggressively defending these rights and this in turn led to the concept of communal and private ownership.

Somewhere between six and 12,000 years ago most domestic animals were incorporated into the lifestyle of man. Some had the exclusive purpose of providing nourishment through their carcasses and others provided it through edible products they bestowed us in life. Others provided a source of fiber that could be used for textiles goods and yet others were a source of draft power, herding aptitudes and means of transportation. Still others were sentinels, defenders, collaborators in the hunt, allies during combat, a source of heat on cold nights, or simply fulfilling companions with whom we could share life. Whether domestic animals were capable of meeting part or all of these needs, the crucial aspect concerning domestication was the ability to control and reproduce animals in predictable manners that made them accessible resources to meet the various needs of mankind.

Initially we focused on control, by simply utilizing wild animals that had the appropriate dispositions to accept our imposed interventions. Reproduction and selection was still a natural process in which we did not intervene. Instead, the animals we acquired for our needs were tamed in order to become manageable adults. With time, we would exercise more restrictions that required a greater dependency on human interaction with these passive animal varieties that were increasingly submissive to our desires.

In order to have more influence on a constant supply of suitable candidates we started applying selection pressures in choosing to reproduce the animals that had the characteristics that we considered most useful to us. Invariably, as we supplied the needs for their survival under artificial environments that prioritized our own selection criteria, the inevitable took place. In time and probably involuntarily, we started reproducing new varieties of animals not normally found in nature that depended on us for their food and protection and we referred to these as domestic animals. Jared Diamond points out to us that only 14 of 148 terrestrial

herbivores filled the requirements of passive temperament, suitable growth rate, ability to breed in captivity, reduced flight instinct and suitable social structure required for successful domestication. These 14 types of domestic fauna would go on to fulfill a more specific definition of being “animals that have been bred in captivity for purposes of economic profit to a human community that maintains complete mastery over its breeding with organization of territory and food supply” (Clutton-Brock 1981).

Table II-1
Estimated Dates of Domestication of Primary Domestic Animals

<u>Common Name</u>	<u>Scientific Name (5)</u>	<u>Estimated Time of Domestication</u>
Reindeer (1)	<i>Rangifer tarandus</i> (Linnaeus 1758)	12,000 B.C. (Incipient Herding)
Dog (1)	<i>Canis familiaris</i> (Linnaeus 1758)	7,000-10,000 B.C.
Goats (6)	<i>Capra hircus</i> (Linnaeus 1758)	10,000 B.C.
Sheep (6)	<i>Ovis aries</i> (Linnaeus 1758)	9,500 B.C.
Pig (2)	<i>Sus domesticus</i> (Erxleben 1777)	8,000 B.C.
Cattle (6)	<i>Bos taurus</i> (Linnaeus 1758)	6,500 B.C.
Llamas (4)	<i>Lama glama</i> (Linnaeus 1758)	4,000 B.C.
Alpacas (4)	<i>Vicugna pacos</i> (Linnaeus 1758)	4,000 B.C.
Cattle (1)	<i>Bos indicus</i> (Linnaeus 1758)	2,500-5,000 B.C.
Horse (3)	<i>Equus caballus</i> (Linnaeus 1758)	3,500-4,000 B.C.
Water Buffalo (2)	<i>Bubalus bubalis</i> (Linnaeus 1758)	4,000 B.C.
Donkey (Nubian Ass) (1)	<i>Equus asinus</i> (Linnaeus 1758)	3,000 B.C.
Dromedary Camel (2)	<i>Camelus dromedarios</i> (Linnaeus 1758)	2,500 B.C.
Bactrian Camel (2)	<i>Camelus bactrianus</i> (Linnaeus 1758)	2,500 B.C.
Cat (1)	<i>Felis catus</i> (Linnaeus 1758)	2,000 B.C.
Guinea Pig (1)	<i>Cavia porcellus</i> (Linnaeus 1758)	2,000 B.C.
European Elk (1)	<i>Alces alces</i> (Linnaeus 1758)	1,500 B.C.
Rabbit	<i>Oryctolagus cuniculus</i> (Linnaeus 1758)	1,000 B.C.
Ferret (1)	<i>Mustela furo</i> (Linnaeus 1758)	400 B.C.
Yak	<i>Bos grunniens</i> (Linnaeus 1758)	?
Mithan (Gaur)	<i>Bos frontalis</i> (Lambert 1804)	?
Banteng	<i>Bibos javanicus</i> (d'Alton 1823)	?

1 Cole, H.H.; Ronning, Magnar (1974). *Animal Agriculture*, W.H. Freeman & Co., San Francisco, Ca., USA, pp 12-16

2 Diamond, Jared, (1999). *Guns, Germs and Steel*, W.W. Norton & Co., NYC, N.Y. USA, pp 167

3 Budiansky, Stephen, (1997) *The Nature of Horses*, The Free Press, NYC, N.Y. USA, pp 50-55

4 Kadwell, M.; Fernandez, M.; Stanley, H.F.; Baldi, R.; Wheeler, J.C.; Rosadio, R.; Bruford, M.W. (2001). “Genetic Analysis reveals the wild ancestors of the llama and alpaca”, *Proceedings of the Royal Society of London (B)* 268, 2575-2584

5 Gentry, Anthea; Clutton-Brock, Juliet; Groves, Colin P., (2003). “The naming of wild animal species and their domestic derivatives”, *Journal of Archaeological Science* 31 (2004) 645-651

6 Fairbain, Andrew, (2005) *ARCH 2108 Animals, Plants and People*, Australian National University, Canberra, Australia

Why Were Breeds So Long in Coming?

If we started breeding domestic animals ten millennia ago, we might wonder why it took us so long to come up with the concept of establishing formal breeds. As is usually the case, there are probably many factors that have influenced that outcome. If we lived in a world that was predominantly made up of wild species I imagine that we would not be giving much consideration to establishing anything other than defined group of specimens that were genetically related enough to produce a homogeneous and predictable outcome. Quite to the contrary as we looked around us these would be qualities we would tend to take for granted. In fact, the idea that something other than that was even possible may have been hard to fathom.

Most of us probably still admire the clearly defined characteristics that are found in the natural order of things. Yet, it is hard for us to imagine how hard nature works at selecting and culling to obtain these results. The Australian National University professor Dr. Andrew Fairbain informs that an Order (such as Perissodactyla) can be defined as a monophyletic group of Families with a time depth of more or less 65 million years. A Family (such as Equidae) in turn is a monophyletic group of genera that has a time depth of more or less 24 millions years. A Genus (such as *Equus*) is a monophyletic group of species with a particular time depth of around 6 million years. Well, you get the picture, so by the time we are talking about establishing a species there are many, many years of selection. Unlike horse breeders, nature is not soft-hearted when it comes to culling. Whatever does not meet the selection criteria, is severely eliminated without pity.



Figure II.1
Equus przewalski exemplifies an equid which lacks characteristics for domestication

So when all the species that surrounded man were the products of these lengthy and demanding natural laws, it is not strange that they should have been taken for granted as simply the way things were meant to be. The prevailing thought was that anything mankind did in domesticating these species was not about to change the traits that were so well ingrained in these animals. This was the reason it was so crucial that we start out with species that had innate qualities that lent themselves to the domestication process. The fact that less than 10 percent of the wild herbivore species were suitable shows just how unusual the domestic qualities were in the world of the wild. That probably sounds obvious as one could think 100% of the untamed animals should have more wild qualities than submissive ones. Still even today we can see examples of exceptions like the otters, porpoises, fallow deer and squirrels that have amicable personalities that would be easier to domesticate than most of their counterparts.

Therefore, one thing we should comprehend clearly is that the species we domesticated were not a product of our talents as animal behavior specialist. In reality, we tried to domesticate many animals and failed with the great majority. The ones that we succeeded in domesticating were those that had a series of genetic traits that made our goals compatible with their make up. As a result, for a long time man probably was not looking to change a whole lot about the first domestic species, moreover we probably didn't have the faintest idea we could.

Since domestication coincided with our choice of taking up a more sedentary lifestyle in a defined territory we basically had limited regional options to work with. Any expansion of domesticated species rippled out from the four main agrarian societies that sprung up in the world. As a result the movement of animals around the globe was not in an effort to exchange and cross the different species involved, but rather it was simply a matter of distributing the few suitable species over a larger playing field. In some cases where these wild species were already well established in other areas, what societies disseminated were the concepts that made capturing, retaining, handling and reproducing animals an alternative.

Unexpected Side Affects of Domestication

Invariably, man's selection pressures innocently invoked changes on the domestic populations. Today, we know that even when we limit ourselves to only selecting for more docile temperament, many phenotypical changes will also result. There is a study with silver foxes (*Vulpes fulvus*) that was carried out by Dmitri Belyaev in the old Soviet Union that illustrates this point well (Coppinger, Raymond and Lorna, 2001 pp 63-64) . These "wild" foxes

had been bred in captivity for eighty years but only ten percent of the animals showed a lack of fear or aggression towards man. So for eighteen generations thereafter, Mr. Belyaev only selected the tamest individuals. Great strides were made in breeding gentler foxes, but these came along with drastic changes in the previously very homogeneous species. Suddenly black and white spotted foxes started to appear in the litters. Physical attributes that were never observed in the wild, also started to creep into the caged population. The placid foxes suddenly lost their erect ears and floppy ears prevailed. The straight bushy fox tail started to curl up on the end rather than hang down in specific fashion. Bitches started to come in heat twice a year like domestic dogs instead of the singular heat experienced in the wild. Some of the foxes even vocalized with barks that were not at all representative of their species. Suddenly, the docile fox variety started to look more like a Border Collie and less like a true fox.

This anecdote should make us aware that as we selected for tamer more manageable horses, most likely we also induced unintentional changes of a different nature. Whereas oftentimes we probably started with homogenous herds of dun and grulla hair coat colors with dorsal lines and zebra stripes, in due time an outcrop of many coat colors popped up in domestic horse populations. I am not implying that dun and grulla were the only colors in primitive breeds. We know Exmoors and Chersky Horses were bays and browns, the Lamat Horse in northern Siberia was either a gray or a very light dun as from afar they were described to have a white hair coat color. The 25,000 year old equid found in Alaska seems to have a chestnut hair coat and a light flaxen mane.

It is acceptable that wild subspecies from the same genera, even ones that are closely related, can vary in color or patterns. For example, the Somalian ass (*Equus africanus solaliensis*) is gray with zebra stripes on its legs, while the Nubian ass (*Equus africanus*) is a reddish color with no stripes whatsoever. The crucial point we have to keep in mind is not the differences between systematic groups, but rather the consistency within them. So whatever the colors of the *Equus* species we started domesticating, odds are that the group was very uniform in every aspect of appearance.

It is very probable that after sufficient intervention in domestic horse breeding, the more docile horses produced started to show changes rarely seen in the wild species. It is a palaeontological generalization that early domesticated variants are identified by the fact that they are smaller than the original wild species. This was probably due to the reduced knowledge of nutritional needs of the time added to the stress of confining a wild animal accustomed to liberty. However, even as experience overcame these limitations a wider variety of sizes was an almost certain sign of domestic species. All we have to do is look at a population of grade horses in domestic environments to see the assortment of sizes, body angles, head shapes, croup angles, characteristics of the hooves and hair, not to mention the numerous lists of defects that we would be very hard pressed to see in wild herds. It quickly becomes obvious that man lacks a great deal of understanding to compete with Mother Nature.

Contemporary research has also shown that domestication generally reduces the cranial capacity (C.Groves.-URL) and results in a lower intelligence levels (D. Kruska 1988). It has been shown that the majority of the reduction in brain capacity has come from the reduced size of the neo cortex which is precisely the part of the brain that differs the most with the reasoning capacity of man (T. Grandin et al 2005). As a result domestication gives rise to an animal that is further distanced from our intellectual capacity thus permitting us to more readily dominate and influence behavior. While we often look as these indomitable, stubborn or untrainable personalities negatively, it very well may be a sign of greater not lesser intelligence.

Probably as man reproduced horses in artificial climates and topographies while having increasing expectations of functional traits in order to meet the long and diverse list of human objectives, we started seeing a growing variety of domestic horse types. Even as many of these



Figure II.2

Domestication brought about this common color pattern in the Siberian Altaiskaya horse

specific abnormalities evidenced themselves in animal breeding projects, mankind could no more conceive how to control their outcome than he could image how to stop ships from falling off the edge of the world's horizon. I have to think that many agricultural communities went through a sense of frustration in seeing so many different forms of horses while feeling helpless in their intent to breed a specific type of equine with the regularity seen in the wild. Surely man must have wished he could go back to the days of defined species that consistently put out a likeness of their kind. The answer probably seems simpler to us now, but we must remember that until the simplest laws of genetics were discovered, most people had a very vague idea that there was some bio-mechanism that offered choices to alter the results in animal breeding.

Still, even without a complete understanding of genetics mankind tried his best to emulate nature. It is clear that by striving to unite a similar group of horses, breeders had the intent of obtaining a greater consistency in reproducing the desired traits. Where the regional populations of domestic horses were in a primal state, man simply tamed the individuals he found suitable for his needs. Camargue, Dulmen, Exmoors, Nangchen-Pferd, Sorraias and Tarpan and other primitive horses that have probably been lost over time were examples of these convenient relationships that helped develop equi-hominid interactions.

The Concept of a Horse Breed Begins to Take Shape

As man strived for more control he exercised a greater selection pressure by confining the horses in a limited space and choosing the representatives to be bred. The **Altai**, **Anadolu**, **Ancient Southern Peninsular**, **Bashkir**, **Caspian**, **Castilian**, **Dongola/Barb**, **Icelandics**, **Karabair**, **Knabstrups** and **Koniks** are horse types that in their initial phases provided some of the many examples of a more specialized horse breeding technique. The establishment of more defined types was progress even though the absence of formal registries did not hold specific lineages accountable in improvised mating schemes.



Figure II.3

The selection in the limited space and isolation in Iceland gave rise to Icelandic Horse

The turning point for domestic horse production came in the 16th century. Finally, the concept of a breed was beginning to take shape. From the origins of animal breeding five important qualities were necessary to make up a domestic horse breed; 1) common ancestors, 2) consistent distinguishing characteristics, 3) controlled propagation, 4) a defined function and 5) preferred surroundings. As a result a horse breed can be defined as a closed registered group comprised of a homogeneous population of related domestic equines with readily identifiable and highly transmissible phenotypic characteristics that also possess specific physiological and psychological traits that makes them better suited for specific functions and environments.

The most outstanding example ever of horse breeding was provided by the Spanish crown. In 1567, King Felipe II had the vision to inaugurate the Royal Breeding Farm of Cordova, but it would be the brilliant organization and management of Diego Lopez de Jaro that guided this program to produce the greatest breed of its day. An entire book could be written about this accomplishment, but I can summarize the reason for its resounding success in the following crucial points: 1) a large number of highly selected foundation animals were chosen to start the program; 2) rigid culling from a narrowly defined viewpoint was performed on any individual that did not meet the highest standards of sound conformation, specified breed type, tested aptitudes in a specific function and required temperament; 3) meticulous written records of genealogy and individual evaluations were kept on all horses maintained in the program; 4) once the objectives of the breed were obtained the breed registry was permanently closed. In less than thirty years one of the finest breeds of the world was underway and over the next 232 years the Royal Breeding Farm would continue to perfect the horses of the royal court while maintaining total control of all their brood stock. This prime example of a well organized, highly selected, duly tested, and formally registered breed was created for the entire world to see. It was still not nature's equal in consistency, but it came the closest man had come while selecting for a more complex group of multifactorial traits that went beyond the simplicity of survival of the fittest.



Figure II.4
The Velazquez rendition of Felipe IV a Caballo (1634-1635) exemplifies the extraordinary program at Royal Breeding Farm of Cordoba.

Other notable examples during that century can be cited in the initiatives made by the royal family of Hapsburg. The sons of Emperor Ferdinand I of Austria, Maximilian and Charles II, as well as Emperor Rudolf II all helped found the closely related breeds of the Kladrub (1560) and the Lipizzaners (1580) respectively. Both gave further proof of the virtues of a demanding program, with strict accountability within the registry of a breed, whose books were closed as soon as the objectives were met and in-breed selection (albeit they did have some sporadic intermixing between the two very similar breeds) continued to strive to reach the progressively higher goals of type and assessed function.

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Nature Stipulates: Keep a Closed Book

In nature the “closed book” is assured by the instinctual and learned imprinting of animals with members of their own species or subspecies. Under certain circumstances and pressures interspecific crosses can take place, and it is irrelevant if these occur naturally and if the offspring are fertile or sterile. Nature provides various possibilities, but given normal conditions most species and subspecies prefer to breed their own kind. In the manipulative hands of humans, domestic breeds will readily cross with whatever counterpart they are assigned within their species. Therefore, it becomes much more important that a closed book be established once a breed is well defined in the type, temperament and functional aptitudes that should distinguish it.

In Artiodactyla herbivores this traditional breed requisite has been followed more religiously as generally breeders have large numbers of animals from which to select. If it were not for the detrimental pressures created in the show ring, where oftentimes fads make unnatural and even absurd traits important in obtaining ribbons, most likely the ruminant purebreds would

all be fairly close to the breed standards. Due to greater foundation numbers, associations representing purebred ruminant livestock have usually closed registries early on in their formation. The prostitution of this regulation has come about by unethical breeders that strived to make more rapid changes in the never constant show world. In order to get the upper hand on competition, secret crossbreeding has been used to achieve in one or two generations what might take 3 or 4 times that through selection within the genotype of the breed. Luckily DNA testing has entered the scene and finally we have a tool that can assure breeder integrity.

The closed registration policies maintain the breed representatives genetically related and this narrower gene pool is responsible for a larger percentage of individuals that meet the breed standards. More interbreed relatedness will also promote intelligent inbreeding that will root out defective genes that are often hidden recessives of harmful consequence. With conscientious culling, the breed will progressively have less deleterious genes in their make up. Meanwhile the specimens chosen to represent that breed in the reproductive phase will have a greater assurance of transmitting desirable qualities of the breed due to their greater concentration of positive homozygosity.

The result is a breed that more closely imitates the many wild species mankind has long admired in nature. When judging performance within heritable traits, these higher quality purebreds will produce more consistently for established breeders and offer fewer disappointments to newcomers. With such guidelines, animal breeding becomes a profession of honor that rewards good animal husbandry. This catchall term denotes passion, persistence, observation to details, intelligent management, a “feel” for animals and thorough knowledge of bloodlines. Just as importantly, closed registries help deter animal production from becoming a game of gimmicks that try to find the latest “quick fix” to obtain short term results which often are in detriment to the overall improvement of the breed.



Figure II.5 The original Chilean Horse breed type can be seen in the 1997 stallion Natre

Nowhere have open registries been more popular than in horse breeds. The Chilean Horse breed is the only stock horse breed in the Americas and one of the few in the world that has consistently promoted a closed registry. From 1541 until the 1850 its isolated geographical position assured it received no influences from other breeds. In 1893 when its formal breed registry started, only horses that passed a physical inspection for breed type and counted on affidavits that assured three generations of purity were permitted in the registry. Never in the history of the registered Chilean Horse breed, was another breed knowingly permitted to taint its purebred status.

In a world where the American Quarter Horse has never stopped having an open registry for the Thoroughbred; where the Appaloosa has had an open registry for the Arab, the Thoroughbred and the Quarter Horse; where the American Paint Stock Horse Association has an open registry for Quarter Horses; where the Azteca is still registering composites of Quarter Horse and Andalusians; where the Criollos of the Americas have had an open registry for the Chilean Horse since long before they closed their registry for their own native breeds, its frustrating to see how far cowhorses have strayed from the traditional concepts of animal breeding. On the other hand, it is refreshing to see that a stock horse breed still exist with an incredibly high degree of purity and that this offers consistency and prepotency in the traits for which it has been selected for more years than any other stock horse in the Western hemisphere.

In reality, if organizations are going to permit such a wide genetic variety, then true breeds should be distinguished from registries, as the latter would simply imply a traceable genealogy but make no pretence of a being a closely related group of animals with a highly transmissible distinct genotype and phenotype. The word “breed” should not be used lightly as it implies a standard that instills confidence and credibility. I think this was well understood in the days of Diego Lopez de Jaro and the Archduke Charles of Hapsburg. It was also understood by the father of modern animal breeding Robert Bakewell (1725-1795) and his protégées The First Earle of Leicester Thomas Coke (1754-1842) and Sir Charles Leicester. I think it was understood by Lady Ann Blunt (Crabbett Arabians), Robert Kleberg (King Ranch Quarter Horses, Thoroughbreds and Santa Gertrudis cattle), August Busch (Anheuser-Busch Budweiser Clydesdales) and most of the truly great breeders of the past.

All Manufacturers Need “Specs”, Producing a Horse Model Should Be No Different

Still, a closed registry is not the only requirement for a true breed. If we go back to our example in nature we know that the wild species have a very homogenous conformation, a very consistent temperament and a preponderance of physical attributes that permit it to subsist and prosper in the environment where it has adapted. So aside from selecting within a restricted and related population it is equally important that purebred breeders specify a breed standard and adhere to it.

If I may refer to well respected professor of Biological Anthropology, Dr. Colin Groves, he informs us that for groups of animals in nature to classify as a species this population must be a “diagnosably distinct” from all other species. This distinction must come through fixed heritable differences that are absolutely unique. I find this portion of Dr. Grove’s definition of a species very applicable to mankind’s objectives in creating a true breed.

It is very unlikely that breeds are formed out of capricious whims. Most all breeds have their own personal history that tie closely to the societies that developed them. This is related to the geographical, topographical, political and cultural definitions of wherever they came from. The great majority of the breeds were justified for specific functions for which it became one of the best alternatives under the previously mentioned variables. All these factors lead to specific phenotypes that over the years have been shown to be the most appropriate for the specific objectives which justified the breed’s formation.

For this reason, one of the normal formalities in the due process of establishing a breed is specifying the physical and psychological traits that best describe the breed in a breed standard. Not only does the breed standard serve to define the “diagnosable distinctiveness” of the breed but it also serves as the target of perfection that all breeders should consistently aim for. When the breed standard is clearly defined and conscientiously pursued by all responsible breeders, an easily distinguishable, homogeneous breed will result. These objectives are in total harmony with the closed registry that promotes a specific group of genes that will be passed on to future generations with a high degree of confidence. Striving for a specific type and temperament will benefit from searching within a defined group of related individuals from a particular genotype that was chosen in the closed registry. So simultaneously choosing breed representatives that embody the breed standard from within a closed registry that concentrates the very genes that are responsible for these traits, has a synergistic effect on breed progress.

Once again, I must remind the reader of the various stock horse breeds that do not have, or have not adhered to, a defined breed standard. It is logical to assume that if these breeds don’t have a closed registry there will be a pronounced genetic variation and registerable specimens will display a wide range of morphological traits. When such lack of definition is permitted and breed standards do not define clearly the specific characteristics that should distinguish the breed, then a wide variety of horse types exist under one registry and a “diagnosable distinctiveness” is impossible. When breeds can range: from 1.42 m (14 hands) to 1.73m (17 hands); from 454 kg (1,000 lbs.) to 727 kg. (1,600 lbs.); from massive excessively muscled builds to narrow, flat and smooth-muscled makeup’s, it may be good for promoting registration numbers of specialists in many disciplines, but it in no way identifies the uniqueness that should define a true breed.

The **Chilean Horse** breed once again gives us an admirable example of how a breed should characterize itself. In reality, the **Chilean Horse** breed standard was determined long before the breed was officially formed in 1893. The type of horse that was functional in the mountainous terrain of Chile where it has had to perform stock horse tasks since the 16th century has been the product of 300 years of experience and practicality. Nevertheless, in spite of distinguishing itself as a territory, colony and republic that produced some of the best horses of Latin America, in 1858 the birth of a dun colt named *Bayo Leon* would serve as a personified model that every **Chilean Horse** breeders aspired to produce. These physical objectives were exhibited in the many fairs where **Chilean Horses** competed in during the first decades of the 20th century. Finally, in 1921 the **Chilean Horse** Breed Standard was put to words in a document that has only received two minor changes in the past 85 years. We will dwell more on this in a coming chapter, but it suffices to say that pictures of good **Chilean Horses** at the beginning and the end of the 20th century still equally represent the discernible qualities of the breed. Like the wild species of old, you need not guess what breed you are looking at when you set your eyes on a **Chilean Horse**. Both the consistent breed type and closed registry of this the oldest cowhorse of the Americas, is a guarantee to the people that choose to confide in its attributes.



Figure II.6

Notice the similarity of top line, angles and type between the two chestnuts Fabuloso (1995) and Huicano (1922)

In the end, producing a breed of horse is very much like manufacturing a car. If there is the intent to identify a vehicle with a specific manufacturer's car and model name, it must be duly registered as such while presenting a recognizable appearance that clearly assures all observers what type of car you have. The "specs" should not only meet the quality standards that assure it looks like the model it represents, but it should also have a quality standard that gives the owner assurance of a minimal possibility of defects. Even so, it is not enough that it have the documentation, the looks and the guarantee of being a Chevrolet Corvette, Toyota Land Cruiser or Mercedes Benz 450, the expectations go beyond that to also expecting the vehicle to perform in a given fashion that complies with its intended design.

Like Breeding Canaries without a Song

We could breed canaries for many reasons that validate breeding other caged birds, but it is clear that the justification of this little finch lies in its beautiful song. These birds that have been selectively bred for over 500 years would simply not have the same attraction if we could not hear their sweet music. In a similar manner we should not forget that horse breeds are meant for a function. There are some specialists within various breeds that focus on conformation alone, and in doing so they reward phenotypes and temperaments which may not necessarily be suited for the function most associated with the breed. So even if such cases were products of a closed registry and a scrupulous selection for breed type, the end result may be nicely sculptured individuals whose only objective is to be appealing to the eye. Granted this may be a breed prerogative in an age when horsemanship is no longer a required art form.

For the most part, horses were domesticated by man because of the advantages they offered in some kind of function. We have been attracted to them because of their athletic skills and they have accompanied us throughout history because their various physiological aptitudes were important assets to our own human progress. It is my opinion that making good breed type the final objective is a grave error in horse breeding. Horses must have a central functional justification even if it is only to collect into a comfortable, controlled walk, trot and canter. If performance is not part of the breed formula we lose sight of functional biomechanics, motor neural coordination, soundness of movement, anatomical adaptation to the assigned function and appropriate mental capacity to learn, train and perform under pressure. It was never enough that wild species simply have a closely related group of animals that shared a uniform appearance. They had to run from their predators, fight for their hierarchal positions in the herd, maneuver themselves through an irregular terrain... in essence, have the physical attributes to survive. So whatever the function of a specific breed is, it should have this priority defined as well as establishing manners of putting those aptitudes to test.

Ironically, in some organizations performance has received too much importance. Many "breeds" are in fact registries that account for the genealogy of horses whose only requirement is to excel in a specific function. In 1791 just such a breed would revolutionize the horse world when it started its first General Stud Book. Of course I am referring to the Thoroughbred and it would become one of the most widely distributed of all purebred breeds. At the same time its specificity in an unsurpassed function would make it "an improver breed" that was used in the foundation stock for many other breeds that evolved from it. Unfortunately, the excellent example that the Royal Stud of Cordova gave us in the 16th century was now being sadly forgotten as this popular breed was created with an assorted population of horses that had total disregard for breed type.

Too Many "Breeds" are Simply Registries

The origins of the foundation mares in Great Britain were from a diverse genetic background. Racing probably started with the Roman occupation and continued with the influence of the speedy native Galloways and Irish Hobby horses. For over 665 years horses from Spain, Italy and Africa contributed **Southern Peninsular Horses, Barb** and **Turkmenian** horses to the British Isles. Between 1689 and 1730 the three "oriental" foundation sires named **Byerly Turk, Darley Arabian** and **Godolphin Barb** were used to give the final step towards a performance breed of incomparable speed. So in establishing a closed registry and the specificity of function the Thoroughbred breed complied with two of the criteria that in my mind defined a true breed. Unfortunately, the wide genetic variety of foundation animals was never narrowed down through objectives of a specified breed standard. The result has been a registry that has sorely lacked a distinguishing appearance and temperament.

The fact that such an unorthodox breed reached the pinnacle of prestige in the horse world did much damage to the many breeds that were to follow. That the Quarter Horse should rely so closely on a constant gene flow from the Thoroughbred would explain why it also gave so little importance to breed type. After 67 years the Quarter Horse breed evidences every type of conformation imaginable under the sun and clearly this only serves to give proof of the lack of genetic homogeneity that exists in those registered in the AQHA. That other breeds such as the American Paint Stock Horse, the Appaloosa and the Azteca depend heavily on this stock horse with an open registry, no singular breed type and a multitude of very diverse official performance events, only serves to point out how few stock horse breeds have abided by the traditional concepts of responsible animal breeding.

The Criollo breed on the eastern side of the Andes has not offered a much different history. The flat plains of the pampas have bordered the lands in Argentina, Southern Brazil, Paraguay and Uruguay; all were exposed to Dutch and Danish imports that arrived in Brazil between 1630 and 1654 and again in 1842. By 1806 the Thoroughbred had been introduced to Argentina and it was followed by coach horse breeds as well as various draft horse breeds. The registry of the native breeds that was started in 1918 after more than 100 years crossbreeding popularity, had such a wide array of horse types that it immediately created two opposing bands

of breeders. Some promoted 14.1 hand horses with straight facial profiles and others favored 15.3 hand types with extremely convex facial profiles, fallen croups and light manes and tails. In 1938 it was decided 70% of the horses were to be culled from the breed in order to establish an artificial representative of the regional native horses. The national registry was not closed to Argentine breeds until 1957 while it has remained open to the **Chilean Horse** breed. Although a definite breed type was put in writing in 1922 another quite different one was written up in 1928 but it was not made public until 1939 when more unanimity of criteria was obtained in the breeder association. Throughout the 20th century there have been drastic changes in the type of Criollo horses that have won the national halter competitions. Although the breed has made great strides in producing a more uniform appearance in recent years, its long history of change carries with it a very diverse genealogy.

Table II-2

First Breeds with Registries in the Americas

American Thoroughbred Register.....	1791
(composite breed, closed registry, no type adhered to, specificity of function)	
American Trotting Horse Register.....	1869
(composite breed, closed registry, no type adhered to, specificity of function)	
American Saddle Horse Register.....	1891
(composite breed, closed registry, specificity of type and function)	

Stock Horse Breeds of America

Chilean Horse Register.....	1893
(original breed 100% Iberian origin, closed registry, specificity of type and function)	
Argentine Criollo Register.....	1918
(composite breed, open registry, varied type, specificity of functions)	
Uruguayan Criollo Register.....	1929
(composite breed, open registry, varied type, specificity of function)	
Brazilian Crioulo Register.....	1932
(composite breed, open registry, varied type, specificity of functions)	
Appaloosa Horse Club Register.....	1938
(composite breed, open registry, original type not adhered to, multiple functions)	
American Quarter Horse Association Register.....	1940
(composite breed, open registry, original type not adhered to, multiple functions)	
American Paint Stock Horse Association Register.....	1961
(composite breed, open registry, specificity of type, multiple functions)	
Paraguayan Criollo Horse Register.....	197?
(composite breed, open registry, varied type, specificity of functions)	
Azteca Horse Register.....	1989
(composite breed, open registry, specificity of type, multiple functions)	

Note: composite breed is one that has been formed by utilizing other established breeds whereas an original breed has developed independently though native genotypes that have been molded to environment and function over time.

The Chilean Horse, a Proud Example of a True Breed

What I hope that has become clear to the reader by now is that the **Chilean Horse** is truly a unique breed of stock horse. Not only does it have the oldest registry of any stock horse in the Americas but many of the horses that were first registered had pedigrees that were known as far back as 1830. What is more, some of the horses registered in the breed descended from ranches that kept their own formal records from as far back as 1770. The breed type that the **Chilean Horse** representatives brought into their registry was one that had already been

determined over the centuries of use as a premier stock horse in mountainous terrain. The selection for stock horse abilities date back to the 16th century and for last 160 years the **Chilean Horse** has been selected for a single cowhorse event which is the final objective of the great majority of the purebreds that are still bred today.

As the following chapter will attest to, there is a consistent breed definition that was molded by the historical, political and cultural events you have read about in Volume I. The information you are about to read will expose you to a horse like none you have ever seen, that gave birth to an unimaginable stock horse sporting event, while progressively defining a singular cowboy culture. These unique particulars about the **Chilean Horse** breed go beyond interesting and full throttle into an eye opening experience about a breed that has participated in open range cattle production for over 300 years. What you are about to read will turn much of what you thought you knew about cowhorses upside down and it will no longer permit you to take for granted many aspects that make up your own stock horse culture.

Hopefully this introduction has made you feel some discomfort in belonging to a time period where we have forgotten what conscientious horse breeding is all about. With a bit of luck I have made you aware of the lack of knowledge that has allowed the inappropriate use of the term “breed” for any kind of genealogical registry. Now, I want you to sit back and learn about an incredible “true breed” that honors the requisites of a closed registry, defined breed type and specified function that would have made Don Diego Lopez de Jaro proud. Moreover, the uniqueness of the **Chilean Horse** provides us with all the attributes mankind has long admired in nature, where we have looked to emulate the consistency and predictability in wild horse herds.

As stock horsemen/women you owe it to yourselves to learn about the oldest cowhorse breed of America. In doing so you will also learn about one of the oldest cowboy cultures of the Western Hemisphere, one of the most unusual equitational seats to chase a cow, one of the classiest collections of tack and garb and one of the most demanding stock horse events on the face of this earth. It is a wonderful story, which in the very least will delight you with its novelty and intrigue and maybe... just maybe, it will ignite a spark in you to start riding and breeding this little horse with the big heart as it makes its entrance into international competition. I am convinced it is sure to harvest many notable accomplishments while earning the respect of all whose first impression belittled its competitiveness.



Figure II.7
Criadero La Espuelita's Champion Halter Mare Victoria