



# GYPSY VANNERS & Breed Formation

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**“Breed”** has different definitions in different settings. Some horse breeds are as loosely defined as the Pinto, which is pretty much any spotted horse of any size and genetic background. A step away from this are “breeds” such as the Palomino, which must be of an appropriate color and are also limited to a certain range in the overall conformation, size, and breed background of acceptable animals. A more restrictive concept is that breeds are made up of animals that resemble one another distinctively enough to be recognizable from other horses, and that these reproduce the same type when mated to one another. This definition implies a level of genetic uniformity that provides predictability to the breed. Older breeds with closed herdbooks fit the model here, such as Thoroughbreds and Arabians. The challenge is that some unregistered horse populations also fit this definition, such as the local Colonial Spanish horses in the USA.

In this restricted sense, breeds result from a combination three factors: foundation, isolation, and selection. Understanding these three can help in figuring out which horse populations fit here, regardless of their registration history.

**Foundation** refers to the original animals that went into the population. In most cases, for older breeds, this was just as likely to be accidental as deliberate. A decent equine example is Spanish Mustangs and other related Criollo breeds in the Americas. Their Iberian foundation was simply due to the fact that this is the type of horse accessible from the ports of debarkation during the exploration and conquest of the Americas.

Isolation follows foundation, and is the absence of additions of outside breeding into the population. This varies considerably from breed to breed, but for a breed to establish itself as a genetic resource the level of isolation should be very high, to avoid constant change of the underlying genetics.

Selection is the process of allowing some animals to reproduce, and preventing others from reproducing. This shapes the genetics of the breed by favoring some combinations and penalizing others. Most equine breeds are selected for a specific look (Arabians) or function (sport horse Warmbloods, racing Thoroughbreds). Selection is a powerful way to radically change a breed from within. Breed type fluctuates depending on the selection goals of the breeders, and changes in breed type always



change the underlying genetic material that produces the final type.

The various concepts of “breed” can be evaluated against the importance of foundation, isolation, and selection. The one extreme of “anything goes,” such as with Pintos, results in little predictability when the animals are mated one to another. This may or may not actually matter to breeders, who might be perfectly happy with the proportion that do indeed turn out “right.” The other extreme of “absolute closure following foundation” allows for better predictability. This sounds attractive, but with smaller populations it can pose its own risks of inbreeding and the decline that can result from it.

### LANDRACES

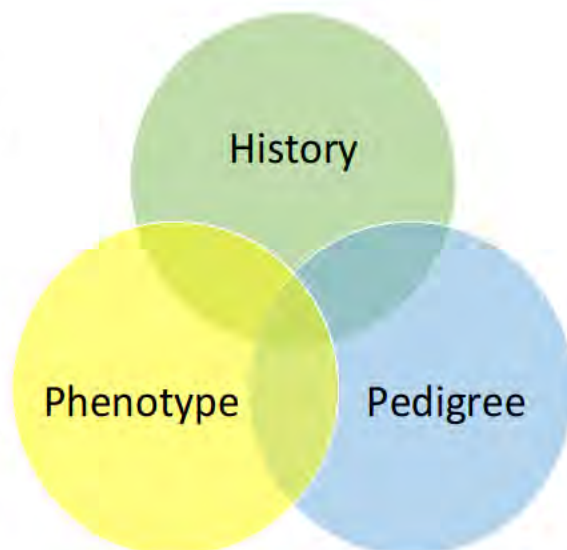
Landraces are a specific type of breed that presents unique challenges to breeders. Landraces spring from a local area. They are bred for local use, and their consistency comes from the usual combination of foundation, isolation, and selection. The Gypsy Vanner fits into the landrace breed classification. Landrace conservation depends on a few steps including discover, secure, and sustain.

The discovery phase brings with it the excitement of encountering something that has been previously overlooked. A part of this step is to develop a breed definition for the landrace. In general it is best if this is descriptive rather than prescriptive. The discovery phase nearly always involves encountering herds of the breed type owned by different individuals. This is the foundation of the resulting breed, and this step is an important one. Many landraces that go down the path of organizing a breed society and herdbook do indeed include various foundation herds, but then at some point decide to cut off the future inclusion of any new additions. This assumes that the entire breed has been located, which often is not the case. By their very character of being local, it is common for excellently typical animals and herds to be overlooked in the initial discovery phase. These need to be included into the breed for the heritage

The three pillars of breed investigation are: phenotype, history, and pedigree (genetic analysis).

The Gypsy Vanner Horse is a landrace. Landraces and local breeds existed before the standards that describe them.

Therefore, history is important; phenotype is important; and pedigree is important.



as well as the genetic contribution they can make to conservation efforts.

Ideally a landrace herdbook is open to new discoveries, but any new discoveries must be consistent with the type and history of the animals already accepted in the past. The goal is to include EVERY member of the breed, while excluding EVERY horse that is not a member of the breed. Including all animals that qualify will also run the risk of including some marginal animals, but excluding all non-qualifying animals will likely also exclude some that should indeed have been included. The degree to which a landrace should be “open” or “closed” depends on a host of factors, including breed society goals and desires.

### GYPSY VANNERS

The Gypsy Vanner is a landrace breed without a long history of registration. That does not mean it is not a breed, because many isolated and highly uniform horse breeds are not registered at all.

The concept of “breed” is variable, and successful examples of horse breeds can be found all along the continuum of fully closed and fully open gene pools. While measures of success can vary, brisk demand is certainly one of those, and is typical of a host of breeds along the continuum. The difference in the extremes of the continuum is the predictability of the genetic pool,

and the importance of this varies with different breeders.

### BREED TYPE

One of the main issues of breed definition is “type,” or the overall conformation and style of a breed. This is not only physical, but also (importantly) mental, and the mental aspects of this are especially difficult to define. Breed type is not trivial, because the type reflects the underlying genetics.

Guarding type can be tricky, and the show ring is not always helpful. In many cases the show ring rewards extremes rather than balanced animals. This is true in many breeds across many species, and if you have ever judged a show you know how difficult it is to not reward extreme animals. Extreme animals take breeds into strange places, and extremes of size can be especially damaging. A quick look at Arabian horses in photographs from 1900 and from 2000 will demonstrate just how radically breed type can change over time.

Consolidating the type of a breed can take different routes. One route is to closely restrict the foundation horses, limiting the foundation to a single type, and to related animals within that type. This generally works successfully to generate a reasonably uniform population in a relatively low number of generations. The second route is simply to focus on type, regardless of origin or



background. That can lead to a slower route of consolidation due to unforeseen variation in the background of the foundation animals.

Type is important, and over time it does tend to drift. Breeders do need to be careful to value original, functional types and not be overly swayed by more refined or delicate types, because these can have negative effects. One example would be selection for small feet in Quarter Horses, contributing to the high incidence of navicular disease in that breed. A second is more subtle, the selection for short, pretty heads in Dutch Warmbloods led to foals not being able to graze while standing square. They needed to put one foot forward, one back in order to graze. The result is a very unbalanced “handed” horse due to most foals consistently favoring either right or left as the foot to put forward in order to graze.

A second example refers to size. Argentine Criollo horses are valued for their prowess in long-distance racing over multiple days. In the 1960s or thereabouts, some breeders decided that the traditional height (usually 13.2 to 14.2) was too short to be pretty, and began to select taller horses. Fortunately, they soon noticed a decline in traditional athletic ability and returned to the traditional size. The key here is that drift in type can be tempting and appealing, but nearly always changes the underlying breed package. Size changes can be especially damaging, depending on the function of the animals.

If the original type was a rugged functional horse, that can sometimes suffer in the show ring, because show rings nearly always want extremes. The main question is “how important is breed type to breeders,” and then how to reward and maintain the breeding stock with the highest level of breed type. The original idea behind the breed was not “anything goes,” but rather a specific package of looks, origins, and abilities. That is the core of the breed as it develops and goes forward.

Included in type can certainly be color, and this is controversial with various breeders. At one extreme some would favor the breed all being black and white tobiano with a blaze face. This is common in the breed, and may indeed be the most common color. Others would cast the net more broadly and include anything and everything. Neither approach is inherently wrong,

as long as the underpinnings of type and foundation are there to support all that variation. While variation can be brought in from crossing outside the Vanner, it is equally true that black and white can hide a wide range of variation that can pop up in succeeding generations. Variation can either be tolerated, celebrated, or eliminated. Elimination is obvious, and can be accomplished by registry procedures or by breeder choice. Tolerated is likely fairly simple, with the outlier colors allowed in but not experiencing any undue popularity. Celebration is a bit more debatable, because if the odd colors become popular simply due to their rarity, then the overall type may suffer as color becomes the target of selection rather than overall type.

Evaluating type and overall quality is a challenging task and requires ability and study. Breeders of animals with unique superficial characteristics (black and white horses with feather would be a good example!) are especially prone to ignoring the underlying complexity of animal evaluation. The core of the horse is its conformation and temperament, and this can

be a difficult point for outsiders to appreciate.

#### PEDIGREE

Pedigree, if used to mean “ancestral background” can also be important, and certainly does interact with breed type. In many breeds, horses of certain type also share a common genetic background. The reason that this can be important is that knowing the background of the horses can help to sort out ways forward to



*Darby Dolly, daughter of The Gypsy King, with Bat, daughter of Romany Rye, first two Gypsy Vanner Horses to arrive in the USA. Imported by Gypsy Gold farm 1996.*

consolidate the type and not lose it.

For example, at least to my understanding, the usual “drum horses” in the United Kingdom are the result of many generations of mating tobiano paints back to Shire horses, keeping your fingers crossed, and hoping for a spotted foal. This background, if taken back many generations, indicates that Drum Horses (at least many of the English ones) are nothing more than tobiano Shires, regardless of their lack of registration in the Shire herdbook. As a result, it is perfectly in keeping with the pedigree of Drum Horses to continue to allow mating to Shires. Interestingly, in the United States the preferred matings is spotted x Clydesdale, resulting in Drum Horses being different in the two countries. Different outcross, different final result.

Unfortunately, getting pedigree information in an unregistered, or newly registered, horse population can be challenging. "Horse trading" has its sketchy reputation for a reason, and not all information put forward by a seller is necessarily true. Sellers tend to tell buyers what they want to hear, because that helps sales. This is where close evaluation becomes useful, because a close evaluation of the animal before you and its stated pedigree may or may not coincide!

According to Gypsy Vanner history, the Thompsons pursued a certain type of horse, with a certain background. This indicates that the breed type springs from a limited number of specific and targeted breeding programs. While this is positive, it also has to be acknowledged that each and every breeder is going to stamp a herd somewhat differently, and an important question is whether or not the Thompson's search and resulting decisions were as inclusive as others might now desire. On the positive side of this question is that the Thompson horses are consistent by both type and pedigree. A potential negative is that this sample (26 horses or so) is not large enough to go many generations in to the future (this is a question, not a conclusion!).

History suggests that "Thompson type" horses could be found in the breeding programs of around 15 families with good, deliberately bred horses of that original type. Descendants of those likely number some 1500 horses. This is the core of the breed, but may not be the entire breed for a host of reasons outlined above.

Another important question is "are horses of appropriate type available from

outside this foundation, and what to do about them?" Should they be included? Should only certain backgrounds be included? Who decides? How accurate are the backgrounds anyway, once the price becomes high? Overall breed type and definition become important here, especially as regards color variation and overall style of horse.

One useful tool in this pursuit of the breed is to trace foundation influences in pedigrees. This requires investigation into the background of imported horses, and that background may well not always be accurate. A good example is the three foundation sires of the Thoroughbred, usually listed as an Arabian, a Barb, and a Turk. In reality they were most likely



*Love Biscuit, aka Doc, 5 Star GVHS Evaluated buckskin tobiano stallion, owned by Janet Adams.*

all three Turcoman horses. But, to the degree possible, tracing foundations back to individual herds or breeders is useful, because it provides a glimpse into the genetic diversity of the original breed. In the case of the Gypsy Vanner, identifying the foundation influence may be nothing more complicated than noting the family producing the imported horse. This is still useful, especially if some of these families had breeding programs that were separated from the other families. Better, though, is to track horses back to long-standing breeding programs aimed at producing a consistent type and style of horse.

The goals to move forward can tug in different directions. Striving for a very consistent type that springs from only a handful of foundation (family) sources can yield a population that is too small and too interrelated to move forward for very many generations without inbreeding. Inbreeding is a very real threat to long-term vitality and viability of the horses. Casting the net more widely can help to counter the long-term threat of inbreeding, but can come at a risk of diminishing uniformity and predictability.

There are strategies to move forward, regardless of the present situation within the breed. One is to leverage the current successful evaluation program to influence breeding decisions. The goal should be to constantly improve the type and style of the next generation, especially for the horses of weaker type. This is one facet of the gem the breed is trying to create. The second is to make sure the genetic structure of the breed is sound going forward, and this can be done by tracking pedigrees and foundation sources. Of special

use and value to the breed are those horses of strong type and style that come from otherwise rare foundations. These "open up" the next generation so that inbreeding can be kept low on into the future.

The overall key is that type is important, foundation is important, pedigree is important, and all of these need to be considered and balanced as individual breeding decisions are made. And, those individual breeding decisions need to be closely considered as to their influence on the overall breed.