

Experimenting on Vulnerable Selves The Ethics of Animal Experimentation

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Thanks for inviting me. I am doing my PhD in Philosophy of Animal Minds and Animal Ethics

[slide] What is Animal ethics? Animal ethics is the study of our moral obligations towards other animals, considered as sentient individuals and not as representatives of a species or according to their functions within an ecosystem.

This would be environmental ethics. To explain the difference, here is a picture of Marius. You may have heard of his story. He was a healthy young adolescent who was killed by the Copenhagen Zoo because his genetic material was already well represented in the zoo's genetic bank. (He was reduced to an exemplar of a species and killed because we didn't have any use for him from a species conservation point of view).

Animal ethicists would say that we missed something here if we only saw Marius as genetic material.

They would argue that killing a healthy and young giraffe simply because we see no use in his existence and cannot profit from him in some way is morally wrong and unjust because it fails to consider Marius as an individual with a life of his own.

But what about scientific research on other animals?

Should we harm, kill and deprive animals of their freedom for scientific purposes?

[slide] What is Animal Experimentation and Research exactly?

Advocates and opponents to research on other animals perceive and describe the situation very differently.

Scientists will often define it like this: [slide] « The **use of animals** in biomedical sciences, basic research, product-testing, genetic experiments, military experiments, education and training. »

The term « use », here, is quite vague. What does « using animals » mean?

First, it implies to hold them **captive**. Either they have been taken from the wild, from animal shelters or bred explicitly for our use, which is the case with most of lab animals now.

Beyond captivity, “using animals” also involves many kinds of **harms** such as:

1. the **violation** of their **bodily integrity**,
2. deliberately inflicting them **diseases** and **psychiatric disorders** (like depression, or Alzheimer) and,
3. of course, using animals generally means **killing them** at some point, either because of a medical condition we inflicted upon them or because they are no longer useful (and letting them live would be costly).

This is what « using animals » generally implies. In light of this, we need a more accurate definition of animal experimentation.

By definition, lab research on other animals is [slide]

Harmful: Violates their bodily integrity and freedom of movement (and often involves inflicted them diseases, such as cancers, depression, and so)

Deprivational: Frustrates their normal behaviors, such as their drive to explore or needs for social interaction

Non-therapeutic: Not done in their interests, but to benefit others

Non-consensual: Conducted against their will

Some research, like ethological observations of free-living animals, does not involve harms, captivity and killing. But I today I will only talk about animals subjected to lab-experiments, whether on university campuses or in corporate facilities.

Why do we experiment on other animals? The usual justification is: « to improve human lives ».

[slide] This justification holds only for some research projects. Others are purely driven by curiosity, profits, or to develop new commodities to sell (such as cosmetics, household products, and even military weapons).

It's it hard to know how many animals are harmed & killed in corporate or military labs because CCAC records include only (or mostly) public-funded research.

[slide] According to the CCAC, only 13 % of animal research in Canada (among institutions receiving Federal funding) is done for medical or veterinary purpose. Most are used for “basic research” with no foreseeable therapeutic benefit (“curiosity-driven” research, of course, could end up being “useful”, but are not expected to contribute to a potential cure).

But today I will focus on research aiming at improving human lives. This type of research usually provides the best case for animal experimentation: we have to design cures, drugs and medicines for human suffering and diseases and this implies « using » animals (i.e. harming, killing and depriving other animals of their freedom against their will and own best interests).

[slide] The scientific case against AE: The Call for Systematic Reviews

There is a huge literature on the alleged necessity of using other animals as models for human diseases.

Many argue that research on animals is essential to inform clinical studies on humans.

But when researchers started to look for **evidence to back up this widely-held belief**, they found that very **few systematic studies** have been conducted. And the existing systematic studies did not support the claim that animal research was essential or even useful to clinical studies.

[slide] In 2004, an article published in the BJM argued that: “Clinicians and the public often consider it axiomatic that animal research has contributed to the treatment of human disease, yet little evidence is available to support this view.”

They asked for evidence that animal research benefits humans.

They argued that the claim that animal research is necessary to advance medicine must be based on evidence.

Most defense of animal research is based on **anecdotes** or **single success stories**, not on **systematic reviews**.

The few existing systematic reviews indicate that **animal research was of poor quality and did not inform clinical research**.

They called for more systematic reviews of animal research claiming that: “the contribution of animal studies to clinical medicine requires urgent formal evaluation”.

Two years later (Hackam, *J Am Med Assoc*, 2006), a systematic review on the “translation of research evidence from animals to humans” studied the **clinical utility of highly cited animal experiments** and found out that: **“Even the most promising findings from animal research often fail in human trials and are rarely adopted into clinical practice.”**

- They evaluate animal studies with more than 500 citations published in the 7 leading scientific journals.
- About one-third of the studies translated at the level of human randomized trials, and one-tenth of the interventions, were subsequently approved for use in patients.
- Only 48.7% (37/76) of these highly cited animal studies published in leading journals were of good methodological quality.

[slide] Andrew Knight notes: **“Translation rates of most animal experiments are much lower**. Most experiments are neither highly cited nor published in leading journals. Many experiments are not published at all.”

This is highly unethical given the harms done to animals. Results of all animal research (including positive and negative results) should be publicly available to avoid repetition.

[slide] So, the most promising and cited AR as a success rate of around 10%, but Andrew Knight notes that: “Even in these cases (when approved for use in patients) human benefit cannot be assumed, because adverse reactions to approved interventions are the 4th - 6th leading cause of death in US hospitals (Lazarou &

Pomeranz. J Am Med Assoc, 1998).”

[slide] According to the FDA (2004), “92% of drugs that pass animal tests fail in human clinical trials and of those approved half are withdrawn due to severe or lethal adverse effects not detected during animal tests”.

[slide] Animal tests may also mislead researchers into ignoring potential cures and treatments (false positives).

[slide] Some chemicals that are harmful to animals prove valuable when used by humans. Aspirin, for example, is dangerous for some animal species. Arsenic is lethal in humans and harmless in many other animal species. Drugs and procedures that could be effective in humans may never be developed because they fail in animal studies.

[slide] The **translational failure of animal research** may be explained in two ways:

1. Failures of “animal models”:

Both the human and animal results are accurate, but human physiology and disease are not adequately captured by animal models. They argue that rats, mice, cats, dogs, rabbits, and even primates are not small humans and do not reliably predict results in human beings.

2. Methodological flaws in animal studies:

Poor overall quality of animal research leading to **systematic bias**. Empirical studies suggest that animal research often suffers from poor study design, many studies are not randomized nor blinded.

(Source: van der Worp HB et al., (2010) Can Animal Models of Disease Reliably Inform Human Studies? *PLoS Med* 7(3): e1000245).

Not much can be done about the first, but the second can be improved.

A collaborative effort called CAMARADES (Collaborative Approach to Meta-Analysis and Review of Animal Data from Experimental Studies) is conducting systematic reviews of animal studies (focusing on stroke, neurological disease, bone cancer, multiple sclerosis, and Parkinson’s disease) and they found serious bias in animal studies.

Based on these systematic studies, John Ioannidis (2012), professor of health research and policy at Stanford, concluded that: “**It is nearly impossible to rely on most animal data to predict whether or not an intervention will have a favorable clinical benefit–risk ratio in human subjects.**”

10 years after their call for systematic studies, Pandora Pound and colleagues (Michael Bracken) published another paper in the *BJM* (2014): They were happy to see that “**The number of systematic reviews of animal studies has increased substantially, but this has served only to highlight the poor quality of much preclinical animal research** (lack of randomization, blinding, and allocation concealment, selective analysis, and reporting and publication bias).”

They argue that systematic studies fail to show evidence that animal research benefits humans.

“The current situation is unethical. Poorly designed studies and lack of methodological rigour [...] needlessly expose humans to potentially harmful drugs or may result in other potentially beneficial therapies being withheld. Moreover, if poorly conducted studies produce unreliable findings, **any suffering endured by animals loses its moral justification** because their use cannot possibly contribute towards clinical benefit.”

“Public acceptance of the use of animals in biomedical research is conditional on it producing benefits for humans. These benefits remain unproved.”

“Proponents of animal research claim that the benefits to humans are self-evident. This claim is uncorroborated by systematic studies”¹.

¹ “The animal research community continues to cite selected instances of how research on animals has resulted in medical advances. However, these convey little confidence about the overall reliability and success of animal models, taking into account the total evidence. Given the large amount of animal research being undertaken, some findings will extrapolate to humans just by chance. Understanding Animal Research, a British organisation financed mainly by those conducting or funding animal research, highlights four reports purporting to support the validity of animal research, all of which rely solely on expert opinion, one of the weakest forms of evidence according to widely agreed standards.”

I could go on and quote many meta-analysis. But today I do not want to dispute the *usefulness* of animal research. I will not present what we call the scientific case against AE, but the ethical case.

(*note. At least, one of them. I will focus on what we call a deontological or right-based approach to animal experimentation. I won't make metaethical presuppositions about the ontological status of moral principles, but rather rest my case on principles most of us strongly share today)

So, the first thing philosophers and ethicists will ask and the first thing we should ask ourselves is: [slide] **Why use other animals** in (invasive and deprivational) research, **rather than human beings**?

Obviously, using **humans** would be **much more useful**. The data would be more easily transferrable from one human being to another.

Why don't we use *humans* to find cures for *humans*?

Of course, this is not something that researchers would be allowed to do, but why?

[slide] Q: Why would it be morally wrong and illegal to experiment on humans the way we do it on other animals – in the hopes of improving human lives?

[slide] A: The answer is: because it is **wrong to conduct harmful experiment on individuals without their informed consent - even for the greater good of others**.

[slide] But why would it be wrong **only** when these individuals belong to our biological or taxonomic group?

Appealing to a **biological criterion** (such as being human or *homo sapiens*) without explaining what makes this feature morally relevant **begs the question**.

[slide] We need to explain which characteristic shared by all human beings makes them **inappropriate subjects** for invasive or deprivational research performed without their consent.

Is it because humans **are rational beings**?

This can't be the answer. What would prevent us from experimenting on less intelligent human beings, then, like **people with cognitive disabilities**?

We have done so in the past and we should be profoundly ashamed of it. It was morally wrong whether or not it was useful. So intelligence, rationality or abstract reasoning cannot be the answer.

According to some people, experiments on cognitively disabled people are still going on in North Korea.

[slide] We have to remind ourselves that **higher cognitive capacities are morally irrelevant** when it comes to **basic interests** like not being held captive (arbitrarily detained), tortured and killed.

? If we all deserve to be respected, to be allowed **to live**, be **free from torture and captivity**, it is not because we are rational beings. It is **because we are all sentient beings, vulnerable selves** who value our brief existence on this planet.

All human beings, regardless of their age, their ability to reason or talk, etc. deserve protection of their most basic interests.

No matter **how insignificant** the life of some individuals may look like from an outside perspective, as soon as we are able to recognize another self, this imposes on us a strong duty not to **harm, enslave or kill** this vulnerable individual (self).

[slide] So for most animal ethicist the criteria for basic moral status should not be :

Species-membership: Belonging to a particular biological group (or species) is as arbitrary as discriminating on the basis of race or sex.

Rationality and intelligence: Having higher cognitive capacities is not relevant when it comes to the most basic interests in not suffering and not being killed: this is why we object to harmful research on people with cognitive disabilities.

The criterion should be **Selfhood** (or **Sentience / Consciousness**) Being an individual self with a psychological or subjective life of his or her own (being able to experience affective states and emotions).

As many philosophers argue, « what happens to these individuals matter because it matters to them. »

Those who think that they can use animals because human lives are **more valuable** than animal lives need to understand that **judgments concerning the value of lives have nothing to do with basic rights**.

This is a fundamental principle in the ethics of human rights.

The death of a child may be **more tragic** than the death of an elderly person, but that doesn't mean we are justified in killing the old to provide organs for the young. The **different value** we attribute to their lives **does not justify the sacrifice** of one for the sake of the other.

The **equality of rights** means we should respect the basic interests not only of people we love or admire, but also of the individuals we consider inferior, expendable, deprived, or not worth living.

So you don't need to believe that the lives of other animals are as valuable as the lives of humans to recognize their basic rights not to be killed and to live free from torture and captivity – you just need to recognize them as individuals, as selves with psychological lives of their own which matter to them.

As political philosophers Will Kymlicka and Sue Donaldson explained: “The reason that individuals have basic rights [...] is because **their lives are precious to them**, not to **external observers**. We have a **right to life** because we are conscious subjects, and **our lives mean everything to us**, regardless of the assessment of others. [...] It's not important **how much I value your life**. It's important that **you** value your life, and that I am able to respect that.”.

Selfhood is the basis of fundamental negative rights, not a **sophisticated notion of personhood**. This **crucial recognition** enabled the advances in universal human rights in the last decades (after the 2nd WW), such as the rights of children and people with disabilities.

But we often fail to recognize other sentient animals **are selves, too**.

The value of their lives cannot be reduced to the value they have for us. Because their lives matter **to them**.

They are living beings endowed with psychological lives which have the same basic features as ours: they feel, see, hear, taste, remember, anticipate, recognize others and learn to fear or trust them. They can **make friends and develop strong affective bonds with one another**.

As philosopher Tom Regan says, “A sentient animal is **a who**, and not **a what**”.

Many animals have complex emotional, cognitive and social lives that we are just beginning to understand through ethological and psychological studies.

It is important to insist on this because we live in a culture with a long history of denying minds to other animals.

We denied minds to animals because of some **theological doctrines** that claimed we are made at the image of God and have immortal souls whereas animals have only bodies and were created for us to use.

We denied minds to animals because of **Cartesian dualism** (the split between body and mind) which considered animals as machines without feelings.

We also denied minds to animals because **behaviorism** ruled over psychology departments for most of the 20th Century.

(Any interpretation of animal behaviors in terms of a **subject doing something in a world meaningful for him or her** was then considered **anthropomorphic**.)

Behaviorists like Skinner were not interested in the subjective experiences of animals because they could not be studied empirically, or so they claimed.

There was no interest in what was going on in the black box (the minds of animals), in what they felt, **in what they wanted to be doing**. We wanted to know about them **only what could be practically useful and profitable** for us.

Mostly, this meant learning how to dominate them. How to make them do what we wanted them to do.)

Behaviorism was all about **controlling and conditioning behaviors**.

There was very little interest in the study of free-living animals living in the wild and forming their own **communities and societies**.

We are just starting to learn about the mental and social worlds the other animals inhabit, and we are already amazed by what they do.

Thanks to ethological studies on **Great Apes** (like Chimpanzees), we now have strong moral objections to the « use » of these animals in research and they are starting to be better protected.

(S) Some countries even granted Great Apes basic rights not to be killed, tortured and held captive. (So, they basically granted them “personhood”, the right no to be treated as a property or a legal thing)

Most countries still consider chimpanzees not as person, but as properties or natural resources, but have banned their use in biomedical and invasive research, except the U.S and the Gabon.

(S) The U.S is the world's largest user of chimpanzees for biomedical research, with approximately 1,200 individual subjects currently in U.S. labs. About half them are “owned” by private facilities.

“The federal government owns or supports 670 chimpanzees, many of which were bred between 1986 and 1995, when it was hoped — incorrectly, as it turned out — that they would be a useful model for HIV/AIDS.” Nature 491, 18 (Nov 2012).

Some scientists argued that it is “UNETHICAL NOT TO USE CHIMPS” precisely because they are our closest genetic relatives, so they are better models for us.

Others argue it is that precisely *because* they are so similar to us that they should not be subjected to invasive or deprivational research.

Revealing again the **age-old contradiction of animal research**:

- Nonhuman animals are **similar enough** (on a physical, neurological, mental and emotional level) to make AE useful and informative.
- Nonhuman animals are **different enough** to make AE ethical and just.

On the one hand, animals are physiologically, mentally, and emotionally similar to humans; the tests will result in meaningful results which can be extrapolated from one species to the next.

On the other hand, we are justified to inflict them diseases and illness (cancers, schizophrenia, depression, maternal deprivation) to see what happens and if it could be useful for us because they are **so different**.

This paradox holds for all sentient animal used in biomed and psychological research, but the case of chimps makes it particularly clear.

I think that most of us do not view a ban on biomed research on chimps as a cost, we do not think of this as a sacrifice, but as basic justice and we wonder how we could have ever rationalized such a practice in the first place. Much in the same way that we do not see invasive research on non-consensual humans as a sacrifice or a cost.

Biomed research on chimps is coming to an end in the US:

2011: The U.S. Institute of Medicine declared that “most current use of chimpanzees for biomedical research is scientifically unnecessary.”

2012: The NIH announced that 110 chimpanzees owned by the government will be retired.

2013: NIH announced the phasing out of most previously active biomedical research and retains 50 chimpanzees for future biomedical research.

2015: The U.S. Fish and Wildlife Service announced that it has designated captive chimpanzees as endangered.

2016: All NIH-owned chimps will be sent to sanctuaries.

Of course, this will sadly not apply to privately-owned chimps who will continue to be “used” for research, but it is a clear statement that our society is recognizing that chimps are individuals on their own rights, they should not be instrumentalized for our benefit, but should be able to live their lives as they see fit.

But this is sadly not the case for **other non-human primates**, like baboons, monkeys, and macaques.

More than 70,000 non-human primates are experimented on in each in the US. Most are bred for this purpose and around 25 000 are taken from the wild.

Despite the fact researchers are supposed to apply the three Rs, the number of nonhuman primates “used” in scientific research has gone up in the US (slide 1979-2009).

In Canada, 8,000 (5,000 ASPI) non-human primates were “used” in 2014, compared to 4,000 in 2013.

There are regular claims that less and less animals are used, like you see on this graph.

But this is not true because the Animal Welfare Act (AWA) excludes the most widely used mammals from its protection (rats and mice), as well as birds and fish. And do not even count them.

And we do use more and more of them, particularly transgenic mouse models.

In Canada, the situation is not better. We don't even have an AWA.

S: It's **mostly guidelines** designed by the Canadian Council on Animal Care (CCAC) who released in August 2016 its annual report for 2014 which showed an increase of 24% of the number of animal used from the previous year!

Roughly 3.75 million animals — primarily fish, mice, and birds — were used for education, medicinal, regulatory testing, or research purposes by over 200 certified institutions in Canada (up from just over three million in 2013).

“With the advent of a lot of new non-animal methods (like virtual reality dissecting, computer modelling, cell manipulation, 3D-printing, and in vitro work), we should at least be seeing a decrease,” said Dr. Elisabeth Ormandy, executive director of the [Animals in Science Policy Institute](#) (AISPI).

“This 24 per cent increase really raises questions about how seriously the principle of replacement is taken in Canada.”

The largest increases are for fish, birds and non-human primates.

(S) Mainly for “basic research.”

(S) The number of animal is increasing as is the level of overall pain and distress the animals could be exposed to during the studies.

(More than 100 of NHP in the highest category of invasiveness (E), and more than 1,000 in D).

In their brochure, McGill ACC explains that AR is **well-regulated**, there is **nothing to worry about**, and most of the animals used are **not primates or dogs**, but mostly fish, rats and mice.

But why shouldn't we care about them?

What do we know about rats? If we look at scientific research, we know that : (Read slide Re-Minding Rats)

- Rats have lived experiences (affective states, emotions) and perceptual awareness (they can feel, see, hear, taste, etc.)
- They can remember, learn, anticipate
- They are highly social individuals with complex communication. They communicate information and their emotional states through ultrasounds vocalization.
- They show strong inhibition against hurting others
- Highly curious individuals (strong drive to explore)

Research 1. A researcher here at McGill, Jeffrey Mogil, conducted studies indicating that **rats can feel empathy**. Mogil is a pain researcher who developed a grimace scale to evaluate pain in rats and mice, and he said that they were suffering more when another mouse was also suffering – particularly if he or she knew the other personally. So, it seems that mice can feel each other's pain.

Mogil's research largely confirm something Darwin knew: many social animals express their emotions and affective states and are able to understand these expressions in others.

Research 2. Another study showed that **rats love to help each other out.**

You may have seen this study which has now been replicated many times. Not only do “**rats repeatedly freed their cage-mates from containers**”, when there was no clear reward for doing but, even when given access to chocolate, their favorite snack, they choose to free the other rat to share the treat.

So not only can we reasonably believe that **rats do care about what happen to them, but they also care about each other**, particularly about some special others with whom they developed interpersonal relationships, and affective bonds.

In this regard, they are certainly not very different from us. We also have a tendency to help our friends more than strangers.

(+ electric shock for food) So, these studies are indicating not only that animals experience emotional states, but also the affective states of others and even care about them.

Some still claim that this is not sufficient, that recognition of selfhood, that being a vulnerable self who cares about what is happening to him or her (and others) is not sufficient for imposing on us a strong duty not to harm and kill them.

Besides the fact that this reasoning is, in my view, unacceptable and dangerous for the fundamental rights of the most vulnerable humans, we have to ask what more (than selfhood) would be needed in order to deserve equal (or substantial?) moral consideration according to these researchers?

Do we need to be able to think about our own mental states in order to deserve to be free from torture, captivity and killing? To have what psychologists call “metacognitive abilities”?

Of course, some humans will not pass this test. But some animals will.

Research 3: There are research indicating that not only apes and crows, but even **rats have metacognitive capacities** – they are able to **think about their own mental states.**

Research 4a: We even found evidence of **episodic memory in rats.**

Episodic memory is the possibility to recall events and their contexts (the What, When, Where).

Quote: “People remember an event as a coherent scene”. But studies show that “rats remember episodes as bounded representations”. They were able to remember the “what”, “when”, “where” and the context.”

Not long ago, episodic memory was thought to be a properly human capacity (an important part of what made us people with personal identities), but we have now evidence that other animals do also have personal memories: they do not **live in an « eternal present »**, they are **not perpetually stuck in the here-and-now** as many philosophers claimed.

According to this study: “nonhumans represent episodic memories using a structure similar to that of people.”

Research 4b: In another study on episodic memory in rats, the researcher who conducted this study said that: “Whether animals can remember their past is not just an academic question (...).

When I read this I said great! He is acknowledging that it raises profound ethical questions. But no, that's not what he meant.

“A test for episodic memory in rats could result in a flood of new research - research that could lead to treatments for memory loss due to aging, Alzheimer's disease or even brain damage. (...).”

He is thinking in purely instrumental way : how can we benefit from this capacity? The fact that animals have a psychological and subjective life way more similar to our own than we thought doesn't seem to trouble this researcher.

Jeffrey Mogil seemed more open to consider the ethical question.

“The more we do experiments like this, the more we wonder if we **should** do experiments like this.” But, he adds, if we want to study pain and pain treatments, “there is no alternative. We must do animal experiments, as we will never get ethical approval to do these tests on humans.”

But why? Why wouldn't this kind of research be approved in humans? Mogil often say that his research involves only mild pain.

The simple fact that he knows he would never have the approbation to do these research on human beings means that the harms he is intentionally causing on non-consenting individuals are substantial.

McGill ACC brochure also underline that most research programs cause only minor harms. If this is true, why not do these experiments on consenting adults?

If these procedures would never be allowed to be conducted even on consenting adults, then there must more harms going on than this mild pain and short-duration distress.

We must also take into account the larger context, not only the harms inflicted during the procedures, but the harms involved in breeding, in captivity in labs and the harms of killing them.

And we must also be very careful when we assess pain in others. In others animals as well as in other human beings.

Many studies indicate **racial biases in pain perception** in humans (slide 1).

Another study (slide 2) argues that this may explain why **doctors suggest less pain relief treatment to African Americans than to White Americans.**

Not because of explicit prejudice and racism, but of automatic, unconscious, and implicit biases.

If we have a tendency to think people of different racial backgrounds suffer than less we do, chances are these biases also work across species.

Not only do we misjudge and under-evaluate pain and suffering in other animals, but we also **hide harms under a rhetoric of care.**

Animal research Committees don't call themselves ***animal harm councils***, but *animal care councils* as if they existed to protect the best interests of the animals themselves.

In the McGill ACC Brochure: “researchers are sincerely concerned about the welfare of animal that **are part of the research project.**”

But missing here is the fact that animals are part research *because we force them to.*

We don't say they are **coerced, forced, held captives**, but they are part of the research.

In this promotional pamphlet, animals are **not recognized as individuals** with **mental and social lives** of their own, but presented as **models** and **tools**, whereas human beings get portrayed as full-fledged individuals and **members of communities** (grandfather, mothers, children, etc.).

What we see here is a tendency to **minimize and underexpose the actual harms we are inflicting on animals and overexpose the potential benefits to humans.**

This introduce bias in the cost-benefit analysis by weighing the same harms differently.

The cost-benefit analysis is **not impartial**: the **same harms** done to some individuals count for less than the same harms to others. And this is unjust.

The calculus is obviously anthropocentric and speciesist. If cancer, depression and PTSD is so harmful to humans, why should we believe that it is okay to deliberately inflict them to others?

Probabilities should also be taken into account: **actual harms** should weight more than **potential benefits**. And from what we know from systematic studies, **very improbable** potential benefits.

Of course, **researchers do not like harming** other animals. Many of them are disturbed and even **disgusted by what they do** but still carry on in the name of some **greater good**.

They do this to improve or save human lives. This is the main justification. Even though we know that most AR will not be useful or even used in human clinical trials.

Because it is done for a reason, it cannot be considered animal cruelty according to the Criminal Code in Canada.

Outside the lab, many of these actions would be considered animal cruelty and liable to criminal prosecutions. Inside the lab, the same actions are excused.

Sociologists have studied how scientists cope with harming other animals in the course of their research.

They say that « people have to make adjustments with doing things to animals that in other contexts would be considered barbaric and cruel » (Birke, 2010, 5)

« Science students regularly express unease and discomfort at first, even anxiety. And many quit. Those who stay are the ones who were able to get used to it. » (Arluke 1999; Birke et al 2007).

Birke and Arluke argue that the lab environment facilitates moral disengagement and psychological distance.

And that scientific narratives are constructed in such a way that tend to minimise what we are doing to them.

Animal suffering and deaths are obscured by **euphemisms** and **omissions**.

Omitting details doesn't have only scientific consequences, but moral ones: it means **obscuring what animals are going through**. (Eg, <https://queensanimaldefence.org/2017/01/31/gazette-article-reveals-that-queens-is-ashamed-of-its-own-research/>)

One of the way to hide the harms we inflict on animals is by using the **passive voice** in scientific papers: “animals were injected”. Animals are the subjects of these sentences, not the human researchers.

The use of the passive voice **hides human agency, therefore, human responsibility**.

By not referring to animals as individuals (with a psychological and social life of their own), but **as models**, « tools », « fighters », « saviors », we also hide harms.

Euphemisms are used to refer to the act of killing animals. We say animals are « **put down** ». We even pretend it's **euthanasia**.

Euthanasia means **painless** and **merciful** death. It must be done without suffering and distress, and to his or her own benefit, with the victim's approval or hypothetical consent.

Some scientists argue that it is in the best interests of animals to be killed because the harms they caused them are so great that death is the best outcome for the individual animal.

Killing animals in labs cannot be considered euthanasia – neither on intention, nor on actual procedures (it's not painless).

Animals do seem to suffer when they are killed in labs. Of the common way to kill them is in gas chambers.

S: “Carbon dioxide (CO₂) is the most commonly used agent for euthanasia of laboratory rodents, used on an estimated tens of millions of laboratory rodents per year worldwide, yet there is a growing body of evidence indicating that exposure to **CO₂ causes more than momentary pain and distress**.”

Another article reported in *The Scientist* says that

« Although **some rodents stop moving** upon exposure to CO₂, **others seem to become stressed**. They might rear up, paw the sides of the box, or **emit ultrasonic vocalizations**. (*in others word, they were clearly crying/begging for their lives*) It seemed to the tech that the **animals were suffering before losing consciousness**.

So... the article goes on to say that the way we kill animals « **may not be as humane a killer as many once thought** » (*so prior claims of humane killing by the biomedical industry were wrong*).

*Then the article quote a National program manager using scientific jargon as euphemisms: “There is **compelling evidence that carbon dioxide is not good for the welfare** of these animals that are killed with it” (Think about this sentence for a second : « not good for the welfare » is a way not to say « harm ». She could have said : « We know that poisoning animals harms them ».*

And she goes on to say that well, this means « **we still need to look for the perfect way to kill rodent because we haven't found that yet** ». *There is no possible discussion about if we should do these awful things to animals, but how to make them slightly less awful.*

We should not to accept to label killing animals in labs as « euthanasia » because it **distorts a morally important concept**. According to this standard, if you kill another person in order to relieve him or her of a medical condition you have caused, as long as you do it without pain, this would not amount to premeditated murder, but to euthanasia. I doubt that many people would accept that.

Killing lab animals is not euthanasia. Nor is it sacrifice.

Nowadays, most researchers stopped using this term which is obviously misleading and has profound religious connotation, but the rhetoric of sacrifice was very common in AE not long ago. Animals were pictured as our « **saviors** », who sacrificed their liberty and their lives for us and our well-being.

Nowadays, the rhetoric of sacrifice has been replaced by a war-like mentality, a military language of **conquest, triumph and war**.

In adds of the biotech industry, mice are sometimes presented as « **fighters** » against diseases and « **warriors** in the war against bio-terrorism ».

When animal agency is represented at all, it is as willful participants as « **team players** » - **partners in research**, helping to save lives. (See Linda Birke's work for more on this point).

Animal agency is not portrayed as animals escaping, resisting, biting, scratching.

They are the **altruistic and self-less heroes of science**: they are « organ and blood donors », « collaborators », « participants », even « co-workers ».

This language somehow gives the **illusion of consent, of a consensual relationships.**

It is **not an oppressive relationship** between powerful individuals using cages, restricting devices, technology and chemicals to dominate and restrict the freedom of vulnerable individuals against their will.

The relationship between scientists and animals gets pictured as a form of **collaboration**.

Issues of consent and vulnerability are essential to understand the moral opposition of some people to AE.

Animals cannot consent, but do often dissent and resist whenever given the possibility.

They scratch, bite, try to escape. These are obvious forms of dissent, but this resistance will not be given any weight.

Because we just don't care what these individuals want or don't want to do. We won't let them out of the experiment just because they seem to want to.

Animals are vulnerable selves who are forced against their will and their best interests into procedures that won't benefit them as individuals.

We hold them captives, we routinely inflict them diseases and mental illnesses and we kill them whenever useful.

S: Coercing others, especially vulnerable individuals, because we can, and can benefit from it should hardly be considered a morally responsible practice. It is the very definition of injustice and tyranny. (Even if it is done to benefit ourselves or other members of our group).

S: It's called oppression and domination.

In the history of science, there has been many cases of experiments on vulnerable humans (orphans, slaves, aboriginal people and so on).

We now have strong ethical guidelines to give them special protection because we know we have a tendency to neglect their interests.

I think that many animals are vulnerable subjects of research who deserve the **same kind of special protection**.

I see no good reason why some vulnerable individuals should not be allowed the same protection simply because they don't belong to our biological group.

[Though experiment: The Telepath ?]

As I said, I know researchers are not cruel and don't enjoy harming animals. They often admit that they are not comfortable and even disgusted by what they do to animals, but think that it is **a necessary evil**.

What do we mean by « necessary »?

The fact that an action X is necessary in order to achieve a goal (even a morally worthy goal) doesn't make it morally acceptable.

Let's say that the only way to save your daughter's life is to kill another child to harvest her organs. You should not be allowed to do this, even though it is necessary to save your daughter's life.

So it's not because some action is necessary to achieve a worthy goal that this action is morally justified. There are such things as evil means.

We often hear that animal experimentation played a major role in many cures, but so did non-consensual experiments on many vulnerable humans.

In this sense they were « necessary » to advance science, but they were still not morally justified.

We often hear that « We must do *anything we can* to save children lives. »

But if this were true, then we should experiment on non-consenting adults.

If it were true, then, we should outlaw cars and pools (the first causes of children deaths).

I think that we must do everything we **reasonably and morally can** to save lives, but **this doesn't include harming others**.

In order to avoid this logical mistake, we should talk about « **usefulness** » and not « necessity ». Animal experimentation is not a « necessary evil », it is a « **useful evil** ».

Useful... from the point of view of the individuals who have to power to coerce others.

It's not a burning house situation where two individuals will be harmed or killed and you can only save one of them. Both will die if you do nothing.

AR is not analogous to this situation. Animals would not have been harmed or killed if we never decided to breed them and subject them to our experiments.

These kinds of false analogies are promoted by ads like this one: "Would you rather (Rat/her) save RAT/GIRL?"

These ads are very tendentious and dangerous. Of course, you will save the cute little blond girl. But you can put many humans on the rat's side and still get the same response from most people.

Just pick anyone they don't like much, or a member of a marginalized or stigmatized social group. A cognitively disabled person, a homeless guy, a prisoner, or a stranger from another country.

But it's not because you attribute more value to the life of the little blond girl that you are entitled to harm and kill other individuals you consider less valuable to provide organs to save her life.

I understand that researchers want to improve human lives and this is admirable, but **duties to help do not override duties not to harm others**. Not just some others we happen to like, but any other, anyone we are able to recognize as a self.

Human history is full of **people with good intentions** doing **awful things** to **others** they **perceive** as being somehow **inferior, worthless and sacrificeable**.

We are pretty bad at **seeing value in other's lives**, particularly when they **live a life different** from our own. This is especially true when we can **benefit from their death** (Donaldson and Kymlicka).

Researchers often present animal rights activists and opponents to Animal Research as **ignorant**

By presenting this as a fight between scientists and non-scientists, we omit the fact that many scientists do oppose current practices.

Obviously, scientists trained into using and killing animals are less likely to oppose a practice they have been acculturated into. But many still do. (And they are building a strong scientific case against animal experimentation).

Pro-animal testing groups also represent people opposed to it as **violent**.

By picturing people who are concerned about animals as violent people, even as terrorist), researchers turn the attention away from their own violence. They present themselves as **victims**. As victims of irrational and violent animal rights activists. Despite the fact that no researcher was ever harmed or killed by an activist

in North America. The animal rights movement is composed of 80% of women and the large majority is opposed to violence against any sentient beings, humans included.

Defenders of animals are also represented as **anti-progress**. But these people do not oppose progress, they believe that scientific knowledge must progress within certain ethical boundaries.

We have accepted that in the human case. We could develop medicine much faster without any ethical regulations on human trials. However, this faster development of science would qualify more as a terrible regress than any kind of progress.

People who are opposed to (harmful and deprivational) experimentation on other animals without their consent are **not anti-science**. It's quite the opposite, in fact. Their position is based on the best available research which strongly indicates that there is no metaphysical gulf between humans and other animals.

As scientists who signed the Cambridge Declaration on Consciousness say there **is no scientifically respectable way to deny consciousness to, at least, mammals, birds and reptiles.**

Their argument is based on what is called the **Cumulative Argument for Animal Consciousness**: Given 1) **Evolutionary continuity** (our shared history); 2) **Behavioral analogies** (our similar behaviors) and 3) **Similarities in neurological substrates** (our similar neurology), there is no good reason to doubt that **many animals can experience affective states**.

Arguments in favor of animal rights are not based **on religion or bad science**. Quite the opposite. They are grounded on the best science available (Regan).

The ethical framework of animal research, on the other hand, relies on very **old theological assumptions**; such as human exceptionalism and human supremacy, the idea that humans are essentially different from other animals and have dominion over them.

How can we still believe today that there is a **metaphysical gulf** between humans and animals and that they exist for our ends, as **human supremacists** believe?

Darwin has shown there are only **differences of degrees** between humans and other animals. And today's **ethological research** keeps proving him right: other animals have complex **emotional, cognitive and social** lives of their own.

And this matters morally.

This is why many philosophers, animal ethicists, scientists are **not only opposed to this or that experiment**, but to animal experimentation in general.

By principle, they are opposed to non-therapeutic, deprivational and harmful research on vulnerable subjects against their will and their own best interest.

These people cannot sit on ACC (so-called AEC) committees because they are labelled as extremists. But I don't see this position an extremist or unreasonable one. I think they are right.

I think that **violent and oppressive experimentation on sentient, intelligent and social** individuals is something that should **belong to our past**.

Among the three Rs, I think that only one is acceptable: and it is **replacement**.

This is precisely the R that ACC can hardly apply, because once the application gets to them, the usefulness of experimenting on animals has already been assessed. They can ask that less animals be used, but they cannot really at this point ask for alternatives.

The ACC committee say that alternatives must be used if they exist – and many people argue they exist.

As a non-scientist, it is difficult for me to assess this, but what I can say is that **alternatives will not be developed unless we decide to develop them**.

And this is the job of the new generation of researchers. They can change everything for animals, you can change everything for these vulnerable individuals, by choosing other ways to advance science.

But researchers need funding to develop alternatives.

This means that we must establish trusts and funds for people to invest into. Now, people who give money to research cure for cancers, a huge amount of this money will be use to harm animals and most people do not know about this. If offered the possibility, many people are likely to prefer to give money to non-animal research.

Doing research involving major harms to other vulnerable selves is an important moral and political decision we must take as a democratic society after a informed, honest and open debate.

In order to do this, we need a more adequate description of the situation than the one we can find on ACC's pamphlets. A more honest description of what animal research is should be something like this:

- Deliberately inflicting harms on non-consenting individuals against their own interests.
- Inflicting diseases to vulnerable individuals seen as different and inferior
- Depriving innocent individuals of their freedom
- Exploiting vulnerable subjects who cannot consent and have no way to oppose or get out
- ... in order to potentially benefit other individuals who have the privilege of belonging to our biological/taxonomic group.

I think that this would be a more accurate way to describe the moral situation.

And I think this more impartial description of the situation should make us realize that what we are doing to lab animals in **unjust and morally wrong. Harming** innocent and powerless creatures because **we have the power to do it and benefit from it** is the **opposite of justice and morality.**

To conclude,

1) I believe that research involving animal subjects should follow the same **general guidelines and oversight requirements** as research involving human subjects (ex. young children unable to give informed consent).

This means that ACC should be phased out. There should not be a committee for animal experimentation and another for human experimentation: there should be a single type of ethical committee for research involving all vulnerable subjects of research unable to give their informed consent and unable to protect their own interests.

2) Invasive or deprivational research and experiments on captive animals should be for therapeutic purposes (i.e. to help the individual himself, not his or her species. This rules out the idea that animal experimentation is somehow justified because “nonhuman animals” as a general category would benefit from it).

3) We need to be **transparent** about animal research on campus and **create sanctuaries** for animals who outlive their lab usefulness. Everything should be **documented**: where the animals **come from**, the **kind of procedures** they went through, so **caretakers** can take better care of them and so that we can **realize and remember** that **each of them** is an **individual** who **values his own life** as the **most important thing** in the world – even if this life seems insignificant to us.

Finally, I would like to end by saying that **most of us never made the conscious decision** to harm, enslave and kill other sentient animals. **This was chosen for us by past generations.** But **each of us** can use **critical thinking** to see the **injustices** that are being done and we **can refuse to further our academic career** by harming animals.

I understand it takes much **more courage** for **science students** than for **philosophy students** to oppose the longstanding metaphysical belief in human supremacy, but **science students** are the ones who can **change everything** for **these individuals** by choosing **other ways to advance knowledge.**

If we are serious about the 3 R's then we should stop immediately to design NEW areas of research projects involving animals. Improving human lives is a never-ending quest, if we don't decide now to stop using animals and phase-out their “use”, how far will we go?

We like to think that we are morally responsible, that we alone can reflect about the morality of our actions while other animals are not to be able to do this.

But if it is the case, where we are faced with a situation where we must absolutely test on complete individuals to develop a cure for a new virus threatening thousands of people, the morally responsible thing to do is not to coerce vulnerable individuals who cannot consent, but to ask consenting adults to participate in the research.

*If they are truly moral agents, this may be the most morally responsible to do. And this case, we could really talk about **sacrifice** and bravery.*

Thank you for your attention!

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NOTES:

Excerpt from Donaldson and Kymlicka's *Zoopolis* (2011):

“To view this as a **sacrifice** is already to misunderstand the moral situation. After all, there are countless medical technologies and medical advances that don't exist today because we refuse to use human subjects for invasive experiments. It is hard to overestimate the advances that medical science could have made by now if researchers had been able to use human subjects, rather than imperfect animal stand-ins. Yet we do not view this as a sacrifice. We do not wake up every day lamenting all that untapped knowledge; we are not bitter about the restriction on human subjects that has so hampered medical advance; we do not worry that an overly squeamish attitude about respecting the rights of a few humans is standing in the way of longer and healthier lives for the rest of us. Indeed, anyone who viewed prohibitions on using humans as research subjects as a sacrifice would be seen as morally perverse.

We fully understand, in the human context, that medical knowledge must advance within ethical boundaries, or it simply isn't knowledge that we have a right to. This may force us to be more creative about how we learn, or to be more patient in waiting for results. Either way, it's not something we view as a sacrifice. It's a recognition that a world in which better or longer lives for the many are purchased by sacrificing the few is not a world worth living in.

It will require a huge adjustment for societies to accept that medical knowledge gained by harming and killing animals is not knowledge to which we are entitled. But the costs of the adjustment would be temporary. After a few decades in which new practices became customary, and a new generation of researchers trained, animal experimentation would be perceived much as human experimentation is viewed today. Its prohibition would not be viewed as a cost, just as the absence of human experimentation is not viewed as a cost. Nobody would think that giving up animal experimentation constitutes a sacrifice on the part of humans. Rather, they would wonder how we ever rationalized such a practice in the first place.”