

The response reproduced below was submitted to the consultation held by the Nuffield Council on Bioethics on the ethics of research involving animals during October-December 2003. The views expressed are solely those of the respondent(s) and not those of the Council.

Universities Federation for Animal Welfare (UFAW) - James Kirkwood

Ethics of research involving animals

We are grateful to Professor Hepple for his letter of 2nd October seeking views on this subject. Some points in response to the questions posed in the consultation documents are listed below.

Question One: What is your view about the use of animals in research?

There are 6 billion humans on earth and the population is continuing to grow rapidly. The human population is in competition with many other species of animals for food and other resources (it has been estimated that human activities account for about 40% of the total terrestrial production). The viability of many species is under threat and human activities compromise the welfare of very large numbers of wild animals. Managing this situation - striving to meet human needs, balancing these needs against the interests of other animals, and minimising the risk of anthropogenic harm to these animals - will be an increasing challenge. It is likely that, in striving to meet this, animals will continue to be used in research aimed at preventing and alleviating human suffering, preventing and alleviating non-human animal suffering, protection of biodiversity and conservation of species, and into more basic aspects of biology, for some many years.

The use of animals for some purpose that is not in their own welfare interests, should be dependent on careful cost/benefit analysis (see 4 below) and where, on the basis of such analysis the decision is taken to proceed, every effort should be made to mitigate the risk of occurrence of any suffering. At present in the UK, as far as we are aware, such cost/benefit analyses are required only where animals are used in scientific procedures (Animals (Scientific Procedures) Act, 1986) or for conservation, education, research or other purposes in zoos (Zoos Forum, 2003).

Question two: What are your views about the use of genetically modified animals in research?

The welfare problems associated with the production and use of GM animals include those that can be associated with the surgical procedures used in obtaining fertilised eggs and in tissue sampling, and those caused by genetic changes that predispose animals to pain, suffering, distress or lasting harm.

We believe that production and use of GM animals should be dependent on careful cost/benefit analysis (see 4 below) and that where, on the basis of such analysis the decision is taken to proceed, every effort should be made to mitigate the risk of occurrence of any suffering.

It has been argued that GM animals should not be counted in the statistics on the use of animals in scientific procedures in the UK as there is often no observable

phenotypic difference from non-GM animals. We favour maintenance of the current requirement to include them as the genetic change may result in adverse welfare consequences under non-standard conditions. We support the recent TAWAC initiative for the development of cage side assessment schemes and 'passports' specifying welfare problems with new genotypes.

Question three: What is your view about the use of alternatives?

UFAW Research Fellows William Russell and Rex Burch (1957) developed the concept of the 'Three Rs' and the charity continues to promote their full and thorough application: that animals should not be used in scientific procedures where alternatives are available, that the numbers used should be the minimum consistent with achieving the objective, and that housing and procedures should be refined to, as far as possible, minimise the risk of harm to welfare. The term 'alternatives' is sometimes used to mean only the first R, replacement, but increasingly it is used to encompass all three.

The development of non-animal alternatives is very important and economic, political, and scientific pressures are likely to continue to provide a drive for this. However, it seems highly unlikely that replacements will, or could be, developed for all types of research. Whilst it seems likely that the main needs will continue to be in the medical (human and other animal) and fundamental science fields, it should not be overlooked that there is likely to be increasing need in coming decades to research the causes of and solutions to anthropogenic threats to biodiversity and wildlife welfare. These are likely to be major challenges in the coming decades. Aspects of this work, for example: determining the effects of, say, virus infections or environmental contaminants on individuals, or establishing appropriate treatments, may be hard to resolve properly without research involving individuals of the species concerned.

It is attractive, and undoubtedly important, to focus a great deal of effort on the development of replacement methods. However, it is important that expectations about the scope for replacement with non-animal methods should not be unrealistic and that focus on replacement should not be at the expense of efforts for refinement. The potential for improvements through refinement - making animal's lives better through better husbandry, better research techniques, and better veterinary methods to alleviate discomfort and stress - should not be underestimated.

Full promotion of Reduction is facilitated through high-quality statistical advice in project planning and execution. It is important that all scientists undertaking research involving animals have access to and use this.

There is a need for more research into Refinement of housing and husbandry. There has been relatively little work aimed at trying to establish the housing and husbandry preferences of the animals' themselves. The results of such studies can be very important in informing decisions about housing and husbandry standards for good welfare. High quality research in this area can be intellectually

demanding, time consuming and expensive. The UK has considerable scientific expertise in these aspects of animal welfare science and we believe that this could be more extensively harnessed in pursuit of improved housing and husbandry of laboratory animals and that greater funding should be made available for such work.

Question 4: What is your view about ethical issues relating to the use of animals in research?

We ascribe to the view that concern for welfare is concern for animals' subjective feelings: *'welfare is about the balance of the quality, throughout life, of the complex mix of feelings associated with brain states induced by various sensory inputs and cognitive processes'* (Kirkwood, 2003). As such, although about feelings, it is clearly related to state of physical health because diseases and injuries can affect feelings. But, concern for welfare does not merely correspond to concern for health since one can have concern for health without having any concern for welfare (as, for example, gardeners do for their plants).

The Animals (Scientific Procedures) Act 1986, in providing protection for all vertebrate animals (and one invertebrate - *Octopus vulgaris*), tacitly takes the position that only these animals - a very small minority of the animal kingdom - have the capacity to suffer. It is very difficult to decide where this morally very important boundary should be drawn (Kirkwood & Hubrecht, 2000). Some scientists have argued that sentience is limited to few vertebrate taxa, others that it may extend to invertebrates. UFAW is currently interested in promoting research into the neuroanatomical basis of sentience in order to try to provide firmer ground for this fundamentally important judgment.

Where pursuit of moral concerns (eg human health, protection of biodiversity, animal welfare) is in conflict with the welfare interests of some animals, UFAW has advised that the decision about whether or not to proceed should be undertaken on the basis of a careful cost/benefit analysis to ensure that as far as possible all pertinent facets are considered in reaching a reasoned judgment (Kirkwood, 2000a; 2000b; 2002).

There are limitations with cost/benefit analyses. It can be difficult to comprehensively review all possible costs and benefits and views about these may change with time. For example, a finding may emerge as a result of the study that was not foreseen and yet which proves to be a benefit. Likewise, unforeseen welfare costs may emerge. Nevertheless, despite the limitations of cost/benefit analysis, it is not apparent that there is a better approach to making ethical judgments about the use of animals (in research or in other ways). Cost/benefit analysis has to be undertaken, under ASPA 1986, in reaching a judgment about whether or not animals may be used in particular research projects. We suggest that it may prove valuable for rigorous independent assessment of the costs and benefits to be undertaken for some studies, or fields of enquiry, after their completion, in order to assess the accuracy with which

costs and benefits were foreseen and to re-examine their balance. We are aware of few such studies.

Question five: what is your view about the UK regulations on research involving animals in the UK

We believe that the system for the regulation of the use of animals in scientific procedures in the UK is good and that there has been a steady improvement in its application by the Home Office. We welcome plans to increase the number of Home Office inspectors as we believe that this will enable a more proactive approach. We believe that the Code of Practice for animals use in scientific procedures should be updated to a similar format to that of the Code of Practice for laboratory animal breeders and understand that the Home Office intends to do this after the current revision of European legislation.

The introduction of the ethical review process (ERP) has widened the process of consultation on cost/benefit. Concerns have recently been expressed that the ERP and licence application procedures have resulted in unnecessary delays in research and that this may result in science becoming uncompetitive in the UK leading to its 'export' to other parts of the world where animal welfare standards may be lower. We believe it is important, in the interests of animal welfare, that a sensible balance is struck here. We believe that, on the whole, this balance is about right in the UK. In the long run, damaging UK science would be damaging to animal welfare. Firstly because high welfare standards in the UK can act as a model for other countries, and secondly because it is likely that UK scientific discoveries in the future will have benefits for animal welfare just as they have in the past (eg in understanding nutrition, treating diseases, and development of analgesics).

Question six: What do you think about the information that is available to the public about research involving animals?

Society bears a heavy responsibility in its decision whether to accept, or not, the use of animals in ways that may cause harm to their welfare, in pursuit of benefits for humans, other animals, or of other aims (eg food production, conservation of species). In order for individuals to make properly informed decisions about this, there should be greater awareness of, and hence better education (perhaps most appropriately at the secondary level) about, the use of animals in medical, veterinary, household, industrial and other products and systems.

References

Kirkwood, J.K. (2000a) Ethical aspects of interventions for the conservation or welfare of wildlife. In Legood, G. (Ed). Veterinary ethics - an introduction. Cassell, London. Pp 121-138.

Kirkwood, J.K. (2000b) Refinement in research for wildlife conservation. In M Balls, A.-M van Zeller & M Halder (eds) Progress in the reduction, refinement and

replacement of animal experimentation. (Developments in Animal and Veterinary Sciences 31B) Pp 1221-1228. Elsevier Science BV, Amsterdam.

Kirkwood, J.K. (2002) Tackling conservation / welfare conflicts in the management of wild animals. *Pacific Conservation Biology* 8, 36-39.

Kirkwood, J.K. (2003) The importance of animal welfare. Proceedings of the World Poultry Science Association Symposium on welfare of the laying hen, Bristol, July 03. CAB International, Oxford. (in Press).

Kirkwood, J.K. & Hubrecht, R. (2001) Consciousness, cognition and animal welfare. *Animal Welfare* 10s, 5-17.

Russell, W.M.S. & Burch, R.L. (1959) The principles of humane experimental technique. Special Edition. Universities Federation for Animal Welfare, Potters Bar.

Zoos Forum (2003) The ethical review process. Zoos Forum Handbook. www.defra.gov.uk/wildlife-countyside/gwd/zoosforum/handbook/index.htm.

We hope that you will find these comments helpful and would be very happy to discuss the subject further.

James K Kirkwood
BVSc PhD MRCVS FIBiol
Chief Executive and Scientific Director
Universities Federation for Animal Welfare