The Muddled Middle: The Search for Ethical Principles to Regulate the Use of Animals in Research

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I. The Problem

The disagreement between pro- and anti-vivisectionists has a long history.¹ While the "debate" has taken varied forms over the last 150 years, some features of it have not changed much. One lingering feature is the intransigence among the proponents of each side to yield any considerations to their opponents. This intransigence might appear to represent a stalemate were it not for the fact that very little conversation between opposing parties has actually taken place, partly I suspect, because those who are most vocal in the debate do not share a common forum. Conciliators who have aspired to develop such fora have had limited success in the past, and scholarly speculation about the prospects for reconciliation range from "irreconcilable values" to "convergence" to "imminent consensus." (Ritvo, 1984, Moss, 1984) In a recent article, Gary Varner (1994) adds to the optimism voiced by Arthur Caplan in 1983 (Ritvo, 1984: 63, PRIM&R, 1983) that the two sides are really not so far apart that dialogue could not bring them together.

Varner argues that, in terms of moral theorizing, only empirical questions keep the opponents apart—

namely the question about the connection between research and its alleged beneficial consequences. This, of course, is no small gap to be easily leapt over. Singer's criticism of the biomedical research establishment (1990) is pretty radical, and the issues dividing those who agree with Singer from those who support the system as it now exists are a lot deeper than whether it is acceptable to use nonhuman animals invasively in research. So, even if Varner is correct about the moral theorizing, I don't think Varner's optimism is warranted. But I do find the basis for Varner's optimism thought-provoking, namely his claim that pro- and anti-vivisectionists share a commitment to the same, or at least similar moral foundations. In fact, I think Varner is more correct in this assessment than even he realizes, but for different reasons than the ones that he gives.

Varner thinks that pro-vivisectionists are "Tom Regan rights theorists" in their attitudes towards fellow humans, but "Peter Singer utilitarians" in their attitudes towards nonhuman animals. I take this to mean "in their attitudes towards using humans and using nonhuman animals as research subjects." I think this claim, to be accurate, requires a lot of qualification,² but I do not intend to focus on that issue in what follows. What I do want to do is to look at the moral philosophies of Singer and Regan in another light: whether they provide any usable foundations for constructing what some

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philosophers have referred to as "a middle position about the ethics of using animals in research."³

The idea of developing a middle position is historically situated in the outcomes of two pieces of Federal legislation enacted in 1985, the Health Extension Authorization Act and the 1985 Amendment to the Animal Welfare Act. Both require that research facilities regulate their use of animals by in-house animal care and use committees.⁴ These committees must include in their membership

- a. a veterinarian,
- b. some person not affiliated with the institution, and
- c. a nonscience person.⁵

In some institutions either the unaffiliated member or the nonscience member (in some cases these are the same person) are professional philosophers who work in the field of bioethics. Among the duties of these mandated committees is passing judgment on all proposals to use animals as to whether the protocols are in compliance with Federal regulations regarding the use of animals in research, testing, or education. The basic criteria that these committees are required to employ in their judgments are

1. that the proposed animal use is for a good purpose,
2. that the justifying goals of the study cannot be achieved by some other methods that do not use animals,
3. that the study is well designed, so that it is likely to achieve its goals,
4. that the proposed use of animals is judicious in the number of animals that it is to use, and
5. that all animal pain and suffering be reduced as far as possible consistent with the aims of the study.

While the use of these committees, together with the enforcement of the 1985 federal regulations by the USDA, NIH, and AAALAC, has brought about considerable improvements in the welfare of animals used in research, testing, and education, there remain some criticisms. One criticism is that the standards that these various committees use in applying these criteria vary greatly from institution to institution.⁶ To help in this regard, a number of conversational networks have developed under the facilitation of such organizations as the National Institutes of Health, The Scientists Center for Animal Welfare, and Public Responsibility

in Medicine and Research, and magazines such as *Lab Animal*. But there remains a more fundamental criticism from the anti-vivisectionist left: that these committees still do not address the fundamental ethical question regarding the justification for the exploitative use of animals in research, testing, and education. This question is, "Under what conditions, if any, is the exploitative use of morally considerable beings justified?" Until it can be shown that this question has been given a satisfactory answer, and that the Institutional Animal Care and Use Committees (IACUCs) guide their decision making by whatever principles can be developed from such an answer, anti-vivisectionist critics will continue to regard those who support this form of regulation as "sell-outs."

It is the nonscience, bioethicist philosophers who have participated as nonscience members of these committees that have been most sensitive to this criticism, I believe, and it is largely from them that there has developed a demand that IACUCs conform their decision making to ethical principles, yet these ethical principles have proven elusively difficult to articulate. I think there are several reasons for this. One reason is that it is philosophically problematic to give nonhuman animals some moral status, but not so much status that we are prevented from finding it morally acceptable to do things to them that we would find it unacceptable to do to humans. Strachan Donnelley sees this problem as the major one that "troubles" those who try to develop a middle position between those who find no exploitative use of animals justified and those who find any use justified. Donnelley refers to this middle position as "the troubled middle" (1989, *et al.*, 1990).⁷ Another part of the problem is that even if the bioethicists connected to these regulatory efforts did develop an ethically viable middle position, they would still have to sell it to the other members of the committees, so as Rebecca Dresser points out, committee composition is a crucial issue (1988). The solution that troubled middlelists like Donnelley (1989 and *et al.*, 1990), Dresser, and Lily-Marlene Russow (*et al.*, 1990) have developed has been described as the "moral ecology approach." This approach recognizes a number of competing values, among which are animal welfare and the benefits of scientific inquiry. IACUCs must weigh these competing values and, in each case, decide how they best be taken into account, including which take priority over the other when yielding is required. Generally, when the substantial interests of

humans stand in conflict with the substantial interests of nonhuman animals, the latter yield because, morally speaking, among those beings that have moral status, some are less equal than others. Much of the moral theorizing that then follows is designed to justify the moral hierarchy that has been appealed to. However, since I tend to agree with critics of this position, such as S. F. Sapontzis (1988) and Tom Beauchamp (1992), I think this middle position theorizing is rightly troubled, and it is troubled because of its muddled thinking about the role of moral theorizing in this context.

Because I think that its thinking is muddled at the level of theorizing, I want to go back and look more closely at Gary Varner's claim that both pro- and anti-vivisectionists share a commitment to the same moral theorizings. I hope to show that one of the sources of the muddlement of the middle position is that it has taken the moral theorizing of Singer and of Regan out of the only context that justifies them, that they are intended to be theories of liberation. That is, their fundamental task is to identify victims of oppression and the social structures that cause this oppression. I think Singer and Regan have done a good job on this score, and it is this aspect of their theorizing that middle position bioethicists have rightfully accepted. But a philosophy of liberation that succeeds in identifying the victims of oppression may not do so well if it undertakes to theorize about ideal and unsituated moral and political relationships. If we look at the moral theorizing of Singer and Regan in this light, then they leave much to be desired, as I shall try to point out below. I shall also argue that it is just this feature of their theorizing (their unsituatedness) that has been imported into the middle position and that is the cause of much of its muddled thinking. To facilitate your following my line of argument, I will outline what I try to do in the remainder of this paper.

1. My overall thesis is that moral theorizing is objectionably idealistic or utopian if it is done independently of the specific historical situations to which its occasion is tied. This is a "theory-practice" thesis.
2. Singer and Regan do moral theory both at the level of a situated liberation theory and at the level of utopian theorizing.
3. The problems that middle position bioethicists should be addressing, when they develop ethical

theories, should be appropriately situated. Their historical situation is that they are bioethicists working in the context of a system where research facilities are required to regulate their use of animals through the mechanism of animal care committees. This particular mechanism was adopted as a political compromise beginning in 1985, and a tenuous compromise at that. Enforced self-regulation by IACUCs should be regarded as an experiment. The grounds for recommending this particular practice of regulation was that it shared many of the features of similar models for regulating professional conduct.⁸ This means that bioethical theories designed to guide these practices should be aimed at reforming the practices so that they conform to appropriate ethical ideals or principles. That is, they should describe how these practices should be carried out so that these practices can be seen "in their best light."⁹ The source of these principles is the analogous practices that were regarded as exemplary forms of self-regulation.

4. However, much of middle position theorizing has been situated in the wrong way, and it attempts to conceal this fact by theorizing in an unsituated way. The point here is that middle position bioethicists, probably to preserve their voice in the conversation about reforming practices, have been so concerned with developing principles that would be acceptable to their pro-vivisectionist committee colleagues, that they have seriously compromised their goals. While working for some reform (higher standards in some areas), they also undertake to defend the practices that they are regulating, rather than to radically reform them so that they are as ethically defensible as possible under the circumstances. The defense they employ is to develop general unsituated theories very much of the sort that Regan and Singer employ when they theorize at the utopian level.¹⁰
5. Finally, IACUCs can draw from analogous regulatory bodies ethical principles that do a much better job of justifying their practice, and these principles would do a much better job of regulating the invasive use of animals in research than the current principles do, though the reforms that applying these principles would require would

significantly increase the cost of research and, most likely, prohibit some forms of research altogether.¹¹ Nevertheless, even if these reforms were instituted, I do not believe that they would succeed in justifying the practice of using animals invasively in all cases.

To develop my argument, let us look first at Gary Varner's account of the moral theories of Singer and Regan and what they have in common with provivisectionist theorizing.

II. Varner on Regan and Singer

According to Varner, researchers mischaracterize the difference between animal rights and animal welfare advocates. Singer's *Animal Liberation*, which is the bible of PETA, uses the term "rights" loosely, to mean that animals have moral standing and that there are right and wrong ways of treating them. But in his *Practical Ethics*, which is the more theoretical work, he eschews the idea that animals (or humans) have rights. In the more technical sense, "having rights" means that some things cannot be done to the bearer of rights for the sake of benefit to others. Moral rights have been characterized as "trump cards" against the exclusive use of utilitarian principles. According to utilitarianism, any action could be justified under some possible circumstances. While on a rights view, regardless of the consequences, it is simply wrong to do some things to individuals. Varner thinks that most researchers are utilitarians when it comes to using animals but rights theorists when it comes to humans. Singer is a thorough-going utilitarian on both counts. Researchers also share Singer's conception of harm—it is hedonistic. Singer holds a replacement theory of harm. If animals live a pleasant life and die a painless death, their lives can be replaced by other lives. Hence, humane animal agriculture is all right. But Singer does not apply this conception of harm to animals capable of self-consciousness who lead their own lives and want to go on living. All mammals are self-conscious in this sense, according to Singer. Self-consciousness equals forward looking desires. Here Singer becomes a preference utilitarian. Varner doubts that most mammals have forward looking desires to the extent that we can say that they want to go on living. Singer would allow that an experiment using one animal to save many lives is justified. His criticism against research is that most of

it is not like this. Thus, the disagreement between Singer and the research establishment is an empirical question about how likely various kinds of research are to lead to important human benefits (and in Varner's mind, about whether animals are capable of experiencing forward looking desires).

Regan's position is that all animals have the basic right not to be harmed by moral agents, not even on the ground that doing so benefits others, and all animals who can be harmed in the relevant ways have this right. Regan conceives of harm as a diminution in the capacity to form and satisfy desires. All animals that can have desires have this right. Death is the greatest harm because it completely destroys one's capacity to form and satisfy desires. When harming is inevitable, use the worse-off principle when deciding whom to harm. Death to a normal human being is noncomparably worse than death to any nonhuman animal. In the life raft example where the carrying capacity is exceeded by the weight of any one of the two humans and the one dog that it now carries, eliminate the dog rather than any of the humans, because the humans stand to lose the most. Where there are comparable harms, use the miniride principle: harm the few rather than the many. Although Regan opposes all use of animals in research, he ought not to oppose cases where sacrificing animals will save humans, according to Varner. Regan opposes applying the worse-off principle to animals in research because of special considerations: that they do not voluntarily assume the risks. Only if we were testing a cure for a currently incurable disease on an animal that had already contracted the disease would the assumption of risk involuntarily be justified. Varner argues, however, that most people believe that we can involuntarily transfer risks to other humans, as in the case of war or forming a new economic policy.

III. The Theoretical Assets and Liabilities of Singer and Regan

As liberationists, Singer and Regan have argued successfully that nonhuman animals should be granted moral status. They are, to use Regan's term, "subjects-of-a-life" and as such have inherent value, as opposed to merely instrumental value.¹² But the central point of Regan's account of the lives of nonhuman animals is his use of the continuity thesis to justify our attribution to nonhuman animals of most of the morally considerable qualities that we attribute to ourselves.

Regan rejects the charge that in attributing these morally considerable attributes to nonhuman animals we are guilty of anthropomorphizing—that is, we are guilty of illegitimately ascribing to other animals features that only humans have. Regan's position has been largely accepted by bioethicist middle positioners in their acceptance of what they call "critical anthropomorphism," (Morton *et al.*, 1990) and at least some elements of this position have been incorporated in the USDA regulations where pain in animals is defined based on the assumption that, unless otherwise warranted, nonhuman animals must be assumed to feel what humans would feel under similar situations (USDA, 1990: A.I.§1.1) In general, Regan's and Singer's influence is most clearly evident in the middle position's acceptance of the claim that nonhuman animals have moral status.¹³

Their influence in two other dimensions, however, is more subtle. One dimension is the use that Regan makes of his worse-off principle to guide us in situations where we must choose between whose life is to be sacrificed in situations that require that a choice be made (otherwise either all in the situation will die, or at least some will). He generalizes this intuitively obvious principle from situations where, when someone must pay an indivisible cost, the person who can most afford it should pay the cost, to situations where the cost is death. To do this, he must analyze the sort of harm that death brings to different individuals in such a way that these harms can be compared. His solution is adopted from a paper that Donald VanDeVeer published in *Inquiry* in 1979 on the topic of interspecific justice. Borrowing a notion from economics, VanDeVeer suggests that we view death as foreclosing windows of opportunity that the decedent would otherwise have had. Regan then uses the example of a life raft, with several humans and a (large) dog, that is overburdened in terms of capacity and resources by just one subject-of-a-life. Who must go over board? The solution is that, all other things being equal, since most humans have the capacity to live richer (or more psychologically complex) lives than most dogs, the dog must go, because sacrificing the dog will cause less of a loss to the dog than sacrificing a human will cause for that human.¹⁴ This interpretation of how the worse-off principle is to be used has several undesirable consequences for a theory of liberation, especially when it is embedded in a libertarian rights political philosophy that is implicit in Regan's moral theory. One of them is that while it grants

moral status to victims of oppression (in this case, nonhuman subjects-of-a-life), it preserves the basis for a moral hierarchy, or, in the words of middle position theorists, while all subjects-of-a-life are morally equal, some are more equal than others. So, if someone's moral rights are to be limited, we should choose those lower on the hierarchy. Of course, it would be a mistake to suppose that we could use Regan's vision of how the worse-off principle is to be interpreted in the life-boat scenario to justify using animal models in research, since it is probably never the case that we encounter the life-boat scenario in research decision making. But that is beside the point.

Let me emphasize the point I want to make here. It is Regan's use of his worse-off principle in situations like the above one (plus his use of the notion of inherent value to make the point that all subjects-of-a-life have moral considerability) that justifies qualifying the claim that all subjects-of-a-life have moral status by the claim that some subjects-of-a-life have a higher moral status than others, and it is just this feature of Regan's moral theory that is utilized by middle position bioethicists to justify the practice of sacrificing the interests of nonhuman animals to the interests of human ones when choices must be made.¹⁵

There is another feature of Regan's (and Singer's) moral theorizing that contributes to what I find objectionable about middle position theorizing. This feature is the utopian component of the theorizing—that is, that in addition to developing a theory of oppression, there is also embedded in this theory a broader but unsituated theory that attempts to portray a set of ideal relationships between different types of subjects-of-a-life. Regan develops this ideal picture by first making a distinction between moral agents and moral patients, and then dividing subjects-of-a-life into those that are merely moral patients and those that have the capacity to be both. Regan's solution to the problem of how these two types of moral beings should relate to each other is that they should occupy different kingdoms. He takes this position in response to the question of what sort of wildlife management policy we should adopt. For Regan, such a position is a desirable solution to what might otherwise seem to be a paradox. If human subjects-of-a-life expect to be protected in their liberty rights by the moral community of moral agents, whose job it is to protect moral patients from immoral agents (or even from innocent liberty limiters), then we might also expect that the moral

community of moral agents ought to protect merely moral patients from other merely moral patients who limit their liberties, as in managing predator-prey relationships in nature. But Regan refuses to go that far. Humans should leave merely moral patients alone to manage their own affairs. While this might seem to be a morally unacceptable solution, Regan justifies it by claiming that since it is merely moral patients committing these acts, they are not immoral acts, as though the object of moral management was solely to prevent moral agents from committing immoral acts.¹⁶ But this theorizing, even if it might be otherwise morally acceptable, is utopian just because it relies on a distinction that ignores the reality of our (humans) relationships with nonhuman subjects-of-a-life. Humans have been instrumental in changing "the natural world" to such a degree that we cannot avoid taking responsibility for some of the relationships that now exist between what Regan calls moral patients. To refuse to employ wildlife management practices that try to rectify some of the predator-prey imbalances that have resulted from the effects of human choices is irresponsible.¹⁷

What is theoretically objectionable about Regan's position is that it theorizes against the background of some general utopian scenario about ideal relationships. It cannot, therefore, be employed to develop a situation specific set of ethical principles without running the risk of having the very principles that Regan intends to use to protect animals used to justify their exploitation. And this is specifically the pattern of argument that the middle position adopts in its moral theorizing. Strachan Donnelley, for example, develops his respect for life position by portraying the natural world as a place governed by the fundamental law of metabolic existence, a law that governs the competition to capture energy. In this system, it is a fact that life feeds on life. If we are to make choices about which lives to sacrifice first, we should choose the less complexly active and less complexly related forms of organic life, because these have less inherent value. Of course, humans are at the top of this moral hierarchy. So, Donnelley's theorizing assumes a natural order of things, which is then used to justify the (regrettable but natural) sacrificing of the interests of what is lower in the scheme of things to the interest of what is higher in the scheme of things.

Finally, we could say the same thing about Singer's mode of theorizing to the extent that it depends on some

global vision of ideal moral communities toward which our expanding moral consciousness is developing in a Kohlbergian fashion. It thus moves from a theory to identify oppression and its causes to a theory of the utopia that we should strive to attain, but in doing so preserves the moral order of things that justifies the oppression in the first place.¹⁸

Up to this point, I have given some indication of what I think is objectionable about current middle position moral theorizing, why it is muddled, and what some of the theoretical sources of the muddle are. In doing this, I have set out my arguments for points 1, 2, 4, and some of 3 listed above. What I have not done is to suggest ways in which a more historically situated search for ethical principles for IACUCs should be conducted. To begin that discussion, let us look at current practices in IACUCs to see what sort of ethical principles they could be said to employ. Then we will see whether any of the moral theorizing can be of any help in introducing better principles. I will suggest that they are minimally useful, except in their oppression specific analysis. Then I will move on to the final stage of my argument, which is to suggest just what sorts of principles would be appropriate and why.

IV. The Current Role of Ethical Principles in IACUCs

It is not very clear what sorts of principles these committees are supposed to use in carrying out some of their functions.¹⁹ It is spelled out very clearly, however, that it is not the function of these committees to interfere with the conduct of legitimate scientific activities. This seems to mean that in its deliberations, committee members may not appeal to abolitionist principles, nor to principles that would support the

position that any use of animals in science is justified. In other words, IACUC members, whatever their differences, should share some "middle" position between the extremes represented by anti-vivisectionists and unrestricted use advocates. This middle position has been characterized as one shared by those who wish to reform the current use of animals in science in order to promote the welfare of the animals being used. In the context of legitimizing the use of IACUCs as a satisfactory mechanism for regulating the use of animals in research, IACUCs must try to meet their critics' claim, that all such use is unethical, by trying to show that IACUCs use sound ethical principles in distinguishing between legitimate and illegitimate uses. Much of the trouble that the troubled middle has encountered is in trying to identify what these principles might be.²⁰ One principle is universally applied, and even mandated by law: that animals should not be used in research, especially if it is exploitative, unless using these animals is necessary in order to achieve some legitimate end. For the sake of convenience, let us call this the Principle of Necessity. Another principle that is clearly used, and mandated, is that when the use of animals is justified by the Principle of Necessity, they must be used in such a way that the interests of the animals are compromised as little as possible consistent with attaining the ends appealed to in the Principle of Necessity. I suppose we can call this the Principle of Minimizing the Costs.²¹ The first principle raises two important questions.

1. Which ends legitimate the proposed exploitative use? and
2. How likely is it that the proposed use will make a major contribution to achieving the justifying ends?

The second principle raises a third important but controversial question.

3. What are the likely costs of the various methods by which the proposed ends might be reached?

There is some evidence that IACUCs are concerned with trying to answer questions (2) and (3), but generally question (1) has proven to be too difficult.²² If the proposed exploitative use of animals is an attempt to produce socially useful knowledge (information), then it is generally considered to be legitimate, and, in fact, the intent of the legislation that mandated IACUCs seems to be to allow that questions about what sorts of

knowledge are useful are science policy questions that are better addressed at the level of funding decisions.²³

Question (2) is usually thought to be an issue of scientific merit, and, while IACUCs have tended to stay clear of trying to make such decisions, the literature discussing IACUC issues suggests that there is some consensus being approached about the need to monitor this question at least to some degree.²⁴ In trying to answer the third question, IACUC members are often faced with a serious epistemological question concerning what costs the exploited animals are being required to pay, and much of the welfare reform that proponents of a middle position have urged concerns the need to pay more attention to the question about the criteria for identifying appropriate costs and for telling whether these costs will be paid in a particular situation.²⁵ Applying this principle, however, still tends to get bogged down by the ghosts of Cartesian skepticism about other, and especially nonhuman, minds that still haunts the sciences.²⁶

One would expect, however, that there are at least two purposes to be served in estimating the cost to the animal models being used. One is to be sure that all steps available are taken to minimize or alleviate these costs, either by choosing alternative means to conduct the study that cause less pain and suffering, or by applying appropriate anesthetic, analgesic and other remedial care to animals who would otherwise experience these costs. The other purpose would be to try to weigh the costs to the animal models against the value that is to be gained from the study in order to determine whether the benefits outweigh the costs, forgetting for the moment the ethical problem about how these costs and benefits are to be distributed. While I believe that serious efforts are being made by IACUCs to estimate harm in order to serve the first purpose, I do not see much of a willingness to employ weighing principles about costs and benefits, though in studies where an unpleasant death is an endpoint in the study or where there is serious, long-lasting and unmitigated suffering, committees have tended to require a stronger justification for the study than in other cases. Nevertheless, there seems to be a principle here that wants substance. One problem with giving it substance is seeing research as part of "a complex web of interrelated activity from many disciplines, whose results are always uncertain but which nevertheless may contribute to "scientific advance." (Donnelley *et al.*, 1990) Generally, IACUCs require that the researcher

provide some justification of the use of animals that will show that this use will contribute to either basic or applied scientific knowledge.

In actual practice, grading studies in terms of the costs that they impose on the animal subjects seems to serve several, perhaps conflicting purposes, and I think that these should be pointed out. At the most fundamental level, grading is required by USDA regulations in order to ensure that when a study might jeopardize the well-being of the animal subject, appropriate steps be taken to minimize the harm. In practice, IACUCs may use grading for additional purposes. One purpose is an administrative one. How much time should IACUCs spend in scrutinizing the applications that animal users make for IACUC approval? The less harm that the proposed use visits on the animal subjects, the less scrutiny is needed. The greater the harm, the more scrutiny. A second reason is an educational one. Grading may serve to call to the attention of the investigator the moral costs involved in the study. While I think that this is a legitimate purpose, both to counteract the Cartesian mindset of scientists and to put the conscience of the investigator on some public display, it also shifts the ethical weighing of the costs and benefits of the project from the committee to the investigator, and I think that this is too great a concession to the principle of professional autonomy. That is, while I am in favor of making people assume more ethical responsibility for their decisions, in performing this educational function IACUCs are in danger of giving up their regulatory role and replacing it with an advisory one. A third purpose for grading studies is to put the institution in a better light in regard to potential critics, by showing that it is less the number of animals used in research that is objectionable, than how harmful their use has proven to be for the animal subjects. But I do not think that IACUCs have any business taking on this task, any more than middle position ethical theorists have in taking on the task of justifying the practice of using animals in research. And I think that there is an important connection between the way that IACUCs grade, partly with this purpose in mind, and the function that middle position theorizing plays in justifying lab animal use.

In general, theorizing at the middle level seems less concerned with developing principles for weighing conflicting values in practice than it does with justifying giving less weight to the moral status of nonhuman animals. That is, the major use of middle level theorizing

is to show that animals have interests that should be protected where possible, but then to justify sacrificing these interests in accord with the Principle of Necessity. This stance is perhaps more evident in the case of how death is to be regarded. Neither IACUCs, in practice, nor middle position theorists do an adequate job of assessing the harm that death is.

Although there is an official recognition that death is a harm in the principle that using animals as models in research is to be avoided when possible (the three Rs), killing animals is not generally considered to be causing them a serious harm, and the fact that a protocol will cause the death of the animal subject is not, in practice, regarded as a good reason for grading it at the weightier end of the harm classification scale. For example, euthanasia is standardly recommended as an acceptable form of anesthesia. Furthermore, animals used in research are characteristically euthanatized after a study as a form of disposal. If providing support for the animals is not considered to be economically feasible, nor is release or adoption, then killing them is considered routine. This under-assessing of the harm that death is is reinforced at the level of middle position theorizing whose principle task is thought to be to provide, in general terms, a standard justification for permitting the killing of nonhuman animals under conditions that would not be acceptable when applied to human animals. That justification is that nonhuman animal life is of less inherent value than human life, and under some principle of necessity, given certain legitimate ends, it is morally permissible to kill nonhuman animals even in cases in which it would not be morally permissible to kill humans. There are at least three different sorts of cases in which euthanasia is regarded as justified.

1. In some cases the study requires the death of the animal in order to complete the study, such as where the effects on the internal organs of a procedure are to be studied in such a way that they need to be permanently separated from the subject.
2. In some cases the study causes such a significant amount of harm to the subject that it could not live comfortably afterwards. Here, euthanasia serves as an anesthesia or analgesic.
3. In many cases the funds needed to support the research, including providing welfare support for

the subject, are not adequate to provide maintenance after the study is completed, and there are no other means of support available. Under these circumstances euthanasia is a better alternative than providing no maintenance.

The focus of the moral theorizing seems to be on the first case, where the death of the animal subject is required by the study. But in cases 2 and 3, death is offered as a remedy or solution to a problem: how to avoid some sort of suffering brought about by the diminution in the quality of the subject's life. The logic of the fact that euthanasia is regarded as a form of anesthesia seems to dictate that death be regarded as a lesser harm than the pain and suffering that it is thought to avoid. For that reason, studies that kill without pain are regarded as less costly to the subject than studies that cause pain. It is simply another step to then regard loss of life as having no significant moral consequences, since, by our system of grading, non-survival surgery protocols, for example, require little scrutiny by the IACUC, call for little pricking of the conscience of the investigator, and show up on the institutional animal use reports as uses that are not graded as having much moral significance. Something seems wrong here, and I do not see any middle level ethical theorizing done to address this question. Part of the problem with this failure, I have already suggested, is that the moral theorizing is done by trying to place killing animals in research use within the grand scheme of things, a grand scheme where it is thought to be only natural, even if regrettable, that higher forms of life kill lower forms. But theorizing done against this backdrop gives us very little guidance for entering into responsible relationships with animals, except when we undertake a warden relationship with animals, we must treat them humanely. What sort of moralizing might do a better job?

Let me identify at this point the stage of the overall argument we have reached. Middle position moral theorizing, done in conjunction with providing ethical principles for IACUCs, has done a tolerably good job of revealing some of the dimensions in which animals are exploitatively used in research. It has done this by advancing a richer conception of animal life than previously accepted as normative for the practice of using animals in research. Another way of putting this is that it has shown that animals should have at least so much moral status that treating them inhumanely is regarded as immoral, and it has shown that much of

our previous treatment of animals in research was, in fact, inhumane. This a significant contribution to a philosophy of oppression, because it helps reveal previously unseen dimensions to the identity of victims of oppression, and in doing so reveals the fact of their oppression. But the theorizing stops at this point and moves on to a different project—the project of justifying compromising the interests of lower order animals when doing so serves the interests of higher order animals. I think that taking on that project is a fundamental mistake. What should middle level theorizing have done instead, and what should it do now? My answer is that it should try to articulate principles for IACUCs to follow that, if followed, put the practices that are regulated by these principles into their most justified form. But theorizing should be prepared to refrain, at this point, from then arguing that these practices so regulated are in fact justified. That is a different question. In my conclusion, I shall make some suggestions about what sorts of things we should think about before trying to answer that larger question about justifying the practice.

V. An Improved Role for Ethical Principles in IACUCs

What ethical principles are appropriate for IACUCs to use? How do we decide this? The middle position takes the question to be "How can we show that some uses of animals in research are justified?" It interprets the question in this way because it sees itself as looking for the mean between denying that any (invasive) uses are justified and asserting that all uses are. But this is the wrong conception of the task. What middle position bioethicists should be asking is: "Given the role of IACUCs, how can they best carry out that role?" But, of course, one of the controversial questions is "What should the role of IACUCs be?" since many of the dimensions are not well specified by the regulations that mandate them. This normative question must be viewed through the historical setting, that is, the set of problems that IACUCs were introduced to solve and the reasons that can be given for supposing that IACUCs are a reasonable instrument for solving these problems. To be brief on this point, IACUCs were introduced as a compromise between community regulation of professional activity and professional self-regulation (Rowan, 1990; U. S. Congress, OTA, 1986). The need to compromise the claims for the rights of professionals

to regulate themselves is summarized by Michael Bayles (1984, 1989). There are several models for this type of compromise, but the appropriate ones for the IACUC mechanism are those that are designed to protect the interests of human patients who cannot speak for themselves, and human research subjects who might be put at risk without their consent. In each case, wardens, or boards that act as wardens, are appointed to interpret and protect the interests of either the clients of professionals or the subjects of their research (in many cases the wards fit into both categories) against the interests of the professionals who are empowered to make decisions about what the wards will have done to them. In short, it is the primary function of IACUCs to act as advocates to protect the interests of animals used in research, etc. The closest analogy to this projected role for IACUCs are federally mandated Institutional Review Boards (IRBs), whose role it is to monitor and approve the use of human subjects in research. Of course, the issue is whether IACUCs should try to give their subjects the same degree of protection that IRBs give theirs.

One problem with using IRBs as models, it has been maintained, is that IRBs function to protect the autonomy of the human research subject by limiting the kind or degree of harm that such subjects might experience and by requiring that subjects consent to other risks of harm that might result from the study. The doctrine of informed consent and the goal of preserving subject autonomy has no possible application to nonhuman animals subjects, it is argued. But this is surely not the case. Just as consent is constructed for incompetent humans, it can be constructed for animal wards used in research. Here, we can also appeal to analogies drawn from somewhat more consensual relationships in which autonomy is preserved, at least to a high degree. These are relationships humans develop with domesticated animals companionship or for work, or both. It is certainly reasonable to expect work from a work animal in exchange for room, board, health care, affection, and other rewards. Assuming that we are adequately informed about the animals' wants, needs, preferences, and, in short, interests, we are justified in believing that our animals would choose their situation to the extent that they are aware of the benefits that they derive as weighed against the costs that they must incur by being required to work and to lose some of their freedom. We also construct consent when we require a child to submit to restrictions or to

slightly painful medical treatment. "It is for their own good." If we apply this principle to research contexts, then IACUCs could be asked to judge whether research animals are receiving adequate care in exchange for their work and to insure that their work not exceed their remuneration. Otherwise, they are being exploited. In fact, the suggestion has been advanced within the research community that animals being used in strenuous or painful research should accumulate retirement points and following the accumulation of enough retirement points should "be put out to pasture," so to speak. But this suggestion has not received much support, except perhaps for the great apes, because it would significantly increase the cost of doing research. But that fact should not count against it as an appropriate ethical principle for IACUCs to employ.²⁷

While we could use this principle in cases that do not require the death of the research subject, it would be more difficult to apply in cases where death is required. When we reach this point, the boundary line between reforming the practice to make it as little objectionable as possible and deciding whether the practice, at its best, is justified must be approached. Here, some other analogies might be helpful. Humans develop many relationships with nonhuman animals besides using them as research subjects. Some of these relationships are actively cultivated, as in the domestication of food, work, and companion animals, while other relationships seem to be more adventitious, for want of a better word, but none of them are totally innocent. The moral theorizing we are rejecting for IACUCs asks us to view all of our relationships with nonhuman animals under three somewhat competing paradigms, though there is some overlap between two of these. One of these is the Two Kingdoms paradigm. Moral problems only occasionally erupt—when there are border disputes. The other two paradigms envision a single community of life. Singer's community of subjects-of-a-life is a civilized community, because it has been built out of expanding the human community. The middle position community is closer to Leopold's "biotic community" because it is constructed from the bottom up. Civilization is at the top of this community, which is built on the moral hierarchy of sacrificing the less complexly organized for the more complexly organized. This is a fundamental law of the Kingdom of Nature. While I realize that using these particular metaphors risks distorting each of these views, I nevertheless want to utilize them to try to make three points.

One point I have made already. That is an objection to global level or God's eye or unsituated ethical theorizing. Among the objections to this form of theorizing are

1. that it represents a biased perspective as an unbiased one—"the view from nowhere."
2. It invariably introduces a justification for moral hierarchies that naturalizes these hierarchies, and
3. it conceals from us the various forms of responsibility that we have undertaken in choosing our relationships with other forms of life.

The second point I am trying to make by introducing these metaphors concerns the last objection I just raised. Instead of viewing any form of interaction that we choose to engage in with other animals as one in which the moral disputes will be resolved on the principle, sacrifice the lower for the higher, we should consider whether we have constituted these relationships responsibly. And to decide that, we need to discover the appropriate principles for judging what these responsibilities are. There are analogies between relationships between domesticated work animals and domesticated lab animals, for example. If there is to be a community, then employers and employees must each get a fair deal. But where death is required of lab animals, the analogy between domesticated food animals and lab animals prevails. Here there is a continuum from less to more exploitative uses, and the closer to the latter pole the practice comes, the greater the difficulty of justifying it as a practice that is being conducted according to moral principles. At the better end, domesticated species of animals that might not otherwise be able to provide for themselves are given the opportunity to live a life, but the quantity of that life is constrained by the conditions under which that support can be reasonably expected to be provided. At the other pole, the question remains whether it is fair to the individuals bred under these conditions to have lived at all.

But there are other forms our relationships take that seem more adventitious. That is, we do not choose to cultivate these forms, but rather we encounter them. These are the border disputes from Regan's Two Kingdoms approach. Here, we encounter various forms of "pests." These "pests" prey on crops and domesticated animals, threaten poor children in slums, invade our homes, and deplete the biological diversity

of our environments. How should we regard our relationship with these animals? The answer is not as border disputes between natural kingdoms but as disputes about how resources are to be distributed. While such disputes can be seen as part of the "natural order of things," that is, as going on even if humans weren't involved, the particular disputes described above take the particular form that they do because of the human presence. Human choices form the contexts for how these disputes have congealed, so we cannot pass off our responsibility for managing what we have helped to generate. Nor are we justified in appealing to the principle of the natural moral hierarchy in solving the conflicts of interests these disputes seem to involve.

This brings us to the third point. If we do not appeal to natural moral hierarchies, is there any way of conceptualizing the claim that all subjects-of-a-life have moral status without bringing natural moral hierarchies in through the backdoor? I am going to take a stab at answering this question. I think it is useful to consider the variety of relationships that we are called upon to manage if we are to govern our relationships with other animals ethically, and equally useful to realize that we should not view the whole of the natural order as falling under our responsibility to manage. I think Regan is right when he suggests that we should not try to manage the whole natural kingdom, not because it is not our responsibility to do so, but because we have neither the knowledge nor the ability for such extensive

management. But he is wrong in saying that we should not try to manage the aspects of it with which we have entered into relationships. He is wrong because 1) we cannot, in fact, draw the borders he proposes, and 2) because we have not drawn them in the past and we now have a responsibility to minimize the harm we have caused in the past. The point of limiting the scope of our management is to avoid falling into the trap of appealing to the natural order of things to warrant our management decisions. It is useful to view the variety of our relationships to avoid the other extreme, which is that since all animal life that we undertake to manage we manage as incompetent wards, we are entitled to set down the conditions under which we will continue to give them support—i.e., only to the extent that we get something back from them. What I propose is that we consider all of the forms of management we undertake as human managers of subject-of-life communities to be governed by principles of distributive justice. This conception of subjects-of-a-life is one that views them as all equally wanting to live. They are in conflict when the control of the resources they need to maintain their lives is in dispute. Every life is of equal value to that life, so there are no moral hierarchies. The harm of death is not that some future life has been taken away from the decedent. It is only that, at least up to a point, we all want as much of it as we can get. We are wronged when we get less than our fair share because others have got more than their fair share. So, while we are not ethically bound to keep others alive, unless we have bargained to do so, we are ethically bound to share our resources with all who want them, because they are not really ours. Rather than try to develop this idea any further here, I want to turn briefly to another point, one that relates to our original concern about moral hierarchies, theories of oppression, and thinking about the harm that death is.²⁸

This point is that while there appears to be a great temptation to rank subjects-of-a-life in terms of scales of richness, and then to use these rankings to argue that it causes greater harm to take away a richer future than a poorer one, I simply do not see how we can be justified in yielding to this temptation, and this point has been convincingly argued by S. F. Sapontzis (1987, 1988). First of all, how can we possibly say how rich the lives of other animals are? Sapontzis makes a number of suggestions as to why we might think the contrary. But even if it were true, how does this warrant the claim that the lives of the poorer should yield to the lives of

the richer? This is precisely the humanistic arrogance that underlies the libertarian political philosophy of Tom Regan, which claims that liberty is more valuable to the powerful than it is to the weak, therefore they should have more of it. On that point, I had better stop.

References

- Animal Welfare Institute. (AWI). (1979). "Policy on the Use of Vertebrate Animals for Experimentation and Testing." In *Comfortable Quarters for Laboratory Animals*. Washington, DC: Animal Welfare Institute.
- Bayles, Michael. D. (1989). *Professional Ethics*. Belmont, CA: Wadsworth Publishing Co., 1981, 2nd. ed. 1989.
- _____. (1984). "Professional Power and Self-Regulation." *Business and Professional Ethics Journal*, v. 5, n. 2 (Summer): 26-46.
- Beauchamp, Tom L. (1992). "The Moral Standing of Animals in Medical Research." *Law, Medicine and Health Care* 20, 1-2: 7-16.
- Busch, Lawrence. (1989). "Irony, Tragedy, and Temporality in Agricultural Systems, or, How Values and Systems are Related." *Agriculture and Human Values* 6, 4: 4-11.
- Canadian Federation of Humane Societies. (1986). *Guidelines for Lay Members of Animal Care Committees*. Rev. 1986. Nepean, Ontario: CFHS.
- Donnelley, Strachan. (1989). "Speculative Philosophy, the Troubled Middle, and the Ethics of Animal Experimentation." *Hastings Center Report* 19, 2: 15-21.
- Donnelley, Strachan, Rebecca Dresser, John Kleinig, and Rivers Singleton. (1990). "Section II: Animals in Science: The Justification Issue." pp. 8-13 in S. Donnelley and K. Nolan (eds.) "Animals, science, and ethics." *Hastings Center Report* 20, 3: 1-32.
- Dresser, Rebecca. (1990). "Institutional Animal Committees: Theory and Practice." Chap. 4 in Bernard E. Rollin and M. Lynne Kesel (eds.) *The Experimental Animal in Biomedical Research. Vol. 1. A Survey of Scientific and Ethical Issues for Investigators*. Boston: CRC Press. pp. 49-63.
- _____. (1988). "Standards for Animal Research: Looking at the Middle." *The Journal of Medicine and Philosophy* 13, 2: 123-43.
- _____. (1989a). "Measuring Merit in Animal Research." *Theoretical Medicine* 10: 21-34.
- _____. (1989b). "Developing Standards in Animal Research Review." *Journal of the American Veterinary Medicine Association* 194, 9: 1184-91.

- Dworkin, Ronald. (1989). *Law's Empire*. Cambridge, MA: Harvard University Press. See especially Chapter 2.
- Haynes, Richard P. (1991). "People, Professionals, and Other Pests." Paper presented at the 1991 Meetings of the Agriculture, Food, and Human Values Society, Monterey, California.
- Katz, Jay. (1993). "Ethics and Clinical Research Revisited: A Tribute to Henry K. Beecher." *Hastings Center Report* 23, 5: 31-39.
- Loew, Franklin M. (1987). "The Challenge of Balancing Experimental Variables: Pain, Distress, Analgesia, and Anesthesia." *Journal of the American Veterinary Medicine Association* 191, 10: 1193-94.
- Morton, David B., Gordon M. Burghardt, and Jane A. Smith. (1990). "Section III. Critical Anthropomorphism, Animal Suffering, and the Ecological Context." Pp. 13-19 in S. Donnelley and K. Nolan (eds.) "Animals, Science, and Ethics." *Hastings Center Report* 20, 3: 1-32.
- Moss, Thomas H. (1984). "The Modern Politics of Animal Use." *Science, Technology and Human Values* 9, 2: 51-56.
- Office of Protection from Research Risks. (OPRR). (1986) *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. Revised edition. HHS, PHS, NIH.
- Orlans, F. Barbara. (1993). *In the Name of Science*. NY: Oxford University Press.
- Prentice, Ernest D., David A. Crouse, and Reed W. Rings. (1990). "Approaches to Increasing the Ethical Consistency of Prior Review of Animal Research." *Investigative Radiology*, 25, 3: 271-274.
- Prentice, Ernest A., David A. Crouse, and Michael D. Mann. (1991). "The IACUC Protocol Review Form: One of the Keys to a Successful Review." *American Association of Laboratory Animal Sciences Bulletin*, 30, 3: 10, 14-16.
- Prentice, Ernest D., David A. Crouse, and Michael D. Mann. (1992). "Scientific Merit Review: The Role of the IACUC." *Institute of Laboratory Animal Resources News* 34, 1-2: 15-19; and 35, 1: 1-3.
- Public Responsibility in Medicine and Research. (PRIM&R). (1983). *Standards for Research with Animals. A conference organized by PRIM&R Oct. 3-4, 1983*. Boston.
- Regan, Tom. (1983). *The Case for Animal Rights*. Berkeley: Univ. of Cal. Press.
- Ritvo, Harriet. (1984). "Plus Ça Change: Anti-vivisection Then and Now." *Science, Technology and Human Values* 9, 2: 57-66.
- Rodman, John. (1977). "The Liberation of Nature." *Inquiry*, 20, 1: 83-118.
- Rollin, Bernard E. (1989). *The Unheeded Cry. Animal Consciousness, Animal Pain, and Science*. New York: Oxford University Press.
- Rowan, Andrew N. (1990). "Section IV. Ethical Review and the Animal Care and Use Committee." Pp. 19-24 in S. Donnelley and K. Nolan (eds.) "Animals, science, and ethics." *Hastings Center Report* 20, 3: 1-32.
- Russell, W. M. S. and R. L. Burch. (1959). *The Principles of Human Experimental Technique*. London: Methuen.
- Russow, Lilly-Marlene, K. Danner Clouser, David DeGrazia, and James Stephens. (1990). "Section I. Ethical theory and the moral status of animals." Pp. 4-8 in S. Donnelley and K. Nolan (eds.) "Animals, Science, and Ethics." *Hastings Center Report* 20, 3: 1-32.
- Sapontzis, S. F. (1988). "On Justifying the Exploitation of Animals in Research." *The Journal of Medicine and Philosophy* 13, 2: 177-96.
- _____. (1987). *Morals, Reason and Animals*. Philadelphia: Temple University Press.
- Singer, Peter. (1990). *Animal Liberation* 2nd edition. New York: Avon Books.
- _____. (1993). *Practical Ethics*. 2nd edition. New York: Cambridge University Press.
- U.S. Department of Agriculture, Animal and Plant Health Inspection Service. (1990). 9 CFR Ch. 1.
- U.S. Congress, Office of Technology Assessment. (OTA, 1986). *Alternatives to Animal Use in Research, Testing, and Education*. Washington, DC: U.S. Government Printing Office, OTA-BA-273, February, 1986.
- VanDeVeer, Donald. (1979). "Interspecific Justice." *Inquiry* 22, 1/2: 55-70.
- Varner, Gary E. (1994). "The Prospects for Consensus and Convergence in the Animals Rights Debate." *Hastings Center Report* 24, 1: 24-28.
- Zola, Judith C., Jeri A. Sechzer, Joan E. Sieber, and Anne Griffin. (1984). "Animal Experimentation: Issues for the 1980s." *Science, Technology, and Human Values* 9, 2: 40-50.

Notes

¹ The term "vivisection" might be thought to be a somewhat misleading characterization of all of the types of research using animals that "anti-vivisectionists" object to, since it implies that the research involves surgery on living

animals. Not all experimental surgery on live animals is necessarily objectionable, nor do all objectionable or "invasive" uses of animal in science necessarily involve surgery. For a brief history of the antivivisectionist movement see Ritvo, 1984.

²First of all, I don't think that all pro-vivisectionists share a common moral theory. Furthermore, if Varner means that all biomedical researchers share a commitment to the doctrine of informed consent for human subjects, I doubt very much that the acceptance of this doctrine is so widespread in the medical community that it has been internalized by all biomedical scientists. See, for example, Katz, 1993. But, if we are talking about their own personal political philosophy, many of the members of the biomedical research community may, in fact, hold Regan's politically conservative libertarian rights philosophy when it comes to defending their own "academic freedom," or their right to dispose of their own personal property as they wish, at the same time that they might try to justify the very large appropriations of public funds for biomedical research by appealing to some theory of distributive justice that is difficult to find in Regan, or by appealing to a utilitarian based theory regarding the beneficial effects of biomedical research on the general welfare.

³ See, for example, Donnelley, 1989; Donnelley *et al.*, 1990; and Dresser, 1988.

⁴ For a general account of the history of this legislation, see Moss, 1984, and Zola *et al.*, 1984. For background on the development of the type of enforced self-regulation that the use of these committees requires see U.S. Congress, OTA, 1986, Rowan, 1990, and Orlans, 1993.

⁵ While the requirements of the two acts are slightly different, nearly all committees comply with both. What roles these various members are to play is not spelled out. For alternative conceptions of these roles see Rowan 1990, Orlans, 1993, and Dresser, 1990. In practice, these committees are dominated by pro-vivisectionist lab animal users.

⁶ See Dresser, 1988, 1989a and b; Prentice *et al.*, 1990, 1991, 1992.

⁷ This characterization might be a bit unfair, since, as both Dresser (1988) and Donnelley (1989) and Donnelley *et al.* (1990) point out, part of the issue concerns freedom of inquiry and the right of researchers to regulate their own use. So it is more of an issue of who regulates than of what principles are used in deciding what uses are acceptable and what not.

⁸ See OTA, 1986 for a review of alternative regulatory mechanisms available and the recommended analogy between IACUCs and the use of Institutional Review Boards for regulating the use of human subjects in research.

⁹ I have borrowed this expression from Dworkin (1986: 90), in order to suspend the question whether using animals in research is ever justified.

¹⁰ I don't want to be unfair to my bioethicist peers on this point. Dresser (1988), for example, correctly identifies one of the obstacles to using higher ethical standards—the composition of committee members, and she thinks that this is one area that merits political struggle. There is an additional point. Even if these committees were composed entirely of appropriately enlightened bioethicists, there are some legal questions about what authority these committees might have to employ principles that placed greater limitations on the use of animals than do the regulations developed by the agencies that were empowered to interpret the federal legislation.

¹¹ These principles have been advanced by others, but I hope to add some refinement to how their use can be justified. See, for example, AWI, 1979.

¹² I've never found either the notion of inherent or intrinsic value very helpful when used to characterize what deserves moral consideration, and both terms carry the implicit question, "How much value?"

¹³ Regan distinguishes between being a moral patient and being a moral agent. Generally, nonhuman animals are moral patients but not moral agents.

¹⁴ VanDeVeer denies that this moral decision is speciesistic (does not arbitrarily favor humans) because in some situations, say where one of the humans is a severely retarded human and the nonhuman animal is a cross-cultured chimp, then the human must go.

¹⁵ Embedded in a libertarian political philosophy, this interpretation of the worse-off principle would also justify killing less well off humans (humans who have fewer resources available to them) in preference to (financially) better endowed humans. In general, libertarians who put primary value on liberty but do not address the fact that liberty is more valuable to the more powerful than the less powerful are guilty of perpetuating the hierarchy of oppression rather than providing some foundation for liberation. Singer is somewhat more difficult to pin down on this point, though he does say two things that are suspect. One is that he seems to allow that the harm in death is the harm in taking away what is wanted (more life) or, frustrating preference satisfaction, so subjects that are capable of wanting more (because they are self-conscious and can project their lives into the future) are harmed more by death than those capable of wanting less. The other is that he seems to allow that if there were cases where we had to sacrifice one individual to save a large number of others, say in a research situation, then it might be justified, but he does not address the question about how we assign the task of making

the sacrifice fairly to some specific individuals. The moral hierarchy is also implicit in the continuity thesis that Regan uses to break through the charges that we anthropomorphize (illegitimately) when we ascribe states that we are familiar with in humans to nonhuman animals.

¹⁶ I suppose it is this feature of Regan's position that justifies us in calling him a deontologist.

¹⁷ Unfortunately, we cannot always predict what other detrimental effects our attempts to rectify past mistakes might have, but that is no excuse for a hands-off approach to nature. In one way or another, we are remaking nature with nearly every choice we make. See Busch, 1989.

¹⁸ John Rodman (1977: Parts 4 and 5) makes a similar point in his review of Christopher Stone's *Should Trees Have Standing* and Peter Singer's *Animal Liberation*, namely that if we view liberation in terms of an expanding moral community, then nonhuman animals (and natural systems) will always be our poor cousins with lower moral status.

¹⁹ See, for example, U. S. Congress, OTA, 1986, Canadian Federation of Humane Societies, 1986, Dresser, 1990, Rowan, 1990, OPRR, 1986, and Orlans, 1993.

²⁰ Russow *et al.* (1990) review what they take to be the major ethical theories available for committee members to use and suggest what results applying them would yield. In each case, a lot of research currently approved would be ruled out, unless we deny that animals have any moral status.

²¹ Under the influence of Russell and Burch (1959), the 3Rs policy has been adopted by nearly all regulatory agencies

as a guiding policy. For an account of Replacement, Refinement, and Reduction and the limitations of searches for alternatives, see, for example, Orlans, 1993, chapters 5-6.

²² On assessing goals, see Dresser (1989a and b) for a review of the problems.

²³ The 1990 *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes* requires that "Experiments using animals may be performed only after a decision has been made that they are justified, weighing the scientific or educational value of the experiment against the potential effects on the welfare of the animal." See, for example, ACCART News, 1991, 4, 1: 1.

²⁴ See Dresser, 1989b, and Prentice *et al.*, 1990, 1991, and 1992.

²⁵ See, for example, Loew, 1987.

²⁶ See Rollin (1989) on this point and the general debate on what animals can be aware of. The issue of what constitutes animal well-being overlaps with the issue of what moral status, if any, animals are entitled to. Beauchamp (1992) addresses some of these issues by examining the alleged relationships between cognitive abilities and moral considerability and poses some interesting problems that cognitivists must address.

²⁷ Compare the cost of supporting incompetents or prisoners, or people on life support systems, or the elderly in nursing homes.

²⁸ I have tried elsewhere to give this position more substance. See Haynes, 1991.