

Animals and Society II

Considering Animals

3-6 July 2007, Hobart

Animal experiments – a vicious circle?

Abstract:

It's ironic that our ongoing abuse of animals – primarily for their milk and for their flesh - is a major contributing factor to our declining health, yet instead of reducing or even eliminating our consumption of animal products we exploit even more animals in a futile attempt to fix the problem.

Every year, hundreds of millions of animals are used around the world in experiments. In Australia alone, more than 6 million animals are used per year. They are injected with diseases foreign to their species, driven insane, electric shocked, blinded, concussed, burned, frozen, drowned, mechanically raped and dismembered – in the name of human health and well-being.

More and more scientists are acknowledging that due to species differences, the extrapolation of data from one species to another can be dangerously misleading, and this is being constantly illustrated by the warnings issued by ADRAC (Adverse Drug Reaction Advisory Committee) and withdrawals of products from the market. VIOXX and TGN1412 are recent examples of where animal studies have failed to predict human reactions, but they are by no means isolated cases, and yet researchers continue to base their work on animal studies.

While these experiments take up huge resources – time and billions of tax-payer's dollars – our society continues to suffer from diseases that are largely preventable through education and changes to our lifestyle. It seems logical that a radical change is needed in our approach to health care if we are to see an improvement in the health of our society.

Intro:

I'm sure there's no need to inform anyone here about the many ways we exploit animals in today's society – we cruelly farm hens in tiny cages so we can take their eggs, we break a strong maternal bond when we remove day-old calves from their mothers so that we may steal their milk, and we brutally slaughter them so that we can consume their flesh. We imprison other animals in cages at zoos so we can marvel at their uniqueness, we coerce them into doing silly tricks to amuse us in circuses; and we hunt them, shoot them and fish them purely for our entertainment.

Man has exploited animals throughout the ages, yet never before have we used them in such vast numbers nor exposed them to such confinement and cruel practices than we do today. Once we co-existed through the 'anti-cruelty' ethic (ie where both humans and animals benefited from the relationship), however between World War II and the 1970's vast amounts of money were pumped into animal production. This resulted in a significant increase in productivity – large numbers of animals used and less workers due to mechanization, technological advancement and the capability of housing large numbers in highly capitalized facilities. Consequently animals became further removed from our everyday life and are now often considered mere commodities rather than sentient individuals. It seems ironic that on the one hand we marvel at the beauty of nature and yet we have such brutal disrespect for the fellow creatures that serve to provide for us.

I would expect that the vast majority of audience members here today would have at least some appreciation for the other species with who we share this planet. There are now many animal welfare groups that advocate the rights and promote the wellbeing of animals, and there are an

increasing number of academics that are raising the status of animals by highlighting the qualities we share – cognitive abilities, social structures and, most importantly, sentience – and the complex relationships between us and them. All of this is turning our attention to the unimaginable suffering endured by factory farmed animals, but there is yet another form of animal exploitation that gets little attention, and one that is harder to oppose on ethical grounds.

Every year, hundreds of millions of animals are used around the world in experiments. They are injected with diseases, driven insane, electric shocked, blinded, concussed, burned, frozen, drowned, mechanically raped and dismembered – in the name of human health and well-being.

It's not an issue that many people like to think about let alone address. We can argue that it's cruel, that it's unethical and that we should respect animals and afford them rights, but when we are involved in debate with researchers, or with parents of children born with genetic defects or who have terminal cancer, every ethical argument is cast aside. Children are considered more important and we are dismissed as caring more for animals than we do for people. Animal experiments are thus considered a 'necessary evil' and are kept hidden behind closed doors - and animals continue to suffer in silence.

I'm here today representing the Australian Association for Humane Research. We are an information service that highlights the ethical and scientific arguments against the continued use of animals in research, and promotes more humane, non-animal alternatives. I hope to convince you today that animal experiments are NOT a 'necessary evil', and we should, instead, be looking at more logical and humane approaches to bettering our health.

A snapshot of human health:

According to the Australian Bureau of Statistics, there were 132,508 deaths registered in 2004. Cardiovascular disease was the underlying cause of death of 35.9%, cancer contributed a further 28.7%, and diseases of the respiratory system, 8.8%.¹

The Australian Institute of Health and Welfare released a report in November 2006 titled "Chronic diseases and associated risk factors in Australia, 2006." In it, they list the following major chronic diseases:

Number of deaths and average age at death associated with major chronic diseases, 2004.

Cause of death	Number of deaths	Average age at death
Coronary heart disease	24,576	78.6
Cerebrovascular diseases	12,041	81.1
Lung cancer	7,264	71.6
Chronic obstructive pulmonary disease	5,199	77.8
Colorectal cancer	4,126	72.5
Diabetes	3,599	76.5
Chronic kidney disease	2,363	79.6
Asthma	313	68.1
Osteoporosis	176	85.3
Osteoarthritis	71	84.4

Source: AIHW GRIM Books.

They also report that:
 54% of adult Australians are either overweight or obese.
 3.5 % of Australians suffer from chronic diabetes.²

¹ Australian Bureau of Statistics.
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/7C1813B6705656A2CA256F6A00777037?OpenDocument#>

After considering the associated risk factors of these diseases, they conclude that:

- More than 85% of adults are not consuming enough vegetables
- One in two adults are not getting sufficient physical activity
- Almost 50% of adults are not consuming enough fruit
- Around 21% of adults smoke tobacco.³

Various sources including the Physicians Committee for Responsible Medicine also point to the consumption of animal products as a major contributing factor to the onset of heart disease, various forms of cancer, diabetes and osteoporosis.

For some examples:

A study published in the *International Journal of Cancer* evaluated the role of dietary nutrients and the risk of endometrial cancer among 1,204 newly diagnosed endometrial cancer patients and 1,212 women without cancer in China. Results showed that those who consumed the most animal products had nearly four times the risk of cancer, compared with those whose diets were derived primarily from plant sources. Cancer risk increased as protein and fat from animal products was increased.⁴

A second study, from the *Journal of the National Cancer Institute*, examined the association between the risk of postmenopausal breast cancer and dietary intake of plant lignans (a plant estrogen found in a variety of fruits, vegetables and cereal products). Among those who consumed the most plant lignan, incidence of breast cancer was 17 percent lower than those who consumed the least.⁵

A further study from the *Journal of Nutrition* finds that a single fatty meal can cause the heart to beat harder and blood pressure to rise. Researchers at the University of Calgary analysed the affects of either a high-fat fast-food meal (42 grams of fat) or a meal with no more than 1.3 grams of fat among 30 healthy participants. The results showed that when both groups were subjected to a series of standard stress tests, those who ate the high-fat meal saw their blood pressure go up 1.25 to 1.5 times higher than the participants who ate the low-fat meal.⁶

Environmental factors.

Even when we consider the habits of our species as a whole, our actions – and in particular, our further abuse toward animals – our health has again been compromised.

The emergence of new diseases and resurgence of old ones such as tuberculosis and cholera has been reflected by changes in human-induced global changes, including widespread forest clearance and climate change.⁷

An estimated 61% of the 1,415 species of infectious organisms known to be pathogenic in humans are transmitted by animals.⁸ Yet we continue to intensify production of meat and meat products, resulting in such diseases as mad cow disease and foot and mouth.

² Chronic Diseases and Associated Risk Factors in Australia, 2006. Australian Institute of Health & Welfare.

³ Chronic Diseases and Associated Risk Factors in Australia, 2006. Australian Institute of Health & Welfare.

⁴ Physicians Committee for Responsible Medicine, Breaking News 21 April 2007

⁵ Ibid

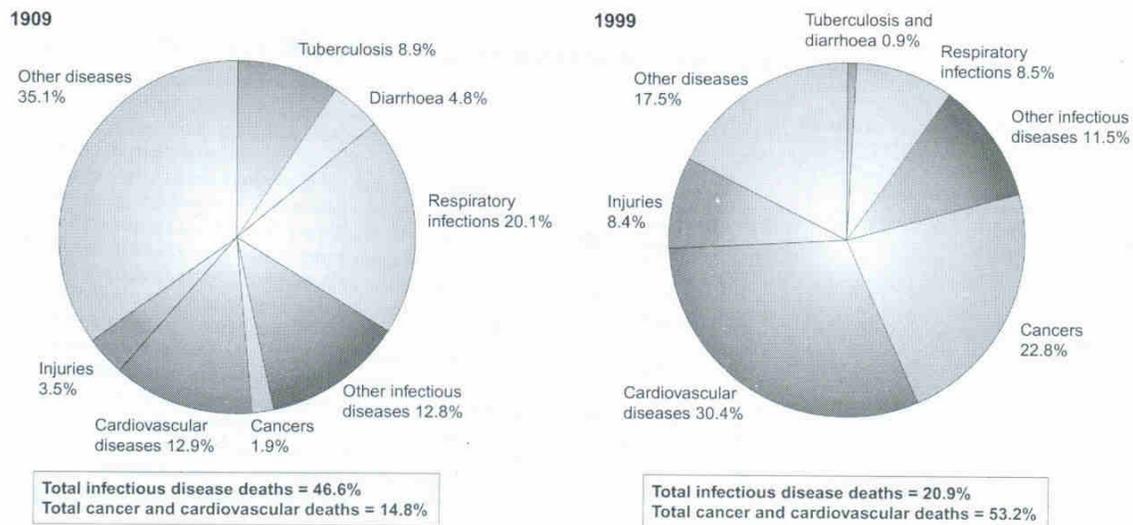
⁶ Physicians Committee for Responsible Medicine, Breaking News 27 April 2007

⁷ Social and environmental risk factors in the emergence of infectious diseases, Robin a Weiss & Anthony J McMichael, *Nature Magazine*, Volume 10, Number 12, December 2004.

⁸ Ibid

Human encroachment onto previously uncultivated environments increases further contact between humans, wildlife and livestock which again increases the risk of cross-species infection. An example is the establishment of piggeries close to the tropical forest in Northern Malaysia where the Nipah virus was first transmitted from flying foxes to pigs and then to humans in 1998. Then further destruction of the natural forest encouraged the flying foxes to relocate closer to humans.⁹

If we consider a comparison of infectious disease, cancer and cardiovascular deaths in 1909 to 1999 we can see a shift in causes. The following shows proportions of total deaths from major cause-of-death categories in Chile. This country illustrates the full transition from developing to developed status during the twentieth century.¹⁰



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Financial burden on our health care system.

Cardiovascular disease takes up \$1.47 billion of our health care resources, with the major component being hospital care.¹¹ The associated risk factors include tobacco smoking, high blood pressure, high cholesterol, physical inactivity, excess weight, poor diet and excessive alcohol use. Similarly, cerebrovascular disease (stroke) has the same associated risk factors and uses up \$894 million of our health care resources. In fact, almost every category of chronic disease in Australia, including diabetes, osteoporosis, colorectal cancer and even depression has the same or similar associated risk factors.

So why, if we can greatly reduce the incidence of these diseases through lifestyle modification, do we subject millions of animals to often painful experiments in an attempt to cure our problems?

We have other ways of addressing these issues:

Prevention – education about smoking, healthy eating, exercise, safe sex.

⁹ Ibid

¹⁰ Ibid

¹¹ Chronic Diseases and Associated Risk Factors in Australia, 2006. Australian Institute of Health & Welfare.

Rehabilitation – for users of drugs and alcohol, which would subsequently decrease the rate of depression and suicide.

Better sanitation / living conditions - In industrialising countries during the nineteenth century, a major reduction in enteric infections was achieved by separating drinking water from sewage – considered to have saved more lives than all the twentieth century vaccines and antibiotics together.¹²

Improved traffic conditions - driving skills, road conditions, signage and policing of speeding and drug and alcohol users would help reduce the road toll. On average, four to five people are killed every day in crashes on Australian roads. A great many more are seriously injured and permanently incapacitated. In addition to the burden of personal suffering, the monetary cost of road crashes is an estimated \$15 billion annually (1996 data).¹³

Higher investment into these strategies collectively has the potential for saving many more lives than medical research could ever achieve.

If our government is truly concerned about achieving a healthy society then our taxes would clearly be better utilised on the above. A healthier society would also be far less of a burden on our hospital and health care systems.

But... animal research is big business – it builds scientists careers, it feeds the pharmaceutical conglomerates, and it employs animal technicians, animal suppliers, cage suppliers and

Who are the losers? Certainly the animals used in the research, but so too are the public. We continue to fund the industry through our tax dollars, and to provide donations to health charities. But maybe the biggest losers are those people who really are sick – including those who continue with a destructive lifestyle clinging to the false promise that a miracle cure is just around the corner.

Animal experiments – life saving?

Animal experimentation is generally considered a “necessary evil.” While many dislike the notion that it happens, they accept that it is necessary to save human lives. However an extremely high volume of animal experiments conducted today cannot be considered “life-saving.”

According to the 2004 statistics, of the 6.4 million animals used in research, 995,397 were used in teaching. That represents a staggering 15.34%. Teaching is not the discovery of new knowledge, but rather, the passing on of knowledge to others – yet many non-animal alternatives exist and studies show that the use of such alternatives provide an equal or in some cases better educational outcome than the use of animals. Veterinarian Andrew Knight has recently completed a study proving the effectiveness of humane teaching methods in biomedical education. His review of over 30 educational studies of student learning outcomes found that in over 90% of cases, humane teaching methods achieved learning outcomes at least equivalent to those achieved via traditional harmful animal use. In more than a third of studies, superior learning outcomes resulted from the use of humane alternatives.

Agricultural research, including genetic engineering and cloning, attempts to increase the quality and yields of flesh and milk from animals – despite their bodies already being pushed to their productive limits.

¹² Social and environmental risk factors in the emergence of infectious diseases, Robin a Weiss & Anthony J McMichael, *Nature Magazine*, Volume 10, Number 12, December 2004.

¹³ Australian Transport Safety Bureau
(http://www.atsb.gov.au/publications/2006/Road_safety_in_Aust.aspx)

Cosmetic testing causes great suffering to millions of animals merely to serve our own vanity.

Toxicity testing is also conducted to determine safety levels of “new and improved” products – despite these being non-essential luxuries. Again, non-animal alternatives exist for many forms of toxicity testing that provide cheaper and more accurate results.¹⁴

And even when we consider those experiments that are directly related to human health, are they the most efficacious way to medical discoveries?

“There is *always* less than a fifty-fifty chance that a medication tested on animals will provide the same results in humans.... usually *much* less. This is not science. It is expensive and dangerous gambling.”

“*Sacred Cows and Golden Geese*” (p.48)C. Ray Greek and Jean Swingle Greek.

AAHR has recently questioned the justification of some research conducted in Victoria.

The protocol involved eighteen marmosets who were anaesthetised and had their heads mounted in a stereotaxic head device. Their skulls were sawn open so that brain recordings could be made while their eyes received visual signals. Typical recording sessions lasted 72 hours, during which the animals received intravenous fluids and a muscle paralysing drug. At the end of the recording session all the animals were killed with an overdose of barbiturates.

We had this research critiqued by a scientific consultant. He concluded that “*the authors do not present any clear-cut conclusion at the end of the paper. Instead, they present a long discussion, which raises more questions than it answers.*” The experiment does not appear to be applicable to human or animal health and could certainly not be considered life-saving research.”¹⁵

This summation is common to many experiments and it would be interesting to determine, of the 6 million animals used in research in the last recorded year (2004), how many actually led to an improvement in human health? I believe that if this figure could be calculated it would certainly dispel the myth that animal research is conducted to cure human disease.

It also makes it very difficult to justify animal experiments to cure ailments that we are often guilty of causing ourselves.

The need for non-animal methods:

I'd like to make it clear that AAHR is certainly not opposed to medical research. We acknowledge that there are many illnesses that stem from a genetic defect or by accident, and that not all are attributable to our lifestyle choices. We do consider it essential however, that we turn our focus away from animal experiments and toward studying our own species – through epidemiological studies, clinical studies and autopsies. Extrapolation of data from one species to another can be (and indeed has been) dangerously misleading. The drug Vioxx is a good example to illustrate species differences. Vioxx has caused thousands of heart attacks in humans, however the lawyers who defended the manufacturers of Vioxx argued that it was completely safe in mice. In fact it was even cardio-protective in mice. We see the same example with seroxat which is an anti-depressant. Again, seroxat was considered safe after passing animal experiments but in humans, especially teenagers, it caused an increase in suicide. And of course there was the tragic TGN1412 trial in the UK last year which attracted enormous media attention and caused alarm throughout the research industry.

¹⁴ “Beyond the Cage. Is animal experimentation necessary?” Dr Andrew Knight, Animal Consultants International.

¹⁵ Dr Andre Menache, Scientific Consultant, Animal Aid UK, 22 June 2006. (Personal correspondence)

It's therefore essential that we focus specifically on human conditions rather than on artificially-induced replicas of a disease in a totally different species - species that differ from us anatomically, genetically and metabolically.

There are already centres around the world that specialise in "alternatives research" – that is, the discovery and validation of non-animal methods. The NC3R's (National Centre for the Replacement, Refinement and Reduction of Animals in Research) in the UK, ECVAM (European Centre for the Validation of Alternative Methods) in Europe, ICCVAM (Interagency Coordinating Committee on the Validation of Alternative Methods) in the United States, and ZEBET (Centre for Documentation and Evaluation of Alternatives to Animal Experiments) in Germany would be considered the leaders in this field.

Unfortunately Australia has no such commitment. In May 2006, the Australian government awarded \$905 million to medical research in its federal budget.¹⁶ This is in addition to public donations and corporate sponsorships of medical research. The vast majority of this funds animal-based research. In comparison, charity organisations MAWA and Voiceless, between them, provide \$32,500 per annum specifically for the development of non-animal research.

It seems unjust that research that is deemed more ethical and scientifically valid is dependent on charitable groups while animal-based research continues to receive vast amounts of government funding. If our government and research community were truly committed to the 3R's concept then Australia too would have a government-funded centre dedicated to replacing animals in research. Until this is addressed, Australia will never be at the forefront of medical research.

Conclusion:

This analysis leads us to question the allocation of our healthcare budget. Are we wasting precious resources – time and millions of dollars – and at the same time causing rather than eliminating illness and suffering? Certainly this is the case for the 6 million laboratory animals used each year, but so too, it seems, is the case for our unhealthy society.

It seems apparent that we need to get off this merry-go-round of exploiting animals through intensive farms, crude transportation, slaughter for food and degradation of their environment, and then exploiting even more animals in laboratories by subjecting them to painful experiments in an attempt to cure us of the ills that our own exploits have contributed to.

Together, and by adopting a more holistic approach, the use of non-animal methodologies and better health education will break the vicious cycle and guarantee far less suffering - for both humans and for animals.

Helen Rosser, July 2007

¹⁶ Herald Sun 10/5/06