

Broom, D.M. 2006. Introduction – Concepts of animal protection and welfare including obligations and rights. In: *Animal Welfare*. Ethical Eye Series, 13-28. Strasbourg: Council of Europe Publishing.

Pre-publication copy

## **INTRODUCTION: CONCEPTS OF ANIMAL PROTECTION AND WELFARE INCLUDING OBLIGATIONS AND RIGHTS**

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### 1. Brief history of attitudes to animals

The idea that animals used by people should not be treated like inanimate possessions but should be protected from actions which might cause suffering, is very old and widespread in human society. Irrespective of any law, many people have condemned those perceived as being cruel to animals. On the other hand, cruelty was part of some forms of human entertainment. In Europe, laws intended to prevent cruelty to dogs and horses were passed as long as 200 years ago and were gradually extended to other kinds of animals. Most early laws referred to companion animals and working animals but not to farm animals. Some laws protected animals against the forms of animal experimentation which were considered likely to cause substantial pain to the animals. Laws were also passed which proscribed some forms of entertainment involving animals as being cruel but others were still permitted. Laws aimed at preventing poor welfare in animals have become more wide-ranging, both in terms of species and the different animal uses, and have been passed in more and more countries.

The treatment of animals is an area in which codes of conduct and descriptions of good practice exist. Even amongst groups of people whose objective was to kill animals, there have long existed unwritten codes of conduct concerning what actions were or were not permissible. For example, as discussed by Serpell (1986,1989), people using guns and dogs to hunt mammals or birds would expend energy and resources trying to ensure that, firstly animals were shot in a way likely to kill quickly and secondly that shot animals were found and killed rather than being left to die slowly. More recently, codes of practice relating to animals kept for food production and other purposes have been produced by various organisations (see 4. below).

The way in which animals are treated is much affected by the way in which the human user or carer thinks about those animals. If the animal is thought of as an object to be used which is little different from something inanimate, actions which cause poor welfare in the animals are much more likely than if the animals are considered to be similar in many ways to humans. Hence knowledge of animal functioning tends to engender respect where the animal is sentient, that is to say that it has significant capacity for awareness of itself and its relationships with its environment (see 5. below). In recent years, knowledge of animal functioning, particularly their behaviour and physiology, has increased rapidly and has been the

subject of much media attention. This is a major reason for increased concern about the welfare of animals.

Public concern about animal welfare has increased in many countries during the last thirty years and especially in the last ten years. Evidence for this is summarised in Table 1.

**Table 1 - Evidence for increased concern about animal welfare.**

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1.	Letters from the public, media coverage.
2.	References in parliamentary discussions and government statements.
3.	Requests for scientific evidence concerning animal welfare.
4.	Activity of scientific and other advisory committees.
5.	Funding of scientific research on animal welfare.
6.	Increased teaching and conferences.
7.	More legislation.

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(from Broom 1999)

Members of the public exert influence by letters to government, other public bodies and commercial organisations and by statements which appear in the media. Members of the European parliament report that they receive more letters about animal welfare than about any other topic. Politicians respond by raising the issues, including them in manifestos, seeking scientific information, encouraging further research and teaching, and passing laws.

People who own or work on farms, or other commercial organisations using animals, are influenced by a variety of factors when they are deciding on animal housing and management policies and when they are executing these policies. They will be endeavouring to make a profit so the monetary costs which they incur and the potential financial returns which they are likely to get for their product will be factors of major importance to them. A cost to those involved in animal industry, which may not be fully appreciated by many of them, results from consumers who do not like some aspect of production and refuse to buy the product (Broom 1994).

The attitudes of animal users depend upon early training, traditional practices, acquisition of knowledge from others subsequent to any training, personal experience and general beliefs and philosophy. Training did not, until recently, include much information about animal welfare except where it impinged on profitability. Even diseases were often mentioned in agriculture training only in relation to effects on growth, offspring production or product quantity and quality. Today's training courses are more likely to include information about the welfare of the animals and most agricultural trade journals nowadays cover animal welfare issues. Traditional practices are often deemed by farmers, or others keeping or using animals, to be right for the sole reason that "this is the way that we have always done it". Although some of these methods are the best ones to produce good welfare, others are not and traditional methods and practices should not persist just because they are traditions.

Farmers and other animal users have to live with their families, friends and neighbours. If these people are critical of the effects on the welfare of animals of the methods used, the farmer may change these methods. In some cases, the animals are very obvious to all who pass by the farm. If a sheep or cattle farmer has many animals which are noticeably lame, there will be a considerable likelihood that someone will

comment on this to the farmer. Similarly, horse establishments or zoos whose animals are lame, may be criticised. People in charge of animals do not like to be thought incompetent or uncaring, so they may respond to such comments by giving the animals veterinary treatment or changing the management system so as to avoid lameness. If the animals are inside a building or otherwise hidden from public view, the number of people who might comment on poor welfare will be smaller and there is a greater chance that the farmer or other person responsible can persuade himself or herself that there are no significant welfare problems.

Meetings with others in the same business and trade magazines will tend to help animal users to arrive at common views about their various problems. A farmer, laboratory-animal technician, or zoo-keeper who has to reconcile himself or herself to poor welfare in some animals will find it easier to do so with the support of others. Such influences can slow down change towards better welfare in the animals, especially if economic factors mitigate against such change.

The views of the general public are largely made known to farmers and others involved in animal usage via the media. There is frequent coverage of animal welfare issues in newspapers, on radio and on the television and this, by bringing scientific knowledge about animal complexity to the attention of people, affects their attitudes. Farmers and some other animal users may see themselves portrayed as uncaring. Some such portrayals are unfair but others are correct and the farmer cannot hide from them by putting animals in buildings and associating only with other farmers. When public demonstrations about animal welfare issues occur, the people who use the animals need to take note of them. The demonstrations by great numbers of largely orderly and apparently normal people against the shipping of calves to conditions which were illegal within the United Kingdom, had a big influence on farmers and politicians alike. It is not the most vociferous people, some of whom may be rather extreme in their views, who have the greatest influence on animal users or politicians but the moderate people who represent a groundswell of public opinion. In many recent surveys in Europe, animal welfare has been shown to be an important issue for the general public. For example about three quarters of people questioned in France regarded animal welfare as a problem affecting their purchasing of veal or eggs (Ouedraogo 1998) and 34% of 420 schoolgirls questioned in Dublin stated that they avoided eating meat, principally (53%) for animal welfare rather than nutrition (29%) reasons (Ryan 1997).

## 2. Welfare and related concepts

The scientific study of animal welfare has developed rapidly during the last fifteen years. The concepts have been refined and a range of methods of assessment have been developed. Substantial challenges to animal functioning include those resulting from: pathogens, tissue damage, attack or threat of attack by a conspecific or predator, other social competition, complexity of information processing in a situation where an individual receives excessive stimulation, lack of key stimuli such as a teat for a young mammal or social contact cues, lack of overall stimulation, and inability to control interactions with the environment. Hence potentially damaging challenges may come from the environment outside the body, e.g. many pathogens or causes of tissue damage, or from within it, e.g. anxiety, boredom or frustration which come from the environment of a control system. Systems that respond to or prepare for

challenges are coping systems and **coping** means having control of mental and bodily stability (Broom and Johnson 1993). Coping attempts may be unsuccessful, in that such control is not achieved, but as soon as there is control, the individual is coping. Systems for attempting to cope with challenge may respond to short-term or long-term problems, or sometimes to both. The responses to challenge may involve activity in parts of the brain and various endocrine, immunological or other physiological responses as well as behaviour. However, the more that we learn about these responses, the clearer it becomes that these various types of response are inter-dependent. For example, not only do brain changes regulate bodily coping responses but adrenal changes have several consequences for brain function, lymphocytes have opioid receptors and a potential for altering brain activity, heart-rate changes can be used to regulate mental state and hence further responses.

Some coping systems include **feelings** as a part of their functioning, for example pain fear and the various kinds of pleasure, all of which are adaptive (Broom 1998). Bad feelings which continue for more than a short period are referred to as **suffering**. Other high or low level brain processes and other aspects of body functioning are also a part of attempts to cope with challenge. In order to understand coping systems in humans and other species it is necessary to study a wide range of mechanisms including complex brain functioning as well as simpler systems. Investigations of how easy or difficult it is for the individual to cope with the environment and of how great is the impact of positive or negative aspects of the environment on the individual, are investigations of welfare. According to Broom (1986, 1996, 1998) the **welfare** of an individual is its state as regards its attempts to cope with its environment and this includes feelings and health. Welfare is a characteristic of an individual at a certain time and the state of the individual can be assessed so welfare will vary on a range from very good to very poor. Welfare concerns how well the individual fares, or goes through life. Some other authors place sole emphasis on feelings when defining welfare (Duncan and Petherick 1991). Equivalent words in other languages include bien-être, bienestar, bem estar, benessere, Wohlergehen, welzijn, velfærd, and dobrostan. **Health**, like welfare, can be qualified as good or poor and varies over a range. It refers to body systems, including those in the brain, which combat pathogens, tissue damage, or physiological disorder. All of this is encompassed within the broader term welfare so, according to this approach, health is a part of welfare. This view is gaining in acceptance amongst scientists and veterinary practitioners but some would not accept it.

The assessment of welfare (Broom and Johnson 1993) should be carried out in an objective way, taking no account of any ethical questions about the systems, practices or conditions for individuals which are being compared. Once the scientific evidence about welfare has been obtained, ethical decisions can be taken. Much of the evidence used in welfare assessment indicates the extent of poor welfare in individuals but it is also important to recognise and assess good welfare, i.e. happiness, contentment, control of interactions with the environment and possibilities to exploit abilities. Good welfare in general, and a positive status in each of the various coping systems, should have effects which are a part of a positive reinforcement system, just as poor welfare is associated with various negative reinforcers. We need to identify and quantify indicators of good welfare as well as those of poor welfare.

Most people who speak of **stress** refer to a situation in which an individual is subjected to a potentially or actually damaging effect of its environment. However, the usage of the term has sometimes been confusing as it has been used to mean three different things: an environmental change which affects an organism, the process of affecting the organism, or the consequences of effects on the organism. Some people have limited stress to one kind of physiological response mechanism, hypothalamic-pituitary-adrenal cortex (HPA) activity, or to mental rather than physiological responses. However, it was demonstrated by Mason (1971) and many other studies that several different responses to challenges could occur: HPA activity is temporarily increased during courtship, mating, active prey catching and active social interaction, none of which would be considered to be stressful by the majority of the general public or of scientists. To equate stress with HPA axis activity renders the word redundant and is considered unscientific and unnecessary by most scientists working in the area. Another meaning which has been ascribed to stress makes it largely synonymous with stimulation. If every impact of the environment on an organism is called stress, then the term has no value. Many stimuli which affect individuals in beneficial ways would never be called stressors by most people. Stress is an environmental effect on an individual which overtaxes its control systems and results in adverse consequences, eventually reduced fitness (Broom and Johnson 1993). The ultimate measure of fitness is the number of offspring reaching future generations and there are many different ways in which challenges overtax control systems and have such effects.

The environment of an animal is appropriate if it allows the animal to satisfy its **needs**. Animals have a range of functional systems controlling body temperature, nutritional state, social interactions etc. (Broom 1981). Together, these functional systems allow the individual to control its interactions with its environment and hence to keep each aspect of its state within a tolerable range. The allocation of time and resources to different physiological or behavioural activities, either within a functional system or between systems, is controlled by motivational mechanisms. When an animal is actually or potentially homeostatically maladjusted, or when it must carry out an action because of some environmental situation, we say that it has a need. A need can therefore be defined as a requirement, which is part of the basic biology of an animal, to obtain a particular resource or respond to a particular environmental or bodily stimulus. There are needs for particular resources and needs to carry out actions whose function is to obtain an objective (Toates and Jensen 1991; Broom 1996). Needs can be identified by studies of motivation and by assessing the welfare of individuals whose needs are not satisfied (Hughes and Duncan 1988a,b; Dawkins, 1990; Broom and Johnson, 1993). Unsatisfied needs are often, but not always, associated with bad feelings whilst satisfied needs may be associated with good feelings. When needs are not satisfied, welfare will be poorer than when they are satisfied.

Some needs are for particular resources, such as water or heat, but control systems have evolved in animals in such a way that the means of obtaining a particular objective have become important to the individual animal. The animal may need to perform a certain behaviour and may be seriously affected if unable to carry out the activity, even in the presence of the ultimate objective of the activity, for example rats and ostriches will work, in the sense of carrying out actions which result in food presentation, even in the presence of food. In the same way, pigs need to root in soil or some similar substratum (Hutson, 1989), hens need to dust-bathe (Vestergaard,

1980) and both of these species need to build a nest before giving birth or laying eggs (Brantas 1980, Arey 1992). In all of these different examples, the need itself is in the brain and is not physiological or behavioural but may be satisfied only when some physiological imbalance is prevented or rectified, or when some particular behaviour is shown.

### 3. Legislation effects on welfare

Legislation has effects on how people house and manage animals. It is generally initiated by pressure from voters on elected politicians. In a scientific area the politicians need to know the latest state of scientific knowledge on the subject. As a consequence, the European Union has set up scientific committees on a range of subjects. The former committees considering animal welfare were the Scientific Veterinary Committee, Animal Welfare Section and the Scientific Committee on Animal Health and Animal Welfare. The present committee is the European Food Safety Authority Scientific Panel on Animal Health and Welfare.

Legislation within European countries and E.U. Directives and Regulations have usually been preceded by Recommendations from Council of Europe committees such as the Standing Committee of the European Convention on the Protection of Animals Kept for Farming Purposes. This last Committee has produced Recommendations on: poultry kept for egg production, pigs, cattle, animals used for fur production, sheep, goats, chickens kept for meat production, ducks etc. There are other Conventions on the protection of pet animals, animals for slaughter, animals used for experimentation and animals during transport. The information in the Conventions and Recommendations has formed the basis for legislation and codes of practice in many countries.

On a world-wide scale the Organisation Internationale des Epizooties (OIE) or World Organisation for Animal Health is now producing sets of recommendations which are likely to be treated like laws by most nations in the world, just as OIE recommendations on animal disease are respected.

The actual effect of legislation on the welfare of animals depends upon the responses of those owning and managing the animals. This response, in turn, depends upon the nature of any enforcement. Some systems for farm animal production will not continue if they are made illegal because they depend upon large manufacturers who are easily forced to change to a legal system. Other aspects of legislation can be enforced only by checks on farm, transport vehicles, markets, slaughterhouses etc. and the extent of law-breaking will be significantly affected by the frequency and quality of the checks. For many transgressions, unannounced inspections are necessary if transgressors are to be discovered. There are regional and national differences in the seriousness with which legislation is viewed by those involved in the animal production business.

### 4. Retailer-produced codes of practice

Farmers often sell animals or their production of milk, eggs etc. to single purchasers who represent large retail chains or wholesale distribution companies. The increase in direct selling to supermarket chains has led to considerable power being placed in the hands of these supermarket companies. It is possible for these purchasers to lay down conditions for animal production and to enforce these by inspection. The standards set by the supermarket chains are determined by what people will buy and by their reputation with the public.

The public image of large companies which retail food, including supermarket chains and fast-food companies, is of great importance to them. Bad publicity because of a risk to public health, a risk to the environment or the occurrence of poor welfare at any stage of the production process can be very damaging. Hence it is in the interest of such food companies to avoid any scandal which might threaten their good image. When these companies receive many letters from consumers complaining about a product which they sell, they have to take notice of the points which are being made.

As a consequence of consumer pressure, food retail companies are adopting standards which they impose on their suppliers. In some cases, these standards are quite simple, for example Albert Hein in the Netherlands and elsewhere limited their sales of eggs to "scharreleie" which meant that the hens were reared in conditions where they could scratch in litter. Marks and Spencer in the U.K. and elsewhere stopped selling eggs from battery cages. In other cases, elaborate standards have been described in detail and sent to suppliers. One of the first systematic attempts to provide comprehensive information about the conditions under which animals were kept in the course of food production was the "Freedom Foods" scheme run by the R.S.P.C.A. in the U.K. In this scheme, the standards for housing and management have been set by a widely respected animal protection society and farms are inspected by Freedom Foods staff. Retailers who subscribe to the scheme are allowed to use the Freedom Foods logo which is accepted as honest by the purchasing public. Acceptance, by the public, of products which are produced in such a way that the welfare of the animals is good, depends upon trust in the organisation which is carrying out the labelling and inspection. Some large supermarket chains and other food retailers are trusted because it is thought that they could not afford to be found out if they were not labelling and policing adequately.

The enforcement of standards by food retailers has led to substantial changes in the welfare of animals on farms because every producer has to conform to the standards in order to sell their products. The rapid development of such schemes in several countries has, in general, been based on scientific evidence about animal welfare.

##### 5. Obligations to animals: do they have rights?

Moral actions are directed more towards those identified as "us" than towards those considered to be "them" (Broom 2003, 2005 in press). Categories included as us may be: (a) individuals readily recognised as close relatives, (b) all of those who know who I am, (c) those who might have access to the same information that I have, or (d) sentient beings who share characteristics with me. Increased communication efficiency is revolutionising our degree of concern for other humans and extending our area of moral concern to other species. Companion animals will be in category (a) for some people. Serpell and Paul (1994) found that many pet owners stated that

they regarded their pets as part of their family. Most pet owners would include their pet in category (b) and all who consider animals to be sentient, or who know that most mammals have over 90% of the same genes as humans, would include some or many other species of animals in categories (c) or (d). In many societies now, education levels are high and there is easy access to good quality information about people in other countries and about animals whose abilities are complex. Hence the likelihood will decline that people will cause, or tolerate poor welfare in foreign people or animals perceived to be aware. It is of particular interest that changed attitudes to animals appear to be linked more closely with the education level of people than to their affluence. In countries which are relatively poor, but well educated, interest in animal welfare may be such that people are willing to incur some degree of financial loss rather than benefit from poor welfare in animals.

If we use a living animal in a way which gives us some benefit, we have some obligations to that animal. One obligation is to avoid causing poor welfare in the animal except where the action leads to net benefit to that animal, or to other animals including humans, or to the environment. A utilitarian approach is not sufficient to determine all obligations, however, and a deontological approach is also needed because there are some degrees of poor welfare which are never justified by benefit to others.

It is my view (Broom 2003, p 130) that all human behaviour and laws should be based on the obligations of each person to act in an acceptable way towards each other person and to each animal which is used. It is better for strategies for living to be based on our obligations rather than to involve the concept of rights. This is because many so-called rights can result in harm to others. There are occasions when people state that they have a right to say what they want, or drive as fast as they want, or carry a gun, or select the sex or genetic make-up of their children. In each of these cases the action could cause hurts to others which would be accepted by very few people. Whilst arguments based on a concept of rights may sometimes be clearly wrong, arguments based on the obligation of one individual towards others do not suffer from such problems. Hence my conclusion that the concept of rights is not the best to use and that each person should always focus on how they ought to behave. As far as animal rights are concerned, there are no legal rights stated but there are many statements, codes of conduct, or unwritten rules which explain the obligations towards animals of those people who use the animals.

The argument presented above criticising the use of the term rights is also applicable to references to the freedom which an individual asserts or which it is said should be given. Efforts to list the freedoms which should be allowed to the animals which we keep have been of use as a general guide to management but with the development of information about the needs of animals, it is now possible to be more precise in laws or guidelines for animal care and all of these should refer to needs rather than to freedoms.

The most widely accepted obligation to animals which we use concerns avoidance of poor welfare so learning about animal welfare and its scientific basis is very important for all who have frequent contact with animals.

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