

Ethology and Laboratory Animal Welfare

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At its annual conference, held this June at Colorado State University in Fort Collins, the Animal Behavior Society (ABS) passed a resolution opposing HR 4805, a bill which would establish a National Center for Alternative Research to develop and coordinate alternative methods of research and testing which do not involve the use of live animals. The ABS, which represents some 1750 North American animal behavior researchers, took issue with the bill on the grounds that: a) it discourages replication of previously-obtained results, b) there are currently no satisfactory substitutes for live animals in behavioral research, c) it would complicate and delay research that may be of great potential benefit to society, and d) it fails to provide adequate protection for animals while greatly increasing the cost of research or decreasing the amount of research which can be adequately conducted.

In my view, the ABS (of which I am a member) has taken the proper position on this bill but I cannot accept their reasons for doing so. The ABS claim that replication of results is "necessary to confirm and verify scientific findings" is not under question when the purpose of the research is to extend, generalize, or refine these findings. To replicate the original conditions of an earlier study so that this may then be done is fully justified. However, if the goal is merely to replicate and reconfirm with no thought of original work to be done, then we have the kind of case which HR 4805 seeks to avoid. Many scientists will stop reading here and say, "Well, nobody does *that!*" Indeed, if that is the case, then there should be no reason to argue with this provision of the bill. If such pointless replication *does* occur, then it ought to be stopped.

In its second objection to the bill, while recognizing the need for humane treatment and alternative methods of research, the ABS points out that there are currently no substitutes for live animals in behavioral research. This point is generally valid, especially when behavioral processes *per se* are of interest, rather than used as an index of some underlying organic condition which might be studied by other means. For example, a behavioral toxicologist might study the effects of administration of lead on the reflexive behavior of rats, not because he or she is interested in the organization of such behavior *per se* but rather because he or she wants to know whether there are neurotoxic side effects of lead. Supporters of alternatives would rightly inquire whether a tissue culture method

might be developed to replace the live animals in such experiments yet yield the same practical information. Similarly, one might — and, in my view, should — ask whether alternatives to, or modifications of, live animal use in studies of drug addiction, learned helplessness, and the like could be developed in order to spare the animals any pain and/or suffering they might otherwise undergo. I do not accept the view, espoused by some, that since pain and suffering are difficult to define, they may therefore be disregarded. The animal should always be given the benefit of the doubt. Analogously, consider the concept of "play". Ethologists have struggled for years, attempting to define what play is. At present, we can only state some of its typical properties but most of us recognize it (at least among mammals) immediately. What prevents us from extending the same approach to our consideration of animal suffering?

I do not mean to imply here that ABS members commonly conduct pain inducing studies — but some do and we may as well have qualms about it. That is not the point. The point is whether, giving the animal the benefit of the doubt, alternatives are possible and desirable. These questions must continually be asked.

In its third objection, the ABS claims that the bill would "complicate and greatly delay the initiation of research that might have great potential benefit to society." This contrived line has been trotted out so often by groups seeking to avoid "governmental interference," that I fear it is wearing very thin and losing credibility. Animal behavior research is important, fascinating, rewarding, and enjoyable, and may even occasionally have "great potential benefit to society." But, for a more objective look at this issue, I recommend picking up a recent copy of *Animal Behaviour*, the ABS-sponsored journal (or any other journal, behavioral or otherwise, for that matter) and asking yourself squarely which of these albeit well-done and interesting studies are of such timely importance that they could not withstand a few months of delay in the interests of animal welfare. By no means do I wish to slight behavioral research — it is, after all, my chosen profession — but I do feel that each researcher should ask himself or herself what kinds and extents of professional sacrifice he or she is willing to make in order to help ensure that research animals will not face unnecessary pain and suffering.

Finally, the bill is not intended directly to "provide adequate protection of animals." That is the direct purpose of the Animal Welfare Act. HR 4805 seeks to protect animals *indirectly* by reducing their unnecessary uses (and, therefore, abuses.) This is a very real benefit indeed. The ABS charge that the use of alternatives necessarily increases the cost of research is, unfortunately, misinformed, as witnessed by the *Limulus* lysate test for endotoxins. This simple *in vitro* test utilizes the blood drawn from horseshoe crabs (whom it is not necessary to harm or kill) and completely eliminates the need to equip and maintain expensive laboratory colonies of rabbits outfitted with rectal thermometers. Not only is the lysate test significantly cheaper than the live animal model, but it is many times more sensitive. Numerous other economically preferable alternatives could be cited.

Animal behaviorists may well wonder what relevance such a biomedical example may have for them. The answer is that separate pieces of legislation cannot practicably be developed for each field of science. We cannot have one law for ethologists, one for psychologists, one for endocrinologists, etc. Thus, to object to a bill on the grounds that it rarely applies to one's own field of interest is unjustifiably provincial.

The ABS has, in recent years, taken preliminary measures to protect laboratory animals used by its members. Reviewers of manuscripts submitted to *Animal Behaviour* are now asked whether the research infringes on any laws relating to animal welfare—as far as the reviewer is aware. But it should be recalled that one may inflict tremendous pain and injury on animals in the name of science without infringing on a single US law and that a great part of the reason why those laws are so permissive is that professional societies (e.g. National Society for Medical Research) continually attempt to block, rather than contribute to, appropriate legislation.

In another, otherwise commendable move, the ABS recently adopted its own set of guidelines for the care and maintenance of research animals by its members. The stated purpose of the guidelines is “to promote the continuing interest of the ABS in furthering of scientific knowledge and conscientious awareness of human responsibility toward animal life.” Unfortunately, only 4% of the ABS membership (i.e. 72 persons) bothered to vote either for or against adoption of these guidelines, while some 25% voted in each of the years 1978 and 1979 for election of society officers. When faced with such facts, it becomes difficult to see where the “continuing interest” of society members lies.

The new ABS guidelines create an Animal Care Committee empowered to use welfare criteria as bases for rejecting manuscripts submitted for publication in *Animal Behaviour*, or for presentation at society conferences. Of course, only abstracts of conference papers are available in advance and the methods are usually not detailed in these. Nevertheless, the committee apparently did not react when in Fort Collins this year, an ABS member presented a paper on the behavior of anubis baboons required to smoke cigarettes in isolation cages for over three years. My choice of this example clearly reflects a personal distaste for studies of this kind and it is a distaste which I cannot expect everyone to share. My point, however, is to ask whether the information derived from such studies is useful and, if so, whether alternatives might not be developed to replace, or reduce the numbers of animals used in such studies. If the answer to this is negative, then we should ask what we can do to alleviate the probable pain and/or suffering of these animals (e.g., Must they be kept in isolation cages?). The important thing is that these questions be continually asked, and that we want to ask them.

HR 4805 is by no means a perfect bill and there is a perfectly good reason to reject it in its present drafting. It requires that 30-50% of all federal monies now spent on live animal research be reallocated toward the development of alternatives. Moreover, it does this *without ever defining* “live animal research.” If enforced to the letter, such an across-the-board reallocation would hamper not only painful and stressful research but also wholly non-interventive ethological, ecological, or other research on free-ranging animals, endangered species, or even animal welfare-related research itself, since these too are studies “using live animals.” HR 4805 is clearly too loosely worded to be passed in its present drafting. The major problems, however, could well be rectified in congressional hearings prior to forwarding to the Congress for approval. Unfortunately, rather than requesting hearings on the bill in order to correct its flaws, the ABS has voted to throw the baby out with the bathwater.

A bill on alternatives has been needed for a long time and we currently have

before us one such bill with widespread popular support and as many as 52 congressional co-sponsors. It deserves a chance to be repaired in committee even if only because the chance may not come again soon. Ethologists have a unique opportunity to play a very constructive role in the development of appropriate legislation since it is they who, by training, should be most sympathetic to the natural needs, fears, and vulnerabilities of laboratory animals.

