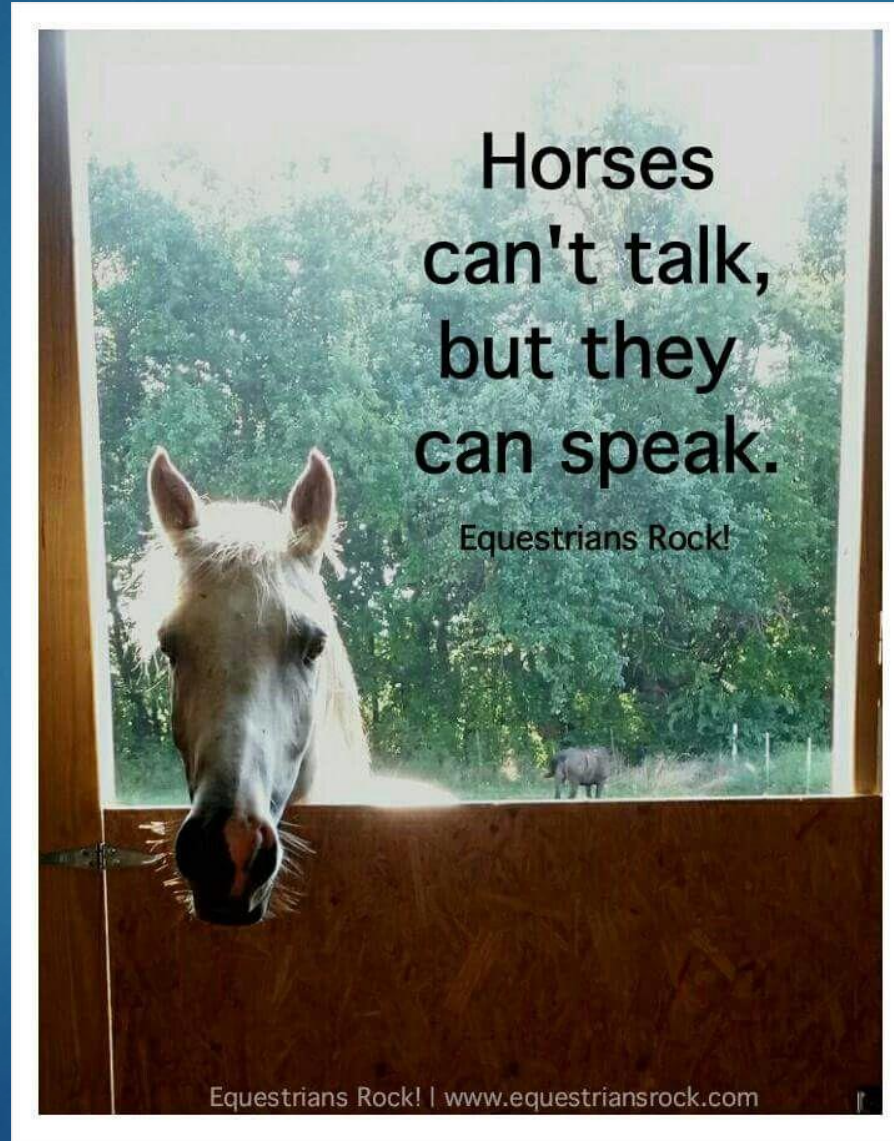


# Speaking Horse



Horses  
can't talk,  
but they  
can speak.

Equestrians Rock!

Equestrians Rock! | [www.equestriansrock.com](http://www.equestriansrock.com)

Accepting horses as sentient beings implies that we accept that they may experience many of the same feelings that we do.



Animals have a view that matters, and in our quest to provide a good life for them, we are obliged to consider this point of view



# Horses and Human Brains are Different

## Human Brains

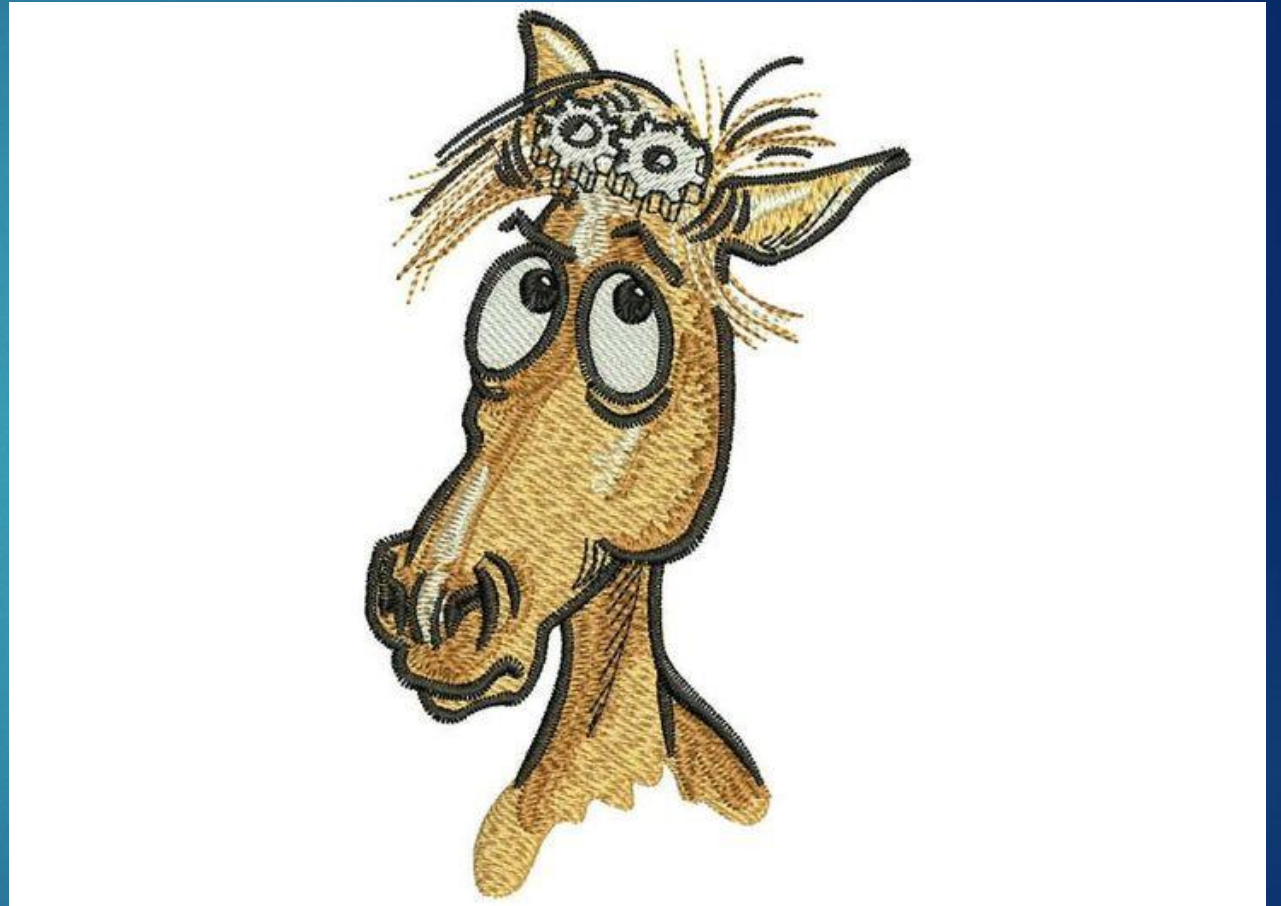
Humans think and plan, then take action

Rely on the frontal cortex to make decisions

## Horse Brains

Horses are hardwired to move in response to stimuli

Equine brains are engineered to sense and interpret the equine world



Resource: [HORSE BRAIN, HUMAN BRAIN](#)

By Janet L. Jones

# Umwelt

Refers to the perception of one's environment by one's own senses and nervous system

Even if two animals of the same species reside in the same environment, they can each experience it quite differently

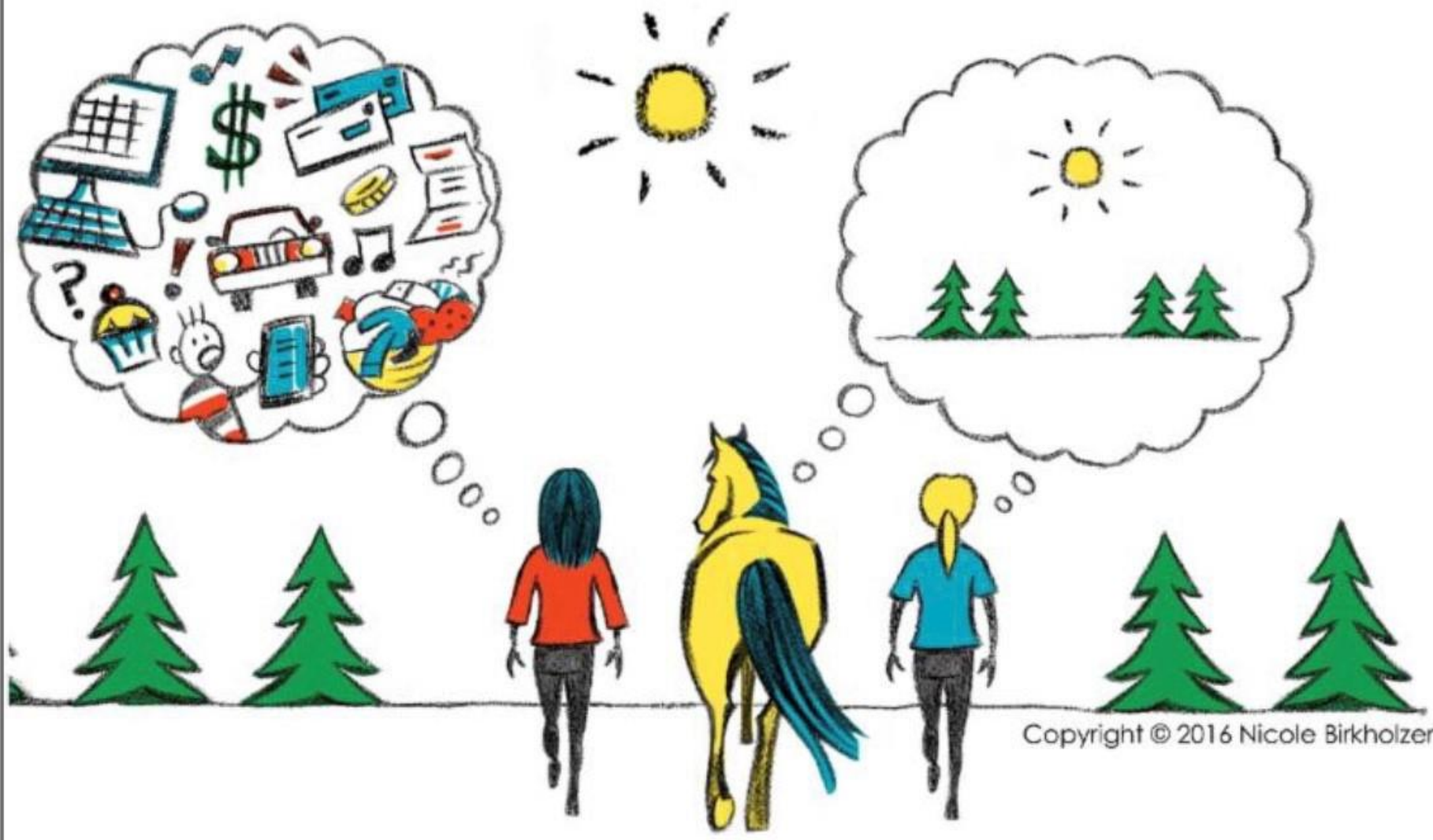


Jakob von Uexküll, a German biologist  
Enhanced Understanding of Horse–Human Interactions to  
Optimize Welfare



It becomes a challenge for us humans to step outside ourselves to imagine the equine umwelt but that does not mean that we should not try.





Copyright © 2016 Nicole Birkholzer



# The Horse's Brain



2.5 pounds

A key difference in the human brain versus the equine brain is the size of the frontal lobe

# Long Term Memory

Photographic memory  
of negative experiences





# Limited Short-term Memory



Am I Safe?

# In-The-Moment Reactions



Important to react within 3 - 10 seconds

PDF) Short-term Memory Testing in Domestic Horses:  
Experimental Design Plays a Role ([researchgate.net](https://www.researchgate.net))



Horses are prey, there is  
safety in numbers



Alone a horse must remain  
100% vigilant at all times

Horses have the same senses that we do but theirs are significantly more sensitive



They have great ability to sense emotions in those around them



# Hearing

Shaped to locate, funnel, and amplify sounds

Horse Auditory reaction time 0.140 to 0.160 seconds

Human reaction time 0.220 to 0.384 seconds

Horses respond to louder decibels than humans



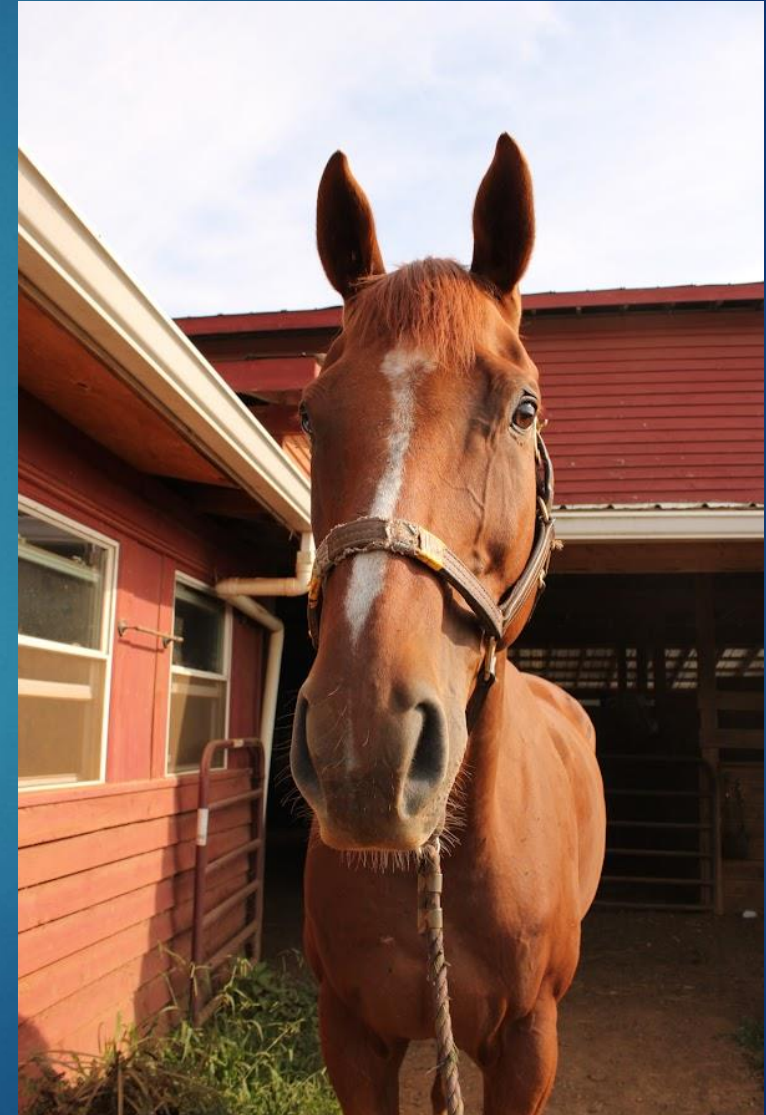
# Hearing

Hearing is better and highly directional

Rotate independently for 180 degrees

Horses understand human emotion from tone

Ears tell a story



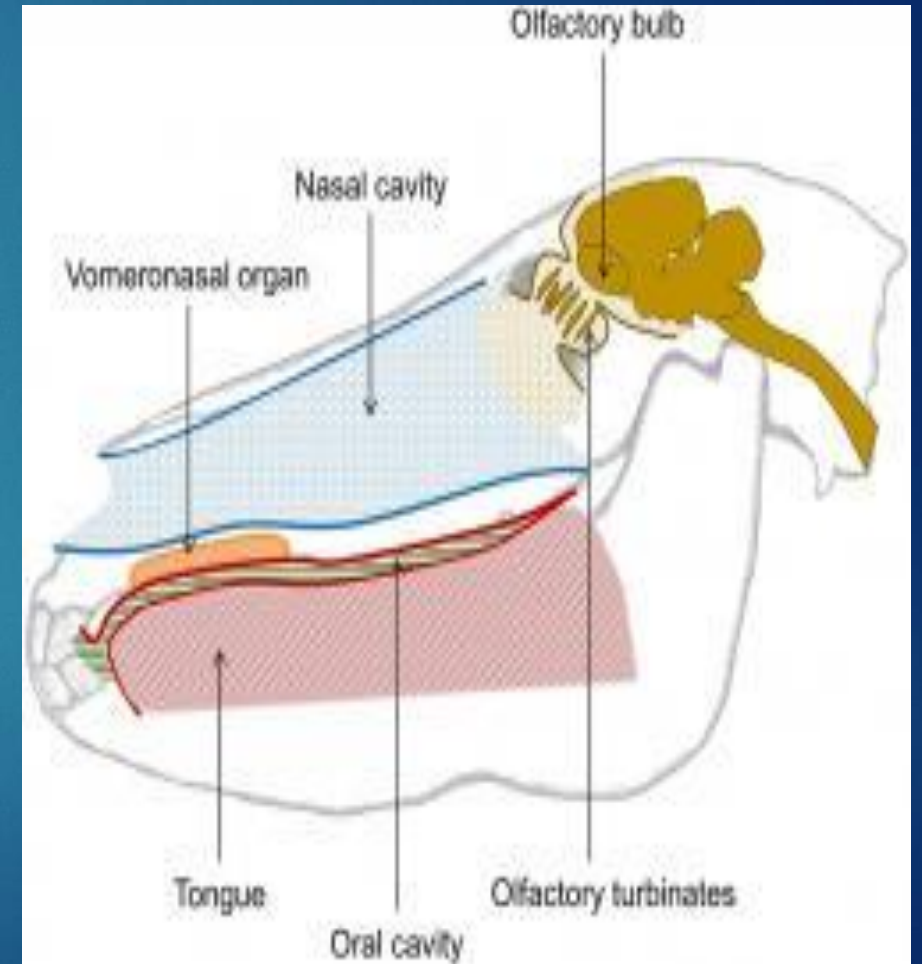


# Smell

Strongest source of perception in horses

Olfactory bulbs with 300M receptors  
Humans have 5 to 6M

Vomeronasal organ:  
Flehmen response- fun fact horses are not the only animal with this organ!  
Others include – Cats, Dogs, Cows, Pigs and some primates



# SMELL

Odors carry lots of chemical information

Every horse and person has a unique smell

Horses flare their nostrils to take in more scents

Horses depend on their sense of smell the way we depend on language



M V Rorvang, L Nielson, A N McLean *Sensory Abilities of Horses and Their Importance for Equitation*  
Science Front. Vet. Sci 2020 7:633



# TASTE

Taste buds are on the tongue

Can taste metal on bits, treats, grasses

Horses detect sweet, salty, sour and bitter

Have individual taste preferences



# Touch

Horse's are tactile-sensitive in their entire body

Touch is main interface of communication

Skin is largest organ in a horse and a human





# Touch



Horses prefer scratching or stroking to patting

High sensitivity around mouth, nostril, eyes

Grooming and mutual grooming are positive behaviors

Skin everywhere is as sensitive as the tips of our fingers

# Whiskers

Are sensory organs

Incredibly sensitive to touch,  
even as subtle as air movement

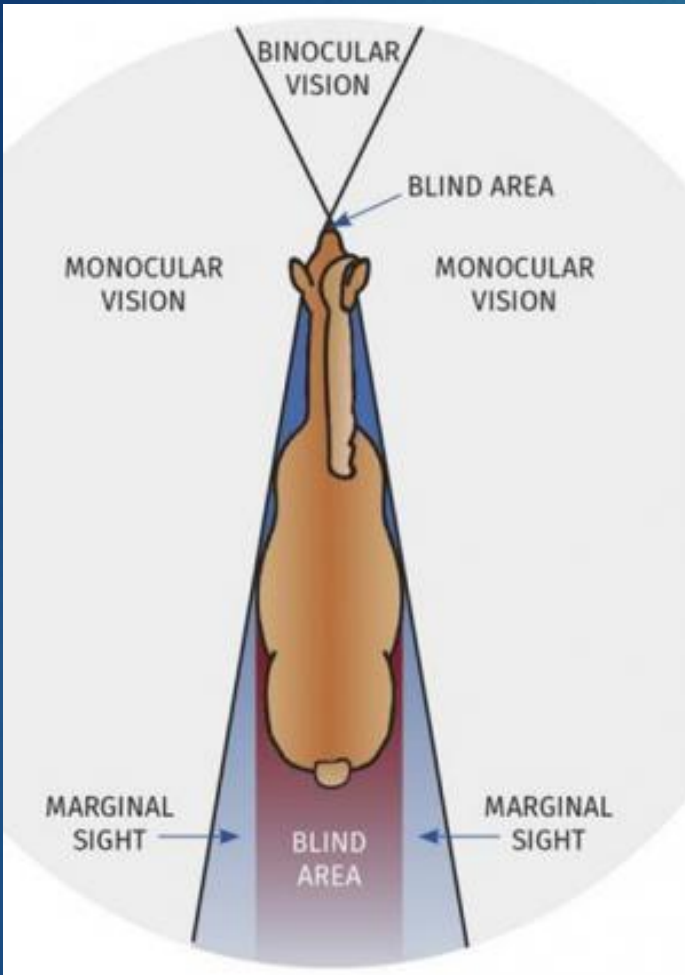
Help compensate for the blind  
spot horses have in front of the  
face and under the nose

In Europe it is now illegal to  
shave the whiskers





# Vision



Excellent motion detection (more Rods)  
Limited Depth Perception

Color Vision (less Cones) similar to  
human red-green color blindness

Visual reaction time 0.180 to 0.20  
seconds - humans 0.384 seconds

Enhanced Understanding of Horse–Human  
Interactions to Optimize Welfare

# Vision

Night vision – good vision in lower light, better than humans

Horses may not see color as well as we can but they see movement that we can only see using a telescope

Can't see a full 360 view when motionless, they only need to move his head up slightly to achieve this



Enhanced Understanding of Horse–Human Interactions to Optimize Welfare



Horses use information from their senses to understand their environment and this affects their behavior







Horses are sentient beings that are aware of, sensitive to, and affected by their environment including the physical and emotional state of others in their presence.

\*Cambridge Declaration of Animal Consciousness, 2012 - able to generate conscious states, exhibit intentional behavior. Example of intentional behavior.



# Your horse's Native Tongue

Subtle movements: the ears, the nostrils, the eyes, the mouth, the tail, the feet, or even just shifting weight or tensing up

Horses are soft speakers



Convey information to each other



Lets them live in  
harmony with each other  
Able to form social groups  
Helps protect them from  
predators

Horses naturally rely on  
good communication  
through body language.





When they want the predator to hear they are extremely loud



When they are not talking to the predator approaching, they often speak silently

Subtle communication used to alert danger  
Need to be alert to any noise







Wild horses in herds that live free speak pure horse

Domestic horses speak horse with a human accent

Adjust their language to speak to humans.







Humans are poor at communicating and understanding



Human body posture is an important cue as it can elicit different equine behaviors



Horses remember past interactions with humans and these experiences impact how the horse will interact with humans in the future.

Human failure to recognize behavioral signs of distress or misinterpretation of these signs can cause implications for horse welfare as well as horse and human safety.





Communication with a horse comes from us reading their body language, and having them read yours



Horses do talk if we take the time to listen





Spend time doing nothing but observing your horse in the field

Need to know how horses communicate and learn the science of horse behavior



# Not Feeling Well



Horses hide that they are in pain or sick

More standoffish, doesn't want to interact

Subtle body language is often the first sign something is wrong

# Subtle Signs of Frustration:

Switching the tail

Pawing/stomping

Way of saying this is bothering me

Tense body posture and pursed lips



Janne Winther Christensen, PhD, of the Aarhus University  
Department of Animal Science, in Tjele, Denmark.



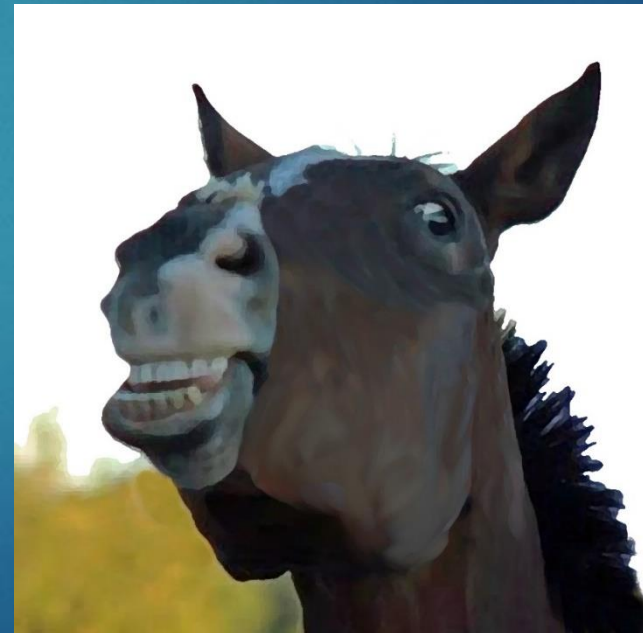
# Stress

Show signs of stress, wide eyes, high head, stiff stance and backward pointing ears

When in a stressed state horses cannot learn

Focus is only on “am I safe”

Top 5 signs your horse is stressed out right now-The Horse



# Licking and Chewing



Is a horse coming out of a stressful state

Coming out of the sympathetic to the parasympathetic nervous system



Is a horse going from a dry mouth to a wet one- so licks and chews

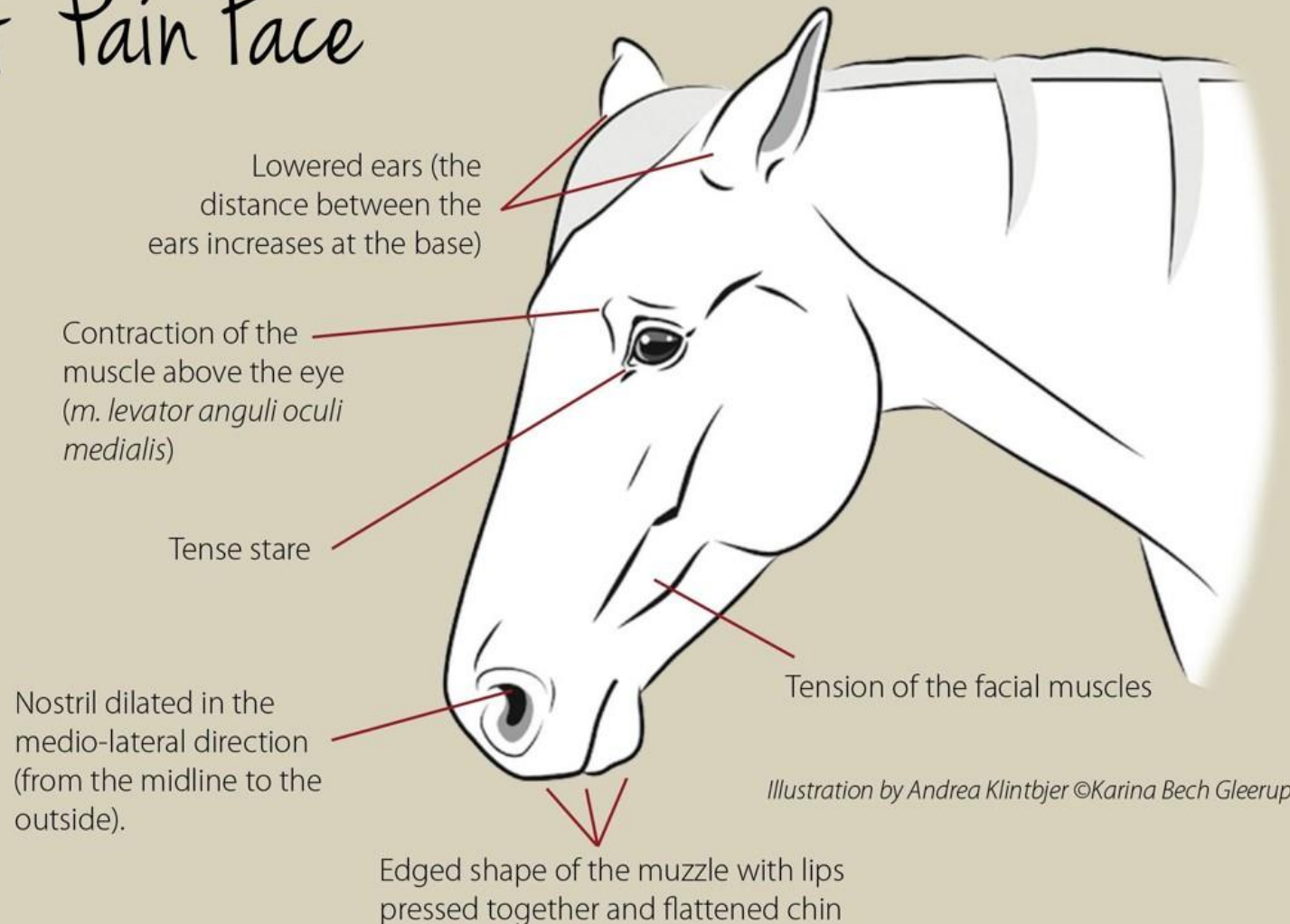


UNWANTED BEHAVIORS ALL COME FROM PAIN OR LEVELS OF FEAR INCLUDING ANXIETY AND FRUSTRATION - CHECK FOR PAIN FIRST.



# You Can't Train Away Pain

## A 'Pain Face'





# Whiskey








# Whiskey








# Grimace Scale

### Stiffly backwards ears

		
Not present (0)	Moderately present (1)	Obviously present (2)




The ears are held stiffly and turned backwards. As a result, the space between the ears may appear wider relative to baseline.

### Orbital tightening

		
Not present (0)	Moderately present (1)	Obviously present (2)




The eyelid is partially or completely closed. Any eyelid closure that reduces the eye size by more than half should be coded as "obviously present" or "2".

### Tension above the eye area

		
Not present (0)	Moderately present (1)	Obviously present (2)




The contraction of the muscles in the area above the eye causes the increased visibility of the underlying bone surfaces. If temporal crest bone is clearly visible should be coded as "obviously present" or "2".

### Prominent strained chewing muscles

		
Not present (0)	Moderately present (1)	Obviously present (2)




Straining chewing muscles are clearly visible as an increase tension above the mouth. If chewing muscles are clearly prominent and recognizable the score should be coded as "obviously present" or "2".

### Mouth strained and pronounced chin

		
Not present (0)	Moderately present (1)	Obviously present (2)

Strained mouth is clearly visible when upper lip is drawn back and lower lip causes a pronounced "chin".

### Strained nostrils and flattening of the profile

		
Not present (0)	Moderately present (1)	Obviously present (2)

Nostrils look strained and slightly dilated, the profile of the nose flattens and lips elongate.



Horses give warning before they “overreact”  
If we take time to pay attention



Might have less accidents if we pay  
attention and accurately know what our  
horses are saying and not that they are  
just “being Bad”





It's not enough to identify negative expressions in our horses; we need to be able to identify positive expressions

# I love this!

Relaxed, eyes half closed, nostrils are relaxed

Lower jaw loose, ears relaxed and to the side

Happy horses create the “equine smile”





Horses react to what lies in our hearts, not in our heads. They are not confused by the words we use to lie to ourselves or hide from others!



Are clueless about  
their size and weight





# Horses cannot:



- Hold grudges
- Plot revenge
- Try to win
- Plan a way to get out of working
- Take pleasure in making us mad

Horses are attentive, sensitive learners on the ground because they can see your body language







With good communication we can “connect” with the horse and have a sort of body-language dialogue in which we understand each other.

# The 3 C's

Communication

Confidence

Connection





# Communication



Horses lead or have leaders



When we move our  
horses feet we show  
we are a good leader

When our horse moves  
our feet we tell him that he  
is the leader and the one  
looking out for us



# Control of horses feet



Crossing Over



# The 2 Horse Herd



Who makes the decision  
Is it safe, should we run?



# The 2 horse herd

Not boss or bully – you are merely letting him know you are capable of looking after him

Need to keep calm and in control, so they feel safe.



# Confidence:



The horse needs to feel confident about being near us, so we can have confidence in him.





What horses do, whether they need to protect themselves or whether they need to accept you is directly related to how you make them feel.

# Misunderstandings

Can be from past experiences

Stubborn, pushy – behaviors that were acceptable in the past

Better – show him how you want him to be.

Reacts like a horse, not a small child. Do not animorphorsize their behavior – remember to think like a horse







Should never punish, punishment only slows down the process  
Spooking is a horses natural behavior  
Horses never give a wrong answer, only an inappropriate one  
Wrong answers are a communication problem

# Horses learn by:

- Repetition
- Importance
- Sequential learner





# Horses learn best when:



- Not under stress
- There is no perceived threat
- He feels safe
- Let him have some control

# THE BIGGEST CHALLENGE TO A HORSE'S WELLBEING IS ANYTHING THAT CAUSES UNWANTED BEHAVIOR







Every behavior has an underlining need. When you meet the horses need, instead of correcting the behavior, the behavior usually goes away



# Connection.



“Do we have a mental connection today—are we communicating effectively with each other?”



# Individuality/ Temperament



Each horse has its own personality

Individuality from specific sensory sensitivity

Personality – consistency of traits over time

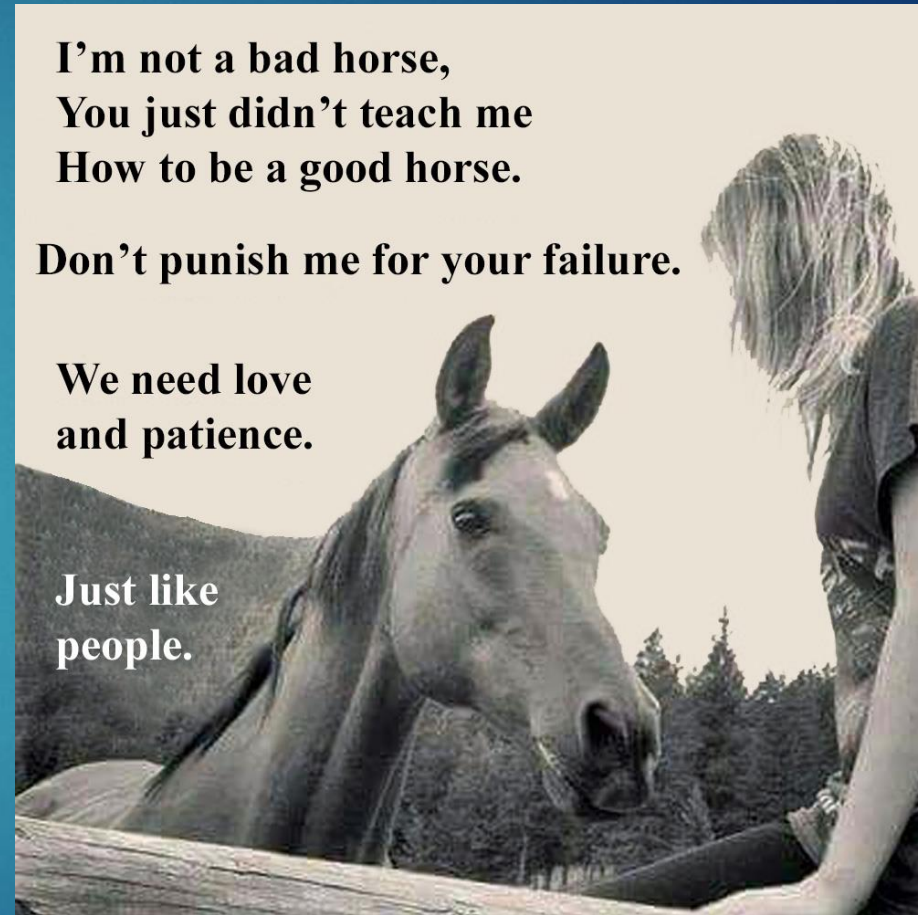
Temperament – patterns of behavior from their natural being

Horses are not bad, they are a product of their training and experiences

Your job is to make sure you build a good relationship with the horse

With a good relationship, you can help him understand

Your job is to rephrase the question, retraining





See the horse that is in front of you



Respect individuals abilities,  
character traits, and limitations

# References

Merkies K, Franzin O. Enhanced Understanding of Horse-Human Interactions to Optimize Welfare. *Animals (Basel)*. 2021 May 9;11 (5):1347. doi: 10.3390/ani11051347. PMID: 34065156; PMCID: PMC8151687.

Jones, J. (2020). *Horse Brain, Human Brain: The Neuroscience of Horsemanship*. Trafalgar Square Books.

Lesté-Lasserre, C. (2022, January 10). *Equine Body Language: 7 Signs to Recognize*. The Horse. Retrieved February 15, 2024, from <https://thehorse.com/164730/equine-body-language-7-signs-to-recognize/>

(2024, January 1). *Sensory hairs*. The British Horse Society. Retrieved February 28, 2024, from <https://www.bhs.org.uk/horse-care-and-welfare/health-care-management/horse-health/sensory-hairs/>



# References

Stewart, K. L. (2020, November 30). *Understanding Your Horse's Brain*. Horse Illustrated. Retrieved February 15, 2024, from <https://www.horseillustrated.com/your-horses-brain>

Andrew N McLean,  
Short-term spatial memory in the domestic horse,  
Applied Animal Behaviour Science,  
Volume 85, Issues 1–2,  
2004,

Evelyn B. Hanggi,  
Short-term Memory Testing in Domestic Horses: Experimental  
Design Plays a Role,  
Journal of Equine Veterinary Science,  
Volume 30, Issue 11,  
2010

# Questions?

