

considerations. We have to be able to make measurements of welfare; when we have done that, and discovered how good or poor the welfare is, ethical decisions have to be taken, and individuals will have their own ideas about what is acceptable. The measures which we can use include indications that the animal is failing to cope with its environment (with the difficulties which it encounters) and measures of how hard it is for that individual to cope with the difficulties. So measures of poor welfare include finding that, because of the way an animal is kept or treated, it is not able to live as long or finding that it is not able to grow or is not able to breed. These I think are self-evident; that you can make these measurements and that they are relevant to assessing the welfare of the animal.

Measurements of body damage; for example, if you find that keeping chickens in a particular way results in a large number having broken bones before they die, that is important in assessing the effect of that condition on the welfare of the animal. Measurements of disease-incidence; the welfare of diseased individuals is clearly not as good as that of healthy individuals. The susceptibility of individuals to disease; if animals are kept or treated in such a way that their immune system does not work very well, that in itself tells you that their welfare is less good than it might be. So increased susceptibility to disease is a measure of poor welfare. Then there is a range of measurements of the functioning of the physiological systems of the animal; we can make measurements which tell us how hard a time the animal is having trying to cope with the conditions which are imposed upon it.

There is a range of behavioural methods which animals use to try to cope with the conditions, and again we can make measurements of how much they are having to use these. There are changes in behaviour which are a consequence of the conditions which the animal is having to deal with. A final possibility is that individuals sometimes cope with difficulties by self-narcotising; this is something that is done on a fairly wide scale by man. We would generally feel that the welfare of people who need to knock themselves out with some kind of drug and need to spend a large part of their lives thus self-narcotised is less good than that of people who do not need

10. Welfare and Conservation

Donald M. Broom

My plan is to consider inter-relations between welfare improvement and the safeguarding of the environment, but first I want to talk about what the term 'welfare' means, and how we can use it in a scientific way.

As a consequence of biological functioning animals have a variety of needs. These needs are met by obtaining a particular resource or by responding to a particular environmental or bodily stimulus. Clearly we need to understand these needs and, in order to do this and in order to understand the responses of animals (and I include man when I say animals) to the difficulties that are encountered during life, we have to understand motivational processes. We have to know about the various behavioural and physiological changes which occur in difficult situations, and we have to understand adverse effects on body condition, growth, reproduction and so on.

Animals have a range of methods of trying to cope and there are various consequences of failure to cope. These are things that we can measure; we can make measurements of the welfare of an animal; the term 'welfare' refers to its state, and its state in particular in respect of its attempts to cope with its environment. One or two points about this concept. The first is that welfare is a characteristic of an individual; it is not something which is given to it by somebody else. The second is that it can obviously vary from very poor to very good, and an individual's welfare will be different at different times. Thirdly, as I said, it can be measured, and it is important that it should be measured in a way that is independent of moral

to. There are indications that self-narcotisation is a method which animals can use to cope with difficulties using endogenous opioids. It may be that in various painful and other unpleasant conditions animals deal with them by an increased usage of endogenous opioids. If so, and if we can measure it (though it is not easy to do so), that again tells us something about their welfare.

Crib-biting is shown a great deal by stabled horses. Pigs often lie down and chew on nothing; they may consume their food in ten minutes during the day. Pigs normally spend a large amount of their day searching for food and consuming food, and pigs which have no food for a long period often exhibit sham-chewing. Pigs which are kept in a fairly barren environment, except for the presence of other pigs, want to chew things, they want to root, but there is nothing to chew on or root so they chew on the tails of other pigs. You can measure the frequency of these sorts of behavioural anomalies.

We can also get some information on how good welfare is by investigating the preferences of animals. We can set up situations – as noted by John Webster – in which we try to find out what is important to the animal by looking at what it prefers and trying to assess how much it will work for something; how important that particular resource is to the animal. Or we look at how strongly animals avoid things, and again that tells us something about how unpleasant the thing is to the animal. So we can use that information as well in assessing how good the welfare of animals is.

I must emphasise, however, that poor welfare and suffering are not exactly synonymous; it is important, I think, to distinguish them in order to understand the concept. They often occur together, but welfare is a wider term than suffering. Marion Dawkins has referred to suffering as 'involving unpleasant subjective feeling'. Now when you have unpleasant subjective feelings there will often be an effect on your state, as regards your attempts to cope with your environment. Unpleasant subjective feelings will be associated with poor welfare. However, it is quite possible for the state of the animal to be affected without there being suffering. For example, an animal may be injured and it may be under anaesthetic; now the welfare of an individual which is under anaesthetic because of the injury – because of the damage to it

or perhaps of the reduced life-expectancy – is less good than that of an individual which is not injured. I think that most people would feel that is the right way to use the word, and yet if the animal is anaesthetised it is not suffering. It does not actually feel it, it has not got unpleasant subjective feelings.

Another example is where the immune system is not functioning adequately; suppose we keep animals in a condition which is such that their immune system does not work properly. Now I would say the welfare of those animals is less good because of that; even if they are not being challenged by a disease. If they are, they may suffer directly because of the disease and its effects, but the welfare is less good if the immune system is not working properly. Suppose we think of conditions which lead to impaired reproduction or increased likelihood of mortality. There will be a period where the individual is affected by the condition, but it is not yet suffering. But the welfare has started to decline before the suffering occurs. Suppose we think of individuals which are reared throughout their lives in a situation where there is sensory deprivation. It may be that that individual does not function normally as a consequence of the sensory deprivation. It may be that its functioning is impaired in various ways; perhaps the extent to which it can suffer is impaired by the sensory deprivation. But if there is a substantial enough change in the functioning of the animal we might say that its welfare is poor, even if the animal itself does not detect that its welfare is poor. Finally, if an animal is coping with extremely adverse conditions by self-narcotisation, I would say that its welfare is poor but the effect of the narcotic may mean that it is not suffering. What is the welfare of the drug addict, under the influence of the drug? I would say that, if his life is such that he has to use a drug, the welfare is poor, even if at the moment of using the drug there is no unpleasant subjective feeling. So I would emphasise that it is very valuable to measure suffering; suffering is associated with poor welfare but there can be poor welfare in the absence of suffering.

Now let me consider some of the situations which lead to poor welfare; these have a variety of different effects on animals and I will go over them rapidly. First of all pain: pain is one effect of a situation or an environment on an animal which results in poor welfare. Another is a situation which

leads to fear. Again, a situation in which the animal detects that there is danger, or suspects that there might be danger, is something which we need to take account of in considering the welfare of animals.

Then we have a range of measurements where the conflict control systems of animals are not able to work properly: for example, where the animal wants to do something but cannot, or is frustrated. There are situations where an important stimulus is absent and the animal cannot find it; for example, a young animal looking for a teat when there is no teat around. Long periods of insufficient stimulation – extreme boredom, if you like – can result in poor welfare. Over-stimulation, too much unpredictability in the environment, too complex a world which you cannot deal with – that again can be associated with poor welfare.

Having said something about welfare I want now to consider what concern about animal welfare has in common with concern about the environment. The general link has been mentioned several times. There is a basic idea of a moral obligation which we have; a moral obligation towards individual animals with which we come into contact. We have such a moral obligation; most people believe that. We also have moral obligations towards our environment, and there is then this common thread of the feeling of the moral obligation. There is an unselfish element in thinking about this, and we can compare this idea of moral obligation with many of the factors influencing what people do and how they vote. People spend a lot of time thinking about things which are beneficial to themselves; consideration of welfare and the environment has a much larger element of unselfishness in it. Now, if we think about actions which might have a beneficial effect on welfare or on conservation, there are some which benefit both at the same time. Some of our present laws, some laws which could be passed in the future, are also doubly beneficial in this sense.

Here are some examples to start with of actions or laws which improve both animal welfare and the quality of our environment. We have laws which prevent the killing of some wild animals; we have the Badgers Act, we have the Protection of Birds Act. These acts make it an offence to kill these wild animals and they have an obvious effect on conservation; that

these animals are not being killed – at least if the law is being obeyed. Also, any attempts to kill wild animals, or almost all attempts, do result in a large amount of suffering. When an animal is shot or caught in a snare, or chased and caught, it has a great deal of suffering. So the welfare of wild animals which are killed is generally rather poor until they die.

A second example is keeping wild animals as pets. If you take any wild animal and keep it in captivity (I would have to say most wild animals; some insects might be taken into captivity without any suffering, but if you take vertebrates into captivity there is certainly going to be suffering), sometimes the animals will die very quickly after being brought into captivity, and again there is often an effect on the functioning of the immune system because they often succumb to diseases which would not otherwise have killed them. So, there is suffering when wild animals are brought into captivity. Collecting animals from the wild and using them as pets has consequences, in many cases which are relevant to conservation. Many wild animals, such as rare parrots, are rare because they are being taken and used as pets. Now in the UK we have laws which prevent most wild birds from being taken and put in a cage. However, many wild animals are caught in other countries and brought into Britain which can then be legally kept. So there is a legal problem here; that we treat our own species in a different way from the way we treat imported wild animals. Generally speaking, this is an area where conservation and welfare tend to go, in most cases, in the same direction.

Another example, and it is a simple one, is using straw on farms. If you use straw as bedding for farm animals, generally speaking you improve the welfare of those animals. Farm animals which are kept in bare pens are generally worse off than farm animals which are kept in pens with straw, both because straw can be used as bedding and because straw is a material which the animal can manipulate. It substantially increases the complexity of the environment of the animal. So using straw can have beneficial effects for our farm animals; burning straw has some direct effects on the environment which are, for the most part, bad as far as conservation is concerned. So straw-burning rather than using straw for animals is something which is bad for the environment and for welfare.

Another example of an issue which has a welfare component

and a conservation component is one which is less important here but very important in many tropical countries: the problem of stray dogs. If dogs are put out from people's houses and left to stray, there is a welfare problem. If dogs survive in the wild, they often have effects on the flora and fauna; so that has a conservation effect and perhaps other effects on species in the environment. Collecting stray dogs is an important measure in relation to conservation, welfare and reducing the spread of human disease. The welfare point is a little complicated, because of course you have to catch up the dogs, and many of those dogs will be killed, but the dogs can be treated well during the time they are held.

There are, then, examples of actions which benefit both welfare and conservation. However, you have heard already of some examples of areas where there is conflict between these two objectives. What one has to do where this conflict is between a welfare aim and a conservation aim is to weigh up all the evidence carefully and decide what is, morally, the right thing to do. It is not realistic to say, 'I'm always going to support anything which improves welfare', or, 'I'm always going to support anything which improves conservation'. You do have to think about both aspects, and many people who are concerned with one area tend to think less about the other area. So, the first example is hunting; animals have been hunted, especially for the purposes of shooting, for many years in this country and there is no doubt that there are large areas of countryside which have been preserved as a consequence of hunting. In other words, conservation has benefited from the existence of hunting.

However, there is also no doubt that if you hunt animals – let's say by shooting them – a high proportion of the animals which are hunted will not die instantaneously. If that happens, if animals are shot and die instantaneously, there is not a welfare problem; there is no interval when the animal is suffering. It is something that many people would not like to see, but there is no question that a high proportion of animals which are shot will carry lead shot for a while, will die after a long period – in many cases days or weeks – and there is a substantial amount of suffering when this happens. The day before yesterday I was in France and I saw people shooting ducks on a lake. A fair proportion of the ducks were obviously

hit but carried on and got to a point where the hunters could not pick them up, so a lot of those animals died slowly and in a great deal of pain. This emphasises the point that hunting has adverse effects on the welfare of animals but beneficial effects on conservation, and here there is a conflict of interest. My feeling is that what we ought to do is preserve areas of countryside without having to have this excuse for doing it. There is now a sufficient body of opinion that areas should be conserved without the need for hunting. However, we have to acknowledge the considerable benefits that have accrued in the past because people have hunted – benefits to conservation in general, not to the individual animals being hunted.

Another example is breeding endangered species in zoos. There is no doubt that certain species have been successfully bred in zoos and released in the wild. The number is not that large but there are certainly cases. Captive breeding of rare species is a skill which is developing and which, in the long run, is likely to have a substantial effect on which species do survive. That is something which most people concerned about conservation regard as laudable; it is a worthwhile thing to do. I think the bulk of the British public would say that it is a worthwhile thing to do. However, there is a certain welfare problem when you keep animals in a zoo. The extent of the problem varies a great deal from one species to another. For example, there are species which cannot be bred at all. Quite a number of species cannot breed in captivity, and clearly the welfare of an animal which cannot breed in captivity is by definition not good. So there is an area of conflict here. What is the solution to it? I think the solution is certainly to breed animals in zoos but, if it is done, a great deal of effort must be made to ensure the conditions in which the animals are kept are good, and there are some zoos now which are successful in keeping animals so that their welfare is good. There are many zoos around the world which keep animals in conditions which are very poor, and where there are substantial adverse effects on welfare.

Another problem is the cat. If you have a cat and you let it walk around the countryside rather than confine it in your house; what is the consequence? Well, in many cases the consequence is that the cat chases large numbers of wild creatures; catches, kills and tortures a certain number depending on how

efficient it is. So, doing the best you can for the welfare of your cat can have severe adverse effects on the welfare of wild animals. In certain areas, particularly on islands and in places where there are species which are not at all adapted to cope with cats as predators (and that includes the whole of Australia), there have been dramatic adverse effects on populations of a variety of species of small animals because cats are allowed to roam around.

In my view, what should happen here is that cats should not be allowed to roam around in places where they could have a dramatic adverse effect on populations of animals, even though it is better for the cat. Also, if you have a cat and you want to let it out, you could at least provide some sort of warning for the prey, so that the prey has a better chance of escaping; such as a bell around the neck for example. This may be frustrating for the cat - maybe not so good for the welfare of the cat - but it might help to save a fair number of wild animals.

Here is another difficult area which has been mentioned already: housing farm animals. Generally speaking, it is better for farm animals to give them a lot more space and a lot more variety in their environment. However, if we took our present population of farm animals and provided them with free-range conditions, this would have a severe effect on conservation in Britain. We would have to cut down a lot of woodland, we would have to alter our environment substantially, and that is something that people have to bear in mind when advocating free-range. Of course you could say that we do not need all the animals anyway, but at the moment we have got them, so there is a conflict here. For many of these species it is possible to keep them indoors in conditions which are very much better than the average conditions that are used now.

Another area is farming rare species. Crocodiles are being preserved in some parts of the world by farming them, because that means that it is not so worthwhile to go out and kill the wild ones. On the other hand it means the crocodiles have to live on a farm. Elephants: if you actually shoot elephants in a controlled way you may in fact preserve the species, and that is something that has been done, though it is less important if everybody avoids using ivory and it is not worth killing the elephants at all. So for farming rare species: it depends how it is done; avoid it if you can but in some cases it may be necessary.

Finally, I want to say a few words about the problems with our present laws, especially in relation to welfare. I cannot cover all the laws. I thought I would pick out just a few. The major problem with legislation concerning animals is that it is from a human perspective. There ought to be consideration of the animal's perspective when formulating laws; almost all the laws are to protect a certain kind of human interest. They are not designed basically to protect animals and, as has already been mentioned, they depend a great deal upon the use of the animal. The legislation regarding rabbits is extremely different according to whether the rabbit is in a laboratory, is a pet, is being kept for meat or is wild. We have completely different legislation, the rabbits are protected to a completely different extent, according to those circumstances. That is illogical. We ought to have laws which consider the animal as an animal and not just as something that we use in one of fifteen different ways.

The other factor, mentioned by John Webster, is the question of numbers of animals. We have laws in this country about cruelty. Now suppose one considers a farmer who has dairy cows. One of these dairy cows develops severe leg problems to the point where it cannot walk. It collapses onto the ground, which happens to be a deep pile of manure, and it lies there until it is trampled to death by the other cows which are milling continually around it. Now if that happens, the farmer would probably be prosecuted, and yet it is the case that many chickens die in that way every day. We need to modify the way chickens are kept so that this is something which at least is extremely rare; we should try to prevent it completely. The attitudes to the animals are quite different according to the numbers. The reason for that is partly the attitude of the people involved; they will identify with individual cows and know them. The people looking after chickens do not identify with individual chickens and, as has been said already, very large numbers of animals should not be being looked after by very small numbers of people who have no incentive to treat them as individuals.

So, finally, some specific suggestions of changes which could occur in the law:

1. Keeping wild animals as pets. There should be a law that states that no wild-caught animal should be kept as a pet.

That would include animals which are wild coming from other countries. There are difficulties in working out whether the animal is wild or not, but I think we should have a law of that kind. Pets, in other words, should be captive-bred, but you might allow animals which were wild to be brought into a captive-breeding scheme for pet ownership. Wild animals should not be kept as pets at all.

2. The second change concerns cruelty to wild animals. The Protection of Animals Act does not include wild animals. It is quite legal to go out into the countryside, find a hedgehog and pull off its legs one by one. If a policeman observes you doing that he cannot do anything about it because we have no law which makes it illegal to be deliberately cruel to a wild animal. The reason for that is principally to protect people who are hunting; I think that is unreasonable. We should have a law which prevents deliberate cruelty to animals even if those animals are wild.
3. There should be better laws requiring that housing conditions are provided which are sufficient for animals' needs. Animals on farms, in laboratories, in zoos, those kept as pets; there ought to be tighter laws saying what conditions are acceptable. In all those cases there are animals kept in very poor conditions where their needs are not met.
4. At the moment anyone can decide to be a farmer and look after 300 pigs. Nobody can stop someone who knows nothing about pigs from becoming a pig farmer. I think that is wrong; it should be necessary for someone to have a licence in order to keep animals, including keeping animals on farms. That would very much encourage education, the sort of courses which are run by universities, the agricultural colleges, the Agriculture Training Board. These sorts of courses are needed by anyone who keeps animals, and you ought not to be allowed to keep animals unless you have attended such a course. Also, it would be possible to remove a licence from someone who had not looked after animals properly.
5. This point concerns slaughter, which has been mentioned already; however, I would just mention that as far as religious slaughter is concerned, recent research makes it absolutely clear that animals which are killed by cutting

their throats can go for between 15 and 120 seconds able to detect what is going on around them. It is therefore quite unreasonable to allow this; the animals should be stunned at the time the throat is cut. There are various other painful procedures that should be prevented; some laboratory tests on animals, some farm operations etc. We have more information on these now. It should be acted upon, and a number of these practices should be banned.

It is not just a matter of making laws. There has to be better enforcement, and most of all there needs to be better education; everybody in the country needs to hear more about animal welfare and animal conservation from an early age so that they are less likely to do things that have serious adverse effects on animals or the environment.