LETTERS

Behavioural needs in birds

Sir, Poole (*Animal Welfare 1992, 1:* 203-220) argues that mammals are unique in having behavioural needs, that is, in experiencing a need to carry out behaviour that is not necessary for immediate survival. While I very much welcome the stress his article places on good welfare being much more than just the satisfaction of health and survival needs, I am also concerned that he may have done a disservice to non-mammalian species by implying that none of them have behavioural needs comparable to those of mammals. He acknowledges that birds are intelligent and have considerable learning abilities but then argues that this does not imply the existence of behavioural needs. On what grounds, then, does he attribute such needs to mammals and not to birds?

His main argument seems to be that mammals will work for goals when there is no physiological need to do so. He cites the examples of chimpanzees working at computer games and macaque monkeys searching through woodchip litter for food even when food is freely available elsewhere in their cages. But birds, too, seem to have needs to carry out behaviour when physiological needs could be met more easily in other ways. The classic observations of Breland and Breland (*American Psychologist 1961, 16:* 661-664) showed that hens appear to have a need to groundscratch even when food could be obtained more quickly by not scratching. More recently, Bubier (DPhil thesis, Oxford 1990) has shown that hens will search through litter and scratch in it even when food is freely available in a hopper close by. There seems to be no grounds at all for Poole's implication that only mammals deserve to have their environments enriched because only mammals have behavioural needs that should be met. It is a pity that the strong case he makes for taking into account the behavioural needs of mammals has been made at the expense of birds and with what comes over as an attempt to argue that their welfare is less important than that of mammals.

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Author's response

I would like to point out two misunderstandings in the text of Dawkins' letter. I did not argue 'that mammals are unique in having behavioural needs', but that mammals are unique in having 'psychological needs' which are 'needs of the mind' and relate to the nature of mammalian brains and survival strategies. I did not suggest that birds do not have behavioural needs.

While I acknowledged that some birds may have considerable learning abilities, I did not say that they are intelligent. Intelligence and learning ability are frequently confused because intelligent animals usually also have good learning abilities. However, while learning is a capacity of all central nervous systems, intelligence relates to the animal's concept of the world and encephalization, as I explained in the article.

Dawkins states that my 'main argument' for special psychological needs for mammals relies on the fact that they will forage when there is no need to do so. There are two points which need to be made on this criticism.

Firstly, I was aware that fowl will forage spontaneously in the presence of food in a hopper and I take the view that this behaviour is an ethological need for these animals. As insects form a significant portion of the diet of the jungle fowl, scratching for food may well represent a search for insects or other items to give variety over and above that provided in the food hopper; equally, scratching itself may be of value in wearing down claws to compensate for their growth. It is not necessary to assume that scratching meets a psychological need.

Secondly, the example of apparently unnecessary foraging in mammals was not intended to be a 'main argument', it was a starting point and it is clear that there is an enormous difference between scratching for food and using a computer. In fact, I used a series of different kinds of evidence to support my view that mammals have psychological needs. These included the existence of boredom, abnormal behaviours, anticipation of future events in a programme of activity, substitution of unnatural activities for natural ones, play and curiosity, satisfaction in achieving a goal, the evolution of the brain and intelligence and the need for information gathering and analysis.

The suggestion is put forward that my paper implies that 'the case for the behavioural needs of mammals has been made at the expense of birds'. While this was not my intention, I am glad that Dawkins has drawn readers' attention to this issue. The subject of the article was mammals, so that the behavioural needs of other vertebrates were only of relevance from a comparative standpoint. I certainly believe that all vertebrates in captivity should have their behavioural needs met and appropriate environmental enrichment should be provided for them. However, my special plea for meeting the psychological needs of mammals should simply help to improve their welfare and is irrelevant to other vertebrates, unless specialists in those fields disagree with my analysis and provide evidence that other vertebrates also have psychological needs.

It must be emphasized that the aim of the article was to upgrade mammalian welfare and certainly not to downgrade that of other animals. A comparison with birds was included because it is commonly assumed that birds and mammals have similar welfare needs even though they are separated by over 300 million years of independent evolution.

I am not entirely clear from her letter whether Dawkins is arguing that I am wrong and that mammals do not have psychological needs, or whether she believes that I am right but should not deny psychological needs to birds. Perhaps she is simply concerned from a practical standpoint, that drawing attention to the psychological needs of mammals might result in a situation where the welfare of birds is believed to be less important.

My own view is that meeting the needs of mammals simply requires a new approach.

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Commercial killing of cetaceans

Sir, Might I respond to the suggestion in the Reports and comments section (*Animal Welfare 1992, 1:* 224-225) that the recent findings of the International Whaling Commission (IWC) study of commercial killing methods should be of interest.

At the 1991 meeting of the IWC it was agreed, after heavy objections, that a workshop on the methods of killing whales be held prior to the 1992 meeting to consider the methods used and evaluate the progress made since the previous workshop held in 1980.

This 1992 workshop took place in Glasgow on 20-22 June and was attended by one delegate from Australia, six from Denmark, three from Iceland, nine from Japan, two from New Zealand, six from Norway, four from UK, five from USA and one invited expert, together with a number of observers. It is worth noting that in spite of agreement at the planning meeting that the deadline for submission of papers for this meeting was to be 20 May 1992, so that all the participants had sufficient time to study the documents, only UK met the deadline. All other papers were not available until immediately before the meeting.

Some whalers objected to the papers that clearly showed the cruelty of the ways of killing and argued that the methods were humane, although their own records clearly indicated that approximately half the whales killed did not die in a minute or less. They quoted the average time to death, when the important point is the number that did not die instantaneously or within seconds of being struck by a harpoon. In fact approximately half of the whales took up to 10, 15 or 20 minutes to die - some took even longer. It is also clear that whales, like other mammals, are not rendered unconscious by a blast unless the explosion is very close to the brain and is of sufficient power to shake the brain within the skull or damage it with shrapnel.

It was also admitted by whalers that the main problem is aiming the harpoon so that it damages the brain or explodes within the upper thorax. Even a strike directly in the thorax may not cause instantaneous unconsciousness because of the whale's ability to cope with lack of oxygen. The whale's brain is surrounded by a plexus of veins which can supply oxygen for minutes after the blood supply from the heart is cut off. The main supply of blood to the whale's brain is not the carotid arteries as in land mammals, but via vessels in the spinal cord.

Japanese whalers, in many cases where the harpoon does not kill the animal, pull the whale alongside the ship and insert two electrodes near the heart to induce death by passing a current to arrest cardiac function. However, their own records show that the current has to be kept on for three to four minutes and even then, in some cases, the heart does