

# Vulnerable Subjects? The Case of Nonhuman Animals in Experimentation

Jane Johnson

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**Abstract** The concept of vulnerability is deployed in bioethics to, amongst other things, identify and remedy harms to participants in research, yet although nonhuman animals in experimentation seem intuitively to be vulnerable, this concept and its attendant protections are rarely applied to research animals. I want to argue, however, that this concept is applicable to nonhuman animals and that a new taxonomy of vulnerability developed in the context of human bioethics can be applied to research animals. This taxonomy does useful explanatory work, helping to pinpoint the limitations of the 3Rs/welfare approach currently adopted in the context of animal experimentation. On this account, the 3Rs/welfare approach fails to deliver for nonhuman animals in experimentation because it effectively addresses only one element of their vulnerability (inherent) and paradoxically through the institution of Animal Ethics Committees intended to protect experimental animals in fact generates new vulnerabilities that exacerbate their already precarious situation.

**Keywords** Animal ethics · Vulnerability · Animal ethics committees · Animal experimentation

## Introduction

When ethicists discuss vulnerable subjects in research, on first blush at least, it seems nonhuman animals could confidently be included. Yet characterizing nonhuman animals as vulnerable is rare, even in the context of animal ethics more broadly. Nonetheless, I want to suggest that the concept of vulnerability can be meaningfully extended to describe the situation of animals in laboratory experimentation for human clinical benefit and that doing so can help identify problems in the current system governing animal research. A better articulation of these problems can assist in their resolution.

This paper begins by outlining some of the reasons why vulnerability may have been neglected in the context of animals, before moving on to consider how and why nonhuman animals may be construed as vulnerable using a new taxonomy articulated in the context of human bioethics. An argument is made that not only are research animals inherently and situationally vulnerable but they are pathogenically vulnerable too through the workings of Animal Ethics Committees. The paper concludes with some brief suggestions regarding how this analysis might inform change in the practice of animal experimentation.

## Why Animals Are *Not* Considered Vulnerable

In spite of the at least prima facie plausibility of doing so, few scholars (particularly in the analytic tradition)

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J. Johnson (✉)  
Department of Philosophy, W6A Macquarie University,  
North Ryde, NSW 2113, Australia  
e-mail: jane.johnson@mq.edu.au

have systematically explored the concept of vulnerability in the context of animals.<sup>1</sup> And even amongst the few who have there is an acknowledgement that the idea is underdeveloped. For instance, Ani Satz, while appealing to the concept of animal vulnerability, has commented that “a theory of animals as vulnerable subjects warrants development elsewhere” (Satz 2009, 80). Similarly, in a recent paper Tom Beauchamp, Hope Ferdowsian, and John Gluck (2012) describe chimpanzees as vulnerable subjects, but note that defence of this proposition goes beyond the scope of their paper. In effect they recognize there is no argument already available in the literature that could be deployed to support their point.

Three plausible and one highly speculative reason can be given for the failure to properly consider animals as vulnerable. In the first instance there is a human exceptionalism at play, which contributes to accounts of vulnerability either ignoring consideration of animals altogether or directly dismissing the possibility that the concept applies to nonhuman animals.<sup>2</sup> Generally this dismissal is not grounded in argument, but is rather asserted as self-evident, tacitly appealing to the widely shared belief that humans are importantly different to other creatures. Second, a failure to give due consideration to animals as vulnerable might also link to a deeper failure within philosophy to flesh out the concept of vulnerability. Though the concept is central to the discipline of bioethics and in particular research ethics (where it has been widely deployed), it has not been well theorized. Without a solid theoretical grasp of the concept it may be unclear who or what belongs within its scope. A third problem, and one related to the two above, is the arguable aversion to consideration of the body in Western philosophy generally. For instance, Stephen Thierman interprets Alasdair MacIntyre as arguing that the lack of treatment of vulnerability in ethics

and political philosophy comes from the tradition’s “reluctance to attend adequately to the ‘animal’ dimension of human life” (Thierman 2011, 182). The hypothesis being that vulnerability has been undertheorized because it reminds us too readily of our animality—a feature of our being we like to downplay because of our desire to maintain human difference. According to Thierman, we prefer to focus on “the temporal and narrative dimensions of human existence” at the expense of “a serious consideration of our fleshy locatedness” (Thierman 2011, 191). A final and much more speculative reason for the failure to properly explore animal vulnerability is that this may represent a strategic move on the part of scholars working in the field of animal ethics. Vulnerability is not a desirable quality. To be vulnerable has negative connotations and opens one up to pity and paternalism (see Bryant 2007, 222–223, for a discussion of this point with relation to suffering rather than vulnerability). Perhaps those who advocate for animals are fearful of hitching their wagon to a concept with such derogatory connotations.

Spelling out possible reasons for the relative silence over animal vulnerability helps not only to explain this gap but also to indicate why it is increasingly untenable. Human exceptionalism is much less secure than it once was; it is now challenged in fields beyond animal and environmental ethics such as, for example, political theory.<sup>3</sup> Further, theoretical attention is currently being channelled into grounding the concept of vulnerability. With the gap in the bioethics literature being addressed, the second reason outlined above will have a less secure footing. Therefore, despite its relative neglect to date, I maintain that a case for construing animals as vulnerable can be made and I will begin to sketch this case in the section that follows.

### How Are Animals Vulnerable?

Although their framework is not intended to apply to nonhuman animals, I will argue that the taxonomy of

<sup>1</sup> For an exception to this general neglect, see work within the Continental tradition by Judith Butler, Jacques Derrida, Cora Diamond, Jean-Luc Nancy, Claire Palmer, Anat Pick, Stephen Thierman, and Cary Wolfe. Within bioethics, consideration of vulnerability and animals is even more limited. The as-yet-unpublished work of Angela K. Martin will make an important contribution to theorizing animal vulnerability in bioethics.

<sup>2</sup> For example, Martha Fineman’s (2008) account belongs in the former category. For Fineman animals do not rate a mention; vulnerability links to the human condition. Michael Kottow’s (2004) view belongs in the latter group since he maintains that nonhuman animals are not of a kind to be regarded as properly vulnerable in the same sense as humans.

<sup>3</sup> See, for instance, Robert Garner’s (2013) book or Sue Donaldson and Will Kymlicka’s (2011) book. In this context, the contribution of Kymlicka is particularly telling; Kymlicka is a respected mainstream political philosopher who has only recently turned his attention to developing arguments regarding animals in the political community.

vulnerability developed by Catriona Mackenzie, Wendy Rogers, and Susan Dodds (2013) captures well the vulnerability of animals in experimentation. These philosophers identify three conceptually distinct (though frequently overlapping) types of vulnerability—inherent, situational, and pathogenic—with this latter category being a subset of the situational one.

Though there is insufficient space here to articulate the arguments in any depth, Mackenzie, Rogers, and Dodds' framework is superior to existing accounts for a number of reasons. Their approach grounds vulnerability in an account that extends beyond a concern with research ethics: It is comprehensive, encompassing the diversity of what may be meant by the concept, from the mundane and shared vulnerability of biological beings, through the particular and problematic circumstances that contribute to vulnerability, to the manner in which institutions may exacerbate vulnerability. Additionally, well-acknowledged problems in existing theories are addressed by this framework. And, lastly, identifying types of vulnerability in the manner they do is suggestive of potential remedies.

Below I briefly outline what Mackenzie, Rogers, and Dodds mean by each type of vulnerability and suggest how these categories might apply to nonhuman animals in research.

### Inherent Vulnerability

The term “inherent vulnerability” refers to the sense in which as embodied human beings we all share a latent susceptibility to pain, suffering, illness, and disease. We have basic needs that must be met, and affective and social natures that demand attention. We are also more or less dependent on other people at different stages in our lives. This kind of inherent vulnerability may be reduced or mitigated, but remains an ineliminable part of the human condition.

In some of its manifestations at least, inherent vulnerability is something we share with nonhuman animals. Nonhuman animals are embodied and are thereby exposed to all the failings of the flesh; like us, they have basic needs that must be met in order to survive and they also have more complex needs over and above bare survival that relate to well-being. These more complex needs vary from species to species and may include requiring proximity to their kind and the opportunity to engage in species-normal behaviour.

### Situational Vulnerability

As the name suggests, situational vulnerability arises from the specific situation of an individual or group. The context or circumstances that make this individual or group vulnerable could be personal, social, political, economic, or environmental. For instance, in Australia all householders are vulnerable to the effects of the newly implemented carbon tax; however, the social and economic circumstances of some within the community mean that, in the absence of government assistance or subsidies, they are more likely to be adversely impacted by these changes.

It is important to observe that inherent and situational vulnerabilities can be causally linked so that inherent vulnerabilities can lead to situational ones and vice versa. An instance of the former would be where a person's mental illness leads to unemployment and poverty, while a case of the latter might involve the stress of unemployment and poverty contributing to health problems.

The situational vulnerability of animals is, in many contexts, complex and multifaceted. In the first instance it should be noted that nonhuman animals can experience vulnerabilities unrelated to human situational features. For instance, they may be vulnerable to being eaten by other nonhuman animals or they may be susceptible to environmental forces such as floods, fires, or hurricanes. What is of concern in this paper, however, is their vulnerability with respect to humans and a particular subset of relationships between humans and nonhuman animals, namely ones in which humans have created a dependency in animals. This dependency involves humans confining animals, making animals reliant on humans to meet their basic and more complex needs. For example, without the input of humans many domesticated and agricultural animals would perish—they owe their continued existence to the intervention of human animals. Ani Satz, one of the few theorists to consider the vulnerability of animals, uses ideas from Martha Fineman to draw attention to this link between dependency and vulnerability:

Throughout their lives, domestic animals rely on humans to provide them nourishment, shelter, and other care. The permanent dependency of domestic animals is created and controlled by humans, rendering them uniquely vulnerable to exploitation. Domestic nonhuman animals are, for this reason, perhaps the most vulnerable of all sentient beings (Satz 2009, 80).

This situational vulnerability is not fixed but fluctuates, in part, due to changes in how humans wish to make use of nonhuman animals. According to Satz, “[a]s the factory farm, laboratory, and wildlife contexts demonstrate, animals are rendered hyper-vulnerable to changing human desires, and their most fundamental protections may be undermined” (Satz 2009, 89).

Nonhuman animals in laboratory experimentation directed to human clinical benefit can clearly be construed as situationally vulnerable. This is due to particular features of the context within which they find themselves and their dependency on humans to meet their needs. I want in fact to suggest that their situational vulnerability is pathogenic and so will reserve further consideration of the nature of their vulnerability to the paragraphs below.

### Pathogenic Vulnerability

Pathogenic vulnerabilities are a subset of the situational category and can arise in one of two ways: (i) from personal or social relationships that are in some way morally dysfunctional, i.e., involving discrimination, injustice, oppression, and the like; or (ii) when attempts to remedy existing vulnerabilities actually worsen these or in fact create new ones. For instance, in the first case discriminatory personal and social attitudes toward women may make them likely to fall prey to domestic violence. In the second, consider well-intentioned attempts by various governments in Australia to address the economic and social disadvantage experienced by many Indigenous people through provision of welfare payments. These attempts have arguably contributed to substance abuse, further social problems, and a disempowering welfare dependence. Therefore, rather than being in a better and less vulnerable position as a result of government policy, many Indigenous people were made systematically worse off (Pearson 2004). I want to argue here that not only do animals experience inherent and situational vulnerability, but they experience this form of pathogenic vulnerability too by virtue of their lack of standing with respect to humans, as well as via the workings of what have been variously labelled as Animal Ethics Committees, Animal Care Committees, or Institutional Animal Care and Use Committees (for the sake of simplicity all such committees will be referred to as AECs throughout this paper).

Relationships between human and nonhuman animals can be cast as pathogenic because of the power humans wield in the relationship and their frequently discriminatory attitudes and practices toward animals. As Satz argues, “[a]nimals have a history of powerlessness and discrimination, they are subject to stereotypes about their cognitive abilities and their capacity to suffer is undervalued, and their species status is irrelevant to their capacity to suffer and is immutable” (Satz 2009, 72). Thus, their precarious standing exposes animals to the potential for harm. Jean Harvey also draws attention to the powerlessness of animals, leading her to claim that they “constitute a greatly oppressed group; consisting of some of the most vulnerable individuals in the world” (Harvey 2007, 31).

In the experimental context, a failure to attend to the value of animals permits sentient creatures to be used instrumentally, i.e., discriminatory attitudes toward nonhuman animals mean they can be the subject of harm in research. In conventional laboratory experimentation for human biomedicine, individual animals and their species receive no benefit; rather, any advantage obtained from experiments serves human interests. Animals may be exposed to various diseases, conditions, and toxic products; they are regarded as expendable, generally being killed at the completion of an experiment or series of experiments. The participation and compliance of nonhuman animals in experimentation is coerced. Animals in research are effectively commodified; they are frequently bred for purpose, kept captive, and lead highly controlled lives. The most widely used experimental animal, the rodent, is relatively cheap and their use routinized.

To establish the second element of the pathogenic vulnerability of animals with respect to AECs, I will briefly outline why AECs can be regarded as concerned with remedying the vulnerability of experimental animals, how such vulnerabilities might be addressed, and how AECs actually go about this task such that they contribute to the pathogenic vulnerability of nonhuman animals in research.

### Vulnerability and Animal Ethics Committees

Arguably, AECs have been established to address some of the vulnerabilities of animals in experimentation. For instance, though not couched in the language of vulnerability, AECs in Australia are charged with

ensuring the welfare of experimental animals in addition to promoting their well-being.<sup>4</sup> These two requirements can be cast as meeting both the basic as well as the species-specific needs of animals in research (i.e., they address the two main dimensions identified above as comprising the inherent vulnerability of animals).

To address this inherent vulnerability of nonhuman animals in experimentation, knowledge of the type and extent of this source of vulnerability (the basic and more complex needs of particular experimental species or, in the terms above, what constitutes their welfare and well-being) is required, as well as the knowledge and wherewithal to meet these needs. Various arms of science appear well-placed to deliver evidence to support this enterprise, including through results gleaned as part of animal research. How to meet these needs might however be more complex and require some creativity, since it involves the additional challenge of doing so within the confines of a laboratory environment. For instance, even providing for an animal's basic need for water may be challenging in the research environment. Some lizards, for example, only consume water through licking it off a surface and kangaroo rats do not need water supplied if they are provided with a can in which to nest. The provision of adequate resources (in terms of money, infrastructure, personnel, etc.) is also vital to ensuring that animal welfare/well-being goals are met, and there should also be mechanisms in place to ensure that these needs are actually satisfied.

Theoretically at least, AECs are well-placed to address inherent vulnerability. In fact, this can be seen as a central goal of Australian AECs since their mandate is to implement the 3Rs: to “Replace” the use of animals with non-sentient models where possible; to “Reduce” the number of animals used consistent with generating the predictive data required; and to “Refine” animal use to minimize pain and suffering (Russell and Burch 1959). Of particular relevance in the context of inherent vulnerability is the aspiration to “Refine” animal use. This

<sup>4</sup> Animal welfare is defined as “an animal’s quality of life based on an assessment of an animal’s physical and psychological state as an indication of how the animal is coping with the ongoing situation as well as a judgment about how the animal feels.” Animal well-being is defined as “an animal’s present state with regard to its relationship with all aspects of its environment, both internal and external. It implies a positive mental state, successful biological function, positive experiences and freedom from adverse conditions” (National Health and Medical Research Council 2004, 3).

welfare goal has come to be interpreted broadly: to apply beyond simply addressing the basic survival needs of animals and to include meeting some of their more complex needs or well-being. Given that veterinarians and scientific researchers must be represented on AECs in Australia, it appears there should be a good understanding and scrutiny of the needs of animals and the expertise to ensure these are addressed, at least in the application and to the extent that these needs are known. Provided AECs have some teeth and are adequately resourced, they should also be able to ensure these needs are fulfilled in the research as undertaken.

Although addressing the needs of nonhuman animals is a strength of AECs, these needs are not met without exception in the utilitarian calculus that is intended to underpin the deliberations of AECs. If relieving pain or providing environmental enrichment compromises the goals of research, for example, and the research goal is deemed sufficiently significant, then those needs will be regarded as expendable. There are also structural impediments to meeting the needs of animals in research. The effective functioning of AECs is constrained, in Australia at least, by their temporal location in the process surrounding animal research (Russell 2012). Applications to the AEC come at the end of a sometimes long and difficult process of designing research and securing funding. Thus, many decisions crucial to preventing or ameliorating animal vulnerabilities have already been made by the time a project reaches the committee, making it in effect practically and strategically difficult to challenge how and why the work on animals is being undertaken.

Unlike inherent vulnerability, it is not at all clear that AECs can be construed as attempting to remedy the situational vulnerability of animals in research. In fact, it seems the current practice of animal experimentation actually depends on the situational vulnerability of nonhuman animals; on their inferior status with respect to humans and their susceptibility to coercion. Nonetheless we can still ask how it might be possible to address this source of vulnerability.

In one sense addressing situational vulnerability shares a similar structure to addressing inherent vulnerability: It requires identifying the sources of the vulnerability (in this case the social, political, economic, etc., forces) that contribute to the vulnerability of animals in experimentation and identifying the mechanisms and means to address these. What becomes quickly apparent, however, is that this is a much more



complex and involved task than addressing inherent vulnerability. In the case of situational vulnerability there are many ways to approach identifying the relevant forces at play; disciplines as diverse as sociology, philosophy, economics, and politics could all contribute, and each discipline would suggest different tools to address and overcome these forces. To alter the situational vulnerability of animals in research would require rethinking and reworking the human–animal relationship. It would require probing ethical questions of animal value and moral standing within society as a whole and grappling with the issue of the impoverished power and moral status of nonhuman animals relative to human animals—how this puts the former in a precarious position with respect to the latter. These are complex issues that demand time and a concerted effort to address. However, it is possible to set aside these larger social, economic, and political questions about how to realize a better situation for animals and still meaningfully examine and critique the role of AECs within the current system of experimentation.

Perhaps perversely given their title, Animal *Ethics* Committees rarely consider or discuss ethical issues regarding animals and experimentation per se; rather, they are focused on moderating harm within predetermined constraints. The existence of AECs and the 3Rs that guide them are predicated on the assumption that the practice of experimentation is already morally justified. AECs do not and cannot ask deeper questions about whether animal research should occur at all or what form it should take. AECs are simply charged with assessing whether a particular research proposal conforms to the 3Rs and, in effect, this reduces to a consideration of whether it complies with just 2Rs—“Refinement”<sup>5</sup> and “Reduction”—since (as will be noted below) AECs cannot adequately address “Replacement.” AECs fail to address the situational vulnerability of animals because they cannot examine the very fundamental justifications offered for animal research—they cannot coherently frame an inquiry as to whether animals should be in experimentation in the first place.

The membership of such committees further limits their capacity to address animal vulnerabilities. Members of AECs include researchers routinized to the

instrumental use of animals<sup>6</sup> and with a vested interest in the continuation of the practice. These researchers are unlikely to work in areas where they are aware of research into viable alternatives to animal use so that animal Replacement cannot be meaningfully pursued (Russell 2012). Depending on how the individual committee functions, these research experts may wield significant power and authority.<sup>7</sup>

Not only does the system of AECs not address the situational vulnerability of animals, but it also contributes to their pathogenic vulnerability by reinforcing the status quo and effectively stifling a more robust consideration of the ethics of animal experimentation, which could deliver transformative change. The existence of AECs supports the inferior status of animals by institutionalizing their instrumental use, while simultaneously creating and perpetuating the illusion that animal ethics is dealt with. In fact, as has been argued above, these committees only address one element of animal vulnerability (inherent) and do not touch on the broader and systematic issues of animal exploitation: why animals find themselves in problematic situations such as research in the first place.

With the existence of AECs the public may be falsely comforted that ethical issues are being handled and that they need not be concerned—that the appropriate mechanisms are in place to ensure ethical experimentation. And even if they are interested and concerned, the requirement for confidentiality means that much of what goes on within AECs is not disclosed to external parties so that discussion of the practice of animal research cannot be properly informed. The kind of data that is publically available about animal experimentation simply tracks broad patterns of animal use, not the deliberative patterns of committees. Discussion of how AECs may have factored in the 3Rs or considered whether the use of animals in a particular project is morally justified is not available (Rose 2011).

<sup>6</sup> In their research Schuppli and Fraser (2007) describe a community-based member of an AEC who deemed it important to resign after six years so that a lay perspective could be maintained. Presumably this individual was concerned that she would become too accustomed to research and no longer be able to offer an outsider’s view.

<sup>7</sup> The question of how AECs function has not received significant research attention (Rose 2012). However, work by Schuppli and Fraser (2007) supports the claim that the decisions of AECs may be skewed toward the views of scientific and institutional members rather than community ones. Jessica Gröling’s (2013) research also supports this view.

<sup>5</sup> Work by Forsman and by Hagelin and colleagues (discussed in Rose 2012) investigating AECs in Sweden showed that “Refinement” of procedures was the focus of discussions (Forsman) and of any modifications to protocols (Hagelin et al.).

Curtailling the possibility of a more informed public discussion of animal experimentation also means an opportunity is missed, as John Hadley (2012) has argued, to engage with challenging ethical questions in a way that enriches the intellectual life of individuals and contributes positively to the political sphere. (Hadley's proposal for greater transparency, however, revolves around dissemination of animal use data rather than disclosure of the processes and deliberations of AECs).

Researchers also may be shortchanged by the system of AECs, which effectively forces them to give over responsibility for consideration of ethical issues to the committee. Animal handling, experimental protocols, and so on are all governed by what AECs will permit so that researchers are distanced from ethical questions and adopt a checklist rather than a reflective approach to ethical questions. This comes at a cost to researchers as well as animals. For the former it may mean a missed opportunity to develop principles and skills in ethical reasoning that are not fostered by a rule-following approach.<sup>8</sup> Animal researchers frequently refer to “doing ethics” by which they simply mean submitting their ethics application—a surely dangerously impoverished sense of ethical engagement. For the research animals this means that some of the people in closest and regular contact with them and who have a strong knowledge of their needs may feel disengaged and distanced from direct responsibility for their welfare and well-being.

AECs therefore contribute to the pathogenic vulnerability of animals in research since, although they aim to protect animals, the way they function fails to deliver on this goal. Further, AECs in fact worsen the situation of animals in research by reinforcing the status quo whilst giving an impression that ethical issues are dealt with.

### Where Are We Left?

The taxonomy of vulnerability deployed above is fruitful. It helps locate the particular vulnerability of

<sup>8</sup> In the context of biomedical research generally, Geller et al. express a concern that a culture of compliance and rule-following inadequately prepares researchers for their practice. One of the participants in their empirical research notes that “regulations cannot possibly cover every situation, and it is in the areas that regulations do not reach where ethical problems often arise” (Geller et al. 2010, 1300).

nonhuman animals in experimentation and pinpoints shortcomings in the existing system of AECs. This framework demonstrates that addressing the inherent vulnerability of animals via AECs will never contribute to transformative change. It simply distracts from the important business of probing the situational and pathogenic vulnerabilities of nonhuman animals and the broader reflective and critical discussion that needs to occur around human–animal relations in society generally.

As well as grounding a critique of current animal research and the system of AECs, the taxonomy of vulnerability appealed to in this paper can underpin a positive approach to animal ethics. In the first instance, deploying the vulnerability framework helps identify shortcomings in our treatment of animals that may assist in their resolution. Second, a vulnerability approach offers a new and as-yet-unelaborated alternative in a well-rehearsed debate between utilitarians and rights theorists over animal ethics. The existing debate is polarized and shows no sign of resolution, so introducing a different position may prove fruitful. Third, the taxonomy of vulnerability discussed here could form the basis on which to articulate specific obligations to nonhuman animals. For instance, it might be that we owe special obligations to animals who have been made pathogenically vulnerable in research. Finally, naming animals as vulnerable subjects in research also opens up continuities between human and nonhuman animals, which can inform change. Perhaps the long history of attempting to remedy the vulnerability of human subjects in research can provide direction for the case of vulnerable animals. Maybe the lessons learned in the human setting can be transposed to the animal one to facilitate a more responsive and responsible practice of animal experimentation.

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