

Inside This Issue

The Role of Veterinarians in the Care and Use of Animals in Research and Teaching 1

Student conscientious objection - should policy precede practice? 4

Ethics and invertebrates: a French view 8

Letter to the Editor 11

ANZCCART Matters 13

2004 ANZCCART Conference 15

ANZCCART Student Award 16

Book Review 1 17

Book Review 2 19

Conferences, Workshops & Courses 20

News and Views 21

Note from the Editor

ANZCCART NEWS provides a forum for one of ANZCCART's most important roles - the fostering of discussion and debate on issues related to the use of animals in research and teaching. Published articles cover a spectrum of opinion. However, ANZCCART wishes to make it abundantly clear that the views expressed by contributors are not necessarily those held by ANZCCART.

The Role of Veterinarians in the Care and Use of Animals in Research and Teaching

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Veterinarians play a central role in biomedical (including veterinary), wildlife and farm animal research. In Australia, on a numerical basis, they are principally involved with biomedical research. The comprehensive nature of veterinary training equips veterinary graduates to handle a diverse range of professional responsibilities relevant to the use of animals for scientific purposes and animal welfare. In the Australian context, veterinarians in scientific institutions may be divided into two main categories: those involved in the production, medicine and surgery of animals used for scientific purposes; and those involved on Institutional Animal Ethics Committees, and, of course, there are many veterinarians whose duties involve elements of both categories. The broad range of duties in the first category includes management of laboratory animal production and maintenance colonies, operation of preventative medicine programs, clinical medicine, provision of research support, maintenance of quarantine facilities, operation of in-house pathology programs,

experimental surgery, and involvement in animal house design. For those veterinarians involved with Institutional Animal Ethics Committees their role is to promote animal welfare and regulatory compliance duties include review of proposals to use animals for scientific purposes, the minimisation of pain and distress, the monitoring of animals in research and teaching, the administration of animal ethics committees, provision of advice to the institution, provision of advice to researchers, provision of consultation and advice concerning compliance with relevant legislation and the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes, and training of research and technical personnel. Veterinarians also play a major role in the development of institutional and regulatory policy, codes of practice, regulation and monitoring.

Although principally outside the scope of this article, qualification as a veterinarian also provides a strong base for veterinary graduates to embark upon a scientific

research career in such diverse fields as immunology, molecular biology, physiology,

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biochemistry, virology, pathology, bacteriology, parasitology, animal management, wildlife research, agricultural animal research, and exotic disease research, and indeed there are Australian veterinary graduates currently working as investigators in all these fields.

Management of Laboratory Animal Production and Maintenance Colonies

A veterinarian responsible for the management of laboratory animals uses the strong scientific knowledge provided by a veterinary degree but must acquire a number of special skills and a variety of experience in order to fulfil the duties involved in this role. Although well equipped in the general principles of preventative and clinical medicine, surgery, genetics, the scientific process, the principles of animal management, pathology, quarantine, and nutrition, the laboratory animal veterinarian needs to apply this knowledge to a range of less familiar species. The focus of undergraduate training is on the domestic and farm animal species with little attention given to mice, rats, guinea pigs, and rabbits, let alone fish, amphibia, native animals and reptiles. The laboratory animal veterinarian therefore embarks early on a steep learning curve concerning anatomy, physiology and medicine of rodents, rabbits and other unusual species. The latter includes diagnosis and treatment of diseases one has not encountered before. In some situations, more familiar species, in which he or she has received considerable training, may be encountered, but the circumstances of their housing may be vastly different in the research environment. Many additional responsibilities such as personnel management of a team of animal technicians, financial management and environmental control are part of the role of these veterinarians. It is apparent that, in addition to the experience and training of a veterinarian, it is necessary to acquire some of the skills of the production engineer and human resources manager.

The ultimate aim of the laboratory animal veterinarian is to provide to the researcher, in a timely and efficient manner, an experimental animal in a state appropriate to the intended research in terms of biological characteristics, genetic constitution and microbiological and general health status. In recent years genetic definition, by targeting specific genes, particularly in laboratory mice, has allowed investigators to more accurately define the biological roles of genes and the genetic components of disease processes. As the effects of genetic manipulation cannot be fully known in advance, this has placed more demands on veterinarians involved with the production and monitoring of these animals.

Monitoring aspects will be discussed in the next section, but from a production viewpoint these animals may require special care, they may be more susceptible to disease and reproductive efficiency may be impaired. The veterinarian with experimental surgery commitments performs surgery to assist investigators in their research and this may extend to development of surgical techniques for specific protocols as well as training and providing advice in surgical techniques to investigators and animal technicians in some procedures.

It may be seen that the laboratory animal veterinarian, as defined here, is something of a jack-of-all-trades. Indeed veterinarians are masters of most of the component disciplines. It might be seen to be a section of the profession that has many challenges. Laboratory animal veterinarians will tell you that this is indeed true!

Veterinarians and Institutional Animal Ethics Committees

Institutions using animals for scientific purposes within Australia must establish one or more Animal Ethics Committees directly responsible to the institution. There are four essential categories of membership of Animal Ethics Committees defined in the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (this code is incorporated into the legislation of the various states in Australia). The Category A member is a person with qualifications in veterinary science and with experience relative to the activities of the institution. Veterinary membership of such committees may be in a voluntary capacity, or as a full or part-time employee of the institution, usually dependent on the size, and sometimes on the location, of the institution. In larger institutions such veterinarians may be termed the institutional Animal Welfare Officer, or the Executive Officer of the Animal Ethics Committee. The principal role of the veterinarian is to provide expert advice to the committee. Such advice may include the use of appropriate anaesthetics and analgesics, animal housing standards, effects of experimental manipulations on the health and welfare of the animals, genetic implications, the appropriate use and methods of euthanasia, and possible alternatives to animal use. The veterinarian has an important role to fill in the minimisation of pain and distress thereby significantly contributing to animal welfare and the refinement of the investigative process. In the absence of a statistician and by the nature of their training, veterinarians may contribute to statistical evaluation, which is essential to the minimisation of the number of animals used whilst ob-

taining a statistically valid result. In some institutions, the veterinarian may also bear a large part of the often quite substantial administrative load relevant to the operation of the Animal Ethics Committee.

The role of veterinarians within the Animal Ethics Committee's sphere of activities and institutional animal welfare extends well beyond the formal ethics meetings. Training of investigators and technical staff is an important function carried out by veterinarians in many institutions using animals. This training usually includes formal instruction on compliance with the Code¹ and relevant legislation, and extends to practical workshops in animal handling techniques, routine research procedures, anaesthetic methods, euthanasia techniques and general or specific surgical skills. This may be done in conjunction with training provided by research group leaders. The ongoing monitoring of animals and animal facilities is another essential role.

The veterinarian is the ideal person to monitor pain and distress and instigate alleviation measures when necessary. As the Animal Ethics Committee is required to provide comment on the building or modification of animal facilities the veterinarian also has a central role to play in assisting the committee to determine the appropriateness of the housing environment.

The concept of genetic modification of animals, while enabling scientists to concentrate on specific genes essential to the disease process, has brought with it a whole new set of potential welfare issues to those entrusted with the monitoring of research using animals. Veterinarians, conversant with this discipline acting in conjunction with animal technical staff and investigators, are well-positioned to assess the welfare and genetic stability of newly created genetically modified animals. They are also best able to institute special care when necessary and to implement measures where increased susceptibility to disease is involved.

Given the sometimes sensitive nature of particular research protocols, and the unique role of veterinarians within institutions and their Animal Ethics Committees, veterinarians are often required to act as de facto "information or publicity officers" with potential for interaction with the media and the general community in public forums. The veterinarian's role may also include that of an independent complaints officer for concerns and issues raised by staff, students and members of the

general community relating to the care and use of animals for research or teaching purposes.

The veterinarian who is a member of an Institutional Animal Ethics Committee has, by nature of his or her training and experience, a unique and significant role in being able to provide beneficial advice to the Animal Ethics Committee, the investigators and/or teachers, and the institute itself whilst facilitating the accumulation of scientific knowledge in the most humane manner.

Conclusion

The question that is often asked is why veterinarians become involved with animals used for scientific purposes. There are two main reasons. First, the animal research branch of the profession is intellectually stimulating and encourages scientific curiosity. It encourages use of all of the primary disciplines of veterinary science and adds unique skills not often used in other veterinary pursuits including care of a wide variety of often unusual species, facility design for intensive animal production and experimental holding, infection control and zoonoses, scientific principles, ethics, philosophy, policy formation, animal research compliance, gene technology and OHS. Second, the desire to become a veterinarian usually stems from empathy for animals and it is that empathy that is critical for veterinarians that fulfill a role in the monitoring and care of animals used for scientific purposes. The recognition that these animals are sentient beings whose welfare is paramount is imperative and the veterinarian plays a key role in ensuring that everyone involved in the use of these animals understands this principle. The adverse effects of stress on the immune system, for example, are well documented and it is the interface between the researchers and the veterinarians that promotes the reality that good animal welfare leads to good science.

Acknowledgements:

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Student conscientious objection - should policy precede practice?

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Most people would connect the concept of conscientious objection primarily with military service. However, the spread of this concept into the student domain, where students are actively seeking to object to the harmful use of animals in their education, is on the increase internationally. It is therefore important to note the distinction that is drawn, especially in this article, between the use of animals in education and their use in the fields of research or product testing. Over the last few years, InterNICHE¹, the International Network for Humane Education, has documented many instances of students driving positive change in many countries².

The stated aims of InterNICHE are: *We aim for a high quality, fully humane education in biological science, veterinary and human medicine. We support progressive science teaching and the replacement of animal experiments by working with teachers to introduce alternatives, and with students to support freedom of conscience.*

The above-mentioned statement of aims does not, however, exclude the hands-on experience with animals that is so necessary especially to veterinary students and this is perhaps the most widely misunderstood aspect of conscientious objection. The issue is that that experience be gained ethically² and students the world over have demonstrated that this is possible³.

InterNICHE now has representatives in over 30 countries worldwide whose role it is to support and advise students who wish to actively challenge traditional harmful practices in their life science courses. Whilst student activism of this nature sees the achievement of some successes, it also results in less satisfactory outcomes for others and so students ask 'why is it that some institutions are prepared to embrace positive change whilst others are not?' This article argues that institutional policy development has a role to play in helping to establish an environment conducive to teaching and learning in the most progressive sense.

Why students become active conscientious objectors

Deeply held ethical beliefs coupled with concerns about the scientific validity of some traditional procedures – seen often by students as merely 'rites of passage' with little relevance to their future careers – drive students to become active in expressing their concerns. Where humane alternatives are already in use or where official student choice policies exist, respect for both freedom of conscience and animal life has already been granted but this is still rarely the case. In some institutions, however, such students are discriminated against and their freedom of conscience violated. Some are threatened with failure, some may be forced to drop out or change their course and others are encouraged or coerced into performing dissection and other harmful procedures on live, healthy animals. Conscientious objection is the only option left within such an environment⁴.

What is unacceptable to the conscientious objector?

Conscientious objectors (COs) generally distinguish between harmful and non-harmful animal use. They usually do not object to all aspects of their course and target only those components for which they KNOW alternatives exist but are not in use in their institution or those components they find most harmful or wasteful of animal life, especially in respect of established knowledge.

As the Australian InterNICHE representative, I conducted a survey of sixteen Australian and New Zealand students who were actively engaged in conscientious objection during 2000/2001⁵. This survey identified some common aspects of animal use to which they objected in veterinary science, medicine, biology and zoology. The survey asked students to respond to three questions: what would students refuse to do (boycott) and request an alternative learning pathway for; what would they be unlikely to refuse to do and what procedures they remained equivocal about? The responses were surprisingly consistent.

What students would boycott and/or request alternatives for:

- Dissections⁶ and physiology, anatomy or biochemistry demonstrations involving cadavers or body parts of animals killed *just for that purpose*, such as rats, cats or guinea pigs (especially the case for the first two years of undergraduate study).
- Non-recovery surgical training on animals that would not otherwise be killed in the near future.
- Recovery surgical training on any animals where the procedure is more than minimally invasive, due to the post-operative suffering. Students felt that post-operative care can be ethically learnt on real patients in clinical intern situations.

What students would be unlikely to object to:

- Harming of animals where the level of harm is not serious, e.g., blood or urine sampling.
- Killing or serious harming of minimally sentient organisms. e.g., killing cell cultures via viral infection in virology demonstrations.
- Serious harming or killing of animals *for reasons unrelated to teaching purposes*, e.g., assisting a farmer with mulesing during Vacation Farm Experience (VFE). Participation in VFE is compulsory and these procedures would be performed whether or not students were present to gain their education.
- Dissections or other use of *ethically sourced cadavers*, i.e., from animals that have died naturally or in accidents or been euthanised for medical reasons.

What students remained somewhat equivocal about:

- Use of cadavers from animals that have been killed for reasons that, although unethical, are not related to teaching/educational purposes, e.g., much use is made in anatomy of cadavers from greyhounds donated due to poor racing performance.

High on the agenda of preferred alternatives is the use of ethically sourced cadavers and veterinary students expressed a strong preference that their university establish an educational memorial program⁷. These programs, already well established in some universities⁸, are client donation programs in which owners willingly and knowingly donate the body of their pet.

Case Studies

When students decide to become COs they normally turn in the first place to their own faculty staff for assistance. Where assistance or sympathetic understanding of the ethical conundrum they face is not forthcoming, many turn to avenues outside their institution for moral support and logistical assistance. On the national level, the Humane Education Division of Animals Australia is approached every year by many students requiring assistance. On the international level, InterNICHE guides students in over thirty countries. In addition, there are seven major organisations world-wide that offer alternative loan programs⁹ for the cost of only the return postage on the item borrowed.

The following brief case studies are drawn from the InterNICHE archives³ to illustrate the range of measures undertaken by students to achieve their goal of ethical learning, some individual successes and some positive gains for their institution collectively.

Students have taken out law suits against their universities (Germany, Denmark and Colorado, USA); they have conducted in-depth surveys of the student body (Wales, New Zealand and Illinois, USA); they have documented the desensitisation process that students go through from first year through to third year studies (Russia); they have personally sought out alternatives to terminal anatomy and surgical laboratory classes by obtaining ethically sourced cadavers with assistance from farmers and practising veterinarians (Australia, Norway, Russia, Japan); they have introduced a bio-ethics subject into the curricula of their university and other institutions (Russia); they have toured their country giving presentations and demonstrations of alternative learning pathways (Japan); and they have been the impetus for their institution developing a policy on conscientious objection (Australia in Sydney, Murdoch and Woollongong universities and at the University of Illinois, USA).

In the UK, a cardiac technician studying to upgrade qualifications objected to certain pharmacology drug trials on isolated, still-beating frog hearts. She was excused from the class, offered no alternative learning experience and counselled to leave the program altogether. This she ultimately did. She transferred to another College where she completed the same type of course without encountering any ethical difficulties. In Germany, a student training to be a biology teacher, fearing failure went against her conscience and performed the required tasks. She graduated only to take out a law suit against the university.

The suit dragged on for nine years and was dismissed in 2000 because the students had failed to supply sufficient detail about alternatives. The student abandoned teaching biology and is now considering an appeal at the European Court.

In 1992 a Colorado medical student objected to procedures during the first year physiology laboratories. Her offer to locate and pay for alternatives herself was rejected. Despite passing all the written exams she was failed in physiology and barred from the second year of her course. The student then mounted a lawsuit against the University of Colorado in 1993, and in 1995 was awarded \$95,000 in damages from the University. She also re-took the physiology course at another university in which no harmful animal usage occurs. A condition of the legal settlement was that the University of Colorado was also required to provide an alternative for any student with ethical objections to the laboratories (sincerely held beliefs that serve as guiding principles in one's life). By 1998 it had extended this to all conscientiously objecting students.

Of the student surveys organised and conducted by COs with assistance from Faculty staff, the University of Illinois is by far the most detailed and comprehensive undertaken. In October 1999, 370 veterinary students at the University of Illinois, Champaign-Urbana, received a survey from administrators requesting their input on animal use issues at the college, specifically on the first-year physiology laboratories which claimed over 100 animals' lives each year. (Due, in part, to enormous public pressure, these laboratories have since been halted). It was the joint responsibility of the COs and the administrators to gather an unbiased survey of student opinion on the perceived educational value and ethical constraints of these terminal laboratories. Several questions on the survey asked for written comments. In many ways, the comments of the 295 respondents are more revealing than the tallied "yes/no" responses. A majority of the responses indicated deep-seated dissatisfaction with the course and the teaching methods. To obtain the details of this survey, the reader is directed to the web site of the US Association of Veterinarians for Animal Rights as www.avar.org.

Russian veterinary students formed a group of COs to assist the Russian Center for the Ethical Treatment of Animals to get medical, veterinary and biological curricula to include a bio-ethics subject and after continued effort, in 1998 the Ministry of Education introduced the subject into all institutions as policy.

Lisa Hepner's polite request for an alternative to a fetal pig dissection in her biology course resulted in a detailed interrogation of her beliefs by the course instructor. After initially being refused she was finally successful, becoming the first University of New Mexico student to be granted an alternative to dissection. She then entered into a three-year struggle with the Department of Biology to develop a conscientious objection policy that would ensure alternatives were provided to all students who did not wish to dissect. After putting her proposal into writing and soliciting signatures of support from professors, doctors, veterinarians, and nurses, she was finally successful, with the Department implementing a conscientious objection policy in 1991. In 1994, Lisa's book *Animals in Education: The Facts, Issues and Implications* was published.⁶

Lara Rasmussen began her student life as a conscientious objector in 1986 as an undergraduate at the University of California (Davis), and has arrived at a point in her career where she is now Assistant Professor at the Western University of Health Sciences College of Veterinary Medicine (California). Professor Rasmussen is currently charged with developing the surgical and clinical skills curriculum in the first North American veterinary college to develop its curriculum based on the twin goals of avoiding any harm to animals whilst focusing on the mastery of clinical skills. It accepted its first students in 2003. She is living proof that an alternative surgical student can rise to the very highest levels of surgical skill and professional achievement.

The need for institutional policy direction

From the perspective of policy, the issue of harmful animal use and the rights of people to freedom of conscience and freedom to learn are in conflict. It is therefore important to examine the relative costs and benefits to both the institutions claiming the right to use the animals and the rights of the students who express ethical concerns. Despite moves in Australia¹⁰ to improve this situation in our secondary and tertiary institutions, it remains true that most countries that offer life science courses have few or weak laws protecting animals used for educational purposes. In addition, where laws or policies do exist, they are weakly enforced if at all¹¹.

Where CO policies have been put in place (see above), no two are the same. Some are still worded in an attempt to discourage students from entering the course, e.g. Toronto University¹². Others have embraced innovation and change in a more positive way and acknowledged the need to attract the very best students even if they are the students who will challenge received knowledge about how best to learn and to teach.

In his discussion of student choice policies in relation to the issue of dissection at all educational levels, Dr Jonathan Balcombe has suggested that for any CO policy to be effective and fair, it should contain certain elements¹¹ that are paraphrased and adapted here to suit any type of task:

- There should be no penalty for objecting conscientiously.
- Alternative learning activities should involve a comparable amount of work.
- Available alternatives should cover the same information/help achieve the same learning outcome as the traditional task, not merely keep the student busy.
- Student COs should be tested in ways that do not harm animals.
- A bio-ethics subject or at least mandatory discussions about the ethical considerations of the use of animals should be included in each program.

Some of these points are indeed included in the NH&MRC Code. However, the reality in practice remains questionable. It is of little value for all concerned if an expression of concern is allowed to become a major cause of conflict. Teaching institutions will, in the future, need to face this issue more and more. It may be that the path of least resistance and greatest productivity would be to develop suitable policies that can be both implemented and enforced. Thus, any expression of concern can be evolved into a win-win situation. Many faculty staff are sympathetic to the concerns of COs and a policy statement would give all concerned clear guidelines on how to proceed. No time need be wasted in unproductive argument and the academic environment could continue to be conducive to positive learning experiences.

Where policies do not exist, it is to be expected that staff will continue to face the perceived 'harassment' of COs, to have to deal with the inconvenience of having to accommodate (or not) such students at short notice and to justify more and more the content of the courses they design.

Conclusion

It is clearly unacceptable that the onus for positive change in curricula should rest on the shoulders of students. This is unequivocally a faculty responsibility and faculties are failing to lead the way. In its submission to the review of the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes, 1997, Animals Australia

argued for a clause to be inserted into Section 7 that recognised the validity of conscientious objection and the clear need for institutions to respond appropriately. This was, in fact, taken up in some measure and the clause now reads¹⁰

6.1.4 The institution will therefore need to establish mechanisms to respond to inquiries or complaints concerning the use of animals within the institution and ensure that staff members and students may voice their concerns without jeopardising their employment, careers, or coursework.

This is a start but it does not guarantee the conscientiously objecting student, let alone all students, the right to use more progressive and less wasteful learning strategies. There is still a long way to go.

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Ethics and invertebrates: a French view

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In 2002, a special issue of STAL (Sciences et Techniques de l'Animal de Laboratoire) presented the proceedings of a symposium held on 11 March 2000 in the Faculty of Medicine Pitié-Salpêtrière (Paris, France) at the initiative of Professors G. Chapouthier (Director of Research, Hospital Pitié-Salpêtrière) and J.C. Nouët (former Vice-Dean of the Faculty of Medicine, Pitié-Salpêtrière), and in collaboration with the French League for Animal Rights (Ligue Française des Droits de l'Animal). This special issue of STAL (volume XXVII) is entirely dedicated to the topic of ethics and invertebrates. In this paper, I summarise the ideas published in volume XXVII of STAL, and discuss the consideration of invertebrates in the ethical treatment of animals.

Legislation

French law, like Australian law, does not consider invertebrates in its protection of animals used in experimentation. Fish benefit from this protection in France, however, as opposed to some states in Australia. Invertebrates, including those that have demonstrated remarkable intellectual capacities like the understanding of abstract concepts, for example octopuses, can be exposed to great physical abuse.

Decree 87-848 of 19 October 1987 aimed to ensure French law conformed to European texts; a new decree (2001-464 of 29 May 2001) reinforced the protection of vertebrates, but the National Commission on Animal Experimentation rejected the inclusion of a note in favour of invertebrates in this text (Antoine, 2002). On 5 June 2000, France ratified the European convention on the protection of vertebrate animals used in experimentation; all these texts specifically exclude invertebrates (Antoine, 2002). The chart of invertebrates elaborated in 1986 by the European Council only points at the great value of invertebrates, including in research. Even belonging to a protected species for conservation purposes does not exclude invertebrates from scientific experimentation in France (Antoine, 2002). In Great Britain, *Octopus vulgaris* benefits from some protection, and in Norway crustaceans

are protected in the same way as vertebrates. Swiss law applies to vertebrates but specifies that the Federal Council determines what invertebrates it must be applied to; decapods and cephalopods have been protected by legislation there since 1981 (Antoine, 2002).

Invertebrate nervous system

Vertebrates are usually considered "higher" organisms, but their contrast to "lower" organisms or invertebrates is anthropocentric and subjective considering that all animals result from an evolutionary history of the same duration and are all mosaics of "primitive" and "highly evolved" characters (Génermont, 2002). We often underestimate the great diversity of invertebrates in their anatomy, physiology, and behaviour (Génermont, 2002). After detailed anatomical and evolutionary comparisons among invertebrate nervous systems, Génermont (2002) concludes that although the myelin coating of nervous fibres in vertebrates is unique and ensures a prompt reaction time, giant fibres in many invertebrates probably have the same function. In addition, the nervous system of invertebrates contains large numbers of neurosecretory cells, and in general the endocrine role of the nervous system may be proportionally more important in invertebrates, at least protostomes, than in vertebrates.

Pain in cephalopods

Classic definitions of pain include: an aversive sensory experience that provokes protective reactions, leads to the learning of an avoidance behaviour, and may modify specific behaviours, including social ones; based on behavioural observations, pain may provoke vocalisations, immobility, the adoption of abnormal postures, jumps, or the retraction of a limb (Chichery, 2002). In view of their reactions to stimuli, it is thus obvious that cephalopods suffer pain. Their nervous system is estimated to contain 500 million neurones; it is then not surprising that cephalopods have intellectual capacities superior to those of certain vertebrates. Proof of nociception in these animals includes anatomical evidence of numerous cutaneous sensory receptors, capacity for anaesthesia,

and mostly the capacity for learning to avoid nociceptive stimuli (Chichery, 2002). Cephalopods are capable of mastering “learning set” exercises, indicating they understand basic rules of logic; learning by observation of conspecific animals in octopuses also provides evidence of their cognitive abilities (Chichery, 2002). Some of the work examining cognitive and sensory perception by cephalopods was done many decades ago; how can French and Australian laws, among others, still not protect cephalopods?

Pain in arthropods

Nothing much is known about the perception of pain by arthropods. Their neurotransmitters are similar to those of vertebrates, but no stress hormone has so far been detected (Petavy, 2002). Behavioural studies, however, indicate that arthropods, like all animals, show avoidance reactions and/or move away from all intense stimuli. The presence of internal and external receptors leads us to accept as a most plausible hypothesis that arthropods feel both superficial and deep pain (Petavy, 2002). Much can be done to improve ethically the exploitation of arthropods for food or science, but arthropods do not elicit the compassion that other animals do (Petavy, 2002).

Invertebrate memory

Vertebrates are large, have many identical characteristics, and we belong to this group; these characteristics may explain why some legal protection has been obtained. Because nociception in invertebrates is largely ignored by science, Chapouthier (2002) proposes to evaluate the gradation of mobile invertebrates based on their psychophysiology. Capacity for learning and memorising could testify to the level of “evolution” of animals and their needs in relation to those of other animals. Chapouthier (2002) defines six categories of learning that may be used to characterise learning profiles. Although it is necessary to anaesthetise all invertebrates that may feel pain during experimentation, invertebrates may be graded not in capacity for pain since nociception occurs when a nervous system is present, but in their needs for integrated lifestyles, needs that are species-specific (Chapouthier, 2002). Reasoning with learning categories, Chapouthier (2002) classifies animals in five arbitrary groups (less arbitrary, however, than vertebrates under the law): first, warm-blooded vertebrates and possibly cephalopods; second, cold-blooded invertebrates; third, animals with good mobility (decapods, insects, and other animals with nociception adapted to their mobility);

fourth, animals that may not have the same integrations in nociception because they are fixed or parasitic; and finally, animals with no nervous system.

From science to law

In spite of the considerable evidence presented for many years, invertebrates have been eliminated from European texts aiming to protect them in experimental work. Recommendation 621 from the Consultative Assembly of the European Council of 20 January 1971 concerned in effect all animals used experimentally or in industry, but the breadth of protection was reduced to vertebrates by other texts (Nouët, 2002). Reasoning used in legislation consists in demonstrating that pain exists so as to justify measures that will prevent it, but Nouët (2002) makes a strong point: shouldn't we demonstrate that pain does not exist to justify not taking protective measures? Invertebrates, far away from anthropomorphic attention, do not appear to deserve the benefit of the doubt.

Pain may be felt differently among animal species, but the capacity to feel pain is a major factor in the preservation of organisms, and there is every reason to believe that the sensation of pain, even if it is very different from ours, is a universal animal characteristic (Nouët, 2002). Invertebrates with a central nervous system (arthropods and molluscs) deserve particular attention. It is not acceptable to replace vertebrates by invertebrates in experimentation, as suggested in certain legislative texts. Yet many years have passed and nothing has been done to change the status of invertebrates in the legislation (Nouët, 2002).

Conclusion

The special issue of STAL (volume XXVII) certainly provides food for thought and I recommend it to all readers of French. A few points are particularly striking:

- For many years, strong support has been provided for the inclusion of invertebrates in legal texts aiming to protect animals from distress and pain, yet nothing appears to have been done.
- This support is based on sound scientific knowledge of invertebrate evolutionary history, anatomical and physiological characters, as well as solid ethical principles, including the precautionary principle.

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- The lack of action seems linked to public perception of invertebrates; this perception is usually negative and, surprisingly (or not), scientific knowledge is not sufficient to alter public perception.
 - The Chapouthier classification of invertebrates for the purpose of animal experimentation deserves attention and could be used by experimenters and ethics committees not only in France but also in other countries including Australia.
 - Education is the key: we are fortunate enough to live in a country where ethics is a priority, yet this fundamental value of our society is poorly represented in education; students of all ages should be exposed to ethics in relation to scientific information concerning animals. Respect for animals may, unfortunately, have to be taught.

I am surprised that our current knowledge, which supports the inclusion of invertebrates in protective texts of law, does not manage to change our treatment of animals by law. Maybe invertebrates are too quiet, or too different from us. We can empathise with the suffering of human beings. As a biologist and an ethologist, I know that many invertebrates also feel pain. An enormous amount of work remains to be done to understand the intricacies of invertebrate physiology and their links to behaviour, pain, and distress, but we know enough to be guilty of ignoring the principles of ethics when we do not support the protection of invertebrates in experimentation. The additional paperwork will be painful, but the end of cold-bloodedness in science may be worth it. Let's stand with invertebrates.

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Letter to the Editor

Dear Sir

The idea has been raised in several contexts that it might be desirable to begin a more liberal practice on the confidentiality of experimental work on animals. I am writing to outline a proposal that, I think, will advance the current position on this difficult matter. It will be obvious that it needs a great deal of discussion before it could be adopted.

Broadly, the proposal is that the work of the ethics committee be made available, in some fashion, to those with a proper interest.

More specifically:

That the application forms, or at least the lay-description parts of them, be available after the experiment is concluded, together with reports on it to the AEC.

I list some advantages in this:

- 1 *Institutions stand to gain more by a public understanding of what we do than by secrecy about it.*
 - (i) *Transparency is, in general, a morally better policy about almost any matter of legitimate public concern.*
 - (ii) *It is always reasonable to think that, where a veil is drawn, it is there to hide something. Conversely, transparency creates a favourable impression that there are no dark secrets.*
 - (iii) *Among the most damaging kinds of objection against particular experiments are those that misrepresent in being too brief. (I generalise from some cases raised at the NZ conference.) The most effective reply to this is to have available a reasonably complete account of what the experiment actually is in a form suitable for public release.*
 - (iv) *It seems highly likely that an informed community would support present experimental practices more strongly than an ill informed community would.*
 - (v) *Probably every application to an ethics committee would be better considered and better presented if the applicant knew that the proposal might become public information. Ethics committees would certainly be no less careful in considering protocols.*
 - (vi) *This need not add much to the work of ethics committees. On a personal note, I almost always consider every project in the light of the possibility that the information could become available to someone outside the institution and not necessarily friendly to its aims. Indeed, as a category D member, committed by my role only to the public interest, this strikes me as defining my job on the committee in a useful way. If I don't think the project could be defended in the public arena, then I have a good reason to oppose it. It seems likely that any category D member will act in an essentially similar way even if not with that thought in mind. So it is probable that every application is already considered from something like that perspective by at least one category of member. In my experience, such objections are always taken seriously by AECs.*
 - (vii) *Ethics committees could gain useful input from public access to their work.*
- 2 *It is better to have a policy on transparency of our own design (in place or at least in waiting) than have one hastily imposed from outside to appease pressure from a possibly hysterical militancy in the community.*

For these reasons, I propose the above policy draft for discussion. It is inadequate as it stands, no doubt. But it is a beginning. The policy is drafted on the basis of only a rough understanding of the source and rationale of the existing policy on confidentiality. I take it that an AEC member's duty of confidentiality is owed to the institution which establishes the ethics committee, or which employs the researchers and supporting staff. Nevertheless, it is perhaps not open to an institution to change the existing policy unilaterally without running into some form of tension or conflict with the NH&MRC or some similar regulating body. This need not prevent an institution from pushing for reform, however.

Some comments on the intended thrust of the policy follow:

- 1 Since the ethics committee is the body which judges that the experiment is ethically acceptable, it is the documentation of this decision which is of proper public interest.*
- 2 Crucial parts of the form, viz. the lay descriptions, pain categories, listing of ethically relevant issues, are suitably phrased for meaningful public appraisal.*
- 3 Making the protocols available only at the end of the experiment takes at least a significant step in the direction of protecting the interests of the researcher (from plagiarism etc) before the work is complete. It may be of some use in protecting commercial interests in the work.*
- 4 It should not add a significant load of documentation to what is already required.*
- 5 The proposal is not aimed at persuading the public that experiments on animals are useful. The point is simply to make information available. There may well be room for a program of public education aimed at justifying experiments on animals. That is not the proper task of an ethics committee.*
- 6 I have little to suggest at this stage as to how the information might be made publicly available. Presumably no institution would want to take active steps to advertise it e.g. on a web site. A more conservative, but perhaps still very large step, would be to make hard copies of protocols available at the cost of a nominal 'handling fee'. That would inhibit frivolous requests while, at the same time, providing transparency for legitimate interests.*
- 7 Whether or not to make researchers' names available is a further issue on which I make no suggestion.*
- 8 There is also the issue of continuous projects and their applications for renewal, interim reports and so on.*

Yours sincerely

*Graham Nerlich
Emeritus Professor of Philosophy
The University of Adelaide*

ANZCCART Matters

Summary of activities during 2003 and plans for 2004

Rory Hope, ANZCCART

It is vitally important that we keep members and other interested individuals and organisations informed about ANZCCART's activities. We do this partly through our websites www.adelaide.edu.au/ANZCCART, <http://www.rsnz.org/advisory/anzccart/>, newsletter **ANZCCART NEWS**, conferences, workshops, Fact Sheets and personal contact. However, I thought you might find it useful to have a brief resume of our accomplishments during 2003, and an outline of our goals for 2004. Additional details will be set out in the Annual Report.

When evaluated against our objective of providing leadership in developing community consensus on scientific, ethical and social issues relating to the use of animals in research and teaching, 2003 was a successful year for ANZCCART.

Conference

The annual conference, ***Lifting the veil: finding common ground***, held in Christchurch, New Zealand, attracted over 150 delegates. A brief summary of the conference is available in **ANZCCART NEWS** (Vol 16 No. 3, 2003) and the full proceedings have now been published.

Workshops

Two workshops were held during 2003. The first, entitled ***The Australian Code of Practice: proposed revisions and their implications***, took place at the University of Melbourne and was sponsored by the NHMRC. The workshop was timely as it corresponded to a request from the Code Liaison Group (CLG) for public submissions on the draft revisions of the *Australian Code of Practice for the care and use of animals for scientific purposes* (6th Edition, 1997, Commonwealth Government of Australia). A report on the workshop was submitted to the CLG.

The second workshop ***Monitoring animal welfare and promoting refinement*** took place at Monash University and was sponsored by the Bureau of Animal Welfare, Department of Primary Industries, Victoria. We are presently investigating ways of implementing the many useful recommendations that arose from this gathering.

Newsletter

Three editions of **ANZCCART NEWS** were published during 2003. Our newsletter is currently sent to over 950 individuals and organisations in Australia and New Zealand, and copies dating back to September 1999 are available to download from our website.

Other publications

During 2003 we published the proceedings of the ANZCCART 2002 Conference ***Animal welfare and animal ethics committees: where are the goalposts now?*** We also finalised computer scanning all the ANZCCART *Fact Sheets* - invaluable resources on specific welfare and ethics topics; these are available from our website.

The provision of information

A major function of ANZCCART is to provide information to scientists, Animal Ethics Committees, government officers, staff working in animal care facilities, and members of the public. Most enquiries come to ANZCCART by email and if they cannot be answered directly, a colleague with expertise in the relevant field is consulted. This aspect of ANZCCART's activities continues to expand. We also provided assistance to secondary school students undertaking projects concerned with the use of animals in research and teaching. In addition, we collaborated with a number of organisations (e.g., RSPCA, NHMRC; John Curtin School of Medical Research; The Jackson Laboratories, USA) in the collection and dissemination of information.

Finances

A shortage of consistent income hinders ANZCCART's activities and ways must be found to improve this situation. Nevertheless, we continue to make a substantial contribution to the maintenance of research and teaching environments that give a high priority to animal welfare and ethics, while at the same time appreciating the great contribution to knowledge, and to human and animal health, that has arisen from animal-based research.

Amongst our major undertakings during 2004 will be:

- **ANZCCART Conference** - Animal Ethics: *New Frontiers, New Opportunities*. September 26 – 28, Sydney, N.S.W.
- **Symposium** *Understanding Western Australia's new Animal Welfare Legislation*. June 24th, Perth, W.A
- **Workshop** *Monitoring animal welfare and promoting refinement*. December, Adelaide, S.A
- **ANZCCART NEWS** three editions to be published.
- A volume of ***Selected papers from ANZCCART NEWS*** to be prepared for publication.
- **Fact sheets** to be revised and updated for re-publication.
- Completion of a revamped, user-friendly, interactive **ANZCCART website**.

The research environment

Research using animals in Australia and New Zealand is conducted in a careful and considered way. An important reason for this is the establishment of ANZCCART as an independent body, and the leadership role it has played in the debate on the use of animals in research, taking into account prevailing scientific, ethical and social views **based on wide consultation**. It is in this respect, above all others, that we support our members.

Changes at ANZCCART

The ANZCCART Board has elected Professor Roger Holmes (Vice Chancellor, University of Newcastle; representative of the Australian Vice Chancellor's Committee) as Chairman. Professor Holmes takes over from Professor Michael Rickard, CSIRO Animal Welfare Advisor, Australian Animal Health Laboratory. Mike Rickard, who will continue as a Board Member, was appointed Chairman in February 2002. He previously held that position from 1998 to 2000.

Professor Julie Owens has taken over from Professor Alan Johnson as the representative of the Australian Research Council (ARC) on the ANZCCART Board. Professor Owens is a member of the ARC's College of Experts (formerly known as the Expert Advisory Committees). Alan Johnson served on the Board with distinction throughout 2003.

Ms. Selina Watson has temporarily replaced Mrs Julie Nixon as ANZCCART's Administrative Assistant. Julie is away on maternity leave and returns to the ANZCCART Office in August 2004.

ANZCCART's policy on forwarding emails

ANZCCART plays an important role in promoting community discussion and debate on animal ethics and welfare issues. This role is achieved, in part, by retaining an extensive email list and forwarding requests for advice, comments, notices etc. to those on the list.

In the past, messages could be sent directly to people on the "ANZCCART LIST" bypassing ANZCCART itself. The contents of such messages and the *bono fides* of those who asked for their distribution were not, and could not be, closely monitored. Several instances of inappropriate email being sent over the ANZCCART list, and the potential for legal action arising for these emails, forced us to change policy.

In future, ANZCCART will only forward messages to people on our email lists if: i) the email is first sent to ANZCCART (ANZCCART@adelaide.edu.au), ii) the contributor supplies full contact information, including name, affiliation, email and phone numbers, and iii) the contents of the message is directly related to the aims of ANZCCART.

In forwarding such messages we will use the *majordomo* list service operated by the University of Adelaide, as this provides privacy to recipients. We use the Bcc (blind carbon copy) field so that addresses are hidden. However, the email address of the person who composed the message will be shown so that recipients can reply (if they wish) directly to that person. In replying, it is suggested that individuals make it clear that their response is a personal one, not an official ANZCCART response.

Annual Conference

Information about the 2004 ANZCCART Conference and the associated Student Award are given on the next two pages. Readers are encouraged to copy these pages for placement on notice boards and distribution amongst colleagues.

2004 Conference



Animal Ethics: New Frontiers, New Opportunities

26- 28 September 2004

Novotel Hotel

Brighton Beach,

Sydney

Information & Registration

www.adelaide.edu.au/ANZCCART

ANZCCART

Mitchell Building
Room B03
Adelaide University SA 5005

Phone: 08 8303 7586

Fax: 08 303 7587

Email: anzccart@adelaide.edu.

\$1,000



ANZCCART'S Student Award for 2004

ANZCCART STUDENT AWARD FOR 2004

In conjunction with its 2004 annual conference *Animal Ethics: New Frontiers, New Opportunities* (26th - 28th September, Novotel, Brighton Beach, Sydney)

ANZCCART¹ is offering a Student Award, the purpose of which is to encourage attendance and involvement at the conference by Honours and Postgraduate students.

The award is open to Australian and New Zealand students of all disciplines and is worth AUS \$1,000. It is intended to provide for conference travel costs, accommodation and registration. **Students are required to submit a short paper (no more than 3000 words, including an abstract of about 400 words) on a theme related to the conference. The paper should be compatible with the goals of ANZCCART. The award will be given to the best paper submitted, as judged by members of the conference planning group. Assessment will be based on excellence, originality and relevance.**

The winner will be asked to present the paper at the conference, either in the form of a short talk or a poster.

ANZCCART's mission is to provide leadership in developing community consensus on ethical, social and scientific issues relating to the use of animals in research and teaching. Its key objectives are to promote:

- excellence in the care of animals used in research and teaching;
- responsible scientific use of animals; and
- informed discussion and debate within the community regarding these matters.

**Applications should
be submitted by
20 August 2004**

To:

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Book Review 1

"Management of Laboratory Animal Care and Use Programs" Edited by Mark Suckow, Fred Douglas and Robert Weichbrod. CRC Press LLC, 2002. 383 pages. ISBN 0-8493-2287-1 US\$74-95 Hardcover.

Reviewed by Denise Noonan, Animal Welfare Officer and Clinical Veterinarian, Monash University.

Contents:

1. Management of people- a most valuable resource;
2. Management of education and training programs;
3. Personal leadership skills;
4. Bioethics and laboratory animal research;
5. Animal health and medicine;
6. Regulatory compliance;
7. Managing quality in animal resource units;
8. Developing policies and procedures;
9. Physical plant;
10. Fiscal management;
11. Acquiring grants and contracts;
12. Utilization of information technology;
13. Hazard identification and control;
14. Emergency response and management;
15. Animal resource security;
16. Public affairs.

This book covers key aspects of Laboratory Animal Facility Management. It has been produced by members of the American Association for Laboratory Animal Science (AALAS), and therefore has an American focus. The sixteen chapters have been written by experienced managers, technicians, veterinarians and others with expertise in their respective fields. Contributing authors include Lynn Anderson, Fred Douglas, Gail Heidbrink, Bruce Kennedy, Dennis Miller, Mark Suckow, Farol Tomson, and De Wayne Walker. Intended as an overview rather than a detailed textbook, the information can be used as a stepping stone to further US laboratory management training programs such as those conducted for AALAS Institute of Laboratory Animal Management and Certified Manager, Animal Resources. Alternately, the reader can use each chapter as a key summary and starting point, then use the reference list to continue learning.

The presentation of information within the book varies with chapter, author and subject. Although mainly text, the use of dot points and tables of key points helps focus the attention of the reader. Interesting features of the

training/management chapters are the examples of personnel training worksheets that have been included. Each chapter contains a reference list, which includes authoritative publications or suggestions for further reading. The majority of these are, understandably, US publications. Australian and New Zealand readers will need to augment the information supplied by the book with local regulatory requirements for facility construction, animal production and use. Readers could also seek out further material from European sources such as the Federation of European Laboratory Animal Science Associations (FELASA) to obtain a broader international perspective.

The book has been prepared specifically for Laboratory Animal Facility Managers, and this is reflected in the industry expertise of the contributing authors. The Australian and New Zealand audience for this book is broader as the regulatory compliance, personnel safety, quality assurance, policy-setting, risk management, financial management, public relations and animal ethics roles are not usually centralised within the institutional animal facility. Members of Animal Ethics Committees and Animal Facility Management Committees, Compliance Officers for institutions planning to implement a Quality Management or Accreditation program, Animal Facility Managers and Animal Care Staff would all find information of value to them.

Comments on the contents.

- The chapters on leadership and financial and personnel management have been customised to this readership, which is helpful as most manager training programs conducted in Australia are pitched at "generic" managers of personnel and financial resources. Common management tools are discussed, such as the use of "goal statements" that are S.M.A.R.T. (specific, measurable, achievable, relevant and time-bound or timely) as a component of staff performance appraisal or for strategic planning for the facility. Cost Analysis and determination of Per Diem Rates are briefly summarised, and references provided for further reading.

-
- There is an emphasis on training in the workplace that would be of interest to those institutions and employers that conduct workplace training programs for personnel in the laboratory animal facility. The adult learner is specifically discussed, as motivation for learning and use of different learning approaches for different personality styles are essential to the success of the training program. This chapter also suggests ways that this training might be formalised and recorded, in order to improve effectiveness.
 - The chapter on Bioethics begins with a brief overview of the history and moral philosophies that relate to research animal use. Regulatory requirements for Committee oversight of animal care and use must be incorporated by the Animal Facility Manager when developing facility management protocols. Practical examples of the interaction between animal welfare, ethics and commonly performed procedures illustrate the pivotal role of the Facility Manager. The complementary chapter on public and media relations can provide Managers with insight into the breadth of public perceptions on the topic of animal use. Ways in which Managers of facilities can work effectively with media personnel when communicating with the public are suggested.
 - Animal health monitoring, veterinary care, facilities for research procedures, anaesthesia & analgesia, pre and post operative animal care, euthanasia and record keeping are comprehensively and concisely discussed.
 - Development and use of Standard Operating Procedures within a Quality Assurance (QA) program is briefly outlined. Auditing of animal research facilities against international benchmarks, or to internationally recognised performance standards, has only recently begun to be introduced into public institutions in Australia. Managers within these institutions will find the implementation of externally audited QA standards will increase markedly over the next few years. Managers in institutions that are seeking an externally audited QA accreditation such as Good Laboratory Practice (GLP), Total Quality Management (TQM), Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) or International Standard (ISO 9000) will find the chapters on policy setting and quality assurance useful starting points in the long process of attitudinal and work culture change. The chapter on physical plant and facilities contain a comprehensive list of points and that required consideration for both regulatory compliance, and QA programs such as AAALAC.
 - Occupational health and safety for personnel is given broad coverage, with an emphasis on a hazard identification and risk assessment approach. The common hazards associated with animal facilities (e.g. physical & chemical hazards, zoonoses) are illustrated with case studies. Chapters on Emergency response planning and Facility security planning give a good overview of the issues that managers and institutions must address.
- In conclusion, laboratory animal facility managers with extensive industry experience will find that this book concisely summarises the management responsibilities that are most applicable to their industry. The reader with limited managerial or supervisory training, and less extensive experience will obtain most value from the comprehensive overviews provided. It is likely that both will find good suggestions for career planning, policy development, different approaches to motivating or training staff, or challenges for communicating with the media or the public within this book.
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Book Review 2

“From guinea pig to computer mouse: Alternative methods for a progressive, humane education” by Nick Jukes and Mihnea Chiulia. Second Edition, revised and expanded, 2003. Published by International Network for Humane Education (InterNICHE).

Reviewed by Alexander S. Davies, Institute of Veterinary, Medical and Biomedical Sciences, Massey University

This book presents strong arguments against the use of animals in teaching, and for the use of alternatives. It contains several essays in support of this, including seven case studies, all relevant to veterinary education. Three of these are directly about developments in American schools at Tufts (MA), Ohio State and Western (CA). One of the essays provides a useful list of about 70 publications on the subject.

Most of the book is an alternatives file classified into software, video and models, mannekins and simulations (over 600) and websites (about 170). For each, there is a carefully edited description, with information about cost and availability. But having recognised that apparently useful alternatives are available, the teacher has the problem of access for trialling without incurring cost and inconvenience. Few of the products listed cost less than \$NZ100, and many much more. Some of them, in a true spirit of preventing suffering to animals and some students, offer free software. Of those available at profit for the producers, very few offer free demonstration versions. Fortunately, several organisations offer loan services, and over 100 are listed. Some of these with titles in Physiology and Anatomy appear to be useful in veterinary education.

In her forward to this book, Gill Langley, scientific adviser to the Dr Hadwen Trust for Humane Research in Britain, discusses the paradigm shift that has taken place in the last 20 years. In her words, “Today, conscience and respect for life can be discussed in academic circles without the expectation of ridicule or defensive over-reaction. It is also possible to speak of empathy with the suffering of other animals without being dismissed as squeamish”. She also challenges us with her final words: “Often against all the odds, one person in the right place, just at the right moment, can achieve remarkable and unprecedented results. Some of these people have contributed to this book. Others are about to read it, and be empowered in

their turn to leave their ‘comfort zones’ and become part of the solution: the humane teaching and practice of the life sciences.”

Distribution:

Subject to stock availability, the book is free in New Zealand to Animal Ethics Committees and to anyone who is involved in working on humane education initiatives, teaches or lectures in the fields of biology, medicine or veterinary science, or is a student of life sciences. All donations towards postage are appreciated. Cheques should be made out to D. Bourke. Alternatively, the book can be purchased for NZ\$25. Further information can be obtained from The InterNICHE: National contact for New Zealand, Deidre Bourke: dbourke@paradise.net.nz. In Australia the book is available only through Cynthia Burnett, Secretary and Humane Education Officer, Animal Australia (Cynthia@powerup.com.au) The price is \$15 to assist with postage costs. There is a student concession price depending on circumstances.

Conferences, Workshops & Courses

Readers are invited to inform the editors of any relevant events, for inclusion in this section

**The Jackson Laboratory, Bar Harbor, Maine, USA
Mouse Genetics: Accelerating Drug Discovery and
Development, May 17-19, 2004**

Conference Overview:

The mouse is a powerful tool for gene-based drug discovery and development. As a leading platform for target discovery, the mouse has a genome that can be easily modified. Furthermore, many human diseases can be modelled in the mouse, making it an ideal platform to accelerate the validation process of drugs in the discovery pipeline. This conference explores these and other unique roles this animal model plays during the early stages of drug discovery and development.

<http://www.jax.org/index.html>

International course on laboratory animal science
Utrecht, The Netherlands, 1 – 11 June 2004

www.vet.uu.nl/site/viavet_english/

ANZCCART Annual Conference
Animal Ethics: New Frontiers, New Opportunities
Sydney, Australia 26 – 28 September 2004

www.adelaide.edu.au/ANZCCART

**10th International Conference on Human-Animal
Interactions**

Glasgow, Scotland, 6-9 October 2004

www.glasgow2004ad.com

**The Australian and New Zealand Society for Laboratory
Animal Science (ANZSLAS)**

Legends Hotel, Gold Coast, Queensland, Australia, 26th
- 29th October 2004

<http://www.anzslas.org/>

The Australasian Society of Zoo Keeping (ASZK)
Animal Training seminar with Ken Ramirez

North Ryde RSL, Sydney, 15-19 November 2004

www.aszk.org.au

**5th World Congress on Alternatives & Animals in the
Life Sciences**

Berlin, Germany, 21 – 25 August 2005

www.ctw-congress.de/act2005

**Diploma Level Training Program in Research Animal
Ethics, Welfare and Use.**

The University of Newcastle and TUNRA have announced their new 2004 program, which is specific to the needs of those who work with animals for research or teaching purposes. Program content accords with selected modules of the NSW Diploma of Animal Technology and participants assessed as competent will receive a formal "Statement of Attainment". Participants may attend the program at the University of Newcastle, NSW. Inquiries from institutions/organisations wishing to run this program at their location are also welcome. The program aims to familiarise participants with the requirements of State/Territory legislation, and the Australian Code of Practice for Care and Use of Animals for Scientific Purposes, and to provide theoretical and practical experience with common procedures and techniques used with laboratory animals. It comprises 6 modules, with 3 modules involving presentations or interactive tutorials and 3 practical modules. Further details can be obtained from: <http://www.newcastle.edu.au/research/animal/Training-2.html>

The University of Cambridge Primate Research Centre

On 27 January 2004, the University of Cambridge, UK, announced its decision to “discontinue its planned primate research centre for financial reasons”. The following statement from Professor Tony Minson, Pro-Vice-Chancellor for the University of Cambridge, summarises the University’s decision:

“The University of Cambridge, like many other UK universities, faces an uncertain financial future. What was an acceptable risk five years ago is no longer the case. This has not been an easy decision to reach but ultimately, we have a responsibility to our students and staff not to take financial risks of this magnitude, and we believe that although regrettable, this is the right course of action. The animal rights groups will of course claim this as a victory, but in our view they have won no arguments whatsoever. We still believe this work to be of significant national importance and we are already exploring with the medical research funding agencies other ways of continuing this work. The University of Cambridge is determined to remain a world-class institution for bio-medical research, maintaining the highest animal welfare standards. To achieve the important advances in medical knowledge, animals are used where there are no alternatives. We will continue to undertake research that gives hope to thousands of people affected by these devastating diseases and disorders”.

Source: <http://www.cam.ac.uk/>

UK Minister supports animal research

In a letter to Colin Blakemore, CEO of the UK Medical Research Council (MRC), Prime Minister Tony Blair quotes from a statement to the House of Lords by Science Minister Lord Sainsbury in October 2003:

“The Government also note, and endorse, the Select Committee’s finding that there is a continuing need for animal experiments in applied research and in research aimed at extending knowledge. We agree that fundamental

and applied scientific research has enormous potential for progress. Note, that in the field of health care, research using animals has contributed to almost every medical advance in the past century. ... Most people in this country accept the idea of animal experimentation, but are very clear that it should not take place in any case where it is unnecessary or causes unnecessary suffering.”

Source: RDS News. Spring 2004. <http://www.rds-online.org.uk/>

Refinement

The Johns Hopkins Center for Alternatives to Animal Testing (CAAT) has worked with scientists since 1981 to find methods to replace the use of laboratory animals in experiments, reduce the number of animals tested, and refine necessary tests to eliminate pain and distress. As an example of the role of CAAT, it is presently soliciting projects in the area of Refinement. “These studies should focus on the development of better methods for pain assessment, alleviation, elimination and/or prevention of pain in animal experiments.” CAAT provides a free online “Humane Science” course that presents a “broad overview of diverse topics in the practice of and approaches to humane animal experimentation.” The self-paced course consists of 12 audio lectures with accompanying slides, resource lists, and study questions.

<http://caat.jhsph.edu/>

FRAME

FRAME (Fund for the Replacement of Animals in Medical Experiments) is a strong advocate of the Three Rs approach. According to the FRAME website “Our long-term goal is the total elimination of laboratory animal use, through the development, validation and acceptance of replacement alternative methods. Until this goal is reached, we also support efforts to reduce the numbers of animals used through better science and better experimental design, and to refine procedures so that the suffering of any animals necessarily used is minimised.”

www.frame.org.uk/index.htm

In 1998, FRAME established a Reduction Committee, whose members come from industry and academia and have expertise in statistics, experimental design, animal welfare and alternatives. **The committee's aim is to reduce the number of animals used in research, education and testing, without compromising the scientific quality of research, and without disrupting scientific progress.** The Committee has developed a useful bibliography of training materials on experimental design and on the statistical analysis of *in vivo* and *in vitro* data.

<http://www.frame.org.uk/reductioncommittee/bibliointro.htm>

RSPCA Australia

Issue 7 of the "Animal Welfare and Science Update" includes a section headed "Animal Research and Experimentation" which reviews two recent papers. The first review entitled "Evaluation and treatment of pain in rats and mice" refers to a paper by Gross *et al.* (2003) Critical anthropomorphic evaluation and treatment of postoperative pain in rats and mice. *J. Am. Vet. Med. Assoc.* 222: 1505-1501. The second review "Compassion for laboratory animals" refers to a paper by Reinhardt, V. (2003). Compassion for animals in the laboratory: impairment or refinement of research methodology? *J Appl Anim Welf Sci.* 6(2):123-30.

<http://www.rspca.org.au/>

The National Consultative Committee on Animal Welfare (NCCAW)

The NCCAW, which provides advice to the Australian Government on animal welfare issues of national significance, is developing a National Animal Welfare Strategy (NAWS). The strategy covers the care, uses and direct and indirect impact on all species of animals in Australia including those used in research and teaching, recreation and entertainment, production of food and fibre, companion animals, aquatic animals, pest species, and wildlife. The NAWS provides direction for the development of future policies and the revision of existing approaches to animal welfare. It establishes a framework to clarify roles and responsibilities, enable governments and stakeholders to engage in setting standards and priorities and to set strategic goals. Public consultation on the draft strategy has now closed and a future step is to develop a Strategy Implementation Plan.

<http://www.affa.gov.au/index.cfm>

Medical Advances Without Animals (MAWA)

The MAWA Doctoral Research Scholarship has been established with the specific intention of encouraging new scientists to advance the development, validation and application of non-animal methods in medical research. The recipient of the Scholarship will receive an annual stipend of \$22,500 and approved expenses up to \$2,500 each year for three years in the pursuit of a research program leading to the award of the degree of Doctor of Philosophy. Funding will not be made available simply in support of non-animal research *per se*. Award of the Scholarship is contingent upon the proposed research program being consistent with the stated aims of the Trust. No new scholarships were awarded for 2004, but applications for 2005 scholarships close on 30 SEPTEMBER 2004.

<http://www.mawa.asn.au/>

MRC

The Medical Research Council (UK) has established a Centre for Best Practice for Animals in Research (CBPAR). Quoting from the website (see below): "High standards of laboratory animal welfare are imperative both for ethical reasons, and for ensuring the quality of research. It is becoming widely recognised that reproducible and accurate data depend on 'healthy and happy' animals. CBPAR is dedicated to ensuring high standards in all aspects of laboratory animal use. Acting as a resource for the scientific community, CBPAR is committed to developing, disseminating and implementing information on best practice in the use and welfare of laboratory animals, and to applying the **3Rs**".

http://www.mrc.ac.uk/index/public_interest/public-ethics_and_best_practice/public-cbpar.htm

Animal Pain

The Humane Society of the United States (HSUS) publishes the *Pain & Distress Report* on a quarterly basis. This newsletter is sent to Institutional Animal Care and Use Committees (IACUCs) and other related parties to provide up-to-date information on issues regarding pain and distress in laboratory animals.

<http://www.hsus.org/ace/11401>

University of Edinburgh Animal Welfare Research Group

Joyce Kent and Vince Molony of the University of Edinburgh Animal Welfare Research Group have developed an important and useful website entitled: *Guidelines for the Recognition and Assessment of Animal Pain*. This website uses knowledge and understanding of:

- the neurobiological mechanisms of pain;
- clinical neurological and behavioural changes in animals as a result of injury and disease;
- acute and chronic pain in lambs and calves produced by common husbandry practices; and
- ethical constraints on studies of animal pain.

The website is sponsored by Department for Environment Food and Rural Affairs (UK) (DEFRA), Scottish Executive Environment and Rural Affairs Department SEERAD), British Veterinary Association Animal Welfare Foundation (BVWAAF), and Universities Federation for Animal Welfare (UFAW).

<http://www.vet.ed.ac.uk/animalpain/>

Refinement Alternatives Adopted by the European Pharmacopeia Commission

Three alternative methods for assessing the potency of vaccines have been adopted by the European Pharmacopeia Commission (EPC), which, like its counterparts in the US and elsewhere, sets standards for the production of vaccines, hormones, drugs and other therapeutic products. All three alternatives are based on analyses of blood-samples taken from experimental animals, but the new methods spare the animals from experiencing disease. Two of the methods assess the potency of human tetanus vaccines, and had been validated in a joint study by the European Centre for the Validation of Alternative Methods (ECVAM) and the European Directorate for the Quality of Medicines (EDQM). The third alternative assesses the potency of vaccines for swine erysipelas, a potentially fatal disease in pigs. "The Humane Society of the United States is happy to see alternative methods for vaccine potency testing adopted by the standard-setting authorities," said Dr. Martin Stephens, Vice President for Animal Research Issues at The HSUS. "The potential of these and similar methods to eliminate research animal suffering is considerable."

Source: European Centre for the Validation of Alternative Methods (CVAM): <http://ecvam.jrc.it/index.htm>

Cane Toad Euthanasia

In response to several inquires about the humane euthanasia of cane toads by members of the public, ANZCCART approached Professor Michael Tyler for advice. Mike is a Visiting Research Fellow in the School of Earth and Environmental Sciences at the University of Adelaide. His response is reproduced below, with permission:

"Of the physical methods, decerebration and spinalisation require training, whilst decapitation or skull crushing is abhorrent to most members of the public. This leaves hypothermia. I appreciate that it has been considered to cause pain because of the supposed formation of ice crystals in the tissues. However, what has not been considered is that cane toads are ectothermic and all their physiological processes (including conscious state) are temperature dependent. I cannot believe that the toads would be responsive to any stimulus prior to ice formation. Therefore I strongly recommend putting toads in plastic bags in a deep freeze as a humane means of euthanasia."

New Books

Haematology of Australian Mammals by Phillip Clark, Murdoch University, Western Australia (CSIRO Publishing. ISBN 0-643-06830-9). "A valuable guide to collecting and analysing the blood of Australasian mammals for haematological studies and diagnosis and monitoring of disease."

<http://www.dadirect.com/>

Natural Pathogens of Laboratory Animals by David G Baker, Louisiana State University. (American Society for Microbiology Press. ISBN 1-5558-1266-X). "This important new book informs laboratory animal veterinarians, animal caretakers, research scientists, and others, how natural pathogens of laboratory animals, many of which cause no outward signs of disease, can alter host physiology and compromise the validity of research findings."

<http://www.dadirect.com/>

A resource book for lay members of Local Ethical Review Processes by Jane Smith and Maggy Jennings. The book "provides guidance on a wide range of topics relevant to the work of lay members ... in the ethical review of research projects and the evaluation of animal facilities." The book is available from the Research Animals Department of the RSPCA (UK).

www.rspca.org.au

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and the welfare of animals used.**

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