

Review

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[M. Kiley-Worthington](#) *

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Review

Towards Positive Welfare for Equines: Sentient Equine Mental Attributes and Mutual Moral Agency and Duties

M. Kiley-Worthington

Centre for Eco Etho Research & Education, Brendon UK; marthekileyworthington@gmail.com

Simple Summary

More than 100 million equines are in contact with humans in the world today all of whom contribute to the flourishing or demise of our planet. Equines are recognised as sentient but the mental attributes attached to sentience are not always recognised. Here they are summarised and include some that are considered unique to humans (e.g. self-consciousness, social contracts, theory of mind, moral agency, collective intentionality, and desire independent reason) with critically assessed equine examples. The implications of recognising sentience for both human and equine moral obligations are then outlined. As a result of this positive equine welfare in their husbandry, work and in human interactions is demarcated. An example of an experimental study which has experimented with fulfilling these obligations is given. It is therefore possible for humans to be morally justified in keeping working and interacting with equines provided changes are made to their husbandry to increase autonomy, and their training in the future to ensure positive equine welfare and a flourishing living world.

Abstract

One hundred and sixteen million equines are in contact with humans today and contribute to the flourishing or demise of our planet. The implications of the mental attributes attached to sentience are reviewed in the light of equine welfare and their environmental effects. A detailed assessment of sentient equine mental aptitudes points out that several mental aptitudes that have previously been considered unique to humans must also be present in equines. Several of these are then discussed including social contracts, moral agency, collective intentionality, and desire independent reason with examples from human equine interactions. Our mutual moral obligations as a consequence are discussed. As a result of this increased understanding of equine ontology (their world view), we can delineate positive welfare for equines in their husbandry, work and interactions with humans, summarised in our mutual moral obligations to each other and the environment but will need humans to emerge from many traditional practices.

Keywords: equine behaviour; moral agency; sentience; positive welfare

Introduction

MAMMALS TOTAL FEEDOMS (LOWEST SCORE)
IN DIFFERENT COMMON ENVIRONMENTS

Differen t environ ments ->_	Wild/ feral	Large enclosu re both sexes/ breedin g.24hrs	Small encl./ yard alone 24hr	Small encl wih others 12 hrs	24hr loose box	12 hr loose box	24hr stall/ tethere d	12 hr stall/ tethere d
Total various beha restriction	0-5	0-2	19-34	13-40	33-43	18-44	40-45	18-44
Total Best practi ses	0-12	0	0	0	0	0	0	0
Overall total restri ctions	0-17	0-5	19-34	13-40	33-43	18-44	40-45	18-44

Today, bio-abundance and bio-diversity are decreasing rapidly as a result of human activities. For longer term human survival, moral considerations must be extended to the planet and all living things [1]. There are 116 million equines in contact with humans today (Google AI) who contribute to the planets survival or its demise depending on how, why, and in what numbers they live. This paper is concerned with an understanding what sentience means for the attribution of other mental abilities, emphasising moral agency and its accompanying obligations.

It is widely recognised that humans have moral obligations to equines. “Moral consideration” is a phrase frequently used [2], although what the moral judgements should be is unclear, although, it is agreed that humans should not cause “unnecessarily” suffering, or treat equines “cruelly” [3]. But, when there is a conflict of interests, it is often human interests (economic, social, political, food, companionship, therapy) that trump even life threatening interests of equines [4]. Questionnaires assessing what *humans* think about equine welfare which may result in a “social license to operate” ([5] only reflect current human views about equine welfare.. “Positive equine welfare” by definition refers to the equines concerns rights, and interests that comprise their ontology [6].

The key role that veterinarians play in making judgements on equine welfare sometimes prevents the further development towards positive equine welfare because their training takes into account human interests (e.g. will the treatment be paid for; is the horse insured and economically replaceable?), or only the physical needs of an individual equine. They are not trained in environmental concerns, for example, they frequently prescribe ivomectine and other invertebrate killing drugs which have caused 30% reduction in invertebrate populations, and extinction of some dung beetles ([7,8]. Also, veterinarians have little training in equine behaviour problems and prescribe drugs (e.g.tranquillisers, sedatives) or surgery (e.g. castration, or cutting muscles in the neck to reduce stereotypies) to control “misbehaviours”, rather than investigating their cause. Some veterinarians also, alas, contribute to administering drugs, surgery and analgesics to equines in husbandry where *they suffer throughout their lives* which could not operate without veterinary intervention (e.g. pregnant mares kept in stalls with catheters attached for their reproductive lives to produce progesterone harvested for human contraceptives ([9,10].

Sentience, that is feelings are involved in all aspects of human and equine life whether it is physical (their bodies), social or their cognitive/intellectual lives [11,12]. Failure to provide for these needs results in suffering.

Measuring equine suffering

Some behaviours which indicate suffering, distress and pain are evident (e.g. screaming and struggling, shivering etc) but some are not (e.g. prolonged periods standing immobile, sleeping or increase in aggression), but we now know when equines are suffering using both behavioural and physiological measures (Table 1 after [11])

Table 1. Suffering and Distress in Equines.

Performance abnormal behaviour showing no direct benefit
Physical Ill health
Mal nutrition, poor growth, too fat or too thin
Frequent suffering illhealth, diseases, wounds, infection
Frequent occupational problems e.g lameness, fatigue, lack of motivation
Frequent need for drugs or surgery to control diseases or infection and parasites
Behavioural Changes indicating psychological ill health
Stereotypies (repeated actions in the same form & apparently purposeless)
High levels of aggression compared to free animals
Large changes in time budgets from wild or feral members of the same species
Increase in behaviours related to frustration, often involved with frustrated locomotion, or irritation
Ontogenic changes, performing behaviours not characteristic of that age group,

Positive welfare, that is when equines have a “good life”, was originally delineated by the “5 freedoms”[13]; more recently elaborated to the “5 domains’ [14] and now “teleonome”, have been proposed ([15].These approaches are commendable but not straightforward to apply in practise. A simple way to compared freedoms, that is the amount of autonomy, in different environments is to indicate their absent by measuring behavioural restraints ([6], p 18).

Today, the mental aptitudes attached to sentience requires a further stride . Using rational arguments these are:-

- 1) Sentient equines try to avoid **negative feelings** such as pain, fear, terror, panic, anxiety and prolonged frustration,
- 2) All equines learn to perform voluntary actions.
- 3) Voluntary learning requires a feeling called **motivation** to drive a behaviour towards a goal, and no mammal learns a voluntary action without this feeling.
- 4) ** As a result of learning, all sentient equines acquire **knowledge and understanding** about their social and ecological environment
- 5) **Because they learn, **equines acquire beliefs**, that is, they believe that if this happens, then that will follow, but because it is a belief , it can be changed and modified.
- 6) Learning requires **memory** without a memory no voluntary action will be learnt.
- 7) ****Sentient mammals have a form of Imagination** because memories change, are added to or recombine in different ways, creating an “imaginative truth” for each individual.

8) ****Normal alive equines, when awake**, are conscious of the world around them and aware of being in it and react to it.

9) ****Equines must be conscious of themselves that is “self-conscious”** since they are aware of pain, a feeling, and where it is in their own body.

10) **Learning, conscious beings have some common experiences** [23], so guesstimates can be made about another's feelings. However, we can never know exactly what the other feels, because **experiences are also private and personal**.

11) Every equine has a **unique personality**. Each of our combined body/brain “beings” is the result of the species, the individual's genetic components and his/her personal knowledge, experiences and beliefs. This constitutes their subjectivity.

12) ****Sentient learning mammals are rational**. When any mammal performs a voluntary act, a rational decision has to be made: **IF this** then **THAT** follows, so should I do it?

13) ****Sentient mammals therefore “consider”** and make **“judgements”**, and can be **“uncertain”** as they make **decisions and choices**

14) ****Sentient mammals make plans**, that is they have some idea of the future. They can predict because they know what happened in the past in that situation from their memories.

15) ****Thinking is combining different knowledge, beliefs, emotions, experiences and sensory abilities**. Every sentient equine “thinks” even though we do not know exactly what they think about [16]. because thinking depends on the subjectivity of the individual ([17]. For example, equines are very visual aware so likely to prioritise visual information, whereas humans prioritise verbal language and therefore often less aware of their surroundings.

16) **** Each individual mammal, if s/he spends enough time with another of her own or another species, will gain experiences, knowledge and understanding from the other** and might change some of his/her thinking and behaviour

17) ****Sentient adult equines and humans recognise the difference between an animate and an inanimate object** because animate beings respond.

17) The **social mental attributes attached to sentience** are:-

a) **To live in a group sentient mammals must have a social contract** The social contract is defined by rules ([18] which are learnt and vary according to 1) the species, and 2) the environment. Each individual that learns the rules becomes a **natural psychologist** by acquiring information about others (e.g. sex, age, personality, role in the group), but, to acquire accurate information, they must learn **who to learn from**, learning from a foal who knows little, for example, would be unwise.

b) Differences between groups in different environments, result in varied **cultures** [19–21] which can be seen in different stable yards.

c) **** Social mammals are aware of others' intentions** because they communicate. If they are aware of intentions of others, they then have a **“theory of mind”** ([22], that is: they *recognise that others have feelings and intentions and a mind to have them with*.

d) **“Pretending”** is a complex moulding and mixing of mental aptitudes For example, social play is engaged in by all mammals, particularly young ones because it is enjoyed (e.g., [23], but there are rules. When playing aggressively there is an element of **“pretend”** as there must be no hurting. If an individual hurts another, then it is no longer play, it could turn into serious aggression.

e) **Individual and collective beliefs**. Every mammal has his/her own individual beliefs, memories, experiences and world awareness which are shared by other conspecifics and other species in part, and partly private. **Collective beliefs** are acquired by experiences and social learning. In humans, Collective beliefs are usually the result of being told in humans' context independent language, so they not *necessarily* learnt by experience.

f) **** Living in a communicating group and knowing the social rules, signifies that every equine must be a moral agent** who can choose to do right by obeying the rule of the social contract, or wrong by disobeying it.

(Those mental attributes marked ****have been considered unique to humans**.)

Since sentient equines have many mental attributes that have been previously thought unique to humans (** in above list), When there is a conflict of interests between equines and humans, it can no longer be assumed that human interests trump those of sentient equines, rather, their different interests must be balanced against each other and those of the environment.

Human opinion “what is best for the equine” is often circumscribed by (a) human collective beliefs (what humans have been told) (b) lack of knowledge of what sentience must involve (c) ignorance of equine species and individual ontology, that is “what it is to be that equine”.

One of the factors masking an understanding of equine ontology is they are not considered to be moral agents since it is still believed that their behaviour is predominantly controlled “by instinct” rather than being active decision makers. Equine moral agents and its consequences is further examined .

Why Equines are Moral Agency.

The definition of an agent currently in use is:-

“a person or thing that takes an active role or produces a specified effect” (Google AI).

That equines qualify as agents is now recognised (e.g. [25] Fielder et al 2025, [24]) although this is a considerable change from the beliefs of traditional scientists (e.g. [26] Tomessello 2020).

A Moral Agent is popularly defined as:-

A moral agent is an entity,.... with **full mental capacity, capable of understanding right from wrong, exercising free will, and being held morally accountable for their actions. They possess the capacity for rational deliberation and the responsibility to avoid causing unjustified harm.** ([27] ethics unwrapped 2026, authors italics) .

We will examine if sentient equines have these mental aptitudes by giving some quite common examples for each phrase in the definition above:-

Equines have “full mental capacity, capable of understanding right from wrong”

Example1. Shatish (part bred Arab gelding aged 14) has learnt the social rule: “do not hurt foals”. But he is annoyed by 2 month filly Shelagh, who will not stop biting and nibbling him, so he bites her back. She leaps away. Her mother rushes to kick Shatish and the two mares (her mother Shakti and Lilka) chase him out of the barn where there is hay and shelter. Shatish annoyance overcame his reason; he knew he should not do this but he did and was “punished” by being kicked out of the group.

Example 2. The mare who is being groomed has learnt that *she must not bite the groomer*, even though she dislikes this because the brush prickles her. She turns her head with ears flattened back several times to the groomer . She could bite her but knows that she must not, but wants to stop the grooming.

Equines also “exercise free will”, that is they make choices and decisions, except when they are so physically restricted or immobilised it is impossible:-

Example: The group of 4 equines know that in the evening, if they descent to the barn, they will be given a feed. But they do not always come. If the weather is fine, they may **choose** to stay out and miss their feeds, *they have free will to make the choice.*

Equines once they know the social contract, become “accountable for their actions”

Example 1: After biting the foal, Shatish was not allowed into the barn for 3 days, even when it was raining. Five days later, he was allowed back into the barn by the other adults; he had been “forgiven” for disobeying the social contract..... but there after he behaved more carefully towards the foal

Example 2. The mare being groomed bites the groomer, but she knows she will be punished by the groomer because she has broken the human/horse social contract she has learnt. So she leaps away from the groomer before he responds, and pulls at the tie up to try and get away. This shows she is aware she broke the rule and knew the consequences, that a is accountable for her action.

They show the capacity to “rationally deliberate to avoid causing unjustified harm to other sentient beings” ,

Example. A small child of 3 years old finds her way into the barn where the equines are freely moving around and eating hay. She is unfamiliar with equines but curious; she stumbles up to Lilka and falls between her front legs. Lilka remains still until the child rights herself and staggers off when Lilka moves again,... she knew she must not move when the child was at risk from being stepped on by here.

This also occurred with a one month old 2 kg puppy, who snuggled down in some dry hay to sleep between the legs of one of the horses. Shakti avoided touching or treading on him, although he was in the way of the feeder. In each case the equines “rationally deliberated” *where and when to step to avoid hurting the young creature, and were conscious of his whereabouts.*

These are critically assessed anecdotal accounts but they are not unique or rare, as any observant horse handler knows.

Equines do not have human language, but they do have the identified mental aptitudes to be moral agents. Moral agents have also been defined by having “secondary emotions”. These emotions require self-awareness and including jealousy, embarrassment, sympathy, compassion, shame and guilt. Since equines are self-aware, whether these emotions are unique to humans is questionable (e.g. [28] Neymeyer 2012), although they will not be displayed in the same way as in humans. Evidence of secondary emotions is however, not pivotal for identifying moral agents, having autonomy that is having freedoms to make decisions and choices is another (e.g. Biscof [29] (2022)). Any equine who is not so physically restricted that he cannot make any choice, will make decisions and choices, as slaves did although they had little autonomy.

Societies, Social Contracts and Moral Agency.

A sentient mammal is from birth social as cared for by mother. As foals grow up, provided they have the option, they learn the social contract and become integrated into a society, defined by its rules ([17] Wittgenstein 1974), and develop a social role within it ([31] Ricci-Bonnot & Kiley-Worthington 2017) Some social rules of equine society are:- “don’t hurt foals”, “don’t step on another lying down”, “observe and learn from others how to behave”, “learn who to learn from”, “learn the roles of others”, “learn to court mares, not rape them” .

Rules of social contracts with other species including humans can be:- “don’t kick, bite, stamp on, push or hurt a human” “do what the human asks, provided it is reasonable”, “tolerate humans lack of responses to equine messages”. Frequently, humans lack perception concerning equines emotions so they put in place rules that cause distress and suffering to equines, or they do not understand how quick the equine is to learn and understand (1 x learning is not uncommon). The result is that often human trainers teach the equine to do inappropriate things, *without knowing that they taught him to do it.*

It is also maintained that “animals” cannot be held responsible for violating behavioural norms (e.g. [32] Hauser 2001), but such statements are false because, as agents, they can choose to obey the rule or “behavioural norm”, or not.

The possession of moral agency also indicates that the individual knows when s/he has received “justice”: that is the expected response to their action. Even if equine are so controlled by humans to lack much autonomy, they still have options to obey or not the social contract.

Cultures in human / equine contacts

A culture is defined as:-

The shared set of beliefs, behaviors, customs, values,...that characterize a group, society, or organization (Google AI).

Since social contracts vary according to the environment, the species and individuals involved, different groups have divergent “cultures”. ((e.g. [18] Bonnor 1980, [19] Brakes et al 2025), [20] Cantor & Whitehead 2013, [6] Kiley-Worthington 2005 [38] Supple et al 2019).

Different cultures can be seen in different stable yards run in diversified ways. For example, horses in one stable may be relaxed and easy to handle whereas, in another even though of the same race, they are uptight and over-reactive; they have a different “culture”. Any observant veterinarian or farrier who visits varied yards knows this.

Equine Needs.

The physical, social, emotional and cognitive needs of humans and equines have much in common([23]Kiley-Worthington 2019), but there are also species differences because of different bodies and social, emotional and cognitive lives. Positive welfare, and the fulfilling of an easy going social contract between human and equine depends on fulfilling most of these needs.

Example. Equines need to eat for between 12 to 16 hours per day. If their food is rationed and they do not have *ad lib* access to high fibre food, although they may have the appropriate diet for the work they do, they will be “hungry” much of the time. This dissatisfaction causes frustration, over reactivity and distress.

Desire independent reason.

This mental attributed is generally considered unique to humans because it is believed:- 1) that non humans are not rational and 2) it requires human language ([32] Hauser et al 2002, [33] Searle 2001). However, there are many cases in mammals that indicate this is false.

Example 1. (more details of example above). The mare dislikes the ways she is being brushed because the brush prickles her. She turns her head with ears half back to indicate to the groomer that she dislikes it, the groomer ignores this, and continues brushing .The mare *desires this to stop, but knows that she must not bite the groomer as it is a rule of the social contract*, so she threatens again with her ears flat back, and moves around. She is showing “desire independent reason” even though the groomer does not understand: her desire is to stop the grooming (by biting the groomer,) but the mare reasons she must not reason which is independent of the desire.

Example 2. A feral stallion wishes to mate with a mare who is in season, He knows the social contract for mating (few domestic stallions are permitted to learn this), he knows that if he does what he desires, that is rush up and mate her, she will kick him and leap away. Therefore he exercises “desire independent reason” by approaching carefully, smells her nose to nose, and then licks her front legs and other parts of her body. He is using “ independent reason” to control his desire.

To avoid acting on a strong desire which will cause social disruption because it is against the social contract, the subject may invent ways of redirecting (or pretending to) his own and others’ attention, thereby defusing an inflammatory situation .

Example 3. Two stallions both of whom have lived with the same mares at different times will fight each other if they are loose within sight of a familiar mare. When ridden together, they behave with caution to each other. If they see a familiar mare or come within a few meters of her, the desire to attack and chase the other stallion away could overcome the social contract with their rider. When riding out with two stallions and a familiar mare, both stallions can therefore developed a way around having to attack each other. One of the stallions, turns his head away and pricks his ears “as if” he had seen something particularly interesting in another direction. This attracts the attention of the other stallion and who looks in the same direction away from the mare. To do this, the stallion “reasoned” he would like to attack the other stallion, but if he did, there would be unpleasant repercussions from the rider. By “inventing” a way of switching attention, they both avoid following their desires. This learnt/invented behaviour, allows the continuation of the *status quo* and avoided causing or receiving injuries. We have recorded this behaviour 10 times in two stallions Oberlix and Oryx when ridden out together with or without a familiar mare.

Collective Intentionality.

This is when at least 2 individuals desire to take part in a joint activity,

‘Collective intentionality implies aware intentions that occur when two or more individuals undertake a task together.’(Google AI).

The classic example is humans playing different instruments in an orchestra, or in animals, lionesses hunting where individuals do different things to achieve the desired goal ([33] Searle 2001).

Shared intentionality has also been called “social facilitation” which it is suggested does not involve choice ([34]. This is false, since even if it is facilitated by others doing an action, each individual still has to make a choice so it is done with intent.

Any form of collective intentionality requires mental action whether this is eating, escaping , playing, racing, or even, just sitting or lying down because others are. Examples include the performance of a crowd of humans running when threatened by police, or horses rolling in turn in the same place, activities motivated by a desire to achieve the same goal.

Collective intentionality also occurs between species. Demonstrations of human horse collective intentionality are when **the animal voluntarily does something with the human, without physical or chemical restrictions forcing him/her to do it**. Humans use a host of physical restrains including ropes, chains, bridles, bits and restrictive harnesses to ensure that s/he is physically forced to doing what is required with no choice. These restriction are so universally practised that it is believed that an equine will *only do what is required by being coerced*.

With a few exceptions “animal training” has not evolved into “ animal education”, where the individual and the society both gain:-

“Education serves a dual purpose, benefiting both the individual and society. While it empowers the educated with personal growth, critical thinking,... [35]

Cooperative teaching or equine education is modelled on pre-verbal infant learning [36,24] and reducing physical restraints. This is slowly being addressed and there are now competitions in UK and Holland riding horses without bridles, and the European school of equitation traditionally understood this centuries ago employing teaching methods emphasising *voluntary participation of the horse rather than physical restrictions*. (Cadre Noire in France, Spanish Riding School in Vienna).

A characteristic of feral and domestic equines is that frequently they are enthusiastic to work with humans if cooperatively taught/ educated, once they understand what is required even though they have the size and strength not to.

Example 1.

Shemal , a yearling filly, is taken for a walk on the lead. She is asked verbally and with gestures to look at, touch and smell an unfamiliar table. She follows the human teacher to the table, hears her verbalising “table” , watches her touching and rubbing the top with her hand. Shemal then rests her nose on it smells and touches while learn the word “table”.

Example 2.

During teaching sessions when the teacher verbally asked the horse to lift her right or left leg, within 6 sessions, the subject imitated the teacher's action, as a result imitating the teacher was used in teaching the animals, as it is when teaching children.

One obligation for mutual moral agents working together is that it should indicate Collective Intentionality ([24] Kiley-Worthington & Rendle Worthington 2012 page 149).

Cooperation, Trust and Confidence in humans.

Through history there have been difficult situations where equines overcome their fear and show cooperation, trust and confidence in humans. *Trust* is the ability to predict an acceptable outcome with a human.

Examples of Horse/human trust

1) Several horses who worked for armies have been decorated for their courage and trust in transporting goods, sometimes unsupervised by humans, in war zones (e.g. US army horse from Korean War decorated as a hero, mules working in the mountains of Afghanistan for the British army).

2) Police horses trust their riders and enter difficult crowded places often with violent humans, bombs and guns.

3) Many War horses in the cavalry displayed great courage and some saved their riders.

4) Horses calmly accept heavy large traffic, or follow a human onto a narrow plank across a river or on a narrow precipitous paths (examples in trekking equines & Druimghigha Stud 2005).

5) Two horses and a man travelled for 2 years the length of South America, crossing bridges made of plaited grass across ravens and confronting many other very dangerous situations. The horses clearly “trusted” the human, even if he was not always sure what was going to happen! ([37].

6) When riding in the Scottish highlands peat bogs are encountered into which a horse may sink. If the equine has experience of assessing where to walk safely by the “feel” under his feet and the flora that marks the bogs, he will refuse to go forward in risky boggy places. If the rider continues to insist when the horse knows it is unsafe and he sinks in, then the equine learns that that rider is untrustworthy and thereafter refuse to do what that rider may ask in unfamiliar places (Druimghigha Shindi. Isle of Mull 1986).

7) A yearling colt cut his right hock very deeply in the wire, and had to stand still while it was washed with a high pressure hose. He was very tense and shivered, showing fear and pain yet remained still “trusting” the humans (1996 Druimghigha Stud). After such treatment for 2 days, he stood without tension.

All these incidences show that equines are capable of *desire independent reason*, and “trust”, that is they do not want to do what is required but know they must and “trust” the human who asks them.

Humans can fulfil their moral obligations to equines by re-appraising the ways in which they keep, handle and teach. If *of its nature* any operation will *inevitably causes distress, suffering and trauma*, then it cannot be morally justified such as keeping an equine in a stall tided up for many 24 hour periods, or hitting the equine without any justification. But otherwise, activity that do not **of their nature** cause suffering to equines can be justified, although s/he may not always have many freedoms and autonomy that is a life of quality/positive welfare, such as donkeys working for 6 hour periods carrying loads not more than 15% of their body weight.

To advance to positive welfare then our moral obligations to each other should be fulfilled which are as follows.

Joint Moral obligations when human and equine are together,

- 1) Not to hurt or cause any member of the society (human or animal) to be hurt while in contact with each other without clear reason.
- 2) Do what is mutually agreed working towards a common goal, that is demonstrate Collective Intentionality.
- 3) Respect and act on each others desires and needs whether physical, social emotional or cognitive.
- 4) Only when rules of the known social contract are broken can punishment of human or equine be justified.
- 5) Both should enjoy contact without requiring physical restraints, if not, changes must be made.

One of the consequences of moral agency is to blame and punish for inappropriate behaviour, that is for breaking a social contract. Many handlers and trainers intuitively assume that equines are blameworthy without attributing moral agency however, that is recognising that they may also have broken the social contract. Frequently, the equine has learnt inappropriate behaviour *because he was taught it by the human....* although the human did not realise s/he was teaching it. Punishment and blameworthiness has to be carefully mutually assessed.

Both humans and equines have moral obligations to each other, although the rules of the social contract will vary according to the needs and abilities of different stables equines and humans. An example is a stud which for 45 years (seven horse generations) has experimented in improving the husbandry and education working towards positive welfare of Arabs and Part Bred Arab horse. These horses competition sometimes internationally in dressage, racing, and endurance, they teach human equitation, they live in group and have as many freedoms as feral equines {6} and are mutual companions and friends.

Moral Obligations of humans to equines on Druimghigha Stud,

- 1) To ensure that the physical, social, emotional and cognitive needs of each equine are fulfilled for the majority of their lives. (outlined in [6]).

2) To ensure that most of the time, the equines can exercise autonomy and have a behavioural restriction score lower than the average wild situation (around 5 behavioural restrictions, compared to some stabled equines where it can rise to 25. [6] page 184-186).

3) In all interactions, humans must practise quiet relaxed handling and repeat cues and movements calmly until the horse is performing what has been asked and then praised (positive reinforcement).

4) The equines must not be ridden/worked/ trained for more than 6 hours a day,

5) Gestures, body positions, facial expressions, voice expression and individual words are used to help the equine understand what is required (rules for cooperative handling and teaching ([24] p149-150).

6) All adult equines are not just taught word commands, but the meaning of words and phrases, some learn over 600 words.

7) It is the duty of the human to ensure that the equine understands what is asked and explaining it, using positive and non-violent negative reinforcement.

8) From shortly after birth, the equines are gently handled (but without interfering with recognising their mother,) to begin to relate to humans and watch them. One recent 2 week old foal nickered in greeting when she saw the handler from a distance after handling for 3 minutes every 2 days from birth (approximately 20 mins in total).

9) If the equine breaks the multi-species social contract, punishment in the form of disapproval *using non violent means* (facial and body expressions, movements and voice) ensure that s/he understands that s/he has broken the rule.

10) The handler must know some of the life experiences of the individual to understand when and where the equine may want or not want to do what is required to educate him/her to do it willingly.

11) The handler must be consistent in behaviours in the situation. Inconsistency leads to lack of “trust” and *insecurity*. **Trust** is the equines ability to predict outcomes from a human. Unpredictability leads to fear and behavioural difficulties; so equines value “trust” when in relationship with humans.

12) The human must choose the place and time to ensure that the equine will *want* to do what is asked, voluntarily have new experiences and even take risks when the human has proved his trustworthiness.

The equines moral agents also have obligations to humans which are:-

Moral obligations of Equines to Humans at Druimghigha Stud

1) **No intentional hurting of humans** by biting kicking standing on them, pushing shoving, or ignoring their presence, in any circumstance.

2) **No bucking, rearing, leaping around** while being ridden once the equine has understood what is required, is no longer fearful and the rider is not too heavy or riding out of balance or tense. Only if such behaviour continues after the equine is familiar with the situation, fear reduced and the riding improved might the behaviour be the result of physical pain .

3) **No refusing to go forward** in an area considered by the handler/rider as safe (e.g. approaching new objects/through water/ towards traffic etc) when asked, *unless the equine is unfamiliar or there are other reasons* (e.g.nervous rider). The equines degree of familiarity and previous bad experiences are relevant.

4) When told to do something, they are encouraged and expected to do it and rewarded (food, gestures & voice) in relation to the difficulty of the task.

5) When told NOT to do something, they do not do it, unless there is a good reason.

6) If the human asks the equine to do any thing when the equine has not understood, or does not “ trust” the human, (that is have confidence in him/her), then the moral obligation is *the human’s to establish understanding and trust*.

Unfortunately because of collective beliefs and economic or social pressures , the use of many pharmacological and physical restraints force equine compliance, although these can be reduced and “trust” cultivated.

Neither human nor equine always obey their social contract, but, humans’ duty is first to blame themselves for not ensuring trust and understanding before blaming the horse, although, of course the horse, as a moral agent, can be blameworthy.

Conclusions

This investigation argues that sentient equines must have many mental aptitudes, some of which have previously been considered unique to humans. By having these mental abilities and learning the rules of a social contract, equines must be moral agents, not just beings of moral concern, therefore, both humans and equines have moral obligations when in contact. Provided the rules of the multi-species social contract have been learnt, each has autonomy (freedoms to make choices) and their needs (physical, social, emotional and cognitive) met, then both humans and equines can and should continue doing what they do together and demonstrate collective intentionality.

The belief that, unlike human behaviour, equine behaviour, is dominated by inflexible instincts , assumes that suffering and using restrictive practises when keeping and train equines are *inevitably*. This is shown to be false as equines learn, have experiences, show collective intentionality and desire independent reason when working with humans.

There are some basic mutual moral obligations that equines and humans must observe, but when these are in place details can vary. All can be developed, learnt and understood by both humans and equines, although this means changes in husbandry and teaching practises are often necessary.

A recognition of sentient equines moral agency coupled with a better understanding of their ontology (world view), morally justifies continuing to use and keep equines in many ways provided such changes for positive equine welfare are made in equine husbandry and the education of both humans and equines.

Footnote: Throughout the paper, references are quoted, For full accounts of the arguments these but be referred to. Examples are given from critically reviewed anecdotes because that mental ability cannot be tested using numerical statistical tests. Semantic arguments are avoided by using Google AI definitions because they are the result of public opinion.

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