Aversive control
or
positive reinforcement
in animal training?

- a question of animal welfare -

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INTRODUCTION

In today's society we use animals. We breed them, feed them and care for them because they are of use to us. Depending on our way of caring for them this fact can be more or less acceptable. There is little risk of anyone complaining of poor animal welfare at a private home with a pet dog who is feed, exercised, activated and trained right. If this dog is also included in the family life no attention will be directed towards this individual's welfare. Now take the same scenario but question the "right" after trained. There are no wrongs or rights in animal training as long as the desirable results are achieved some might say. Others disagree, they may say that all training must be carried out with the animal's wellbeing in consideration. I am one of the later.

There are many different ways of getting animals to do what we want. Some which are much appreciated by the animal such as "clicker training" solely based on positive reinforcement. Others such as the yanking of a lead in attempt to stop a dog from pulling based on aversive control. The later method concerns animal welfare. What does aversive control do to an individual's wellbeing? Harsh commands, punishment, yelling, beating, and yanking. What does that do to an individual's health, an individual's relationship to the person he/she lives with and depends upon? How much do we gain in obedience? We have to train animals if we are to keep them in our society. Be it cows on farms, lions in zoos, rats in laboratories, dogs in our homes or horses in our fields. But it is how some of us choose to do this that tells us a lot about mankind and our so called superior intelligence.

BACKGROUND

The methodology behind animal training can, on a large scale, be divided into the two main categorises described below.

Aversive control

Aversive control includes positive punishment, negative punishment and negative reinforcement. All undesirable events for the animal since based on negative experiences. Positive punishment is addition of something unpleasant until the undesirable behaviour decreases in frequency and/intensity. The animals response, if incorrect, produces aversive consequences. For example you throw a set of keys on your dog as he/she barks when the doorbell rings. Negative punishment is withdrawal of something the animal wants until the undesirable behaviour decreases in frequency and/intensity. The animals response, if incorrect, stops or prevents desirable consequences. For example a chimpanzee's favourite toy is taken away from him/her when vocalisation gets loud. Negative reinforcement is withdrawal of something unpleasant when the desirable behaviour increases in frequency and/intensity. The animals response, if incorrect, stops or prevents aversive consequences. For example you whip above a lions head until it sits down.

Positive reinforcement

Positive reinforcement stands alone as desirable events for the animal. It is addition of something positive for the animal so the desired behaviour increases in frequency and/intensity. The animals response, if correct, produces desirable consequences. For example giving a rat a piece of corn every time he/she sits in an upright position. This is a method solely focusing on the correct behaviour. Undesired behaviours are ignored and will therefore decrease through the process of extinction.

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ETHOLOGY AND PSYCHOLOGICAL WELLBEING
So what does aversive control do to an animal?

Punishment

A study by Schilder and van der Borg (2003) show that dogs trained with shock collars show more stress signals such as lowering of the ears and tail, position of body as well as other stress-, pain- and aggression-related behaviours then dogs trained without shock collars (Schilder & van der Borg 2003). The shock trained dogs do not only show these signals more often during training sessions but also outside training context, during walks in the park etc. as long as the trainer is present.

Another common risk with the use of punishment in training is that when one slap does not do it the trainer often tries the same method but harder. This increase in intensity and frequency of aversive stimuli often desensitizes the animal. No learning takes place and the animal gets stressed since he/she is not aware of where the limit is for this unpleasantness or if there is a limit. The stress becomes intermittent and chronic, which is the most harmful kind of stress.

Punishment is also often given <u>after</u> the undesirable behaviour is shown, in which case the animal may not be able to associates what behaviour is being punished. In animal training short-delayed conditioning is most effective. When using trace conditioning or long-delayed conditioning (as the example above with delayed response to incorrect behaviour) many repetitions are needed to obtain results, regarding physical punishment this is putting the animals wellbeing in further danger. Punishment may teach an animal what is wrong and undesirable but it does not help it identify what is right and desirable. Punishment can interrupt behaviour but it does not teach the animal how it can change its current behaviour to avoid the punishment. Normally the unwanted behaviour will continue and the animals will instead try not to get caught. Or the animal will cease with the unwanted behaviour but become apathetic in his/her behaviour not knowing what is wanted. Continuous and hard punishment will lead to fright, anger, rage, confusion, mistrust, reduced initiatives, avoidance and even apathy (Pryor, 1999).

Negative reinforcement

When training being consequent is important, especially when using negative reinforcement as a method. If the animal is only corrected now and again he/she will soon be very confused. To gain results all other behaviours bar the desired one must be punished, all the time. This is not likely to happen, so confusion is certain, constant confusion can be psychologically demanding.

An example of negative reinforcement is some dog owners yanking of the lead. The idea is to yank the lead until the dog stops pulling. The logical thing for a dog to do when the lead is yanked is pull forwards in attempt to get away from the discomfort. After a while the dog will give up and thereafter try the least natural thing, to stop pulling and move closer to the source of pain. The dog has had to surrender to natural behaviour, to move towards the one who is hurting him/her. A dog-owner relationship is likely to suffer when using this sort of training since all obedience will be carried out out of fright of being yanked again. Trust, the foundation of cooperation, is not likely to flourish.

Punishment and reward

An animal who is trained with aversive control might also get praised. This praise has a different meaning to an animal trained with aversive control then to an animal trained with solely positive reinforcement. To the animal trained with for example punishment, praise does not mean "good", it is often interpreted as "you're safe, I won't hit you now". The praise signals no risk of beating, it becomes a conditioned secondary negative reinforcer (Egvedt & Koste, 2001).

An animal taught with punishment and rewards will learn to take no initiatives, read risks, since doing so and being wrong leads to punishment. An animal scared of taking risks will be

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very hard to teach since it is the diverse behaviour schedule that will lead to possibility to reinforce desirable behaviour.

Positive reinforcement

There are no side-effects of this method. No harm can be done to the animal. Quite the reverse it gives animals a very positive and confident attitude towards animal/human interaction and learning. Positive reinforcement training has even shown to reduce fear in captive wild animals such as the African wild dog (Harman & Zulch, 2004).

HEALTH AND PHYSIOLOGY

A risk with the use of aversive control is that the trainer never knows the degree of the reinforcer/punishment. What might seem as a tap to the trainer might be a stinging pain. Only the receiver can judge this. There is the obvious health issue when using aversive control in training. There is a limit to what an individual can take in physical punishment before it detriments his/her health in the form of physical injury.

The most damaging stress is chronic intermittent stress, it occurs often and irregular which makes it unpredictable to the animal. This is the case with aversive control in animal training. Stress can be very harmful to an animal both psychologically and even physically when chronic. How the animal in question deals with stress varies. If an animal is an active- or a passive coper is individual. An active coper might be worse off since it is likely to be punished over and over again for its "rebellious ways".

The stimulation of the centre of pain in the brain can often inhibit the centre of pleasure. This implies a risk in mixing aversive control with positive reinforcement training. If you reward an animal when it behaves correctly but also punish it when it behaves incorrectly the value of the reward will soon decrease in the animal's eyes. He/she will work hard trying to avoid pain but the animal will not work as hard for the reward anymore. The centre of pain is inhibiting the centre of pleasure (Guyton & Hall, 1996).

ETHICS

Can relief from pain be a pleasure? Pleasurable enough to be a reward? Can the punishment strategy in this way be rewarding for the animal to work for. Yes it can but we have to look further. Even if not being hit (if you are constantly hit) feels so good that it is worth working very hard for, we have to acknowledge the harm in applying this constant pain. Aversive control is however you twist and turn it destructive and generates poor welfare for the animal. It does matter if an animal works to avoid a "price to pay" or to obtain a treat. Because of the side-effects of working to avoid a "price to pay". Frustration, confusion, stress and anxiety over weighs the trainers wish to use one method instead of another.

Aversive control in animal training negatively affects an animal's welfare. But does it matter, animals are owned, maybe it is the owners choice? What about professional trainers who train other peoples animals? According to the study by Schilder and van der Borg the dog trained with shock collar showed signs of stress when the trainer was <u>present</u>. But even if a trainer trains a dog and then sells him/her it is still a welfare issue. In the future the animal will not met the trainer again and will therefore not be repeatedly stressed by this trainer. What we have to remember is that animals often generalise bad experiences, the dog in question might become scared, stressed every time he/she sees a person resembling the trainer. Furthermore we have to see to the overall damage being done to the dogs for example: confidence, and not just focus on the punishers presence and the related stress. Either way, if an animal gets hurt, it is a welfare issue. It is not a matter of how long an animal is harmed or by whom, it is a matter of him/her being harmed at all.

ETHICAL APPROACHES

According to the ethical approach of Contractarianism the suffering of animals does not matter in itself. They mean that the more the animals in question matters to humans the more important it is. Animals we train we consciously chose to have or to be around. We want these animals, they are around us out of our personal choice, for our benefit. So how far are we allowed to disregard their welfare for the benefit of ourselves? As far as we feel comfortable with it and as long as it does not upset any human onlookers according to contractarianism. If a human owns a horse and also chooses to punish it while training it this is regarded acceptable, since the horse itself has no specific moral value, according to contractarianism.

According to Utilitarianism animals deserve moral concern. The potential benefits for humans should however be weighed against the consequences for the animals. Negative effects on animal welfare may be defensible if it leads to an overall increase in welfare. In a study of canine training methods there was a significant positive correlation between obedience and the use of rewards but no correlation between obedience and punishment. The use of punishment was found to be significantly correlated with problem behaviour. This suggests that the use of punishment represents a welfare concern without benefits in obedience (Hiby, Rooney & Bradshaw, 2004). So, a utilitarian would stand against the use of aversive control in training due to the fact that nothing is gained and negative consequences are apparent.

Even if aversive control does not benefit the training it might benefit a trainer because it allows him/her to let out steam. However, the benefit of taking ones anger and frustration out on an animal does not out weight the suffering of the animal. The person in question is not "cured" from the origin of his/hers anger, the beating is only a symptom of the humans suffering, not a therapy for it. So in the long run the beater is not gaining anything by his/her doings. The animal's obvious suffering outweighs the trainer's disability to control his/her temper.

SOCIAL POLICY AND LEGISLATION

Is the use of aversive control in animal training a legal problem? Our laws say that animals should be treated well and be protected from unnecessary suffering and disease. An animal that is hurt for the purpose of making it do as we wish is not being treated well. If this treatment also does not benefit us in obedience, the suffering is also unnecessary. There is also a risk of chronic stress related diseases as well as physical injury when using this method. So in all three aspects aversive control in animal training is defying the animal protection law. The use of punishment in training is found to be common: 80,6% of respondents to a survey investigating training methods reported using punishment (Hiby, Rooney & Bradshaw, 2004).

SUMMARY AND CONCLUSION

To answer the questions in the introduction: aversive control does reduce an animal's welfare. Moreover it is detrimental to the animal-trainer relationship and it does not benefit obedience training over positive reinforcement methods. But the main problem with aversive control is that it, to some, seems to work. There is almost an immediate desirable change in behaviour (short-term). The side-effects, anxiety, frustration, aggression, absence of trust, are less apparent but certain. Since there is an alternative training method (positive reinforcement) aversive control is unnecessary and since also harming the animal, immoral. I therefore conclude that aversive control in animal training should be banned. We have larger obligations to our animals than just ensuring that they perform the desirable behaviour we ask them for. We also have obligations to society that our animals behave suitably. If we can not ensure this without harming animals we are not as clever as we may think. Letting our emotional reflexes of frustration, our ideas of quick fixes and respect for traditional ways get the better of our intelligence does not promote welfare.

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