1
THE MORAL STATUS OF ANIMALS

Biological foundations

John Webster

Morality is conventionally defined as the differentiation of intentions, decisions, and actions into those that are proper and improper. This is easy to say but it immediately raises questions as to what is and is not proper. Philosophers, religious leaders, politicians, and folk down the pub have been arguing over these questions forever and we must all be aware of moral standards that have changed even within the last 30 years; our attitudes to animal welfare being among them. There are, however, two moral principles that have stood the test of time. These are the Categorical Imperative and the Golden Rule. The Categorical Imperative of Immanuel Kant requires each individual to act according to the maxim “whereby you can, will that (your actions) should become a universal law” (Knowles and Partington 1999). The Golden Rule is most simply described as “do as you would be done by”. These two maxims can be further refined, respectively into respect for the principles of beneficence (do good and do no harm) and autonomy, give equal respect to the rights of others.

For most of history, the moral concepts of right and wrong were applied only to intentions and actions within the human species. This was challenged by Albert Schweitzer, who wrote

the great fault of all ethics hitherto has been that they believed themselves to have to deal only with the relations of man to man. In reality, the question is what is his attitude to the world and all that comes within his reach.

(see Brabazon 2000)

This was encapsulated in his principle of reverence for life.

The moral status of animals, as perceived by us, has evolved from the days of Descartes (1596–1650) who assumed that non-human animals were unable to think (non cogitant, ergo non sunt) so could be considered as automata, not within our moral compass. The utilitarian, Jeremy Bentham (1748–1832) displayed greater empathy when he wrote “the question is not can they think … but can they suffer?” (ODQ 1996). The UK Protection of Animals Act (1911) made it an offence to “cause unnecessary suffering by doing or omitting to do any act”. The 1997 Treaty of Amsterdam recognised that “since animals are sentient beings, members should pay full regard to the welfare requirements of animals”. Recognition of non-human animals as sentient beings is becoming enshrined in law in other nations, e.g. United Kingdom and New Zealand. These pronouncements reflect the evolution of our moral values but they beg several questions: “what
John Webster

constitutes suffering, especially necessary suffering?” “what are the welfare requirement of animals?”, and “what is meant by sentience?” We can only give proper respect to the moral status of animals if we have a clear understanding of the complex biological principles that should underpin these broad assumptions.

The biology of animal welfare

All animals are presented with challenges to their physiological and psychological state. Their welfare depends on their success in coping with these challenges. The sentient animal is motivated to actions designed to avoid suffering and promote a sense of wellbeing (Dawkins 1980). The word in common use when describing challenges to animal welfare is “stress” (Moberg and Mench 2000). This can be unhelpful because it is loosely applied both to stimulus and response and also fails to distinguish between coping and suffering. The pioneer of stress physiology Hans Selye used the word “stressor” to define the challenge, and “stress” to define the response (Selye 1950). He defined this response as the General Adaptation Syndrome. The initial phase of this response is the Alarm Reaction, a definition that recognises both a physiological and psychological component. According to the severity and duration of the challenge, the initial Alarm Reaction may or may not proceed to a state of complete or partial adaptation. An animal that achieves complete adaptation is coping satisfactorily with challenge. Partial adaptation means that the animal is coping but at a continuing physiological and psychological cost. Suffering occurs when an animal fails to cope or has extreme difficulty in coping because the challenge is too severe, complex, or prolonged.

Subsequent chapters will examine in detail approaches to the assessment and management of the welfare of animals within our care. It is necessary to outline some of them briefly at this stage because they help to define our understanding of the biological foundations of the elements of welfare that command our respect. One well-established approach is based on the concept of Five Freedoms and Provisions as described by the UK Farm Animal Welfare Council (FAWC 1994). These are:

- **Freedom from thirst, hunger and malnutrition**: by ready access to fresh water and a diet to maintain health and vigour;
- **Freedom from discomfort**: by providing a suitable environment including shelter and a comfortable resting area;
- **Freedom from pain, injury and disease**: by prevention, rapid diagnosis, and treatment;
- **Freedom from fear and stress**: by ensuring conditions that avoid mental suffering;
- **Freedom to express normal behaviour**: by providing sufficient space, proper facilities, and the company of the animal’s own kind.

These rules are close to being comprehensive and the first four freedoms have stood the test of time. The fifth is a freedom to, and as with all such freedoms can create moral problems, often exemplified by the phrase “no one should have the right to shout fire in a crowded cinema”. On reflection, I believe the fifth freedom would be better described as freedom of choice (Webster 2022).

The pan-European Welfare Quality® programme has established assessment protocols for the welfare of farm animals according to 4 welfare principles: nutrition, environment, health, behaviour, defined by 12 criteria (Welfare Quality® 2009). These, like the five freedoms, have the practical merit that they can readily form a template for quality control programmes operated by government departments, non-governmental associations such as RSPCA, or super-
markets seeking custom on the basis of quality assurance as to animal welfare standards. They can also highlight specific, severe welfare problems (physiological or psychological) requiring immediate attention.

An alternative approach to the characterisation of animal welfare is the Five Domains model (Mellor 2016). This recognises four measurable input categories: nutrition, environment, health, and behaviour. The fifth domain is defined as “mental state”, which seeks to estimate the overall effect of these variables on the animal’s sense of wellbeing, otherwise defined as quality of life. This approach appeals to our moral sense of duty to understand animal welfare as perceived within their minds, not ours, and is a good template upon which to base future research into animal behaviour. In practice, however, the structure of the five freedoms may be more useful in the identification of specific problems and the implementation of welfare assessment protocols (Webster 2016).

If we are to do right by sentient animals, we need to do more than just protect them from things that may do them physical or emotional harm, we need to get into their minds. In this regard it helps to practise a form of reverse anthropomorphism. Far from being unscientific, this is the basis of motivation analysis (Dawkins 1980). The scientist creates a hypothesis as to how (e.g.) a chicken might cope with a potential problem, then presents it with a set of alternative solutions. Their choice is defined by the preference test, their strength of motivation to action – how much these feelings matter – is defined by the cost they are prepared to pay (Mason et al., 1998). By this approach we can begin to understand how they themselves interpret the meaning of “quality of life”.

**Sentience and consciousness**

The words sentience and consciousness are freely employed in discussions of animal welfare, usually without further explanation. This creates problems because they can mean different things to different people. In my new book, “Understanding Sentient Minds” (Webster 2022) I pose five questions.

- What, indeed, is animal sentience?
- Is animal sentience an either/or thing or are there degrees of sentience?
- If there are degrees of sentience, at what degree does quality of life matter to the animal (and so to us)?
- What, if anything, is the difference between sentience and consciousness?
- What do we mean by the sentient mind?

Search for “animal sentience” on Wikipedia and you are directed to Animal Consciousness, or the state of self-awareness in a non-human animal. It proceeds to define consciousness in humans as “sentience, awareness, subjectivity, the ability to experience or feel, wakefulness, having a sense of self and the executive control of the mind”. This summary highlights the problems of definition: the word consciousness is used to describe any and all of these properties: i.e. it can mean what you choose it to mean. It fails to address the obvious variation in the nature of sentience within the animal kingdom, the extent to which it may or may not involve consciousness, and how this might affect our moral duty of care in terms of our actions in regard to (e.g.) a worm and an elephant.

The expression of sentience within the animal kingdom will include sensations and emotions ranging from the primitive (hunger, pain) to the complex (hope, despair, love, hate). The sentient mind is able to perceive and interpret these sensations and emotions through more or less complex cognitive processing of incoming information in the light of past experience.
(which may or may not involve feelings). At some stage, depending on your definition, this may involve consciousness.

**The five Buddhist skandhas of sentience**

If we are to meet our duty of care with respect to all sentient animals, we need a comprehensive understanding of the nature of sentience itself and the operation of the sentient mind. I believe the most satisfactory scientific analysis of the biological principles that determine the nature of sentience is given by the five degrees (skandha) of Buddhist philosophy. These are matter, sensation, perception, mental formulation, and consciousness, illustrated in Figure 1.1 as five concentric circles of increasing depth, signifying increasing complexity from the outer, superficial circle of matter to the deepest circle of consciousness. Figure 1.1 also presents estimates, based on evidence relating to animal behaviour and motivation, of the degrees of sentience involved in the interpretation of primitive sensations like hunger and pain and expressions of more complex behaviours and emotions such as companionship, altruism, hope, and despair.

**Matter** describes living organisms as defined by their physical structure, chemical composition, and processes that enable them to operate within a complex environment. This category embraces all plants and animals. It includes the ability to react to environmental stimuli, like the

![Diagram of the five skandhas of sentience](https://example.com/diagram.jpg)

*Figure 1.1* The five skandhas of sentience. Solid arrows indicate the proven extent of sentience involved in different forms of experience and social behaviour. Dotted lines indicate possible but unproven extension of sentience into the inner circles.
The moral status of animals

movement of sunflowers towards the sun, or the movement of amoebae away from an acid solution, without necessarily involving sensation as we would define it.

**Sensation** describes the ability of living creatures to experience feelings, and the intensity of feelings that take them out of their comfort zone. These clearly include physiological sensations such as hunger, thirst, pain, severe heat and cold, and may include hard-wired acute responses to threat that we may interpret as fear. At this depth of sentience, animals interpret these sensations as unpleasant (aversive), pleasant (attractive), or unimportant (indifferent), and these sensations will motivate them to take action to avoid or reduce the threat to their wellbeing.

**Perception** describes the ability to register, recognise and remember objects, experiences, and emotions. Species with the property of perception do not just live in the present, they can learn from experience. This enhances their capacity to cope by adapting to the challenges of life but increases the potential for suffering if the challenges are too severe, too prolonged, or if they are in an environment that restricts their ability to perform coping behaviour.

**Mental formulation** describes the ability to create mental images that integrate and interpret complex information, experiences, sensations, and emotions. This enables animals to learn from experience so increases their capacity to cope with challenge, but equally increases the potential for suffering if they find themselves unable to cope. The ability to create mental pictures also creates the capacity to develop the mind through education, given and received.

**Consciousness** in the Buddhist *skandhas* the word consciousness is restricted to the deepest circle of sentience and equates to the most precise definition of human consciousness, best described as “being aware that we are aware”. This carries the potential for advanced forms of social behaviour, both good and bad, such as empathy, compassion, and cheating.

The Schweitzer principle of reverence for life requires us to respect all degrees of sentience and this is entirely consistent with our new moral and practical imperative to practise planet husbandry: to sustain and conserve the balance of nature for the welfare of all life. It does not, however, compel us to apply the same set of rules to a dandelion as to a horse. Animals whose degree of sentience extends only to the property of sensation will respond to primitive sensations such as pain, malaise, hunger, and sex in a way that may be intense and probably adaptive but, by this definition, hard-wired and not necessarily involving what we might understand as emotion. However, the UK Animals (Scientific Procedures) Act (1986) recognises that the property of sensation is sufficient to give animals protected status in regard to actions likely to cause pain, suffering, distress or lasting harm, and requires these actions to be set against possible benefits to society. Species given protected status by the Act currently include all vertebrates and the invertebrate cephalopods. In the light of new research, this may have to be extended to other invertebrates (Smith 2020). In a broader moral context it accepts that a primitive sensation such as pain may feel the same to a fish as to a dog.

In almost all the animal species whose lives are affected by human contact, the expression of sentience is not limited to primitive sensation. The rules that govern our moral duty to respect their welfare must take account of the biological evidence as to the extent to which they demonstrate the three inner circles of sentience, namely perception, mental formulation, and consciousness. These are summarised in Table 1.1.

Species that have the power of perception can learn from experience. This increases their ability to mount an effective immediate response and improves the chances of doing things better next time. It also carries the potential to increase distress and anxiety if they learn that they cannot cope. Species who demonstrate the property of mental formulation, the ability to create mental pictures (or diagrams) that integrate and interpret complex experiences, sensations, and emotions are even better equipped to deal with challenges because they do more than recognise the associations between cause and effect, they can understand them. This gives them the poten-
tial to communicate their understanding with others. All species with the power of perception, whether or not they can demonstrate the capacity for mental formulation, have the ability to make decisions, based on experience, as to how best to cope with challenge. For all these species, our moral responsibility must extend to provision of the fifth freedom; best expressed as freedom of action to engage in appropriate coping behaviour.

The inner *skandha* of higher consciousness is applied only to mental formulations described in scientific terms as metarepresentation, or “theory of mind” (Frith and Frith 2005). These derive from having a sense of self and non-self and can give rise to affiliative behaviours such as altruism and compassion, but equally to anti-social behaviours such as deceit. The number of species for which we have good evidence for theory of mind is limited and largely restricted to social mammals, e.g. great apes, dolphins, and other cetaceae (Krupenye and Call 2019) but the list is growing. It should probably include social corvids (e.g. rooks, Clayton and Emery 2007) and possibly some invertebrates (e.g. cephalopods, Smith 2020). Our duty to social species with these powers should respect and understand their need to communicate and respond appropriately to their social signals.

**Our duty of care: The ethical matrix**

The *raison d’etre* for this chapter and for this book is to convey an understanding of the biological principles that determine the sentience and the welfare of animals as a sound basis for ethical judgements as to their moral status as seen through our eyes and, more importantly, our actions as seen through theirs. I have used the biologically valid structure of the Buddhist *skandhas* to describe the range of expression of sentience from simple sensation to the full expression of consciousness as revealed by evidence of theory of mind, or metarepresentation. With increasing depth of sentience, sensation is augmented by perception, emotion, cognition, understanding, and awareness. The description of our fellow mortals as “Cognitive relations yet moral strangers” (Benz-Schwarzburg and Knight 2011) is an eloquent expression of the problem we face. However, I would add that cognition is only one facet of sentience. The emotional response to the challenges of life, ranging from perception to full awareness, is the critical determinant of wellbeing. Nevertheless, the extent to which an animal displays the cognitive abilities necessary for higher emotions such as hope and despair or social graces such as companionship and affiliative behaviour must determine the practical expression of our duty of care. I repeat, we need not apply the same rules to the worm as to the elephant.

What then is our duty of care? Starting from the general principle of reverence for life, our actions in regard to the animals with whom we share the planet should be defined by our

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<table>
<thead>
<tr>
<th>Emotion</th>
<th>Cognition</th>
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<tbody>
<tr>
<td>Perception</td>
<td>Avoidance</td>
</tr>
<tr>
<td>Pain and fear</td>
<td>Food selection</td>
</tr>
<tr>
<td>Hunger and thirst</td>
<td>Nest building</td>
</tr>
<tr>
<td>Comfort</td>
<td>Interpret simple social signals</td>
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<tr>
<td>Curiosity and security</td>
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<tr>
<td>Mental formulation</td>
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<tr>
<td>Anxiety and depression</td>
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<tr>
<td>Consciousness</td>
<td></td>
</tr>
<tr>
<td>Affiliative behaviour</td>
<td>Awareness of self and non-self</td>
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<tr>
<td>Altruism and compassion</td>
<td>Deceit</td>
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understanding of their need to promote their own wellbeing, so far as possible through their own actions. In this regard we must reject the characterisation of species as domestic and wild, food animals and pet animals, game and vermin. So far as the species we define as wild are concerned, the most moral course of action is to preserve their habitat, then leave them alone.

For domesticated animals for whom we have a direct duty of care (the great majority of which are the farmed animals), the ethics get more complicated. There are two approaches to questions of ethics, top-down and bottom-up. The top-down approach asks the question: “which moral norms for the evaluation and guidance of conduct should we accept and why?” The bottom-up approach first identifies a specific practical problem then constructs an analysis of relevant ethical issues by a process of induction. This latter approach may conflict with some of the precepts of high morality, particularly when it addresses such topics as killing and necessary suffering. Beauchamp and Childress (1994) outlined a practical approach to problems of medical bioethics in the form of an “ethical matrix”, and this has been adapted by Mepham (1996) to address our attitudes and actions with respect to the food animals. These should be based on the two principles of beneficence and autonomy, defined, respectively, in my introduction as “do good and do no harm” and “respect the rights of others”. The aim of beneficence is to promote wellbeing, which loosely equates to the first four freedoms from Autonomy can be achieved through the fifth: freedom of choice.

The moral basis of our approach to animal welfare is not, however, something that we can consider in isolation. In the case of farmed animals, we must incorporate it within the broader context of respect for the needs of farmers and consumers, the farmed animals, and the living environment; the aim being to achieve a fair compromise that equates to justice for all. Table 1.2 employs the ethical matrix to examine the moral issues associated with farming animals for food (Webster 2013). The four groups with rights to justice are the producers, consumers, farmed animals, and the living environment. Farmers and consumers (i.e. all humans) who set the standards are the moral agents; farmed animals and the living environment are the moral patients. Because they can have no input to the debate, the responsibility to ensure justice for all is entirely in our hands.

Table 1.2 Food and farming: the ethical matrix

<table>
<thead>
<tr>
<th>Moral agents</th>
<th>Wellbeing</th>
<th>Autonomy</th>
<th>Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producers and land owners</td>
<td>Financial reward</td>
<td>Free competition</td>
<td>Fair trade</td>
</tr>
<tr>
<td></td>
<td>Pride in work</td>
<td></td>
<td>Good husbandry</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Support for environmental schemes</td>
</tr>
<tr>
<td>Human society</td>
<td>Wholesome, safe, affordable food</td>
<td>Freedom of choice</td>
<td>Added value for good husbandry</td>
</tr>
<tr>
<td></td>
<td>Access to the countryside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral patients</td>
<td>Competent and humane husbandry</td>
<td>Environmental enrichment</td>
<td>“A life worth living”</td>
</tr>
<tr>
<td>Farmed animals</td>
<td></td>
<td>Freedom of choice</td>
<td></td>
</tr>
<tr>
<td>The living environment</td>
<td>Conservation</td>
<td>Biodiversity</td>
<td>Respect for environment and stewards</td>
</tr>
<tr>
<td></td>
<td>Sustainability</td>
<td>“Live and let live”</td>
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</tbody>
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The practical expressions of the principles of wellbeing, autonomy, and justice listed in Table 1.2 are largely self-explanatory. Farmers as moral agents have the responsibility to promote the wellbeing of their animals and their land. In return, they have the right to adequate financial reward, fair competition, and pride in their work. Moreover, farmers are not only food producers but major stewards of the living environment. Justice for them and for the environment requires that they receive fair reward for services to the environment: conservation of habitat, soil and water management, carbon sequestration. This equates to public money for public goods. Consumers, i.e. everybody, whatever our incomes and our eating habits, have the right to wholesome, safe, affordable food. In return, we have the responsibility to recognise the added value of products that can guarantee high standards of animal husbandry and environmental protection and reward the producers accordingly. Nevertheless, the principle of freedom of choice implies that those of us who can afford to pay more should not seek to impose standards that put good, honest food out of the reach of the poor.

Human society cannot, of course, fully apply the principle of beneficence, “do good and do no harm” to our treatment of other sentient animals. We kill farmed animals for food, we harm laboratory animals in the pursuit of science and safety testing, we cull individual wild animals for reasons of population management, disease control and protection of habitat. This practice is strictly utilitarian and, as such, morally imperfect. It is, however, a fact of life so we can do no better than operate according to the principles of the great and compassionate utilitarian Jeremy Bentham: always pose the question “can they suffer?” This principle forms the basis of the UK Animals (Scientific Procedures) Act (1986), which “regulates the use of protected animals in any experimental or other scientific procedure that may cause pain, suffering, distress or lasting harm to the animal” (UK Govt 1986). This regulation requires that any harm to the animal must be justified in terms of its likely benefit to the welfare of human society (or other animals). This is, again, a utilitarian principle but it has undoubtedly been a force for good, especially as a driver for the application of the three Rs, replacement, reduction, and refinement, in the design and conduct of experiments with animals (Russel 1995). It is also widely recognised that these principles do not relate only to the procedures themselves but to the day-to-day management of the animals to promote wellbeing, including, wherever possible, freedom of choice through provision of an enriched environment.

Conclusions

Wherever we exert control over the lives of other sentient animals we have a moral responsibility to promote their wellbeing, based on a sound understanding of the biological principles that underpin their physiological and psychological needs. We can do much to meet these needs, as we understand them, by the practice of beneficence. To meet these needs as understood by the animals themselves, we also need to respect the principle of autonomy and respect their need for freedom of choice. We must, however, never let respect for animal welfare become the whole story. It must be put within the context of justice for all: the sustained wellbeing of humans, other sentient animals, and the entire living environment.

References

The moral status of animals


