

15 January 2008.

Professor Ross Day
The Chair
Monash University Animal Welfare Committee
Clayton, Australia

Dear Professor Day,

I would like to respond to your letter to [REDACTED], dated 18 December 2007, concerning the use of marmoset monkeys in scientific research at your university.

As scientists, you and I both appreciate the importance of critical and analytical thinking. It is this quality that allows the winds of change to challenge current dogma and to replace them with fresh ideas. Neither nature nor science is static in the greater scheme of things. My conviction that animal experimentation represents bad science is based on a personal journey that has lasted 30 years and began when I was a veterinary student in South Africa. I would like to share some of that journey with you, if I may.

As a second-year zoology student in 1972, I had to assemble an insect collection. Not wanting to kill insects, I asked my lecturer if I could instead draw them, to which he agreed. Ten years later, I found myself challenging the use of anaesthetised dogs used for the training of battlefield paramedics in the Israel Defence Force. Conventional wisdom at the time dictated that no one had a chance of succeeding against the military establishment. However, in 1992, the IDF announced officially that dogs would no longer be required for this purpose. Next up was the use of animals for the training of emergency military and civilian surgeons in the Advanced Trauma Life Support (ATLS) course. Participants in the ATLS course in the US and in Israel - possibly in other countries as well - can now obtain accreditation for this course either using human cadavers or animals. Another encouraging development is the fact that essentially all 126 medical schools in the US have dropped dog labs from their teaching curricula. Several studies have shown that students who use non animal teaching aids perform at least as well, if not better, than their colleagues who perform animal studies (1).

Let us now move on from the use of animals in education to their use in scientific and medical research. Like most people, I was conditioned to believe what the "experts" say. If they told me they had to use animals in their research work, because there was no other way, I reluctantly accepted this as fact. It was not until later that I became a little sceptical of such "experts" and began applying critical thinking. I no longer accepted at face value the views of the status quo, and began asking around for a 'second opinion'. An example to illustrate this point was the court case against an Israeli research scientist, several years ago, who conducted sight deprivation experiments on kittens. The justification, in his grant proposal, for wanting to do this research, was to contribute knowledge to the understanding of the human condition of amblyopia ('lazy eye') in children. Despite this seemingly noble justification, no fewer than seven US human ophthalmologists, including a Harvard eye specialist, provided affidavits to the Israeli courts, to the effect that the animal studies were academically 'interesting' but their contribution to the understanding of human amblyopia was essentially nil. The affidavits pointed to clinical studies in children as having provided the foundations for the treatment of this condition, and not animal experiments.

Here is another case in point, this time from a cardiologist. "In 1986 I was awarded an American Heart Association Clinician-Scientist Award, which is a 5 year grant to support original research. It was well understood that almost all of these grants went to basic science investigators, and at that time I still believed that animal research was a fundamental precursor for human investigations. My research involved evaluating the results of cardiac nuclear imaging methods in dogs, and required tying off their coronary arteries to investigate radiotracer distribution patterns under different circumstances.' 'I did this research for several months, until I realized that it was pointless. Dog coronary anatomy wasn't the same as humans, and there were several other differences which made our experiments only interesting but not applicable to humans. More importantly, when I actually had to do these things to dogs, I was forced to see them as the helpless, dependent, trusting creatures they are ... I was unable to face my own dogs at home, without shame and regret. I finally had to admit that my research was a sham, and that all I was accomplishing was self-promotion." "... I designed a new research protocol involving imaging studies in humans ..."

JJ Pippin M.D., F.A.C.C (2).

You may say that these represent a few anecdotal examples, and that they do not represent the mainstream opinion of research scientists. I would reply that, if only one scientist – using a non animal method - achieves the same result as 100 other scientists all of whom used animals, I can rest my case. Another important factor to consider is the current climate of fear to speak out within academic circles. We live today in an era of ‘relative freedom of speech’ – a notion which was serendipitously confirmed to me by a couple of misdirected e-mails that I received by accident (3,4). Fortunately, there do exist individuals who are not scared to speak out, such as neuroscientist Aysha Akhtar (5) and neurosurgeon Marius Maxwell (6).

Some colleagues have confided in me about their doubts of the value of animal experiments. Invariably, however, they feel too intimidated to make their views public. A welcome development, therefore, is the growing recognition of the need for ‘evidence based medicine’. With respect to the present discussion, I refer you to several published studies of systematic reviews, all of which cast grave doubts on the efficacy of animal studies (7,8,9).

Regarding the use of non human primates for the study of the human brain, I would say that the word ‘similar’ is no longer a robust justification for using animals. Taking into account interspecies differences, based on the genome alone, it is difficult to see how data obtained in one species can reliably be extrapolated to another. Indeed, science now recognises the concept of ‘personalised’ medicine, based on age, gender, ethnicity, in addition to the presence in particular individuals of crucial single nucleotide polymorphisms, all of which are shaping modern medicine towards being an exact science, rather than one based on similarities.

I recently received an encouraging reply from a UK research scientist in support of the use of non invasive MEG imaging studies on human subjects as a replacement for invasive studies using monkeys. It is possible that this information will be used in court, as a test case, to demonstrate that the animal researcher in question failed to use a non animal method that could have been used, and that was readily available. Even the argument sometimes put forward that single-neuron studies can only be conducted in animals no longer holds true (10).

Finally, a word about animal welfare and ethics committees. The Australian system of representatives from A,B,C and D categories has its merits and drawbacks (11). However, this system suffers from the same weaknesses as ethical committees in many other countries - namely that it is difficult to find individuals who are sufficiently knowledgeable – and motivated - to challenge the experimental protocols on very specific research projects. Currently, research scientists wanting to conduct basic research can choose between two options: asking a question that can only be answered by means of an animal experiment; or asking a different question, which does not require the use of animals and therefore does not cause deliberate animal suffering. This dilemma is actually quite simple to solve. All that is required is for the researcher to ask themselves the question: ‘would I be doing this if this was my child?’

Kind regards,

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Refs.

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