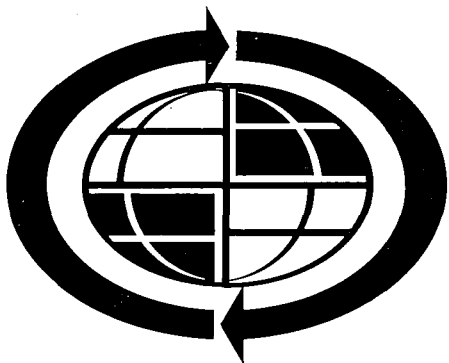


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# NEWS and REVIEW

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## COMPANION ANIMALS

### *Progress in Sheltering and Control*

*The Humane Society News* (26(1):4-6, 1981) reported the following examples of progress in animal sheltering and control, measured by a reduction of the reported number of homeless animals turned into shelters in various communities.

The Humane Society of Huron Valley (Ann Arbor, Michigan) handled almost 19,000 animals in 1975, and reduced that amount to 12,000 in 1979. The number of animals euthanized annually was cut almost in half, dropping from 12,573 to 6,988. The society reports that four surrounding counties had increases in both categories in the same period. The difference is that HSHV started programs in public education and law enforcement and opened a spay-neuter clinic in 1975. The clinic performed 4,200 surgeries in 1979.

The Tarrant County Humane Society (Ft. Worth, Texas) opened a spay clinic in a low-income neighborhood in October 1978 and has sterilized more than 8,000 animals there. The number of puppies and kittens coming into the shelter has been reduced by 50%.

At the Peninsula Humane Society (San Mateo, California), the number of

dogs handled dropped from 21,000 in 1974 to 12,000 in 1979; the number of cats decreased from 15,000 to 9,000. The society's self-supporting spay/neuter clinic sterilized 20,000 animals between 1973 and 1979.

The Vancouver Regional Branch of the British Columbia SPCA euthanized 21,000 animals in 1979 compared to 80,000 in 1976. Again, a program of sterilization and education seems to have made the difference since nearby municipalities without such a program reported an increase in animals euthanized in the same time period.

The number of animals sheltered annually by the Western Pennsylvania Humane Society (Pittsburgh) decreased by 2,288 dogs and 4,234 cats between 1970-71 and 1978-79. The society credits the decrease to more adoptions, better education programs, improved shelter facilities and a neutering program through which 21,000 animals have been sterilized since 1966.

Only two states have laws making sterilization of animals adopted from shelters mandatory. California requires all adopted cats to be neutered, while Florida extends the requirements to all animals adopted from shelters.

## LAB ANIMALS

### *AAALAC Chairman Deplores Lack of Controls on Animal Research*

Professor Harold Feinberg of the University of Illinois School of Basic Medicine called for an end to cosmetics testing and all painful research on animals at a conference held at the Anti-Cruelty Society in Chicago in November 1980. Feinberg, who is also the current chairman of the American Association for the Accreditation of Laboratory Animal Care (AAALAC), declared that "there must be rules [governing animal experimentation]." One of the things that is not permissible is to inflict 'pain.' Since AAALAC is one of the major pro-

fessional groups which have been set up to provide some self-regulation of biomedical research, Feinberg's comments are particularly startling.

While he stressed that he is a physiologist who kills dogs in order to study cardiac function, he also stated that he does not consider the pursuit of knowledge in and of itself a necessarily acceptable goal of research: "[T]he knowledge must relate to the alleviation of pain and suffering in humans and animals," and the research should never inflict pain on the animal subjects. At present, under the federal Animal Welfare Act, the care of laboratory animals is regulated by federal authorities, but there is no limit as to what is permissible for an experimenter to do with an animal once it leaves the holding facility.

As to the function of AAALAC, Feinberg noted: "What we worry about is cage space, cleanliness, training of animal caretakers and nutrition. The organization cannot say anything about what the animals are used for, so it is like being a good concentration camp guard." If AAALAC were to comment on the protocols and procedures used, then they "would not be allowed to exist." Dr. Feinberg was particularly hard on cosmetic testing, stating that it was a "frivolous use of animals" which he would "like to see outlawed."

While Feinberg was the undoubted central figure at the conference, not so much because of what he said, but because he was saying it, there were a number of other noteworthy contributions. Philosophers Tom Regan (North Carolina State University) and Dale Jamieson (University of Colorado) discussed their "modified innocence principle" which states that it is wrong to harm an innocent unless one can show that by doing so, one will save or significantly ameliorate the lot of a greater number of innocents. They rejected the premise that we are justified in doing unlimited experimentation as well as the premise that it is *always* wrong to harm an innocent animal. However, they argued that most of the harmful exper-

iments done on animals "are not morally permissible because the scientific community has not made a conscientious effort to search for alternatives."

Robert Brown, Executive Director of the Anti-Cruelty Society, noted that the positions expressed by Feinberg, Jamieson and Regan are "tantamount to a cease and desist order on a large proportion of the current world-wide use of some two hundred million laboratory animals." Brown also explained that the conference resulted from a year of active dialogue between the Anti-Cruelty Society and Chicago's biomedical community. It serves to illustrate that scientists and animal welfare professionals can work together to achieve common goals and could, perhaps, form the nucleus of Feinberg's suggested "groups of people who should sit in judgment of what we do in laboratories."

#### *Revlon Funds Draize Test Initiative*

On December 23, 1980 Revlon announced that it was giving a grant of up to \$750,000 to Rockefeller University to fund a research effort aimed initially at finding an alternative to the Draize rabbit eye-irritancy test. Michel Bergerac, chief executive of the multi-billion dollar corporation, also called upon other leading cosmetic and toiletry companies, including Avon, Bristol-Myers, Gillette, Johnson and Johnson, Max Factor and Procter and Gamble to join Revlon as full partners in supporting this research effort. Mr. Rodney Nichols, Executive Vice President of Rockefeller University, commented in accepting the grant that "this extraordinary corporate decision is significant for both the University and the scientific community generally because it shows the increasing willingness of industry to participate with academic institutions in studies related to major national health goals."

The Draize test has been the focus of a campaign to urge industry and government to develop a nonanimal alternative for irritancy testing. A coalition

of over four hundred animal welfare organizations has been applying pressure to both the cosmetic industry and the government to abolish the test or to modify it to make it more humane. Several groups have focused specifically on Revlon, starting with a full-page advertisement in the New York Times (15 April 1980) captioned "How many rabbits does Revlon blind for beauty's sake?" The Cosmetic, Toiletry and Fragrance Association (CTFA) has also been a target of consumer pressure, but Revlon has been perceived as the "sacrificial lamb" by Donald Davis, editor of the trade publication, *Drug and Cosmetic Industry*. In a June 1980 editorial he comments that Revlon's plight has "engendered more sympathy in the industry... than any other single happening since the founding of the company," but that "there has been a distinct lack of 'volunteers' among industry leaders to help take the head off Revlon." However, according to Michel Bergerac, Revlon's initiative merely confirms and extends their past interest in and research on potential alternatives. Whatever the background to the decision to award the grant, Henry Spira, co-ordinator of the coalition, welcomes this constructive approach by Revlon and hopes that similar initiatives will be taken by other major cosmetic and toiletry companies.

The principal investigator for the project at Rockefeller University will be Dr. Dennis Stark, Director of the Laboratory Animal Research Center. Dr. Stark has a research background which includes the study of inflammatory responses. He plans to employ one or two cell scientists to help determine the feasibility of developing a cell culture alternative to the Draize test. There have been mixed results from earlier exploratory studies on cell culture systems. In the U.K., a pilot project at Hazleton Research Laboratories gave promising results, but Unilever has decided that cell cultures are not reliable for irritant screening, according to Anthony Johnson, a scientist in the company's Environmental Safety Division.

In the U.S., studies using cell death or release of chemotactic agents by cells did not give good correlations with *in vivo* results. However, at a CTFA-sponsored workshop on eye irritancy testing, Dr. Kwan Chan (University of Washington, Seattle) commented that his corneal cell culture system had good potential as a screen for acute effects and subsequent healing rates. By contrast, Dr. T. Brody of Michigan State University's Department of Pharmacology and Toxicology is very scathing about the prospects of cell culture: "[T]he suggestion that cell cultures may have any utility in assessing the safety of chemicals in the human eye is without any redeeming merit" (*MSU News*, 8 May 1980). Most cell scientists, however, would contest this view. Professor David Smyth, a fellow of the Royal Society and a defender of the need to do research on animals, has stated: "[T]here does seem to be a good case for a major attempt to find an alternative to the Draize test" since this "is a relatively circumscribed problem involving only the epithelial cover of the eye and the underlying cornea" (*Alternatives to Animal Experiments*, Scolar Press, London, UK, 1978). Obviously, Revlon and Rockefeller University agree with Professor Smyth. The project funded by Revlon should give, at the very least, a much better idea of the feasibility of using cell culture as a screen for eye irritancy.

## FARM ANIMALS

### *Biotin and Farm Animal Welfare*

Recent research has shown that biotin deficiency may increase animals' susceptibility to stress and disease. R.L. Hood (*Feedstuffs*, 29 Dec. 1980, pp. 13-15) reports that low concentrations of the vitamin biotin in the diet of parent poultry stock, in their eggs, and in the diet of their offspring is believed to be the major factor contributing to fatty liver and kidney syndrome (FLKS) which

in the U.S. is known as 'flip-over disease' or 'heart attack.'

Some feedstuffs, such as oats, barley and wheat, have low bioavailability of biotin. Availability of this essential vitamin may also be reduced by antagonists, biotin-binding proteins, antibiotics, sulfanilamides and other antimicrobials.

Excessive noise, as from a thunderstorm, or sudden changes in temperature can trigger the disorder; ironically, these are natural stressors to which all poultry were once well adapted. Apparently, when birds are stressed, they break down glycogen into glucose and glucose into lactic acid. With biotin deficiency (which affects biotin-dependent liver enzymes), gluconeogenesis is impaired, blood lactate levels increase and birds die from hypoglycemic coma. It is possible that the standard recommended daily requirement of biotin may be much higher than normal for birds in modern intensive systems: The many husbandry stresses, species-atypical diet and chronic intake of antimicrobial and other drugs could be resulting in faster utilization of and greater demand for the vitamin.

Adding biotin to the diet may help to prevent not only 'flip-over', but also foot pad dermatitis and breast blisters in broilers (See *Feedstuffs*, 25 Aug. 1980).

Pigs also appear to be affected by biotin levels in their diet. R.H.C. Penny et al. (*Vet Rec* 107: 350-351, 1980) report that although sows in a herd with a high frequency of foot lesions and lameness failed to benefit from a dietary supplement of biotin, replacement gilts with minimal foot lesions on entry to the herd did benefit from biotin supplementation and showed less 'confinement floor' heel erosion, heel bruising and 'corn.'

#### *U.K. Report on Transport and Slaughter*

The following is excerpted from a press release issued 5 November 1980 by Botsford Public Relations Ltd., London.

Major proposals for improvement of animal welfare on-farm and during transport, marketing, lairing, pre-slaugh-

ter handling, stunning and slaughter were made in the Ammerdown Group Report, published 5 November 1980. What makes the report unique is that its recommendations are made by leaders of the meat industry as well as those professionally involved with animal behavior and welfare. The aim of the seminar held by the independent Ammerdown Group, which took its name from the meeting place near Bath, was "...to identify the key problems and to seek practical solutions for a more humane and efficient transport and slaughtering system."

The report states that its strength "...lies in the degree of unanimity amongst the participants on the need to improve the welfare of animals before slaughter and, in so doing, raise the quality of the carcasses produced.... Although it was recognized by the Group that some changes could be expensive, it was also strongly felt that there were many areas which could be modified at low cost." The report has been endorsed by the Animal Welfare Committee of the British Veterinary Association.

The major problems identified in the report include: overly vigorous treatment on-farm in goading animals into dark vehicles; badly designed vehicles and loading ramps; harassments and disturbances in markets; out-of-date meat plants with poorly designed pens and passageways; stress in pre-slaughter handling; ineffective stunning, with animals being stuck while still conscious; poor poultry crate design; lack of job motivation, training and understanding in some large meat plants; insufficient communication between the various sectors involved in the industry because of their diverse natures; and supervision which is often cursory or lacking altogether because the day-to-day responsibility for the welfare of animals destined for slaughter is divided among a number of different authorities.

The two key recommendations of the group are:

1. "A small, independent coordinating center should be established as soon as possible to act as a focal

point for all those concerned with the transport and slaughter of farm animals. It would act as a link between all the various groups involved, including welfare organizations, research and development, equipment manufacturers and the industry itself. The center would encourage the implementation of methods that would be both cost-effective and improve the welfare of the animals themselves."

2. "The government should be urged to create a unified and independent inspection service under the control of the Animal Health Division of the Ministry of Agriculture, which would be responsible for ensuring the humane transport and handling of livestock between farm and slaughter, and for meat inspection. In this way, control would be coordinated and problems that occurred at any stage quickly traced. Furthermore, a consistent standard could be established throughout the country."

Copies of the report, "The Transport and Slaughter of Farm Animals" (CJA & HSA, 1980) are available for £1 each from the Council of Justice to Animals and Humane Slaughter Association, 34 Blanche Lane, Potters Bar, Herts., UK.

### *USAHA Wants Welfare Research*

At its 1980 annual meeting in Louisville, Kentucky, the U.S. Animal Health Association (USAHA) passed a resolution supporting the idea of federally funded research related to animal welfare and intensified management practices. As stated in the *USAHA Newsletter* (7(3):2, 1980), resolutions passed by the membership "...become a major part of the policies of the Association for the coming year."

## WILDLIFE

### *Scoline and Culling Operations*

The culling of animals in national parks is a controversial subject. However, once the decision to cull has been made, employment of a humane and efficient killing technique should assume top priority.

The South African Federation of Societies for the Prevention of Cruelty to Animals, in response to public concern over the use of the neuromuscular blocking agent, succinylcholine chloride (Scoline), for immobilization of wild animals (See *Int J Stud Anim Prob* 1(4):218, 1980), conducted an independent investigation of culling operations in the Kruger National Park in which Scoline was used on elephant and buffalo. The International Society for the Protection of Animals (ISPA) assisted the investigation by providing a veterinary ethologist and a veterinarian to join a team which spent 5 days at the Park in the eastern Transvaal in November 1979.

According to Park officials, periodic droughts necessitate the culling of elephant, buffalo, and possibly in the future, kudu. The carcasses of culled animals are removed and processed for consumption, a practice that has an economic as well as hygienic purpose, as the sale of these carcasses creates revenue for the Park. However, Park authorities assured the team that culling quotas were determined by ecological surveys and not by economic considerations.

The decision to use Scoline in the Kruger Park was influenced by the high degree of tameness exhibited by the animals living there. Alternative agents, such as Etorphine (M-99), were rejected on the grounds that their slower killing action would result in darted animals scattering and attracting the attention of and arousing fear in other animals. [Ian Douglas-Hamilton has reported an interesting case of cultural transmission in this regard: descendants of once fairly tame survivors of a brutal culling operation in a South African park in 1919 show fear of man although they them-

selves have always been left undisturbed (*Among the Elephants*, Viking, New York, 1975)].

Although the usual procedure in culling elephants is to dart, shoot and remove entire family units, and thus only minimally disturb the social structure of the herd, the culling witnessed by the Federation-ISPA team involved two bachelor bulls. Normal culling operations had been completed by the time of the team's visit, and these two animals were essentially sacrificed in order to demonstrate the effects of Scoline.

Both animals collapsed two minutes after being darted. According to Dr. J.E. Cooper, the veterinarian sent under the auspices of ISPA, the elephants were still breathing when they were shot minutes after collapsing. A large herd of giraffe on the open savannah where the killing took place appeared to be only slightly affected by the event.

In contrast, the culling of 30 buffalo occurred on rough, scrubby terrain. Observing from a helicopter, Colin Platt, ISPA's veterinary ethologist, noted that the animals galloped about in a frenzied manner and showed marked evidence of respiratory distress after being darted.

The team concluded that the use of Scoline to immobilize elephants was "not unacceptable provided that the animals are reached before respiration ceases and are then immediately killed by shooting." The evidence for buffalo, however, is equivocal. On one hand, the animals observed by the Federation-ISPA team died of respiratory paralysis, thus reinforcing the concern that Scoline can cause death by suffocation. On the other hand, tests done at another time on captive buffalo by senior Park veterinarian B. de Vos indicated that the animals' hearts stopped before their respiration failed.

The team also concluded that the stress experienced by both the elephants and the buffalo could not be avoided, but could be (and was) localized and of short duration.

The South African Federation of Societies for the Prevention of Cruelty to Animals does not intend the results of

this investigation to be taken as a blanket endorsement of the use of Scoline in elephant culling operations. The particular circumstances in the Kruger National Park, combined with the generous amount of skill, efficiency and compassion toward the animals displayed by the Park staff were major factors in the team's overall evaluation.

### *Badgers Cowed by MAFF Report*

Anyone who has read Kenneth Grahame's classic tale, *The Wind in the Willows*, knows that Badger, more than any of the other animals, cared little for the Wide World. In light of a recent decision by the British Ministry of Agriculture, Fisheries and Food (MAFF), English badgers would have done well to follow their literary counterpart's example and stay deep within the Wild Wood instead of establishing setts on land where cattle are farmed. After a suspension of operations lasting more than a year, the MAFF has decided to resume the gassing of badgers in areas where they are believed to be infecting cattle with bovine tuberculosis.

Public criticism of both the badger control policy and the methods of eradication provoked the suspension in October 1979, which was intended to last until an investigation of the problem, headed by Lord Zuckerman and designed to evaluate the current policy, could be completed. The report of the investigation, "Badgers, Cattle and Tuberculosis" (MAFF, 1980, £5.20) concludes not only that gassing operations should be resumed in areas of bovine TB outbreak (primarily southwestern England), but also that sampling procedures, i.e., catching, killing and autopsying badgers to discover diseased individuals, should be extended to contiguous counties.

The *Veterinary Record*, Britain's professional veterinary journal, lauds the report for its thoroughness and objectivity (107:433, 1980). The *Beast*, a U.K. magazine devoted to issues of the environment and animal rights, calls the report "whitewash" (No. 8, pp. 1-3, 1981).

The *Veterinary Record* says that the eradication of local badger populations is an "unfortunate necessity." The *Beast* claims that the MAFF is continuing to operate on an assumption rather than on conclusive scientific evidence.

According to an independent investigation conducted by the *Beast*, the laboratory studies done to establish transmissibility of tuberculosis between badgers and cattle bore little resemblance to field conditions and involved forcing healthy animals of one species to feed from the same floor where diseased animals of the other species had excreted. The *Beast* further points out that the successful program to eradicate bovine TB from the national dairy herd in the 1950's did not implicate badgers. Therefore, why weren't the badgers ravaged by the 30% incidence of bovine TB at that time, and if they did have the disease, why did they not reinfect the herd during the 50's?

The *Beast* suggests that there could be other factors contributing to bovine TB outbreak in cattle besides that of badgers acting as vectors, such as infected soil, intensive housing systems in which cattle are closely confined, wounds sustained through de-horning, and disease transmission by humans. The Zuckerman report's answer to accusations that badgers are being made a scapegoat is a recommendation that "...other wild creatures be systematically sampled and examined for tuberculosis." This would seem to be a continuation of the "when in doubt, annihilate" approach condemned by the *Beast*. Nor does it sit well with the Royal Society for the Prevention of Cruelty to Animals (RSPCA), which was quoted in the *Veterinary Record* as being opposed to both the deliberate killing of badgers in apparently uninfected areas and the killing of other wild animals for sampling.

While the Zuckerman report calls for improvements in gassing procedures (e.g., more efficient dissemination through badger tunnels) without questioning the efficacy of the technique overall, badger expert Eunice Overend considers gassing of entire setts a poor

method of control. As she told the *Beast*, badgers do not stay in their setts all the time (even in late winter, characterized by the report as the optimal time for gassing); therefore, it is likely that some members of a social group will survive gassing, join other groups, and possibly infect them. In addition, the stress associated with the loss of an individual's original group could in itself precipitate an attack of tuberculosis.

The treatment of badgers by the MAFF raises questions not only about the humaneness and efficacy of the killing, but also about how the whole problem is perceived. To the MAFF, whose primary responsibility is to the farmers, outbreaks of bovine TB in cattle can mean economic disaster. Such pressures lead to searches for immediately effective, short-term solutions. Considerations of long-term effects on the environment, or acknowledgment that the root of the problem may lie in modern intensive management practices, simply do not fit into the program.