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Dissecting Cohen[1]

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Readers of *The New England Journal of Medicine* may be excused for thinking that there is a good case for, and no good case against, the use of animals in biomedical research. In October 1986, philosopher Carl Cohen, who is known for his principled positions on affirmative action and other issues, published an article in that journal in which he claimed that there are (only) two kinds of argument against the use of animals in biomedical research. After examining both arguments, Cohen concluded that they "deserve definitive dismissal." In this article, I show that both of Cohen's attempted refutations fail. Not only has he not laid a glove on the arguments in question; his discussion betrays a fundamental misunderstanding of the arguments that he so cavalierly dismisses. Readers of Cohen's article owe it to themselves—and, more importantly, to the animals whose use as research subjects Cohen defends—to take another look at the issue.

Keywords: Carl Cohen (1931-), animals, animal rights, animal liberation, medicine, science, biology, biomedical research, experimentation, vivisection, sentience, rights, interests

Introduction

> It is not an act of kindness to treat animals respectfully. It is an act of justice. It is not "the sentimental interests" of moral agents that grounds our duties of justice to children, the retarded, the senile, or other moral patients, including animals. It is respect for their inherent value. The myth of the privileged moral status of moral agents has no clothes. (Regan, 1983, p. 280)

Under what conditions, if any, is it morally permissible to use animals[2] in biomedical research? Carl Cohen, a professor of philosophy at the University of Michigan, has famously criticized the two most prominent arguments against the use of animals in biomedical research. The first argument appeals to the alleged rights of animal subjects, the second to their sentience, or capacity to suffer. Even if Cohen is correct that these arguments

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[1] This article is a critique of Cohen (1986). I mean no disrespect by my title. To dissect is to *cut up*, either literally ("methodically cut up [a body, part, or plant] in order to study its internal parts") or figuratively ("analyze [something] in minute detail") (*New Oxford American Dictionary*, 2010, p. 503). My aim is to analyze Cohen's *article* in minute detail, showing where (and why) it succeeds and where (and why) it fails.

[2] Let me make three points regarding terminology. First, as is common in the literature, I use the term "animals" to refer to *non-human* animals, such as mice, rats, guinea pigs, cats, dogs, rabbits, pigs, and chimpanzees. Second, I use the relative pronoun "that," rather than "who," when referring to animals. Though this may grate on some readers, it is correct usage. See Garner (2016, p. 966): "*Who* is the relative pronoun for human beings (though *that* is also acceptable); *that* and *which* are the relative pronouns for anything other than humans, including entities created by humans" (italics in original). Third, I use "whose" when referring to animals. According to Garner, "*Whose* may usefully refer to things <an idea whose time has come>" (Garner, 2016, p. 967 [italics in original]).

are unsound, it doesn't follow that their common conclusion is false; for it may be that some *other* argument, heretofore unknown or unarticulated, establishes its truth. But the two arguments Cohen discusses are undoubtedly among the most powerful that have been devised, so perhaps it should be conceded that if Cohen can demonstrate *their* unsoundness, he will have succeeded in shifting the argumentative burden to those who oppose the use of animals in biomedical research.[3]

Cohen's article is remarkably dense, not in the sense of being stupid (as is often said, disparagingly, of *persons*), but in the sense of "having [its] constituent parts crowded closely together" (*New Oxford American Dictionary*, 2010, p. 464). In the space of just four and a half pages, he (1) reconstructs two arguments against the use of animals in biomedical research, (2) criticizes both arguments (at considerable length), (3) anticipates and replies to two objections to his first criticism, and (4) accuses (some of) his critics of inconsistency for opposing the use of animals in biomedical research while using animals as sources of "food, clothing, shelter, commerce, and recreation" (Cohen, 1986, p. 869). Interspersed among these arguments and criticisms are additional arguments, analyses, and criticisms, some of which are, regrettably, under-developed.

Another reason why Cohen's article is dense is that it makes use of concepts (some of them empirical in nature, some normative) that cry out for, but do not always receive, analysis. For example, Cohen's criticism of the right-based argument against the use of animals in biomedical research employs no less than seven concepts (or categories): moral agents, beings who have rights, human beings, animals, beings who can have their rights violated, animal research subjects, and beings whose rights are violated. Each of these concepts could itself provide the substance of a book or article. Some of them have. One of my aims in this article is to display the full structure of Cohen's arguments and criticisms, so that his claims, whether explicit or implicit, may be evaluated as true or false, justified or unjustified, acceptable or unacceptable. I take to heart the dictum that one important function of philosophy (though certainly not its *only* function) is to uncover hidden assumptions.

The Right-Based Argument Against the Use of Animals in Biomedical Research

Cohen begins his article by stating the two-pronged case against the use of animals in biomedical research:

> Using animals as research subjects in medical investigations is widely condemned on two grounds: first, because it wrongly violates the *rights* of animals, and second, because it wrongly imposes on sentient creatures much avoidable *suffering.* (Cohen, 1986, p. 865 [italics in original; endnotes omitted])

In Cohen's view, both arguments are unsound, albeit for different reasons. Here is my reconstruction of the first, or right-based, argument:

1a. All beings whose rights are violated are beings who are wronged.
2a. Some animal research subjects are beings whose rights are violated.
Therefore,
3a. Some animal research subjects are beings who are wronged (from 1a and 2a).[4]

[3] According to the National Academy of Sciences, "[b]etween 17 million and 22 million animals are estimated to be used annually in the United States in research, education, and testing. About 85 percent of these are rats and mice, and less than 2 percent are cats, dogs, and nonhuman primates" (National Academy of Sciences, 1988, p. 18 [quoting Office of Technology Assessment, 1986]).

[4] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AII-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid. This

It might be thought that the second premise and the conclusion of this reconstruction are too weak, in that they refer to *some* rather than *all* animal research subjects. This would be a mistake. Cohen's claim, as we shall see, is not that *some* animal research subjects are *not* beings whose rights are violated. It is the stronger claim that *no* animal research subjects are beings whose rights are violated. The denial of this stronger claim is premise 2a. There is another reason for not strengthening premise 2a by making it read "All animal research subjects are beings whose rights are violated." It is that few (if any) people hold this view. For Cohen to impute it to his opponents, therefore, would be to set up a straw man.[5]

Cohen's Critique of the Right-Based Argument

Since the right-based argument, as reconstructed, is valid, anyone who rejects its conclusion must (in order to be consistent) reject at least one of its premises. Cohen rejects the conclusion. His view is that *no animal research subjects are beings who are wronged.* Which premise does he reject? Cohen *accepts* premise 1a. (Perhaps we should say that he *concedes* 1a—for the sake of argument.) He rejects premise 2a. He believes that *no* animal research subjects are beings whose rights are violated. Here, in his own words, is his argument for the falsity of premise 2a:

> Rights arise, and can be intelligibly defended, only among beings who actually do, or can, make moral claims against one another. Whatever else rights may be, therefore, they are necessarily human; their possessors are persons, human beings.
>
> … Humans confront choices that are purely moral; humans—but certainly not dogs or mice—lay down moral laws, for others and for themselves. Human beings are self-legislative, morally *auto-nomous*.
>
> Animals … lack this capacity for free moral judgment. They are not beings of a kind capable of exercising or responding to moral claims. Animals therefore have no rights, and they can have none….
>
> Humans have such moral capacities. They are in this sense self-legislative, are members of communities governed by moral rules, and do possess rights. Animals do not have such moral capacities. They are not morally self-legislative, cannot possibly be members of a truly moral community, and therefore cannot possess rights. In conducting research on animal subjects, therefore, we do not violate their rights, because they have none to violate. (Cohen, 1986, pp. 865-866 [italics in original; ellipses added])

This passage gives the reader a sense of the density of Cohen's prose. In just 12 sentences, he moves from (my paraphrases) "Animals lack the capacities that are requisite for rights-possession" to "Animals lack rights" to "Animals' 'rights' are not violated when they are used as research subjects." If we think of moral agency as possession of the capacities that are requisite for rights-possession, then Cohen moves from "Animals lack moral agency" to "Animals lack rights" to "Animals' 'rights' are not violated when they are used as research subjects."

Cohen's argument is invalid as it stands, but it can be rendered valid by making certain (of its) premises explicit. My aim in so reconstructing it is twofold: first, to be charitable to Cohen; second (and more importantly), to force Cohen's critics to focus on the *content* of his argument rather than its *form*. In other words, I wish to force Cohen's critics to evaluate the argument's *premises* as true or false, justified or unjustified, acceptable or unacceptable. Here, then, is my reconstruction of Cohen's argument for the falsity of premise 2a:

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means that it is impossible for its premises to be true while its conclusion is false. Put differently, its premises *entail* (i.e., logically imply) its conclusion.

[5] According to philosopher Simon Blackburn, "[t]o argue against a straw man is to interpret someone's position in an unfairly weak way, and so argue against a position that nobody holds, or is likely to hold" (Blackburn, 2008, p. 351).

1b. All moral agents are human beings.[6]

2b. All beings who have rights are moral agents.[7]

Therefore,

3b. All beings who have rights are human beings (from 1b and 2b).[8]

4b. No animals are human beings.

Therefore,

5b. No animals are beings who have rights (from 3b and 4b).[9]

6b. All beings who can have their rights violated are beings who have rights.

Therefore,

7b. No animals are beings who can have their rights violated (from 5b and 6b).[10]

8b. All beings whose rights are violated are beings who can have their rights violated.

Therefore,

9b. No animals are beings whose rights are violated (from 7b and 8b).[11]

10b. All animal research subjects are animals.

Therefore,

11b. No animal research subjects are beings whose rights are violated (from 9b and 10b).[12]

The grand conclusion of this argument, 11b, is the negation (denial) of premise 2a of the right-based argument. Cohen is claiming that the right-based argument has a false premise, and is therefore unsound.[13]

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[6] Cohen states this premise as follows: "Animals … lack this capacity for free moral judgment. They are not beings of a kind capable of exercising or responding to moral claims" (Cohen, 1986, p. 866). Strictly speaking, what Cohen says here (in this quotation) is that *no animals are moral agents*. This is not logically equivalent to the proposition that *all moral agents are human beings* (premise 1b), even if we assume (plausibly!) that no animals are human beings. The reason why the propositions are not logically equivalent is that there might be moral agents that are neither human beings nor animals—aliens, for example. Cohen's discussion—especially his conclusion, "Whatever else rights may be, … they are necessarily human"—makes it clear that he excludes the possibility of aliens. In any event, if the proponent of the right-based argument against the use of animals in biomedical research takes issue with premise 1b, it is not because he or she believes that there are *aliens* that are moral agents; it is because he or she believes that there are *animals* that are moral agents.

For readers who are interested in logic, let me say this. The propositions "All moral agents are human beings" and "No animals are moral agents" are logically independent (of one another). This means that (i) it is possible for the first proposition to be true while the second is false (i.e., the first proposition does not entail the second); (ii) it is possible for the second proposition to be true while the first is false (i.e., the second proposition does not entail the first); (iii) it is possible for both propositions to be true; and (iv) it is possible for both propositions to be false. If we assume (plausibly!) that no animals are human beings, then the first proposition is the superaltern of the second. This means that (i) it is impossible for the first proposition to be true while the second is false (i.e., the first proposition entails the second) and (ii) it is possible for the second proposition to be true while the first is false (i.e., the second proposition does not entail the first).

[7] Cohen states this premise as follows: "Rights arise, and can be intelligibly defended, only among beings who actually do, or can, make moral claims against one another" (Cohen, 1986, p. 865).

[8] Cohen states this conclusion as follows: "Whatever else rights may be, … they are necessarily human" (Cohen, 1986, p. 865). This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AAA-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[9] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AEE-2. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[10] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AEE-2. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[11] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AEE-2. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[12] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, EAE-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[13] A sound argument (by definition) is a valid argument all of whose premises are true. There are two ways, therefore, for an

Needless to say, the proponent of the right-based argument disagrees with this judgment, so he or she must find fault with Cohen's critique. Since Cohen's critique is valid, the proponent, to be consistent, must reject at least one of its premises, of which there are six: 1b, 2b, 4b, 6b, 8b, and 10b. Premises 4b, 6b, 8b, and 10b are either obviously true factual statements (4b) or necessarily true conceptual claims (6b, 8b, and 10b), so the proponent must focus on the remaining two premises, 1b and 2b.[14]

First Objection to Cohen's Critique, and His Reply Thereto

Let us begin with premise 1b, for the objection to it can be disposed of more easily than can the objection to 2b (which I treat below under the heading "Second Objection to Cohen's Critique, and His Reply Thereto"). In my judgment, the critic should disavow this objection. Given Cohen's understanding of moral agency (as the capacity for self-legislation), the critic should not claim that animals are moral agents, for they are not. The critic, therefore, should concede the truth of premise 1b, which asserts that all moral agents are human beings, and focus instead on premise 2b, which asserts that all beings who have rights are moral agents.

Here is Cohen's statement of the objection to premise 1b of his argument:

> Capacities will not succeed in distinguishing humans from the other animals. Animals also reason; animals also communicate with one another; animals also care passionately for their young; animals also exhibit desires and preferences. Features of moral relevance—rationality, interdependence, and love—are not exhibited uniquely by human beings. Therefore [this critic concludes], there can be no solid moral distinction between humans and other animals. (Cohen, 1986, p. 866 [bracketed item in original; endnotes omitted])

Here is my reconstruction of the objection:

1c. Some animals are beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences.

2c. All beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences are moral agents.

Therefore,

3c. Some animals are moral agents (from 1c and 2c).[15]

4c. No animals are human beings.

Therefore,

5c. Some moral agents are not human beings (from 3c and 4c).[16]

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argument to be unsound. It may be unsound because it is invalid, or it may be unsound because it has at least one false premise (or both). Here is an example of an argument that is unsound in both ways: "1. All cats are dogs; 2. All cats are animals; therefore, 3. All dogs are animals." The argument is invalid (as can be seen by drawing a Venn diagram) *and* its first premise is false.

[14] My reconstruction of Cohen's argument (critique) contains 11 propositions. I could have shortened it to nine propositions by replacing the first five with the following three: "1. No animals are moral agents; 2. All beings who have rights are moral agents; therefore, 3. No animals are beings who have rights." The problem with this alternative reconstruction is that the term "human beings" would not appear (even once) in the reconstruction. That would be odd, because in the passage quoted (from pages 865-866), Cohen mentions humans or human beings no less than six times. I decided to stay faithful to Cohen's prose version of the argument, even though it added two steps (i.e., two additional propositions) to the reconstruction.

[15] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AII-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

[16] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, EIO-3. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

If the premises of this valid argument are true, then it constitutes a refutation of Cohen's premise 1b, for 5c is the negation (denial) of 1b.[17] To avoid this unwanted conclusion, Cohen must reject either 1c, 2c, or 4c. Cohen almost certainly accepts 1c and 4c, so that leaves 2c. Cohen must *reject* the proposition that all beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences are moral agents. In other words, he must *accept* the proposition that *some* beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences are *not* moral agents.

How can Cohen believe (and assert) that some beings who possess the capacities to reason, etc., are not moral agents? Are those capacities not *constitutive* of moral agency? Here is what he says:

> It is not the ability to communicate or to reason, or dependence on one another, or care for the young, or the exhibition of preference, or any such behavior that marks the critical divide. Analogies between human families and those of monkeys, or between human communities and those of wolves, and the like, are entirely beside the point. Patterns of conduct are not at issue. Animals do indeed exhibit remarkable behavior at times. Conditioning, fear, instinct, and intelligence all contribute to species survival. Membership in a community of moral agents nevertheless remains impossible for them…. Communal behavior among animals, even when most intelligent and most endearing, does not approach autonomous morality in this fundamental sense. (Cohen, 1986, pp. 866-867 [ellipsis added])

Moral agency, according to Cohen, consists of autonomy, or, more specifically, the capacity for self-legislation. It does not consist (merely) of the capacities to reason, communicate, care for one's young, and exhibit desires and preferences. Since no animals are autonomous in this sense (i.e., since no animals are *self-legislating*), no animals are moral agents—however impressive their capacities might be. It follows from this that some beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences are not moral agents, which is the negation (denial) of 2c.

As I said above, the critic should disavow this argument. It may be valid, and two of its premises (1c and 4c) may be true, but premise 2c is false, as Cohen asserts. Some beings who possess the capacities to reason, communicate, care for their young, and exhibit desires and preferences are not moral agents. A typical dog, for example, possesses the capacities to reason, communicate, care for its young, and exhibit desires and preferences, but these capacities, while perhaps *necessary* for moral agency, are not *sufficient*. No dog is a moral agent. Nor is any other animal that is used as a subject in biomedical research.[18]

Admitting that no animals are moral agents is not fatal to the critic's position, as might be thought, for it is arguable (and shall be argued shortly) that moral agency is not a necessary condition for the possession of rights. Joel Feinberg makes the point:

> The first argument against the possibility of animal rights … does employ a correct premise: animals *are* rendered by their intellectual deficiencies incapable of having duties or of being morally responsible agents or "persons." It simply does not follow, however, that the intellectual shortcomings that disqualify animals for duties [i.e., for moral agency]

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[17] The reader may wonder how I got this reconstruction from the quoted paragraph. I did not get it *solely* from the quoted paragraph. I got it from the quoted paragraph *plus* the two paragraphs that follow it in Cohen's article. The key sentence is, "Humans act immorally often enough, but only they—never wolves or monkeys—can discern, by applying some moral rule to the facts of a case, that a given act ought or ought not to be performed" (Cohen, 1986, p. 867). In other words, only human beings are moral agents, which is logically equivalent to Cohen's premise 1b: "All moral agents are human beings." As I said in the text, the conclusion of the objection (5c) is the negation (denial) of 1b.

[18] "So far as we can know, no animals other than man have the intellectual equipment necessary for the reliable performance of duty and the discharge of responsibility. They cannot make promises or enter into contractual agreements. Nor can they even grasp the concept of a duty or a commitment. These failures of intellect and volition, I think, disqualify animals as genuine moral agents eligible for our trust and answerable for their failures" (Feinberg, 1978, p. 49).

> automatically disqualify them for rights as well. (Feinberg, 1978, p. 53 [bracketed item added; italics in original])

Tom Regan, the author of *The Case for Animal Rights*, concurs:

> [M]oral agents are those who can bring impartial reasons (i.e., reasons that respect the requirement of impartiality) to bear on deciding how they ought to act. Individuals who lack the ability to understand or act on the basis of impartial reasons (e.g., young children) fail to qualify as moral agents; they cannot meaningfully be said to have obligations or to do, or fail to do, what is morally right or wrong. Only moral agents have this status…. (Regan, 1983, p. 130)

Though Regan doesn't say as much, it is clear from the context in which this is written that he believes that no animals are moral agents. While this may seem to be the death knell for animal rights, it is not. Both Feinberg and Regan are of the view, as against Cohen, that animals are the sorts of beings who *can* have rights. Regan goes further than this and asserts that (certain) animals *have* rights. This is why I say that it is not fatal to the critic's position to admit that no animals are moral agents. Disavowing the argument that Cohen puts into their mouths is simply a way of moving on to a different—and stronger—objection to Cohen's critique of the right-based argument.[19]

Second Objection to Cohen's Critique, and His Reply Thereto

Cohen knows that only two of his premises (1b and 2b) will be challenged by the proponent of the right-based argument, so he anticipates and replies to these objections. Here is his statement of the objection to premise 2b, which asserts that all beings who have rights are moral agents (or, to put it colloquially, "only moral agents have rights"):

> If having rights requires being able to make moral claims, to grasp and apply moral laws, then many humans—the brain-damaged, the comatose, the senile—who plainly lack those capacities must be without rights. But that is absurd. This proves [the critic concludes] that rights do not depend on the presence of moral capacities. (Cohen, 1986, p. 866 [bracketed item in original; endnotes omitted])

Cohen might have added infants to his list of humans who lack the stated capacities. To simplify the discussion, I shall use human infants rather than the brain-damaged, the comatose, or the senile. Here is my reconstruction of the objection (to premise 2b):

[19] Cohen inserts three endnotes into the paragraph (Cohen, 1986, p. 866) in which he states the critic's objection: Hoff, 1980; Rollin, 1981; and Jamieson, 1983. It is not clear what these citations are supposed to support. I can assure the reader that none of the three philosophers cited by Cohen holds the view (expressed by proposition 5c) that some moral agents are not human beings. In other words, none of the three rejects Cohen's premise 1b: "All moral agents are human beings." It follows from this that none of the three should be saddled with making the first objection to Cohen's critique. As I said in the text, the critic should disavow this objection (by admitting that all moral agents are human beings).

1d. There are human infants.
2d. All human infants are human beings.
3d. No human infants are moral agents.
Therefore,
4d. Some human beings are not moral agents (from 1d, 2d, and 3d).[20]
5d. All human beings are beings who have rights.
Therefore,
6d. Some beings who have rights are not moral agents (from 4d and 5d).[21]

If the premises of this valid argument are true, then it constitutes a refutation of Cohen's premise 2b, for 6d is the negation (denial) of 2b. To avoid this unwanted conclusion, Cohen must reject either 1d, 2d, 3d, or 5d. Cohen almost certainly accepts 1d, 2d, and 5d, so that leaves 3d. Cohen must *reject* the proposition that no human infants are moral agents. In other words, he must *accept* the proposition that some human infants are moral agents.

How can Cohen believe (and assert) that some human infants are moral agents? Isn't it *obvious* that *no* human infants are moral agents? Here is what he says:

> This objection fails; it mistakenly treats an essential feature of humanity as though it were a screen for sorting humans. The capacity for moral judgment [i.e., moral agency] that distinguishes humans from animals is not a test to be administered to human beings one by one. Persons who are unable, because of some disability [or because of infancy], to perform the full moral functions natural to human beings are certainly not for that reason ejected from the moral community. The issue is one of kind. (Cohen, 1986, p. 866 [bracketed items added])

Cohen seems to be saying that premise 3d requires interpretation before it can be evaluated as true or false. On one interpretation, it is true; on another interpretation (the correct one, according to Cohen), it is false.

Suppose we read premise 3d as saying that *no individual human infants are moral agents*. This is obviously true, as anyone with any experience with human infants can attest, and Cohen would concede as much. But Cohen thinks 3d should be read as follows:

3d*. No human infants are members of a class of beings who are usually moral agents.

In denying *this* proposition, Cohen is asserting that some human infants are members of a class of beings—namely, *human beings*—who are usually moral agents, and *that* assertion is clearly true. (He would go further than this and say that *all* human infants are beings of the specified kind, but he needs only the weaker claim to be able to reject 3d*.)

What are we to make of this move by Cohen? Is he "allowed" to shift the focus from individuals to kinds, from members to classes, from tokens to types, from specimens to species? One thinks here of J. J. C. Smart's criticism of rule utilitarianism. Smart says that it is *irrational* (a form of superstitious "rule worship") for a utilitarian to follow a rule when breaking the rule would maximize net utility. What makes it irrational? Smart

[20] This argument, as reconstructed, is a substitution instance of a conditionally valid standard-form categorical syllogism, namely, EAO-3. The syllogism is valid *on the condition that* members of the class denoted by the middle term exist. The middle term is "human infants." Premise 1d asserts that human infants exist. Therefore, the argument, as reconstructed, is valid.

[21] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, OAO-3. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

explains:

> I can understand "it is optimific" as a reason for action, but why should "it is a member of a class of actions which are usually optimific" or "it is a member of a class of actions which as a class are more optimific than any alternative general class" be a good reason? You might as well say that a person ought to be picked to play for Australia just because all his brothers have been, or that the Australian team should be composed entirely of the Harvey family because this would be better than composing it entirely of some other family. (Smart, 1956, p. 353)

By parity of reasoning, Cohen's critic might say the following:

> I can understand "it is a moral agent" as a reason for ascribing rights to a being, but why should "it is a member of a class of beings who are usually moral agents" or "it is a member of a class of beings which as a class contains more moral agents than any alternative general class" be a good reason?

Just as Smart believes that focusing on classes (moral rules) rather than individuals (concrete acts) is irrational, Cohen's critic believes that it is irrational to ascribe moral agency to a being on the basis of the being's *class membership* rather than on the basis of the being's individual characteristics. I leave it to the reader to decide who gets the better of this argument: Cohen or his critic.[22]

A more serious problem for Cohen is that, as he expands the list of requirements for moral agency (to include, for example, the capacity for self-legislation), he excludes more and more beings, such as "the brain-damaged, the comatose, the senile" (Cohen, 1986, p. 866), and human infants. If, in an attempt to bring *these* beings within the class of moral agents, he contracts the list of requirements (to exclude, for example, the capacity for self-legislation), he will (incidentally) include certain animals, such as whales, porpoises, and great apes—and perhaps also dogs, cats, cows, and pigs.

Let me give an analogy. Suppose I control the membership of a club. I want my brother to be a member, but he is a ne'er-do-well who cannot meet the requirements for membership. In order to get him in, I relax the requirements. When I do so, however, I open the door (both literally and figuratively) to allowing other ne'er-do-wells into the club. If this turns out badly and I decide to strengthen the requirements in order to keep out the riffraff, I end up excluding my brother. Cohen is in this predicament with respect to moral agency. Depending on how he analyzes the concept, he either includes more beings than he would like (namely, animals) or excludes more beings than he would like (namely, "abnormal" humans).

Before turning to the third objection to Cohen's critique of the right-based argument, let me make an observation. Cohen, as I mentioned at the outset of this article, is a well-known opponent of affirmative-action programs in higher education. One reason for his opposition to such programs is that they treat individuals (African-Americans, for example) as members of a group rather than as individuals. It may be true that African-Americans *as a class* (or on average) are disadvantaged, but not every *member* of that class is disadvantaged; so why should the *advantaged* members be allowed to benefit from the program? It may be true that Whites *as a class* (or on average) are advantaged ("privileged"), but not every *member* of that class is advantaged ("privileged"); so why should the *disadvantaged* members be made to pay a personal price for the wrongs of

[22] The perceptive reader will have noticed that Cohen claims that "the capacity for moral judgment" [i.e., moral agency] is "an essential feature of humanity" (Cohen, 1986, p. 866). If by "essential" he means "logically necessary," then it is logically impossible for a human being to *lack* moral agency. In other words, all (individual) human beings, and therefore all (individual) human infants, *necessarily* possess moral agency, and from this it follows that all (individual) human infants *actually* possess moral agency. But this is false, for at least one human infant—you may point to any human infant who is within your acquaintance—lacks one or more features that are constitutive of moral agency. Cohen's sloppy language (about "an essential feature of humanity") commits him to a falsehood.

others? Why, in short, does Cohen insist on focusing on individuals in the one case, but not in the other?[23]

Third Objection to Cohen's Critique

Cohen discusses only two objections to his critique of the right-based argument against the use of animals in biomedical research, but there is a third objection that warrants scrutiny—and that may prove fatal. The objection is not that a particular premise, such as 1b or 2b, is false, but that Cohen commits the fallacy of equivocation by using the term "beings who have rights" in two different senses. The objection, specifically, is that there is no single sense of the term "beings who have rights" in which both premise 2b and premise 6b are true. Cohen's argument, therefore, is unsound.

Let us begin by distinguishing between moral agents and moral patients. I shall quote philosopher Harlan B. Miller, whose writing is crisp and clear:

> To be a moral agent is to be an entity capable of actions that may appropriately be evaluated as right or wrong. To be a moral patient is to be an entity of such a sort that what is done to that entity by a moral agent is per se, [*sic*] subject to moral evaluation. Normal human adults are both moral agents and moral patients, as they can be praised or blamed for their own actions and other agents can properly be praised or blamed for what they do to adult humans. Human infants and very young children are clearly and indisputably moral patients (it is wrong to cause gratuitous pain to an infant), but surely not moral agents. Animal liberationists would put most (or all) nonhuman animals into this category. (Miller, 1983, pp. 12-13)

Here is a taxonomy, with the four cells filled in with examples:

	x is a moral patient	x is not a moral patient
x is a moral agent	Most human beings ("normal human adults"); no "nonhuman animals"	(empty)
x is not a moral agent	Some human beings ("human infants," "very young children," the severely retarded, the insane, the senile); most "nonhuman animals" (e.g., mice, rats, dogs, cats, cows, pigs, birds, fish)	Some human beings (human vegetables); some "nonhuman animals" (e.g., insects, worms, mollusks); all plants; all viruses; all bacteria; all minerals; all artifacts

Having distinguished between moral agents and moral patients and given examples of each class, let us now distinguish between two types of right. According to philosopher Leif Wenar, there are two theories of the nature and function of rights, and therefore two types of right. "The will theory of rights," he says, "asserts that the single function of a right is to give the rightholder discretion over the duty of another" (Wenar, 2005, p. 238). "The attraction of the will theory is that it reserves for rights the special role of securing dominion over significant spheres of action" (Wenar, 2005, p. 238). "The interest theory [by contrast] holds that the single function of rights is to further their holders' interests. More specifically, rights are those incidents whose purpose is to promote the well-being of the rightholder" (Wenar, 2005, pp. 240-241 [bracketed item added]). "[T]he interest theory turns on the rightholder's interests instead of her choices" (Wenar, 2005, p. 241).

To simplify the discussion, let us name these rights. Since the function of rights, according to the will theory, is to protect the autonomy of moral agents, let us call such rights "autonomy rights." Since the function of rights,

[23] The argument being made in this paragraph is an *ad hominem* argument, i.e., an argument addressed to a particular person (in this case, Cohen) rather than to the world at large. For a discussion of this type of argumentation, and how it differs from argumentation directed to the world at large, see the section of the present article entitled "Cohen's *Ad Hominem* Argument Against Those Who Oppose the Use of Animals in Biomedical Research."

according to the interest theory, is to protect the well-being or welfare of moral patients, let us call such rights "welfare rights." Normal human adults, being both moral agents and moral patients, have rights of both sorts. Human infants and (most) animals, being moral patients but not moral agents, have only welfare rights.

Cohen's argument uses the term "beings who have rights" four times, but only twice in premises. The premises are 2b and 6b. Now that we have distinguished between two types of right, we must see how it affects Cohen's argument. The term "beings who have rights," we now know, can mean either "beings who have autonomy rights" or "beings who have welfare rights."

Suppose it means "beings who have autonomy rights." Then premise 2b says "All beings who have autonomy rights are moral agents," which is true. In order to preserve the validity of the argument, premise 6b must be revised to read, "All beings who can have their rights violated are beings who have autonomy rights," which is false. Why is it false? Because some beings who can have their rights violated are *not* beings who have autonomy rights. Dogs, for example, being moral patients but not moral agents, have welfare rights but not autonomy rights. They are "beings who can have their rights violated," but they are not "beings who have autonomy rights." Hence, if "beings who have rights" means "beings who have autonomy rights," then Cohen's argument has a false premise (namely, 6b), which makes his argument unsound.

Now suppose the term "beings who have rights" means "beings who have welfare rights." Then premise 6b says "All beings who can have their rights violated are beings who have welfare rights," which is true.[24] In order to preserve the validity of the argument, premise 2b must be revised to read, "All beings who have welfare rights are moral agents," which is false. Why is it false? Because some beings who have welfare rights are *not* moral agents. Dogs, for example, being moral patients, have welfare rights. They are "beings who have welfare rights," but they are not "moral agents." Hence, if "beings who have rights" means "beings who have welfare rights," then (once again) Cohen's argument has a false premise (namely, 2b), which makes his argument unsound.

There is one more possibility. Suppose the term "beings who have rights" means (disjunctively) "beings who have either autonomy rights or welfare rights." Then premise 6b says "All beings who can have their rights violated are beings who have either autonomy rights or welfare rights," which is true.[25] In order to preserve the validity of the argument, premise 2b must be revised to read, "All beings who have either autonomy rights or welfare rights are moral agents," which is false. Why is it false? Because some beings who have either autonomy rights or welfare rights are *not* moral agents. Dogs, for example, being moral patients, have welfare rights. Therefore, dogs are beings who have either autonomy rights or welfare rights. They are "beings who have either autonomy rights or welfare rights," but they are not "moral agents." Hence, if "beings who have rights" means "beings who have either autonomy rights or welfare rights," then (yet again) Cohen's argument has a false premise (namely, 2b), which makes his argument unsound.

Assuming, as seems plausible, that these are the only possible meanings (senses) of the term "beings who have rights," Cohen's argument is unsound. The problem is that he equivocates on the term "beings who have rights," and specifically on the term "rights."[26]

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[24] Remember that moral agents have welfare rights as well as autonomy rights.

[25] Remember that moral agents have welfare rights as well as autonomy rights.

[26] Cohen may insist, in response to this, that there *are* no welfare rights, i.e., that all rights are autonomy rights, or that rights are, *by definition*, autonomy rights, but this is sheer dogmatism. Many philosophers, such as Wenar, believe that there are both autonomy rights and welfare rights, or at least that it makes sense to speak of both types of right. The objection in the text is addressed not to Cohen in particular (he may not be persuaded by it), but to people (such as you!) who have an open mind about what types of right there are.

The Interest-Based Argument Against the Use of Animals in Biomedical Research

Cohen, you will recall, says that there are two kinds of argument against the use of animals in biomedical research:

> Using animals as research subjects in medical investigations is widely condemned on two grounds: first, because it wrongly violates the *rights* of animals, and second, because it wrongly imposes on sentient creatures much avoidable *suffering.* (Cohen, 1986, p. 865 [italics in original; endnotes omitted])

Now that we have examined the first, or right-based, argument, let us turn our attention to the second, which is interest-based. Cohen puts the following argument into the mouth of his interlocutor:

> We ought to desist from the imposition of pain insofar as we can. Since all or nearly all experimentation on animals does impose pain and could be readily forgone, … it should be stopped. The ends sought may be worthy, but those ends do not justify imposing agonies on humans, and by animals the agonies are felt no less. The laboratory use of animals … must therefore be ended—or at least very sharply curtailed. (Cohen, 1986, p. 867 [ellipses added])

According to Cohen, "[a]rgument of this variety is essentially utilitarian, often expressly so; it is based on the calculation of the net product, in pains and pleasures, resulting from experiments on animals" (Cohen, 1986, p. 867 [endnote omitted]). To understand what this means, we must disentangle the various strands of utilitarianism, for Cohen's critique engages only two of them.

The first strand of utilitarianism is consequentialism, of which utilitarianism is a species. Consequentialism is the view that "the value [i.e., the rightness or wrongness] of an action [or omission] derives entirely from the value of its consequences" (Blackburn, 2008, pp. 74-75 [bracketed items added]). Since both acts and omissions (to act) have consequences, it may turn out that omitting to act, rather than acting, is the right thing to do. The second strand is hedonism. Utilitarianism is, at least in its classical version, hedonistic, in that it defines the good as "pleasure and the absence of pain" (Mill, 1957, p. 10). The third strand of utilitarianism is maximization. It is not enough, according to the theory, to produce a satisfactory amount of the good; in order to act rightly, one must produce the greatest amount possible. The fourth strand of utilitarianism is egalitarianism (or impartialism), to which we will now turn. Cohen's first critique of the interest-based argument (which he interprets as a utilitarian argument) concerns the theory's egalitarianism. His second critique concerns the theory's consequentialism.

In Chapter 5 of *Utilitarianism*, John Stuart Mill attributes the following "dictum" to Jeremy Bentham: "everybody to count for one, nobody for more than one." This dictum expresses the egalitarianism of utilitarianism. Peter Singer, a contemporary utilitarian in the tradition of Bentham and Mill, says that the theory requires that "we give equal weight in our moral deliberations to the like interests of all those affected by our actions." Singer calls this principle "the principle of equal consideration of interests," and then adds: "What the principle really amounts to is: an interest is an interest, whoever's interest it may be" (Singer, 1979, p. 19).

With these comments about utilitarianism in mind, let us examine the interest-based argument against the use of animals in biomedical research. Here is my reconstruction:

1e. All right acts are acts that both (i) maximize net utility[27] and (ii) satisfy the principle of equal consideration of interests.

Therefore,

2e. All right acts are acts that maximize net utility and all right acts are acts that satisfy the principle of equal consideration of interests (from 1e).[28]

Therefore,

3e. All right acts are acts that maximize net utility (from 2e).[29]

4e. Many uses of animals in biomedical research are not acts that maximize net utility.

Therefore,

5e. Many uses of animals in biomedical research are not right acts, i.e., many uses of animals in biomedical research are *wrong* acts (from 3e and 4e).[30]

Cohen rejects the conclusion of this argument. His view is that *not* many uses of animals in biomedical research are wrong acts; most of them (he believes) are right acts. Since Cohen rejects the conclusion (5e) of this valid argument, he must, to be consistent, reject at least one of its premises. The argument has two premises, 1e and 4e. Cohen rejects both of them.

Each of Cohen's rejections corresponds to what he calls an "error." The first error "is the assumption, often explicitly defended, that all sentient animals have equal moral standing" (Cohen, 1986, p. 867). If this assumption is erroneous, as Cohen says it is, then animal suffering doesn't count for as much as human suffering. (At the limit, it doesn't count at all.) The second error is the failure to "weigh all the consequences of the use, and of the nonuse, of animals in laboratory research" (Cohen, 1986, p. 868). Cohen believes that *even if animal suffering counts for as much as human suffering*, the overall consequences of using animals in biomedical research are better (morally speaking) than the overall consequences of not using animals in biomedical research. I shall discuss these "errors" in turn, treating each as a critique, by Cohen, of the interest-based argument against the use of animals in biomedical research.

Cohen's First Critique, and a Reply Thereto

Premise 1e says (in effect) that there are two individually necessary conditions for moral rightness (or permissibility): first, the act in question must maximize net utility; second, the act in question must satisfy the principle of equal consideration of interests. Cohen denies that satisfaction of the principle of equal consideration of interests is a necessary condition for moral rightness. He therefore rejects premise 1e. In Cohen's view, an act can be right even if it does *not* satisfy the principle of equal consideration of interests. For example, a given use of animals in biomedical research can be right even if it does not accord equal weight to human and animal

[27] Net utility, on the hedonistic understanding of utility, consists of pleasure minus pain. If my act produces 10 units of pleasure and four units of pain, then the net utility of my act is six units.

[28] Proposition 2e is derivable from proposition 1e by using the following rules of inference, in order: universal instantiation, material implication, distribution, material implication (two applications), simplification, universal generalization, commutation, simplification, universal generalization, and conjunction.

[29] Proposition 3e is derivable from proposition 2e by using simplification.

[30] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AOO-2. (Replace the word "many" with "some.") Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

suffering.

The suffering of an animal, according to Cohen, does not count the same as the suffering of a human being, even if the pain in question is of the same magnitude (where magnitude is a function of duration and intensity). Singer believes that pain is pain, whether the site of that pain is a human body or an animal body. Cohen denies this. He believes that human pain is more important, morally speaking, than animal pain. How much more important? Not as much as it might be, for Cohen says that "[a]nimals certainly can suffer and surely ought not to be made to suffer needlessly" (Cohen, 1986, p. 867). If animal pain were *un*important, morally speaking, then there would be no limit on what may be done to them. Cohen's insistence that suffering not be "needless" means that he believes that suffering is bad—intrinsically bad, not merely bad as a means.[31]

Imagine someone saying that the suffering of a white person counts for more than the suffering of a black person. Cohen emphatically rejects this. But he insists that the suffering of a *human being* counts for more than the suffering of an *animal*. This is because he thinks that "there is no morally relevant distinction among the races" (Cohen, 1986, p. 867), whereas there *is* at least one morally relevant distinction among the species. Black people can suffer just as much as white people (and in the same ways); it would be morally arbitrary, therefore, to count one type of suffering but not the other (or to count one type *more* than the other).

Cohen's discussion suggests that he is confused about either the meaning or the application of the principle of equal consideration of interests. There are indeed morally relevant differences between human beings and animals. No reasonable person denies this. To cite just one example, (most) human beings, but no animals, are moral agents. But there are also morally relevant similarities. One important similarity between human beings and (most) animals is that both are sentient, i.e., capable of suffering. Cohen seems to think that if there are any morally relevant *differences* between human beings and animals, then there are no morally relevant *similarities*. This is fallacious reasoning. Two beings can be alike in some morally relevant respects but different in other morally relevant respects.

What Singer is saying, when he formulates his principle of equal consideration of interests, is that pain is pain and suffering suffering. Pain is intrinsically bad. It is bad whether it is the pain of a white person, a black person, a man, a woman, an adult, a child, or an animal. Yes, there are morally relevant differences between human beings and animals, but *this*—their capacity to suffer—is not one of them. The capacity to suffer is one of the morally relevant *similarities*. Singer's principle of equal consideration of interests is really nothing more (or less) than a requirement of rationality. Why would (how could) a rational person believe that pain is intrinsically bad (as Cohen does) but then disregard or discount a particular *episode* of pain? A rational person gives each episode of pain equal consideration, regardless of the site of that pain, i.e., regardless of the race, sex, or species of the individual who experiences it.

Cohen says that Singer's analogy between racism and sexism (on the one hand) and speciesism (on the other) is "offensive" (Cohen, 1986, p. 867). To understand this claim, we need to see exactly what Singer says:

> The racist violates the principle of equality by giving greater weight to the interests of members of his own race when there is a clash between their interests and the interests of those of another race. The sexist violates the principle of equality by favoring the interests of his own sex. Similarly the speciesist allows the interest of his own species to override the greater

[31] This concession by Cohen has consequences that he may find uncongenial. If animal suffering matters *at all*, then it may, in a particular case, be sufficient to outweigh the gains to be made by using animals in biomedical research. Certain frivolous experiments may be ruled out on this basis, and maybe even some non-frivolous ones.

> interests of members of other species. The pattern is identical in each case. (Singer, 1975, p. 9)

Singer is *not* claiming that human beings and animals share all, most, or even many interests. He is claiming that they share at least one significant interest, namely, the interest in not suffering. It is simply irrational to both (i) admit that suffering is intrinsically bad and (ii) discount or disregard certain episodes of suffering because of the nature (race, sex, species) of the being who experiences it.

Cohen's first critique of the interest-based argument is, in my judgment, a failure, which may explain why he resorts to emotively charged language in his attempt to criticize it. The emotively charged language diverts attention from the poor quality of the critique. For example, Cohen says that Singer's argument "is worse than unsound; it is atrocious" (Cohen, 1986, p. 867). What does the word "atrocious" add to "unsoundness," other than vehemence? Are some unsound arguments worse than others?

Cohen goes on to say that Singer's argument "draws an offensive moral conclusion from a deliberately devised verbal parallelism that is utterly specious" (Cohen, 1986, p. 867). It is clear from this section of Cohen's article that he is offended by Singer's conclusion, but not everyone is. Singer isn't. I'm not. What philosophical ice does an allegation of offensiveness cut, anyway? The answer is, "None." And yes, Singer deliberately draws a parallel—both verbal *and* substantive—between racism and sexism on the one hand and speciesism on the other. Is Cohen implying that this is some sort of trickery? Argument by analogy is a time-honored philosophical technique. There is nothing tricky or disreputable about it. If the analogy in question is bad, then it should be easy for Cohen to explain why (and how) it is bad without adding gratuitous emotional verbiage. (Would it be hypocritical of me to say that I'm *offended* by the poor quality of argumentation displayed by Cohen in this section of his article?)

Finally, Cohen says that Singer's "analogy between speciesism and racism is *insidious*" (Cohen, 1986, p. 867 [emphasis added]). This is an interesting charge. The word "insidious" (adjective) means "proceeding in a gradual, subtle way, but with harmful effects" (*New Oxford American Dictionary*, 2010, p. 899). Cohen evidently believes that Singer's analogy has, or is likely to have, harmful effects, the more so (presumably) as it is disseminated widely among philosophers and others (including medical professionals).

Are arguments to be evaluated not merely as valid or invalid, sound or unsound, but also as harmless or harmful? Are certain arguments *so* harmful that they ought not be made? Are certain arguments so harmful that they ought to be *suppressed by legal authorities*? Should Singer be prohibited, on pain of legal punishment, from arguing against the use of animals in biomedical research? Are we to return to the days of burning blasphemers and heretics at the stake? It is interesting that Cohen says nothing about any of this in his widely read logic textbook, *Introduction to Logic* (Copi, Cohen, & McMahon, 2011). Surely, if harmfulness were a criterion by which to evaluate arguments, it would be discussed somewhere in the best-selling logic textbook of all time! It is clear that Cohen means to condemn Singer's analogy, perhaps in order to inflame his non-philosophical readership, but philosophically, I am afraid to say, his critique amounts to sound and fury, signifying nothing.

A final note. The word "insidious" is sometimes used to mean "treacherous; crafty" (*New Oxford American Dictionary*, 2010, p. 899). Is Cohen implying, by his choice of this word, that Singer is a traitor to (i.e., a betrayer of) his species? Are certain arguments to be forgone (or worse, disavowed) because they go against the interests of the person who makes them, or because they manifest disloyalty to one's group? I shudder at the thought.[32]

[32] If arguments are to be evaluated as treacherous (or not), then Cohen himself might be charged with treachery (i.e., betrayal of his fellow philosophers), for he published his article in a prominent *medical* journal rather than in a philosophical periodical. He

Cohen's Second Critique, and a Reply Thereto

Let us turn to what Cohen calls "a second error" (Cohen, 1986, p. 868) in the interest-based argument against the use of animals in biomedical research. As we saw in the previous subsection, Cohen rejects premise 4e of the interest-based argument. This premise asserts that many uses of animals in biomedical research are not acts that maximize net utility. In Cohen's view, *not* many uses of animals in biomedical research are not acts that maximize net utility. This is another way of saying that *most* uses of animals in biomedical research *are* acts that maximize net utility. It is important to understand why Cohen believes this. He writes:

> Even if it were true—as it is surely not—that the pains of all animate beings must be counted equally, a cogent utilitarian calculation requires that we weigh all the consequences of the use, and of the nonuse, of animals in laboratory research. (Cohen, 1986, p. 868)

Cohen is assuming two things for the sake of argument: first, that utilitarianism is the correct normative ethical theory; and second, that the principle of equal consideration of interests is true. He is trying to persuade utilitarians (the purveyors of the interest-based argument) that their theory, *properly understood and correctly applied*, implies that most uses of animals in biomedical research are acts that maximize net utility, and are therefore, according to their theory, right.

We saw earlier, while disentangling the various strands of utilitarianism, that it is a species of consequentialism, which makes the right (act) depend on the good. In calculating consequences, it is important to take into account not only what will happen if one *acts*, but also what will happen if one *refrains from acting*. Here is how Cohen puts it:

> [A]n argument that is explicitly framed in terms of interest and benefit for all over the long run must attend also to the disadvantageous consequences of *not* using animals in research, and to all the achievements attained and attainable only through their use. (Cohen, 1986, p. 868 [emphasis added])

What are some of the "disadvantageous consequences" of not using animals in research? Cohen explains:

> When balancing the pleasures and pains resulting from the use of animals in research, we must not fail to place on the scales the terrible pains that would have resulted, would be suffered now, and would long continue had animals not been used. Every disease eliminated, every vaccine developed, every method of pain relief devised, every surgical procedure invented, every prosthetic device implanted—indeed, virtually every modern medical therapy is due, in part or in whole, to experimentation using animals. (Cohen, 1986, p. 868)

Utilitarianism, Cohen concludes, not only does not *oppose* the use of animals in biomedical research; it *supports* it. "[T]he argument of these critics, systematically pursued, establishes not their conclusion but its reverse: to refrain from using animals in biomedical research is, on utilitarian grounds, morally wrong" (Cohen, 1986, p. 868).

What are we to say about this critique? Cohen believes that most uses of animals in biomedical research are

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obviously wanted an audience of medical practitioners and scientists rather than an audience of his fellow philosophers. The audience of *The New England Journal of Medicine* may be presumed to desire a philosophical justification for their use of animals in biomedical research, one that would salve their consciences as they maim and kill helpless animals. Cohen provided just such a justification to them. Along the way, he disparaged his fellow philosophers, such as Peter Singer. Cohen is saying to the doctors and scientists, in effect, "Don't listen to philosophers; many of them, such as Peter Singer, are either crazy or devious. I am here to assure you that there is *ample* philosophical justification for your experiments (however painful they may be) on animals; so keep up the good work."

acts that maximize net utility. Is he right? Unfortunately, the question cannot be answered in the abstract. Utilitarianism evaluates acts on an individualized (i.e., case-by-case) basis. Each act must be evaluated in terms of how much net utility *it* produces, compared to alternative acts that are available to the agent. Nothing of a categorical nature can be said. What we *can* say is this: If a proposed use of animals in biomedical research maximizes net utility (i.e., produces at least as much net utility as any alternative act available to the agent), then it is right; if a proposed use does not maximize net utility (i.e., if some alternative act available to the agent produces more net utility than it does), then it is wrong. For any proposed use of animals in biomedical research, the following questions must be answered:

1. How much pleasure will be brought about by going forward with the research? (The greater the amount, the more likely it is that the research will be justified.)[33]

2. How much pain will be prevented by going forward with the research? (The greater the amount, the more likely it is that the research will be justified.)[34]

3. How much pain will be brought about by going forward with the research? (The greater the amount, the less likely it is that the research will be justified.)[35]

4. How much pleasure will be prevented by going forward with the research? (The greater the amount, the less likely it is that the research will be justified.)[36]

The pains and pleasures in question are those of any being who is affected by the proposed act or omission. ("Acting," in this context, means going forward with the research; "omitting" [to act] means not going forward with the research.) Since we are analyzing the situation in accordance with utilitarianism, we must satisfy the principle of equal consideration of interests, for that is an essential component of the theory. Human pleasures and animal pleasures are to be given equal consideration, since both human beings and animals have an interest—the same interest—in experiencing pleasure. Human pains and animal pains are to be given equal consideration, since both human beings and animals have an interest—the same interest—in avoiding (i.e., not experiencing) pain.

Cohen is confident that, when all the relevant questions are answered, it will turn out that most uses of animals in biomedical research are acts that maximize net utility. If this is correct, then, given the truth of utilitarianism (which he assumes for the sake of argument), most uses of animals in biomedical research are right (indeed, obligatory). Singer and other utilitarians are not so sure of this. Singer's view is expressed by premise 4e of the interest-based argument: *Many uses of animals in biomedical research are not acts that maximize net utility*. As Singer puts it, "[p]eople sometimes think that all animal experiments serve vital medical purposes and can be justified on the grounds that they relieve more suffering than they cause. This comfortable belief is mistaken" (Singer, 2011, p. 56). Singer describes cases in which

[33] If going forward with the research will bring about x units of pleasure, then *not* going forward with the research will prevent x units of pleasure.

[34] If going forward with the research will prevent x units of pain, then *not* going forward with the research will bring about x units of pain.

[35] If going forward with the research will bring about x units of pain, then *not* going forward with the research will prevent x units of pain.

[36] If going forward with the research will prevent x units of pleasure, then *not* going forward with the research will bring about x units of pleasure.

> the benefits to humans are either non-existent or very uncertain; while the losses to members of other species are certain and real. Hence, the experiments indicate a failure to give equal consideration to the interests of all beings, irrespective of species. (Singer, 2011, p. 57)

It is important to understand that Singer does not condemn *all* uses of animals in biomedical research. He says that "if one, or even a dozen animals had to suffer experiments in order to save thousands, I would think it right and in accordance with equal consideration of interests that they should do so" (Singer, 2011, p. 57). Later, he adds: "if the benefit were sufficiently great, the probability of achieving that benefit high enough and the suffering to the animals sufficiently small, a utilitarian could not say that it is wrong to do it" (Singer, 2011, p. 58).

I leave it to the reader to decide who gets the better of this exchange. Cohen believes that Singer and his fellow utilitarians are committed (by their theory) to commending, rather than condemning, most uses of animals in biomedical research. Singer and his fellow utilitarians appear to believe that their theory allows (indeed, requires) them to *condemn* many uses of animals in biomedical research. As I said earlier, utilitarianism neither commends all uses of animals nor condemns all uses of animals. If Cohen has accomplished anything with his second critique of the interest-based argument, it is to insist that utilitarianism be properly understood and correctly applied. The utilitarian can hardly object to this.

Cohen's *Ad Hominem* Argument Against Those Who Oppose the Use of Animals in Biomedical Research

Some arguments are directed to the entire world (as it were), or to rational creatures as such. The arguer sets forth one or more premises, claiming that they are true, and then claims that the premises entail some further proposition (the conclusion). If the premises are indeed true, and if the conjunction of the premises does indeed entail the conclusion, then the conclusion must also be true. (All sound arguments have true conclusions.) This type of argumentation might be called "*ad omnes*," meaning "to [or at] all [rational] people."

Some arguments are directed to a more limited audience: to a particular person, or, more often, to a group of like-minded persons. The arguer sets forth one or more premises, claiming that the interlocutor either already believes them or is committed to believing them by other things that he or she believes, and then claims that the premises entail some further proposition (the conclusion). If the premises are indeed believed by the interlocutor (or if the interlocutor is committed to believing them by other things that he or she believes), and if the conjunction of the premises does indeed entail the conclusion, then the interlocutor, to be consistent, must believe the conclusion. This type of argumentation is called "*ad hominem*," meaning "to [or at] the person."[37]

In the final subsection of his article, Cohen makes an *ad hominem* argument. Here are his first two paragraphs:

> Finally, inconsistency between the profession and the practice of many who oppose research using animals deserves comment. This frankly ad hominem observation aims chiefly to show that a coherent position rejecting the use of animals in medical research imposes costs so high as to be intolerable even to the critics themselves.

[37] Do not confuse *ad hominem* argumentation, which is reputable, with the *ad hominem* fallacy, which is disreputable. An *ad hominem* argument is one that is directed *to* [or *at*] the person; the *ad hominem* fallacy is an attack *on* the person. The *ad hominem* fallacy (sometimes called "abusive *ad hominem*") occurs when one attacks the *arguer* and concludes that the arguer's *argument* is defective. Example: "Plato's theory of forms can't be correct because Plato was a known, practising homosexual" (Martin, 2002, p. 16).

> One cannot coherently object to the killing of animals in biomedical investigations while continuing to eat them. Anesthetics and thoughtful animal husbandry render the level of actual animal distress in the laboratory generally lower than that in the abattoir. So long as death and discomfort do not substantially differ in the two contexts, the consistent objector must not only refrain from all eating of animals but also protest as vehemently against others eating them as against others experimenting on them. No less vigorously must the critic object to the wearing of animal hides in coats and shoes, to employment in any industrial enterprise that uses animal parts, and to any commercial development that will cause death or distress to animals. (Cohen, 1986, p. 869)

Here is the final paragraph of the subsection (not counting the short conclusion):

> Scrupulous vegetarianism, in matters of food, clothing, shelter, commerce, and recreation, and in all other spheres, is the only fully coherent position the critic may adopt. At great human cost, the lives of fish and crustaceans must also be protected, with equal vigor, if speciesism has been forsworn. A very few consistent critics adopt this position. It is the reductio ad absurdum of the rejection of moral distinctions between animals and human beings. (Cohen, 1986, p. 869)

Cohen is addressing a particular audience, namely, those who "oppose research using animals" (Cohen, 1986, p. 869). He believes that those who oppose research using animals are committed not merely to *believing* that it is morally impermissible to use animals for food and other purposes, but to changing their *behavior*. Cohen believes that opponents of research using animals are committed to being, or becoming, vegetarians.

Note that there are two types of inconsistency. The first, which we may call "epistemic inconsistency," consists of *believing* inconsistent propositions.[38] It has nothing to do with action or practice. The second, which we may call "hypocrisy," consists of not practicing what one preaches (or professes). In Cohen's view, at least some of his critics—those who oppose research using animals—use (or benefit from the use of) animals in other ways that are just as painful, or that inflict just as much suffering. These critics, he implies, are hypocrites.

Here is my reconstruction of Cohen's *ad hominem* argument:

1f. You (the critic) believe that it is morally impermissible to use animals in biomedical research.

2f. You (the critic) believe that there is no morally relevant difference between using animals in biomedical research and using animals for food, etc.

Therefore,

3f. You (the critic) are committed to believing (on pain of inconsistency) that it is morally impermissible to use animals for food, etc. (from 1f and 2f).

Let us examine the logic of this argument. If we remove the *ad hominem* aspect, we get the following argument:

1g. It is morally impermissible to use animals in biomedical research.

2g. There is no morally relevant difference between using animals in biomedical research and using animals for food, etc.

Therefore,

3g. It is morally impermissible to use animals for food, etc. (from 1g and 2g).

[38] A set of two or more propositions is *consistent* when it is logically possible for all of them to be true. A set of two or more propositions is *inconsistent* when it is logically *im*possible for all of them to be true.

This argument is valid, for it has the following valid form:[39]

1h. Object O_1 has moral property P.
2h. There is no morally relevant difference between object O_1 and object O_2.
Therefore,
3h. Object O_2 has moral property P (from 1h and 2h).

The object in question can be any of a number of things, such as a concrete act (my lying on a particular occasion), a practice (promising or punishing), a law (the Americans with Disabilities Act), an institution (human chattel slavery), or a custom (tipping). The moral property in question can be any of a number of things, such as being morally permissible, being morally impermissible, being morally obligatory, being morally forbidden, being just, being unjust, being fair, being unfair, and so on.

The conclusion of Cohen's argument is that it is morally impermissible to use animals for food, etc. One might wonder why he would make an argument with this conclusion, since his article is about the use of animals in biomedical research. The reason is that Cohen thinks that some, many, or most of his critics *reject* the conclusion. What he is saying to them is, "Look; you oppose the use of animals in biomedical research. But there is no morally relevant difference between using animals in biomedical research and using them for food, etc. Therefore, to be consistent, you must oppose the use of animals for food, etc. If you are not prepared to do this, then you must either admit to being inconsistent or stop opposing the use of animals in biomedical research." Cohen is confident that his critics are unwilling to oppose the use of animals for food. He also assumes that his critics are unwilling to be inconsistent. The only remaining option for the critics is to stop opposing (or even to start supporting) the use of animals in biomedical research.

How successful is Cohen's strategy? Unfortunately for him, the answer is, "Not very." To see why, let us return to his argument:

1g. It is morally impermissible to use animals in biomedical research.
2g. There is no morally relevant difference between using animals in biomedical research and using animals for food, etc.
Therefore,
3g. It is morally impermissible to use animals for food, etc. (from 1g and 2g).

Given the validity of the argument (remember, it has a valid *form*), there are only three things that Cohen's interlocutor can do. The first is to reject the first premise. The second is to reject the second premise. The third is to accept the conclusion. Cohen obviously hopes that his interlocutor will do the first of these things. What would that mean? It would mean rejecting the proposition that it is morally impermissible (i.e., wrong) to use animals in biomedical research. But that is logically equivalent to *accepting* the proposition that it is morally *permissible* (i.e., right) to use animals in biomedical research.

The problem for Cohen is that there are two other things that his interlocutor can do besides rejecting the first premise. Some of his interlocutors may reject the second premise: the one that draws a parallel between

[39] Any argument that has a valid form is a valid argument.

using animals in biomedical research and using animals for food, etc. Cohen takes it for granted that there is no morally relevant difference between the cases, but an argument can be made that there is. Some animals that are used for food have happy, pain-free lives. They are not confined; they are allowed to associate with members of their own kind; and so on. When it is time for them to be killed, they are slaughtered painlessly. They never know what is coming, and there is no pain or suffering involved in the act of killing.

Many animals used in biomedical research, by contrast, are confined, deprived of contact with their own kind, and made to suffer in various ways. Even if they are killed painlessly once their research value is exhausted, their lives are far from happy. Is there not a morally relevant difference between how the aforementioned farm animals are treated and how laboratory animals are treated? Admittedly, not all animal flesh that is consumed by human beings comes from animals that live idyllic lives; but *some* of it is, and this allows for someone consistently to oppose painful biomedical research on animals while continuing to consume flesh from animals that have happy, pain-free lives.

This is little more than a sketch of how someone might reject the second premise, but it is enough to show that it is not unreasonable for one of Cohen's interlocutors to adopt that strategy.[40]

The third thing that Cohen's interlocutor can do is to accept his conclusion that it is morally impermissible to use animals for food, etc. Cohen admits that this is a possible strategy. He says, in the final paragraph of the subsection that we have been examining, that "[s]crupulous vegetarianism, in matters of food, clothing, shelter, commerce, and recreation, and in all other spheres, is the only fully coherent position the critic may adopt" (Cohen, 1986, p. 869). I have already dismissed the idea that this is the *only* fully coherent position the critic may adopt, but Cohen is correct that it is *a* fully coherent position. One philosopher who adopts this position (there are many) is Mylan Engel, who has argued, on moral grounds, for vegetarianism.[41]

Cohen believes (without, however, providing any supporting evidence) that only "a very few" people accept the conclusion of his *ad hominem* argument. My guess is that the number of "consistent critics [who] adopt this position" has increased in number (probably dramatically so) since Cohen's article was published in 1986.[42] If this is so, then the force of Cohen's *ad hominem* argument has decreased over time, and will likely continue to do so in the future.

Before leaving the topic of *ad hominem* argumentation, let me say a few words about hypocrisy, which may be thought of as inconsistency between what one says and what one does (or fails to do). It is possible for an epistemically consistent person, such as Engel, to be a hypocrite. Engel may be ever so consistent in what he

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[40] Another possibility is to distinguish between mammals (on the one hand) and non-mammals (on the other). A person might support the use of non-mammals for both food and biomedical research but oppose the use of mammals for either food or biomedical research. The basis for this distinction has to do with the cognitive level of the beings in question.

[41] Here is Engel's abstract: "The article defends ethical vegetarianism, which, for present purposes, is stipulatively taken to be the view that it is morally wrong to eat animals when equally nutritious plant-based foods are available. Several examples are introduced (i) to show that we all agree that animals deserve some direct moral consideration and (ii) to help identify and clarify several commonsense moral principles—principles we all accept. These principles are then used to argue that eating animals is morally wrong. Since you no doubt accept these principles, the argument demonstrates that consistency with your own beliefs and values commits you to the immorality of eating meat and requires you to alter your eating behavior accordingly" (Engel, 2016, p. 2).

[42] "According to a 2018 Gallup poll, 5% of U.S. adults consider themselves to be vegetarian" (Hrynowski, 2019). Gallup shows that "the percentage of vegetarians has remained stable over the past two decades," but other surveys show, or at least suggest, an increase. According to Statista ("a leading provider of market and consumer data"), "[m]ore and more consumers are adopting vegetarian and vegan diets in the United States. Where only 2.5 percent of Americans over the age of 50 consider themselves vegetarian, 7.5 percent of Millennials and Gen Z have given up meat. The same goes for veganism, where the younger generations have taken on the diet at nearly double the rate of older Americans" (Coppola, 2020). I have found no data going back to 1986, when Cohen's article was published.

believes, but nonetheless fail to *act* on his beliefs for want of willpower. (I hasten to add that I have no reason to believe that Engel fails to act on his beliefs. I mention him in this context only for purposes of illustration.)

Weakness of the will (*akrasia*) is a general feature of human beings, not limited to those who take positions on the permissibility of using animals in biomedical research. Cohen is right to insist on both forms of consistency: consistency of belief and consistency between "profession" and "practice." If an opponent of the use of animals in biomedical research is, in fact, a hypocrite, then he or she should be called out for it. By the same token, if *Cohen* is a hypocrite on some issue (such as affirmative action), then he, too, should be called out for it. My point is twofold: first, that not all opponents of the use of animals in biomedical research *are* hypocrites (though some may be); and second, that those opponents who *are* hypocrites may be excused for it, on the ground that they suffer from weakness of the will.[43]

Miscellaneous Arguments

The "Claim" Argument

On the first page of his article, while discussing the right-based argument against the use of animals in biomedical research, Cohen says:

> Rights arise, and can be intelligibly defended, only among beings who actually do, or can, make moral claims against one another. Whatever else rights may be, therefore, they are necessarily human; their possessors are persons, human beings. (Cohen, 1986, p. 865)

Cohen seems to be making two assertions: first, that only beings who can make moral claims have rights; and second, that only human beings can make moral claims. He infers from these propositions that only human beings have rights. Here is my reconstruction of Cohen's argument:

1i. All beings who have rights are beings who can make moral claims.
2i. All beings who can make moral claims are human beings.
Therefore,
3i. All beings who have rights are human beings (from 1i and 2i).[44]

If the premises of this valid argument are true, then so is its conclusion, and that means that no animals have rights.

The problem for Cohen is that premise 1i is false; not all beings who have rights are beings who can make moral claims. Human infants have rights (in Cohen's view), but they are not beings who can make moral claims.

Cohen might reply to this objection by restating the first premise as follows:

1i*. All beings who have rights are beings who can *either* (i) make moral claims *or* (ii) have moral claims made in their behalf.

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[43] Think of Cohen as saying the following to his critics: "Unless you can point to a morally relevant difference between (i) using animals for food, etc., and (ii) using animals in biomedical research, you must either oppose (condemn) both activities or support (commend) both activities." What makes this approach *ad hominem* is that it is a demand for consistency, rather than a search for truth.

[44] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AAA-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.

The problem with restating the first premise in this way is that it destroys the validity of the argument. In order to preserve the validity of the argument, premise 2i, which shares with premise 1i the term "beings who can make moral claims," must be restated as follows:

2i*. All beings who can *either* (i) make moral claims *or* (ii) have moral claims made in their behalf are human beings.

The conclusion follows as before, but now the second (revised) premise is false, for not all beings who can either make moral claims or have moral claims made in their behalf are human beings. Some beings who can have moral claims made in their behalf—namely, animals—are *not* human beings.[45] On either interpretation of Cohen's argument, therefore, it is unsound. There is no interpretation of the premises such that (i) both premises are true and (ii) their conjunction entails the conclusion.

The Argument from Life

I would be remiss if I did not discuss, however briefly, an argument that Cohen puts into the mouths of his opponents. Cohen writes:

> To animate life, even in its simplest forms, we give a certain natural reverence. But the possession of rights presupposes a moral status not attained by the vast majority of living things. We must not infer, therefore, that a live being has, simply in being alive, a "right" to its life. The assertion that all animals, only because they are alive and have interests, also possess the "right to life" is an abuse of that phrase, and wholly without warrant. (Cohen, 1986, p. 866 [endnote omitted])

Cohen is unfortunately running together two distinct arguments, one of which has actually been made (by at least one philosopher), and the other of which nobody, to my knowledge, has made. The argument that has actually been made—by, for example, Bernard E. Rollin[46]—is this:

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[45] According to philosopher Joel Feinberg, "[c]hildren and idiots start legal proceedings, not on their own direct initiative, but rather through the actions of proxies or attorneys who are empowered to speak in their names. If there is no conceptual absurdity in this situation, why should there be in the case where a proxy makes a claim on belief of an animal? … [T]he animal itself claims its rights through the vicarious actions of a human proxy speaking in its name and in its behalf. There appears to be no reason why we should require the animal to understand what is going on (so the argument concludes) as a condition for regarding it as a possessor of rights" (Feinberg, 1974, p. 47 [ellipsis added]).

[46] Rollin writes: "[A]ny living thing, *insofar as it evidences interests*, with or without the ability to suffer, is worthy of being an object of moral concern" (Rollin, 1981, p. 43 [emphasis added]). Also: "We have tried to show that there is no difference between people and animals that is relevant to excluding animals from moral discussion. In our presentation, we have argued that entrance into the moral arena is determined by something's being alive *and having interests* in virtue of that life, interests and needs that can be helped or harmed by a being who can act morally…. If we have been successful in our account of the features that make up an object of moral concern, namely, the possession of life *and interests* that are associated with that life, we can draw some further conclusions. If being alive is the basis for being a moral object, and if all other *interests and needs* are predicated upon life, then the most basic, morally relevant aspect of a creature is its life. We may correlatively suggest that any animal, therefore, has a *right to life*" (Rollin, 1981, pp. 47-48 [all but the final set of italics added; ellipsis added]). Rollin is not talking about plants, for he writes: "Although plants, bacteria, viruses, and cells in culture are alive and may be said to have needs, there is no reason to believe that they have interests" (Rollin, 1981, p. 42). His view is that all and only living beings who have interests are beings who have a right to life. This claim may be mistaken, but it is not crazy.

1j. All living beings who have interests are beings who have a right to life.
2j. All animals are living beings who have interests.
Therefore,
3j. All animals are beings who have a right to life (from 1j and 2j).[47]

This argument deserves close scrutiny. It is valid, but it may well have a false premise. Cohen suggests such a criticism when he writes, "The assertion that all animals, only because *they are alive and have interests*, also possess the 'right to life' is an abuse of that phrase, and wholly without warrant" (Cohen, 1986, p. 866 [emphasis added; endnote omitted]). I leave it to the reader to determine whether the argument is sound.

The problem for Cohen is that, in the very same paragraph, he suggests *another* argument that can easily be confused with the first. He writes: "We must not infer, therefore, that a live being has, simply in being alive, a 'right' to its life" (Cohen, 1986, p. 866). *This* argument goes as follows:

1k. All living beings are beings who have a right to life.
2k. All animals are living beings.
Therefore,
3k. All animals are beings who have a right to life (from 1k and 2k).[48]

The problem with this (valid) argument is not that it is unsound (although arguably it is, by virtue of its questionable first premise), but that nobody makes it. It is a classic example of a straw-man argument.[49] Certainly neither Peter Singer nor Tom Regan makes this argument; nor, to my knowledge, does anyone else (including Bernard Rollin). Who would think that the *fact* of being alive confers on a being a *right* to live? After all, plants such as grass, bushes, and trees are living organisms; do they therefore have a right to (continued) life? The question answers itself.

The two arguments should not be conflated. The second argument links the possession of *life itself* to the possession of rights. The first argument links the possession of *interests* (not merely *life*) to the possession of rights. We have already discussed the interest-based argument against the use of animals in biomedical research. When we did so, we discovered that Cohen's criticism of it rests on a misunderstanding. Perhaps this is why he is so confident that ascribing rights to animals (many of which are moral patients) is "wholly without warrant."

Conclusion

> [I]f it turns out that reason requires that other animals are as much within the scope of moral concern as are men, we must view our entire history as well as all aspects of our daily lives from a new perspective. (Rollin, 1981, p. 4)

Carl Cohen believes that it is morally permissible (and sometimes morally *obligatory*) to use animals in biomedical research, even if (1) that use is distressing and painful to the animals involved, (2) it deprives them

[47] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AAA-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.
[48] This argument, as reconstructed, is a substitution instance of an unconditionally valid standard-form categorical syllogism, namely, AAA-1. Any argument that has a valid form is a valid argument. Therefore, the argument, as reconstructed, is valid.
[49] See footnote 5 for the meaning of this term.

of their ability to move about freely, (3) it frustrates their natural urges to associate with their own kind, and (4) it results in their being maimed and killed. Surprisingly, given the title of his article ("The Case *for* the Use of Animals in Biomedical Research"), he offers no support for that thesis. Instead, he tries to show that the two main arguments for the *falsity* of the thesis are defective.[50]

Unfortunately for Cohen and for those who share his outlook, his criticisms of the two arguments leave much to be desired. His criticism of the first (right-based) argument for the moral impermissibility of biomedical research on animals is strikingly unpersuasive; his criticism of the second (interest-based) argument for the moral impermissibility of biomedical research on animals is rooted in misunderstanding. If this is the best "case" that can be made for the use of animals in biomedical research, then perhaps practitioners and proponents of such research should reconsider their support for it.

Acknowledgments

This article is dedicated to *animal research subjects*: past, present, and future. May their numbers steadily decline.[51]

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[50] See the Appendix for further discussion.

[51] "Vast numbers of animals are currently being used in all kinds of scientific experiments, many of which entail animal misery. Some of these studies, unfortunately, do not contribute to medical science, and some do not even require the use of intact animals. Even the most conservative corrective measures in the implementation of a reasonable and morally responsible policy would have dramatic practical consequences" (Hoff, 1980, p. 118).

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Appendix

A complete defense of a theory differs from a complete defense of a thesis. A *theory* has both a negation (i.e., a contradictory) and (one or more) rivals. For example, utilitarianism and Kantianism are rival normative ethical theories. They cannot both be true, but they *can* both be false. This makes them contraries (of one another). A *thesis*, by contrast, has a negation (i.e., a contradictory) but no rivals. For example, the negation of the thesis that God exists is the thesis that God does not exist (i.e., the thesis that it is not the case that God exists). The two theses cannot both be true; nor can they both be false. This makes them contradictories (of one another).

Suppose I wish to provide a complete defense of *theory* T. I have five tasks:

1. Argue for the falsity of every rival of T. (Call this “attacking” the rivals.)
2. Argue for the truth of T. (Call this “supporting” T.)
3. Criticize every argument for the truth of every rival of T. (Call this “undermining” support for the rivals.)
4. Criticize every argument for the falsity of T. (Call this “repelling” attacks on T.)
5. Criticize every argument that purports to undermine support for T. (Call this “obstructing” attempts to undermine support for T.)

Suppose I wish to provide a complete defense of *thesis* T. I have three tasks:

1. Argue for the truth of T.
2. Criticize every argument for the falsity of T.
3. Criticize every argument that purports to undermine support for T.

Cohen’s thesis, as reflected in the title of his article, is that the use of animals in biomedical research is morally permissible. Call this thesis “U.” If Cohen wishes to provide a complete defense of U, he has three tasks:

1. Argue for the truth of U.
2. Criticize every argument for the falsity of U.
3. Criticize every argument that purports to undermine support for U.

Cohen does not argue for the truth of U. In other words, he provides no *support* for his thesis. Since he does not *support* U, he cannot, and hence does not, criticize every argument that purports to *undermine* support for U. All he does in his article is criticize *some* arguments (two, to be exact) for the falsity of U. Cohen’s defense of U is, accordingly, incomplete. Indeed, the title of his article is misleading, for it implies that he argues *in favor of* the use of animals in biomedical research. A more accurate title for his article would be “A Critique of Two Arguments for the Moral Impermissibility of the Use of Animals in Biomedical Research.”