

Ethical Issues Concerning Animal Research Outside the Laboratory

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Abstract

Unique ethical issues can be associated with research outside the customary laboratory setting. Protocols involving wild animals must consider that any infringement on the wild nature of the species can be disruptive and may involve pain, fear, anxiety, and frustration, all of which constitute ethical harm that must be balanced with anticipated benefit. Agricultural and companion animal research, however, take place in a human-engineered environment and involves domesticated species adapted to human contact. Special animal welfare issues can be related to agricultural production goals that fail to deal adequately with moral concerns. Human/companion animal relationships, on the other hand, present unique moral obligations to animal owners. Other factors may present additional ethical issues when research is performed outside the laboratory. These factors include a required sensitivity to the environment of wild animals and an awareness that this outside research may be quite public and, therefore, vulnerable to community perception. The institutional animal care and use committee (IACUC) has the responsibility to ensure that research in outside settings is ethical and properly implemented. This responsibility requires that IACUC members have knowledge of the needs of a wide range of species and that a process is in place to allow effective monitoring of research in remote locations. Finally, and most important, there must be a sensitivity to the unique ethical considerations outlined here. Armed with these strengths, the IACUC will be effective in what may be unfamiliar surroundings and will have a significant opportunity to cause improvements in animal welfare.

Key Words: agriculture; animal research; animal welfare; companion animals; ethics; IACUC; telos; wild animals

Introduction

As the other articles in this issue illustrate, research outside the laboratory can take the form of clinical research, research in agricultural settings, or field studies; and each form may be designed to study either

physiological or behavioral questions. With such a wide range of possibilities, it is not surprising that this research can pose ethical issues that differ at least in part from those normally associated with laboratory research. On the positive side, such research can promote animal welfare in these different arenas; however, it also poses unique ethical problems.

Of course, there is a good deal of common ground in making ethical judgments about animal research, inside or outside the laboratory. Moral theories under the heading of “utilitarianism” demand that we choose actions resulting in the best possible balance of benefit versus harm. This choice supports the now familiar 3Rs of reduction, refinement, and replacement (Russell and Burch 1959). A rights-based or Kantian approach demands that we recognize and respect inherent worth (Russow 1990, 1999; Sideris et al. 1999 provide more complete discussions of the ethics of laboratory animal research). It is the job of the institutional animal care and use committee (IACUC¹) to ensure that these ethical standards are met in the conduct of any animal research, inside as well as outside the laboratory. Three reasons that research outside the laboratory poses other ethical issues are (1) the nature of the animals being studied, (2) the number of additional factors that must be included in the moral deliberations, and (3) the nature of the review and oversight process.

Animals Used in Research

The first reason that research outside the laboratory poses unique ethical issues is somewhat abstract and possibly more controversial. It begins with the idea that to address animal welfare issues adequately, we must consider the different nature and needs of different animals. Philosopher Bernard Rollin develops this idea by arguing that animals each have a “telos” unique to its species. The term telos is taken from Aristotle and, as Rollin uses it, means the basic nature of an animal: “the pigness of the pig, the dogness of the dog” (Rollin 1995, p. 159). His thesis is that the ethical use of animals requires that we understand and respect its telos.

Rollin’s argument, and the more general principle, that an animal’s welfare is determined by the match between its needs and interest and the treatment it receives, is relevant

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¹Abbreviation used in this article: IACUC, institutional animal care and use committee.

to this discussion. The vast majority of animals used for laboratory research have been bred specifically for research, and indeed are selected (in a process that may or may not be deliberate) for traits that make them more adapted for a laboratory environment. Those traits might include, for example, ability to accept caging and other aspects of the laboratory environment, and a temperament that makes them easier to handle. Thus, over generations, we have produced mice and other animals whose telos is far different from that of their wild “cousins.” Most could not survive in the wild, and it would seem that part of their telos is to live in confinement (although Rollin does not, to our knowledge make that claim). If so, we have not violated our ethical duty by confining them in a laboratory. This last stipulation is valid if, and only if, animals in their natural environment have been studied in such depth that we understand the telos of that species and can design a housing system to meet its needs.² The need for data from the natural environment of species used in the laboratory was emphasized by two investigators at a recent conference (de Waal 2003; McGlone 2003).

Animals in the field provide unique moral challenges. To respect their nature, we must respect their wildness, in all of its facets. Any infringement on their wild nature constitutes an ethical harm, which must be balanced against whatever benefit might be achieved. The most obvious harm is physical pain, which can occur in the laboratory or in the field. Other sources of distress (e.g., fear, anxiety, and frustration) will likely vary. Trapping and handling animals, even if done in ways that cause no physical pain, can be expected to involve all three of the sources of distress mentioned above and therefore should always raise an ethical warning flag, which must be addressed. Thus, the question of how often traps will be checked and how the animals will be handled are two examples of questions relevant to the ethics of a field research project.

Agricultural and companion animals occupy a middle ground. These species were not bred to be research subjects, but they are domesticated and hence adapted to human contact and some sort of human-engineered environment. However, in agricultural research, a very real danger is that the research is driven by production concerns, at the expense of welfare and ethics. King (2003) reviews many of the potential husbandry problems in agricultural settings. Agricultural research driven solely by production standards will fail to recognize the animals as deserving moral concern, treating them as mere meat/dairy/egg machines. A researcher may, for example, study “banding” as a method of docking the tails of dairy cows. Banding involves use of a rubber band that constricts the blood flow until the lower part of the tail withers and drops off. A docked tail is supposed to be

more convenient for the farmer and more sanitary, although it results in a cow that cannot protect itself from flies. The researcher may be attempting to determine whether the practice has a measurable effect on the welfare of cows, or may be studying the effect simply with production measures (Rollin 1995b). In the latter case, a full moral evaluation has not been made.

Because the extent to which physiological and behavioral needs and interests are met will determine the animal’s welfare, and many common agricultural practices are not attuned to those needs and interests, research conducted in typical agricultural settings can generate serious ethical issues regarding the welfare of the animals being studied. IACUC members have little formal guidance when considering these issues. Although the Animal Welfare Act (AWA 1966), the Federation of Animal Sciences Societies’ guide (FASS 1999), and the Public Health Service Policy (PHS 2002) are applicable if farm animals are involved in biomedical research, livestock production research is not so regulated. IACUC decisions must be driven by moral deliberations and a scientific evaluation of the research protocol’s need for minimization of variables (e.g., housing, nutrition, and stress) (Silverman et al. 2000).

In the example above, even though tail docking might be an accepted farm practice, the IACUC might determine that removal of the cow’s tail is an ethically faulted method to achieve the desired efficiency and sanitation and that the investigator must find another method. Having made this decision, it would then be necessary to evaluate the variable created by comparing cows with and without tails.

Other Factors

The second reason that research outside the laboratory poses special ethical issues is the number of additional factors that must be included in the moral deliberations. These additional factors include the environment, owners of animals, and the general public. The last group is particularly sensitive, but easy to overlook. Research outside the laboratory is more likely to be in the public eye, and more likely to involve species that people care about more than they care about rats and mice. Thus, questions about the morality of such research may be subject to more public scrutiny and debate. With this broader perspective, ethical questions could be raised that had not been considered by the IACUC, and a moral reassessment would be required. One could argue that participation of the public is useful and that it is, in fact, the intended role of the unaffiliated members on the IACUC.

In the case of wildlife research, the potential impact on the species and the ecosystem must be considered. Anecdotal evidence suggests that even a study as seemingly benign as playing bird songs can have an impact on the breeding population in the area studied. Releasing animals into a new area alters the ecosystem. Ethical arguments for the preservation of species and ecosystems run the gamut

²The telos of a laboratory rat is not trivial. Although it may not include “running free,” it does involve specific types of social interaction and the ability to groom, nest, exercise, comfortably adopt typical postures, and so forth.

from utilitarian to rights-based, and from anthropocentric to arguments for the inherent value of nature (e.g., Norton 1986; Callicott 1989). However, they leave no doubt that we have a moral obligation to protect and preserve both individual species and the environment. This responsibility must therefore be considered in evaluating the ethics of wildlife research.

Moral obligations to the owners of animals in clinical studies must also be a factor in making ethical evaluations. In the sort of research that assesses pain in dogs (Hansen 2003), veterinarians have an obligation to provide their human clients with the highest standard of care. This obligation can pose obstacles, especially when the research would normally call for a control group. Moral obligations to the owner also require informed consent; and as Hampshire (2003) points out, the process of obtaining that consent requires careful scrutiny. The consent form must not only be comprehensible and honest about potential treatment and risk, but should also allow for voluntary withdrawal.

“Autonomy” and “nonmaleficence” are two other principles that protect human research subjects (NCPHS 1976). If clinical trials are indeed modeled on those principles, they must include the provision of respect for the autonomy of the owners by allowing them free and informed choices. Nonmaleficence requires an absence of any sort of fraud or harmful deceit, as well as avoiding harm to the animal. Sham surgery to establish a control group in a clinical trial setting, for example, would constitute maleficence.

The effect of research on the general public must also be considered. Sometimes the effect can be direct and immediate. For example, traps used in field research can capture nontarget species, including domestic animals, which causes harm to the animal and distress (thus harm) to the animal’s owner. Conversely, clinical research seen as a direct benefit to a pet is also beneficial to the owner. These benefits and harms must be included in a full utilitarian calculation of the ethical justifiability of the research.

Other effects are related more to general perceptions. They are equally real and relevant to ethical considerations and can, in fact, serve as a “moral compass.” If reasonably informed public opinion would react negatively to a research project, that reaction would be a sign that the corresponding ethical values should perhaps be scrutinized more carefully. This principle may be a good maxim to consider for research inside the laboratory as well. However, research outside the laboratory is more open to public scrutiny and more likely to involve issues the public can relate to and understand.

Role of the IACUC

A large part of the burden of ensuring ethical animal research falls on IACUCs. The special ethical concerns raised by research outside the laboratory pose additional challenges. The species of animals studied will differ from those used in laboratory research, and the location of the study

will be remote from standard animal housing facilities. As Granstrom (2003) notes, IACUCs must evaluate at least some of the research performed in agricultural settings. Their knowledge of the needs of the relevant species, and hence their ability to determine the ethical justifiability of such research, must be taken into consideration. In institutions in which agricultural research is conducted, the expertise of IACUC members should accommodate that need. The same principle applies to wildlife research. A researcher who works with mice in the laboratory may have no knowledge of whether a particular tagging method might have a deleterious effect on a lizard.

Procedures on which IACUCs rely for monitoring research may also need to be modified. Research inside a laboratory is more easily monitored through required inspections, veterinarian observations, caretaker reports, and other standard practices. Research outside the laboratory, whether field research, agricultural studies, or clinical trials, affords far fewer opportunities for monitoring the ethical treatment of animals. Without the potential for such monitoring, it may be difficult for the IACUC to fulfill its obligation.

IACUC deliberations must be sensitive to all of the ethical considerations outlined herein. Questions have been raised about how adequately IACUC members are trained or informed of their responsibility with regard to laboratory research (Dresser 1998). The additional complications of research outside the laboratory intensify these concerns by adding an additional level of complexity to IACUC responsibilities and by increasing the need for training.

Conclusion

Animal research, both inside and outside the laboratory, is vital for humans, animals, and the environment. However, it must be conducted in accord with the highest ethical standards. Research outside the laboratory, whether wildlife, agricultural, or clinical studies, poses unique ethical problems. Investigators, IACUCs, institutions, and public policy all must adapt to those unique challenges to ensure that the research meets those standards.

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