

# Equine Behaviour

## through time

By Sid Gustafson

**H**orses began their journey through time 60 million years ago. Three million years ago the footsteps of humans were fossilised next to the hoof prints of horses, suggesting that humans have been contemplating horses for some time. But, it was not until perhaps ten thousand years ago that human societies began the dance of domestication with the horse. Over thousands of years, perhaps tens of thousands of years, the horse herds gradually merged with human societies. A shared language described by contemporary scientists as kinetic empathy, a language of movement, and similar compatible social structures facilitated the merging of the two species.

There is archaeological evidence that humans had formed an intimate and intermingled relationship with horses by 5,500 years ago in Botai, where the horse folk stabled and milked horses, and probably rode them. Horses provided these early horse folk with much of the essentials they needed for group survival. It is interesting to note that large domestic dogs lived with these early horse folk as well, but no other domestic animals. To understand the domestication process is to enhance our appreciation of equine behaviour.

Horses apparently became domesticated because they found a niche with people long ago on the steppes of Kazakhstan. Both trained and wild horses existed in this realm south of Russia and west of China. A population of horses more amenable to captivity and taming than their wild counterparts likely provided the stock for the first horse societies. Rather than plucking horses out of the wild and taming them, it is thought that over tens of thousands of years a relationship developed in a shared niche.

By the early 20th century, the closest living relative to *Equus caballus*, the Tarpan, had gone extinct. No truly wild horses remained. All of today's caballine horses are descended from an original, and possibly separate, population of horses that were amenable to being tamed and selectively bred by humans. It appears to have taken tens of thousands of years to fully domesticate the horse and to eventually attain control of breeding.

Breeding initially consisted primarily of selection for docility and amenability to captivity, and later milking, riding, driving and stabling. In contemporary culture, selective breeding often involves selecting for the best athlete or attempting to select for the best athlete. In addition to genetics, this article will focus on the socialisation aspect of raising horses, and portray the importance of nurture on the eventual behavioural and physical health of the adult athlete.

No longer does human society depend on horse society for survival, as it once did. Although still bred for trainability, more and more horses are today bred for specific performance goals. These days, horses provide people with entertainment, recreation, sport, esteem, performance and pleasure, and, as ever, but in fewer and fewer reaches, utility. Other than stock folk, few others rely on horses to sustain a pastoral livelihood. This new role of the horse requires renewed studies and considerations of equine behaviour.

Horse folk and veterinarians alike remain enticed and intrigued by horses. The science of equine behaviour attempts to appreciate just who horses are and from the horse perspective. To appreciate the horse perspective, behaviourists explore the evolution and domestication of the horse.

*continues next page...*





Photo by Sophie Barrington

We continue to find ourselves attempting to appreciate how the current human/horse relationship came to be, so as to facilitate a smooth, trouble-free relationship with our horses. As well, appropriate breeding, socialisation and training of horses helps minimise behavioural wastage.

To understand where our relationship with the horse is headed, veterinary behaviour practitioners attempt to see where the human/horse relationship has been, and to subsequently help modify and refine the relationship to favour the horse.

Humans continue to live with horses and continue to learn from them, as all horse folk have through time. Now, however, much less time is spent with horses and learning from horses, so contemporary practitioners must research and make themselves aware of the behavioural principles that were once gleaned from a near-constant exposure to horses through all stages of their development.

We study the evolution and domestication of the horse to better help us appreciate the horses we have in our hands today. Evolution and domestication provide a basis for the

understanding of equine behaviour. Man has attempted to refine his relationship with the horse ever since the first kid grabbed a mane and swung atop a horse. To become a partner with the flighty, powerful (but trainable and tameable) grazer of the plains remains the horse folk goal.

Appreciation and sensitivity to all of our caballine horses' evolved preferences results in optimum health and soundness and, therefore, optimum performance. A horse cannot be coerced to win the Kentucky Derby. The people must work with the horse and from the horse's view. If we understand equine behaviour, we understand what makes horses do our bidding, and do it willingly and well. To this day, horses seek to appease their domesticators, much as they appease others in horse societies and herds. Horses are willing learners. This learning behaviour is a result of evolutionary development of a complex social lifestyle. More recently, selective breeding has influenced equine behaviour.

The nature of the horse is enhanced by the horse's social development. Appropriate socialisation with other horses in the herd pasture setting best prepares horses to be subsequently trained by horse folk. Pastured horses train

“Appropriate socialisation with other horses in the herd pasture setting best prepares horses to be subsequently trained by horse folk. Pastured horses train up and learn more efficiently than stabled horses. In the latest evolution of horsemanship, the area of socialisation and stabling has not received the attention it deserves.”

up and learn more efficiently than stabled horses. The appropriate, efficient and considerate training of horses is highly dependent on their previous socialisation by the dam and other horses, as well as their current husbandry situation. Trainability is heavily influenced by the intensity and type of stabling and husbandry, not to mention the area of training. In the latest revolution of horsemanship, the area of appropriate socialisation and stabling has not received the attention it deserves.

Horses are a quiet species. They prefer calm and learn most efficiently in tranquil, familiar settings. Horses must know and be comfortable and secure in their environment to be able to learn as horse folk hope them to learn. Horse folk all know what we want from our horses, however, in this article I shall present the science of what our horses want and need from humans - the science of equine behaviour.

Equine behaviour is not only the basis of training and trainability, but also the very basis of equine health. To succeed in our endeavours with horses (whatever our equine goals or pursuits), our horses are best served to receive what they preferentially need and require behaviourally, nutritionally, socially, physically, environmentally, visually and metabolically. In order to properly care for horses and successfully teach and train horses, horse folk must first know horses. They must know who the gregarious grazers of the plains are. They must know how to properly socialise horses through their growth phase to ensure that their horses grow up to be horses. Horses raised out of the herd context are vulnerable to behavioural insecurities later in life. Most behavioural wastage is due to improper socialisation and husbandry.

Rather than being dissimilar to us, horses are much like us. In this article, I attempt to clarify humankind's social and communicative similarities to horses. As with people, strong social bonds develop between individual horses and groups of horses. This herd nature results in intense social pair and herd bonds. Horses need other horses. Horses require other horses for security, comfort, and behavioural health. Horses need friends throughout their entire life - first their teaching mother and then their teaching herd.

Today's domestic horse needs horse friends and human friends, although horses do retain the wherewithal to survive just fine without horse folk. Horses need friends so greatly and constantly that horses allow horse folk to substitute as friends. This is possible because man shares a sociality with domestic horses. We speak their gesture language and horses speak ours. We share a language of movement and language described as kinetic empathy.

Domestic horse is no longer human prey, and has not been for thousands of years. Horse has been brought into the circle of humanity, along with a dozen or so other domesticates that share an adequate sociality with mankind to be allowed to develop a mutually-beneficial relationship. Horse and man have co-evolved together for thousands, if not tens of thousands, of years. Each knows the other well, and horses have proven to know the nature of people more consistently than people know the nature of horses. It is paramount that horse folk appreciate the social and communicative nature of horses and deal with horses in a fashion that is appropriate to their long-evolved social nature.

*continues next page...*

In addition to adequate and appropriate sociality and socialisation, the importance of the need for near-constant motion is paramount to proper application equine behaviour. Locomotion is essential for horse health. In natural settings, horses move about grazing, playing, trekking and a variety of other movements, as much a two-thirds of the time.

Abundant movement provides constant connection and communication with the other horses in the herd and, as well, sustains the overall and physiologic functions of the horse. Plentiful locomotion activity facilitates behavioural expression and maintains physiologic health.

An essential interdependence exists between horse health and locomotion. Horses evolved to be near-constant walkers and grazers. Horses did not evolve to be confined in stalls and stables, but rather evolved to live in open, herd settings. Despite domestication and selective breeding for docility and captivity, horse health remains dependent on locomotion. Locomotion is inherent to grazing. Locomotion is inherent to digestion, to respiration, to metabolism, to hoof health and function, and to joint health.

If horses are not allowed to move about freely and socialise with other familiar horses grazing and chewing as they evolved to do, they become metabolically vulnerable and subsequently troubled. Horses deprived of locomotion and constant forage ingestion develop strategies to maintain the motion and oral security they feel they need to survive. When horses are deprived of adequate and abundant locomotion, they develop strategies to keep themselves and their jaws moving, as is their essential and inherent nature. Horses deprived of friends, forage and locomotion are at risk to develop stereotypies to provide themselves with the movement they need to survive.

The primary premise of equine behavioural health is this: in natural settings, horses walk and graze with other horses two thirds of the time. They take a step and graze, then another step or two, grazing and moving along, always observing their surroundings, grazing while in touch with other members of the herd unless playing, occasionally dozing or sleeping, but only under the secure and established watch of others. Horses that are not afforded the opportunity to graze and walk much of the time take up with behaviours to replicate essential locomotion. When stabled, some of the horse's long-evolved survival behaviours become unwanted and unwelcome.

Horses require friends, forage and locomotion to stay healthy and productive. Additionally, horses need clean air and abundant space for optimum health. In rural settings, these requirements are easy to fulfil. Open grasslands and steppes are the geography and environs from where the most recent predecessors of *Equus caballus* evolved. The further we remove horses from their social grazer of the plains preferences, the more health issues develop that require treatment and management by veterinarians and horse folk.

“Despite domestication and selective breeding for docility and captivity, horse health remains dependent on locomotion. Locomotion is inherent to digestion, to respiration, to metabolism, to hoof health and function, and to joint health.

Stabling, stalling, hospitalisation and transport all deprive horses of their preferences for friends, forage and locomotion. Although convenient for horse folk, stabling is inconvenient for horses. Stabling limits the resources of friends, forage and locomotion. Stabling creates bad air, and allows pathogens and parasites to travel easily between horses. When stabling is required, horses are best served to have their natural needs re-created in the stable.

The air must be kept clean and forage must be always available. Opportunities for movement and simulation of grazing with friends must be provided in abundance. Once our horses' behavioural needs are understood, appreciated and fulfilled, the learning and training can begin. Enrichment strategies re-create the needs of stabled horses. Horses deprived of friends, forage and locomotion are not able to learn as well as appropriately socialised horses. Those strategies that best replicate the grazer of the plains scenario promote the best health, learning and performance from horses.

Locomotion and socialisation are essential for both horse health and healing. Husbandry, healing, and rehabilitation nearly always benefit from appropriately managed locomotion strategies that are constantly tailored to the horse's healing process. Locomotion is required not only for normal healing, but for normal digestion, respiration, hoof health, circulation and all other physiologic functions of the horse.

Stall rest is at the expense of many systems, especially the hoof and metabolic systems. Digestion and respiration are compromised by confinement and restriction of movement. Metabolic, digestive, circulatory, hoof health, musculoskeletal and nervous, systems, as well as the all other systems and functions of the horse, are dependent upon adequate and appropriate locomotion for normal functioning and/or healing.

For horses that are hospitalised, paddocked, stabled and corralled, active implementation and re-creation of the social pasture setting is required to optimise and maintain health and promote healing. Medical conditions are apt to deteriorate in the face of the deprivations of forage, friends and locomotion created by stabling and hospitalisation. Re-creation of a natural setting in the stall is the biggest challenge veterinarians face in maintaining the health of stabled horses.



Photo by Sophie Barrington

Stalled horses not only heal poorly, they learn and train poorly. Locomotion, social and forage deprivations create problems for horses. In addition to appropriate medical treatment, veterinarians and stable managers must creatively provide horses with abundant socialisation, forage and locomotion to maintain health and facilitate healing within the parameters of acceptable medical and surgical treatment. Restriction of locomotion to facilitate healing necessitates the implementation of enrichment strategies to simulate locomotion, including massage, passive flexion and a wide variety of physical therapies.

Horses also heal horse folk, and those horse folk that implement these healing strategies often experience a sense of healing themselves it seems. The human/horse bond runs deep. Domestication of the horse is a co-evolving evolutionary process. The human perspective is being shaped by the horse's perspective these days. Appreciation of the science of equine behaviour and equitation is encouraged to support the renewed interest in equine medicine and welfare, and to facilitate the veterinarian's role of providing horses with their essential needs.



**ABOUT THE AUTHOR:** Sid Gustafson is the equine behaviour instructor at the University of Guelph, Canada. In addition to teaching, he practices veterinary medicine in Montana, USA. Dr Gustafson graduated from Washington State University with a Doctor of Veterinary Medicine degree to specialise in equine sports medicine. His subsequent concern for the mental and physical health challenges that stabling and confinement created for horses led him to the study of equine behavior. Sid also writes for The New York Times and is the author of 'Horses They Rode'.

### Recommended Reading

- Chyoke A, Olsen S & Grant S 2006 Horses and Humans, The Evolution of Human-Equine Relationships, BAR International Series 1560, Archeopress, England, ISBN 1 84171 990 0
- Magner D 2004 Magner's Classic Encyclopaedia of the Horse Edison, New Jersey: Castle Books
- McGreevy P 2004 Equine Behaviour: A Guide for Veterinarians and Equine Scientists Philadelphia: Elsevier Limited. ISBN 0 7020 2634 4
- McGreevy P, McLean A 2010 Equitation Science, Wiley Blackwell, UK, ISBN 2009048321
- McGreevy PD et al 2007 Roles of Learning theory and ethology in equitation Journal of Veterinary Behaviour 2:108-118
- McGreevy PD 2006 The advent of equitation science The Veterinary Journal 174:492-500
- Waran N, McGreevy P & Casey RA 2002 Training Methods and Horse Welfare in Waran N, ed The Welfare of Horses, Dordrecht, UK, Netherlands: Kluwer Academic Publishers, p151-180