Why is my horse doing that and what can I do about it?

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In aid of Lluest Horse and Pony Trust
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Contents

Evolution of Natural Behaviour

Evolution is a constant process of natural selection. Over 54 million years, horses have been shaped into a highly social, single toed, grazing animal that is predated on by large carnivores.

Equus emerged approximately 4 million years ago in the *Pliocene.* The result of climate change, the Earth shifting from a warm, wet climate to a drier, cooler one that favoured grasslands over forest and swamp.

This produced a grazing and browsing herd animal that defends itself primarily through flight: running away together without colliding into each other – think of horses running together as being like a flock of birds, but running on a surface instead of being in a more 3D space.

It's important for horses to live in a group – more eyes, more alarm systems. But horses must be able to get on with each other too; without stress.

Horses other needs include the need to eat almost continuously. Grass is a low energy food source that is fermented to fatty acids by microorganisms in the horse's gut. Eating a variety of herbage enables horses to balance their diet as different plants root at different depths, so have different mineral balances as well as different levels of other nutrients.

Being fuelled by internal fermentation processes enables horses to stay warm very easily, they minimise heat loss in winter by growing a dense coat, and turning their backs or heads to the wind. They soak up the warmth of the sun by standing broadside to it when the weather is good, and huddle together in groups when challenged by horse flies or very harsh weather.

Their sleep requirements are small, they nap for around five hours a day, split into several short snoozes. They can only get dream (REM) sleep by lying flat out. A secure horse is happy to do this.

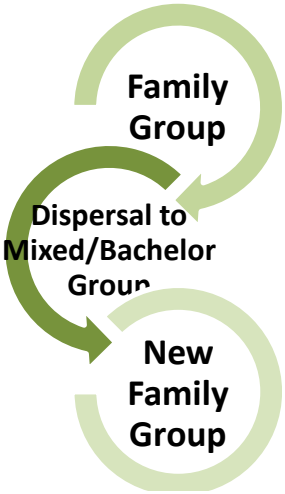
Social Lives

Friendly Behaviour
Standing in close proximity: *"drinking in each others' smell"* (Lucy Rees)
Touching
Mutual grooming
Social play
Socially facilitated behaviour – coordinated rest, grazing, travelling

Very important to stick together after any conflict

Aggressive behaviour
Visual threats to bite and kick are more frequent than overt fighting
Happens in response to irritation and frustration
Is part of competitive behaviour – for mates or access to resources
Prevents collisions!

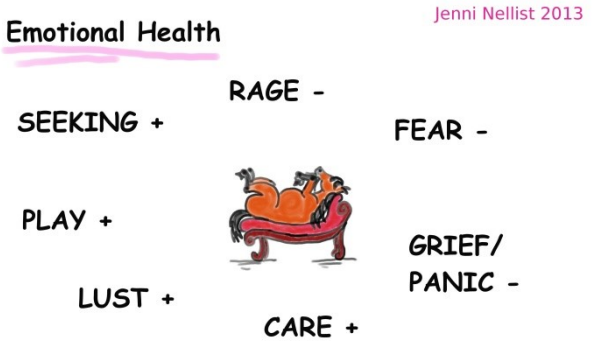
Licking and chewing behaviour follows aggressive behaviour – in aggressor and victim



Emotional Lives

Like all mammals, horses have the basic neurocircuitry for an emotional life. Information from the body and the outside world reaches the lower, subconscious reaches of the brain, the *limbic* system.

Threatening stimuli are acted on swiftly to enable the horse to survive first and think later. It is the interaction between the limbic system and the more evolutionary recent part of the brain, the *cortex* that brings the emotions to the conscious level and allows a certain degree of thinking about them.
Emotions are powerful drivers of behaviour, rational thought, not so much. This is particularly the case in horses compared to people, as their cortex is not as developed compared to ours.



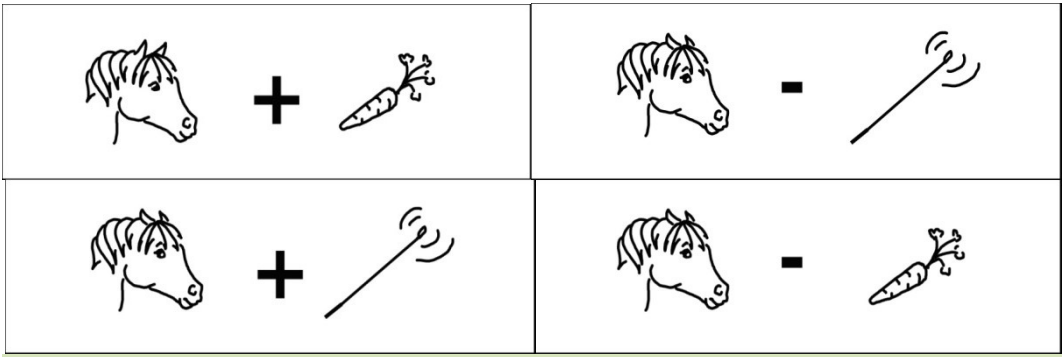
Panksepp's 7 basic emotional systems that all mammals have in common Panksepp (1998) Affective Neuroscience

The late Jaak Panksepp identified neurological circuits to do with feeling energised about SEEKING for rewards and solutions, feeling RAGE when behaviour is frustrated, FEAR when threatened, GRIEF/PANIC when isolated or on the loss of a loved one, feelings of secure bonding when one is CAREd for or when CAREing, LUST over (potential) sexual partners, and great delight in PLAY. How frequently certain emotions are experienced affects the horse's mood state over time. Naturally positive emotions promote positive mood and resilience against emotionally negative situations.

Motivational Lives

Carrots and sticks that give horses the reasons for their behaviour are related to their basic need to survive. Horses are drawn towards being with other horses, finding enough to eat, maintaining the integrity of their skin and other bodily systems, and avoiding pain and fear.
In a functional analysis of behaviour the aim is to identify the trigger for the behaviour – what made the horse feel they had to do that behaviour then – and outcome of the behaviour. Did the horse gain something, or escape or avoid something?
This can be simplified through the lens of *associative learning*:
Like Pavlov's dogs, horses learn the signals for significant events, such as your car arriving, your going to the feed room, fetching them the bucket and so on. Once the horse recognises the signals he can predict what will happen next and change his behaviour to ready himself and deal with what happens next.

Horses are also *instrumental* in the outcomes of their behaviour. *Reinforcers* are outcomes that motivate the horse to repeat behaviour again – like moving forward from the leg provided the leg is released ("negative reinforcement"), or coming to the gate to wait for you and your head collar that leads him to the food bucket("positive reinforcement").
Punishers are outcomes horses don't like to have repeated. Not getting brought in to be fed anymore tends to reduce standing at the gate behaviour ("negative punishment"). Legs that keep kicking even after the horse has moved forward tend to teach horses to go slower because forwards movement doesn't make the leg stop("positive punishment").
When a horse does something, ask yourself, "what's in it for the horse?"



Diagnosis of Behavioural Problems

Detective process of elimination, being aware of the possible reasons for the behaviour using Niko Tinbergen's 4 Questions of Ethology as a general basis:
What is it for? The utility of the behaviour, a functional analysis.
How did it develop? How this horse became predisposed to this behaviour and how it started.
How did it evolve? Was there cultural transmission over generations, what other selection pressures worked upon it?
How does it work? A multilevel analysis of the mechanics of the behaviour, drilling down to the molecular level and beyond, to include the nervous system and its organisation.

Then examining the behaviour with the following questions developed by leading clinical animal behaviourist, Daniel Mills:
What is the environmental and social context of the behaviour?
What is the horse's (emotional) arousal level?
What is the goal of the behaviour, from the horse's point of view?
What is the horse trying to communicate?

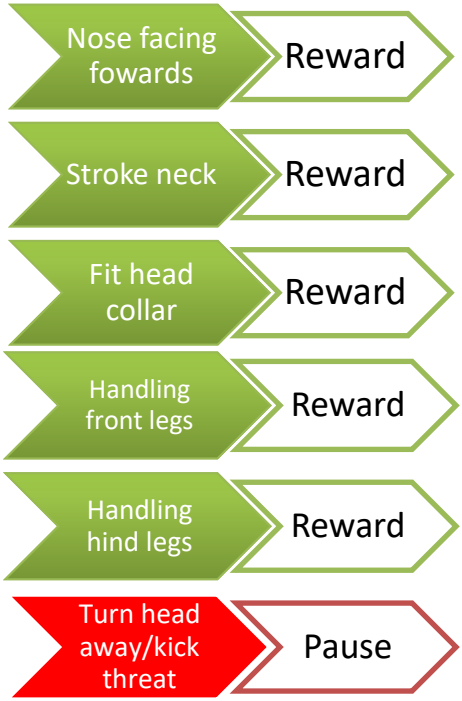
Case Study: Kicking

ABC of behaviour:
Antecendent (trigger)
Behaviour
Consequence

Background:
M, 22 month old warmblood filly
Recent leg injury and hospitalisation.
Became depressed and was fractious, kicking out during treatment.
Led to IV sedation.
Given oral sedative at home but ineffective

Diagnosis:
FEAR of pain
A: Human attention to leg B: Moving away then kicking C: Escape from handler
Relevant factors: Shock from injury and hospitalisation, and puberty

Treatment
Teach incompatible behaviour – all four hooves on the floor please!
Systematic desensitisation (phased reintroduction of procedure without provoking stress) and counter conditioning (teaching an opposite association e.g. approach to leg = food not pain) to all actions associated with treating the affected leg



Case Study: Biting

Background
F, 16 month old Welsh colt
Purchased at 6 months of age by current owner
Stabled overnight, turned out with other colt of same age during the day – kept in in bad weather.
Bites during routine handling
Diagnosis
RAGE resulting from frustration caused by confusion, built to FEAR of being hit
A: Person entering stable B: Biting C: Person backs off momentarily
Relevant factors: gender, puberty, management, owner agitation
Treatment
Increase turnout
Enrich stable
Introduce adult horse
Train behaviour incompatible with biting

Case Study: Loading

Background
P, 7 months old Irish Draft x Cob
Purchased at 6 ½ months
Not yet halter broken
Only one experience in the trailer with same age companion
Had virus and needed veterinary attention
No safe area for vet to visit or to pen in to herd into trailer
Diagnosis
FEAR of the trailer. Only very mildly afraid but illness exacerbated inhibited behaviour.
A: Trailer B: Avoid trailer C: Avoid further anxiety
Relevant factors: Lack of positive, varied experience.
Previous journey was only two weeks before, was two hours long and sensitised Puzzle to the trailer.
Treatment
'Fire-fighting' measures
Positive reinforcement taught stepping forwards to a variety of handlers and generalised to the horse trailer.
P's companion, Q was present and also participated in the same training at the same time

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Lluest Winter Crisis Appeal

We currently have 25 horses and ponies in our care and we need immediate support to see us through the winter months.
We must raise £16,500 in the next month to enable us to cover our feed and veterinary costs for the long winter ahead.

We urgently need your help to fund the following:
Hay/Feed – £5,700
Bedding £2,400
Water £1,000
Veterinary costs and medicine £5,000
Wormers and Egg counts £1,000
Farrier £1,330
Every donation, large or small will go towards helping ponies like Linus or Cloud both rescued from scavenging on wasteland after being dumped and now working as a proud Therapy Ponies to support vulnerable adults and youngsters develop confidence and life skills at Lluest.

With your help we can continue to make a difference and transform lives.