
Animal Experimentation and Ethics

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I. INTRODUCTION

Why discuss ethics in animal experimentation? Why are animals used in research, testing, and teaching? What is all the controversy about? Is there a difference between animal rights and animal welfare? Are there laws governing how animals are used? What other responsibilities do scientists have when they use animals in research, teaching, and testing?

There is some kind of justification necessary if a researcher is causing suffering, distress, or death to nonhuman animals in the process of research, but is that because it is a moral problem? Proponents and opponents of animal use alike refer to the similarities or differences between human and nonhuman animals as a foundation from which to make their case. It is possible to argue for judicious and limited use of animals in research without engaging in debates like this. Regardless of how nonhuman animals are like or not like humans, we have a long history of protecting them from harm, along with our long history of hunting them, of raising them for food, and of using them for research purposes. It makes sense to consider animal use for research purposes in this broader sense.

II. A SHORT HISTORY OF REGULATION RELATING TO ANIMAL USE

The primary regulations governing the use of animals in research, testing and teaching are the Animal Welfare Act (AWA) and the Public Health Service Policy on the Humane Care and Use of Laboratory Animals (PHS Policy), which uses the *Guide for the Care and Use of Laboratory Animals* as the “yardstick” by which animal care and use programs are evaluated.

The AWA was passed in 1966. It was revised in 1970, 1976, and 1985. Original versions of this regulation primarily set standards for animal care (such as cage size, sanitation, feeding and watering); however, over the years the AWA has evolved to also impact on how animals are used. Significant changes include greater details on the responsibilities of the institution/facility, the responsibilities of the veterinarian and the components of a program of adequate veterinary care, and the functions and responsibilities of the Institutional Animal Care and Use Committee (IACUC).

The IACUC membership requirements are slightly different in these two regulations; however, both require that IACUCs at least include the attending veterinarian, a scientist, and an unaffiliated member to represent the community's interest and concerns. This committee is responsible for evaluating all animal protocols and procedures using a list of criteria including such items as justification of animals used and numbers used; level of potential pain and distress and how it will be minimized using appropriate anesthetics, analgesics, and tranquilizers; surgical and postsurgical care; qualifications of personnel using the animals; methods of euthanasia; and documentation that alternatives to potentially painful procedures have been adequately considered. The IACUC has the authority, indeed the responsibility, to suspend any projects that are not in accordance with an IACUC-approved protocol. The IACUC also conducts semiannual evaluations of the animal care and use program, including inspecting facilities and reviewing concerns presented regarding animal welfare.

In addition to the regulatory requirements, the use of animals may be subject to rules from other federal agencies such as the Food and Drug Administration or private funding organizations. Many institutions using animals are also involved in the voluntary accreditation process of the American Association for the Accreditation of Laboratory Animal Care.

Regardless of which laws and regulations apply, the public holds the scientific community responsible and accountable for the judicious and humane care and use of laboratory animals.

III. THE MORAL COMMUNITY MISUNDERSTOOD

The question of what humans owe to nonhuman animals and why they would have such obligation has traditionally been argued over the boundary of what philosophers call the "moral community." The community,

which lists those who are deserving of equal moral protections, has become the battlefield upon which those in favor of animal use and those opposed have fought the theoretical question.

Those who argue that animals *should* be used in research often base their arguments on the notion that a human life is worth more than the life of a mouse or that of a research rabbit, dog, or monkey. Animals are believed to lack the standing to have moral protections equal to humans. For example, Machan argues his case this way:

Normal human life involves moral tasks and that is why we are more important than other beings in nature—we are subject to moral appraisal, it is a matter of our doing whether we succeed or fail in our lives.¹

Those who argue that nonhuman animals *should not* be used for research argue that animals have claim to moral protections that are equal in status to those of humans. Sapontzis argues it this way:

[W]hile it is true that humans are ordinarily capable of flights of reason of which animals are not, it does not immediately follow either that we are morally superior to animals or that we are morally justified in sacrificing the interests of less rational beings for our benefit.²

People disagree about how to determine “worthiness” for moral consideration. A being within the moral community has a fundamental right to moral consideration: A purposeful action against that being that is likely to cause harm is a *prima facie* wrong. In the end, arguments for or against inclusion of animals in the moral community may suffer from being overly inclusive or under inclusive, or both.

The scope of the moral community is overly inclusive when those arguing in favor of including nonhuman animals are no less arbitrary in drawing the line between what to include and what to exclude than are those who insist that the line that exists between human and nonhuman animals. On what basis do you include baboons but not bats? Bats but not beetles? Beetles but not bacteria?

On the other hand, arguments are underinclusive if they base inclusion in the moral community on the rationality of its members. In doing so, these arguments to keep the moral community as an exclusively human domain end up excluding a number of humans: infants, children, people with developmental disabilities, and those incapacitated by illness or advanced age.

Occasionally, the criterion for membership is simultaneously over- and underinclusive. For example, Singer says,

If a being suffers, there can be no moral justification for refusing to take that suffering into consideration. No matter what the nature of the being, the principle of equality requires that its suffering be counted equally with the like suffering—in so far as rough comparisons can be made—of any other being. If a being is not capable of suffering, or of experiencing enjoyment or happiness, there is nothing to be taken into account.³

In Singer's attempt to enlarge the moral community to include animals (beings that suffer), he has managed to narrow the community to exclude humans whom we think are deserving of moral protections. Some humans are "not capable of suffering or of experiencing enjoyment or happiness," in acute or chronic periods of lost consciousness, yet this does not provide license to violate their bodies.

An alternative definition of moral community rests not on the rational capacity or the moral agency of individual members, nor does it include everything that might respond to stimulus.

According to this definition of the moral community, developed by philosopher Bernard Gert, the hallmark of membership in the moral community is that every individual member is (theoretically) deserving of moral protections equal to every other member. No one should cause any member of the moral community to suffer evils (death, pain, disability, deprivation of pleasure or freedom) without justification. The moral community includes at its core rational adults—human beings capable of deciding to whom it is theoretically possible to provide these protections—but it expands from there.

Says Gert:

No one disagrees that one must include all presently existing moral agents; those who disagree claim that the group must include more than this. The smallest change is to claim that it must include all who were ever moral agents and remain persons, that is, are still capable of any conscious awareness. This change is supported by noting that all rational persons who are moral agents would want to retain the protection of the moral rules [Don't kill, cause pain or disability, or deprive of freedom or pleasure] if they were to lose their capacity to act as moral agents; at least they would want this protection as long as they could suffer from losing it . . . Most readers of this book would want to include in the group toward which we should impartially follow the moral rules human infants who have not yet become moral agents.⁴

Within Gert's theory, everyone in the moral community has an equal entitlement to protection. It is not moral to take the heart of one living child to save another, whatever the differences in wealth or culture. The child who needs a heart transplant and the child who has a healthy matching heart are of equal moral worth. They deserve equal moral protections.

The minimal group members of the moral community are, indeed, rational agents, but that does not imply that they have greater moral protections. The minimal group, composed of rational members who can think through the consequences of broadening membership in the moral community, are the deciders for who else belongs.

Membership in the moral community has changed as the minimal group has become more cognizant of others who are morally analogous. Christopher Stone notes, "As late as the *Patria Potestas* of the Romans, the father had *jus vitae necisque*—the power of life and death—over his children . . . The child was less than a person: an object, a thing."⁵ Racial and ethnic minorities, people with disabilities, women, and children have all struggled to attain membership in the moral community that was limited, in Aristotle's time, to free adult men.

Recognizing that all born humans deserve equal moral protections does not imply that it is always immoral to cause their death, pain, or disability, or their loss of freedom or pleasure. Rather, it means that, morally speaking, justification must be provided if these evils are caused. An example of current struggle over whether causing death to a member of the moral community is justified is the social debate over whether the certain death of anencephalics soon after birth provides adequate justification for hastening their deaths.⁶

While we know that infanticide of female children occurs in some parts of the world, we also know that such killing of babies is wrong. A baby's sex is not adequate justification for causing her death. But while infanticide is morally wrong, it is only one of many inequalities resulting in suffering, distress or death that is tolerated due to social or economic circumstances. However, economic and social inequalities do not provide moral justification for not providing all members of the moral community equal moral protections.⁷

Nor is there complete agreement about who to include in the moral community. Some—people in persistent vegetative states and humans who have been conceived but not fully gestated, for example—are borderline cases. They are borderline because reasonable people (in the minimal group) disagree as to whether or not to include these kinds of beings as deserving of equal moral protections. If a fetus or a perma-

nently unconscious (and never-again-to-be-sentient) person belongs in the moral community, it follows from definition that that being has moral protections equal to those of every other member. While it is possible to provide equal moral protections to these borderline groups, reasonable people disagree as to whether they *should* be provided such protections.⁸

Membership in the moral community is an either/or proposition. If one begins to think in terms of degrees of membership, the idea of equal moral protections is lost. In theory, anything can be considered for membership in the moral community. The necessary condition for membership is that members of the minimal group (rational moral agents) are willing to hold others in the community accountable for acting impartially toward the new members. The new members must be treated as deserving of moral protections equal to those in the minimal group. It is this condition that makes it logically impossible to include nonhuman animals in that community.

Consider what we do for members of the moral community. We construct governments to manage many of our moral protections. The general function of government is to prevent the suffering of unnecessary evils by that segment of the moral community who are the citizens.⁹ We enact laws that hold people accountable for causing some kinds of harm to those within the community. We construct laws that include safety codes to prevent some harms from being caused. Many nation-states, including ours, have enacted laws that provide universal police and fire protection. Laws that protect members' lives and property extend to all members of the moral community who are under the jurisdiction of the government constructed to manage those protections.

Consider what would happen if we extended the moral community to include other mammals. As members of the moral community, they would be deserving of the protections afforded all other members. Animals in the wild would be as deserving of moral protections as those in the cities. If we advocate protecting some members against predators, we must advocate protecting all members (even if we know that sometimes members get hurt anyway). We would need to begin with the premise that nonhuman mammals are deserving of protections that we give all other members from humans as well as from other animals that might consider them food. Government officials do not hesitate to hunt down and kill predators such as mountain lion and bear when they treat human beings as prey.

Practically speaking, of course, this is impossible. Humans can survive without eating meat, but the cougar cannot. Our intention of protecting

individual nonhuman animals would have the unintended result of the destruction of species that depend on the flesh of other mammals. Or equal protection would dictate extensive factory farming of animals considered acceptable to be used as "food" for nonhuman animals, just as we currently factory farm for human use.

We could get around that problem by allowing into the moral community only omnivorous or herbivorous species. But that creates a standard that, on its face, seems even more arbitrary than the distinction between those now included or excluded.

The only way to include animals in the moral community is to make "moral community" mean something other than deserving of equal moral protections. If one does that, "moral community" loses its power to help us deal with a broad set of problems. Knowing who is entitled to equal moral protections is important in determining what counts as morally prohibited activity and what counts as activity requiring justification.

That everything in the moral community deserves equal moral protections does not imply that *only* things within the community are deserving of *any* protections. There are things outside the moral community (including research animals) that deserve some moral protections, but those protections are less than those given to members of the moral community and are justified on a different basis.

IV. ALL MORAL STANDING ASIDE

All moral standing aside, a case can be made for the protection of animals. The present argument is confined to the use of animals in research, but the argument implies restrictions against animal death, suffering, and distress that occur in other activities such as recreational hunting, factory farming, and pet ownership. The discussion focuses on the use of animals in laboratory experiments that result in their death or in their suffering or distress.

The discussion does not include what counts as allowable levels of animal "pain." There is disagreement about how to interpret animal pain. One author presents "animal pain" as an oxymoron:

Pain is the body's representative in the mind's decision-making process. Without pain, the mind would imperil the body . . . But without the rational decision-making mind, pain is superfluous. Animals have no rational or moral considerations which might overrule the needs of the body.¹⁰

However, other scientists point out that clinical pain studies rest on the assumption that animal pain is analogous to human pain.¹¹

However one interprets animal pain, there seems to be more agreement that at least some animals suffer or become distressed. Bernard Rollin, who is a physiologist and biophysicist as well as a professor of philosophy, explains the reason for focus on the animal's interpretation of experience:

Recent research has shown, for example, that talking about stress in animals cannot be done in purely mechanical terms and cannot circumvent reference to their states of awareness, for the same "stressor" can have very different physiological effects in an animal, depending on the animal's emotional state, or how it has been treated prior to the noxious stimulus, or on whether it can anticipate or control the stimulus, etc. Furthermore, purely psychological stressors, like putting an animal in an unfamiliar environment, can have greater physiological effects than such physical stressors as heat.¹²

This is relevant to the argument for the protection of research animals. If the research scientist has reason to believe that animals in her care do suffer or become distressed, then that knowledge (reason to believe) alone creates some moral obligation on the part of the research scientist.

Argument 1: Based on the Perceptions of Those in the Moral Community

One of the moral protections afforded those in the moral community is that when harm is caused, it must be justified.

Some people are hurt by the knowledge that animals are caused suffering and distress. Some people do not want animals to be caused suffering and distress at all. An even larger number of people do not want animals caused suffering and distress without justification. If research scientists are causing pain to these clearly human members of the moral community (by causing animal death, suffering, or distress), they must justify those acts.

The operable term here cannot be "knowledge." That is, one can't argue against this need for justification by claiming that what people don't know won't hurt them. Abusing a child, for example, is wrong even if the authorities are not aware of the situation.

It's true that there are many things that are not noticed as moral problems unless people have knowledge of the act in question. But it

doesn't follow that actions are outside the bounds of moral consideration if they take place in secret. People who object to the unjustified causing of death, suffering, and distress to research animals object to that action, not to the knowledge of it.

If the use of research animals should be limited because people object to unlimited use, then, the justification for when animals are used must be satisfactory to those who object. Adequate justification, not surprisingly, is a utilitarian argument that cites the morally relevant difference between those who are members of the moral community and those who are not.

The moral justification for causing death, suffering, and distress to animals is that human lives, and additionally, animal lives, are being saved or significantly improved through the animal use. Now, there is argument about when this justification is valid. For example, one investigator uses this balancing as a way of justifying pain studies in rats:

No investigator views the burning procedure with equanimity. However, the realization that research in animals with burns may help to reduce the suffering and enhance the recovery of young human burn victims well justifies this work.¹³

Even those who argue against animal use cite this utilitarian balancing. Says Sapontzis, "we consume hundreds of millions of laboratory animals each year. It is hard to imagine that our testing and research produces utilitarian goods sufficient to outweigh that massive, annual evil."¹⁴

Consider the following scenario: Three day-old chickens are killed, with the result that hundreds of human children are protected against some childhood disease. The chicks are killed in a way that does not cause them to suffer or become distressed prior to their death.

It's admittedly rare in research that the cost and benefit equation is that clean and direct, but the fact that this justification would satisfy those members of the moral community who approve of animal use if justified moves the problem from the moral to the empirical realm. Now the question about whether specific animal use is justified depends on how close the actual intended use is to the chick-to-children scenario.

Argument 2: From the Sentience and Perception of the Animal

Some nonhuman animals are part of the class of a small number of things outside of the moral community that we know to suffer and be-

come distressed. Whether we refer to the stewardship role implicit in what it means to be “humane” or to our sense of empathy, it is the case that we think there is something wrong with causing unnecessary death, suffering, and distress to animals. In our society, it is both a crime and a psychiatric illness.¹⁵

The knowledge that one can cause suffering and distress to something outside of the moral community carries with it the moral responsibility to avoid or minimize that suffering and distress when possible. The difference between speculation that vegetables may suffer when cut from the vine and that animals suffer from a surgical incision if inadequately anesthetized is that we know, with certainty, that the latter is true. Knowledge that certain actions cause suffering and distress implies moral obligation to avoid or minimize that suffering and distress.

As Rollins explains,

Most realize that as soon as one has admitted that animals can be hurt in ways which matter to them . . . or that unnecessary animal suffering is wrong, one has implicitly but inescapably presupposed that animals are in the moral arena, that one can be morally wrong in how one uses or treats animals, none of which one would say of inanimate objects, such as chairs and wheelbarrows.¹⁶

Argument 3: From the Special Role of the Research Scientist

The goal of research science, broadly speaking, is to seek and communicate new understandings about nature. Indeed, we’re told that “the desire to observe or understand what no one has ever observed or understood before is one of the forces that keeps researchers rooted to their laboratory benches, climbing through the dense undergrowth of a sweltering jungle, or pursuing the threads of a difficult theoretical problem.”¹⁷ Scientists act using methods that can, in principle, be replicated.

Animals are first a part of nature that is explored by science. Research scientists have a special responsibility for stewardship—judicious care—over the realm in which they work. In structure, this stewardship responsibility is no different from claiming that journalists have a special responsibility to protect the First Amendment.

There’s something ironic about a geologist who destroys rock formations without reason or a botanist who, through neglect, allows his or her plants to die. The researcher’s role as student of natural phenomena implies a responsibility to care for and respect the objects of study. Specifically, in the case of animal research, scientists have an obligation to prevent the death, suffering, and distress of the animals that are their

objects of study whenever possible. Animals ought not be wasted. This is consistent with what it means to be a scientist.

Other research scientists use animals not as objects of study but as tools or sources of research material. The obligation of this scientist is the same obligation he or she has to the usage of other tools and materials, with the understanding that animals constitute a very special class of tools. The proper use of animal "tools" implies the obligation to provide tolerable noise levels, housing congenial to the species, and opportunities for play and social interaction for individual animals. But at least, preventing the death, suffering, and distress of research animals is no less important than preventing the loss of other important tools and materials.

CONCLUSION

It is not necessary to give nonhuman animals moral protections equal to the moral protections enjoyed by those within the moral community to show that we need to justify our use of them. Research scientists have moral obligations to justify, minimize, and prevent the death, suffering, and distress of research animals. The way this plays out in the typical research setting includes some of the following:

1. The role of the Institutional Animal Care and Use Committee (required by federal law at any U.S. research site using animals) includes asking questions of investigators that go beyond current federal regulations. The IACUC is responsible for monitoring how investigators might justify, minimize, or prevent death, suffering, and distress to research animals.
2. Research scientists have a positive obligation to seek alternatives to animal use (thus preventing and minimizing death, suffering, and distress).
3. This analysis of research animal use also provides criteria by which to judge the legitimacy of nonresearch use of animals:
 - a. How justified is the use when considered by knowledgeable members of the moral community? Although there may never be full agreement as to what constitutes justified use, the use will be more or less justified, based on the potential to benefit human life.
 - b. Who is the moral agent causing animal death, suffering or distress? What are this person's role-related responsibilities to

minimize and prevent the death, suffering and distress of animals in his or her care?

The implication is that the person who is in a special position to cause death, suffering, and distress to animals has a concurrent obligation for justifying, minimizing, and preventing these evils for the animals in their care. This should hold whether we are examining the role of research scientists, or those who kill for food, or of pet owners.

Notes

1. T. Machan, "Do animals have rights?" *Public Affairs Quarterly* 5(2) (1991):168.
2. S. Sapontzis, *Morals, Reason, and Animals* (Philadelphia: Temple University Press, 1987), 216.
3. P. Singer, "All animals are equal." in *Animal Rights and Human Obligations* (Englewood Cliffs, N.J.: Prentice Hall, 1976), 154.
4. B. Gert, *Morality: A New Justification for the Moral Rules* (New York: Oxford University Press, 1988), 85.
5. C. Stone, "Should trees have standing." *Sanctuary* (Feb./March 1988):15.
6. See, for example, the case reported in the lay press in March 1992 of Theresa Ann Pearson, an anencephalic, who, although born alive, was considered for donation of life-sustaining organs.
7. For example, certain expensive medical treatments (such as organ transplants) in the United States are routinely withheld from patients who meet clinical requirements but who lack the necessary financial resources. As a society, we may agree that it's not "right" that insurance or the ability to attract media attention makes the difference between people who live and people who die of identical maladies. Nevertheless, we accept the immoral but economic reality. Our willingness to tolerate the present system does not imply an actual or perceived acknowledgment of morality.
8. Gert, *Morality*, 85.
9. Gert, *Morality*, 85.
10. P. Harrison, "Do animals feel pain," *Philosophy* 66(1991):38.
11. See, for example, F. Keefe, R. Fillingim, and D. Williams, "Behavioral assessment of pain: Nonverbal measures in animals and humans," *ILAR News* 33(1-2)(1991):3-13.
12. B. Rollin, *The Experimental Animal in Biomedical Research, Vol. I, A Survey of Scientific and Ethical Issues for Investigators* Boca Raton, Fla.: CRC Press, 1990), 27.
13. P. Osgood, "The assessment of pain in the burned child and associated studies in the laboratory rat," *ILAR News* 33(2)(1991).

14. Sapontzis, *Morals, Reasons, and Animals*, 221.
15. Conduct disorder if diagnosed before the age of 15; antisocial personality disorder if diagnosed later, according to the *Diagnostic and Statistical Manual* of the American Psychiatric Association.
16. Rollin, *The Experimental Animal*, 27.
17. Committee on Science, Engineering, and Public Policy, *On Being a Scientist: Responsible Conduct in Research*, second edition (Washington, D.C.: National Academy Press, 1995), 1.