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Turtle Excluder Device

As a quoted source in the article entitled “Sea Turtle Excluder Device” (Int. J. Stud Anim Prob 2(5):231-232, 1981), I would like to offer some corrections and also clarify one of my comments in the article.

I commend the Journal for the attention paid to the sea turtle excluder device (TED). The TED may well provide a technological solution to the problem of incidental capture and drowning of sea turtles in shrimp trawl nets. This is the real new development in the protection of the sea turtles — the reluctance of the shrimping community in the Southeast to adopt the device was not meant to downplay the successful aspects of the TED. The Center for Environmental Education (not “Council on,” as printed in the article) acknowledges the effectiveness of the device and is actively working to promote its adoption.

There were a few factual errors in the article that should be corrected. There are four species (not three as stated) of sea turtles that are incidentally caught in shrimp trawl nets in the southeastern United States. The leatherback sea turtle (Dermochelys coriacea) was not mentioned. Yet they are occasionally caught and drown. In the same section of the article, the green turtle is not the most endangered species of sea turtle by turtle conservationists. The Kemp’s Ridley has only one native nesting beach and is estimated to number less than 1,000 individuals.

Although a documented 2,085 sea turtle carcasses did wash ashore along the Gulf and South Atlantic coasts in 1980, they did not all appear “2-4 days after the completion of shrimp trawling operations in the area” as indicated in the article. Instead, the turtles washed ashore throughout the spring and summer months during the shrimping season.

Also, the National Marine Fisheries Service is part of the Department of Commerce, not the Department of Interior as stated in the article.

Thank you for your attention to these issues.

James Sternberg
Sea Turtle Rescue Fund
Center for Environmental Education
Washington, DC 20006

Equine Behavior Problems

Thank you for Katherine Houp’s excellent introduction to equine behavior problems (Int J Stud Anim Prob 2(6):329-337, 1981). I would like to add two observations to her commentary on cribbing and pawing.

Cribbing is also an indication of the amount of pain endured. Veterinary surgeon G.J. Baker, MRCVS, noted this in his report in Equine Behavior, Spring 1979. “Horses progress from door chewing to true cribbing...as a result of pain.” A month prior to his death, my 28-year-old gelding began chewing wood in his box stall, as well as showing deterioration in general condition. He later succumbed to arterial myosentery thrombosis and spontaneous twist of the ileocecal junction. A summary of the case, and the horse’s behavior near the time of death, is described in Equine Behavior, Winter 1981.

Throughout the 11 years I cared for him, the same gelding had a habit of alternately circling in midair and sometimes pawing, using alternate forelegs, while eating grain and occasionally, hay. This behavior seemed to be similar to that seen in nursing kittens—a rhythmic extension and retraction of the claws, or in human babies who drum with a spoon while being fed.

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Journal Developments

Andrew N. Rowan

A number of changes need to be announced concerning the management and production of the Journal, although I would emphasize that the editorial policy will remain unaltered.

The publisher of the Journal will no longer be the Institute for the Study of Animal Problems. In the future, our parent organization, The Humane Society of the United States, and the Royal Society for the Prevention of Cruelty to Animals in England will jointly assume the role of publisher. Decisions on day-to-day editorial policy will remain in the hands of the Editors-in-Chief, as before, except that one of those editors-in-chief will now be David Wilkins of the RSPCA, who replaces Dr. Michael Fox. This change reflects two facts: that the RSPCA has provided a substantial contribution to the Journal, and that we need to extend our coverage of European developments and events. Dr. Michael Fox will be an Associate Editor.

We also are sorry to announce that Nancy Heneson, our first editor, has decided to leave us and is currently working as a freelancer. She was an important and beneficial influence on the Journal in its formative stages and certainly made my job much easier. However, nobody (not even an Editor-in-Chief) is indispensable and we have appointed Dana Murphy, who has a Masters degree in Science and extensive experience in science writing and the editing of scientific papers, as our new editor.

On the production side, we are being hit hard by rising printing and mailing costs. We have therefore decided to economize by producing only four issues a year, rather than raising subscription prices. While this will mean fewer issues per year, we hope to maintain our annual output of approximately 330 pages. This change will allow us to accept longer papers for publication, if necessary. To aid our readers, several selected major articles in each issue will be supplemented with abstracts in German. We also plan to convert the whole Journal to a double-column format, since the single-column copy is tiring to read. The major articles will still be distinguished from the news and analysis pieces, however, by use of a slightly different layout.

For those readers who are interested, we have just passed the 1000-subscription mark and we thank you all for your support and interest. We hope to continue our excellent rate of growth.

The “Show Dog” Syndrome

M.W. Fox

I have received many letters on the problem of “show dog” syndrome from owners who send their dogs to compete at various dog shows throughout the country. Owners describe this syndrome as follows. The dog literally “goes to pieces” in the show ring and becomes a “nervous wreck.” The typical pattern is one of a healthy, outgoing dog with a seemingly stable temperament and of sound lineage having a complete breakdown.

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Often, but not invariably, the dogs that do develop the syndrome are not accompanied on the show circuit by their owners. They are under the charge of one or more different handlers. However, the competence and reputation of the handlers do not seem to contribute to any significant degree, although a possible connection between cruel or negligent treatment and this syndrome should not be ruled out. The following case history is illustrative of the etiology and fate of these dogs.

"Spice," a three-year-old Belgian sheepdog, was loaned by her original owner to a friend who wanted to have a dog so that she could compete in the dog show circuit. The dog went to several shows and then was returned to the original owner, who soon after went abroad and left the dog with a handler to be "finished" at a number of other shows. The dog subsequently went to pieces at one show, resisted going into the ring, and when in the ring, acted fearfully and was defensive when approached. When the dog returned to the handler’s home, "she curled up and went to sleep," showing little interest in food and acting unresponsive to the handler. Veterinary examination ruled out any organic cause underlying this behavior. The handler gave the dog to a breeder and trainer of Belgian sheepdogs, who, after several weeks, was successful in drawing the dog out of what symptomatically resembled reactive depression.

One may reason that the frequent changing of ownership undermined the dog’s sense of emotional security, which ultimately led to complete withdrawal, analogous in many respects to reactive depression in man. This syndrome has been demonstrated in dogs by Overmeier (1981) under controlled laboratory conditions, using intense unavoidable electrical shock. In spite of the questionable ethics of these so-called "learned helplessness" studies (which comparative psychologists regard as animal models of reactive depression in man), Overmeier has successfully shown that it is the element of insecurity, of inability to predict and control traumatic environmental stimuli, that underlies the development of this syndrome. Dogs that are able to predict when the shock will occur, and/or are able to avoid the shock, do not develop learned helplessness or reactive depression. It may be argued, therefore, that a dog that has the security of its owner or a close emotional attachment to one particular person while on the dog show circuit would be less insecure than a dog being handled by one or more strangers or persons with whom the dog has not developed a close bond. Owners of show dogs should therefore be advised to accompany their dogs whenever possible to the shows, provided of course their dogs are emotionally attached to them. As an alternative, they should endeavor to place their dogs with the same reputable handler so that the animals may develop a strong secondary social attachment (Scott and Fuller, 1965). This attachment should be sufficient to provide the animals with the emotional security that will help protect them from developing the "show dog" syndrome.

This syndrome may be particularly relevant to those researching the companion animal-human bond. Further research is needed to verify that the "show dog" syndrome is a consequence of treating dogs as mere "objects," during which time the animal's emotional bond is disrupted, leading ultimately to complete withdrawal and reactive depression.

References

Animal Liberation — The Modern Revival
A.N. Rowan

The current interest in animal welfare and animal rights often leads to questions as to why this issue should have suddenly burst upon the scene and also why so many of the protagonists seem to have been raised and/or educated in Britain. Neither of these questions is easy to answer and perhaps there are no clear and unequivocal causal connections. There are many persons who are interested in animal issues and who do not have the British connection — Professor Teutsch in Germany and Professors Regan and Rollin in America being notable examples. Comments have also been made about the British love of animals. But this aspect definitely does not have anything to do with animal rights and animal liberation; if anything, "loving" animals may preclude any notion of animal rights. It is respect for animals which is important.

Leaving the issue of the British connection — why should there have been the sudden growth of interest in animal rights? The republication of Henry Salt’s first-rate book, Animal Rights, by the Society for Animal Rights clearly indicates that the ideas and arguments enunciated by Peter Singer are anything but new. In fact, Singer himself acknowledges this in the preface to the 1980 version of Salt’s book. However, the growing interest in the environment may have been a predisposing factor as may purely fortuitous events — such as the gathering together of a group of interested philosophy students and other academics in Oxford at the end of the
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sixties. This particular event is described below by Peter Singer, one of the philosophy students, whose life was changed as a result of his meeting with the "Oxford Vegetarians."

The Oxford Vegetarians — A Personal Account

Peter Singer

People coming together more or less by accident can have a catalytic effect on each other, so that each achieves more than he or she would have done alone. The Bloomsbury Group — G.E. Moore, Virginia and Leonard Woolf, E.M. Forster, J.M. Keynes, Vanessa and Clive Bell, Lytton Strachey and others — is a famous example. It would be inmodest to suggest that the group of vegetarians who were together in Oxford from 1969 to about 1971 can compare with these illustrious figures; yet if the animal liberation movement ever succeeds in transforming our attitudes to other species, the Oxford Vegetarians may one day be seen to have been a significant force.

My wife, Renata, and I arrived in Oxford in October 1969. I had come to do a graduate degree in philosophy — the natural climax to the education of an Australian philosophy student preparing for an academic career. My interests were in earlier political philosophy, but the connection between my philosophical studies and my everyday life would have been hard to discern. My day-to-day existence and my ethical beliefs were much like those of other students. I had no distinctive views about animals, or the ethics of our treatment of them. Like most people, I disapproved of cruelty to animals, but I was not greatly concerned about it. I assumed that the RSPCA and the government could be relied upon to see that cruelty to animals was an isolated occurrence. I thought of vegetarians as, at best, other-worldly idealists, and at worst, cranks. Animal welfare I regarded as a cause for kindly old ladies rather than serious political reformers.

The crack in my complacency about our relations with animals began in 1970 when I incidentally met one of the Oxford group, Richard Keshen, a Canadian, who was also a graduate student in philosophy. He and I were attending lectures given by Jonathan Glover, a Fellow of New College, on free will, determinism, and moral responsibility. They were stimulating lectures, and when they finished a few students often remained behind to ask questions or discuss points with the lecturer. After one particular lecture, Richard and I were among this small group and we left together, discussing the issue further. It was lunchtime, and Richard suggested we go to his college, Balliol, and continue our conversation over lunch. When it came to selecting our meal, I noticed that Richard asked if the spaghetti sauce had meat in it, and when told that it had, took a meatless salad. So when we had talked enough about free will and determinism, I asked Richard why he had avoided meat. That began a discussion that was to change my life.

The change did not take place immediately. What Richard Keshen told me about the treatment of farm animals, combined with his arguments against our neglect of the interests of animals, gave me a lot to think about, but I was not about to change my diet overnight. Over the next two months Renata and I met Richard's wife Mary and two other Canadian philosophy students, Roslin and Stanley Godlovitch, who had been responsible for Richard and Mary becoming vegetarians. Ros and Stan had become vegetarians a year or two earlier, before reaching Oxford. They had come to see our treatment of nonhuman animals as analogous to the brutal exploitation of other races by whites in earlier centuries. This analogy they now urged on us, challenging us to find a morally relevant distinction between humans and nonhumans which could justify the differences we make in our treatment of those who belong to our own species and those who do not.

During these two months, Renata and I read Ruth Harrison's pioneering attack on factory farming, Animal Machines. I also read an article which Ros Godlovitch had recently published in the academic journal Philosophy. She was in the process of preparing it for republication in a book which she, Stan, and John Harris, another vegetarian philosophy student at Oxford, were editing. Ros was a little unsure about the revisions she was making, and I spent a lot of time trying to help her clarify and strengthen her arguments. In the end she went her own way, and I do not think any of my suggestions were incorporated into the revised version of the article as it appeared in Animals, Men and Morals — but in the process of putting her arguments in their strongest possible form, I had convinced myself that the logic of the vegetarian position was irrefutable. Renata and I decided that if we were to retain our self-respect and continue to take moral issues seriously, we should cease to eat animals.

Through the Keshens and Godlovitches we got to know other members of a loose group of vegetarians. Several of them lived together in a rambling old house with a huge vegetable garden. Among the residents of this semi-communal establishment were John Harris and two other contributors to Animals, Men and Morals, David Wood and Michael Peters. Philosophically we agreed on little but the immorality of our present treatment of animals. David Wood was interested in continental philosophy, Michael Peters in Marxism and structuralism, Richard Keshen's favorite philosopher was Spinoza, Ros Godlovitch was still developing her basic position — she had not studied philosophy as an undergraduate and only became involved in it as a result of her interest in the ethics of our relations with animals — and Stan Godlovitch refused to work on moral philosophy, restricting himself to the philosophy of biology. I was more in the mainstream of Anglo-American philosophy than any of the others, and in moral philosophy I took a much more utilitarian line than they did.

Also around Oxford at that time were Richard Ryder, Andrew Linzey and Stephen Clark. Richard Ryder was working at the Warneford Hospital, in Oxford. He had written a leaflet on 'Speciesism' — the first use of the term, as far as I know — and now was writing an essay on animal experimentation for Animals, Men and Morals. Later he developed this work into his splendid attack on animal experimentation, Victims of Science. He was also organizing a 'ginger group' within the RSPCA, with the aim of getting that extremely conservative body to eject its fox-hunters and take a stronger stance on other issues. That seemed a very long shot, then. I was introduced to Richard Ryder through Ros Godlovitch, and from him I learned a lot about animal experimentation. At the time, our positions were the mirror image of each other — I was a vegetarian, but not a strong opponent of animal experimentation, because I naively thought most experiments were necessary to save lives, and therefore justified on utilitarian grounds. Richard Ryder, on the other hand, was not

Professor Peter Singer is author of numerous publications on the moral status of animals, including the trailblazing Animal Liberation. He is Professor of Philosophy at Monash University, Clayton, Victoria 3168, Australia.
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then a vegetarian, but was opposed to animal experimentation because of the extreme suffering it often involved.

Andrew Linzey was interested in the animal issue from the point of view of Christian theology, which was not the concern of most of the group, for we were a non-religious lot. His book, *Animal Rights*, was published by the SCM Press in 1976. Stephen Clark was a fellow of All Souls College, Oxford, during this period, but I did not get to know him until much later, after he had written *The Moral Status of Animals*, which appeared in 1977.

*Animals, Men and Morals*, the first of all these books, appeared in 1971. We had great hopes for it, for it demanded a revolutionary change in our attitudes to, and treatment of, nonhuman animals. I think Ros Godlovitch, especially, thought the book might trigger off a widespread protest movement. In the light of these expectations, the book's reception was profoundly disappointing. The major newspapers and weeklies ignored it. In the *Sunday Times*, for example, it was mentioned only in the "In Brief" column — just one short paragraph of exposition, without a comment. Our ideas seemed to be too radical to be taken seriously by the staid British press.

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It is too early to say what influence the Group has had. If the books we produced have helped change the animal welfare movement, then our influence has been important. But it is difficult to single out causes for events as broad and disparate as the revitalization of the animal welfare movement. The broader ecology movement of the late sixties and early seventies obviously had a lot to do with it and there were many others, not connected with Oxford, who worked long and hard for this revitalization. Whatever the historian's verdict on the influence of a group of young vegetarians at Oxford in the early seventies, however, I know that had the Keshens and Godlovitches not been in Oxford when I was there, I would have missed an episode of my life that has put its mark on almost everything I have thought and written — let alone everything I have cooked and eaten — ever since.

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then a vegetarian, but was opposed to animal experimentation because of the extreme suffering it often involved.

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Feeder Pigs Demonstrate Stress via Radio

As part of a project designed to gain some insights into the kinds of situations which cause the most stress in pigs during a typical marketing day, agricultural engineer Herman F. Mayes of the USDA’s Science and Education Administration is using a novel technique. He taps miniature radio transmitters to the pigs’ backs; the transmitters send out signals of the animals’ heart beat, which are then recorded on a strip chart. These electrocardiograms show that when pigs are, for example, forced to climb a loading chute, their heart rate jumps from a resting rate of 100-160 beats per minute to 250-260. The result of this increase may be a decrease in blood flow, as the heart muscle becomes uncoordinated under the stress of a rapid beat, and a subsequent rise in body temperature. Mayes plans to make similar observations on pigs in a wider variety of stressful situations, such as those encountered in rough handling or in simply waiting for transportation with other feeder pigs, after grading and sorting. The data from these studies will be used in the design of better marketing facilities and handling procedures.

Debate in Europe Over Standards for Battery Hens

In a resolution passed in July 1980, the EEC Council of Europe expressed the general principle that laying hens kept in battery cages should be protected by minimum standards and other regulatory criteria, to ensure that these animals would be afforded some degree of protection from unnecessary suffering. After considering the many aspects that complicate this situation, such as the need for more data on what hens actually do require for some sense of well-being, along with the economics of egg production within and without the EEC, the Commission of the European Communities issued several specific directives for minimum standards in August of 1981. But it seems that no two countries, or no two experts for that matter, can agree on the adequacy of the Council’s proposal. The economics of egg production in the EEC, considered alone, are complex. First of all, there is no price support system in place; market forces alone determine prices, following the laws of supply and demand. Egg producers are assisted only by a common trade system at the external boundaries of the Community, in the form of import taxes and export refunds. But advances in genetics, feeding, and hygiene and, probably most significant, the introduction of battery cages, have kept egg prices stable for consumers.

In 8 of the 10 EEC member states, more than two-thirds of all laying hens are kept in such cages. Average cage sizes range from 400-450 cm² per bird, with trough lengths of about 10 cm² per bird, numbers of tiers of cages average three to four. The current density of flocks is estimated at three to five hens per cage. The production cost of increasing standards as, for example, in minimum space per bird (600 cm²), has been estimated at 8.9 percent, which represents the necessary investment in new buildings and equipment. Nonetheless, the Council, after consultation with poultry scientists, determined that the need to guarantee the welfare of the hens should be balanced against these economic costs. After discussing various aspects of the behavioral, environmental, and general welfare needs of the birds, it was decided that standards need to be established in at least two areas: space and feeding requirements (including drinking). However, they stressed the need for further study on the relative welfare and comfort of laying hens in various production systems, and the Commission plans to support such studies over the next 2 years.

Therefore, the final directive issued by the Commission in August represents, at least in principle, a compromise between economic necessities and humane concern for the comfort of the birds, given what is presently known about their needs. Specific recommendations (paraphrased here for clarity) included:

1. A minimum cage area of 500 cm² per bird (minimum total cage area, 1,600 cm²).
2. A minimum trough length of 12 cm for each hen.
3. A continuous drinking channel, also at least 12 cm long for each bird.
4. Cages must be at least 40 cm high.
5. Floors of cages must allow the hen to rest on three claws of each foot, and the slope of the floor must not exceed 7.5 degrees (14 percent).

Cages already in use are given until July 1, 1995 to comply with these requirements, but new cages must comply by July 1, 1983. The directive also contains a second section, or “annex,” that sets out several other conditions that must be met by July 1983. Governments will be required to make sure that attempts on random inspection of battery units; Commission members will make inspections as well. The annex also incorporates some other recommendations, but these tend to be expressed in more general language than those in the directive; for example: “Proper insulation and ventilation of the (poultry) house must ensure that air velocity, dust level, temperature, relative air humidity, and gas concentrations are kept within a range not harmful to the birds.”

The whole directive, however, is to be considered only as an interim measure (in force until 1983), to help alleviate the worst conditions, until the scientific studies on the behavior, environmental needs, and health requirements of hens, as noted above, have been completed.

Yet it seems that no one is terribly pleased with the Commission’s efforts. The British Farm Animal Welfare Council (FAWC), in advising the agriculture ministers on the directive, noted with alarm that only new cages would be required to comply with the directive; its members advocate immediate action to improve the welfare of all hens. FAWC also would increase the minimum square area for each bird to 600 cm², a figure that is in line with an already established British welfare code that recommends 550-600 cm². These objections were reported in October 24 Veterinary Record. By October 31, the next edition of the Record noted that debate about battery hens had reached the House of Commons. The Minister of State for Agriculture, Alick Buchanan-Smith, opted for the 600-cm² minimum, to be enforced after a reasonable transition period. He was supported by Roy Mason, who spoke, in part, for the animal welfare lobby. The most radical view was put forward by Janet Fookes (Chair of the RSPCA), who stated that, in her view, the animal lobby would settle for nothing less than a complete phase-out of the battery system.

A November 16 report in Feedstuffs stated that West Germany also supports the 600-cm² allotment; in Denmark, the government has already established 800 cm² as a legal minimum. Ireland and Italy accepted the proposal as submitted, while France has so far been noncommittal. Meanwhile, in Brussels, the Commission that drafted the document has decided to establish a special committee to see the latest developments in the egg industry, in light of its recent proposals.

And so the struggle continues. The EEC debate over regulations on conditions for laying hens is far from over.
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Farm Animal Research — For Producers or for the Animals?

From at least two major sources, there have been recent announcements of funding for farm animal research that focuses, to some extent, on the welfare of the individual animals, and not just on gross levels of production. The two funding sources are the USDA, which allocated $380,000 for fiscal year 1981 specifically for animal care research, and the National Pork Production Council (NPPC), which has funded several studies on swine welfare over the last 2 years. These levels of funding hardly constitute a flood. But they do represent a beginning, even though the United States still lags far behind Britain and the rest of Europe in supporting animal welfare-related research.

The Chicken or the Egg?

The fascinating “story-within-a-story” here involves deciding precisely what motivated Pork Council and USDA officials to allocate the money for this kind of research. Repeated questioning of USDA staff, for example, about whether it was concern for the animals, or concern for production levels, that induced them to support stress-related research brought only confident responses that these two concerns were nearly always in perfect harmony: a happy pig is a fat, healthy pig. In a press release on the new studies, which was sent out in September 1981, both animal welfare and productivity were given equal emphasis. The research will, it states:

1. “...enhance efficiency of production through a more thorough understanding of the effects of the environment and the ability to scientifically alter it to promote the individual animal’s well-being.

2. “...provide scientifically based information to evaluate the well-being of individual animals in the present production systems environment.”

Whatever one concludes about motivation, however, it is surely gratifying to see phrases about “improved well-being” of animals in press releases from USDA. And officials like Dr. D.J. Bray, Poultry Scientist for the Cooperative State Research Services, admit that the agency has definitely felt the pressure from animal welfare advocates to ameliorate conditions for farm animals. Looking beyond the dedicated $380,000 in monies allocated for 1981, he has observed that there has been an obvious trend toward funding studies that focus on animal welfare-related issues over the last 5 years. In particular, this research has been looking at environmental conditions, previously studied as separate items, inter-relate to influence the behavior and physical health of individual animals. For example, Dr. Bray cited his own work, a study on how differing management systems for poultry can be set up so as to minimize stress.

As another indication of the effects of animal welfare activism, Dr. Bray observed that, up until last year, the indexing words “animal welfare” were almost never used; a search of most data bases (3) and (4) will find these words would yield very few hits. But, within the last year or so, the term “animal welfare” is showing up as a key word in one paper after another.

An Overview of the USDA and Pork Council Studies

The USDA is supporting research in three general areas: veal calves (2 studies), swine (3 studies), and poultry (3 studies). In addition, there is another category, termed “fundamental research,” with 2 projects funded.

An examination of the study titles provides, among other things, some sense of the state-of-the-art in the development of objective measures for assessing stress in animals. One difficulty in this research area, and an indicator of why so much more is urgently needed, is that we simply do not have “a simple, all-inclusive technique for determining when an animal is being stressed” (T.H. Friend, grant proposal to the NPPC, 1981). Therefore, the studies listed below tend to be, in some sense, pilot experiments, utilizing a grab-bag of behavioral and physiological parameters, so that we can begin to identify reliable, replicable indicators of animal stress, an important prerequisite in learning how to alleviate it. Specific studies funded in fiscal 1981 include:

• “Behavioral and Physiological Evaluation of the Well-Being of Chickens and Turkeys as Affected by Management and Environment”

• “Investigation of the Effect of Two Different Housing Methods on the Welfare of Laying Hens” — indicators used will include humoral and cell-mediated immune response capacities, and blood levels of minerals (calcium, zinc, copper and iron) previously implicated in the stress response.

• “In vitro Bioassay Techniques for Avian FSH [follicle stimulating hormone] and ACTH [adrenocorticotropic hormone]”

• “Assessment of Behavioral-Physiological Relationships of Laying Fowl Maintained at Various Cage Densities”

• “Behavior and Physiology of Calves in Stalls, Pens, and Hutches” — indicators will include adrenal function, plasma cortisol levels, (14-15) white blood cell counts, blood chemistry, and a range of behavioral measures.

• “A Study of the Effect of Confinement and Related Factors on Physiological and Behavioral Measurements in Dairy Cattle”

• “Determining Stress in Confined Sows and Gilts”— the effects of gestation stalls and farrowing crates on the pigs’ hormonal responses will be studied.

• “Effects of Mixing Unfamiliar Pigs on Cortisol and Immune Function”

• “A Study on the Adaptive Responses of Confined Swine to Various Environments” — blood hormone levels and the immune system, as well as behavioral changes, will be monitored.

The work supported by the NPPC ranges from a detailed analysis of the effects of small changes in confinement systems to a broad comparison of the differences between pigs in confinement and free-ranging pigs. Dr. Stanley Curtis of the University of Illinois is studying the differences in the stress and adaptation of gestating sows, 25 days after mating, under sets of conditions that closely resemble each other (and the status quo) — that is, gestating pens (with individual or group feed stalls) versus gestating crates (with solid or open walls in front). By contrast, the study by Dr. T.H. Friend focuses on the relative levels of stress induced by quite different kinds of environments: namely, tethering, individual stalls, and pasture. Dr. Friend will examine a number of parameters: adrenal hormone levels, T3 and T4 values, white blood cell counts, and behavior.

The Future for This Kind of Research

While the NPPC has indicated that it plans to continue its current level of funding for animal welfare-related work, the $380,000 from the USDA for fiscal 1981 consists entirely of “non-repeatable” funds; none of the officials interviewed at USDA could say whether there could be any money at all earmarked for animal welfare studies in the 1982 or 1983 budgets.

But Dr. Dyar King, the National Research Program Leader of the Agricultural Research Service, notes that the agency is beginning to utilize an interesting method to circumvent the current lack of funds. Ongoing studies, not originally designed to investigate animal welfare, have been reexamined. In many cases, these studies are now being modified to include the collection of data related to stress in individual animals. In this way, a measurement of, for example, corticosteroid levels, or the recording of additional notes on behavior, can be used to give older work a new focus that is more closely related to animal welfare concerns.
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Focus

Horse Racing and Drug Abuse: Untangling the Issues Involved

Some time during mid-January, hearings on a new bill, intended to end the misuse of drugs in racetracks, will be held in the U.S. Senate. The Humane Society of the U.S. (HSUS) wholeheartedly supports the bill and, in fact, worked with the American Horse Protection Association as one of the co-authors of its specific provisions. But to many sectors of the racing industry, the bill is anathema. They believe that enactment of this legislation will surely spell financial ruin for the racetracks of America, given the costs that will be entailed in forgoing the alleged benefits of drugs, and in setting up the drug analysis labs which will be a required part of checking to make sure that no unsound horse enters a race temporarily fortified by pharmaceuticals.

What the Bill Says

First, it is important to keep in mind what the proposed bill actually says. Its specific provisions, discussed previously in the Journal at some length (11:33-54, 1980), include:

1. Prohibition of all pre-race administration of medications capable of affecting a horse’s performance at the time of the race.
2. Prohibition of numbing an animal’s legs with ice, dry ice or any other chemical agent on the day of the race, and elimination of the practice of permanent numbing through surgical rectomy.
3. Establishment of uniform pre-racing inspection and drug testing programs.
4. Strict enforcement of penalties for persons convicted of wrongfully drugging or numbing a racehorse.

The Context of the Racing Industry

The gut-level reaction of the racing industry to the provisions of the bill has been negative. This feeling is, in part, simply a manifestation of the general sentiment being expressed in so many ways around the Nation, that “big government” is growing too fast and crowding the lives of individual citizens (and individual businesses) a bit too closely; that a knowledge of local conditions gives State and municipal governments insights that the Federal Government cannot possibly achieve; and that a snobbish “dogooder” elite of bureaucrats and planners presumes far too much if it believes that it has the right to dictate how people in Peoria should live and think.

In the minds of the State racing commissioners and track owners, this kind of thinking translates to a consensus that the provisions of the proposed bill manifest a cavalier lack of knowledge about the industry’s financial and political circumstances.

Racing industry spokesmen point out that the most important aspect of the current racing situation is the recent increase in the length of the racing season, in most of the 30 racing States. Among the 54 tracks included in the Thoroughbred Racing Association, the total number of racing days rose from 6,242 in 1978 to 7,515 in 1979, a 20.4 percent increase. Thus, either more horses are needed, or else the available horses must race more often, even when they are not in the best of shape. Therefore, the racing industry argues that drugs play a vital role in ensuring that there is a sufficient supply of horses to fill the racing calendar.

However, supporters of the proposed bill wonder about the economic wisdom behind this longer racing season. During the same period, total attendance rose only from 51.5 million to 55.1 million (a 7 percent increase). So, for some reason, the number of individuals at the track on a typical day appears to have declined. This decline may be a result of a decrease in available funds to spend at the track. It may also represent a growing lack of confidence in the integrity of the sport of racing as more and more bettors, looking at their racetrack programs, begin to wonder just what the asterisks beside the names of many horses, which indicate that the horse is running on “bute” or Lasix, actually mean in terms of performance.

Further complications in sorting out racing industry motivations arise from the fact that, for better or worse, the world of racing is very inbred. As reported in a New York Daily News series, “Scandals Poison Horse Racing” (April 1981), the racing industry itself is riddled with complex patterns of conflict of interest. Many racing commissioners are also horse breeders and make frequent bets at the track. Many track veterinarians own and race horses, often against other horses that they are treating. Therefore, when the racing industry argues against one or another provision in the proposed legislation, it is hard to tell who is speaking for precisely what interest groups, and to ferret out what motivations lie behind the particular arguments raised.
Finally, some individual entrepreneurs have been considering the initiation of their own studies. Provim, the largest U.S. manufacturer of milk replacer feed for veal calves and a veal meat packer, had planned to investigate the effect of the Quantock group pen method (as compared with confinement in individual crates) on the general health and well-being of veal calves. This was the result of public feeling that the crate method is unnecessarily cruel. However, the latest word is that Provim, having gained a respectable yield of favorable reaction from veterinarians and the public, has decided to dispense with the endeavor, has decided to dispense with the study. Therefore, we are left to wonder about the economic wisdom behind this longer racing season. During the same period, total attendance rose only from 51.5 million to 55.1 million (a 7 percent increase). So, for some reason, the number of individuals at the track on a typical day appears to have declined. This decline may be a result of a decrease in available funds to spend at the track. It may also represent a growing lack of confidence in the integrity of the sport of racing as more and more bettors, looking at their racetrack programs, begin to wonder just what the asterisks beside the names of many horses, which indicate that the horse is running on “bute” or Lasix, actually mean in terms of performance.

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But perhaps the most important factor in the racing industry’s unease about any changes in the status quo stems from worry about any factor that
might decrease the enormous amount of money made at the racetracks each year. The Daily News article estimated that, for 1980, the total amount of all bets was about $12 billion. Since a certain percentage of this gross income goes to State treasuries, State governments also have a substantial interest in maintaining the racing status quo. Further, they tend to fear what would happen if careful investigations of the racing industry were instigated. Said Marc Paulhus of The HSUS: “The State commissions simply do not want to deal with a scandal of this nature. They want to maintain the racing status quo. Further, they have a substantial interest in maintaining the health and racing soundness of horses.

A Brief Look at the Drugs in Question

The use of drugs in horse racing has received extensive coverage by the media. Much of this coverage tends toward the sensational, but a good source for a more balanced discussion on bute and Lasix is “The Use of Drugs in Horse Racing,” a report issued by the Library of Congress’ Congressional Research Service.

Phenybutazone (“bute”), one of the two most frequently used drugs, is formally classified as an anti-inflammatory, antipyretic analgesic. Its anti-inflammatory action is similar to that of cortisone. In humans, the drug has been approved for the treatment of inflammatory conditions associated with the musculoskeletal system, especially arthritis, as well as obstetric muscular soreness. It is important to note here that all package inserts that accompany the drug, whether for human or veterinary use, state that treatment with bute should never be prolonged (maximum, 5 days). This is because bute, like cortisone, suppresses the body’s immune system. Inflammation has been termed “the body’s cast,” in that it comprises a whole variety of chemical and physical processes (such as release of white blood cells and clotting of blood into injured tissues to ingest irritant debris) that are an essential part of an organism’s healing process. At many racetracks, bute is given to some horses before each race, or even on a daily basis ground up into the feed. During the stress of a race, the drug acts primarily as a pain reliever (probably through the inhibition of prostaglandin release), such that an injured horse will fail to protect injured tissue, and will literally run until it drops. On May 3, 1978, a mare named Easy Edith, running at Pimlico in Baltimore, setting off a four-horse spill that killed jockey Robert Pineda.

The other drug most frequently given to horses prior to a race is furosemide (trade name, Lasix). Lasix is a powerful diuretic that acts by inhibiting reabsorption of sodium by the kidney. Increased levels of the electrolyte are excreted together with water, to preserve electrolyte balance in the body. The approved use of this drug is for edema, especially myocardial edema. But its use in racehorses seems, at least in first glance, distinctly unrelated to edema. It is supposedly given to horses because they are “bleeders,” that is, those who tend to rupture tiny blood vessels in the alveoli of the lungs, leading to hemorrhages during workouts or after a race. But there is no evidence by which a diuretic drug might affect this type of condition is unknown. There has been some speculation, by those who want to believe in the effectiveness of Lasix treatment, that bleeding horses may obtain relief through the drug’s ability to decrease pulmonary edema. But Lasix may lower blood pressure by decreasing blood volume. But there are no hard data to support any of these kinds of hypotheses. What we do have, however, is a good estimate of the total percentage of horses with epistaxis (bleeding), made by R.W. Cook, Professor of Equine Medicine and Surgery at the University of Illinois. He has stated that 0.8 to 2.5 percent of all racehorses actually have epistaxis, yet the percentage running on Lasix ranges from 25 to 80 percent. There are few data available on the efficacy of Lasix in the true bleeders. One recent study was conducted by Dr. Robert Pineda on 1978, a mare named Easy Edith, running on Lasix and then raced under conditions similar to those before treatment. Forty percent were no longer bleeding, but 60 percent continued to bleed in spite of the treatment. The initial report of the study, in the Horsemen’s Journal (June 1981), did not provide any details about the phrase “raced under similar conditions.” It is therefore hard to tell just how many factors such as track condition and ambient temperature were controlled for in the experiment. It was established, however, that bleeding seems to correlate highly with the age and general condition of the horse.

Lasix also has other “useful” effects. First, since it causes such a tremendous increase in uric acid output, the concentration of other drugs that may have been given to a horse becomes greatly diluted in urine samples, which makes detection by conventional means of analysis very difficult. Second, the loss of water in urine can decrease a horse’s weight to a significant degree, which can make the difference between winning and losing a race. Bute also has the ability to mask the use of other, more powerful drugs that may be illegal.

There are an endless number of such other drugs, used for many different purposes, which seem to come in and out of favor. One being injected into every horse on the track one year, and then disappearing the next. Meperidine (Demerol), propoxyphen (Darvon), and pentazocine (Talwin) have all been implicated at one time or another, as well as the natural morphine and codeine. New analgesics come onto the market at regular intervals, whereas it often takes months or years to devise a reliable, inexpensive assay for a trackside lab to use in detecting these drugs. There is also the complex problem of drug interactions. Opponents of drug use worry that a race is often won by the drug use to race unsound horses. If drugs and other pain-killing practices are eliminated, and pre-race checks for horse soundness become a routine procedure, HSUS argues that two consequences will follow. First, the immediate goal of sparing much pain and potential for injury to horses and jockeys, as well as creating a more equitable climate for bettors, will be achieved. The second is a longer-range goal. It is hoped that, without current, available crutches, trainers and owners will have to reassess their current practices and that the outcome of such scrutiny will be the breeding of sounder, sturdier horses followed by improved conditioning regimens, in line with recent scientific findings.

Breeding Practices

Breeding practices have tended to favor the development of taller horses with larger, more muscular bodies but with smaller legs and thinner leg bones. This imbalance in bodily proportion has meant that hairline and major bone fractures, as well as tendon (and other) injuries, are becoming increasingly frequent. This is hardly surprising given the forces on spindly legs created by a horse running full-speed. However, in a racing environment, in which drugs were prohibited, there would be considerable motivation to breed stronger horses with greater levels of endurance and, in particular, sturdier legs with thicker bones.

How a Horse Runs, and What Gets Stressed

Important work in the area of scientific analysis of racehorses and stress is being done by George Pratt, professor of electrical engineering and computer sci-
might decrease the enormous amount of money made at the racetracks each year. The Daily News article estimated that in 1980 the total amount of all bets was about $12 billion. Since a certain percentage of this gross goes into State treasuries, State governments also have a substantial interest in maintaining the racing status quo. Further, they tend to fear what would happen if careful investigations of the racing industry were instigated. Said Marc Paulhus of The HSUS: “The State commissions simply do not want to deal with a scandal of the proportions that would result from effective enforcement,” because “State regulators are in a very special position in racing: a portion of every dollar wagered goes to the State.”

Finally, one must assume that the several groups that oppose the legislation, such as the American Horse Council and the Horsemen’s Benevolent and Protective Association, honestly believe that drugs, Lasix and bute in particular, are essential elements in maintaining the health and racing soundness of horses.

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Drugs (and other analogous treatments) serve as a crutch that trainers and owners can use to race sound horses. If drugs and other pain-killing practices are eliminated, and pre-race checks for horse soundness became a routine procedure, HSUS argues that a race is often won by the horse with the most knowledgeable chemist.

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Important work in the area of scientific analysis of racehorses and stress is being done by George Pratt, professor of electrical engineering and computer sci-
ence at MIT and adjunct professor of veterinary medicine at Tufts. He is developing methods, using biomedical engineering techniques, for detecting soreness before lameness sets in, methods for testing the strength of bone as an indicator of a horse’s soundness, and devices for analyzing the consistency and forces and strains that act on a horse as it travels down the track at various gaits and speeds (see *Thoroughbred Record*, March 7, 1979). He views all of this work as a branch of sportsmedicine (which has become extremely sophisticated in recent years) specifically tailored for horse-athletes.

Gait analysis, an investigation of the basic timing of the horse’s movement using a high-speed camera and computer analysis of the film data, is the first component of his work. Spinal nerves, he has found, determine the “motor program” that sequences the weight-bearing (stance) and non-weight bearing (swing) phase of each leg. The timing of these two phases, in turn, determines the efficiency of the stride. The superior horse not only possesses an innately efficient stride, he also has the conformation and physical stamina to maintain his gait at ever-increasing speeds.

To answer questions about the effects of differing conditions of a race such as track conditions and fatigue on the forces placed on the leg, Pratt has designed an instrumental horseshoe that can measure the force on a hoof. These measurements are made at a rate of 1,000/sec on all four feet; the results are then tape-recorded on a miniature recorder also carried on the horse and the data are analyzed by computer. This work permits highly detailed gait analysis, and the results can be correlated with the performance and soundness of horses. The effect of different track surfaces, and possibly the effects of drugs like bute, can be examined. For example, Does the drug allow a horse to run with a safer gait, or does it just block a feedback signal that would tell the horse to slow down?

Another avenue of Pratt’s investigation has involved the effect of repeated strain on the bone. We know that microcrushing and microfracture occur all the time as bone absorbs shock but, with rest, the strength of the bone is restored in a “remodeling” process. What we have not known is how to tell if balance exists between these two processes. If balance has been achieved in a given animal, such that he remains “racing sound,” especially in light of the fact that medication with drugs like cortisone can greatly retard the healing process. Pratt mounts strain gauges on one of the upper leg bones of the horse. He has found that the bone can withstand about 9,000 pounds while the horse is running, if the load is distributed evenly. But if the load is placed on only one side of the joint, as in a turn, the amount of weight that can be borne until fracture occurs decreases by a factor of 100.

This work has immediate practical consequences for track design: banking of turns on a track, and introducing a “racing sound,” especially in light of the fact that medication with drugs like cortisone can greatly retard the healing process. Pratt mounts strain gauges on one of the upper leg bones of the horse. He has found that the bone can withstand about 9,000 pounds while the horse is running, if the load is distributed evenly. But if the load is placed on only one side of the joint, as in a turn, the amount of weight that can be borne until fracture occurs decreases by a factor of 100.

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Pratt is also testing a noninvasive method for measuring bone strength, based on the velocity of ultrasound in the leg. The normal velocity of sound sent through the cannon bone is 2,000 m/sec. Using bones from deceased horses and computer-controlled stressing mechanisms, Pratt has found that simulated stresses typical of those occurring in a horse during a race decrease the sound velocity; after a 20 percent decrease, a fracture will form.

Lameness, too, can now be measured by a technique devised by Pratt. This device, a force plate, indicates the force exerted by one leg standing on a flat surface while the other leg is held up. The variability of force in the supporting leg gives a measure of the degree of lameness in an injured leg. This device has been used to show how and when the relief of pain from bute sets in, and how it wears off again.

**Conditioning Horse-Athletes**

In recent years, computerized and other scientific methods of training, including computers, movement like those of George Pratt is beginning to do on horses, have made dramatic differences in the performance of human athletes. Mile runners, for example, have shaved whole seconds off earlier records. Horse racing records, however, have remained practically unchanged in the doldrums. At most, only tenths of a second have been cut off earlier times. This suggests that there is untapped potential for enhancing almost any horse’s innate abilities as a runner, through application of training programs that the horse was originally designed for humans. Tom Ivers, at his training stable in Greenwood, Delaware, is doing just that.

In most stables, training for horses is virtually nonexistent. On a typical training day, a horse is sent out for a 1- or 2-mile spin around the track, a workout that just barely raises a heart rate. The variability of force in the sup

As in running, a typical training day in the racing industry, have not necessarily obviated the need for immediate action, as set forth in the requirements of the proposed legislation. But they do mean that its proponents, including The Horsemen’s Journal, November 1980). As in all training in humans, the basic goal of interval training is to increase the amount of oxygen used by working muscle cells. This factor, in turn, depends on getting the heart to strengthen and work more efficiently, to achieve a steady-work pulse rate of about 150 beats per minute, coupled with a rapid recovery rate—back to 60-70 beats within 5 to 10 minutes. The actual training program is composed of four phases. The first phase begins with light aerobic exercise (commonly called long slow distance training, LSD or steady-state work); the second phase involves progressively longer and longer distances are covered. Then, in the second phase, aerobic and anaerobic exercise are combined in a sequence of long, strenuous intervals that are alternated with shorter periods of complete rest. The third phase consists of fast interval rates that approach racing speeds. Finally, in the fourth phase, the horse runs short sprints at top speed.

This coaching program, if carried out with flexibility and sensitivity for the variation in performance among individual horses, conveys a number of benefits. Heart and local muscles are strengthened, the bearing surfaces of bones are thickened (thereby reducing the probability of stress fractures), tendons and ligaments are gradually stretched and joint cartilage thickened, and the capacity for aerobic running is increased. The tolerance for the anaerobic conditions that can occur at top speeds is also enhanced. And, for injured horses, this type of program can promote more orderly repair of tendons and ligaments than merely letting a horse rest in a stall.

**A Final Word**

As the Congressional Research Services report indicates, some of the controversies surrounding this issue simply cannot be resolved until better data are available about questions such as the etiology of lameness and injury, the causes of breakdown on the track, and the precise effects of drug control on the racing industry. These gray areas, the most controversial situations and the least way to run racetrack, have not necessarily obviated the need for immediate action, as set forth in the requirements of the proposed legislation. But they do mean that its proponents, including The Horsemen’s Journal, November 1980). As in all training in humans, the basic goal of interval training is to increase the amount of oxygen used by working muscle cells. This factor, in turn, depends on getting the heart to strengthen and work more efficiently, to achieve a steady-work pulse rate of about 150 beats per minute, coupled with a rapid recovery rate—back to 60-70 beats within 5 to 10 minutes. The actual training program is composed of four phases. The first phase begins with light aerobic exercise (commonly called long slow distance training, LSD or steady-state work); the second phase involves progressively longer and longer distances are covered. Then, in the second phase, aerobic and anaerobic exercise are combined in a sequence of long, strenuous intervals that are alternated with shorter periods of complete rest. The third phase consists of fast interval rates that approach racing speeds. Finally, in the fourth phase, the horse runs short sprints at top speed.

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In most stables, training for horses is virtually nonexistent. On a typical non-racing day, a horse is sent out for a 1- or 2-mile spin around the track, a workout that just barely raises a sweat, and is then put back into his stall for the next 23½ hours. When the horse is prepared for the week before a race, the first five of his six workouts are usually too slow and do little to condition the horse. Research has shown that slower mile times—over 2:20 minutes—don't make use of the racing, or anaerobic, muscle potential. When the horse hits his sixth-day, full-speed workout, there is a good chance that stress-induced injuries will occur.

By contrast, Ivers uses a complex schedule, specially tailored to each horse's capacity and conformation, of carefully paced conditioning known as interval training (see The Horsemens Journal, November 1980).

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A Final Word

As the Congressional Research Service report indicates, some of the controversies surrounding this issue simply cannot be resolved until better data are available about questions such as the etiology of lameness and injury, the causes of breakdown on the track, and the precise effects of drug control on the racing industry. These gray areas, the unresolved questions, and the lack of a way to run racetracks, have not necessarily obviated the need for immediate action, as set forth in the requirements of the proposed legislation. But they do mean that its proponents, including the HSUS, will need to continue to rally support for the proposed legislation and so many diverse political interests.

Dana Murphy
Comments

Laboratory Animals: Unification of Legislation in Europe

Drs. H. Rozemond

Introduction

A committee of experts within the Council of Europe is currently making preparations for a European convention on the protection of laboratory animals. The Committee has been designated as the Comité Ad Hoc pour la Protection des Animaux (CAHPA). The Council of Europe, the sponsoring organization, is an institution whose chief goal is the peaceful cooperation of most European countries concerning cultural, economic, and social affairs; expressly excluded are matters of military concern. The countries represented on the Council include Austria, Belgium, Cyprus, Denmark, the Federal Republic of Germany, France, Greece, Great Britain, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, the Netherlands, Norway, Spain, Turkey, Sweden, and Switzerland. As part of its work, the Council holds conventions on various topics of broad human interest. Some of the most important documents produced by its conventions have included the Treaty of Rome (Convention for the Protection of Human Rights and Fundamental Freedoms, 1950) and the European Social Charter (1960).

The CAHPA consists, in principle, of experts who serve as spokesmen for all of the member countries. It is assisted, on an observer basis, by other experts from the United States, the International Council for Laboratory Animal Science, the Federation of Veterinarians in Europe, the European pharmaceutical industries, and other organizations that contribute to the international animal protection movement. The Committee has held regular discussions about concerns related to laboratory animals since 1978; its seventh meeting on the subject was held in April of this year, and the next meeting will take place in January 1982. In the general area of animal rights and welfare, the Committee has already conducted several conventions, to assist in protection of animals: in international transportation (1976), in farming (1976), and in slaughter (1979).

It is not the intention of this communication to provide detailed information about matters of substance that will be part of the actual convention, since meeting reports and drafts are restricted by most countries. Rather, the intention is to give a general idea of some of the difficulties that will have to be overcome in achieving a unified code that reconciles the laws of a number of countries which, understandably enough, are each convinced of the superiority of their own law.

H. Rozemond

General Provisions

In formulating a unified code, difficulties are not likely to arise about regulations that stem from problems such as longstanding abuses or about other prohibitions that, for example, make exhibiting painful experiments on living animals to the general public a criminal offense. The issue of laboratory animals is a bit more complex, however. Most European countries that have legislation on animal experimentation have provisions to restrict the number of experiments and to promote the use of alternatives. There are also regulations about licensing systems, the use of anesthetics, and about the use of animals in education and training. With regard to this last provision in particular, it is easy to imagine how difficulties in drafting a uniform code might arise because of the differing systems of higher education that exist in the various member states.

Should Some Animals Receive More Protection Than Others?

Most existing national laws related to laboratory animals include provisions for vertebrates. However, there are some differences among nations regarding whether special preference or protection should be given to certain animal species or groups of species. Several examples of these preferences include statements that animals used be

- As primitive as possible
- Phylogenetically lower species
- Of lower sensibility or lower psychological development
- Cold blooded
- Species other than dog, cat, horse, donkey, mule
- Species other than dog, cat, horse, monkey
- Species other than dog, cat, ungulates, apes, and monkeys

But in some other countries, no preference is stated. This approach seems to be plausible because there is, at present, no scientific evidence that any single species is more sensitive to pain than any other. It is not quite clear, then, why these kinds of provisions should be part of animal protection regulations, unless we accept the idea that such regulations serve a dual purpose: (1) to limit suffering in animals, and (2) to promote an increase in the moral sense of humans, which can be considered a legitimate goal in its own right.

Licensing Systems

Convention members can also anticipate that some difficulties may arise in discussions because of the differences among existing licensing systems. Currently, licenses can be granted in Europe

- To institutes for certain fields of research
- To institutes for a restricted period of time
- To institutes with qualified personnel
- To institutes with specified persons
- To individuals for performing experiments in certain fields of research
- To individuals for performing all types of experiments, including surgical interventions

Drs. H. Rozemond is Veterinary Officer of Public Health delegate of the Netherlands to the Committee of experts for the protection of animals, Council of Europe. This text was used in a panel discussion on Legislation and Welfare, held during the first meeting of the Federation of European Laboratory Animal Science Association (FELASA) at Düsseldorf, 2-4 June 1980.
Labatory Animals: Unification of Legislation in Europe

Drs. H. Rozemond

Introduction

A committee of experts within the Council of Europe is currently making preparations for a European convention on the protection of laboratory animals. The committee has been designated as the Comité Ad Hoc pour la Protection des Animaux (CAHPA). The Council of Europe, the sponsoring organization, is an institution whose chief goal is the peaceful cooperation of most European countries concerning cultural, economic, and social affairs; expressly excluded are matters of military concern. The countries represented on the Council include Austria, Belgium, Cyprus, Denmark, the Federal Republic of Germany, France, Greece, Great Britain, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, the Netherlands, Norway, Spain, Turkey, Sweden, and Switzerland. As part of its work, the Council holds conventions on various topics of broad human interest. Some of the most important documents produced by its conventions have included the Treaty of Rome (Convention for the Protection of Human Rights and Fundamental Freedoms, 1950) and the European Social Charter (1960).

The CAHPA consists, in principle, of experts who serve as spokesmen for all of the member countries. It is assisted, on an observer basis, by other experts from the United States, the International Council for Laboratory Animal Science, the Federation of Veterinarians in Europe, the European pharmaceutical industries, and other organizations that contribute to the international animal protection movement. The Committee has held regular discussions about concerns related to laboratory animals since 1978; its seventh meeting on the subject was held in April of this year, and the next meeting will take place in January 1982. In the general area of animal rights and welfare, the Committee has already conducted several conventions, to assist in protection of animals: in international transportation (1976), in farming (1976), and in slaughter (1979).

It is not the intention of this communication to provide detailed information about matters of substance that will be part of the actual convention, since meeting reports and drafts are restricted by most countries. Rather, the intent is to give a general idea of some of the difficulties that will have to be overcome in achieving a unified code that reconciles the laws of a number of countries which, understandably enough, are each convinced of the superiority of their own law.

General Provisions

In formulating a unified code, difficulties are not likely to arise about regulations that stem from problems such as longstanding abuses or about other prohibitions that, for example, make exhibiting painful experiments on living animals to the general public a criminal offense. The issue of laboratory animals is a bit more complex, however. Most European countries that have legislation on animal experimentation have provisions to restrict the number of experiments and to promote the use of alternatives. There are also regulations about licensing systems, the use of anesthetics, and about the use of animals in education and training. With regard to this last provision in particular, it is easy to imagine how difficulties in drafting a uniform code might arise because of the differing systems of higher education that exist in the various member states.

Should Some Animals receive More Protection Than Others?

Most existing national laws related to laboratory animal use limit the scope of their specific provisions to vertebrates. However, there are some differences among nations regarding whether special preference or protection should be given to certain animal species or groups of species. Several examples of these preferences include statements that animals used be:

- As primitive as possible
- Phylogenetically lower species
- Of lower sensibility or lower psychological development
- Cold blooded
- Species other than dog, cat, horse, donkey, mule
- Species other than dog, cat, horse, monkey
- Species other than dog, cat, ungulates, apes, and monkeys

But in some other countries, no preference is stated. This approach seems to be plausible because there is, at present, no scientific evidence that any single species is more sensitive to pain than any other. It is not quite clear, then, why these kinds of provisions should part of animal protection regulations, unless we accept the idea that such regulations serve a dual purpose: (1) to limit suffering in animals, and (2) to promote an increase in the moral sense of humans, which can be considered a legitimate goal in its own right.

Licensing Systems

Convention members can also anticipate that some difficulties may arise in discussions because of the differences among existing licensing systems. Currently, licenses can be granted in Europe:

- To institutes for certain fields of research
- To institutes for a restricted period of time
- To institutes with qualified personnel
- To institutes with specified persons
- To individuals for performing experiments in certain fields of research
- To individuals for performing all types of experiments, including surgical interventions
• To individuals for performing all types of experiments, except surgical interventions
• To institutes and to individuals
• To institutes or to individuals

However, an international convention can still make allowances for these kinds of differences among licensing systems, provided that the fundamental goal of protection of animals is achieved. Some countries grant exemptions from obligatory licensing, e.g., for feeding experiments, injections, blood sampling, or other procedures that cause only minor pain or distress. In other countries, a license is not required for state-sponsored research institutes, or in instances where experiments have been required because of legal regulations or ordered by a court.

In this context, I would also like to bring up the issue of killing of animals. Many animals used in research are killed only for specimens of organs or other samples. One can argue that, in this case, the interference is being performed on a dead animal. On the other hand, one could also argue that even with use of a humane method of killing, the risk of pain cannot be excluded and, therefore, the issues related to killing of animals must fall within the scope of any proposed regulatory system.

More Than One Experiment

Another important issue relates to the question of whether the use of an animal in more than one experiment should be permitted. Some of the laws currently on the books in Europe prescribe that animals used in painful or surgical experiments should be killed at the end of the procedure. In other legal systems, such animals may be used in a second experiment, but only after they have returned to normal health. In some instances, another restriction is added: in the second experiment, there must be no pain involved, or the procedure must be performed under general anesthesia, from which the animal is not allowed to recover. Decisions regarding this matter should be made only by persons who have the necessary training in animal physiology and ethology.

Ethical Judgment

There is another issue that I would like to address specifically, although it is outside the scope of most national laws. This issue concerns ethical judgments about the value of experiments. As a rule, governments are empowered to grant, disallow, or revoke licenses, or to attach conditions to the licenses. Broadly speaking, one can say that it is a government's responsibility to regulate the manner in which experiments are carried out and to exercise its powers in such a way as to keep the amount of suffering experienced by the animals involved to a minimum. However, it is a generally held belief that it is not part of a government's responsibilities to pass judgment on the scientific or medical value, or the urgency of need, of any given experiment. Yet organizations like the World Society for the Protection of Animals (WSPA) and the Eurogroup for Animal Welfare hold different opinions. WSPA states that a central government-appointed agency should check every grant or contract proposal that will use animals according to criteria that assess the relative necessity of the experiments, given the present state of scientific knowledge.

Eurogroup goes even further; it states that each government ought to grant licenses only when it considers proposed experiments to be essential to the healing of diseases and to be in accordance with established ethical principles related to animals.

Closing Remarks

I will end this comment with three remarks. First, it is important to remember that an international convention does not have the power to change the internal laws of the member nations to adopt stricter measures for the protection of laboratory animals, as long as current measures are not inconsistent with the provisions drafted by such a convention. Second, I believe that we must accept the fact that humans, in their quest for knowledge, health, and safety, need to use animals in experimental procedures in which there is a reasonable expectation that the result will be an extension of knowledge or some substantial benefit to humans or animals. Finally, however, humans do have a moral obligation to respect all animals and to show due consideration for their capacity for suffering and for memory.

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Das Versuchstier: Vereinbarung der Gesetzgebung in Europa

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A Strategy for Dog-Owner Education

Ian Dunbar

I have read with interest the response by Graham Henderson of the Toronto Humane Society (Int J Stud Anim Prob 2(6):305-309, 1981). I agree with many of his statements and am pleased that he, in turn, agreed with most of mine, although at first, this was not entirely apparent. In fact, I found Mr. Henderson's letter to be somewhat confusing, and it contained a number of inaccuracies and contradictions. So, please bear with me if I go into some detail to try to unravel the confusion.

In order to allow a comprehensive assessment of my program of Dog Owner Education, I would like to reemphasize some of its major points. The primary intention is to promote an early license application: preferably before the owner acquires a dog, but at least, while the dog is still a pup. The rationale behind this suggestion is that this would provide an ideal opportunity to provide the prospective (or new) dog owner with an information package on health, husbandry, puppy-training, and the prevention of behavioral problems (of which aggression is the most common and the most serious).

A secondary aim is to spread the burden of licensing control, such that all people who deal with dogs on a regular and/or professional basis (e.g., veterinarians, breeders, trainers, and members of kennel clubs and humane organizations) share some of the responsibility by making it their primary objective to check that the dog has a valid license tag. If not, the name and address of the owner may be added to a list of similar offenders, which can be turned into the licensing authority once a month or so. I think that this would provide a cheap, easy, and effective means of "policing" licenses.

A third point is that the license fees should remain minimal. I do not feel that the license fee in itself should be used as a deterrent against dog ownership. It would be unfair to penalize people who may have insufficient means (e.g., the handicapped, or the elderly). On the other hand, there should be no excuse for not acquiring a license, and accordingly, there should be a swingeing (not "swinging," as previously published) increase in fines. The low cost of the license and the added educational benefits should encourage dog owners to license their pets. In addition, the higher risk that license dodgers will be discovered and reported, and the much higher penalties involved would act as a strong deterrent against negligent behavior on behalf of owners.

Henderson believes that Toronto has "an excellent licensing system," yet he admits that "it is difficult to collect [the license fee] from more than 50 percent of Toronto's dog owners." This outcome is probably superior to that found in most licensing programs, but it is still a laughably low return. It is hoped that the implementation of even a few of my suggestions will help to improve this situation.

Testing for Owners

A minor point of the educational program was the suggestion that the owner be tested for comprehension of the information package. However, a test would be voluntary, and I made it quite clear that "a low score on the test should not necessarily be used to prevent someone from owning a dog." Instead, the nature of the test would be a further educational exercise, and its primary function to enable "the licensing authority to concentrate its educational efforts on potentially poor pet owners." For instance, if prospective owners did poorly on the test, they could be asked whether they would want their dog to bite them, to eliminate indoors, or to bark all day long—because unless the owner makes a little effort to teach the pup how to behave appropriately, in all probability, when the dog is an adult, it will behave in this offensive manner. Behavioral problems are much easier to prevent than they are to cure.

Henderson expressed his view that an "education program...will almost certainly antagonize the majority of dog owners," suggesting that such a service is "fanciful," "utopian," and "treecherous." He maintained further that testing the comprehension of the educational material would represent "over-regulation" of dog owners, who would retaliate via an "indignant, bloodthirsty" onslaught. Indeed, Henderson filled many a paragraph explaining why an educational program would not work, but then he went on to explain that a similar program is currently in practice at the Toronto Humane Society (a fact that I lauded in my original article). The Toronto Humane Society implements a questionnaire which, in Mr. Henderson's words, "functions...to screen out those individuals who would make poor owners" and furthermore, affords the "staff the opportunity to inform the adopter of the principles of good pet ownership." Despite these statements, Henderson insisted that the Toronto program remains "educationally neutral" and "contains no proviso for dog owner education."(1)

I believe that an educational program would meet with the wholehearted approval of the dog-owning public. I am certain that dog owners would welcome the availability of information revealing: how easy it is to train a 6- to 8-week-old pup how simple it is to train dogs to urinate and defecate upon command (such that they are still keen and enthusiastic about their young pup and the dog itself is still comical and eager to learn. If the material were handed out to prospective dog owners, it is likely that much of the information would be forgotten before it was comprehended. Without a test, it is likely that few would take advantage of the information. So, please bear with me if I go into some detail to try to unravel the confusion.

I found Mr. Henderson's letter to be somewhat confusing, and it contained a number of inaccuracies and contradictions. On the contrary, I think that presenting an information package to dog owners while they have a young pup is a most effective approach to owner education. Mr. Henderson elegantly mixed his metaphors and was otherwise somewhat sarcastic about "the injection of a serum of education," as he put it. However, just as we inject young pups to protect them from the more serious canine diseases, I think that we should "inject" the owners with a little timely advice that will hopefully help to prevent the ruination of otherwise good animals. As with distemper vaccine, it is essential that this "educational serum" be administered at the right time. Dog owners must have access to this information at a time when it will be maximally effective, i.e., at a time when they are most likely to make good use of it, since they are still keen and enthusiastic about their young pup and the dog itself is still young and eager to learn. If the material were handed out to prospective dog owners, it is likely that much of the information would be forgotten before it was comprehended.
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Timing of Education Is Essential

Henderson suggested that I am “naive to think that any long-term change in owner attitudes will be achieved through a system which calls for a one-time test situation.” On the contrary, I think that presenting an information package to dog owners while they have a young pup is a most effective approach to owner education. Mr. Henderson elegantly mixed his metaphors and was otherwise somewhat sarcastic about “the injection of a serum of education,” as he put it. However, just as we inject young pups to protect them from the more serious canine diseases, I think that we should “inject” the owners with a little timely advice that will hopefully help to prevent the ruination of otherwise good animals. As with distemper vaccine, it is essential that this “educational serum” be administered at the right time. Dog owners must have access to this information at a time when it will be maximal effective, i.e., at a time when they are most likely to make good use of it, since they are still keen and enthusiastic about their young pup and the dog itself is still youthful and eager to learn. If the material were handed out to prospective dog owners, it is likely that much of the information would be forgotten before it

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Comment

could be put to practical use. Alternatively, if the material were handed out too late, to owners of adult dogs that had already developed a number of bad habits, it is likely that the dog would have become firmly entrenched in its bad ways. By this time, most tired and exasperated owners would lack the patience to implement an effective retraining program. A one-time educational effort will most certainly have beneficial effects, particularly if conducted at the optimal time.

In order to clarify my contention that it is not fair to label all dog owners as "irresponsible," I will take Henderson's own example: he is certainly not irresponsible for failing to comprehend the intricacies of quantum mechanics. On the other hand, if he wished to become a particle physicist, he would be irresponsible if he did not make some attempt to understand his chosen field. However, even a century ago, this would have been an extremely difficult task, since there were no textbooks on the topic and no experts to seek for advice. This is precisely the position of the "average dog owner" today. There is no reliable and convenient source of information on the topic of behavioral problems in dogs. Despite this, some dog owners still go to great lengths to seek advice; yet, for their troubles, they are frequently labeled as "irresponsible owners."

Let us consider the dilemma of an owner whose dog has developed a behavioral problem—who is there to turn to for advice? Regardless of the specific problem, most veterinarians will suggest one of three alternatives: tranquilization, castration (or spaying), or euthanasia. With most canine behavioral problems, neutering and tranquilization are ineffective and, in some cases, they are absolutely contraindicated. Nonetheless, the veterinary profession still adheres to this triad of treatments as a panacea for all behavioral problems, and few veterinarians will take time to consider the problem from a behavioral point of view.

Another popular source of information is the plethora of training books that are currently available. Unfortunately, despite good intentions, in my opinion many of these books are the cause of a great number of behavioral problems. The methods described in most of these books are hopelessly outdated and are relatively inefficient and ineffective. As a result, the training methods prescribed meet with only limited success—many owners lose their patience and eventually disband any hope of training at all. In addition, many training books contain glaring errors and dangerous misinformation, e.g., not to begin training until the dog is 6 months old. This little gem alone is probably the single greatest cause of behavioral problems in dogs.

Other sources of information include the pamphlets produced by several pet food companies and humane societies. However, all too often these merely reiterate the information from veterinarians and dog trainers. In short, dog owners do not have a reliable source of information to help them solve their problems. This is why I think that it is unwise to simply label them as "irresponsible" and then proceed to do little to try to alleviate this colossal and most worrisome problem. Not only should there be a concerted effort to educate dog owners, but programs should be made available to veterinarians, trainers, breeders, and humane society and pet food company personnel as well. It is not just the owner that is "the weak link in the... chain."

The Problem of Euthanasia

I take particular exception to one point mentioned by Henderson. He erroneously implied that I had proposed that "unlicensed dogs be sent with greater dispatch to the euthanasia room" and that "this punishes an innocent party for another's careless, irresponsible crime." In the first place, I did not propose to hasten the process by which unlicensed animals are adopted by the Lord. Instead, I advocated preferential treatment for licensed animals, whereby "unlicensed animals would be kept for a specified time" (e.g., in line with existing practices), after which they would be "euthanized as a public health hazard (no evidence of rabies injections), whereas a licensed dog would be kept for a longer period," and every attempt would be made to locate the owner from the licensing records.

I would say that the current practices have more of an "Orwellian" tinge. Often, in humane societies, the decision of whether or when to euthanize which pets is based on the purely arbitrary and emotional considerations of the particular individuals involved. For instance, the young, the cute, and the healthy are often reprieved. In some instances, an advertising campaign will be waged for a cute, well-behaved, healthy pup, which often stimulates an emotional flood of well-meaning adopters. On the other hand, fewer tears are spared for the unruly, ugly, and unhealthy pets, which hastily meet their maker. It is not the dog's fault that it is unruly or unhealthy. Often the owners are to blame for this. And why? Because no one has bothered to tell them how to look after a pet. And as a result of this negligence, the poor misunderstood critter is euthanized. Quite frankly, I am not one to spend time arguing which is the "best" way to euthanize a pet, or which is the correct euphemistic term to describe the procedure. If the pet has "to go," which all too often is an unfortunate inevitability, then it is hoped that it may (in Henderson's words) "go to a more peaceful and dignified death."

However, I am more concerned about attempting to prevent the need for this large-scale slaughter (or euthanasia), which is currently of in excess of 15 million pets each year. I think the major consideration should be: how can we promote "a more peaceful and dignified life" for these animals. I think that, in part, this might be accomplished by helping owners to understand how they can avoid "screwing up" their pets. For, compared with dogs that are well-behaved, those that develop behavioral problems are much more likely to be abandoned, the pet would have to be put up for adoption and/or eventually euthanized. To try and prevent this, people who work with animals should consider it their humane duty to make an active effort to educate dog owners, rather than expecting them to educate themselves.

Henderson raised an important point in that I did little better myself "than to commit a nominal fallacy in labeling the problem one of inadequate education," yet did "virtually nothing to indicate what the content of [my] scheme of education would be..." Mea culpa, lapsus calami. I have spent the past few months compiling a suitable educational package. This is not yet completed and so, for the meantime, I will merely outline its contents. The information booklet will consist of two parts. One part concerns the prevention of behavioral problems, with particular reference to anti-aggressiveness exercises and housetraining methods. Owners must realize that every puppy, no matter what breed, is a potential biter, and as such, owners should make an active attempt to prevent these aggressive tendencies from developing. Otherwise, if left to its own devices, the dog will grow up to behave like a dog and the owner should not be too surprised if the dog habitually growls and snarls and bites. The second part of the booklet describes a new psychological training program, which has been specially designed for puppies (although it is also effective with adult dogs). With use of these techniques, pups of 4 to 5 months of age will already have mastered most of the basic obedience commands ('come here,' "heel," "sit," "lie down," "stay," "kennel," "be quiet," etc.). Anyone interested in a
I. Dunbar

could be put to practical use. Alternatively, if the material were handed out too late, to owners of adult dogs that had already developed a number of bad habits, it is likely that the dog would have become firmly entrenched in its bad ways. By this time, most tired and exasperated owners would lack the patience to implement an effective retraining program. A one-time educational effort will most certainly have beneficial effects, particularly if conducted at the optimal time.

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Let us consider the dilemma of an owner whose dog has developed a behavioral problem—who is there to turn to for advice? Regardless of the specific problem, most veterinarians will suggest one of three alternatives: tranquilization, castration (or spaying), or euthanasia. With most canine behavioral problems, neutering and tranquilization are ineffective and, in some cases, they are absolutely contraindicated. Nonetheless, the veterinary profession still adheres to this triad of treatments as a panacea for all behavioral problems, and few veterinarians will take time to consider the problem from a behavioral point of view.

Another popular source of information is the plethora of training books that are currently available. Unfortunately, despite good intentions, in my opinion many of these books are the cause of a great number of behavioral problems. The methods described in most of these books are hopelessly outdated and are relatively inefficient and ineffective. As a result, the training methods prescribed meet with only limited success—many owners lose their patience and eventually disband any hope of training at all. In addition, many training books contain glaring errors and dangerous misinformation, e.g., not to begin training until the dog is 6 months old. This little gem alone is probably the single greatest cause of behavioral problems in dogs.

Other sources of information include the pamphlets produced by several pet food companies and humane societies. However, all too often these merely reiterate the information from veterinarians and dog trainers. In short, dog owners do not have a reliable source of information to help them solve their problems. This is why I think that it is unwise to simply label them as "irresponsible" and then proceed to do little to try to alleviate this colossal and most worrisome problem. Not only should there be a concerted effort to educate dog owners, but programs should be made available to veterinarians, trainers, breeders, and humane society and pet food company personnel as well. It is not just the owner that is "the weak link in the...chain."

The Problem of Euthanasia

I take particular exception to one point mentioned by Henderson. He erroneously implied that I had proposed that "unlicensed dogs be sent with greater dispatch to the euthanasia room" and that "this punishes an innocent party for another's careless, irresponsible crime." In the first place, I did not propose to hasten the process by which unlicensed animals are adopted by the Lord. Instead, I advocated preferential treatment for licensed animals, whereby "unlicensed animals would be kept for a specified time" (e.g., in line with existing practices), after which they would be "euthanized as a public health hazard (no evidence of rabies injections), whereas a licensed dog was to be kept for a longer period," and every attempt would be made to locate the owner from the licensing records.

I would say that the current practices have more of an "Orwellian" tinge. Often, in humane societies, the decision of whether or when to euthanize which pets is based on the purely arbitrary and emotional considerations of the particular individuals involved. For instance, the young, the cute, the healthy, and the healthy are often reprieved. In some instances, an advertising campaign will be waged for a cute, well-behaved, healthy pup, which often stimulates an emotional flood of well-meaning adopters. On the other hand, fewer tears are spared for the unruly, ugly, behaviorally unhealthy pets, which hastily meet their maker. It is not the dog's fault that it is unruly or unhealthy. Often the owners are to blame for this. And why? Because no one has bothered to tell them how to look after a pet. And as a result of this negligence, the poor misguided critter is euthanized. Quite frankly, I am not one to spend time arguing which is the "best" way to euthanize a pet, or which is the correct euphemistic term to describe the procedure. If the pet has "to go," which all too often is an unfortunate inevitability, then it is hoped that it may (in Henderson's words) "go to a more peaceful and dignified death."

However, I am more concerned about attempting to prevent the need for this large-scale slaughter (or euthanasia), which is currently of in excess of 15 million pets each year. I think the major consideration should be: how can we promote "a more peaceful and dignified life" for these animals. I think that, in part, this might be accomplished by helping owners to understand how they can avoid "screwing up" their pets. For, compared with dogs that are well-behaved, those that develop behavioral problems are much more likely to be abandoned, put up for adoption and/or eventually euthanized. To try and prevent this, people who work with animals should consider it their humane duty to make an active effort to educate dog owners, rather than expecting them to educate themselves.

Henderson raised an important point in that I did little better myself "than to commit a nominal fallacy in labeling the problem one of inadequate education," yet did "virtually nothing to indicate what the content of [my] scheme of education would be." Mea culpa, lapsus calami. I have spent the past few months compiling a suitable educational package. This is not yet completed and so, for the meantime, I will merely outline its contents. The information booklet will consist of two parts. One part concerns the prevention of behavioral problems, with particular reference to anti-aggressiveness exercises and housetraining methods. Owners must realize that every puppy, no matter what breed, is a potential biter, and as such, owners should make an active attempt to prevent these aggressive tendencies from developing. Otherwise, if left to its own devices, the dog will grow up to behave like a dog and the owner should not be too surprised if the dog habitually grows and snarls and bites. The second part of the booklet describes a new psychological training program, which has been specially designed for puppies (although it is also effective with adult dogs). With use of these techniques, Pups of 4 to 5 months of age will already have mastered most of the basic obedience commands ("come here," "heel," "sit," "lie down," "stay," "kennel," "be quiet," etc.). Anyone interested in a
copy of this booklet may shortly obtain it from me at the address given above. The pamphlet will be free and not copyrighted, so that it may be reproduced and distributed by interested parties. This puppy training program has been developed in conjunction with the Education Department of the Marin Humane Society in California.

A Message from Pano

William G. Conway

The memo attached was found in an unstamped envelope with no return address on the grounds of the Bronx Zoo. It appears to have been written by a chimpanzee on assignment from a clandestine organization in Africa.

TO: The Most High Primate
The Supreme Simiate
Lord of all the Forests from the Kasai to the Bembe and from the Gambia to the Mountains of the Moon

FROM: Pano Troglodytes, Field Representative

SUBJECT: Resignation from Field Service

It is with the deepest regret that I submit, herewith, my resignation and final field report. Lest you judge my leaving to be unjustified or more precipitate than my record warrants, I beg leave to remind you of the long service of my family to the Supreme Simiate in the cause of wild apes and monkeys, and of myself as your agent within the Western Medical Establishment.

You will recall that it was my great-great-great-grandfather on my mother's side who conceived the idea of infiltrating the human establishment as an investigative technique—to "ape" man as he put it. At that time, it was only rumored that human primates held themselves superior to the biological laws upon which the safety of the biosphere is based. "And, after all," grandad said, "if Charley Darwin can pass as a human, why can't others?" By 1861, our present program was underway, "...to insure the future of wild primates through self-sacrifice in the cause of Western Medicine." It was just a decade later, I beg to remind you, when another member of my family led Henry Stanley to Dr. David Livingstone. The fact that this historic meeting was so distorted in the reports of human primates should have acted as a warning. "Dr. Livingstone, I presume!"—indeed! Stanley wouldn't have known the good doctor from an Igorote.

It is my great-great-aunt Panzee who made the proper introductions.

William G. Conway is General Director of the New York Zoological Society. This memo was reprinted from Animal Kingdom 81(4):17-35, 1978.

And it was about this time that the family discovered that Uncle Charley Darwin's scribblings were being taken seriously, with the result that our own ape ancestors have been taxied ever after with the most incredibly obscene paternity suit since before the Pleistocene. Yet, the Supreme Simiate was not warned, and my family has continued to serve—surviving one disgraceful transposition of its efforts after another.

Remember Edgar Rice Burroughs? When grandad found this starving ingrate and got him a job as a railway detective, he had already failed as a cattle drover and a gold dredger. Yet, in repayment for this aid, he stole and transposed grandad's greatest manuscript, a true story to be called "Tarzan of the Human," which had held such great promise for our efforts to educate people to the conditions of the slave trade in living monkeys and apes for pets. When, in 1932, Merian Cooper pulled the same human business—with grandad's true report of a biomedical researcher's incredibly destructive behavior in the Cameroun rain forest, entitled "King Kong"—the old anthropoid never recovered.

Father, you remember, volunteered for the NASA program and eventually became the first anthropoid to orbit the earth. "A giant swing for primates," he was reported to have said. He missed becoming the first primate on the moon when he was "washed-out" of the Moon Landing Program—partly for ethnic reasons and partly because a pilot was found whose name suggested strong arms. Discouraged and disconsolate, dad regained his spirits through his popularity at a sex clinic in St. Louis. You will remember our surprise at his report that the receptivity of human females, unlike other primates, is almost continuous. It is no wonder that man is outbreeding monkeys!

It was in 1961, exactly one century after our infiltration of human society got underway, that father finally managed to slip out the first comprehensive reports on the true extent of the biomedical slave trade in wild primates. Between 1968 and 1960, 634,000 monkeys were sacrificed to the development of the Salk polio vaccine. A justifiable sacrifice we are tempted to say—but is the decimation of an invaluable research resource justifiable? After all, man is subject to other diseases whose solutions may lie within primate research. And the fact remains that not one significant primate conservation or captive propagation program has resulted from the polio program.

Shortly after dad smuggled out his report, he was apprehended by the AMA. When last heard from, he faced termination so that his liver might be used to aid a sixty-eight-year-old alcoholic human in an hepatic coma. I was the agent sent to New York to replace father.

Attached to the National Institutes of Health research and testing laboratories in Maryland, I was infected with this and that in the vaccine-monitoring program for more than a year—all without being able to determine whether my efforts were really contributing to medical science, to say nothing of the protection of apeshkind. I did learn that primate imports to the United States are declining, but not because more are being bred here or that researchers don't want as many as before. The imports, now running at more than 40,000 wild monkeys and apes each year, are down from the 70,000 or more of five years ago. This is because we are disappearing and becoming more expensive to obtain. Some of the countries where we live, such as India...
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and Brazil, now are concerned about us, too, and have restricted the slave trade. But medical scientists have done little—little, that is, but protest conservation measures and ignore the need for proper propagation programs. A rhesus monkey of my acquaintance stated a truism when he remarked, “A laboratory might be a nice place to visit, but I wouldn’t want to breed there.” Zoos, in contrast, breed far more apes and monkeys than they import.

No sooner had I mailed my second report to Your Primacy than I was placed in an experimental regimen which I find painful to recount. I was infected with gonorrhea and thus attained the dubious distinction of being the first primate other than man to contract this disease...indeed, I was held up as “a model” in the Journal of the American Medical Association early in 1971. When my condition proved refractory to the usual treatments, I moved to California—where, I was informed, nobody would notice—and began impersonating a doctor engaged in medical research.

It proved surprisingly easy to pass as a doctor, for many humans seem to be suspicious of them anyway. I was diverted from my immediate plan, of taking an internship with a major hospital, by an opportunity to appear on television. I worked for two seasons on the “Marcus Welby” show, where my unusual appearance enabled me to play, interchangeably, an anesthesiologist, a hospital administrator, a speech therapist, and a “candy stripper.”

Thus prepared, I enlisted upon a proscribed series of impersonations, winning, in gradual succession, important research positions in a variety of medical specialties. In each, I tried to learn more of the efficacy of the science to which so many hundreds of thousands of our kind have given their lives and whether our contribution was being properly acknowledged. And, in each, I was given further reason to doubt the wisdom of placing the monkey’s future in the hands of man.

I began as a research assistant in a well-regarded New York institution devoted to cancer research and found myself painting spots on mice. Never­laboratory might be a nice place to visit, but I wouldn’t want to breed there.”

To take a research position in reproductive physiology, I was astounded to discover that human studies in reproduction are de­voting more to curing sterility than to promoting it! And it was at this new laboratory that I suffered the additional shock which initiated the train of events that led eventually to this, my last report and resignation: mother was part of a terminal experiment purportedly designed to measure the effects of drug addiction upon pregnancy. Fortunately, she failed to recognize me among the crowd of other doctors. When I had regained my composure, I endeavored to determine how the use of such a rare and valuable being as a chimpanzee for a terminal experiment could be justified. Indeed, it was unclear why this experiment was being performed at all. Even a cursory examination of the laboratory’s library revealed that the experimental procedure was a duplicate of work carried on in Germany several years before.

I quote, “a good diet.” This less than remarkable result had apparently been anticipated by baboons in their diet over four-and-a-half million years ago, yet these investigations are typical of the way our members are being sacrificed in the study of conditions that man deliberately brings upon himself. “Diseases with no villains,” they would call them in Times Square.

Upon news of mother’s passing, I initiated APE—the Action Program En­tity—within the Simia’s undercover efforts. It was no longer enough to sacrifice oneself, observe, and report. It was time to strike back...and so a “Department of Monkey Shines” was founded. The success of these covert operations against the medical profession speaks for itself in the declining public esteem of which primate researchers and doctors now complain. One of my most notable triumphs was to get myself appointed as a presidential advisor on the swee­flu vaccine program.

By far the most successful of our recent covert missions has been in the field of insurance. Here, with the help of an orangutan and a spider monkey, we found a ready market for our services as victims in malpractice suits. At the height of this program, all three of us appeared in the same court in a two-day period, posing as an achondroplastic dwarf (the result of a botched abortion), a paraplegic (due to a wart removal), and a spastic (because of an uncatfully tendered fee). At the same time, I was able to recruit a gelada baboon who subsequently designed Medicaid forms for the federal government, as well as most of the hospitalization regulations, schedules, and forms in use by the three major medical insurance companies today.

However, I have come to realize that not even our most strenuous efforts are likely to check the train of events man has set in motion against monkeys and apes. The truth is that habitat destruction and the spread of human populations over our former homelands have far displaced biomedical research following the Thalidomide disaster.

The justifications put forth by my human “colleagues” seemed designed to discredit, once and for all, my original belief that human medical research was worthy of wild primate sacrifice. The investigators involved were not only unaware of the work in Germany (“After all, it was published in German”) but also unconcerned with the future of a species other than their own—not could they seem to see that the well-being of the two might be related.

Of course, I left the institute, seeking others where more important and creditable studies based upon laboratory primates might be underway. Successive appointments provided me with the opportunity to see members of our tribes strapped to seats and forcibly made to chain-smoke cigarettes from 11 A.M. to 4 P.M. each day. This work was proceeding at a London research center in order to help man safeguard that part of his population that willfully and voluntarily subjects itself to a comparable regimen—and ripping a health warning off each cigarette pack to do so. Surely this is a behavior no monkey could be stupid enough to indulge in!

Elsewhere, in Madison, Wisconsin, I observed an experiment where monkeys were subjected to continuous “hard-rock” music and other kinds of human noise pollution which permitted the experimenters to determine that enough of it “fatigued” the experimentees. While at a Bronx hospital, two doctors force-fed baboons a diet of 60 percent liquor each day to determine that alcohol damages the liver—“even,” I quote, “with a good diet.” This less than remarkable result had apparently been anticipated by baboons in their diet over four-and-a-half million years ago, yet these investigations are typical of the way our members are being sacrificed in the study of conditions that man deliberately brings upon himself. “Diseases with no villains,” they would call them in Times Square.
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Captive of his humanistic behavior, man is beset by shocking over

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as the principal threat to our existence. We must look to the medical profession to realize finally its dependence upon us and to react to our disappearance in time to help at least some of our populations to persist. To this saddened simian several truths now seem self-evident: There should be no primate collection without primate protection, no experimentation which constitutes duplication, no termination without propagation, and no biomedical use whatever of vanishing species.

With these new perceptions beclouding the objectives of my field assignment by the Supreme Simiate, my ultimate disenchantment and this resignation were preordained, and I have had to cast about to make a new life for myself. My choice was inevitable. A year ago I became a surgeon, and my ability to operate with all four hands has enabled my practice to prosper to put too much down on paper.

In the meantime, I have been made aware of the fact that not all human beings are insensitive to the need to find substitutes for monkeys and apes as experimental animals. A colleague called to my attention a recent address by the dean of a prominent eastern medical school which states in part, "Those who would enter the field of medical science should prepare themselves for self-sacrifice."

Your former servant,

Field Representative 1st Class, Ret.

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FORTHCOMING ARTICLES


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Alternatives to Animal Experimentation — Stephen Niemi

Unnecessary Suffering: Definition and Evidence — Frank Hurnik and Hugh Lehman

Moves Toward an Update of the 1876 Cruelty to Animals Act in the United Kingdom — Judith Hampson

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The infrequency of my letters has been one consequence of my new professional status—the IRS has made it imprudent for a physician to put too much down on paper.

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We have a unique system in Finland for following changes in large-predator populations. Since 1968 the daily patrols of the Finnish Border Patrol Establishment have recorded every crossing of the frontier by large predators and estimated or calculated the numbers of these mammals in the areas under their surveillance three times a year. This observation line is 2,574 km long, and data are now available for a period of over twelve years.

Tracks of the large predators are easy to observe and identify in the snow. In the northernmost parts of Finland the snow disappears in late May or early June and may appear by the end of September, or more normally in October, while in the southeast it may last only three or four months, a difference which must be kept in mind when assessing the crossing data, although tracks can still be identified in snowless conditions in sandy, wet or muddy ground, for instance. It is also worth noting that the members of the Border Patrol Establishment are instructed in the identification of the large-predator tracks in their preliminary training.

While the data collected by the Border Patrol Establishment enable us to follow the movements and numbers of the large predators in the frontier regions, a network of observers also exists which reports on the occurrence of the large predators in the interior of the country.

**Population Status**

**Lynx**

It is possible that there were no lynx at all in Finland in the late 1950s, and the species was placed under a protection order in 1968. The nucleus for a new population was received through immigration both from the USSR via the southeastern border and from Sweden in the west, around the Gulf of Bothnia. In the 1970s movements of lynx were clearly greatest on the southeastern frontier and decreased to the north, and the numbers of lynx were also greatest in the south and lowest in the north. This is only natural, for the lynx belongs to the European faunal type, the main distribution area of which is located in central Europe. In fact, the lynx has hardly ever been abundant in the north of Finland.

The lynx is still protected over the whole country, but the Ministry of Agriculture and Forestry may grant special licenses for killing them. Some 10-20 lynx are normally killed each year and a few more die of natural causes. The number of lynx in Finland has increased fairly steadily since the 1960s, and they have come to their old territories again throughout the southern half of Finland. In the reindeer husbandry area of northern Finland, however, their number has continued to be very low, and the reindeer owners have announced only a few cases of their stock being killed by lynx.

**Wolverine**

The wolverine belongs to the north-Siberian faunal type, the main distribution area of which lies in the subarctic and the northern part of the taiga. At its greatest extent, this distribution area reached as far south as Poland in northern central Europe. The wolverine population in Finland has always been densest in northern Lapland, which is nowadays the reindeer husbandry area. There was still a breeding population of wolverines in that area in the late 1960s, but during the following decade most of them were killed by snowmobiles. The present range of the wolverine extends to Finnish Northern Karelia in the south, but the home ranges of the individuals identified along the eastern frontier lie mainly in the Soviet Union.

**Bear**

In contrast to the wolf, wolverine and lynx, the bear, being a heavy animal, leaves detectable tracks or signs of its presence on the soil, ground vegetation, fences, etc., in summertime, so that the crossing data permit us to calculate immigration-emigration rates as well as other movements.

Finland received a net immigration of bears from the east, especially from Soviet Karelia, in the 1970s. Pronounced expansion into eastern Finland has also led to a further invasion into the interior of the country. In some cases it has been possible to follow the movements of a bear in southern Finland from place to place. Naturally any appearance of bears in the settled areas of the country is usually given prominence in the local newspapers. The emigrating bears at the edge of the population are mainly males.

Bears have been especially mobile in Northern Karelia, due not to exceptionally high numbers, but to the cultivation of oats for cattle fodder just on the Finnish side of the frontier, as they prefer to eat this cereal, and cross the frontier every night to visit the oat fields. There may be as many as five bears at a time in one small field. Naturally this represents a financial loss to the farmer. At the same time as showing an increase in movement within their traditional range in the late 1970s, the bears also expanded their range to the south, as seen from the increase in the number of crossings in the vicinity of the frontier in Kainuu and Northern Karelia, in particular, but less so in Lapland. Finland also has some bears in common with Norway, but very few with Sweden.

The bears eat both vegetable matter (berries, other succulent parts of plants, and soft grain) and also carcasses, and sometimes succeed in killing livestock and ungulates. Moose particularly are vulnerable in late winter, as also are semi-domestic reindeer when they are in very poor condition. The reindeer owners believe that bears kill a lot of semi-domestic reindeer, especially calves, but there is relatively little evidence for this.

**Wolf**

Since 1950 Finland has received two expansions of the wolf population from the east, in both cases from Soviet Karelia into Finnish Northern Karelia and Kainuu. These expansions have been due to two notable increases in the population in this Soviet territory. The first expansion was recorded in 1959-1963, 1961 being the peak year. In the latter half of the 1960s there were relatively few wolves in Soviet Karelia and less than 20 in Finland.

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We have a unique system in Finland for following changes in large-predator populations. Since 1968 the daily patrols of the Finnish Border Patrol Establishment have recorded every crossing of the frontier by large predators and estimated or calculated the numbers of these mammals in the areas under their surveillance three times a year. This observation line is 2,574 km long, and data are now available for a period of over twelve years.

Tracks of the large predators are easy to observe and identify in the snow. In the northernmost parts of Finland the snow disappears in late May or early June and may appear by the end of September, or more normally in October, while in the southeastern it may last only three or four months, a difference which must be kept in mind when assessing the crossing data, although tracks can still be identified in snowless conditions in sandy, wet or muddy ground, for instance. It is also worth noting that the members of the Border Patrol Establishment are instructed in the identification of the large-predator tracks in their preliminary training.

While the data collected by the Border Patrol Establishment enable us to follow the movements and numbers of the large predators in the frontier regions, a network of observers also exists which reports on the occurrence of the large predators in the interior of the country.

**Population Status**

**Lynx**

It is possible that there were no lynx at all in Finland in the late 1950s, and the species was placed under a protection order in 1968. The nucleus for a new population was received through immigration both from the USSR via the southeastern border and from Sweden in the west, around the Gulf of Bothnia. In the 1970s movements of lynx were clearly greatest on the southeastern frontier and decreased to the north, and the numbers of lynx were also greatest in the south and lowest in the north. This is only natural, for the lynx belongs to the European faunal type, the main distribution area of which is located in central Europe. In fact, the lynx has hardly ever been abundant in the north of Finland.

The lynx is still protected over the whole country, but the Ministry of Agriculture and Forestry may grant special licenses for killing them. Some 10-20 lynx are normally killed each year and a few more die of natural causes. The number of lynx in Finland has increased fairly steadily since the 1960s, and they have come to their old territories again throughout the southern half of Finland. In the reindeer husbandry area of northern Finland, however, their number has continued to be very low, and the reindeer owners have announced only a few cases of their stock being killed by lynx.

**Wolverine**

The wolverine belongs to the north-Siberian faunal type, the main distribution area of which lies in the subarctic and the northern part of the taiga. At its greatest extent, this distribution area reached as far south as Poland in northern central Europe. The wolverine population in Finland has always been densest in northern Lapland, which is nowadays the reindeer husbandry area. There was still a breeding population of wolverines in that area in the late 1960s, but during the following decade most of them were killed by snowmobiles. The present range of the wolverine extends to Finnish Northern Karelia in the south, but the home ranges of the individuals identified along the eastern frontier lie mainly in the Soviet Union.

Usually the total numbers of crossings of the frontier by the large predators express rather well the trend in the population in question, but here, as with all statistics, some exceptions occur. An exceptionally strong peak was recorded in the total number of crossings of the frontier by wolverines in 1979, the bulk of these crossings being recorded in Suomussalmi, eastern central Finland. A detailed study revealed the reason for this exceptional occurrence: A large number of wild forest reindeer had died just on the frontier beyond the Finnish reindeer fence, and wolverines had gathered to utilize the carcasses available, moving across the frontier line in both directions many times a day. The wolverines mainly kill semi-domestic reindeer, the great majority of kills taking place in late winter.

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Of the 4,656 crossings of the frontier by wolves recorded by the Finnish Border Patrol establishment in the years 1968-1979, 4,640 (99.66%) took place on the frontiers between Finland and the USSR, 14 on the Norwegian border, and 2 on the Swedish border. There was a steep increase in the total number of crossings from 1974 to 1977 and a subsequent decrease to 1979, which was still continuing during the first half of 1980. These crossing data and other observations indicate that 1977 may represent the peak year for this expansion of wolves from the east.

The most reliable results on the numbers of wolves are naturally obtained on the first half of January, when there is snow on the ground throughout the country, and these show the majority of the wolves to have occurred in the vicinity of the frontier between Finland and the USSR, the numbers varying between 6 and 24 in 1969-1975, but increasing thereafter from 1976 to 1978. The total figure reported for 1st January 1978 was somewhere between 77 and 89, but one and two years later it was again smaller. The largest packs in the vicinity of the frontier during both expansions consisted of approximately ten individuals.

There have also been wolves, from one to four individuals in a group, on the move in the interior of the country, using certain specific migration routes. Observations of such individuals have been made in western and southern Finland since 1970, and even recent wanderers are found to use the old migration routes. Such wandering wolves may be estimated from the total information available to have amounted to some 30 individuals altogether in January 1980.

The sexing of 154 wolves killed or found dead in Finland in 1969-1980 showed 64.3% to be males, a disparity which is statistically highly significant. There was, however, an even sex ratio in Finnish Northern Karelia when this area lay near or within the breeding territory of the wolf.

The abundance of wolves in Soviet Karelia since the Second World War is in many respects a consequence of human impact. An intensive program of clearcutting in the vast areas of coniferous forest in Soviet Karelia was commenced in the early 1940s, and the conifers were replaced with deciduous trees, which offered food for the moose populations and enabled these animals to increase markedly. After the war, Finland ceded large areas of Karelia to the USSR and most of this land remained neglected. Fields and meadows returned to forest and again provided very suitable environments for moose and other game. In the 1950s reindeer husbandry was discontinued in Soviet Karelia, and the semi-domestic reindeer returned to a wild state, while the wild forest reindeer were no longer hunted. Thus there was an abundance of food for the wolves, which could use the forest roads and the trails of ungulates, when moving from one place to another. The wolf population was therefore compelled to expand to the north, where it had earlier been absent.

The increase in the wolf population in Soviet Karelia in the 1970s was a rapid one, probably similar to that which took place in the 1950s. In the former case the population tripled in less than a decade. This was due to the improved food situation and the reduced control during the years when small numbers of wolves were recorded. In areas where there is no human impact on the wolf population, e.g., on Isle Royale, such sharp increases do not seem to occur. One very probable reason for this is the self-regulation mechanism which operates in a wolf population, i.e.,

the pressure of the alpha-pair on the other mature females of the pack is so great that they do not produce offspring. This has been verified in the wild and in captivity. But if the alpha-male is taken away, for instance, all the mature females give birth to pups. The alpha-pair, which is mainly responsible for taking care of the young, is most vulnerable to the adult wolves to the hunter, thus allowing the potential maximum productivity of the pack to be realized. The wolf populations of Soviet Karelia have been hunted continuously, although at varying intensities.

A saturated wolf population naturally disperses in directions where there are no barriers and suitable empty territories are available. In the case of Soviet Karelia the latter are to be found in Finland, which is a part of the former range of the species, for their territories are bordered by the sea in the northeast, and there is already a dense wolf population in the southeast and south. D.I. Bibikov estimates that the 300 wolves in Soviet Karelia in the early 1970s represented a density of 2.5 wolves per 1000 km². Since expansion can be considered as a sign of a saturated population and an expression of population pressure, recent observations on the increase in the Soviet Karelian wolf population and the commencement of a powerful expansion into Finnish Northern Karelia allow us to estimate that the saturation point for a wolf population under conditions such as those prevailing at present in Soviet Karelia must be roughly 5.7 wolves per 1000 km². Higher densities are reached in the wolf populations of the more southerly regions of the European part of the USSR, however.

The majority of the wolves which crossed into Finland from Soviet Karelia in 1959-1963 were killed, and expansion in Finland was thus blocked. Before and during that expansion it was found that most of the wandering wolves were males, but as the breeding population approached the frontier the excess of males decreased. The same trend in sex ratios has also been recorded during the recent expansion from Soviet Karelia into Finnish Northern Karelia, and a similar blocking of the expansion into Finland is in progress, for at least 104 wolves have been killed in Finland during the past three years. According to the official statistics, 151 wolves were killed in Soviet Karelia in 1978.

The wolf, bear and wolverine are protected in the majority of the southern half of Finland, where they occur either in low numbers or not at all. There is an open season for hunting the wolf in certain communes adjacent in Kainuu and Northern Karelia to the eastern frontier, and for the bear in the reindeer husbandry area, where the wolf and wolverine are unprotected throughout the year.

To sum up, there were about 100 wolves in Finland in January 1980, the great majority of which inhabited the southern half of the country: more than 300 bears, mainly inhabiting the eastern and northern areas; about 300 lynx, occurring mainly in southern and central Finland; and from 10 to 30 wolverines inhabiting the frontiers between Finland and the USSR, and Finland and Norway. If no radical changes take place in the hunting pressure on the bear and lynx, the future seems to be fairly bright for these predators, the former as an inhabitant of eastern and northern Finland and the latter in the southern half of the country. Prospects are rather more bleak for the wolverine and wolf, however. Naturally we have tried to analyze factors contributing to the populations of these large predators which involve the activities and attitudes of man.

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Sweden and Norway have little to offer and the Soviet Union cannot continue to do so indefinitely, the future of the large predators in Finland cannot be built upon this eventuality. The Russians are now substantially reducing the numbers of their wolf populations, which will naturally lead to the end of the expansion. Finland has also received an immigration of bears from the east, and if these individuals really do originate from the vast clear-cut areas of Soviet territory, the end of that activity is also to be expected. The Russian authorities have recently emphasized that the densities of the wolverine populations of Northern Soviet Karelia and the Kola Peninsula are rather low, and thus no notable emigration into Finland is to be expected. There has similarly been no immigration or emigration of lynx to or from southern Finland, the fence located three kilometers away from the Russian side probably serving to limit their movements.

In order to maintain our own large-predator populations without immigration from other areas we must have suitable habitats, enough food and a peaceful environment in which they can live.

Of the four large predators in Finland, the wolf and lynx have appeared to be adaptable to the settled areas of Finland. Lynx have been observed preying on dense hare populations in the surroundings of big cities, and wolves have also moved in the southern coastal area of Finland, where there are a lot of moose (more than 8 ind./1,000 ha) and also white-tailed deer, on introduction to the area. Here these adaptable animals are also faced with the danger of the civilized world in the form of busy roads, however, and some ten wolves and several lynx are killed in traffic accidents each year in southern and central Finland.

In contrast, the wolverine and bear have shown little propensity for adaptation to the conditions prevailing in southern Finland nowadays. The wolverine is a very mobile animal, and is thus highly vulnerable to all kinds of intentional and unintentional disturbance by man. If not killed, individuals wandering in central Finland have soon returned to the eastern and northern forests. There is an abundance of food for the wolverine in eastern and northern Finland, where there is moose and semi-domestic reindeer, and in the east also wild forest reindeer, in addition to small game. The major problem is that the 200,000 semi-domestic reindeer are owned by private persons or associations. The carcasses of these ungulates are also utilized by bears, and often also succeed in killing some moose or reindeer. The multi-food items of the bear in Finland, however, are berries and other easily digestible parts of plants, which are usually available throughout the country. In the settled areas of the country wandering bears have tended to move from one place to another fairly rapidly due to intentional and/or unintentional disturbance by man. It may be said that a bear sees a person more often than a person sees a bear.

The wolf, wolverine and bear should find suitable habitats and enough food in the northern and extreme eastern parts of Finland, and the lynx in the south. The insecurity factor in their lives is thus due mainly to man's hostile attitude toward them. Theoretically, a rational reason for this kind of attitude and aggressive behavior could be thought to lie in the danger caused by the large predators (a) to people's affluence, (b) to their physical health, or (c) to their mental health. Also, hunters may be too eager to hunt lynx, bears and wolves for their pelts or meat.

We do know that under certain conditions the wolf, wolverine and bear lynx can all cause substantial economic losses to owners of livestock or reindeer.

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By the middle of the 19th century man had almost exterminated the moose population in Finland, and the small-game populations had become badly depleted. In the absence of ungulates, their most important natural prey, the wolves killed a lot of livestock, thus increasing the poverty of a simple agricultural society. It is no wonder that under such conditions the wolf got a bad image, which it still possesses, and which is maintained in certain expressions in our everyday language. When there is a failure in the crop of berries over vast areas, the bears do not succeed in collecting enough fat for overwintering and do not enter dormancy, but begin to wander, attacking livestock even in cowsheds in early winter. Such cases are particularly well documented in Siberia. In late winter, when the surface of the snow will stand the weight of a wolverine, but not a reindeer, a wolverine may kill a number of semi-domestic reindeer in one place, thus storing food for the future and simultaneously causing considerable losses to the reindeer owner. In the mountains of northern Scandinavia the lynx have also been known to cause losses in reindeer herds under certain conditions.

The Finnish state has accepted the principle that if we are to possess and protect the large predators, any losses of livestock or semi-domestic reindeer caused by them should be reimbursed by the state. Nowadays the livestock losses are covered in full, and all known losses of reindeer are repaid at 150% of their value, thus also compensating, for the cases which never come to light. We still have two major gaps in this compensation system, namely, the facts that the large numbers of deaths among dogs caused by wolves every year and losses caused by bears in oat fields are not subject to compensation.

The hostile attitude of man toward the large predators, especially the wolf, is not only motivated by economics, however. I recently suggested that in order to save the lives of some wolverines the state should repay for every loss of reindeer caused by this predator at a rate of 200%, but the reindeer owner at 150%. This proposal was announced in the newspapers and other media that “this is not a matter of money.”

Hardly anyone thinks that wolverines or lynx could be dangerous to man. Sometimes a mother bear has chased humans who have come between her and her cubs, but none of the difficulties existing in bear-human relationships in the Glacier and Yellowstone National Parks has occurred so far in Finland. People seem to be more afraid of wolves than of bears. They fear that wolves will eat their children and attack adults. They base their fear on fairy tales, stories, Old Testament tales and the like. What, then, is the truth concerning attacks by wolves on people?

Wolf-like, nonrabid canids attacked more than a hundred persons in France between 1764 and 1767. The destruction of two huge animals put an end to the killings. One or more similar creatures killed 22 children in Finland in 1880-1881. In both cases it is possible that the canids in question were first generation dog-wolf crosses with hybrid vigor, as stated by Dr. C.H.D. Clarke of Ontario. Naturally rabid wolves can attack people, as a rabid human attacks other humans, but a nonrabid human often attacks other humans as well. Thus we cannot say that wolves never attack humans, but it happens so seldom that it is not relevant to take it into account in our family planning. And we must remember that I and many other researchers have lived in the same enclosure with wolves for years and suffered no harm from these animals.

Nevertheless, our fear of wolves persists. At least once per decade Finnish newspapers deal with the details of the events of 1880-1881 in southwestern Finland, increasing people’s fears to a greater or lesser degree depending on the writer. When a wolf appears in the vicinity of a village after a long interval, the reaction of local people depends very much on the pronouncements of the so-called leaders of opinion.
in the agricultural community. Typically, such a person could be a teacher, the police chief, a reporter on the local newspaper, a priest or a leading figure in the local farmers' party, and the motivation for promoting fear among people may be that the person in question has recently lost his dog, or merely hates wild animals such as wolves. Naturally these opinion leaders should be a very important target (as well as schoolchildren) when educating people to adopt a reasonable attitude toward wolves and other large predators.

Traditional habits and beliefs are very difficult to change. This holds true, especially, in the case of man's behavior toward the large predators. The image of a monster is very difficult to change. There are nevertheless a wealth of ecological considerations which support the protection of the large predators in an ecosystem. The general opinion in Finland is changing in favor of the large predators, but this change may be taking place too slowly.

**Further Readings**


**Pulliainen**

*Erfahrungen mit dem Schutz der grossen Raubtiere in Finland*

**Zusammenfassung**


**UFAW Publication List**

The Universities Federation for Animal Welfare was established to examine animal welfare issues from a scientific and scholarly point of view. They have a number of excellent publications, the major and most recent ones being listed below. (All prices include postage and packaging—the US price is approximate since airmail postage varies considerably.)

- *The UFAW Handbook on the Care and Management of Farm Animals, 2nd Edition* (249 pp.). Published by Bailliere Tindall (£9.50, $30).
- *The Humane Killing of Animals*, 3rd Edition (34 pp.). Published by Bailliere Tindall (£5.50, $3).
- *Symposia Proceedings* (The first nine held during 1968-1975 are not listed.)
- 1980 *The Ecology and Control of Feral Cats* (£2.50, $6).
- 1979 *The Humane Treatment of Food Animals in Transit* (£0.90, $3).
- 1978 *The Welfare of Food Animals* (£0.90, $3).
- 1977 *The Pharmaceutical Applications of Cell Culture Techniques* (£0.90, $3).
- 1976 *The Welfare of Laboratory Animals: Legal, Scientific and Humane Requirements* (£0.90, $3).

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INT J STUD ANIM PROB 3(1) 1982
E. Pulliainen—Protection of Predators in Finland

Original Article

in the agricultural community. Typically, such a person could be a teacher, the police chief, a reporter on the local newspaper, a priest or a leading figure in the local farmers’ party, and the motivation for promoting fear among people may be that the person in question has recently lost his dog, or merely hates wild animals such as wolves. Naturally these opinion leaders should be a very important target (as well as schoolchildren) when educating people to adopt a reasonable attitude toward wolves and other large predators.

Traditional habits and beliefs are very difficult to change. This holds true, especially, in the case of man’s behavior toward the large predators. The image of a monster is very difficult to change. There are nevertheless a wealth of ecological considerations which support the protection of the large predators in an ecosystem. The general opinion in Finland is changing in favor of the large predators, but this change may be taking place too slowly.

Further Readings


Pulliainen

Erfahrungen mit dem Schutz der grossen Raubtiere in Finland

Zusammenfassung


UFAW Publication List

The Universities Federation for Animal Welfare was established to examine animal welfare issues from a scientific and scholarly point of view. They have a number of excellent publications, the major and most recent ones being listed below. (All prices include postage and packaging—the US $ price is approximate since airmail postage varies considerably.)


The Care and Management of Farm Animals, 2nd Edition (249 pp.). Published by Bailliere Tindall (£15.00, $30).

The Humane Killing of Animals, 3rd Edition (34 pp.). (£0.80, $3).

Symposia Proceedings (The first nine held during 1968-1975 are not listed.)

1980 The Ecology and Control of Feral Cats (£2.50, $6)

1979 The Humane Treatment of Food Animals in Transit (£0.90, $3)

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INT (STUD ANIM PROB) 3(1) 1982
Attitudes Toward Animal Suffering: An Exploratory Study

John and Valerie Braithwaite

A total of 302 undergraduates in the social sciences and the humanities, at two Australian universities, were given a questionnaire designed to explore public attitudes toward animal suffering. The results, though preliminary, strongly suggest that attitudes may be in great part supportive of animal welfare and animal rights. However, as reflected in the answers to the questionnaire, actual behavior does not always follow suit. The recommendation is made that the animal welfare/animal rights movement should perhaps place more emphasis on raising people's awareness of the inconsistencies between their attitudes toward animals and their behavior concerning them.

Study Design and Study Sample

A key question for the animal welfare/animal rights movement is whether the fundamental tactical challenge to this movement involves changing public attitudes toward animal suffering or persuading people about the inconsistencies between their attitudes and their behavior. This preliminary study of the attitudes of 302 sociology, psychology, and humanities undergraduates at Griffith and Queensland Universities in Australia suggests that public attitudes may be more supportive of the ideas of animal welfare and animal rights than is generally assumed.

Our purpose was to design an exploratory questionnaire that would examine a number of facets of attitudes about animal suffering. The 74 items covered (1) killing versus causing suffering without killing; (2) killing painfully versus painlessly; (3) harming animals for entertainment, for food, ornamentation, or to increase knowledge; and (4) harming several types of animals: pests, as well as pets, other domestic animals or wild animals.

Selected Responses and Implications

Illustrating the surprising opposition to exploitive practices, 89 percent of the respondents to the questionnaire either "disapproved" or "strongly disapproved" of "keeping laying chickens in battery cages which are so small that they cannot spread their wings." This attitude, of course, does not stop the vast majority of these students from eating eggs produced under such conditions. Even for that minority which did not disapprove of the conditions under which chickens are caged, most disapproved of "keeping a cockatoo in a cage which is so small that it cannot spread its wings." A staggering 97 percent of the sample either disapproved or strongly disapproved of this practice. Hence, for almost the entire sample, the basic foundations of the attitudes that underly opposition to factory farming were found to be already in place. Therefore, a more useful focus for the work of animal rights advocates should probably be to persuade some people about the inconsistency between disapproving of confining cockatoos in tiny cages while tolerating chickens being kept under similar conditions.

Dr. John Braithwaite is a Research Criminologist at the Australian Institute of Criminology, Canberra. Dr. Valerie Braithwaite is a Research Fellow in the Social Psychiatry Research Unit at the Australian National University. Authors' address: Australian Institute of Criminology, P.O. Box 28, Woden, A.C.T. 2606, Australia.

J. and V. Braithwaite—Attitudes Toward Animal Suffering

Review Article

Ninety percent of the respondents disapproved of "the use of inhumane killing methods at an abattoir." However, only 41 percent disapproved of "eating meat from an abattoir which uses inhumane methods of killing," and a meager 8 percent disapproved of "eating meat from an abattoir which uses humane methods of killing." In ascending order of importance, these findings pose three problems of persuasion for the animal advocate:

1. The problem that some of the 8 percent that unconditionally disapprove of eating abattoir-killed meat, nevertheless continue to do so.
2. The problem that some who disapprove of "inhumane" killing believe that what goes on at the abattoirs from which they get their meat is "humane."
3. The problem of disapproving of the practice of "inhumanity" while, at the same time, accepting the eating of animals that have suffered from such "inhumanity."

We see a similar contradiction in that 73 percent of the respondents disapproved of "force-feeding geese to make their livers swell up to produce paté for restaurants," but the majority of respondents did not disapprove of "eating paté produced by the force-feeding of geese."

Table 1 indicates the level of approval for harming animals under a variety of circumstances in research. Not surprisingly, approval of vivisection increases with the perceived utility of the research for human beings, and also varies according to the degree of pain suffered by the animals. Hence, killing animals painlessly in testing a new drug before it is used on humans was generally considered more acceptable than killing animals painlessly for nonmedical research. The latter was thought by most to be more acceptable than killing animals painfully in testing a new drug before it is used on humans. And this, in turn, was regarded as more acceptable than killing animals painfully for nonmedical research. Tamir and Hamo (1980), in their study of Israeli students, also found that animal suffering was perceived to be more justifiable if the suffering was essential to advances in human medicine.

These questions, plus a series of questions on the testing of eye cosmetics, were all asked with reference to toads, mice, monkeys, and dogs as the experimental animals. On some questions, the use of toads was the most approved choice, while on others the use of mice received more approval than the use of toads. Perhaps surprisingly, on all items the use of monkeys in experiments had higher approval than the use of dogs. This confirms an identical finding by Tenno (1980). Phylogenetically, monkeys are more similar to human beings than dogs are. Therefore, it would seem that the closeness of human beings to pets is a more important factor in determining antivivisectionist attitudes than is evolutionary similarity to man.

If we look at the 10 most strongly disapproved practices in Table 1 which mention a specific type of animal, 8 involve dogs (see also Tamir and Hamo, 1980:306). The other two are "force-feeding geese" and "shooting an elephant for its tusks." Practices involving an ecological threat as well as animal suffering tended to be perceived as particularly objectionable (see also Kellert, 1975).

Another possible generalization that can be drawn from the results in Table 1 is that to the acts of commission were viewed as more serious than acts of omission. For example, "intentionally placing a moth into a tub of water to watch it drown" was disapproved by 84 percent of the sample, while most respondents did not disapprove of "leaving a moth which has fallen in a tub of water to drown."

INT J STUD ANIM PROB 3(1) 1982 43
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TABLE 1. Approval or Disapproval of Practices Relating to Animals

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<tr>
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<th>Disapprove %</th>
<th>Neither Approve Nor Disapprove %</th>
<th>Approve %</th>
<th>Strongly Approve %</th>
</tr>
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<tbody>
<tr>
<td>Commercial fishing with nets</td>
<td>3</td>
<td>8</td>
<td>37</td>
<td>44</td>
<td>7</td>
</tr>
<tr>
<td>Eating meat from an abattoir which uses humane methods of killing</td>
<td>4</td>
<td>4</td>
<td>39</td>
<td>41</td>
<td>12</td>
</tr>
<tr>
<td>Killing toads painlessly in testing a new drug before it is used on humans</td>
<td>5</td>
<td>10</td>
<td>30</td>
<td>43</td>
<td>13</td>
</tr>
<tr>
<td>Spraying insects in the home with insect spray</td>
<td>5</td>
<td>12</td>
<td>19</td>
<td>47</td>
<td>18</td>
</tr>
<tr>
<td>Killing mice in a mousetrap</td>
<td>6</td>
<td>14</td>
<td>26</td>
<td>43</td>
<td>11</td>
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<td>43</td>
<td>12</td>
</tr>
<tr>
<td>Leaving a moth which has fallen in a tub of water to drown</td>
<td>6</td>
<td>29</td>
<td>54</td>
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<tr>
<td>Protecting crops by spraying chemicals which kill beetles and insects</td>
<td>7</td>
<td>16</td>
<td>26</td>
<td>43</td>
<td>8</td>
</tr>
<tr>
<td>Killing sharks found near beaches used by bathers</td>
<td>9</td>
<td>23</td>
<td>17</td>
<td>37</td>
<td>14</td>
</tr>
<tr>
<td>Killing monkeys painlessly in testing a new drug before it is used on humans</td>
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<td>24</td>
<td>29</td>
<td>32</td>
<td>5</td>
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<tr>
<td>Big game fishing</td>
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<tr>
<td>Buck jumping at a rodeo</td>
<td>11</td>
<td>21</td>
<td>48</td>
<td>17</td>
<td>3</td>
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<tr>
<td>Shooting animals for sport when the animal is a pest to farmers</td>
<td>14</td>
<td>32</td>
<td>26</td>
<td>25</td>
<td>4</td>
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<tr>
<td>Rabbit shooting</td>
<td>15</td>
<td>28</td>
<td>27</td>
<td>25</td>
<td>5</td>
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<tr>
<td>A person having his dog put to sleep painlessly because it has become a nuisance to him</td>
<td>15</td>
<td>26</td>
<td>28</td>
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<td>Eating meat from an abattoir which uses inhumane methods of killing</td>
<td>16</td>
<td>25</td>
<td>50</td>
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<tr>
<td>Branding cattle with a hot iron</td>
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<td>25</td>
<td>40</td>
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<tr>
<td>Eating paté produced by the force-feeding of geese</td>
<td>18</td>
<td>28</td>
<td>42</td>
<td>9</td>
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</tr>
<tr>
<td>Shooting kangaroos to cut down on kangaroo overpopulation</td>
<td>18</td>
<td>26</td>
<td>25</td>
<td>26</td>
<td>5</td>
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<tr>
<td>Wearing genuine fur coats</td>
<td>19</td>
<td>28</td>
<td>35</td>
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<td>Confining pigs in very small sties</td>
<td>23</td>
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<td>Jockeys whipping horses in races</td>
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<td>A farmer refusing to spend the money to have a very sick pig treated by a vet</td>
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<tr>
<td>Conducting painful experiments with toads to test whether new eye cosmetics would sting the eyes of humans</td>
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<tr>
<td>Overcrowding cattle on a semi-trailer during a long trip</td>
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<td>38</td>
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<td>Recklessly destroying a bird's nest while clearing a piece of land</td>
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<td>40</td>
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<td>41</td>
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<tr>
<td>Caging wild animals in small cages at a zoo</td>
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<td>45</td>
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<tr>
<td>Keeping laying chickens in battery cages where they are too small to spread their wings</td>
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<tr>
<td>Bull fighting in which the bull is killed</td>
<td>46</td>
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<td>Leaving drought-stricken cattle to slowly starve instead of shooting them</td>
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<td>53</td>
<td>34</td>
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<td>Conducting painful experiments with dogs to test whether new eye cosmetics would sting the eyes of humans</td>
<td>54</td>
<td>38</td>
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<tr>
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<td>38</td>
<td>6</td>
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<tr>
<td>Using live bait for greyhound training</td>
<td>55</td>
<td>31</td>
<td>11</td>
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<td>1</td>
</tr>
<tr>
<td>Keeping a cockatoo in a cage which is too small to spread its wings</td>
<td>55</td>
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<td>2</td>
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<tr>
<td>Shooting pelicans</td>
<td>57</td>
<td>37</td>
<td>5</td>
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A person killing his pet dog and then eating it for food
Getting rid of a pet dog by leaving it loose in the bush
The use of inhumane killing methods at an abattoir
Killing dogs painfully for non-medical research
Shooting an elephant for its tusks
Tying up a dog on a very short rope for periods of more than twelve hours
Harpooning whales
Killing animals painfully when there is an alternative method available which is painless
Setting a poison meat bait for a dog
A person letting his pet dogs loose in the bush and shooting them for sport
Leaving a pet dog without food or water for a long period
Shooting an animal for sport when the animal is close to extinction
A person leaving his dog to starve to death because it has become a nuisance to him
It is wrong to eat meat under any circumstances
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The law should force abattoirs to kill animals painlessly even when the animals could be killed more cheaply and efficiently by a painful method
I would be prepared to pay a higher price for meat to cover the cost of more humane methods of rearing animals for slaughter

TABLE 1. Approval or Disapproval of Practices Relating to Animals (Continued)

<table>
<thead>
<tr>
<th>Practice</th>
<th>Strongly Disapprove %</th>
<th>Disapprove %</th>
<th>Neither Approve Nor Disapprove %</th>
<th>Approve %</th>
<th>Strongly Approve %</th>
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<tr>
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<td>58</td>
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<td>59</td>
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<td>5</td>
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<tr>
<td>The use of inhumane killing methods at an abattoir</td>
<td>59</td>
<td>31</td>
<td>8</td>
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<tr>
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</tr>
<tr>
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<td>Tying up a dog on a very short rope for periods of more than twelve hours</td>
<td>63</td>
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<td>Harpooning whales</td>
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<td>25</td>
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<tr>
<td>Setting a poison meat bait for a dog</td>
<td>78</td>
<td>16</td>
<td>5</td>
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<tr>
<td>A person letting his pet dogs loose in the bush and shooting them for sport</td>
<td>86</td>
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<tr>
<td>Leaving a pet dog without food or water for a long period</td>
<td>89</td>
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<td>1</td>
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<td>0</td>
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<tr>
<td>Shooting an animal for sport when the animal is close to extinction</td>
<td>88</td>
<td>10</td>
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<tr>
<td>A person leaving his dog to starve to death because it has become a nuisance to him</td>
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<tr>
<td>There is nothing wrong with eating meat if eating meat is the only food available for human survival</td>
<td>3</td>
<td>7</td>
<td>10</td>
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<td>35</td>
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<td>It is wrong to eat meat when there is an alternative satisfactory diet available</td>
<td>19</td>
<td>46</td>
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<td>4</td>
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<td>The law should force abattoirs to kill animals painlessly even when the animals could be killed more cheaply and efficiently by a painful method</td>
<td>2</td>
<td>4</td>
<td>14</td>
<td>43</td>
<td>37</td>
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<tr>
<td>I would be prepared to pay a higher price for meat to cover the cost of more humane methods of rearing animals for slaughter</td>
<td>5</td>
<td>15</td>
<td>21</td>
<td>41</td>
<td>18</td>
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<td>Disapprove</td>
<td>Neither Approve</td>
<td>Approve</td>
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<td>-----------------</td>
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<tr>
<td>Killing monkeys painfully in testing a new drug before it is used on humans</td>
<td>38</td>
<td>38</td>
<td>13</td>
<td>11</td>
<td>1</td>
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<tr>
<td>Killing dogs painlessly for non-medical research</td>
<td>38</td>
<td>38</td>
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<td>Recklessly destroying a bird's nest while clearing a piece of land</td>
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<tr>
<td>Refusing to spend the money to take a very sick cat to the vet</td>
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<td>44</td>
<td>11</td>
<td>3</td>
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<tr>
<td>Intentionally placing a moth into a tub of water to watch it drown</td>
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<td>41</td>
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<td>Caging wild animals in small cages at a zoo</td>
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<td>45</td>
<td>33</td>
<td>11</td>
<td>9</td>
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<tr>
<td>Bull fighting in which the bull is killed</td>
<td>46</td>
<td>35</td>
<td>15</td>
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<tr>
<td>Conducting painful experiments with monkeys to test whether new eye cosmetics would sting the eyes of humans</td>
<td>47</td>
<td>40</td>
<td>9</td>
<td>5</td>
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<td>Leaving drought-stricken cattle to slowly starve instead of shooting them</td>
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<td>44</td>
<td>7</td>
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<tr>
<td>Killing toads painfully for non-medical research</td>
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<td>11</td>
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<tr>
<td>Cock fighting in which the chicken is killed</td>
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<td>10</td>
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<td>31</td>
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<tr>
<td>Keeping a cockatoo in a cage which is so small that it cannot spread its wings</td>
<td>55</td>
<td>42</td>
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<td>37</td>
<td>5</td>
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<td>A person leaving his dog to starve to death because it has become a nuisance to him</td>
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<td>It is wrong to eat meat under any circumstances</td>
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<td>18</td>
</tr>
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</table>
Major Underlying Attitudes

To explore the structure of attitudes toward animal suffering further, the responses were analyzed using principal-component analysis, followed by a varimax rotation. This procedure locates the major independent attitude dimensions that underly a set of items. It is, in effect, a strategy for locating clusters of items that share something in common, such that people who approve of one item in the cluster are likely to approve of the others and vice versa.

The first and largest factor consisted of items that seem to involve wanton painful practices that do not serve a significant social purpose. The items loading most heavily on this factor were “a person leaving his dog to starve to death because it has become a nuisance to him,” “shooting an elephant for its tusks,” “cock-fighting in which the chicken is killed” and “using live bait for greyhound training.”

The second factor was dominated by practices that are conventionally acceptable because they are viewed as serving a social purpose. The highest loadings were: “shooting animals for sport when the animal is a pest to farmers,” “big game fishing,” and “spraying insects in the home with insect spray.”

There were two other interpretable factors. The first of these was found to consist principally of farm-related practices. Highest loadings were: “overcrowding cattle on a semi-trailer during a long trip,” “confining pigs in very small sties,” “a farmer refusing to spend the money to have a very sick pig treated by a vet,” and “leaving cattle overnight in an abattoir holding yard without food or water.”

The remaining interpretable factor was defined by items that involved the actual killing of animals, as opposed to harming them without killing.

Conclusion

The present research has approached the study of attitudes toward animals with a more specific focus — on suffering — than was used in the classic studies of Kellert (1975, 1978, 1980). It represents only a very tentative beginning toward an understanding of the structure of peoples’ attitudes about animal suffering. However, it does raise the question of whether more fruitful avenues for future research might lie in exploring the structure of the inconsistencies between attitudes and behavior, rather than in further analysis of the structure of attitudes alone. It may be that the animal welfare/animal rights movement should be less concerned with changing public attitudes than with mobilizing existing attitudes that support animal rights-related ideals into conduct that is consistent with those ideals.

Acknowledgment

The authors would like to thank Professor Peter Singer of Monash University for his critical comments on a first draft of the questionnaire.

References


— (1975) From kinship to mastery: a study of American attitudes toward animals. Mimeograph, Yale University School of Medicine, New Haven, CT.

Braithwaite

Öffentliche Haltungen gegen das Leid bei den Tieren: Ein Forschungsstudium

Zusammenfassung

Um die öffentlichen Haltungen gegen das menschlich verursachte Leid der Tiere auszuforschen, verteilten die Autoren einen dazu bestimmten Fragebogen an 302 Studenten der Sozial- und Geisteswissenschaften bei zwei australischen Universitäten. Die Ergebnisse dieser vorläufigen Forschung weisen stark darauf hin, dass die Gesinnung der Öffentlichkeit im grossen Teil zur Tierschutz und "Tierrechte" geneigt ist. Doch, wie die Ergebnisse auch zeigen, passt das Verhalten der Studenten ihre Haltungen überhaupt nicht gut an. Deshalb meinen die Autoren, dass die Tierschutz-/Tierrechtbewegung grösere Einwirkung haben kann, wenn sie sich darauf richtet, das Bewusstsein des Publikums vom Widerspruch zwischen sein Verhalten und seine Haltungen den Tieren gegenüber zu erheben.
Major Underlying Attitudes

To explore the structure of attitudes toward animal suffering further, the responses were analyzed using principal-component analysis, followed by a varimax rotation. This procedure locates the major independent attitude dimensions that underly a set of items. It is, in effect, a strategy for locating clusters of items that share something in common, such that people who approve of one item in the cluster are likely to approve of the others and vice versa.

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Legislation & Regulation

Animal Experimentation Hearings

The idea of new federal legislation on the care and use of animals in research is no longer novel; bills that would direct, control and redesign the conduct of animal experimentation in the U.S. have been pending since the last session of Congress. Last autumn, however, a new phase in the process began. On 13-14 October 1981, the House Subcommittee on Science, Research and Technology held information-gathering public hearings as part of an effort to evaluate existing bills and possibly to formulate its own legislation.

Chaiman Doug Walgren (D-PA) and various members of the Subcommittee listened to testimony from individuals representing parties as different in temperament and philosophy as People for the Ethical Treatment of Animals (PETA) and the National Society for Medical Research (NSMR), as well as a host of other organizations interested in either preserving, amending or fundamentally changing the status quo. Although it is almost always an exercise in oversimplification to classify people according to their views, certain themes repeated themselves in testimony throughout the hearings in a pattern that tended to divide (with some exceptions) the practicing research scientists from the animal welfare community.

Dr. Franklin M. Loew, representing the National Research Council's Institute for Laboratory Animal Resources, expressed the general sentiments of the major scientific organizations present when he stated: "We urge [the Subcommittee] to differentiate between legislative proposals aimed at the humane and appropriate care of laboratory animals and those which would mandate a specific approach to the conduct of science in America." The "legislative proposals" currently under scrutiny by the Subcommittee clearly fall into the latter category: HR556, also known as the Research Modernization Bill, would reallocate 30-50% of federal funds for animal experimentation to the development of alternative methods of research and testing. HR4406, a bill to amend the Animal Welfare Act, would inter alia, provide a new definition of pain and allow the Secretary of Agriculture to promulgate rules, regulations and standards governing the design and performance of experiments (see Int J Stud Anim Prob 1(4):264-266, 1980; 2(2):1-103, 1981). The National Society for Medical Research, the American Association of Medical Colleges (AAMC) and the Association for Biomedical Research (ABR, formerly the Research Animal Alliance) presented a united front to the Subcommittee in their stated objections to or "concerns" about HR4406 and HR556. The American Psychological Association (APA), represented by Dr. Perrie Adams, also registered its opposition to HR556, urging postponement of any legislation in favor of a "more balanced and deliberate examination of [the legislation's] effects on research and on society as a whole." Dr. John Patrick Jordan, representing the American Institute for Biological Sciences (AIBS), chose not to comment on specific legislation, preferring to concentrate on the virtues of self-regulation. Dr. Jordan also made the important though seemingly obscure point that any legislation should take cognizance of differences between "legitimate research organizations" and "process or production-oriented laboratories." Only the Scientists' Group for Reform of Animal Experimentation (SGRAE), represented by Dr. Andrew Rowan, expressed "wholehearted support" for HR4406 and voiced enthusiasm for the "goals and approaches" of legislation for alternatives.

Another theme which echoed through much of the testimony of the research organizations was the assertion that alternatives which have proven to be "scientifically reliable" are already in use to the extent possible and will continue to be developed without legislation for reasons as diverse as economic pressures and the scientists' own thirst for new, more elegant methods and techniques. However, the use of animals will also continue to be indispensable in many areas of research in human and animal health (e.g., studies on cancer, aging, heart disease, diabetes, nutrition, infectious diseases, mental illness and the development of therapeutic drugs). The Subcommittee heard much on a related theme, namely, the enhancement of human health as the supreme goal of biomedical and behavioral research. Indeed, the AAMC took a gentle tug on the Subcommittee's collective heartstrings by reminding it that in the last 15-20 years, animal research has contributed to a ninefold reduction in mortality from heart disease, "...the problem that accounted for the death of President Kennedy's infant son." Dr. Arthur Butterfield, chief ophthalmologist at Georgetown University also alluded to the same altruistic aims. He told the Subcommittee how good he felt each morning when he looked at himself in the shaving mirror and contemplated what he could contribute to the good of humanity that day.

The acknowledgment that abuses of animals could occur in the form of unnecessary or excessively duplicative research was consistently tempered by votes of confidence in the peer review system, institutions such as the American Association of Laboratory Animal Science and the American Society for the Accreditation of Laboratory Animal Care, and the National Institutes of Health guidelines for humane care—in short, all currently existing apparatus for self-policing of biomedical and behavioral research—and suggestions for improvement of internal programs to promote responsible care and use of animals. However, at least one voice from within the scientific community expressed grave doubt as to the adequacy of the present system. Dr. Jay Glass, a neurologist researcher and member of the faculty of the University of Pittsburgh School of Medicine (though not representing this institution at the hearings), stated that the individual researcher, be it a student or full professor, functions with complete freedom to treat his animals however they see fit."

That the present system fails to protect animals used in research adequately was the unifying theme for those giving testimony in favor of legislative initiatives on alternatives to the use of animals in research and possible regulations for their protection. Dr. Michael Fox of the Humane Society of the United States argued that provision for the animals' "behavioral and psychological needs must not be made, since there is ample evidence to show that deprivation and/or frustration of their social and environmental requirements jeopardizes not only their psychological and physiological well-being, but also the validity and relevance of research conducted upon them."

"...that the search for alternatives to animal testing be a high priority with government, industry, academia, professional organizations, the regulators, public and private sectors; that there be an aggressive, productive, innovative search for alternatives to phase out the massive institutionalized intense suffering of lab animals." Other witnesses from animal welfare organizations argued along similar lines, but a major theme that came to light. This concerned the need for ethical review of research protocols that include experiments on animals prior to funding of the study and the need for outside participation (i.e., from members of the animal community) in the grant contract review process.

The research establishment clearly
Legislation & Regulation

Animal Experimentation Hearings

The idea of new federal legislation on the care and use of animals in research is no longer novel; bills that would direct, control and redesign the conduct of animal experimentation in the U.S. have been pending since the last session of Congress. Last autumn, however, a new phase in the process began. On 13-14 October 1981, the House Subcommittee on Science, Research and Technology held information-gathering public hearings as part of an effort to evaluate existing bills and possibly to formulate its own legislation.

Chairman Doug Walgren (D-PA) and various members of the Subcommittee listened to testimony from individuals representing parties as different in temperament and philosophy as People for the Ethical Treatment of Animals (PETA) and the National Society for Medical Research (NSMR), as well as a host of other organizations interested in either preserving, amending or fundamentally changing the status quo. Although it is almost always an exercise in oversimplification to classify people according to their views, certain themes repeated themselves in testimony throughout the hearings in a pattern that tended to divide (with some exceptions) the practicing research scientists from the animal welfare community.

Dr. Franklin M. Loew, representing the National Research Council’s Institute for Laboratory Animal Resources, expressed the general sentiments of the major scientific organizations present when he stated: “We urge [the Subcommittee] to differentiate between legislative proposals aimed at the humane and appropriate care of laboratory animals and those which would mandate a specific approach to the conduct of science in America.” The “legislative proposals” currently under scrutiny by the Subcommittee clearly fall into the latter category: HR556, also known as the Research Modernization Bill, would reallocate 30-50% of federal funds for animal experimentation to the development of alternative methods of research and testing; HR4406, a bill to amend the Animal Welfare Act, would inter alia, provide a new definition of pain and allow the Secretary of Agriculture to promulgate rules, regulations and standards governing the design and performance of experiments (see Int J Stud Anim Prob 14:264-266, 1980; 2(2):103, 1981). The National Society for Medical Research, the American Association of Medical Colleges (AAMC) and the Association for Biomedical Research (ABR, formerly the Research Animal Alliance) presented a united front to the Subcommittee in their stated objections to or “concerns” about HR4406 and HR556. The American Psychological Association (APA), represented by Dr. Perrie Adams, also registered its opposition to HR556, urging postponement of any legislation in favor of a “more balanced and deliberative examination of [the legislation’s] effects on research and on society as a whole.”

Dr. John Patrick Jordan, representing the American Institute of Biological Sciences (AIBS), chose not to comment on specific legislation, preferring to concentrate on the virtues of self-regulation. Dr. Jordan also made the important though seemingly obscure point that any legislation should take cognizance of differences between “legitimate research organizations” and “process or production-oriented laboratories.” Only the Scientists’ Group for Reform of Animal Experimentation (SGRAE), represented by Dr. Andrew Rowan, expressed “wholehearted support” for HR4406 and voiced enthusiasm for the “goals and approaches” of legislation for alternatives.

Another theme which echoed through much of the testimony of the research organizations was the assertion that alternatives which have proven to be “scientifically reliable” are already in use to the extent possible and will continue to be developed without legislation for reasons as diverse as economic pressures and the scientists’ own thirst for new, more elegant methods and techniques. However, the use of animals will also continue to be indispensable in many areas of research in human and animal health (e.g., studies on cancer, AIDS, heart disease, diabetes, nutrition, infectious diseases, mental illness and the development of therapeutic drugs). The Subcommittee heard much on a related theme, namely, the enhancement of human health as the supreme goal of biomedical and behavioral research. Indeed, the AAMC took a gentle tug on the Subcommittee’s collective heartstrings by reminding it that in the last 15-20 years, animal research has contributed to a ninefold reduction in mortality from hyaline membrane disease, “...the problem that accounted for the new evidence to show that deprivation and/or frustration of their social and environmental research programs are not only their psychological and physiological well-being, but also the validity and relevance of research conducted at low. Dr. Arthur Butterfield, chief veterinarian at Georgetown University also alluded to the same altruistic aims. He told the Subcommittee how good he felt each morning when he looked at himself in the shaving mirror and contemplated what he could contribute to the good of humanity that day.

The acknowledgment that abuses of animals could occur in the form of unnecessary or excessively duplicative research was consistently tempered by votes of confidence in the peer review system, institutions such as the American Association of Laboratory Animal Science and the American Association for the Accreditation of Laboratory Animal Care, and the National Institutes of Health guidelines for humane care—in short, all currently existing apparatus for self-policing of biomedical and behavioral research—and suggestions for improvements internal programs to promote responsible care and use of animals. However, at least one voice from within the scientific community expressed grave doubt as to the adequacy of the present system. Dr. Jay Glass, a neurologist researcher and member of the faculty of the University of Pittsburgh School of Medicine (though not representing this institution or the one in which he practices), stated that he “has given to his own personal choice, if I had chosen otherwise. I would have been free to do with these animals pretty much what I wanted. ... The individual researcher should be a student or full professor, functions with complete freedom to treat his animals however they see fit.

That the present system fails to protect animals used in research adequately was the uniting theme for those giving testimony in favor of legislative initiatives or, alternatively, to the use of animals in research and possible regulations for their protection. Dr. Michael Fox of the Humane Society of the United States argued that provision for the animals’ “behavioral and psychological needs must not now be made, since there is ample evidence to show that deprivation and/or frustration of their social and environmental requirements jeopardizes not only their psychological and physiological well-being, but also the validity and relevance of research conducted upon them.”

Another animal activist from New York, insisted “that the search for alternatives to animal testing become a high priority with government, industry, academia, professional organizations, the regulators, public and private sectors; that there be an aggressive, productive, innovative search for alternatives to phase out the massive institutionalized intense suffering of laboratory animals.” Other witnesses from animal welfare organizations argued along similar lines, but another major theme came to light. This concerned the need for ethical review of research protocols that include experiments on animals prior to funding of the study and the need for outside participation (i.e., from members of the public) in the grant contract review process.

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stated that it had no quarrel with efforts to improve the Animal Welfare Act with reference to the appropriate care, ac-
quision and maintenance of animals. Dr. Edward Melloy, representing the ABR, went so far as to recommend ex-
pansion of the Act to cover pet dogs and cats in pounds and shelters. However, subtle questions lie 
behind the idea of expanding the physical protection afforded to animals in laboratories, questions that probe basic assumptions about society, ethics and the role that power politics has played in creating the present moral climate of animal research. Animal Protection Institute (API) representative Donald Barnes, who spent 16 years "training and 
radiating nonhuman primates for U.S. government projects in a futile attempt to predict man's performance in a radia-
tion environment," described to the Subcommittee the repression of emotion, tunnel vision and desire for profit and prestige that characterized his experience of the milieu of behavioral research. He offered an explanation for the perpetuation of a system that he feels both engenders and continues to allow insensitivity to the need of animals and fails to face the question of the validity of their use: "Power is security; he offered the sine qua non of the bureaucrat, so the old 'don't rock the boat' phenomenon prevails."

Early in the hearings, the Subcommittee heard testimony that took such statements out of the abstract and placed them firmly in the realm of the concrete. Alex Pacheco, representing PETA, gave a graphic description of his experiences over a four-month period as a volunteer at the Institute for Behavioral Research (IBR) in Silver Spring, Maryland. His testimony amounted to a catalogue of abuses that he observed in the lab, including extremely unsanitary conditions, lack of urgently needed veterinary care and the apparently nonchalant asigning of a totally inexperienced student (Mr. Pacheco himself) to a pilot research project involving the "tormenting" of two crab-eating macaques. Mr. Pacheco stated that the only justifica-
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Pacheco was the first witness to testify, the Subcommittee returned to the issues raised in his statements throughout the hearings. The liveliest and most revealing exchanges took place between representatives and members of the Subcommittee sur-
rounded the question of how "the system" could have allowed IBR, an NIH-funded laboratory, to function as Mr. Pacheco claimed it did. Under the persistent questioning of Chairman Walsh, Dr. William Raub, NIH Associate Director for Extramural Research and Training, acknowledged that institutional animal care committees can be completely in-
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The Subcommittee received many conflicting messages: research is being hampered by bureaucracy, research needs to be controlled by an even bigger bureaucracy; further regulation of animal research will hinder advances in human health, regulation of research with a view toward expanding the development and use of alternatives will make for better science and thus enhance efforts to improve human health. It can be hard to argue with statements such as the one made by Dr. Sheldon Wolf (NSMR): "Unless you have actively worked with those patients who are eagerly awaiting a research breakthrough, the importance of the legislation considera-
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current atmosphere of evolving moral con-
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Subcommittee: "We are not discussing 'cruelty,' we are not focusing on in-
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Should Congress decide to do anything at all, its challenge will be to har-
monize these two major themes in legis-
lation that preserves the primacy of human health but also admits of moral obligations to animals which go beyond their humane care.

Nancy Hensan

Current Events

MEETING REPORTS

International Meeting on the Human/Companion Animal Bond

The First International Conference on the Human/Companion Animal Bond, October 5-7, 1981 at the University of Pennsylvania, Philadelphia, brought to-
tgether, for the first time, representatives concerned about animal welfare and a wide variety of health care professionals — psychologists, psychiatrists, and veteri-
narians, as well as ethologists and an-
thropologists. The benefits of the use of animals as objects in various kinds of therapy were considered, as well as the costs, which include the question of the possible exploitation of animals in the pursuit of benefits to humans. The con-
ference was co-sponsored by the Ameri-
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Pet-facilitated psychotherapy is now well established and was the theme of a number of papers. The positive results emerging from the relationship between a patient and a well-placed ani-
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Although the main emphasis of the meeting was on the relationships of dogs to people, other animals were also dis-
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tracted little attention.

Impressive work, in which dolphins were used to help autistic children was reported. A video recording was shown of an autistic child who had responded to virtually nothing, including the family dog, for many years, eventually commu-
nicating with a dolphin, after more than a year's work. The child learned to make clicking sounds indistinguishable from those used by dolphins themselves.

Cross-cultural studies were re-
ported by several anthropologists. One of these explored the human/horse bond in the Crow Indian culture. The Crow ac-
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stated that it had no quarrel with efforts to improve the Animal Welfare Act with reference to the appropriate care, acquisition and maintenance of animals. Dr. Edward Melby, representing the ABR, went so far as to recommend expansion of the Act to cover pet dogs and cats rather than those in pounds and shelters. However, subtler questions lie beneath the idea of expanding the physical protection afforded to animals in laboratories, questions that probe basic assumptions about society, ethics and the role that power politics has played in creating the present moral climate of animal research. Animal Protection Institute (API) representative Donald Barnes, who spent 16 years "training and irradiating nonhuman primates for U.S. government projects in a futile attempt to predict man's performance in a radiation environment," described to the Subcommittee the repression of emotion, tunnel vision and desire for profit and prestige that characterized his experience of the milieu of behavioral research. He offered an explanation for the perpetuation of a system that he feels engenders and continues to allow insensitivity to the need of animals and fails to face the question of the validity of their use: "Power is security; he offered the sine qua non of the bureaucratic, so the old 'don't rock the boat' phenomenon prevails."

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The proceedings of both meetings will be published. Further information may be obtained from Symposium on Acute Toxicity, c/o Postbus 82030, 2508 EA Den Haag, The Netherlands and from First CFN Symposium, Department of Drugs, L4, Box 607, 751 25 Uppsala, Sweden.

A.N. Rowan

Swiss Symposium: "Medicine and Animal Experiments"

Physicians Against Animal Experiments, a society based in Zurich, Switzerland, held a symposium on the subject, "Medicine and Animal Experiments," at Zurich University on October 8, 1981. The society was founded with 165 members; since then, its membership has grown to 321. It is comprised of practicing physicians and medical students, the latter group representing one-third of the membership. The primary aim of the society is to make a critical reassessment of the necessity, appropriateness, and procedures entailed in animal experiments, to assist in reducing the number of laboratory animals used and in excluding painful experiments, and to search for alternative methods.

The first speaker, Professor Dr. G. Teutsch of the Teachers' College, Karlsruhe (Federal Republic of Germany), dealt with recent changes in the ethics related to animal experiments. According to the ethics governing animal experiments during the nineteenth century, medical scientists were held responsible for doing everything possible to ensure the welfare of humans and to alleviate their suffering. Another basic tenet was that they were permitted to conduct experiments with animals whenever such experiments were required, although there was to be some consideration for the well-being of the animals. Medical science does not usually take lightly any attacks on its conduct in regard to animals, given these traditional views. Yet, today, the humane movement, because it cannot afford to forego some level of cooperation with the medical profession, is expected to refrain from any direct confrontation. However, within the general public, attitudes are beginning to change. People might not yet accept animals as equal brothers, but more and more of them are beginning to believe that animals are fellow creatures. Based on this new way of thinking, the ethical awareness of the medical profession is beginning to change, too. Not only is medicine beginning to become aware of its obligation to meet evolving ethical requirements; there are also new constraints introduced by recent legislation in several countries, which prescribes that the number of animals used in experiments be reduced to an "indispensable quantity."

Dr. R. Teutsch, Director of the Swiss Intercantonal Control Service, delivered a paper on drug safety requirements, from the point of view of the legislator and controlling authorities. He made particular reference to Switzerland, where a new Animal Protection Law has recently been enacted. Dr. E. Thess, of the pharmaceutical company Hoffman-La Roche, Basel, defended the use of animals in experiments. He insisted that 75 percent of all results of animal experiments do have validity for man. However, he anticipated an increasing use of alternative testing mechanisms—in part, to reduce the total costs involved in the production of drugs. Dr. K. Fickentscher, from the Pharmaceutical Institute of the University of Bonn (Federal Republic of Germany), stated quite unambiguously that pharmaceutical research has already reached a point where no further progress can be expected. Our increasing knowledge about the negative side-effects of many drugs is making it increasingly evident that the therapeutic potential of drugs has simply reached a dead end. In light of this situation, he believes that animal experiments are no longer justified, for both scientific and ethical reasons. "The quality of life can no longer be improved through animal experiments," he stated, and concluded: "This, we'll have to do for ourselves."

Professor Dr. G. Zbinden, from the Institute of Toxicology, Technical College, and the University of Zurich, in his critical analysis of the LD50 tests, remarked that the 2 million chemical substances that mother nature produces are often more poisonous than anything that the pharmaceutical industry of Basel could ever put on the market. The LD50 test on animals was developed quite a few years ago, he noted, in 1927, for the "biological standardization" of drugs that were very effective, but also extremely poisonous. The dose required for treating an illness had to be very carefully calculated, and it was still a time when one could not chemically analyze the effects of drugs. Since that time, the LD50 test has been an element in almost all government regulations on drugs, although its purpose has become obsolete. There are only a few drugs left, such as vaccines, that require "biological standardization." However, new applications have since been found for the LD50 test, in the toxicological testing of pesticides, cosmetics, industrial chemicals, food additives, etc. In this use of the test, it provides a basis for the categorization of substances into classes, according to their degree of toxicity. Millions of laboratory animals have been sacrificed to satisfy the legal requirements involved in establishing toxicity. Any questions about the meaning behind this madness have traditionally been repressed. Today, however, new questions are being raised, ever more loudly. Among other things, we have become distrustful about the "blessings" conferred on us by the chemical industry, and are calling for more careful control of all of the chemical substances that enter into commerce and thereby frequently affect our environment. But, to spare the lives of millions of animals that would be spent in testing these substances, there is considerable public pressure for devising new methods that can replace the useless and often misleading techniques that now comprise the antiquated catalog of test procedures. As one of these older tests, the LD50 has been proven to be unreliable, since results from it depend on too many biological variables such as animal species, age, sex, weight, feed, health, etc. To arrive at an approximate LD determination, one could reduce the number of animals used per test from 80-120 to 6-8; primates and dogs have already been excluded. Professor Dr. Zbinden (along with Dr. M.F. Roversi) have sent letters containing this information to recognized health authorities throughout the world, and the response so far has been overwhelming and encouraging. The Swiss Federation for the Protection of Animals has guaranteed, through considerable funding, the continuation of this research effort for identifying alternative testing procedures for the next 3 years.

While Dr. K. Sojka, a renowned lawyer from Hamburg, cited a pending court case that might lead to an important legal decision on the right of students to refuse to participate in animal experiments in a physiological practicum, Dr. R. Schenkel, President of the laboratory animals commission of the Swiss Federation for the Protection of Animals, asked us to consider the various possible strategies, utilizing the existing provisions of the Swiss Animal Protection Law, for addressing the problem of the use of animals in experiments. The consensus of speakers and audience alike, at the end of the symposium, was that there are too many unnecessary animal experiments being performed, but that we cannot—as yet—entirely forego their use.

Dr. Karl Frucht
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Dr. Karl Frucht Regional Director World Society for the Protection of Animals
National Society for Medical Research

The National Society for Medical Research (Washington, D.C.) organized a seminar on "adjunct" methods and regulation of animal research, in conjunction with an annual meeting held on December 15, 1981. Many of the usual arguments were raised by the various protagonists—for example, the American Heart Association argued that one could not "throw money at the problem" (developing and promoting non-animal methods). The Animal Welfare Institute promoted the value of constructive legislation and regulation. However, there were indications of support for new initiatives.

Dr. Bernard Zook (George Washington University) discussed the idea of expanding the role of the animal care committee to review all uses of laboratory animals in the institution. He suggested that it would not be a bad idea to include a lay representative on the committee as a "spokesperson for the animals," but that it was unlikely that many medical institutions would feel comfortable if such an individual was an official from an animal welfare group. Dr. Robert Whitney (NIH) expanded on this theme when he noted that the University of Southern California has established an Animal Ethics Review Board to advise the Animal Care Committee and to review protocols. The members of the Board include a bioethicist (Professor of Religion), a Professor of Law, and a Professor of History as nonscientific representatives. Dr. Whitney felt that the "establishment of the review board is timely" and is a positive step. Dr. Thomas Malone (NIH) had previously commented that the biomedical organizations had not perfected their policies and standards on animal welfare and that they had not kept the public sufficiently aware of their animal welfare programs. He stressed that it was very important to find common ground and to accommodate legitimate animal welfare requirements within the need for animals in high-quality research.

Another theme that came up at the meeting was the issue of money for "alternatives" or "adjuncts." Dr. Wallace Fraser (American Heart Association) and Dr. William Gay (NIH) both argued that one could not "throw money at the problem." However, Dr. Norine Noonan (House Subcommittee on Science, Research and Technology) contended that one could certainly target money for specific research areas. NIH is already providing funds for development and promotion of techniques, some of which would qualify as alternatives. This is targeted money, which could be brought under the aegis of some co-ordinating body. In addition, several scientists have suggested that NIH could issue Requests for Proposals (RFPs) calling for ideas on alternatives research. This has been done in other areas of methods research, and there is no reason why this approach should not be applied to the alternatives.

In response to a question from Dr. Martin Dinn (American Society of Anatomists), who asked whether the British licensing system had been considered by the Subcommittee (he had been impressed by the system when he worked in Britain), Dr. Noonan commented that they had, but that they felt there was no need for such a draconian measure. Dr. James Will (University of Wisconsin) added his belief that the level of animal care in the United States is better than that in either Britain or West Germany, and both of these countries have more restrictive legislation than we have in the United States.

A.N. Rowan

Scientists Center for Animal Welfare

The first conference organized by SCAW focused on regulation of animal research and ways of assuring consideration of, and a commitment to, animal welfare. The meeting was unusual in that SCAW limited participation to scientists with some research experience, the intention being to encourage a freer exchange of ideas, opinion, and information than one might get in the presence of animal welfare activists with no research training. On the other hand, animal welfare representatives with the required qualifications (e.g., Dr. Michael Fox) were certainly present and made their views known.

The results more than justified the organizers' intent as a constructive debate developed on a number of topics, including the relative advantages of including public representatives on review committees. These discussions followed a series of formal talks, highlighted by a presentation from Dr. Thomas Malone, Acting Director of NIH. His major point, after reaffirming the importance of animal research in the advancement of biomedical knowledge, was that NIH would become more aggressive in monitoring institutions for compliance with NIH guidelines for animal care and use. In 1982, NIH will make its number of site visits to randomly selected institutions to assess the actual level of compliance.

Many interesting points were also made by the other speakers. Dr. Henry Baker (University of Alabama Medical Center) summarised a review of ongoing research. He noted that 47% of the papers did not specify qualifications (e.g., Dr. Michael Fox) were certainly present and made their views known.

The afternoon discussion periods addressed the four possible stages of regulating animal welfare—individual, institutional, funding agency, and editorial review. Dr. James Will (University of Wisconsin, Madison) made several interesting points in regard to individual and institutional activities. He noted that he had been involved in a review of the literature on lung research and had noted that 47% of the papers did not use the most appropriate research model. This investigation confirms the belief that relatively few scientists are capable of providing detailed explanations about the advantages and disadvantages of particular animal models. At the institutional level, he and his colleagues were planning to start a new system in which everyone using animals would be required to attend a 2½-hour course on laboratory animal welfare.

Other points discussed during the workshops and in the general debate included the issue of instituting upgraded animal care committees with external participation (broadening the composition so that this would be a good move), the development of guidelines to distinguish between various grades of painful research, the use of random-source dogs, the need for a higher priority for Animal Welfare Act enforcement by the USDA, and the need for more training about ethical responsibilities.

Perhaps the last word should be given to Dr. Malone, who drew attention to the circumstances of Claude Bernard's professional and family life, which epitomize what can happen in animal research and the evolution of protests against the practice. After his training, Bernard wanted to continue with research but, for a while, it looked as though he would have to give up the practice, since he did not have private...
National Society for Medical Research

The National Society for Medical Research (Washington, D.C.) organized a seminar on "adjunct" methods and regulation of animal research, in conjunction with its annual meeting held on December 15, 1981. Many of the usual arguments were raised by the various protagonists—for example, the American Heart Association argued that one could not "throw money at the problem" (developing and promoting non-animal methods). The Animal Welfare Institute promoted the value of constructive legislation and regulation. However, there were indications of support for new initiatives.

Dr. Bernard Zook (George Washington University) discussed the idea of expanding the role of the animal care committee to review all uses of laboratory animals in the institution. He suggested that it would not be a bad idea to include a lay representative on the committee as a "spokesperson for the animals," but that it was unlikely that many members in institutions would feel comfortable if such an individual was an official from an animal welfare group. Dr. Robert Whitney (NIH) expanded on this theme when he noted that the University of Southern California has established an Animal Ethics Review Board to advise the Animal Care Committee and to review protocols. The members of the Board include a bioethicist (Professor of Religion), a Professor of Law, and a Professor of History as nonscientific representatives. Dr. Whitney felt that the "establishment of the review board is timely" and is a positive step. Dr. Thomas Malone (NIH) had previously commented that the biomedical organizations had not perfected their policies and standards on animal welfare and that they had not kept the public sufficiently aware of their animal welfare programs. He stressed that it was very important to find common ground and to accommodate legitimate animal welfare requirements within the need for animals in high-quality research.

Another theme that came up at the meeting was the issue of money for "alternatives" or "adjuncts." Dr. Wallace Fraser (American Heart Association) and Dr. William Gay (NIH) both argued that one could not "throw money at the problem." However, Dr. Norine Noonan (House Subcommittee on Science, Research, and Technology) contended that one could certainly target money for specific research areas. NIH is already providing funds for development and promotion of techniques, some of which would qualify as alternatives. This is targeted money, which could be brought under the aegis of some co-ordinating body. In addition, several scientists have suggested that NIH could issue Requests for Proposals (RFPs) calling for ideas on alternatives research. This has been done in other areas of methods research, and there is no reason why this approach should not be applied to the alternatives.

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Many interesting points were also made by the other speakers. Dr. Henry Baker (University of Alabama Medical Center) urged that a review of ongoing research is more important than prior review of protocols, since it is not uncommon for researchers to assign research problems of considerable complexity to relatively untrained staff members. He also noted that he is now looking at the possibility of involving nonscientists in their institutional animal care committee, since these individuals can provide a "perspective and sensitivity" about animals that scientists who work with them may not have.

Dr. Frederick Kerr (Mayo Medical School, Minnesota) discussed the problems of research on pain and argued that much useful research could be conducted within the constraints that investigators should do nothing to an animal that they are not prepared to have done to themselves. He noted that a number of scientists use techniques that he questioned, such as injection of bradykinin or formalin, or the use of local anesthetics with paralytic agents when conducting neurophysiological research. He then noted that he had been a little hard on certain scientists and proceeded to redress the balance by warning those who oppose research that they may be held responsible for the "heinous crime" of preventing the advance of biomedical knowledge and the development of new and better therapies.

The afternoon discussion periods addressed the four possible stages of regulating animal welfare—individual, institutional, funding agency, and editorial review. Dr. James Will (University of Wisconsin, Madison) made several interesting points regarding human and institutional ethical standards and institutional activities. He noted that he had been involved in a review of the literature on lung research and had noted that 47% of the papers did not use the most appropriate research model. This investigation confirms the belief that relatively few scientists are capable of providing detailed explanations about the advantages and disadvantages of particular animal models. At the institutional level, he and his colleagues were planning to start a new system in which everyone using animals would be required to attend a 2½-hour course on laboratory animal welfare.

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means. He thus took the only other course open to him—he married into money. However, fate had the last laugh since his wife began to object more and more strongly to his work. Ultimately, she not only became an outspoken and committed antivivisectionist, she also persuaded their two daughters to take up her cause and, between them, made Bernard's home life thoroughly miserable.

A.N. Rowan

FORTHCOMING MEETINGS

Southwest Foundation: Symposium on “The Use of Nonhuman Primates in Exotic Viral and Immunologic Diseases,” February 28-March 3, 1982, San Antonio, Texas. Sessions will include general considerations (husbandry, spontaneous diseases, primate viruses, alternative methodologies, and germ-free and SPF nonhuman primates), immunology and immunologic alterations (including blood diseases and genetic aspects and viral diseases), comparative medicine (animals other than primates for the study of disease) and biohazards. Attendance will be limited to 250 persons. Abstracts will be required from speakers. All reports will be published. Contact Dr. S.S. Kalter, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, TX 78284.

Charles River Foundation: 5th Charles River International Symposium on Laboratory Animals, March 9-10, 1982, Sheraton Airport Frankfurt, Frankfurt-am-Main, Federal Republic of Germany. Contact Symposium Chairman, Charles River Foundation, P.O. Box 430, Wilmington, MA 01887.

Wisconsin Humane Society: “North American Symposium, Chemical Immobilization of Wildlife,” April 4-6, 1982, Milwaukee, Wisconsin. Twenty-six new or recent papers will be presented by veterinarians and wildlife biologists from the United States and Canada. The emphasis of the conference will be on the use of immobilization instrumentation and techniques in the larger North American mammals, as well as on specific techniques appropriate for zoos, African mammals, watefowl and gamebirds, fur bearers, and small carnivores. Other sessions will be devoted to capture myopathy, currently available chemical compounds, emergency treatment during immobilization, and human exposure to drugs. Contact Leon Nielsen, 4151 N. Humboldt Avenue, Milwau­kee, WI 53212.

American Society of Agricultural Engineers: 2nd International Livestock Environment Symposium, April 20-23, 1982, Iowa State University, Ames, Iowa. Topics include Environmental Effects on Production, Environmental Effects on Health and Reproduction, Environmental Effects on Physiology, Environmental and System Design and Animal Comfort, Genetic and Environmental Interactions, Animal Care and Meeting Governmental Regulations in Animal Housing Systems. Contact Cathy Burg, Meetings Secretary, American Society of Agricultural Engineers, P.O. Box 410, St. Joseph, MI 49085.

Federation of American Societies for Experimental Biology: “Symposium on Pain Perception in Animals,” April 21-22, 1982, New Haven. This 1½-day meeting is being jointly sponsored by the American Veterinary Medical Association’s Council on Research, the American Physiology Society, and the American Society for Pharmacology and Experimental Therapeutics. The first day’s sessions will concentrate on research findings concerning pain in animals, while the last half day will be devoted to the control and prevention of pain. More information is available from the Office of Scientific Meetings, Federation of American Societies for Experimental Biology, 9650 Rockville Pike, Bethesda, MD 20814.

Humane Research Trust: The Role of Animals in Scientific Research and their Effectiveness as Substitute Models for Man, April 21-23, 1982, Manchester University, Manchester, UK. Scheduled speakers: Dr. H. Muir, Prof. G. Marsden, Prof. M. Panigel, Mr. R.N. T.-W.-Fiennes, Air Commodore J. Malcolm, Mrs. R. Clayton, Dr. E. Carson, Prof. D. Davies, Prof. D. Päwe, Prof. P. Turner, Dr. J. Fry, Dr. S. Vine, Prof. J. Bridges, Dr. T. Connors, Dr. J. Parry, Dr. M. Dawson. Registration fee is 50£, including accommodation and meals. Contact the Conference Organizer, Humane Research Trust, Brook House, 24 Bramhall Lane South, Bramhall, Stockport, Cheshire SK7 2DN, UK.


International Primatological Society: IXth Congress, August 8-13, 1982, Atlanta, GA. The annual meeting of the American Society of Primatologists will be held jointly with the Congress. Contact Dr. Frederick A. King, Director, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322.

ANNOUNCEMENTS

European Conference on Protection of Farm Animals

The Second European Conference on the Protection of Farm Animals will be held in the Council of Europe Assembly Chamber in Strasbourg on May 25 and 26, 1982. The meeting will concentrate on animal transport problems.

Papers on the first morning will review the progress of farm animal welfare legislation in the EEC and the Council of Europe. This will be followed in the afternoon by papers reviewing the logistics and economics of animal transport in Europe. The whole of the second day will focus on the physiology of stress during transport. The conference languages will be German, French and English with simultaneous translation facilities available.

The proceedings of the first European Conference were published by Elsevier (Anim Reg Stud 3:1-174). Further details are available from the RSPCA, The Causeway, Harsham, Sussex, UK.

AVMA Sets Up Welfare Committee

In July 1980, the American Veterinary Medical Association (AVMA) established an ad hoc committee to consider the establishment of a standing committee on animal welfare. Now, one year later, the Board has authorized a standing Board Committee on Animal Welfare. According to the Journal of the American Veterinary Medical Association (179 (8) :753, 1981), the Board Committee will have eight members and will spend the next two years “reviewing and cataloging publications on animal rights, factory farming, and the use of live animals in research and industry; attending national meetings of animal welfare groups and identifying and developing position papers for the specific areas where the AVMA may wish to become involved.”
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Albert Schweitzer Medal

On October 15, 1981, Dr. Dallas Pratt was awarded the 1981 Albert Schweitzer Medal by the Animal Welfare Institute. Dr. Pratt is the author of Painful Experiments on Animals (1976) and Alternatives to Pain in Experiments of Animals (1980). Presented for the first time in 1954 to Dr. Schweitzer, the medal, along with $1,000, is given to individuals who have made an outstanding contribution to animal welfare. Past recipients include former Vice President Hubert Humphrey, author of the first federal humane slaughter bill (1958); Rachel Carson, author of Silent Spring (1962); former Supreme Court Justice Abe Fortas, author of the first federal bill to require the humane treatment of laboratory animals (1965); and Roger and Katharine Payne, for leadership in the protection of whales through scientific studies (1980).

Death of Major Charles Hume

Charles Westley Hume, OBE, MC, BSc, died in October of last year, at 95 years of age. He was the founder, in 1926, of the University of London Animal Welfare Society and, in 1939, of the Universities Federation for Animal Welfare (UFAW). He was born on January 13, 1886.

New Chairman of ILAR

Dr. Franklin M. Loew, director of the Division of Comparative Medicine at Johns Hopkins University, has been named to a three-year term as chairman of the National Academy of Sciences’s Institute for Laboratory Animal Resources (ILAR). Dr. Loew is also chief of the Johns Hopkins medical school’s laboratory animal medicine unit, which is responsible for overseeing the care and use of animals in the university’s extensive research programs. Holder of a D.V.M. from Cornell University and a Ph.D. from the University of Saskatchewan, Dr. Loew is on the board of directors of the Association for Biomedical Research (formerly the Research Animal Alliance) and a member of the editorial advisory board of this journal.

FRAME Toxicology Program Receives Boost

On November 17, 1981, Bristol-Myers handed a check for $100,000 to FRAME (Fund for the Replacement of Animals in Medical Experiments) to support one of its proposed research projects concerning alternatives in toxicology testing. Progress in their research, as well as the results of the FRAME Toxicology Committee review of test methodology, will be announced at a symposium to be held at the Royal Society, London from November 13-15, 1982.

Further information on the program may be obtained from Dr. Andrew Simcock, FRAME, 5b The Poultry-Bank Place, St. Peter’s Gate, Nottingham NG1 2JR, U.K.

The Johns Hopkins Center for Alternatives to Animal Testing

The Johns Hopkins University has established The Johns Hopkins Center for Alternatives to Animal Testing within the Johns Hopkins School of Hygiene and Public Health (Department of Environmental Health Sciences). The Cosmetic, Toiletry and Fragrance Association provided the initial funding of approximately $1 million dollars for 3 years. Bristol-Myers has just added another $200,000 to that sum, for the purpose of investigating test methods of interest to industries other than cosmetic manufacturers.

Nonanimal Research Methodologies Symposium Proceedings Available

Nonanimal Research Methodologies: Proceedings of a Symposium has recently been published by The George Washington Ethics and Animals Society. As reported earlier in the Journal (2(3):156-157, 1981), this conference was held, in part, as a response to some perceived shortcomings in a concurrently held, more formal gathering, the NIH-sponsored, “Trends in Bioassay Methodology: In Vivo, In vitro, and Mathematical Approaches.” The NIH meeting was, in itself, a response to a congressional demand that, in turn, arose from public pressure, for a review and assessment of the current outlook in the development and use of alternatives to the use of animals in research. However, when the focus and content of the NIH symposium were finally announced, members of the animal welfare/rights movement were disappointed: clearly, the intent was a wide-ranging look at bioassay techniques, rather than a careful assessment of the available alternatives, their
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The Johns Hopkins Center for Alternatives to Animal Testing

The Johns Hopkins University has established The Johns Hopkins Center for Alternatives to Animal Testing within the Johns Hopkins School of Hygiene and Public Health (Department of Environmental Health Sciences). The Center is attempting to raise sufficient funds to endow a series of lectures on the rational, but sympathetic, appraisal of human use and abuse of animals.

An Advisory Board has been established to set and approve the policies of the program. Five of the Board Members, Dr. A. Goldberg, Dr. G. Green, Dr. D. A. Henderson, Dr. F. M. Loew and Dr. H. Wagner, are from Johns Hopkins University. The other members are Dr. L. Goldberg (Duke University), Dr. Kotin (former Director of NIEHS), Mr. J. McNairy (CTFA), Dr. A. Rowan (latter for the Study of Animal Problems), and Dr. F. Ward (University of Michigan).

The first public event organized by the Center will be a symposium at the Johns Hopkins School of Public Health on ocular and dermatological toxicity. The meeting will be held on May 13 and 14, 1982. For further information, contact Dr. Alan Goldberg, Department of Environmental Health Sciences, Johns Hopkins School of Hygiene and Public Health, 615 N. Wolfe Street, Baltimore, MD 21205; (301) 955-3045.

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 limitations, and the opportunities for development of new alternatives.

The symposium on nonanimal research methodologies, therefore, provided an opportunity for addressing the specific issues related to the use of alternatives. These included the general concept that underlies this approach, with several examples of its application; a narrative description of the development of an organ culture system for assessing the tumorigenicity of cell cultures, which seems to correlate well with in vivo results; a more general discussion of the factors involved in converting to nonanimal systems for detecting potential carcinogens, in light of the limiting aspects of animal studies such as time, cost, and reliability of results; and a presentation on the rational, moral, and factual grounds that ought to compel society toward the vigorous development of alternatives to experimentation with animals. The Proceeding is available from The George Washington University Ethics and Animals Society, P.O. Box 56272, Washington, DC 20011.

Book News

ANIMAL RIGHTS AND HUMAN MORALITY, Bernard E. Rollin (Prometheus Books, Buffalo, NY, 1981, $17.95, cloth; $9.95, paper).

This is an excellent book. It should be read by all subscribers to this journal and by thousands who (alas) will never see this review.

Those who believe that we humans need to clean up our act regarding nonhuman animals may be classified, on the grounds of tactics, as quietists, meliorists and revolutionaries. The quietists pursue their goal of helping animals by individual good works, perhaps prayer and meditation, and maybe frank answers if animal users or abusers happen to ask their opinions. Meliorists work to improve the treatment of animals without urging immediate and revolutionary change. The ultimate goals of some meliorists are in fact revolutionary, but this is not so for others. What makes meliorists meliorists is the willingness to work with, and to attempt to reform, the existing system of animal users. This the revolutionaries are unwilling to do. The entire system is profoundly evil, they believe, and it must be directly attacked and overturned. Revolutionaries, Rollin calls them "kamikazes," underestimating, I believe, the military efficacy of the real kamikazes) disdain meliorists as dupes of the establishment, wittingly or unwittingly collaborating with murderers.

Professor Rollin is a meliorist, and his book may be denounced as a "sell-out" by some of the revolutionaries (grandly ignoring the fact that he was never with them to begin with). He takes it for granted that humans will continue to use ("exploit" if you prefer) nonhuman animals for a number of purposes, and inquires as to the rights and wrongs of the conditions of such use. Rollin is willing to accept "half-measures" in many circumstances, at least for the present. Some true believers, of course, will be deeply offended.

The basic structure of the book is well indicated by the titles of the four parts. Part One, "Moral Theory and Animals," (62 pp.) and Part Two, "Animal Rights and Legal Rights" (22 pp.), provide the theoretical basis. Part Three, "The Use and Abuse of Animals in Research," (60 pp.) and Four, "Morbidity and Pet Animals" (26 pp.). As the titles indicate, the book concentrates — on the practical side — on research and pets, and has relatively little to say about farming, hunting, or other animal uses.

While the structure is systematic, the book is strikingly anecdotal. Many points are illustrated from Professor Rollin's personal experience. And many of the most distinctive positions in the work stem from research of Rollin's that began without special reference to animals. In particular, his work on the distinction (or rather on the inadequacy of the putative distinction) between natural and conventional signs (see his earlier book Natural and Conventional Meaning: An Examination of the Distinction), and his reflections on the practical damage resulting from conceptual deficiences. As one of the dominant modern medical and social issues, the outlook have shaped the set of categories that distinguish his work on animal problems here and elsewhere. Central to that set of categories is the concept of a living thing's "telos" — its nature in one sense or another. As the old song says, "Fish got to swim and birds got to fly." (Oscar Hammerstein and Jerome Kern, "Can't Help Lovin' Dat Man"), and to confine an animal in such a way as to prevent its natural locomotion, or to force it to live on an "unnatural" diet, or surgically to mutilate its natural form is to prevent its fulfilling its telos. Hindering an animal from attaining its telos is always prima facie wrong. Thus, in the very many situations in which these interests of animals are violated without sufficient justification we humans do wrong — moral wrong. The way to reduce the incidence of such wrong, Rollin believes, is by leading humans to a "gestalt shift," after which they will perceive animals as moral patients in their own right. Such a gestalt shift may be induced in an individual by any of a very large number of experiences, but is best induced on a large scale by legal action. The assignment of legal rights (of appropriate sorts) to animals will lead, Rollin claims, to the gradual spread of the perception of animals as bearers of moral rights. To those who object that "you can't legislate morality," citing the failure of Prohibition in the United States, Rollin correctly responds that one sometimes can indeed legislate morality, citing the passing of the marital and fundamental "gestalt shift" induced at least in part by civil rights legislation. The percentage of the white population that perceives racial segregation as inherently improper is now much larger than it was in 1954, most strikingly in the South.

One of Rollin's claims that will distress many is that "alternatives" are just not possible for many sorts of valuable research, at least not for the foreseeable future.

Among the many strengths of this book, some of the most noteworthy are the discussions of the varities of research (and "research"), the proposals for overhaul of dominant medical and social committee, the sharp attack on much of the dogma of science education, the calls for pragmatic cooperation, and the challenge to the "purebred" establishment. Rollin distinguishes six different sorts of activities carried on under the heading of research:

1. Basic biological research
2. Applied basic biomedical research
3. Development and testing of drugs and other therapeutic agents
4. Testing of consumer products for safety
5. Educational uses: demonstration, student dissection, practice surgery, etc.
6. Producing products such as serum from horses, musk from civet cats, etc.

Of course, the boundaries between some of these groups are fuzzy. Still, this distinction is a very useful one. Groups 5 and 6 are not really research at all and are, with the exception of surgical training, excellent targets for the replacement of animals by models, videotapes and, in the case of serum production and so on, nonliving synthesis of the needed compounds. Group 4 is perhaps the most subject to criticism on grounds both of weak justification (do we really need a yogurt-flavored shampoo at the cost of any animal suffering?) and of unreliability (the thalidomide case is only the most striking of many failures of inference from nonhumans to humans). Groups 1, 2, and 3 raise often difficult and even more often ignored cases of haphazard, unspecified cost/benefit analysis in conditions of great obscurity. Drawing these distinctions helps us all think more clearly, a prerequisite for acting more decently.

On the inculation of spurious objectivity in (most, not all) science education Rollin is especially good. Part of the
limitations, and the opportunities for development of new alternatives. The symposium on nonanimal research methodologies, therefore, provided an opportunity for addressing the specific issues related to the use of alternatives. These included the general concept that underlies this approach, with several examples of its application; a narrative description of the development of an organ culture system for assessing the tumorigenicity of cell cultures, which seems to correlate well with in vivo results; a more general discussion of the factors involved in converting to nonanimal systems for detecting potential carcinogens, in light of the limiting aspects of animal studies such as time, cost, and reliability of results; and a presentation on the rational, moral, and factual grounds that ought to compel society toward the vigorous development of alternatives to experimentation with animals.

The Procedings is available from The George Washington University Ethics and Animals Society, P.O. Box 56272, Washington, DC 20011.

Book News

ANIMAL RIGHTS AND HUMAN MORALITY, Bernard E. Rollin (Prometheus Books, Buffalo, NY, 1981, $17.95, cloth; $9.95, paper).

This is an excellent book. It should be read by all subscribers to this journal and by thousands who (alas) will never see this review.

Those who believe that we humans need to clean up our act regarding nonhuman animals may be classified, on the grounds of tactics, as quietists, meliorists, and revolutionaries. The quietists pursue their goal of helping animals by individual good works, perhaps prayer and meditation, and maybe frank answers if animal users or abusers happen to ask their opinions. Meliorists work to improve the treatment of animals without urging immediate and revolutionary change. The ultimate goals of some meliorists are in fact revolutionary, but this is not so for others. What makes meliorists meliorists is the willingness to work with, and to attempt to reform, the existing system of animal users. This the revolutionaries are unwilling to do. The entire system is profoundly evil, they believe, and it must be directly attacked and overthrown. Revolutionaries, Rollin calls them "kamikazes," underestimating, I believe, the military efficacy of the real kamikazes) disdain meliorists as dupes of the establishment, wittingly or unwittingly collaborating with murderers.

Professor Rollin is a meliorist, and his book may be denounced as a "sell-out" by some of the revolutionaries (grandly ignoring the fact that he was never with them to begin with). He takes it for granted that humans will continue to use ("exploit" if you prefer) nonhuman animals for a number of purposes, and inquires as to the rights and wrongs of the conditions of such use. Rollin is willing to accept "half-measures" in many circumstances, at least for the present. Some true believers, of course, will be deeply offended.

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Among the many strengths of this book, some of the most noteworthy are the discussions of the varieties of research (and "research"), the proposals for overhaul of the dominant medical committees, the sharp attack on much of the dogma of science education, the calls for pragmatic cooperation, and the challenge to the "purebred" establishment. Rollin distinguishes six different sorts of activities carried on under the heading of "research":

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job is done by a selective distortion of language. Animals do not cry out, they "vocalize." They are not killed, but rather "sacrificed." In fact, they aren't really animals at all, but rather "models" (or, for some reason Rollin missed this one, "PREPARATS"). This talk, of course, hardens and desensitizes the students who hear it, preparing them to harden and desensitize their students, and so on.

Bad morals and bad science often go hand in hand, and Rollin calls both for more sophisticated research that will deter more at less cost in suffering, and for the abolition of much pointless and unjustifiable "research" such as that of Skinnerian psychologists. The call for cooperation between those who care for animals and those who care for sound scientific inference is repeated throughout the book.

When he comes, in Part Four, to deal with pets, Rollin has some sharp words to say about the practices of cropping ears, docking tails, and so on, which are part of the "show animal" establishment. He also chronicles the deleterious genetic effects in many breeds of breeders concentration on appearance features. Does it follow that the whole "purebred" ideal is misguided? Rollin doesn't say. This is one of the several places in the book where the discussion is just too short. In fact, these episodes of excessive brevity are the main weaknesses of the work. One wants to know more of what Rollin thinks about a number of the topics on which he touches. Is the ideal of the "purebred" dog or cat or horse good, and I think Rollin may be ambivalent about this. What about well fed domestic cats manifesting their telos by preying on birds? (This is mentioned on p. 62—I think Rollin would try to restrain such predation, but I'm not sure.) Is vegetarianism morally obligatory? (I think his answer would be "no") Is vegetarianism morally desirable? (I don't know what his answer would be.) Similarly, I think his argument for distinguishing the telos of an animal from the telos of a machine is weak, and I'm sure it's too short.

These weaknesses of brevity are probably inevitable in a book that covers so much ground in such brief compass. I have not mentioned most of the topics, e.g., rights to life, the status of plants, "drawing the line," philosophy of law (Rollin is a Dworkian of sorts), the relations among reason, sentiment, immediacy and logic, and a new area of inquiry—cognitive ethology. In this new edition, Griffin seeks to answer his critics and to amplify his arguments: Both the length of the text and the number of references cited are almost 70 percent greater. Three new chapters, on mental evolution, language, and evolutionary continuity, have been added to the original eight. Most impressively, over 50 percent of the studies cited have appeared since the publication of the first edition.

This aptly illustrates one of Griffin's first points, that new findings show unexpected richness and complexity in the behavior of animals, from ants to apes. These include extraordinary sensory capacities, cognitive maps, and especially clever communication. Such knowledge makes traditional, sparse interpretations of animals' behavior seem more and more forced and meager. Griffin argues that we must frame new sorts of questions and expect new sorts of answers in tackling these issues. He reminds us that our position should be that of the open-minded agnostic, that no capacity should be excluded a priori.

So do other species have minds and are they aware of what they do? In trying to answer such questions, the cognitive ethologist faces the same obstacles that have always frustrated psychologists studying human subjects. It is not easy to experiment on intangible phenomena; one can record behavior that achieves goals, but how can one tell if intentions and planning lie behind that behavior? Griffin says that we can start with intuitions and then reason by analogy. If the origins of all behavior are in the nervous system, then similarities in neurophysiology across forms (including humans) probably indicate similarities in mental abilities. It is difficult otherwise to interpret the brain asymmetries of songbirds except as being linked to the complexities of their calls, for example. Sometimes elegant experiments can be done, e.g.: if apes can recognize their mirror-images, it is hard to deny them some minimum of self-awareness.

Is vegetarianism morally desirable? Griffin emphasizes as the richest vein to mine. He effectively dispenses of the old saw that other species can only signal their motivational states in the here and now. Some of their communication appears to be semantic, e.g., ground squirrels use different sorts of pigments to signal different sorts of predators. Other species send information about the world that is displaced in space and time: Bees in the hive at night "dance" the locations of food sources that their fellow workers visit on the next day. Such facts naturally lead to a questioning of the uniqueness of human language. Griffin devotes a whole chapter to this, and offers a point by point scrutiny of 16 design-features of language. He concludes that all the human/nonhuman differences in communication are quantitative and not qualitative.

But is this not rampant anthropomorphism? Griffin points out that it is no more so than the sort of inferences upon which comparative anatomy and physiology are based. If we are willing to use parallels based on the functioning of adrenal glands in mice for instance), why not draw the same parallels in brain functioning? Others have objected that we read too much into the behavior of animals, that their behavior can only be more simply explained. It is significant that such an exercise also seems to work for most human actions, but such simple-minded analyses satisfy neither the ordinary person nor the behavioral scientist. There is a danger of bending over backward too far in trying to deny the obvious.

Griffin is usually careful not to overstate his case, but some lapses occur. His references to "pongo-linguistics," the field of study in which scientists try to teach human languages to apes, is too uncritical. Also, he raises hopes at the outset of the book about new methods of at
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tackling the questions raised, but his chapter on this is sparse. It is now up to the cognitive ethologists to fathom the depths to which they have called attention.

Of course, as Griffin notes, most people take it for granted that animals have sensations, feelings, and intentions. Hall is one of these people, and what Griffin presents as cautious conclusions, she takes as her starting points.

Hall not only believes that other animals are equal to human beings in all known sensory, mental, and emotional capacities, but that we share with them supernormal abilities as well. Hence, her chapters deal with such topics as extra-sensory perception, mystical healing, spiritual beings, and even reincarnation.

The text abounds with such terms as “karmic burden,” “auric sight,” “astral planes,” “others,” etc. (In case the reader is not familiar with these, a useful glossary is given.) Thus, one finds such statements as, “When a person is afraid, a murky green colour shows in the aura. This repels animals and transmits fear to them” (p. 152). Or, “Cockroaches she found to be friendly creatures, one became a regular visitor to her bathroom in Chicago” (p. 41).

The obvious question is: How can such unusual claims be supported? Hall’s evidence comes from lots of anecdotes, seemingly collected over a long time. Many seem to have been culled from the popular press, but others come from personal investigation. Some are only snippets; others are longer: a pony called Dainty gets 14 pages. In some cases, the number of incidents cited is impressive, e.g., for homing. By the end of a chapter, their cumulative effect on the reader mounts.

The basic problem is that almost all of the events are treated uncritically. Hall is explicit in her views on this: “There is always a reason behind every coincidence” (p. 51), and “I believe there is a reason for everything” (p. 152).

Having recognized this, the reader begins to play a sort of game of looking for ordinary explanations for the supposed extraordinary events. These are readily found. They arise from unconscious communication between people and their pets, from traits deliberately bred in the domestication of animals, and from crediting the normal abilities of the species concerned. Many of the single events seem to be nothing more than random coincidence, and the lack of any mention of probability is telling.

This sort of book might be harmless enough, except for two drawbacks: Some of its claims may be dangerous, and much of its content actually belittles and damages the animals that it purports to exalt. The first drawback is easily exemplified by such statements as, “A rabies wound should be treated like any puncture wound, without fear, with normal cleansing methods” (p. 174): “Any horse can be controlled by telepathy” (p. 22). These are dubious at best. The second drawback is more complicated. Ironically, the author’s ignorance often causes her to under- rather than over-estimate other species. They are given credit only for sensory capacities equal to ours, but abilities that differ in kind, e.g., sonar in porpoises, are ignored. Recent studies on the mental powers of apes are omitted altogether. More worryingly, cats are presented as being trainable to stop hunting birds, and dogs as being able to thrive on a vegetarian diet.

The viewpoints of the two authors could not differ more, but one common point deserves stress: The long-held assumptions of science about the mental and emotional lives of other species are becoming more and more untenable. Direct evidence is hard to find, but even the most prudent interpretations of these new findings have ethical implications for the relationship between human and other animals.

W.C. McGrew
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BOOKS RECEIVED

RESEARCH AND DEVELOPMENT IN RELATION TO FARM ANIMAL WELFARE

ABSTRACT: The subtle inter-relationships between animal welfare and productivity, some of them proved and some of them still hypothetical, are explored in this book. Within this general topic area, the authors address four issues: (1) a review of the current literature for information that can be used in formulating criteria for assessing the welfare of animals; (2) a consideration of whether future research would be valuable; (3) specific lines of research likely to be most profitable; and (4) an evaluation of the bearing that these findings might have on productivity and ethical assessments. The first paper, “Welfare and Productivity,” reviews studies published up to 1979 on the effects of (1) manipulating husbandry systems; (2) different stocking densities; and (3) different housing structures and materials. “Behavioral Physiology of Farm Animals” explores potentially useful areas of research for making intelligent judgments about animal welfare. These include the physiological and biochemical changes that occur during stress: self-selection of environments by animals trained through operant conditioning to alter a specific factor in their environment; and the use of radio equipment to make recordings of physiological data from unrestrained animals. “Animal Welfare Lessons from Work on Poultry” explains why we know more about the welfare of domestic fowl than other domestic species, and how this knowledge can be used to establish an overall plan of attack for gaining similar data on other species. Two final papers, “The Need for Field Studies to Evaluate Welfare Situations” and “Evaluation of Research Results & Suggestions for Future Research Relevant to Farm Animal Welfare” furnish, respectively, an appraisal of the role, information needs, and required training of inspectors and stockmen, and possible approaches that have been used to assess the well-being of farm animals. As noted in the “Conclusion,” the papers emphasize the need for immediate practical help, rather a full scientific understanding, which would require many years of effort.


ABSTRACT: This volume contains contributions from 22 veterinarians, and provides basic coverage of the full range of medical problems commonly encountered in a zoo, as well as information on how to operate a zoo hospital, how to deal with disease outbreaks, and techniques for capture and chemical restraint of animals. The volume omits standard descriptions of the pathological and anatomical signs of animal diseases, but does provide data on the most common types of parasites, infections, organic and deficiency diseases, toxicology, and the drugs best suited for their control, as well as descriptions of surgical procedures and obstetrics. These data are given for each grouping of zoo animals: non-human primates, wild dogs, bears, dolphins, etc. Some general comments on construction and equipment of animal houses and outdoor enclosures, hygiene, and nutrition are offered. However, it should be noted that the section, “Import Regulations and Control Measures” applies only to the Federal Republic of Germany.
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BOOKS RECEIVED

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LATION TO FARM ANIMAL WELFARE,
D.W. Fölsch, ed. (Animal Management,
Volume 11, Birkhäuser Verlag, Basel,
Switzerland/Boston, MA, 1981, $34.95).

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HANDBOOK OF ZOO MEDICINE, H.-G.
Klös and E.M. Lang, G. Speckmann, trans.
(Van Nostrand Reinhold, New York, NY,
1981, $49.50).

ABSTRACT: This volume contains con-
tributions from 22 veterinarians, and pro-
vides basic coverage of the full range of
medical problems commonly encountered
in a zoo, as well as information on how
to operate a zoo hospital, how to deal
with disease outbreaks, and techniques
for capture and chemical restraint of
animals. The volume ommits standard
descriptions of the pathological and ana-
tomical signs of animal diseases, but
provides data on the most common
types of parasites, infections, organic
and deficiency diseases, toxicology, and
the drugs best suited for their control, as
well as descriptions of surgical proced-
ures and obstetrics. These data are given
for each grouping of zoo animals: non-
human primates, wild dogs, bears, dol-
phins, etc. Some general comments on
construction and equipment of animal
houses and outdoor enclosures, hygiene,
and nutrition are offered. However, it
should be noted that the section, "Im-
port Regulations and Control Measures"
only applies to the Federal Republic of
Germany.
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