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NEWS

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# Moral Status and Obligations to Animals In Research

*Alysha Mckeeman, University of Otago*

*The New Zealand Committee of ANZCCART have created an essay competition to inspire students to think critically about the role animal research plays in today's societies and to engage with the difficulties that surround animal use. The Committee is pleased to announce that the 2018 winner is Alysha Mckeeman from University of Otago. Alysha's award-winning essay follows.*

The use of non-human animals in research is controversial and often invokes a strong response. This essay aims to illustrate how sentience and moral agency can be utilised to develop a tiered system of moral status for animals to provide a framework for determining our ethical obligations towards them and inform their use in research.

It is important to first define what is included in the description of animals. I have chosen to use the definition outlined in the Animal Welfare Act 1999, which includes vertebrates, some invertebrates, mammalian foetuses and avian or reptilian young in the second half of gestation (New Zealand Ministry of Agriculture and Forestry, 1999). I have chosen this definition as it goes beyond vertebrates and those included have the anatomical basis for sentiency, a criteria I will later establish as important in attaining moral status.

The use of animals in research is varied and involves many areas including general, medical and agricultural research. Common uses of animals include transgenic models, drug trials and development for agriculture (Shamoo & Resnik, 2015). The

***Inside this issue:***

use of animals is declining but there is concern it will increase with transgenic animals and medical research requiring animal testing before approval for clinical trials (Shamoo & Resnik, 2015).

Views on animals in research have changed. Descartes in the 17th century proposed that animals did not feel and were mimicking human characteristics (Shamoo & Resnik, 2015). This was challenged by Bentham and Mill who proposed that animals deserve moral consideration because they are sentient. Arguing the cries of the animals were a result of real suffering and not a programmed response (Shamoo & Resnik, 2015). This propelled animal welfare groups and underlies the majority view today. Now theories outlined by Singer and Regan opposing Descartes propose that animals should not be used in any research that causes them harm (Shamoo & Resnik, 2015).

Regardless of your views on animal use in research it is important to recognise the shift in opinion that has facilitated discussion of the ethical obligations and moral status of animals. This might be dismissed as an academic issue however, the conclusions have huge implications for how we should treat animals in a variety of contexts including research.

To have moral status is to require moral consideration in your own right (Warren, 2000). What is done to any being with moral status matters not because of how it affects others but instead because it can be wronged (Degrazia, 2008). If I kick over a cup, most would agree that I have not wronged the cup. This does not mean that it is not wrong, I may have wronged its owner or destroyed a useful tool. The distinction here is that the justification is based on the outcome not any wrong done to the cup. This is because we accept the cup does not have moral status despite having some worth. If instead I kick a child, most would agree this is morally wrong. We can say the child has value like the cup, as others can care about a child. However, there is an additional wrong done to the child. This is because we accept that this child has moral status and is able to be wronged. These are two cases that Illustrate that assigning moral status to some things is a logical conclusion when presented with clear cases. Birch denies that these are clear cases and proposes that moral status should be awarded to all things (Birch, 1993). This would discount all discussion of the moral status of animals and so I shall assume that these clear cases are accepted. Now we can ask, what would happen if I kick a cat?

One view is you have wronged the cat as it has moral status. Singer claims that sentience, the ability to experience positive and negative mental states should determine moral status (Duncan, 2006). Stating the only relevant consideration is that the animal can suffer, and he goes further to claim that the ability to suffer is enough for that animal to have interests (Singer, 2009). This seems intuitive, we can comprehend suffering and the desire to avoid it having experienced it ourselves, making it plausible that a sentient animal would have an interest in not suffering. This can be further justified by stating that if an animal suffers, this would affect its welfare. There are many accounts of what is a good life for animals and how we should define welfare. Regardless of which account you favour, it is reasonable to suggest that an animal suffering would harm the animal in all rational accounts of welfare. For a discussion of different accounts of welfare see Rice (2016). For this reason I accept that sentience is a requirement for moral status. Sentience is not a controversial requirement although it is not universally accepted. Carruthers, while accepting that animals are sentient denies that they experience feeling in a morally relevant way (Carruthers, 1992). If you accept sentience as a requirement then all sentient animals require moral consideration. However, it provides no guidance on how much moral consideration we should give them.

I propose that to determine how great the moral consideration should be, we can extend our definition of moral status to be awarded in degrees. Where having high or low moral status can be used as a measure of moral significance (Garner, 2005). This requires us to ask how the moral status of a cat relates to that of humans. Singer states that there is no moral difference between humans and animals (Singer, 2009). “If a being suffers, there can be no moral justification for refusing to take that suffering into

consideration." Singer, 1993). He claims that sentience (suffering) alone should be enough to determine moral importance regardless of any other characteristics. "To mark this boundary by some characteristic like intelligence or rationality would be to mark it in an arbitrary way. Why not choose some other characteristic, like skin colour?" (Singer, 1993).

I disagree with Singer and I propose that in order to be awarded full moral status one must be a moral agent. Here being a moral agent provides a morally significant difference between humans and animals and thus provides justification for humans being awarded full moral status. Garner describes a moral agent as being "capable of assessing whether a particular action is right or wrong and capable of behaving morally towards others" (Garner, 2005). This ability to determine right and wrong leads to moral obligations. I argue that moral agency has intrinsic value and is sufficient for awarding full moral status to humans. Determining what awards something intrinsic value is not always rational (Shamoo & Resnik, 2015). For example sentience could be argued to have intrinsic value as we have experienced it and so appreciate that it is valuable in its own right. This is not the case with all that we experience such as language, instead we note that sentience is different. It is on the basis of a somewhat irrational but intuitive knowledge of its value that we recognise sentiency is intrinsically valuable. I propose fundamental characteristics such as sentiency are intrinsically valuable, and if we can accept this for sentiency, we should accept it also for moral agency. This can be explained using an example. You are trapped with a lion and neither of you have any other food source. You being a moral agent have an obligation to consider whether it would be wrong to kill the lion for food. However, the lion does not have the same obligation and it is this distinction that I propose makes moral agency intrinsically valuable. To be able to take other beings with moral status into account awards one higher moral status because of the moral obligations that come with this.

One common objection to this is the argument of marginal cases. This points out that not all humans such as some children, mentally ill or comatose adults have moral agency. Regan states that those who lack moral agency but have some degree of moral status are moral patients (Garner, 2005), meaning they have moral status but lack moral responsibility. On this view, sentient animals and human non-agents are equal as moral patients and, unless there is a moral difference between them, they should be treated equally. Two alternative positions can come from accepting this. The first is associated with Regan and Singer and states that we should increase the moral status of relevantly similar animals to be equal with that of human non-agents (Singer, 2009). The second, perhaps more controversial, conclusion made by Frey is that the moral status of human non-agents should be brought down to the level of relevantly similar animals (Garner, 2005). Either positon requires changes to current views on the moral status of one group.

I accept moral patients have full moral status however, I do not accept Regan's claim that animals are moral patients. A full justification of this view is outside the bounds of this discussion. My position can be summarised as the following, human non-agents have either once had, have or would have despite a pathological condition had potential for moral status in a way that animals do not. As humans have natural potential for moral agency, this provides reason for awarding them full moral status despite not being moral agents. I accept that if any species, such as great apes, are shown to have natural potential for moral agency then marginal cases of that species should also be considered moral patients. Now we can say that a cat has higher moral status than a cup as it is sentient, but not full moral status as it is not a moral agent.

If we accept that humans have full moral status as moral agents then we can award higher degrees of moral status to animals so long as they show qualities of humans which could be said to contribute to moral agency. Shamoo and Resnik (2015) outline a list of possible human qualities that could be used for this including, rationality, linguistic communication, emotion, morality, self-determination, creativity, spirituality, self-consciousness, and consciousness. Using

this criteria produces a tiered system of moral status where higher animals are closer to moral agency and the benefit required to outweigh the harm is higher.

Moral consideration therefore must be given to all sentient animals and those that possess higher moral status should have greater moral significance. Our obligations to animals would therefore depend on the degree of moral status awarded to them. As most sentient animals cannot be said to meet the criteria to be considered for full moral status we can conclude some harm to animals is acceptable providing all efforts are made to reduce the harm.

Some may argue that against the characteristics I have proposed to award degrees of moral status either as human-centric or as not contributing to moral agency. I acknowledge that this system of awarding moral status is not without flaw, however, as we are currently unable to determine the conscious experience of animals, it provides a practical way to apply these conclusions to our use of animals in a variety of contexts. My intention with providing these criteria is to demonstrate how theoretical ways of determining moral status could be developed into policy. Each criteria in this policy would require its own justification and cut off points to establish each tier of moral status, which is a much larger undertaking than this essay would allow. Instead I have provided a potential starting point for converting this concept into policy that can provide guidance on our moral obligations to species.

Until such a time that the use of animals is no longer necessary, the benefits to humans and the higher moral status of humans means that the use of some animals in research should continue. It is important not to forget the moral value of animals which is why frameworks such as a tiered system of moral status would promote recognition of the higher moral status of some animals. Allowing benefits to come about from research while reminding scientists of their responsibility to remove animal use altogether, even if it appears impossible, because of the moral status of animals.

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## Vale: Julia Nicholls

Prominent South Australian veterinarian and animal welfare advocate, Dr Julia Nicholls passed away in October 2018. Julia finally lost her 8-year battle with cancer, but left a legacy that will serve to ensure her extraordinary devotion to animals and the improvement to their welfare will live on.

Julia worked predominantly as a small animal veterinarian private practice, but served on a number of South Australian Animal Ethics Committees over a period of nearly 20 years. She also served on the Board of the Australian Veterinary Association as Treasurer and Vice President, before being elected to the position of President of the AVA in 2014. She was also a very active servant and leader within the Feline Health Research Foundation, the Animal Welfare League in South Australia, the

Julia Nicholls

Australian Society of Feline Medicine, the Co-ordinating Cat Council of Australia and a number of other related bodies. Julia was an internationally renowned judge of various breeds of cat and was heavily involved with the training and accreditation of cat judges around Australia. She also spent 3-years working as the Animal Welfare Officer at the University of South Australia.

Outside of the veterinary profession, Julia became very active in other organisations in which she developed an interest, such as the Breast Cancer Network Australia and of course, once she became involved, her dedication knew no bounds.

Julia's devotion to animal welfare was formally recognised in 2007, when she was awarded a Medal of the Order of Australia (equivalent to the OBE) in the Queen's Birthday Honours. The citation for this award was: for service to veterinary science through professional organisations, as a contributor to policy and professional standards development and as a mentor, particularly for overseas trained veterinarians.

While she was well known as an excellent and very patient teacher, Julia did not suffer fools lightly and used her sharp and often dry wit to caution those who did not meet her exacting standards and if that did not work she had a stare that could wither cacti but Julia never bore a grudge or missed the chance to explain exactly what the problem was and how to rectify it – surely the traits of a great educator and mentor.

Julia will be sorely missed.

## Sharing unused samples - the ethical way to study rare and endangered species?

*Kimberly Riskas, Senior Science Writer, Otlet.*

In the life sciences, acquiring biological samples can present logistical and economic challenges. Invasive and lethal sampling techniques also carry a host of ethical concerns, relating principally to the health and wellbeing of the sampled animal. Impacts of sampling are varied, ranging from physiological stress and infection to behavioural disruption and post-sampling mortality. These impacts may have acute negative effects on small populations and endangered species, and as such should be minimised at every stage of the research process.

Sharing leftover samples is a great way to reduce sampling intensity, but too often these valuable items are left in freezers and forgotten. Scientists may not be aware that their samples could be useful to someone in a different country, or may simply have no idea how to connect with interested parties.

The Otlet platform provides a cost-effective way to ethically lower the sampling burden, maximise research output and boost collaboration. Launched in June 2018, Otlet allows scientists worldwide to share their unused samples with others. Otlet is not a tissue bank, but a communication hub for facilitating sample-sharing directly between scientists.

*What can you do with Otlet?*

**Submit.** Simply lodge a record of your unused, shareable research sample onto the database using our quick, <4-minute process.

**Search.** Browse the database of over 13,000 samples to find specific species and sample types. Otlet accepts records for all plant and animal species, and for all types of samples.

**Enquire.** Contact the sample holder directly

to discuss sharing options and shipping arrangements.

**Request.** Can't find the sample you need? Post a list of your criteria to the searchable database so others know what you are looking for. Requests for samples are also emailed out to Otlet users weekly.

*What are the benefits of using Otlet?*

**Collaboration.** Otlet connects you with researchers from across the globe, forming new links with people working in your field.

**Efficiency.** Valuable samples are used, not wasted - especially important when studying small populations and endangered species.

**Transparency.** Key sharing criteria, such as authorship requirements and acknowledgement, are provided up-front by each user. There's no cost and no obligation; sharing is at each person's discretion.

**Community.** Sharing samples with researchers in developing and under-represented nations helps advance equity and diversity in science.

*Join Otlet for free today at https://otlet.io.*

Not sure how to upload your samples? Ask us about our custom sample curating service. Contact Madeline Green (madeline@otlet.io) and Lauren Meyer (lauren@otlet.io) for more information.

Otlet

## 2019 ANZCCART Conference

**"Breaking Down Laboratory Walls"**

The Conference this year will be held in Hobart, Tasmania from Tuesday 23 to Thursday 25July.

Conference registration is now open.

**Early bird registrations close Thursday 18 April 2019**

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**Call for Abstracts**

ANZCCART would like to announce that the Call for Abstracts is now open.

**Closing date is 5.00pm Friday 5 April**

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**ANZCCART AEC Member of the Year Award**

ANZCCART is calling for nominations for the 2019 AEC Member of the Year Award for a member who is currently serving on one or more AECs in Australia and New Zealand.

Refer to the appropriate websites for full terms and conditions,

**Australian nominations close 31 May**

https://www.adelaide.edu.au/ANZCCART/awards/

**New Zealand nominations close 22 April**

https://anzccart.org.nz/awards/

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For more information visit

**https://www.adelaide.edu.au/ANZCCART/**

## News from New Zealand

In July 2018, the National Animal Ethics Advisory Committee (NAEAC) launched 2 biennial awards to celebrate achievement in the development and implementation of the 3Rs.

- The Aotearoa New Zealand John Schofield 3Rs implementation award
- Aotearoa New Zealand 3Rs award research grant

### Aotearoa New Zealand John Schofield 3Rs Implementation Award

NAEAC, with support from ANZCCART (NZ) are pleased to announce that the inaugural 2018 Aotearoa New Zealand John Schofield 3Rs Implementation award was made to the Massey-SPCA Desexing Clinic.

This award is named in memory of ANZCCART (NZ) Committee Member Dr John Schofield.

### Aotearoa New Zealand 3Rs Award Research Grant

On offer (to an individual, group or institution within New Zealand) is a $50,000 research grant, which will provide funding for research specifically targeted at developing ways to replace, reduce, or refine the use of animals in research, testing, and teaching.

The 3Rs are considered the guiding principles for animal research, testing, and teaching. They are:

REPLACEMENT - Replacing animals with non-animal alternatives. For example, physical or computer models can often be used for teaching instead of live animals.

REDUCTION - Using as few animals as necessary.

REFINEMENT - The way experiments are carried out should be refined to reduce pain or suffering as much as possible, for example, by enhanced pain management, improved surgical techniques or the most advanced scientific methods.

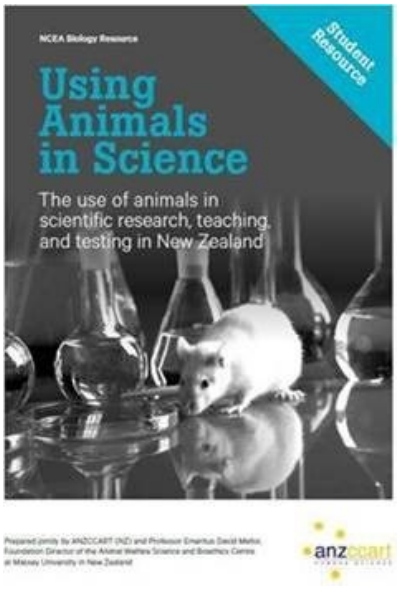
The research grant is funded by AgResearch Ltd, The Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), Lincoln University, Manaaki Whenua Landcare Research, Massey University, University of Otago, and Victoria University of Wellington.

To apply, visit the MPI website: ttps://www.mpi.govt.nz/protection-and-response/animal-welfare/animals-in-research-testing-and-teaching/the-3rs/

### "Using Animals in Science" Resource

The New Zealand ANZCCART Committee has developed a student resource called "Using Animals in Science" to accompany the school tasks it has produced for Biology students in New Zealand.

The resource which can be downloaded from the ANZCCART NZ website has been produced in collaboration with Professor Emeritus David Mellor, Foundation Director of the Animal Welfare Science and Bioethics Centre at Massey University.



## Recent Articles of Interest

### Is it Time for Australia to be More Open About Research Involving Animals?

The question of openness in research using animals is complex, yet on-going and an issue that has always been of interest to ANZCCART. The fact that a significant proportion of animal based research necessarily goes on behind closed doors does lend itself to questions being asked. In a recent article, Tyler Paytas from the Australian Catholic University asked whether the time is right for Australia to adopt a system of greater openness, in line with the British Concordat on openness in animal research, which has seen more than 120 of Britain's Universities, research institutes and pharmaceutical companies sign up.

As with most contentious ethical issues, the rationale underpinning concerns of all parties can vary enough to result in hostility that will make it more difficult for researchers and animal welfare supporters to resolve their disagreements. As activists become more vocal, scientists are less inclined to be open about their use of animals. This lack of transparency in turn, means the public are less informed and potentially increases distrust on the part of those who aim to protect animals' interests.

Read the full article here

### Funnel-web Spider Venom Found to Contain Potent Killer of Skin Cancer Cells

Preparation of potentially life-saving peptides from the venom of deadly animals is becoming increasingly common. Scientists at Queensland Institute of Medical Research (QIMR) are testing a peptide found in Australian funnel web spiders, similar to Gomesin extracted from a Brazilian Spider's venom, to treat cancer. When the team set out to test the funnel web spider venom peptide, they found it was better at killing melanoma cancer cells and stopping them from spreading than the Brazilian spider peptide.

Dr Maria Ikonomopoulou, who led the study, also indicated that the Australian spider peptide did not have a toxic effect on healthy skin cells. When the Australian peptide was tested on human melanoma cells in the laboratory, it killed the majority. They were also able to show the peptide slowed the growth of melanomas in mice.

Interestingly, the peptide was also found to have positive effects for another creature native to Australia, the Tasmanian devil. These meat-eating marsupials often succumb to what is known as Tasmanian devil facial tumour disease (DFTD), a transmissible cancer spread through biting that often leads to their death. So much so, the species is now listed as endangered.

The scientists extracted cells from facial tumors of affected Tasmanian devils and tested how effectively the compound was able to kill them off. Like the melanoma cells, the compound was found to destroy them rather swiftly, so the team began experimenting with its chemical makeup to see if variations could prove even more potent.

It was found that alteration of two particular amino acids in the peptide chain made it even better at destroying the DFTD cells. This research is still at a very early stage and while results obtained to date are very promising, there are many years of work ahead. There is however hope that the peptide could potentially be developed into a new treatment for melanoma and DFTD. Beyond that, the team believes the discovery provides fresh impetus to work exploring bioactive compounds in venom and how they can be used to treat a variety of conditions. Read the full article at: https://newatlas.com/funnel-web-spider-venom-skin-cancer/56671/

### How to Fix the Sex Bias in Preclinical Research

In 2011, statistics indicated that 80% of the rodents used in preclinical studies were male. Many researchers use only male animal models to save money and argue that using both sexes would double the number of animals needed and switching between the two sexes can increase

the difficulty of experiments thus risking mistakes. It is also argued the female oestrus cycle complicates research and can affect results.

A sex bias is present even in research on female disorders and in publications studying women's diseases only 12% of studies used female or both sexes of rodents in their research. This can result in a lack of information about treatments for diseases which primarily affect women.

In the United States over 20 years ago, clinical trials were required to include women and in 2006, 41% of participants in trials were women. In 2015, the National Institutes of Health (NIH) required applications for federal grants to include both sexes in biomedical research with some exceptions such as sex-specific disorders such as ovarian cancer. Around the same time, the Canadian Institute of Health required researchers applying for funding to answer compulsory questions about the sex of models used. The use of female animal models increased from 26 to 48%.

Despite appeals to increase the number of females used in preclinical research, change has been slow and it will take time and effort. However regulatory changes, such as those above, may be one way to help reduce sex-bias in preclinical studies. The full article can be read at:
https://www.laboratoryequipment.com/news/2018/11/how-fix-sex-bias-preclinical-research

**Researchers Question Mirror Test After Fish Show Surprising Cognitive Abilities**

While the idea of animal being sentient is gaining acceptance, there is actually a test used to define sentience (the mirror test). The mirror test has been used to show that primates and few other mammals meet the strict definition of sentience, which means that they have the individual capacity to feel, perceive or experience and clearly influences the debate around the use of animals in medical research and whether animals experience suffering.

The Mirror Test evaluates the ability to perceive and recognize one's self in a mirror. Sentient animals have all passed the mirror test and most humans have passed the test by the time they reach 18 months of age. Critics believe that it is biased against animals who cannot directly touch the marks and so Researchers from the Max Planck Institute for Ornithology (MPIO) and Osaka City University (OCU) used the test on a tropical fish, the cleaner wrasse (Labroides dimidiatus), as questions have been asked about the possible sentience of fish for many years.

In the mirror test adapted and used for fish, a small colourful mark that could only be seen in the mirror was placed on the fish. To pass the test, the fish, like any animal must touch the mark showing what they saw in the mirror was themselves. Certainly in the case of fish, like many other species, the physical limitations of their body does potentially make such a response very difficult to assess. However, after viewing themselves in the mirror, the fish scraped the marked section of their bodies against hard surfaces, in an apparent attempt to remove the mark. When there was no mirror they did not try to remove the marks.

The response of the fish tested was interpreted as indicating the fish passed the mirror test and should be considered self-aware. The fact that such reactions had only been previously thought to be present in primates and some mammals, left researchers questioning if the mirror test evaluates something different than originally thought.

A noted primatologist who has spent his life studying self-awareness, added a commentary to the study and believes the mirror test should not be seen as definitive and self-awareness should be explored further to have a greater understand of the levels of self-awareness, including where fish fit into current perceptions of sentience.
Read the full story here
https://www.laboratoryequipment.com/article/2019/02/researchers-question-mirror-test-after-fish-show-surprising-cognitive-abilities?et_cid=6600262&et_rid=454969632&et_cid=6600262&et_rid=454969632&linkid=Mobius_Link

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**The opinions expressed in *ANZCCART NEWS* are not necessarily those held by ANZCCART.**

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