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Should we be giving attention to justifying animals in science?

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Abstract

Society justifies the use of animals in research, testing and teaching by requiring good reason to believe the benefits (to humans, animals, ecosystems) derived from the use of animals must outweigh the likely harms to those animals. This is the predominant ethic guiding the use of animals in science. However, benefits can accrue from many human activities, no matter how disagreeable or controversial. Such benefits, although valued, do not, however, necessarily justify the action. This raises an interesting dilemma: either using some animals in science is wrong, or our justification for doing so is flawed. Ethics, the systematic reflection of moral issues in the public sphere, may also require consideration of other views with perhaps society having to think more deeply than portraying, almost exclusively, the established and undoubted benefits.

The highest form of morality is not to feel at home in one's own home – Theodor Adorno

Introduction

The use of animals in science has long required justification—the responsibility for increasing knowledge using community resources, along with the recognition that it matters to animals how they are treated, means we must be able to demonstrate that our actions are right and fair. However, this is not a simple undertaking as evident in the somewhat perplexing views of eminent individuals and groups.

First, Marc Bekoff (2006) suggested some research is unjustified in stating “there is no reason to do as much of the harmful research that is done these days”. Second, Roger Short’s (1986) belief “that the lesson of history teaches us that we cannot know what we need to know until we know what there is to know” seems to suggest we may not need to justify the direct benefits of research since “serendipity is often our handmaiden in research”. Third, Graeme Caughley (1983), arguably one of Australasia’s finest wildlife biologists, stated “a balancing of rights, as against economic claims, is long overdue” questioning the predominant place of justifying actions by alluding to the benefits. Finally, one of the principles described by the UK’s Banner Committee (1995) considering the ethical implications of emerging technologies was that “harms of a certain degree and kind ought under no circumstances to be inflicted upon an animal” is intriguing—what harms are impermissible regardless of any benefits?

The justification for the use of animals in science therefore appears complex and this contribution challenges the belief that it is something which can be reduced to a simple appeal to the benefits.

How do we usually justify our actions?

The predominant justification for the use of animals in research, testing and teaching requires we have good reason to believe the benefits (to humans, animals, ecosystems) derived from the use of animals must outweigh the likely harms to those animals (e.g., see New Zealand’s Animal Welfare Act 1999). For example, bloat, the subject of much of Cam Reid’s research (see Clarke & Reid 1974; Ulyatt & Bailey

1997), is caused by the accumulation of gas in the rumen, primarily when cattle feed on legumes or lush young grass. It may result in distension of the abdomen, restlessness, straining and discomfort, difficulty in breathing, and in severe cases death (Edgar et al. 1972). The experimental system which Cam Reid was involved in, led to the control of bloat with anti-foaming agents, a technology still used to control bloat in the dairy industry. Any discomfort, pain or distress caused by manipulations such as the surgical placement of a fistula in the wall of the rumen to enable sampling of its contents, are typically justified by appeal to the benefits (an understanding of bloat and methods for preventing and treating it) outweighing those harms.

Many human activities can have associated benefits, despite being disagreeable. For example, we value the courage and leadership shown by people during war (e.g., Charles Upham, Winston Churchill). Similarly, during the Second World War, the UK “Digging for Victory” campaign that was set up to ensure the health of the military, mothers and children, by providing food of good nutritional quality (vegetables and milk) through, among other things, turning parks into vegetable gardens, resulted in a fall in deaths from heart disease (Crawford & Ghebremeskel 1996). However, while we acknowledge these benefits, we do not accept that they justify war itself.

Although this is a limited and necessarily simple analogical argument (Cornman et al. 1987) it provides an interesting perspective to justifying the use of animals in science. It is suggested that there is something wrong with our ethic—perhaps it is flawed, perhaps the importance of morality a fiction, the good life flourishing because of immorality (Gray 2002). To explore this, it is necessary to reflect on ethics itself.

What is ethics?

Ethics, or morality, has its roots in the capacity to look for shared solutions to conflict (Midgley 1993). It is the systematic and rational reflection on moral issues often by appealing to various formal theories, each of which gives different insights (Hinman 1994; Battye 2008). It is in a sense like philosophy, an attempt to find good reason, or justification, for conventional beliefs or common sense (Gray 2002). A further dimension is added by the understanding of bioethics—the

belief that (within the context of acceptable survival of the human population) ethics cannot be separated from biology. Our behaviour must be coherent with ecological reality (Potter 1970, 1988).

Collectively then, ethics or moral solutions are holistic in scope (issues need to be seen in interconnection with economic factors, social policies, political decisions and the ecological conditions); address interactions between humans as well as between humans and the environment (including animals); and require dialogue or evaluation by those they affect (FAO 2005). Such an understanding of ethics seems to incorporate more than the predominant ethic used to justify the use of animals in science (i.e. the benefits must outweigh the likely harms).

What would a more encompassing ethic mean for science?

First, we need to consider the reason for the science we are undertaking. The long-term trend in falling farm returns has seen farmers realise the benefits of economies of scale (e.g., the average herd has increased from 144 to 315 dairy cows over the last 20 years) and/or make their farm systems more productive (e.g., average lambing rates have increased from 102 % to 123 % over the last 15 years, while the amount of milk solids has increased from 260 kg to 308 kg per dairy cow). This trend is also apparent in the objectives of animal research. Two examples taken from the 2007 New Zealand Society of Animal Production annual conference young members’ session relate, respectively, to breeding and slaughtering animals at a younger age (Hickson et al. 2007; Lindsay et al. 2007). A more inclusive understanding of the justification for such science might question the flawed paradigm of productionism (Thompson 1995), perhaps replacing “more is better” with “enough is best” (Somerville 2006). Such a paradigm shift would require society to explore the cultural, social and political alternatives to farmers, processors, retailers, government and consumers benefiting from animal production. It should not be our exclusive expectation of scientists, especially those at the beginning of their careers, to justify what many, if not all, members of society ultimately benefit from.

Second, there may be value in acknowledging the rich understanding that other ethical theories provide. For example, ascribing rights to animals is a difficult



“Der vivisector”, an 1883 painting by Gabriel Max and reproduced by Michael Holzapfl, shows “the genius of pity staying the vivisectors hand”. A physiologist, with scalpel poised, appears with a virtuous woman who cradles a rescued and bleeding puppy. She also holds a balance—on one pan a human brain crowned with golden bay-leaves, on the other a golden heart smouldering with the fire of love, illustrating that a good heart is worth more than a good brain (Schupbach 1987).

and perhaps unrewarding approach, leading to an all-too-easy dismissal of animal rights advocates (as they may dismiss animal research). However, if animal “rights” is more about what is the “right thing to do” (see Gatward 2001) then we can appreciate the efforts of those involved in the more eminent animal rights movements. For example, the People for the Ethical Treatment of Animals (PETA) report on the humane slaughter of poultry (Akin 2003) is more in keeping with enhancing animal welfare than prohibiting animal use. The “right thing to do” then, is more akin to a virtue than an absolutist rights ethic.

Similarly, rather than relying exclusively on reason to justify the use of animals in science, perhaps we need to acknowledge, and balance, some of our other human qualities—common sense, ethics, imagination, intuition and memory—which help us make sense of the world (Saul 2001). Such balance has been well portrayed in art and literature, as shown in the figure above.

It is suggested that many of those involved in science draw on these qualities in deciding what research to pursue, and how, long before they are

required to justify that research to their peers, animal ethics committees, the media and the public. Similarly, many of those entrusted to care for animals make common sense decisions without formal or explicit understanding of the principles of refinement, reduction and replacement (see Mellor et al. 2008). Other ways of knowing such as empathy, the sacred and the revered, have value in doubting our stances and giving us protection against arrogance and hubris. In essence, when caring for animals, and justifying their use, we should not take science too seriously but also rely on common sense and other perspectives (Sandøe et al. 2006).

Finally, consideration needs to be given to the way we portray justification. An exclusive reliance on the sound-byte “cure for cancer” or the “gene to solve greenhouse gas emissions” does not reflect the complexity of science or the dilemmas those involved deal with. Indeed, there may be dangers to both science and media interests of highlighting the benefits or “selling science” (Nelkin 1995; Postgate 1995). More sceptical approaches probably better serve both science and society (Sim 2006).

Conclusions

Should we be giving attention to justifying the use of animals in science? The answer is an unequivocal yes. Not only because we are using society's resources in using animals in science, but also because it matters to animals how they are treated. While the common ethic, that the benefits should outweigh the likely harms, is and should remain central to any justification, the role that other perspectives can bring should not be overlooked. Their inclusion acknowledges the complexity and dilemmas which those within science deal with. Furthermore, such consideration will hopefully reflect the relationship with animals which society values and science used to support those relationships and help with dilemmas, rather than being seen as the source of them (Somerville 2006). Since "animals are an intimate and indispensable part of our spiritual lives (Bekoff 2006), in the spirit of Cam Reid we have to make sure our uses of them are justified by using not only our traditional wisdom, but also being innovative in our understanding.

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