# Science-based assessment of animal welfare: companion animals

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#### **Summary**

Human history reveals that the way in which humans treat animals is based on their views of themselves as well as of the living environment around them. These views may vary from an assumption of human superiority to one of equality between humans and animals. Recent trends affecting companion-animal welfare are: modern philosophies on animal issues, the specialised and varied roles that companion animals play in modern societies, new results from animal neuroscience, human-animal interaction studies and the new profession of companion animal ethology.

This paper concludes that applied ethology could provide science-based criteria to assess companion-animal welfare. Due to the integral part that companion animals play in human societies, the paper is divided into an animal component that deals with the animal's basic needs and its ability to adapt, and a human component assessing the living environment of animals as provided by humans and responsible companion-animal ownership. The greatest challenge for future research is to find ways to disseminate knowledge of companion animal ethology to companion animal owners.

#### **Keywords**

Applied ethology – Assessment – Companion animal welfare – Owner education.

### Introduction

There is no doubt that animal welfare has been receiving growing recognition in the veterinary field, especially since the 1990s. The first Animal Welfare Session was held at the 26th World Veterinary Congress in 1992 (28), and the Royal College of Veterinary Surgeons and Universities Federation for Animal Welfare held an important Animal Welfare Symposium in 1998 (14). Between 1996 and 2004, the International Companion Animal Conference held six meetings at which, among other things, veterinary involvement in welfare matters was discussed (12). However, this increasing attention certainly does not mean that there is any consistency in the definition or evaluation of animal welfare (2).

One of the reasons is that animal welfare is often dealt with from a value-judgement point of view. This implies that people form opinions inside certain paradigms or from specific starting points, which will lead to predictable outcomes. Such views may appear self-evident within particular circles, but every one of those views excludes all other opinions. A more universal approach dealing with animal welfare could be achieved by establishing a science-based assessment. Such an approach to companion animal welfare should attempt to accommodate most views in widely accepted guidelines. However, before discussing science-based assessment, it is appropriate to recapitulate some general views on animals and their welfare. The reason is to attempt neither to leave anyone behind in the process nor to establish a divide between scientists and 'non-scientists'

### Views on animals

Since humans started to record history, animals have been treated in every sort of way and given every sort of status

in human societies. Some animals enjoyed divine status, as representing the Saviour who could free people from their sins. (In the Old Testament of the Bible animals were slaughtered as offerings for people's sins, and this ritual was replaced in the New Testament with the Saviour who has sacrificed himself for the sins of all Christian believers.) Animals were used in cultic sacrifices, were sometimes viewed as demons or were believed to be intermediate forms during human reincarnation.

Animals were killed mercilessly for food and other products, hunted for prey or blood sport, and exploited in various other ways for human entertainment. Sometimes animals have been tortured and 'murdered' by angry people who have displaced their anger onto these creatures, despite the fact that animals did them no harm and posed no threat. They were punished in public for 'wrong behaviour' and were 'imprisoned' (caged) as people deemed necessary, and conscripted without choice into human wars (29).

Animals were killed to secure living spaces or necessary resources for human settlements. Animals were allowed to breed in an uncontrolled manner in unnatural environments, causing overpopulation and limiting survival resources. The human response often included eradicating 'animal pests' with traps and poison. Animal offspring were separated from their parents at a very young age, without consideration of the effects on any of the creatures affected. Animals were used extensively as suitable objects for experimentation and genetic manipulation.

Yet animals have also been treated and viewed as humans with human characteristics (anthropomorphism), or conversely humans have adopted some animal characteristics or chosen animals in symbols and logos to represent teams, companies, institutions, tribes or countries. Animals are also depicted in all human cultures by means of art, music and literature, and in modern commercial art (advertising) are used to help sell products.

These ambiguous attitudes are related to the way humans see not only other creatures but also themselves – because all these assumptions and behaviours also reflect the ways people have viewed and treated other humans. In a certain sense, the historical view of deities and demons in both human and animal form perceives them as equivalent. In certain instances this is a sad correlation, but in a crude way it does reflect the intimate relationship between humans and animals.

Some people may see themselves as completely superior to the environment and animals, while others may see themselves as equal parts or even lesser parts of our environment as a whole. The first view creates a clear hierarchical distance between humans and animals: nature exists to serve humans and human considerations are the only guidelines for using natural resources. In the second instance, humans form such an integral part of nature that any decision regarding nature should profoundly consider environmental factors and the lives of animals.

Both these opposing views of superiority and equality may contain elements of truth, although to take either view to an extreme is seen as unacceptable to mainstream thought. The approach to the human-animal/environment relationship will vary, depending on many factors that range from human self-interest to sensitive environmental ethical considerations. On a continuum, these opposing attitudes allow for many intermediate views between the extremes. Furthermore, the fact that all these views may be in some way valid makes a universal approach to animal welfare a major challenge. It is not simply a matter of cultural, geographical or temporal differences, but also of the fact that within cultural groups, at different places and different times, attitudes vary between the extremes of the continuum. To complicate the matter further, the views of even a single individual may vary when considering different issues related to animal welfare. The way humans view animals is not necessarily consistent, and views may even change over time in an individual's own lifetime (1). During animal welfare debates, people often refer to the popular philosophical views outlined below.

Probably the idea that is most often cited to indicate a complete misunderstanding of animals as sentient beings is the declaration by René Descartes (1596 to 1650) that animals are 'automata': living machines or things. Descartes did not think much more highly of the human body either, and therefore proposed a dualistic approach to human existence that separates body and spirit. This philosophy led to the belief that humans need not consider animals from a moral or ethical point of view, because such 'mechanical' creatures are nothing more than instruments to be used and even abused according to the wishes of the human (spirit?) in charge (25).

Emmanuel Kant (1724 to 1804) argued that cruelty towards animals cannot be condoned, not because the standing of animals had improved, but because such behaviour would reflect negatively upon the human who inflicts the cruelty. In this view, a moral obligation to uphold animal welfare, or rather to abstain from cruelty, relates to human behaviour and is not based on any recognition of animals' standing in the realm of life (7).

Albert Schweitzer (1875 to 1965) believed that life, in contrast to non-life, ought to be lived and is intrinsically valuable, good and relevant; Schweitzer's philosophy also embraced animal life. This approach may be linked to so-called holism: an interconnectedness that is supported by traditional Eastern beliefs (5) as well as the modern Gaia theory of James Lovelock (13).

Another view of animals is contemporary utilitarianism. Peter Singer conferred some moral worth on animal existence by extending to animals the basic moral ideas of equality and human rights (30). Traditional utilitarianism weighed up the costs and benefits of our interactions with animals and attempted to justify such interactions in a pragmatic way (7). Modern animal rights movements address issues such as speciesism – which the movements' proponents see as similar to racism, slavery and sexism – as well as the moral standing of animals as sentient beings (24).

This overview of some aspects of the human-animal relationship indicates a progression from one end to the other of the continuum of animal welfare issues. In a South African survey among second-year veterinary students, opinions on animal rights covered the continuum as follows: 18% were very supportive of animal rights, 67% had 'balanced opinions' and 15% were strongly opposed to the concept (17). Among experienced veterinarians, the results were: 6% giving strong support, 92% with 'balanced opinions' and 2% strongly opposed (20).

#### Modern science and the human-animal debate

The 'simple' building blocks of life, the four bases of the deoxyribonucleic acid molecule, are responsible for the commonality as well as the extremely complex variations and differences in biology. It is possible that many aspects that are recognised as distinctly human characteristics could be present in at least some animals, either in a highly developed form or at a rudimentary level. Hierarchies in the biological world have developed that reflect the characteristics of organisms at their current level of evolution. This would be especially true in an evolutionary approach where commonality and differences are an intrinsic part of the recognition of kingdoms, orders, classes, families, genuses and species. One should be careful not to focus solely on similarities or differences, because both are consistently present. Another aspect to keep in mind is that similarities cannot be based only on exceptions or extreme examples, but rather on broad tendencies and detailed analysis of behavioural patterns and abilities of a species. Any modern philosophical approach should not only deal with the many ambiguities among human views, but also consider how to meaningfully interpret existing biological similarities and differences. Any one-sided view will certainly draw criticism from the opposite perspective (1).

# New trends related to companion animal welfare

During the past thirty years, five clearly distinct trends have developed that have focused more attention on the

welfare of companion animals, which are defined as those animals staying in the company of humans or providing company to humans (27). The next sections will discuss these various trends, followed by an evaluation of possible constraints in the way these trends apply to animal welfare assessment.

#### **Philosophies**

Modern philosophies on the standing of animals have brought them closer to humans in moral and ethical status. Despite this trend, however, discrimination still exists regarding the level of development of an animal, and its consequent acceptance as part of human morality. However, concerns about how animals should be treated are more widespread than ever before. Animal activists are operating all over the world and ensuring that comprehensive media coverage makes most people aware of animal welfare issues. Most of these awareness campaigns are driven by philosophical convictions (17). This awareness of animal issues must surely also embrace companion animals (26).

This trend towards activism relates to peoples' thinking and is usually driven by leading animal-welfare philosophers – learned people who theorise on animal welfare issues. One could also describe their contribution as the science of ideas. However, since the activist approach tends to exclude any other view on animal issues, it is not suitable for practical applications.

#### Sociology

Companion animals play more specialised and varied roles in human societies than ever before. In modern human communities, such animals could be described as pests, artefacts from nature, 'pet traps' (where there is an initial 'love or cute stage', which is later replaced by the responsibilities of keeping a companion animal), 'parasites', environmental hazards or necessary evils. They could also be described as pest controllers, biological security systems, recreational partners, contributors to people's sanity, and equals to humans that share the same intimate life space. One thing about companion animals is certain, and that is that their different roles in modern societies cannot be ignored. Sociological studies even suggest that conclusions could be drawn about human behaviour by assessing the behaviour and welfare of animals within a particular community (10). Since it is estimated that almost half the households in Western societies keep companion animals (some households keep many animals), the overall social role of companion animals is significant, especially as most companion animal owners refer to their companions as members of the family (16). Such an impact has legal ramifications in terms of laws regulating companion animals and the responsibilities of their owners.

Furthermore, the economic impact of the keeping of companion animals is apparent in formal published reports from a number of countries. Although such surveys started with pet-food manufacturers who wanted to assess market potential, the market covers much wider aspects than just food (18). People are also economically involved in the welfare of ownerless companion animals, boarding kennels, breeding and the import and export of breeding stock, shows, sport and other types of competitions, utility animals, grooming parlours and the wide variety of shops that sell items related to the keeping and use of animals. The companion animal health industry involves veterinarians, nurses and assistants, as well as medical insurance schemes. Dogs play an important role in the public and private security services, and dog trainers are an integral part of this industry.

Social, legal and economic factors are quite often influenced by an emotional approach to companion animal welfare matters, and such feelings may at times override rationality. The social sciences approach, dealing with the feelings of groups of people, often contributes to more tension regarding welfare aspects rather than providing an objective norm for evaluation.

#### **Empirical studies**

A large body of new empirical evidence about the physiology of animal brains is becoming available, and scientific studies generally indicate similarities between humans and their animal companions. Studies also include overt behavioural observations that evaluate ability and capability, testing for learning, problem solving, and using toys and tools, as well as the social structures and relationships of animals. Many of the studies are done on primates and other higher-order species such as dolphins and companion animals, but some also involve birds. Many of these studies are associated with controlled experiments within artificial environments or laboratories, and the results are often presented as findings from highly sophisticated apparatus (3, 6, 9, 15, 23, 31).

The results of studies of animal minds could be useful in companion animal welfare debates, particularly as the studies provide proof of the closeness between humans and companion animals (although such approaches are inaccessible to most companion animal owners). The information is based on the basic sciences of neuro-anatomy (form) and neuro-physiology (function), as well as applied studies such as evolutionary comparisons of behavioural patterns. Although this approach is science-based, it is unsuitable for providing practical assessment parameters; its value lies only in helping the understanding of welfare issues.

#### **Human-animal interaction**

The development of a relatively new academic discipline, known as 'human-animal interaction studies', has contributed much to the understanding of modern relationships between humans and companion animals. Scientists in this field approach the phenomenon of human-animal relationships in a systematic way, and have to a great extent departed from the purely philosophical and emotional approach to animals as human companions. The discipline has made so much progress that the World Health Organization has lent some support to animalassisted therapy (11). However, concerns have been raised about the welfare of animals being used for therapy in clinical situations. The question arises: when people feel comforted by positive interaction with animals, do the animals feel the same? Or are they only 'instruments' in such a situation, with no benefit to themselves? Recently, scientific support has been found for animal-assisted therapy by identifying the role of some neurotransmitters during positive interactions between humans and dogs. In a novel approach, the role of the same neurotransmitters in both humans and dogs was established during interactions. Results indicated that both parties experienced the same positive effects, which means that the animals benefited as much as the humans; in other words their welfare was not compromised (22).

Studies of human-companion animal interaction should certainly consider the welfare of the animals involved but (although such concerns are brought to the surface in these studies from time to time) animal welfare is clearly not the main theme of such studies. Thus, the field of human-animal interaction studies is inadequate in providing the necessary guidelines for companion animal welfare, unless ethology – which is often incorporated in these studies – is used to provide such guidelines.

#### **Ethologists**

Specialisation in ethology (the study of animal behaviour) has established a new profession, that of the companion animal ethologists or behaviourists. Ethology deals with the needs of companion animals in their everyday environments. Whether such needs are fulfilled or not becomes apparent in the evaluation of the animals' overt behaviour in relation to their specific environments. The science of animal behaviour should thus form the basis for assessing the welfare of companion animals.

This trend towards the recognition of companion animal ethology practitioners not only can provide a science-based assessment for companion animal welfare, but also be practical and probably more inclusive than any of the other approaches described above.

# Science-based assessment criteria for companion animal welfare

This paper does not deal in the first instance with animals that are obviously neglected or abused, which will be cared for by animal welfare organisations. The emphasis is rather on companion animal welfare where animals are sharing companionship with humans. In other words, the paper deals with animals as an integral part of human society. For this reason, the discussion of assessment criteria will be divided into an 'animal component' and a 'human component', and each component will be again divided into different sections (19).

#### **Assessment of the animal component**

#### Companion animal ethology

The first section of this component is based on companion animal ethology. It considers scientific knowledge of the basic needs of companion animals as indicated by their:

- behavioural systems (ethogram)
- social needs in an interspecific social structure
- developmental needs, which will vary at different stages of development
- learning needs, in terms of what is expected of the animal in a human environment
- specific or individual physiological needs that could be species, breed, gender or age related.

All the needs mentioned above are well described in companion animal ethology, and they provide a suitable basis for objective science-based welfare assessment. The criteria will be the expected or normal behaviour for a specific individual as related to its species, breed, gender and age. Any deviations could indicate that some of the needs listed above are not being fulfilled. Obviously, when problems are encountered, they may not indicate a case of intentional cruelty, but rather a lack of knowledge by the owner. The 'needs' approach to animal welfare replaces the 'pain-and-fear' approach, because welfare can be compromised by unfulfilled needs that are not manifested in pain or fear. Behavioural scientists should also be able to distinguish between different aspects of the animals' needs and behaviour:

- 'normal' or expected needs for a particular species, breed, gender and age
- behaviour that is 'unacceptable' to an owner, but that is normal for the animal

- 'abnormal' behaviour, which is characterised by behaviour that always occurs in the minority of an identified population; is harmful to the animal, other animals or humans; or that occurs at the extremes on the continuum of normal behavioural patterns
- behaviour induced by humans, known as 'wants' as opposed to basic 'needs'.

#### Potential for confusion

The second section of the animal component deals with behaviour that could be quite confusing if non-scientists assess animal welfare. It is not always easy to distinguish between normal, unacceptable, abnormal and induced behaviour, and non-scientists could apply the needsapproach criteria in a mechanistic way. People without scientific training will probably not consider other biological aspects of animals, such as their ability for habituation, socialisation, desensitisation and adaptation. When assessment is done only from a checklist of expected behaviours, without scientific insight into biology, assessors may draw the wrong conclusions (2). Assessment of proper adaptation is often done by the 'absent approach', namely, the absence of:

- problem behaviour
- injuries
- disease
- superficial stress signs such as increased pulse, respiration and perspiration/salivation rates, poor appetite, lack of performance, lack of libido and an anxious or depressed appearance (4).

Although clinical/laboratory measurements for stress are available, a companion animal ethologist can also diagnose stress by carrying out an assessment based on behavioural science criteria.

#### **Assessment of the human component**

#### The environment of companion animals

The first section of this component deals with the environment that humans provide for their animal companions. Obviously, it will be a human environment, but a balance should be found between the environment that is provided and ways of fulfilling the basic needs of companion animals. Sometimes the financial implications of correcting an artificial environment may make improvements difficult; in other cases, however, needs are not met merely because an owner is not aware of what needs should be fulfilled or how to do this (8). Enrichment of environments is a well-accepted behavioural principle for keeping animals, but many owners still think they can put their 'Descartes-automata-animals' away like toys in a box until they need them again. The availability of basic

life-spaces, including suitable exercise areas, is part of an animal's environmental needs. Other aspects to be considered are measures that should be taken for maintaining hygiene, transport 'environments' and, where applicable, also specially provided facilities for housing, breeding or handling.

#### Human responsibility for companion animals

This section of the paper deals with human responsibilities for guardianship or ownership. Here, humans and companion animals are not seen as 'us and them', but as a complementary dyad that can be described as a symbiotic social system. Considering the large numbers of animals that share the company of humans, it is of critical importance also to have assessment criteria for responsible companion animal ownership.

To provide a perspective on companion animal ownership, ownership should be linked to the definition of domestication, which is 'the process whereby humans take responsibility for the selection and care of animals'. The term 'process' indicates that domestication is an ongoing activity. The more we learn about our animal companions and the better we understand their basic needs, the greater progress there is in the continuously refined process of domestication.

As in the case of assessing companion animal behavioural issues, assessment criteria for responsible ownership should be practical and logical (science-based), and set standards that the average owner can meet. The implication is that when a companion animal displays unacceptable behaviour in a human community (e.g. in the case of a dog that bites), the blame should not automatically be placed on the animal. The owner's responsibility should always be considered as part of the assessment. The following five criteria are proposed to assess responsible companion-animal ownership (19).

#### Choice or selection of animals

Owners have the choice of keeping a companion animal or of living without one. If the choice is to obtain an animal, owners have the secondary choice of which animal to select. Some owners try to avoid this responsibility by claiming that the animal was a present or came by some 'accidental' means. The fact is, however, that owners willingly make the decision to integrate the animal into their lives. Keeping a companion animal is always a matter of choice, not of force or compulsion, irrespective of how the animal came into the care of the owner. All companion owners can therefore fairly be held responsible for the type of animal in their care. In too many instances the welfare of the animal is assessed without considering the owner's role as part of the ongoing domestication process of selection and care.

With regard to 'choice', owners have the luxury of choosing from a wide variety of 'species' and 'breeds', each

with specific needs. Background knowledge about the characteristics of species and breeds is important, because such knowledge will indicate the purpose that the animal is bred or selected for. There is also the choice of 'gender' for those animals that are dimorphic in their gender characteristics. Choice also includes the age at which the animal is obtained. Age has important care and development aspects that should be considered.

If a person chooses to become involved in the breeding of companion animals, an even greater responsibility rests on such an owner's shoulders. The selection of breeding pairs – with regard not only to external features, but also to health aspects and behavioural characteristics – will affect future generations of animals that new owners will have to choose companions from. Selection for genetic traits is a critical part of the domestication process, and in the case of companion animals, it will have a determining affect on the animals' welfare in human societies.

#### Socialisation

When the welfare of companion animals is assessed, socialisation – or the lack of socialisation – of the animals that are kept is important. Dogs, cats, birds, ponies and horses need proper socialisation, but so too do exotic animals, which may either be frightened of humans who approach them or be well socialised and comfortable with human company.

Some owners may say that the concept of proper socialisation only applies to the very knowledgeable. However, veterinarians, behaviourists, breeders and trainers are informing new owners about the need for socialisation of animals on a regular basis. If people want to keep animals as part of a human social system, they have to ensure that there is an acceptable level of tolerance and acceptance between the species. Socialisation is a learning process that should involve contact with people, other animals and different human environments from an early age onwards. If the necessary information on how to socialise animals is provided, socialisation of companion animals should be attainable by all owners.

Fortunately, socialisation classes for some companion animals are now available in many countries, but if all companion animals are to feel comfortable in human societies, there are still many owners who need education in this matter.

#### Training

Training often has a negative connotation among animal welfare professionals because of the methods used by some trainers. Therefore, people need to be clear about exactly what this concept means in the ownership assessment context. Training a companion animal does not mean teaching an animal to execute funny or complicated tricks. Rather, social animals need to learn what their role should

be in a social structure. Social animals have systems of 'education' to teach such roles among themselves; when they live in our social systems, they 'expect' that we too should teach them their place in our families. Many welfare issues are related to animals that simply do not know what is expected of them. The animals often get into trouble or are punished due to lack of the training that could indicate to them where they fit into an interspecific social system. Although training is often only associated with dogs as companion animals, training is necessary for all animals kept in the company of humans. It is not necessary to be an expert to achieve such a level of training, but owners need some basic knowledge of animal behaviour.

As well as teaching the animal how to behave in a human environment, training should also help to establish basic routines in the animal's life. This will not result in boredom, but will rather let the animal know what to expect and when from the owner. Establishing routines such as feeding, contact and play times will provide a feeling of comfort and safety. Routines will also help to align the animal needs with the owner's lifestyle.

#### Care and welfare

Most people would presume that an assessment of responsible companion ownership begins with care and welfare. However, before any care should be considered, the first three aspects should have been attended to: namely, the choice of animal, a pre-planned socialisation programme, and deciding what level of training and routines will be taught to the animal.

There are two types of care: basic and specialised. The first involves care provided directly by the owner, and the second by professionally trained people such as veterinarians and ethologists/behaviourists. Other specialist care providers are, for example, boarding kennel owners, welfare personnel, presenters of socialisation classes, professional trainers, dog walkers and animal groomers.

The care and welfare of animals was previously known as animal management or husbandry. However, it is more appropriate to use ethologically compatible terminologies because of the close association between care, welfare and behavioural needs (21).

Care by owners should be based on the basic needs of the animal that they choose to keep. The criteria are no different from the assessment of animal welfare in the animal component.

With regard to special care, owners should budget for such services if and when necessary. As well as lack of knowledge, finance can be a major limiting factor in companion animal welfare issues. A shortage of funds should be a criterion for not keeping 'high maintenance' companion animals.

#### Good neighbourliness

Human societies tend to organise their social lives with customs and laws, and local authorities therefore have rules, regulations or by-laws to keep order in society. Since companion animals live in close contact with their owners and human companions, some of those rules, regulations or by-laws will also pertain to the animals' presence and behaviour in human communities. In most cases it is expected that companion animal owners will:

- keep the environment unpolluted by the animals' excretions (hygienic aspects)
- avoid disturbances to neighbours (especially incessant animal noises)
- ensure that animals are not dangerous to people and other animals (dogs are still the number one culprits in this regard)
- be in control of a companion animal's movements at all times (this applies both when the owners are present on their premises and when they are absent).

These aspects may vary from place to place, but in essence such rules boil down to good neighbourliness. To achieve such peace and goodwill between neighbours, every companion animal owner should be aware and informed of local by-laws pertaining to animals.

## Future research and its application

It is clear that practical or attainable, and perhaps universal, criteria for the assessment of companion animal welfare should be based on the science of ethology. Although contributions from philosophical ideas, societal emotions, cutting-edge laboratory research on animal minds, and human-animal interaction studies should not be discarded or underestimated, these are all limited in their practical application for companion animal welfare assessment. Ethology can be compatible with all these approaches, use criteria that are scientifically sound, and apply those criteria for companion animal welfare assessment in practice. In a profound sense, applied companion animal ethology is companion animal welfare.

In future research, there should be less focus on creating new ideas (philosophies) about animal welfare, on the significance or implications of emotional feelings of members or groups of people in society, on a deeper understanding of neuro-physiology or on human-animal interaction studies of reasons for neglect and abuse of companion animals. Despite what research in any of these areas may bring to improve animal welfare, ethology already provides a corpus of knowledge that is sufficient to

assess and enhance companion animal welfare. The biggest challenge is to disseminate the existing knowledge to the majority of companion animal owners. For the immediate future, therefore, research should rather be directed towards answering questions such as the following:

- How can basic ethological principles be introduced in schools, and how else can the broad public be educated in companion animal welfare (animal needs)?
- How can members of organisations involved with companion animals be educated on this subject?
- Should breeders have to pass a test before engaging in breeding future generations of companion animals?
- Should members of the very large, worldwide security industry, be formally educated in dog and horse behaviour?
- To what extent should animal welfare staff be educated in order to be able to assess companion animal welfare according to ethological guidelines?

- How could animal behaviourists or ethologists play a bigger role in the education process on all levels?
- Should veterinary schools not give greater priority to the teaching of veterinary or health ethology (21)?
- Alternatively, should ethology, which is mostly a nonclinical subject, rather be left in the hands of nonveterinary professional ethologists?

At this point of time, education about companion animal needs and how owners can fulfil these needs will contribute more to companion animal welfare than any other available measure. The vital question is how and by whom owner education could be achieved, in order to ensure that the largest possible number of owners are competent to enhance the welfare of companion animals. If we intend to make a meaningful difference in companion animal welfare, owner education should be no less than our highest priority.

## Évaluation scientifique du bien-être animal appliquée aux animaux de compagnie

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#### Résumé

L'histoire de l'humanité révèle que la façon dont l'homme traite les animaux est le reflet de la vision qu'il a de lui-même ainsi que de ses conditions de vie. Ces points de vue sont divers, allant de l'idée d'une supériorité humaine à l'hypothèse d'une égalité entre l'homme et les animaux. Les tendances récentes qui influent sur le bien-être des animaux de compagnie sont les suivantes : les philosophies modernes appliquées aux questions animales, les rôles spécifiques et variés que jouent les animaux de compagnie dans les sociétés modernes, les nouveaux résultats de la neuroscience animale, les études sur l'interaction homme-animal, et la nouvelle profession de spécialiste de l'éthologie des animaux de compagnie.

Le présent article conclut que l'éthologie appliquée pourrait fournir des critères scientifiques visant à évaluer le bien-être des animaux de compagnie. Compte tenu du rôle indispensable que jouent ces animaux dans les sociétés humaines, l'article est scindé en deux parties : un volet axé sur les animaux, qui traite de leurs besoins fondamentaux et leurs capacités d'adaptation, et un volet axé sur l'homme, qui évalue le cadre de vie des animaux offert par l'homme et la détention responsable d'animaux de compagnie. La plus grande difficulté pour la recherche de demain consiste à trouver des moyens permettant de communiquer les connaissances en matière d'éthologie des animaux de compagnie à leurs propriétaires.

#### Mots-clés

Bien-être des animaux de compagnie – Éducation des propriétaires – Éthologie appliquée – Évaluation.

### Evaluación por métodos científicos del bienestar de los animales de compañía

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#### Resumen

La historia del ser humano pone de manifiesto que la manera en que trata a los animales responde a la concepción que tiene de sí mismo y de los seres vivos que lo rodean, lo que puede ir desde la convicción de la superioridad del hombre sobre los animales hasta la idea de igualdad entre unos y otros. Las tendencias actuales que influyen en el tema del bienestar de los animales de compañía son: las concepciones filosóficas contemporáneas acerca del mundo animal; las distintas funciones especializadas que cumplen los animales de compañía en las sociedades modernas; los nuevos resultados de las neurociencias aplicadas a los animales; los estudios sobre la interacción entre el ser humano y los animales; y la nueva disciplina llamada etología de los animales de compañía. El autor llega a la conclusión de que la etología aplicada puede ofrecer criterios científicos para evaluar el grado de bienestar de los animales de compañía. Dado que éstos forman parte integral de las sociedades humanas, el autor divide el artículo en un capítulo sobre los animales, dedicado a sus necesidades básicas y su capacidad de adaptación, y otro sobre las personas, centrado en el entorno que éstas proporcionan a sus animales de compañía y en las responsabilidades que se derivan de la propiedad de uno de ellos. De cara al futuro, el principal reto de los investigadores es encontrar la manera de hacer una labor pedagógica entre los propietarios acerca de la etología de los animales de compañía.

#### Palabras clave

Bienestar de los animales de compañía — Educación de los propietarios — Etología aplicada — Evaluación.

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