



INFORMATION REPORT

ANIMAL WELFARE INSTITUTE

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The rage for cage birds

Cage birds in huge quantities are being smuggled into the US—mostly from Mexico. Estimates vary between 50,000 and 100,000 a year. Although US Customs are now alert to the problem, the number of birds seized (3057 in 1979) is tiny in relation to the traffic. And very lucrative traffic it is.

Yellow-headed parrots, for example, bought in Mexico for \$50 can fetch upwards of \$350 in the US. And birds smuggled across the border avoid both customs duty and the cost (up to \$80 a bird) of compulsory quarantining. So smuggling brings a nice profit. But smuggling also brings Exotic Newcastle Disease.

This avian disease is highly contagious and usually fatal. In wild birds it may be dormant, erupting only under stress. Most probably the eruption of last August started in smuggled cage birds which were sent to a dealer in Miami. There, while incubating the disease, they came into contact with

thousands of legally imported birds which had undergone quarantine and were awaiting shipment to pet stores throughout the US.

By the time Newcastle Disease was diagnosed these shipments had taken place. The Department of Agriculture, which supervises the quarantine program for imported birds, then had the task of tracing recipients. By late October 29,752 birds had been euthanized to prevent the disease from spreading to poultry.

Outbreaks of Newcastle Disease occur almost every year. Invariably smuggled birds are the cause. As a result tens of thousands of cage birds

have been euthanized and millions of dollars paid to pet-store dealers and owners by way of indemnity. (Dealers who operate quarantine stations have been known to 'cash in' on this arrangement by introducing the disease deliberately in order to claim on birds sick from some other cause.)

Parrots are peculiarly susceptible to this disease. They are also by far the most popular of cage birds—so much so that parrot populations in the wild have plummeted and many parrot species are now rare. Rarity, of course, adds to the value of a species and makes it all the more sought after. For animal dealers an animal's path from rare to endangered to extinct is paved with gold.

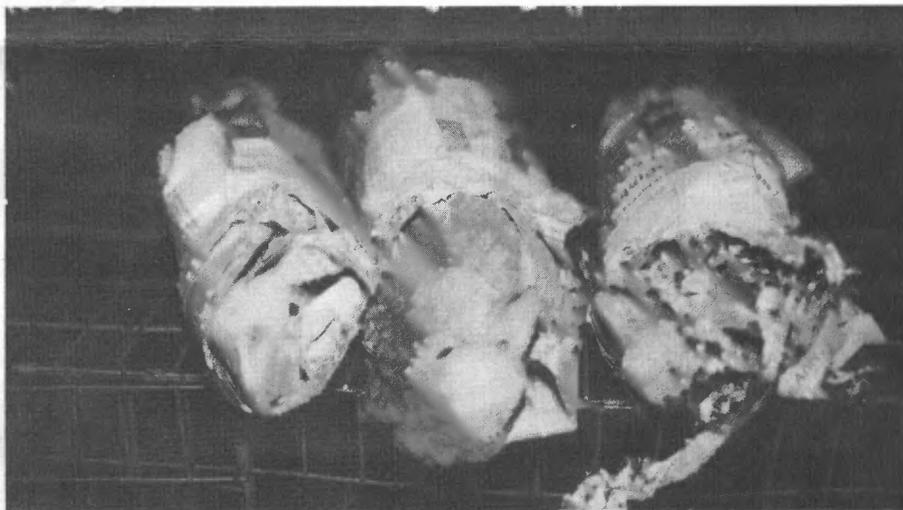
If parrot species are to survive, the major bird-trading nations will have to impose strict controls. Happily most of the large bird-importing countries, now

Continued on back page

South Korea objects

South Korea has filed an objection to the IWC's prohibition on killing great whales with 'cold' harpoons. The extreme and wholly unnecessary cruelty of using such primitive weapons is the reason for the ban adopted by an overwhelming majority at the IWC annual meeting last July (see previous *Information Report*).

The objection means that the United States could invoke the Pelly Amendment and the Packwood-Magnuson Amendment. South Korea would then be denied both the US market for her fish products and the right to fish within the US 200-mile limit. The sanctions should be enforced immediately unless South Korea installs explosive harpoons on her catcher boats and withdraws her objection.



These yellowheaded parrots were seized while being smuggled from Mexico into California. Wrapped in newspaper and hidden under a car seat, they had all died from suffocation.

Photo: US Customs

Periodical pleasures by John Gleiber

Orion Nature Book Review in its own words "reports on and offers for sale books that bring man closer to the natural world. Each month a group of selected books is examined for what it reveals about man's relationship to nature, in thought and action". The monthly catalogue is a bargain at \$5 with thoughtful reviews of new and current titles and capsule descriptions of distinguished, time-honored books.

This is a most practical way to buy often hard-to-locate paperbacks. Orion's address is 362 Main St., Great Barrington, MA 01230. You can cautiously get a single copy of the catalogue for 75¢. If you do sample it, you're likely to become a subscriber.

It's hard to resist a journal simply called *The Beast*. Especially when you discover it happily describes itself as the "magazine that bites back". This is the first magazine, anywhere, to provide international coverage of the animal rights movement. It is available in the United States only by subscription and can be addressed at its lair, 2 Blenheim Crescent, London W11

Voices of the deep

Callings is Paul Winter's celebration of the voices of the sea. The melodies were inspired by the calls of 15 different sea mammals—plus certain land ones such as the wolf and the polar bear. The actual voices of the animals are woven into the fabric of the music. Marvellously evocative. Along with the two records comes a 20-page booklet with boisterous photographs of whales, dolphins, seals and other creatures. The set can be obtained from Living Music Records, Box 68, Litchfield, Connecticut 06759. Price: \$15.00 plus \$1.50 postage and handling.



Humpback surfaces: rare behind-the-head shot.
Photo: David Mattila

INN, England. Four issues cost \$15 surface mail or \$20 air mail.

The September 1980 issue of *The Living Wilderness*, published by the Wilderness Society, has a special section dramatically entitled "Planet At Risk". Gus Speth of the Council on Environmental Quality, writes about the Global 2000 Study, Tom Lovejoy of the World Wildlife Fund about the recent World Conservation Strategy, Jim Barnes of the Center for Law and Social Policy about the new Convention for the Conservation of Antarctic Marine Living Resources, and Christine Stevens of the Animal Welfare Institute about the 1980 International Whaling Commission meeting.

These concise, timely articles contain the crux of the matters most important to today's environmentalists. All four together in a reprint may be requested from the Animal Welfare Institute, Box 3650, Washington, DC 20007. We'll be happy to supply modest quantities (up to 50) free, if you wish to distribute them to friends. For larger orders, we would appreciate a contribution to help us meet printing and postage costs.

Horsemen Fined \$1,350 for Soring Violation

A total fine of \$1350 was levied against Tennessee Walking Horse owner Peter Livolsi and trainer Robert D. Morris, both of Johnstown, PA., after the courts found their horse 'sore' from wearing leg chains and suffering recurring abuse. The judge ruled that abnormal sensitivity and inflammation was found in both of the horse's forelimbs.

\$2500 reward for fisherman \$5600 fine for porpoise killer

Jimmie A. Barritt of Port Isabel, Texas, a shrimp fisherman is the first person to receive a reward (\$2500) under the Marine Mammal Protection Act for his part in convicting a Mexican fisherman, Carlos Diaz-Vera, charged with harpooning porpoises. Barritt saw Diaz killing a porpoise. He summoned the Coast Guard, who boarded the Diaz vessel and found freshly killed animals and harpoons. The Mexican was later convicted, fined \$5600 and given a suspended sentence. He forfeited his harpooning gear.

Livestock protection

The First European Conference on the Protection of Farm Animals was held 17-18 April 1979 in Amsterdam. The proceedings of this conference form a special issue (Vol. 3 No. 1, 2) of *Animal Regulation Studies*—a multidisciplinary journal sponsored by the World Federation for the Protection of Animals. The publisher is Elsevier, 52 Vanderbilt Avenue, New York, NY 10017. Free sample copies are available on request.

Marine park for California

On 21 September 1980 President Carter declared the waters within six nautical miles of Santa Barbara Island and the four northern Channel Islands a National Marine Sanctuary. He also prohibited future oil and gas development there.

The Channel Islands provide one of the largest and most varied assemblages of seals and sea lions in the world. And they are a favorite haunt of seabirds, including the endangered brown pelican.

The new sanctuary was strongly opposed by oil and recreation interests.

In nearly eight years since the passage of the Marine Protection, Research and Sanctuary Act only two other marine sites—a coral reef off Florida's Key Largo and a ship, *The Monitor*, off Cape Hatteras—have become sanctuaries.

Animal Cancer Tests Under Scrutiny

A recent National Cancer Institute study confirms what the public has long suspected: cancer is on the rise. In the May issue of NCI's *Journal*, the authors analyze data from NCI surveys of cancer incidence from 1969 to 1971 and from 1973 to 1976 and conclude that cancer had increased by 9% among white males and by 14% among white females—a rise of perhaps 10,000 cancer victims each year!

While there is wide debate over the exact cause of the increase, many scientists believe it is directly related to the flood of chemicals marketed since 1950. The new study will thus place current carcinogenicity testing procedures—principally animal tests—under even more severe scrutiny than before. Development of non-animal cancer tests has made some progress, most notably by Dr. Bruce N. Ames of the University of California at Berkeley. We print below the summary of an article by him which appeared in the prestigious journal *Science*.

Summary. Damage to DNA appears to be the major cause of cancer and genetic birth defects and may contribute to aging and heart disease as well. The agents that cause this damage must be identified. Many of these agents are natural chemicals present in the human diet as complex mixtures. The tens of thousands of man-made chemicals that have been introduced into the environment in the last few decades must also be tested for their ability to damage DNA. Existing animal tests and human epidemiology alone are inadequate for this task because of time, expense, and the difficulty of dealing with complex mixtures. Newly developed short-term tests, most of them assaying for mutagenicity, are discussed as key tools in identifying environmental mutagens and carcinogens.

Politics submerge policy in animal protection merger

Politics seemed to be uppermost at the meeting in Amsterdam on October 30 to merge the World Federation for the Protection of Animals and the International Society for the Protection of Animals.

Of the 10-man executive committee which will run the new World Society for the Protection of Animals (WSPA), only two are drawn from outside the Anglo-Saxon world. The composition is four from the USA, four from the UK, and two from West Germany.

Although WSPA has a board of directors that is more widely represented, it seems that they will have scant opportunity to give guidance to WSPA or even to learn what the executive committee is planning to do.

Mrs. M. E. Tait, an ISPA director, now a WSPA director, bitterly protested the fact that the constitution and bylaws were "presented to us without voting or discussion."

Mexican President petitioned on animal welfare

Extracts from a paper presented to President Lopez Portillo of Mexico by a group of Mexican specialists and scientists on May 8 in Los Pinos.

As professionals in the field of veterinary medicine, we are conscious of the need for legislation to halt man's aggressive and destructive tendencies against animals. Such legislation is of direct concern to us because it is closely linked to the following fundamental objectives of our profession:

- Increasing production of food-animals and preventing waste;
- Safeguarding man's health by preventing diseases transmitted to him by animals;
- Preventing needless suffering in animals.

The fact that no legal regulations govern the transport, handling and slaughter of food-animals gives rise to major economic losses.

In order to give some idea of the magnitude of the problem, we shall cite some figures. At the Tlalnepantla slaughterhouse in Mexico State, 4,420 kgs of pork are burned on average each month because of the death of the animals during transport. At the Ferreria slaughterhouse in the Federal District, 18 tons of beef were seized in 3 months because of traumas, caused by physical violence to the animals. The waste of these huge quantities of meat at a time when hunger and malnutrition are a constant threat amounts to inexcusable carelessness.

It has been found that primitive slaughtering methods, like throat-cutting without prior anesthesia or stunning, mean that large amounts of blood accumulate among

Ruth Harrison, the distinguished author of *Animal Machines* and head of the Farm Animal Trust, successfully protested the attempt by executive committee members to obtain blanket approval by the WSPA board of a budget for 1981 void of any details except the total amounts to be spent in the London, Boston, and Zurich offices. The budget was not approved. Rather a ceiling on expenditure was adopted.

Ruth Harrison also led the successful demand for approval of the scientific committee by the directors after examination of their names and qualifications and for the elementary right of directors to decide when they would meet.

What will WSPA achieve? It is hard to know because policy on animal welfare issues was not discussed.

the muscle fibers, making the meat easily contaminated. In bacteriological studies done at the Ferreria slaughterhouse, *staphylococcus aureo* germs were isolated in random samples of meat; these germs are primarily responsible for food poisoning in man.

The use of animals in teaching the biological sciences and as indicators of carcinogens in medicines and foods is current practice. For the researcher, it is essential to keep his animals under optimum housing and nutritional conditions so that study results will be reliable. Our human condition requires that experiments on laboratory animals cause them as little pain as possible. It is therefore obvious that every country with experimental stations and laboratories must have legislation that provides for the proper maintenance and handling of laboratory animals.

Wild animals are intimately related to the ecological order to their own region and therefore should not leave it. In an artificial environment like a human dwelling, their activities clash with the new structure and represent a risk to man's health, both in terms of serious lesions and disease. It is also worth considering that those persons who acquire wild animals as pets are promoting the destruction of the already decimated and pressured wildlife. Those who deal in these animals destroy a great many adults, especially females, in order to capture a few young. Furthermore, most of these die because they do not adapt to captivity, so nullifying their reproductive worth to the detriment of the preservation of the species.

Killing whales humanely?

Experts from various countries within the International Whaling Commission met in Cambridge, England, 10-14 November, to assess methods of killing whales humanely. Participants reviewed the use of explosives, electricity, drugs, poisons and compressed gases. Of these only the first show any real promise. Japanese scientists are developing explosive harpoons intended to kill instantly by shock.

The new Japanese explosive, penthrate, has a powerful concussion effect, and it does not destroy meat. Scientists at the meeting put forward various study proposals, but in the meantime, stunning with penthrate should be mandatory for minke whaling. Where stunning equipment is not available, minke whaling should be suspended until it is.

Pirating exposed

Outlaw Whalers 1980 documents in thorough and often horrifying detail the depredations of pirate whalers from June 1979 to July 1980 and the operations of certain nations within the International Whaling Commission which brazenly flout IWC rules. The most moving item in the report is the log of the slow dying of a 50-foot sperm whale. First harpooned at 10.15 on a July morning in the Azores, its vain battle for life continues until 09.55 the next day.

Put together by Greenpeace, *Outlaw Whalers 1980* is available from AWI, Box 3650, Washington DC 20007. Price \$5.00 prepaid.

Generally speaking, legislation ought to prohibit the owning of wild animals by private individuals.

Without respect for life in all its manifestations, there can be no mutual respect among men. Good treatment of animals is symptomatic of good mental health. Cruelty toward them degrades the person who commits it and generates antisocial forms of behavior. Therefore, preventing cruelty to animals is a matter of social welfare that should be backed up by the force of the law.

Forty-eight countries around the world, including many in stages of development less advanced than our own, have legislation preventing and punishing cruelty to animals.

Mexico's full development demands a constant refining of the relationships which we Mexicans maintain with our fellows, with the environment in which we live, and with the other living creatures that inhabit our land.

Disgraceful distortion of findings on 'steel jaw' traps

Animals Unharméd by Traps

"A Michigan study of coyote movements discredits the charge that leghold traps cause undue suffering or injury . . . No coyote has suffered any serious injury." (Northern Michigan University)

Outdoor Life

The above extract from the magazine Outdoor Life appeared in *Fur Age Weekly*, 19 May 1980. It is a most misleading summary of this Michigan coyote study. Indeed it is a travesty. We publish below the relevant facts taken direct from source—an undergraduate research paper submitted to Northern Michigan University in December 1979.

"Four radio-collared coyotes *Canis latrans* were monitored to determine home range size. Three of the four coyotes died during the study. Two died of starvation which was indirectly caused by the initial trapping." These are the opening sentences of the abstract—the summary of the aim and findings—of the paper in question.

Let's get it quite clear. Four coyotes are leghold-trapped and released. Three die, two of them from starvation due in some measure to "the initial trapping." And two magazines say that this "discredits the charge that leghold traps cause undue suffering" and that "no coyote has suffered any serious injury." Well, if dying from starvation is not "serious injury," then it's hard to know what is.

But we must be scrupulously fair. The trapping, we are told, was only "indirectly" the cause of death. Does this mean that the real cause was something quite different, so exonerating the leghold trap from blame? For answer we must consult the main part of the paper.

The first of the two coyotes was trapped on 6 December 1977. Next day it was radio-tagged and released. On 7 February 1978 it was found dead. "The apparent cause of death was starvation. The trapped foot had been badly torn and chewed, exposing broken bones."

The second coyote was trapped on 30 December 1977. It was "kept in a shed for three days and fed dog food; it was then radio-tagged and released."

On 23 February 1978 it was found dead. "The apparent cause of death was starvation. Its capture foot had been chewed off."

Our researcher points out that heavy snow and subzero temperatures contributed to the starvation of the two animals. Doubtless. But snow in Michigan coyote country is part of the winter scene. And *fit* coyotes, that is to say coyotes not painfully dragging a crushed foot, can be expected to survive it. Clearly the *direct* cause of death was not bad weather but appalling treatment.

And all for what? The purpose of the study was to "determine home range size." With regard to the two coyotes which were soon dead our researcher believes that "calculations are very underestimated due to the fact that both coyotes suffered serious injury to their capture feet." A third coyote, a female pup, was captured in October 1977 *without* the use of a trap. The following October she was trapped and killed but had in the meantime "dispersed beyond reach of the search pattern."

A fourth coyote, an adult female, was trapped on 4 January 1978. Luck was on her side. Bad weather and lack of a radio collar delayed her release for six days so enabling her to recover. Of the four coyotes used in the study only

for this one could "home range size be calculated accurately." But in view of the fact that she had to move her pups twice because our researcher "located and disturbed the dens," even this calculation must be suspect.

Clearly the study was a failure. Bad treatment of animals makes for bad science because maltreated animals do not behave normally. All the same the main target of complaint should not be the undergraduate researcher but the two magazines which carried the grossly inaccurate summary of his study. To conclude that a particular study supports the prejudice of trappers and their lobby when in truth it does the reverse is disgraceful.



Trapped coyote hangs itself on wire fence while trying to escape. Photo: Carl Gustavson

Will Michigan outlaw the 'steel jaw'?

"A person shall not manufacture, sell, offer for sale, buy, set, import into this state, transport, or otherwise utilize, except for display or exhibition purposes, any trap, net, snare, or other animal trapping device which does not painlessly capture or immediately kill its animal victim." So states Michigan House Bill 4783. A crucial hearing on the bill took place in the State House, Lansing, on 24 September.

In the dock was the steel jaw leghold trap. The 'defense'—trappers and supporters of trapping—argued that opponents are really out to end all trapping, hunting and fishing, that the leghold trap is *not* inhumane and that if only it was renamed a *foothold* trap the cruelty issue would go away. The 'prosecution'—scientists and representatives of humane organizations—based their case on the documented cruelty of the steel jaw trap and the availability of less painful alternatives.

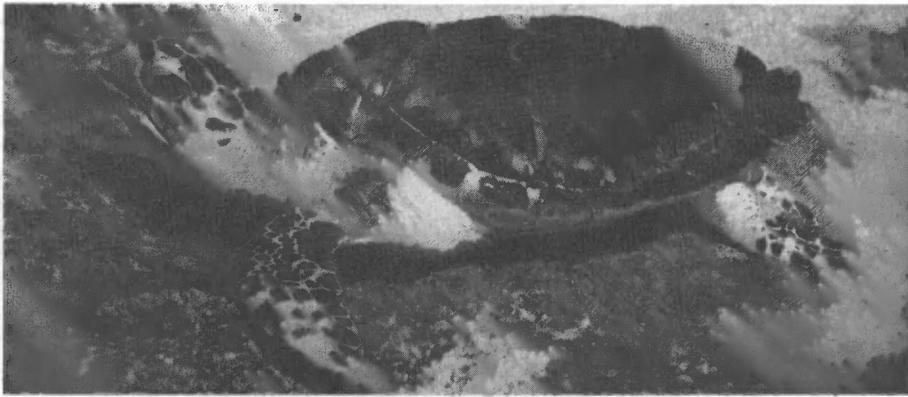
Dr. John Beary, AWI Vice President, spoke for Defenders of Wildlife and the Society for Animal Protective Legislation. His method of persuasion was unusual but

highly effective. All eyes were on his riveting demonstration of Newton's second law of motion (which he explained to the assembly). His tools were a #1½ double-coilspring trap and a pencil. The trap broke the pencil. Those present were then invited to put their fingers in the trap and leave them in for an hour. There were no volunteers.

The scientists certainly made headway at the hearing. And if not all the trappers seemed happy with the idea of a Trap Evaluation Committee, they could hardly dispute a point made by Mr. Jack Sullivan of the Michigan Federation of Humane Societies, that if the steel jaw trap is not cruel—as they claim—they have nothing to fear from an objective evaluation.

Some trappers expressed interest in the Novak, Davies and Swedish leg snare devices. Based on the principle of constant tension, these alternatives to the steel jaw trap are effective and demonstrably more humane.

One good hearing does not ensure the passing of a good bill. But it certainly helps!



Hawksbill juvenile, Bimini, Bahamas.

Photo: Archie Carr

Shrimpers pledge help

Every summer and fall loggerhead turtles are washed up dead on the US Atlantic and Gulf beaches. 1980 saw a death toll of over 1,850. But 1981 should be different. For the shrimp industry has at last accepted blame and introduced turtle-saving measures.

Chief of these is agreement to pull in the trawl nets every 90 minutes or less when turtles are known to be present. Turtles trapped under water for longer than this will drown.

The agreement was reached on 18 September at a meeting sponsored by federal and state (South Carolina) officials and attended also by conservationists and shrimpers. The meeting had been requested "on an emergency basis" by no less than 27 conservation and welfare groups.

Of course the best remedy is not to catch the turtles in the first place. But test trials on a turtle 'excluder panel' attached to the trawl net have been found to exclude too many shrimps (20-30% of the normal catch) for an industry hard hit by rising fuel costs. Good news, though, comes from initial tests on a new 'trap door' which allows turtles to escape while *not* losing shrimps.

Caribbean hawksbill is going under

"A fisherman can get \$300 for one Caribbean hawksbill," reported turtle specialist Archie Carr, Jr. to scientists and conservationists attending the IUCN Survival Service Commission meeting in Gainesville, Florida, last October. "Their situation is as bad as Kemp's Ridley."

He explained that hawksbill shell is semi-precious and will bring up to \$70 per pound if the belly shell is included with the top shell; Japanese buyers like clear belly shell. Although the turtles are now found only in deep water,

they are still being caught by fishermen who will go as much as 100 miles out to sea in open boats for highly priced rock lobster and snapper. Any hawksbills that are caught are a handsome bonus.

Carr wants an international tourist education campaign to halt the purchase of all tortoise shell. A prime target should be the Japanese.

Costa Rican TV exposes slaughter

Last August a Costa Rican television station exposed the barbaric way in which turtles are slaughtered wholesale along a river bank south of the town of Limon. Lain on their backs with their stomachs to the blazing sun and their feet sewn together to prevent them turning over, the turtles are left for a minimum of one week and sometimes for three weeks before they are finally killed.

The killing method itself—slicing the head off, dismembering the body, cutting it open and throwing meat and eggs into a bucket—violates Executive Decree No. 9 which mandates sanitary slaughter. Though the sale of green turtle eggs is prohibited by Costa Rican

law, they are sold by the hundred in the open market, peddled in the streets and served at bars without any interference from authorities.

Later the television station (Channel 13) interviewed the Chief of the Department of Evaluation of Wild Sea and Continental Fauna Resources, Eduardo Lopez Pizarro. He said the Minister of Agriculture had asked him to prepare a new decree that would abolish Decree No. 9 and replace it with total protection for the green turtle.

Notorious smuggler indicted

On 7 August a federal grand jury in Miami indicted the notorious Antonio Suarez of Mexico and three other businessmen, together representing six corporations, on 13 separate counts. They were charged with importing into the US over 37 tons of Pacific Ridley turtle meat—the equivalent of 7500 turtles—and describing it on customs documents as *Dermatemys mawii*, a Mexican freshwater turtle whose import is legal.

On an earlier (22 July) indictment in Brownsville, Texas, the owners of two other seafood firms were charged with importing and receiving more than eight tons of endangered sea-turtle meat.

The indictments climaxed 18 months of investigation by government wildlife agents. Suarez, in particular, had long been suspected of illegal trade in turtle meat. In recent years tens of thousands of Pacific Ridleys have been slaughtered by Mexican fishermen working for PIOSA, the company he established.

On 7 September Suarez paid bail and returned to Mexico on his own recognizance. No trial date has been set.



Flippers holed front and back and tied tight, a green turtle vainly struggles to right itself.

Photo: Mirta Matta

Planning for our planet's survival

How to save the world

The experts are repeatedly telling us that the life-support systems of our planet are under mounting stress and will soon collapse. But their message, though so frightening in its implications, arouses hardly a flicker of fear or even interest nowadays. Impact has been dulled by repetition. And besides, the long-predicted doom seems a long time a-coming. Perhaps (happy thought) the experts are wrong.

No, unhappily on this matter the experts are not wrong. Agreed that for us westerners the signs of doom are not very evident. But in the world beyond our own back yards the warning signals are flashing: floods and droughts from deforestation; falling fish catches from overfishing; loss of cropland to expanding cities—and expanding deserts; chemical poisoning of life in lakes, streams and even large seas like the Mediterranean. And so on.

Biological systems can take just so much stress and no more. How much is "so much"? No one knows; but politicians,

Already for at least half of the world's population conservation is now a matter of life and death

businessmen, farmers, fishermen, capitalists, communists, rich men, poor men—all of us, in fact—act as if there are no limits. This is a short cut to doom. Persistent players of Russian roulette are soon dead.

Greed and short-sightedness are not the sole culprits. Poverty and soaring numbers can push people into trying to gain a livelihood by methods which destroy the plant life and animal life on which their own future life depends. Being alive to the needs of tomorrow (which is what conservation is about) is of small help to those who will be dead tomorrow unless they can manage to feed themselves today.

What can we do?

Of course, not quite everybody reacts to alarm calls on the plight of the planet with yawns of indifference. There are many people, even people in government, whose response is a heartfelt "Dreadful, but what can we do?" A national park here and there may save the odd species; monitoring pollution may force industry to be a shade more responsible. Such measures, though, are like applying band-aid to a haemorrhaging patient. But—what else can we do?

How to save the world is a book which tries to answer this despairing question. It is the popular paperback version of *A World Conservation Strategy*. (The Strategy, published last March, is aimed at governments and international agencies and was prepared mainly by IUCN, the International Union for Conservation of Nature and Natural Resources.) The book,

like the Strategy, is more than just a catalogue of Earth's man-made afflictions. It proposes remedies and draws up priorities.

Conservation or catastrophe? is the question posed at the very start. It sounds like the opening shot in yet another emotional fusillade aimed at the heinous sins of *Homo sapiens*. It is not. The tone throughout is cool and analytical. But this can in no way disguise the starkness of the choice before us.

The book does not cover everything. "Living-resource conservation" is the

Only a minute fraction of the world's plants and animals has been investigated for possible usefulness in medical treatment

subject—a category which excludes the crucial issue of population. Within the bounds set, the first task is to determine priorities. This should be on the basis of *significance* (in terms of benefits to people), *urgency* and, most important of all, *irreversibility* (extinction of species being the most obvious example). Agriculture, forests, the sea, endangered species, are "priority problem areas". There is a chapter on each of them and each chapter ends with a section headed: **What should be done.**

In all these areas a paramount need is fully to integrate conservation with development. Conservation which automatically opposes all development is not operating in the real world; development which ignores conservation is not development, it is destruction.

One snag, though, is that 'destruction' can bring short-term profits—while the pay-off on conservation is seldom immediate. To ask poor countries to protect rare species—the genetic resource base upon which future advances in medicine, industry and farming depend—is to ask

To be more effective conservationists need radically to change the public perception of their attitude to development

them, in effect, to subsidize the rest of us. And that is to ask too much. International companies (eg pharmaceutical firms) whose life-blood comes from wild life should help pay the costs of protection. This is plain economic justice—and it would strengthen the appeal of conservation to poor-world governments.

Waste is one of the main enemies of conservation. And the most profligate of all forms of waste comes under the innocuous heading of *incidental catch*. Well known examples are the huge 'incidental' killing of dolphins by the Pacific tuna fleets, of seabirds and Dall porpoises by the Japanese salmon fleets, of turtles by the world's shrimp fleets—which land 1-3 million tons of shrimp a year and destroy,

unlanded, *five times* that tonnage of other fish.

The problem is not insoluble. Prodded hard by conservationists the US tuna fleet has substantially cut the number of dolphin

Lack of conservation contributes to the rise in tension between the haves and the have-nots and hence to global instability

deaths, while the US shrimp fleet (see page 5) is now belatedly acting to reduce turtle mortality.

How to save the world ends with a plea to the individual. "Ultimately no conservation strategy can succeed unless everyone actually *behaves* as a conservationist. Personal attempts to conserve resources may appear inconsequential in relation to the enormous problems. But such efforts are among the most significant of actions, the sum of which spread throughout society will mean real and enduring success."

How to save the world, \$12.95 (hardback), *A World Conservation Strategy*, \$3.50 (paperback) plus/postage. Order from: Unipub, Box 433, Murray Hill Station, New York, NY 10016. Phone: (212) 686-4707

Global 2000

In May 1977 President Carter directed the Council on Environmental Quality and the Department of State to study the likely environmental changes in the world as a whole "through the end of the century". The outcome, three years later, is *Global 2000*.

The study takes the form of projections which assume that present policies and trends will persist. It makes sombre reading. Overpopulation, resource depletion, environmental degradation—in all these areas the problems we face today are trifling compared to the problems in store. For although "policies are beginning to change", there are no signs of these changes going deep enough to allow us the luxury of believing that the projections will be falsified.

Global 2000 is the first undertaking of its kind by any government. It will give new shape and more solid substance (or such is the intention) to US "foreign and domestic policies relating to population, resources and environment". Starting now. "If decisions are delayed until the problems become worse, options for effective action will be severely reduced."

Nor can these "problems" be contained within strictly environmental boundaries. For the study makes the very important point—too often ignored by conservationists—that environmental issues are "inextricably linked to problems of poverty, injustice and social conflict".

It goes on to say "New and imaginative ideas—and a willingness to act on them—are essential". Quite so. What are the prospects?

The Global 2000 Summary Report costs \$3.50 from: Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

Books . . .

Rabies and Wildlife: a Biologist's Perspective

by David W. Macdonald

Oxford University Press, 1980, £3.95 in UK, \$28.00 from O.U.P. NJ 07410

Rabies is a dreaded viral disease of the nervous system. In humans, if untreated, it is fatal. It is a special threat to people in crowded nations such as India, where it kills about 10,000 yearly. It almost always kills other mammals (except bats) that it attacks. These victims include cats, dogs, foxes (and many other carnivores), cattle, deer, and New World bats. Rabid vampire bats in Latin America yearly kill cattle valued at \$250 million. In the wild, rabies epizootics rise and fall in intensity, their cycles controlled mainly by constantly changing ratios of individuals possessing natural, serum-neutralizing antibodies. Strangely, these antibodies have also been found in animals that could not have had any contact with rabies virus. A fox population reduced by a rabies epizootic to one-tenth will recover in about six years.

Macdonald, a British biologist and specialist in fox behavior, focuses on rabies in the fox, for he believes that the nature of rabies can best be understood if one studies *in depth* its effects on a single species or species-group. He suggests that "any wildlife management problem can and should be tackled only on the basis of a thorough understanding of the behavioural ecology of the species involved."

He agrees that rabies is most apt to flare up where foxes are abundant, yet he concludes that "mass-killing (of foxes) has generally not worked." He points to the success of the Polish method, which is based largely on biocontrol—the control of life by life. When rabies erupts in Poland and the authorities kill ailing foxes and all stray dogs and cats, then let the disease run its course, that is, limit itself.

In 1952 an attempt was made to stop the southerly spread of rabies through the province of Alberta. Largely through the distribution of strychnine and cyanide poisons, about 50,000 foxes, 100,000 coyotes, 4,300 wolves, 7,500 lynxes, 1,850 bears, 500 skunks, 64 cougars, 4 badgers, and 1 wolverine were killed. "There are depressingly few instances," Macdonald writes, "where the introduction of such control schemes can unequivocally be said to have resulted in the eradication of rabies."

Moreover, in Alberta "the number of deer and moose increased greatly after the slaughter of carnivores which had previously preyed upon them; this resulted in serious over-grazing and consequent long-term damage to the range, which reduced its capacity to maintain big game herds." When poison baits are set against foxes they kill not only foxes but raptorial birds. What often follows? . . . fewer birds, more field rodents and (supported by rodent foods) more foxes.

Because the rabies virus persists in wild-

animal reservoirs, man can't hope to eradicate it as he has eradicated the smallpox virus, although he can soften its impact. In Britain, however, the virus was wiped out by 1903 as a consequence of laws which called for the vaccination of all pets, the killing of stray dogs, and the imposition of a strict national quarantine. A pet dog smuggled into Plymouth in 1918 started a local epizootic which took three years to quell.

The best hope for rabies control in the future is "to persuade the foxes to vaccinate themselves." It seems that foxes will take baits laced with an oral vaccine which subsequently takes effect either through the mouth or the intestines. Oral vaccine can be dropped from aircraft at a cost of about six cents per fox-taken bait. The resulting immunity—if I rightly understand it—resembles the natural immunity developed in young foxes when they eat rabid prey carrying the virus in its nonvirulent stage.

Macdonald seems a practical sort. If rabies *should* return to Britain he would immediately surround the focus of the epizootic with a fox-killing zone or cordon—to thin the population and reduce the chances of fox-to-fox contact—and would surround this zone with another in which foxes would be immunized.

As a fellow biologist I find Macdonald's natural, holistic approach to rabies control convincing. Rather than continuing to rely on seek-and-destroy methods, he would use such biocontrol methods as are now available, meanwhile seeking to learn all there is to be learned about the ages-old relationship between a pathogen and its hosts.

Victor Scheffer

The Wildlife Stories of Faith McNulty

by Faith McNulty,

illustrated by Robin Brickman

Doubleday and Co. NY, 1980. \$17.95

In the clarity of her prose and the sureness of her instincts in writing about animals, Faith McNulty joins a small, select group of authors: Rachel Carson and Gustav Eckstein come to mind immediately. She sets a very high standard of personal observation, and in the course of her writing expresses a view of fellow mammals, birds, and other wildlife which is slowly growing, perhaps only just in time to save great numbers from cruel persecution and, in some cases, extinction.

Some of the pieces dealing with endangered creatures first appeared in *The New Yorker*, notably the fascinating documentation of the whooping cranes' fortunes over the past half century. The tremendous dedication of a few of the people involved contrasts with the callousness, avarice and pettiness of others. The cranes themselves are portrayed both as a species and as unique individuals. After quoting Secretary of the Interior Stewart Udall, "The good news on the flock's growth is heartening evidence that thoughtful men can help undo the ravages of thoughtlessness," the author writes, "Perhaps he

should have added a line giving equal credit to the tenacity of whooping cranes."

Other endangered species among the falcons, whales, manatees and primates, the lemurs of Madagascar and the educated gorilla, Koko, in San Francisco, take their places in this broad-based book with accounts of an American white-footed mouse, a woodchuck, a starling, and an entertaining piece on bluejays, which gently debunks the idea that bluejays are unduly expensive birds to maintain at bird feeders. She writes that she can watch a bluejay "gobble his 25-seed capacity with an easy mind. At 15/100 of a penny, the sight is a real bargain. It gives me a feeling that is rare these days. It makes me feel terribly rich."

Mrs. McNulty can rouse both uncontrollable laughter and deep sorrow, and—especially in the story "An Oiled Bird"—she subtly brings forth human traits that militate against the acceptance of our ethical obligations to animals. All through the book, she touches with great delicacy on moments "elusive of description" of contact between her and all the different beings in the book, from a tiny mouse to the huge humpback whales whose songs she listened to through hydrophones with Roger and Katy Payne.

Failure to update current whale-killing quotas and stances of member nations of the International Whaling Commission is a minor flaw in a book otherwise remarkable for its accuracy, lucidity, fairness and true feeling.

Christine Stevens

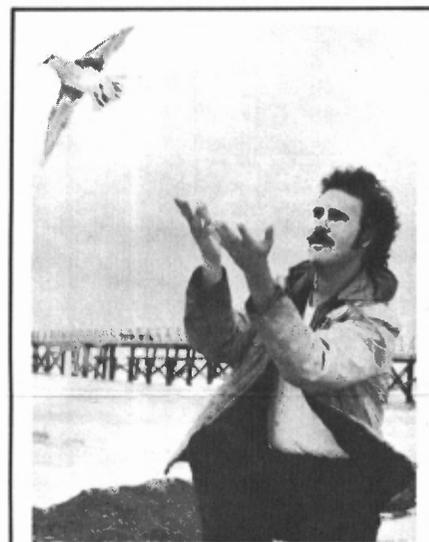


Photo: Kevin Butler

The revised edition of the popular manual *First Aid and Care of Small Animals* is now available from the Animal Welfare Institute, Box 3650, Washington, DC 20007. The new edition contains a greatly enlarged bibliography and an extensive chapter on baby bird care, prepared by Ralph Heath (pictured above) and staff of the Suncoast Seabird Sanctuary, St. Petersburg, Florida. Teachers, librarians, humane societies and scout leaders may order one copy free; additional copies cost \$2.00 prepaid.

including Japan, are members of CITES (Convention on International Trade in Endangered Species). And CITES holds its next biennial meeting in February. At this meeting the US and UK governments will propose that all members of the parrot family not in Appendix I of CITES should be in Appendix II. (The UK proposal, though, does exclude budgerigars.)

Predictably the pet industry is making a great fuss. Last September an article in the trade newspaper *Pet Business* exhorted readers to write to the Department of Interior protesting the "proposed ban". The article was headlined *Plan to Ban All Psittacines*. This shows woeful (or wilful) ignorance of the rules of CITES. Trade in Appendix II species is not banned. It is permitted—so long as the animal carries an export certificate from the country of origin certifying that trade will not imperil the species.

The industry is also repeating previous claims that trade in birds helps to prevent extinctions thanks to captive breeding. These claims are entirely

bogus. 90% of all birds imported are sold as single pets. And few even of the remaining 10%—which go to zoos and research—are used for captive breeding. For example, less than 100 macaws a year are raised worldwide in zoos, while thousands continue to be imported.

The pet industry has established no major captive-breeding center. Why? Because captive breeding is formidably difficult and because wild birds can be bought cheap and sold dear. The industry may argue that its 'mark-up' has to be high because of the high mortality of their merchandise. Certainly the death rate is appalling. Only 20% of wild-caught parrots, netted in the forest or plucked from their nests as fledglings, live long enough to be sold to pet owners across the counter of a pet shop. And most of these then die within a year.

Agreement by the CITES parties to regulate the parrot trade will not by itself put a stop to this cruel and wasteful destruction. But it would compel both exporting and importing countries to take a more responsible stand than at present. The AWI is preparing a substantial report on the bird trade worldwide; participants at the CITES meeting will receive copies.

Wildlife carnage

Army, police and game wardens in Zimbabwe have joined forces against one of the chief threats to the country's war-torn economy—poachers working in gangs and equipped with an arsenal of weapons used in the fight for independence. In *Operation Wilderness Warrior* hundreds of poachers, spotted by helicopters, have been rounded up. Prime Minister Mugabe's government, acutely conscious that destruction of the country's wildlife will also destroy tourism, has asked magistrates to deal severely with these 'ecological-cum-economic' saboteurs. Wardens report a startling rise in animal deaths due to poachers in recent months. Zimbabwe's chief game warden has said: "The problem is reaching crisis proportions."

In neighboring Zambia President Kaunda is likewise taking a tough stand. Alarmed at the decimation of elephants in Luangwa national park ("poachers aim to kill the remaining 55,000 within the next two years" says one wildlife official) and the evidence of corruption, he has said that "no mercy will be shown towards chiefs or government officials found running poaching operations."

Elephant protection stalls

Despite persistent efforts by conservationists the 92nd Congress broke up without the elephant protection bill becoming law. In its original form the bill passed the House of Representatives in December 1979. Senators Chafee (R, RI) and Culver (D., IA) introduced an amendment to the bill and in the form under consideration by the Senate Committee on Environment and Public Works, the bill was concerned with both protecting the elephant and enabling the US to strengthen international conservation in the field. It demands speedy enactment by the new Congress.

Wildlife transport: simpler rules, easier enforcement

The US now has just one set of rules governing the import, export and transport of wildlife and wildlife products. New regulations, issued on 24 September by the Department of Interior's Fish and Wildlife Service, draws together provisions of the Endangered Species Act, the Lacey Act and various other statutes administered by the Service. It means an end to the confusing multiplicity of regulations covering this matter; it should also mean an end to pleas of ignorance being sympathetically received. The license requirements of the new regulations are quite clear.



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INFORMATION REPORT

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NIH symposium examines alternatives to animal testing

Laboratory animals: a turning point?

Trends in Bioassay Methodology in vivo, in vitro, and Mathematical Approaches. This title of a 3-day symposium sponsored by the National Institutes of Health may not exactly set the pulses racing but what the meeting was concerned with was ways of reducing dependency on live animals in the testing of products. And what emerged during these three days in February was certainly exciting and just might prove a turning point.

The citadel of animal testing was roundly assailed by a host of scientists armed with the highest credentials. Those under attack—representatives of the chemical industry and research and testing bodies—countered that “substitutes will evolve, developments cannot be legislated, money will not buy a solution,” but the citadel no longer appears impregnable.

Follow-up measures are already in train. At the end of the seminar Dr William Raub, Associate Director of NIH, announced:

1) The setting up of a forum concerned with testing and with the questions—what are we trying to measure? Why? At what cost in time, money and animal lives? The forum will include representatives of all the parties concerned—federal agencies, manufacturers, labor unions, advocates of rights of animals, of consumer protection and of safety in the work place.

2) The recommendation that research and regulatory agencies focus their attention on “the three Rs”—replacement, reduction and refinement.

3) The request by NIH that existing guidelines on the treatment of (in particular) chimpanzees be modelled on the treatment of human subjects in experiments—in line with the “new

biology” adumbrated by Dr Prince during the seminar. “The thread of life as captured in DNA is showing a profound similarity in all life forms” said Dr Raub. “Ten years from now our views on ethics will be labelled biologically naive.”

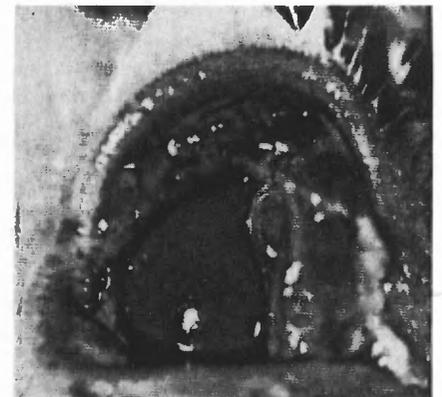
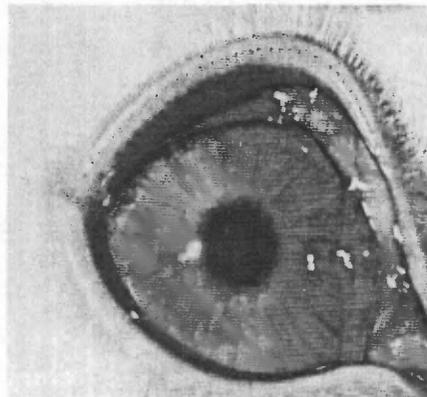
Salient points

Scientific, humane, economic and legislative factors were all amply covered during the seminar. In his opening remarks Congressman George Brown (D., Ca.) said that while “respect for life is on the increase, pieces of legislation that purport to set policy don’t necessarily solve the problem too well.” In response to a question by Henry Spira the Congressman said he would be

pleased if the conference would recommend appropriations for a program to pursue the “valid goal” of alternatives to animal testing.

Dr Victor Morganroth of the Food and Drug Administration is Chairman of the government Interagency Regulatory Liaison Group which has worked for four years to “harmonize” the maze of regulations issued by different agencies. In this “regulatory nightmare” the agencies sometimes call for the same animal tests resulting in an “enormous waste of animal resources.” Noting that to repeat the Draize eye test on six animals costs from \$15,000 to \$18,000, Dr Morganroth said, “Once you put a procedure down on paper it tends to go on for ever. Our committee is trying to adopt the draft guidelines of the Organization for European Community Development.” OECD recommends that: a local anesthetic be given when a substance might cause pain; a known corrosive or strong irritant not be tested in rabbits’ eyes; three animals be used in

Continued page 8



The Draize test—a rabbit's eye before irritant testing, and then afterwards.

Britain—factory farming comes under scrutiny

Factory farming was relatively new in 1965 when Professor Brambell and his colleagues undertook a Parliamentary enquiry into the issue. They were shocked by much of what they saw, though not half as shocked as they were when they saw how the Government had “watered down” their recommendations to appease the farming lobby. These recommendations, if implemented, would have outlawed most modern husbandry methods, including crated veal calves and tethered sows.

But while the producers and the welfare-ists remain locked in mortal combat, the two sides accusing each other of, respectively, sentimentality and greed, some interesting developments have been taking place both in Britain and in mainland Europe. A group of pioneering scientists and enlightened farmers have been making discoveries about animal behavior which show that forcing the pace of Nature not only causes suffering but can also reduce the farmer's profit.

Little by little evidence is emerging that the paraphernalia of factory farming that once seemed so convenient—the cubicles that enabled the farmer to cram twice as many sows under one roof as their free-running herd behaviour would tolerate, the veal crates that seemed so hygienic, the slats that did away with the need for straw and mucking out—might, after all, be an expensive snare.

Official reaction to these discoveries, which tend, again and again, to endorse Mother Nature's methods, not only on humane, but more significantly on economic grounds, is grudging and often prejudiced. The Ministry's reaction to a five-year study by Volac, the veal producers (showing that calves in straw yards were significantly healthier than their crated counterparts), was of the “it's still too early to tell” variety. Likewise while Sweden as a nation has virtually abandoned intensive pig-farming after studies proved that free-range sows lived longer, needed less medication and produced more piglets, Experimental Husbandry Units run by the British Ministry of Agriculture are enthusiastically weaning earlier and earlier, even keeping tiny piglets in heated battery cages, to force the sow back into pig the sooner.

The biggest study carried out so far into the performance of sows in various systems is that of Professor Ingvar Ekesbo of Sweden. His study, of 2464 sows housed in groups in straw pens and 1678 confined in stalls, has had a radical effect

on pig farming in his country. Where strawless, confining systems were once favored there as much as they still are here, now 85% of sows in Sweden are once again reared on straw in pens.

Ekesbo found that the sows allowed freedom of movement and straw were twice as healthy as those confined. Of the “free” animals 12.8% experienced some health problem, while among the confined animals the proportion rose to 24%. When giving birth only 2.3% of the free animals took longer than eight hours, compared with 5.4% of the confined sows. Just over 10% of the sows in pens needed medical treatment, as against 16.8% in stalls. The rate of stillborn piglets was higher in the confined sows, with the number of mummified, shrivelled piglets born seven times higher. Traumatic injury was likewise far higher in the confined group. Only 0.8% of the penned sows experienced this type of injury, compared with 6.1% of sows in stalls.

Gerrit van Putten, a Dutchman, has also studied the behavior of sows. His findings show that while the degree of lighting on a pig farm has no significant effect on behavior, the presence of even a minute amount of straw does. Pigs totally deprived of straw showed aggression towards their fellows on average every two minutes. After being provided with only 100 gms of straw each the picture changed dramatically. While tail-biting, a phenomenon dreaded by the farmer as it quickly contaminates the carcass, occurred among 18% of the pigs who had no straw, among those with straw it affected only 5%. On conflict behavior—nibbling other pigs—the disparity was more dramatic, with 45% of the pigs without straw participating, as against 13% who had straw.



Young pigs in a total confinement triple-deck nursery

Hedley Hawkins, a successful Norfolk pig-farmer with 25 years experience, has tried and rejected the straw-free slats, the early weaning espoused so eagerly by workers at the Experimental Husbandry Unit just down the road at Terrington St. Clements, and now, having come back to more “natural” methods, describes the Ministry of Agriculture System as “10 years out of date.”

Hawkins, who farms 2100 sows, 1400 of which live in old-fashioned free-range luxury on the sandy soil of his farm just outside Norfolk's Kings Lynn, believes the farmer should ignore the blandishments of the equipment manufacturers and invest what money he has in pigs, not plant. His experience bears out entirely the findings of Ekesbo—that allowing sows freedom of movement and resisting the temptation to force too many pigs per year from them will lead in the end to fitter, longer-living sows and therefore more piglets per sow.

No tail-biting problems

Unlike the breeding pigs in the Ministry Unit his sows are not tethered. The inside ones live in pens of five, on sweet-smelling straw—sows he says are extremely fastidious once their habits are understood. He has no tail-biting problems because his stocking density is right and the sows all know each other. Tethering, in his opinion, is cruel and unnatural, and leads to foot lesions, prolapses and back problems as the sow seeks constantly to find a new spot for her foot.

He says he is regarded as a “bit of a nutter” because he keeps pigs outside, a practice, he says with a hint of irony, that is now unfashionable. Stressing that to do it you have to have a light soil, he points out that while to set up an intensive system with stalls, slats and slurry pumps costs £1500 per sow, to set up an extensive unit costs between £220 and £250 per animal. “If you only have £100,000 to spend you'll be able to get a lot more pigs if you go extensive.”

Professor John Webster of the Department of Veterinary Medicine at the University of Bristol has spent the last five years studying the behavior of veal calves reared in crates, compared with those reared in straw yards. Like Ekesbo with pigs, his findings have revolutionized veal rearing methods in Britain where 75% of veal calves are now reared in this manner.

Stressing that he is a scientist, not a welfare campaigner, Webster admits that the findings—that calves mingling together and feeding themselves from an automatic dispenser are healthier than their crated, segregated counterparts—surprised him. “The intensivists argue that it is in the in-

Continued next page

Photo: J. A. Keller

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Britain-continued

terests of the animals to keep them tethered or in individual crates to prevent disease, but the straw yard method shows that this is manifestly untrue."

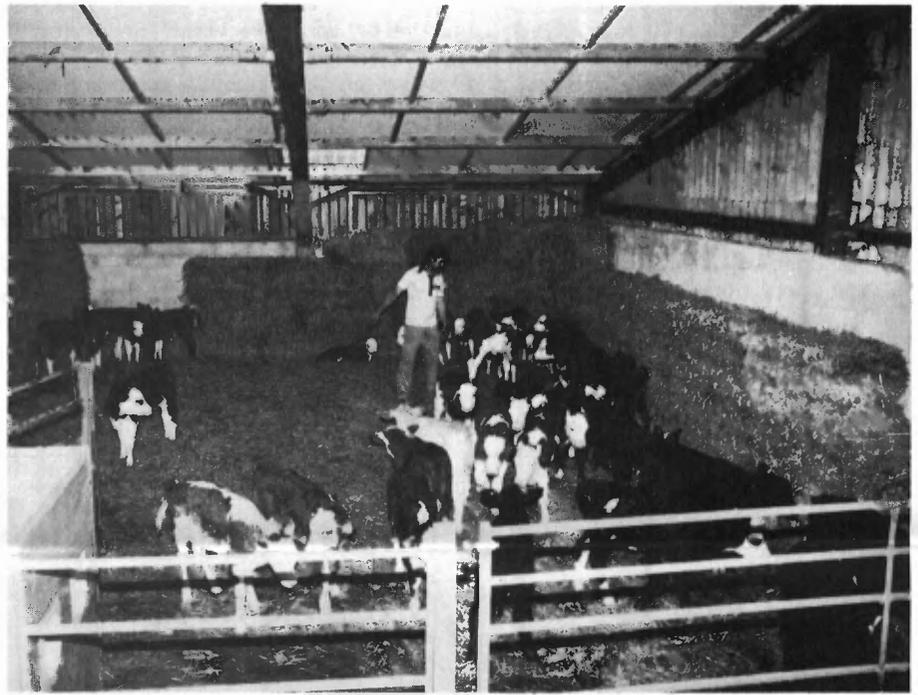
Webster found that diarrhea and pneumonia, the two diseases that commonly afflict calves—which, unlike pigs and chickens, are not disease-free stock bred on the premises, but are brought in from markets all round the country—went down markedly in the straw yards. Vets' bills for calves in the straw yard system were about a third of those incurred by the crated animals. While 22% of the straw-yard calves needed some form of veterinary attention, in crates the figure was 55%.

Webster's explanation for the improved health of the calves, in spite of their being able to touch and groom each other, is that the straw yard is more natural. "If they were in the field with their mothers they would suck from them about 16 times a day—exactly the way they use the feeder. In the crates they were fed twice daily from a bucket. Taking all that half day's feed down in 45 seconds overloaded the gut and allowed bacteria to colonize at a time when the calves had virtually no natural immunity." The drop in respiratory ailments he attributes to the bigger airier buildings using natural ventilation.

Cheaper and more humane

His verdict on the straw-yard system is certainly that it is cheaper, with lower labor costs, far lower building costs and—without the need for heat or automatic ventilation—greatly reduced running costs. He is also pleased that it is the "humane" alternative which has triumphed. One of the aspects of crating which distressed him was that calves could not chew the cud and instead would lick the walls and bars of their cage for up to 10 hours a day. "Our experiment has exploded a few myths—that if you let a calf chew straw the meat will darken; that if you let it mix with its fellows they will cross-infect each other. The old farm-animal welfare codes state that a basic necessity for animal welfare is the provision of a husbandry system appropriate to the health and behavioral needs of the animal. In my opinion the old crate system did not fulfil either and the straw yard fulfils both."

While in pig and veal farming the new findings indicate that methods of husbandry which take more account of the animal's needs are more economic, the picture is reversed when it comes to egg production. Nevertheless the market in free-range eggs is booming with more and more of the supermarket chains begging producers to step up their output—a fact which would seem to suggest to the pessimists in the National Farmers' Union that



Good new method of housing calves by Quantock Veal

Photo: Quantock

a sizeable number of people would be prepared to pay more for a product which they believed to be tastier, more nutritious and produced in less disturbing circumstances than the battery egg.

Aware of this growing lobby the Government has recently voted a small amount of money for research into alternative methods of egg production; and an aviary system, where the hens are free to perch, peck and dustbath is currently being studied at the Ministry's Experimental Husbandry Unit at Gleadethorpe, Lincs.

Martin Pitts, a chicken farmer in the little hamlet of Pusey, just outside Marlborough, Wilts, has in fact been making a substantial living out of his version of the aviary for just over 15 years. As the largest free-range egg farmer in the country—his hens produce around 2000 eggs a day—he makes no bones about the drawbacks. It is expensive—costing 50% more than battery production. Because the birds are in contact with their droppings there is more of a problem with disease; because the birds can use runs, there are parasites. They eat more—and waste more—than do battery-reared birds. There is also more pecking and bullying and sick birds are more difficult to locate.

Nevertheless many of the problems already being predicted by Ministry officials for the Gleadethorpe experiment just don't exist. Birds on higher perches defecating on birds beneath them isn't a problem owing to the oil in the feathers and the constant preening, and even an amateur can see how fit and glossy the birds are, compared to their caged cousins, who have frequently lost most of their feathers and who

do not preen what is left. The dirtiness of the eggs, a problem stressed over and over by battery supporters, is greatly exaggerated.

Pitts knows quite a lot about battery hens as at present he buys birds at the end of their caged life to tide him over with big eggs while his pullets are growing. "They are in a dreadful state when they arrive. They've produced 270 eggs in 350 days. That's pushing nature as far as you can. They've often got broken bones and wings—they've deprived themselves of calcium to keep up this hectic rate of egg production. They can't walk. They can't fly. Sometimes it seems cruel to expect them to acclimatize."

Phillip Brown, chief vet of the RSPCA, is convinced that hens suffer psychologically in their cramped cages. "Because they cannot perch, dustbath or nest they go in for displacement behavior, mannerisms which they have invented because of their barren environment. Head shaking, pacing, shivering. You get the same thing with calves and sows. At the end of the day when you see birds that have been in cages for 10 months their physical condition sums it all up. They are fit only for pies and soups."

To people who believe we are asking too much of Nature on our modern farms the lessons of people like Ekesbo, Webster and Hawkins seem so simple. How long before the Establishment sees the light?

Nicola Tyrer

Nicola Tyrer is a British journalist who has spent three months researching welfare aspects of intensive farming.

Modern pig-rearing methods compared

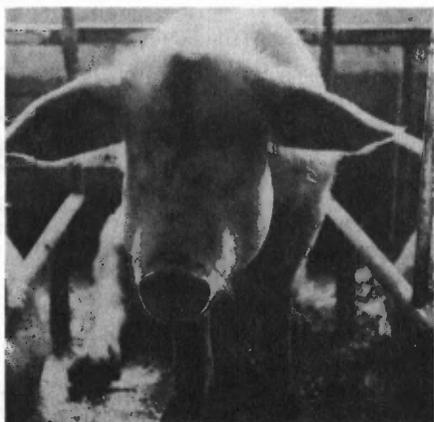
An investigation into the effects of modern pig-rearing methods on the well-being and health of pigs—submitted to the World Federation for the Protection of Animals by B. Sommer, H.H. Sambras and H. Krausslich, veterinarians at Munich University. Their report has been summarized.

The principal aim of modern rearing systems is to house animals in a labor-saving manner and to make intensive farming profitable. Pigs are usually kept in solitary confinement and without bedding. Narrow box stalls or tight tethering severely limit movement and prevent them from turning round; runs and pasture are denied them. By strictly economic criteria—number in litter, size, productivity—these modern rearing systems may compare well enough with previous methods. But do they prove well-being? An investigation of this issue has been undertaken and completed.

Mourning

The behavior of sows intensively reared in solitary confinement (box stalls without bedding) was compared with that of sows reared in groups. In solitary pigs, 'natural' movements (burrowing, chewing, biting) were carried out either without a substitute object or on unsuitable objects. Rubbing the bridge of the nose, 'empty' chewing and bar-biting were frequent and extreme in box-stall rearing. These substitute activities diminished as the system became more natural.

'Mourning' describes the expression and posture of sows *sitting* for long periods in box stalls—head hanging low or supported on a bar, eyes tight shut. In groups, sows sit for only a few minutes; it is merely a transitory position while getting up. For solitary pigs, sitting is the clumsy and lengthy transition from standing to lying; mourning can last for hours.



A mourning sow unable to turn round.

The various activities preparatory to lying down—scraping, burrowing and the like—are more frequent and more drawn-out in pigs kept in solitary confinement. Biting the bars, empty chewing etc. are expressions of an increased level of excitement caused by the suppression of instinctive drives. There is no proper outlet for their natural behavioral needs.

Young sows are usually reared in groups and placed in solitary confinement at around 10 months old. To test the effect of confinement on younger animals, 16 sows aged 5-6 months were placed in stalls and farrowed about seven weeks later. Only two of the 16 escaped injury or infertility or difficulties during the act of birth. It follows that solitary confinement usually begins at an age which is barely tolerable for the animals.

Poultry farmers give evidence

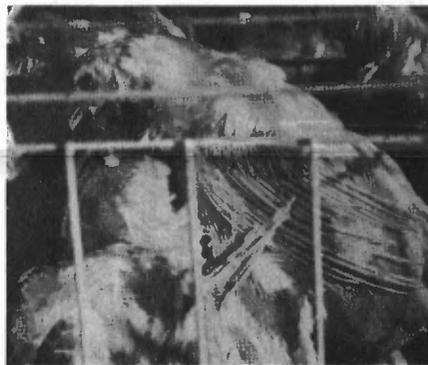
Intensive livestock farming with the focus on animal welfare has been the subject of a Parliamentary enquiry in Britain. Consumers, producers, welfare bodies—in recent months all have given evidence to a *Commons Select Committee* and those on the committee have visited a variety of farms practising a variety of systems. Their report, embodying recommendations to Parliament, will be published in July.

On 5 March it was the turn of the British Poultry Federation to give evidence and an AWI representative attended the hearing. Spokesmen for the federation agreed there was no hard evidence to support the oft-repeated claim that the battery system is the most economic. While defending the system as giving "adequate welfare" they also agreed, under pressure from the committee, that a system giving birds more freedom of movement would be more humane and, if economically sound, would be acceptable to poultry farmers. (Economic considerations include the fear of being swamped by cheap imported eggs from France and Holland.)

A welfare code lays down guidelines but is not mandatory. Again the federation agreed that practices which are in all cases needless and abhorrent—eg de-winging, de-beaking, castration without anesthesia—should be made illegal. Beak trimming, though, as opposed to de-beaking, was defended as a sometimes necessary form of "multilateral disarmament;" in caged poultry the pecking order may take a vicious form. The code requires that birds have room to stretch—which in cages they do not. It was rather lamely said that battery birds show no signs of wishing to indulge themselves in this way but that if

they felt like it they could always stretch one wing at a time.

The chairman of the British Egg Association was one of the federation's spokesmen. The committee had visited his farm—64,000 birds, five to a cage. They commended him for his efficiency but expressed doubts as to whether just one employee could look after the welfare of such a huge number of birds. They were told that in a highly automated system this was not difficult. Whether they accepted this assurance we shall know when their report is published.



Hens in laying batteries.

The hog-farming Secretary lets his sows roam free

The new Secretary of Agriculture is John R. Block, a hog farmer in Knox County, Illinois. He was interviewed in January by John Byrnes, editor of *Hog Farm Management*. The interview appeared in the magazine's February issue and in a separate article the editor writes of John Block's pig-rearing methods, including the freedom enjoyed by his sows in summer. A brief extract from the article follows.

The sows and gilts are housed separately until June 15 when the 125 sows and gilts that appear to be closest to farrowing are moved into timber pasture. The 10-15 acre pasture is mostly oak and hickory trees with a small piece of open ground. The sows find their favorite ground and lay down and have pigs.

After about a week when 50 sows have farrowed, the ones that haven't farrowed are moved to another pasture along with other sows and gilts closest to farrowing. This process continues in each of the 11 farrowing pastures.

Readers may wish to write the Secretary to express appreciation.

Book

Animal Factories

by Jim Mason and Peter Singer
 Crown, New York, 1980, \$10.95

Since *Animal Machines* first appeared in 1964 there have been many developments world wide. Expert government committees have investigated the pros and cons of the various intensive livestock systems, national laws have been passed and an international convention drawn up among the 21 member states of the Council of Europe for the protection of these farm animals.

It seems remarkable, therefore, that it has taken 16 years for a book to be published on factory farming in the States. It is written in a most readable and pungent style reflecting the enthusiasm of the authors for their subject.

The book describes the development of the extreme systems in the States and some of the pressures behind farmers to adopt them. "For years government policies have favoured size . . . Most pervasive of all is the bias towards agribusiness by farming magazines, agricultural colleges extension agents, and salespeople from the companies that supply products to agriculture. Together, these elements put forth an ideal of farming that represents their view of profitable or successful farming. The progressive farmer . . . is the one who goes all out for production and uses anything and everything to get it."

The new systems proliferate as many problems as they seek to solve. One is the drugs used to prevent disease and to escalate growth. Many farmers do not know what additives are in the feedingstuffs they use. Nor do they often know exactly how long before slaughter the additives should be withdrawn. This problem gets carried over into another of the mammoth problems—waste disposal. The practice of recycling waste as a means of getting rid of it profitably has meant that the drugs contained in the waste go through to the animals fed on it, creating a hidden hazard.

The book has very good sections on energy use and it highlights the extra energy needed in confinement systems in which the animal is completely unable to adjust to its environment: "For example, pigs and poultry have more difficulty than some warm-blooded animals in maintaining body temperature. They easily get too hot or too cold. On a traditional farm, they could keep warm in cold weather by nestling in bedding placed in shelters. In hot weather, they could cool off in shady, damp soil. In the factory, however, when the environment becomes uncomfortable

the operator must use energy to adjust it, otherwise productivity falls.

The section on loss of protein, feeding it through animals rather than direct to humans, covers well explored territory, but there is an interesting quote from Ohio University on food energy availability: "Even the best of the animal enterprises examined returns only 34.5% of the investment of fossil energy to us in food energy whereas the poorest of the 5 crop enterprises examined returns 328%."

Hidden costs

Then there are hidden costs: ". . . costs to the health of consumers who dine on fatty, chemically dosed, antibiotic-fed animals that never exercise or see sunlight; costs to the environment from the accumulation of huge quantities of noxious animal wastes; costs to our limited store of fossil fuels; costs to the starving, whose lives might be saved by the food we are wasting; costs to the land, which is forced to produce more and more grain to be turned into meat; costs to wildlife, whose habitat is destroyed to grow more grain; costs to the quality of life for small farmers who, getting no support from the Department of Agriculture or the agricultural research establishment, can no longer compete with big business and must leave the land; costs to the animals themselves, confined, crowded, bored, frustrated, and deprived of most of their natural pleasures; and finally, costs to our own self-respect."

What of the future? The authors produce evidence that farmers are themselves beginning to question the extreme systems. Some have found that, as one pig farmer put it, "10 years of confinement raises more questions than it answers," and have returned to more traditional ways of rearing their livestock. Nor are these systems less productive than the more extreme ones.

In Britain around 40% of veal producers have returned to the straw yard system of rearing calves, in which the calves are kept in groups in well-bedded pens and fed from the teats of automatic milk dispensers. The pens are in naturally ventilated, naturally lit buildings and the calves can move and feed at will. This system is proving as viable as the alternative veal crates. It is not entirely a 'welfare' system yet, in that the calves are still fed only a critical amount of iron since whiteness of the flesh is still aimed for, abnormal growth rates are still demanded and, from the consumers' point of view, a questionable amount of antibiotics and growth promoters are used. Nevertheless, the system works and solves many of the welfare problems associated with veal production. The system is the preferred one in Switzerland, and is also used on some farms in

West Germany, Italy and France.

In Britain the Brambell Committee's proposals for legislation were based on a minimum 'five freedoms' and this, as an easily administered regulation, might be an effective start. "Every animal should at least have sufficient room to be able without difficulty to get up, turn round, lie down, groom itself and stretch its limbs." There is plenty of evidence on the benefits of litter for livestock and another effective regulation could lay down a bedded lying area for all classes of stock.

This is a book, not for the specialist, but for the uninformed. The introduction makes it clear that it is not the whole of livestock farming that is under criticism, not in fact the farmer at all—but only the agribusiness mentality by which he is being pressured. I could have wished that some of the systems had been explained more clearly and that within the body of the text there had been more emphasis on alternative viable systems. But nevertheless this is a welcome addition to the literature on the subject.

Ruth Harrison

*Ruth Harrison is the author of **Animal Machines** and a member of the Commons Select Committee which is currently enquiring into animal-welfare aspects of intensive farming in Britain.*

Animals & Ethics

Man and his various dealings with animals is the subject of this paperback. *Animals & Ethics* is an admirably succinct statement of the views of a working party covering Man and Wild Animals, Man and Managed Animals, The Animals Man Uses for Food, The Animals Man Uses as Pets, The Animals Man Uses in Research. The book costs \$2 from: Watkins Bookshop, 21 Cecil Court, Charing Cross Road, London WC2.

*A robin redbreast in a cage
 Puts all heaven in a rage.*

William Blake

One robin caged—and heaven's mad!
 But when to just that one you add
 Vast flocks of battered battery birds
 And half-starved calves in crated herds
 And multitudes of tethered sows
 In narrow stalls—these horrors rouse
 All heaven to a rage so wild
 Its former rage seems wondrous mild.

Factory farmers used to state:
 "Our animal machines are great!
 The more they're crowded (studies prove),
 The less they are inclined to move;
 The less they move (as studies show),
 The more they and our profits grow."
 But now increasingly they cry:
 "Our problems mount and multiply."

But agribusiness won't be fun
 When earth and heaven rage as one.

Schweitzer Medal goes to whale conservationist

The following is a speech given by Dr. Roger Payne on 5 February when accepting, on behalf of himself and his wife, Katharine, the 1980 Albert Schweitzer Medal. The medal is awarded annually by the AWI for an Outstanding Contribution to Animal Welfare.

Senator Paul Tsongas (D.,MA) who has a fine Congressional record on environmental issues, introduced Roger Payne. He spoke of his pride in the work of Roger and Katy, these "fellow residents of Massachusetts" and said that the crunch issue today is "whether men and women can live in harmony with the environment and learn to love the earth that nurtures us." Referring to the values which underpin the conservation movement the Senator pointed out that these are tied to man's self-interest—"not so much for us because we'll probably live through it, but for my child, her child and her child after that."

By a happy coincidence the Massachusetts state symbol is the right whale—the very animal which has been the focus of Roger Payne's recent work.

What happens to beasts will happen to man. All things are connected. If the great beasts are gone men would surely die of a great loneliness of spirit. That remarkable statement (made in 1884 by Chief Seattle) expresses exactly what I sense will be the most painful loss when "the great beasts are gone"; and when we are condemned to live alone for all eternity.

I have spent the last 11 years studying right whales in Argentina and I have felt each year a loneliness of spirit when the whales leave and the bay returns to silence and emptiness. It is hard to convey that feeling but when the whales are there and our days are spent watching them breaching, spouting, swimming, courting, sailing, pushing and shoving—all at their majestic, glacial pace; or when I see them suspended and floating in the shallows, great

It is because whales are such grand and glowing creatures that their deaths for commerce degrade us so.

cloud-like beings drifting with currents too slow to perceive, my spirits soar and I am moved in ways that nothing which is smaller ever moves me.

And then comes a day—usually in mid December—when I awaken and look out across the bay and see nothing. They are

gone—have departed in the night—and I am left behind. Immediately the bay loses its mystery and allure. It is no longer unique but just like any other bay. The annoying details of life reoccupy parts of my mind which only hours before were free and gliding with the whales. I feel peevish and irritable—symptoms, I suppose, of loneliness of spirit.

It is because whales are such grand and glowing creatures that their deaths for

There is a vastly practical reason for concentrating on a major species. If we wish to save the apex of a pyramid, we must save the entire pyramid.

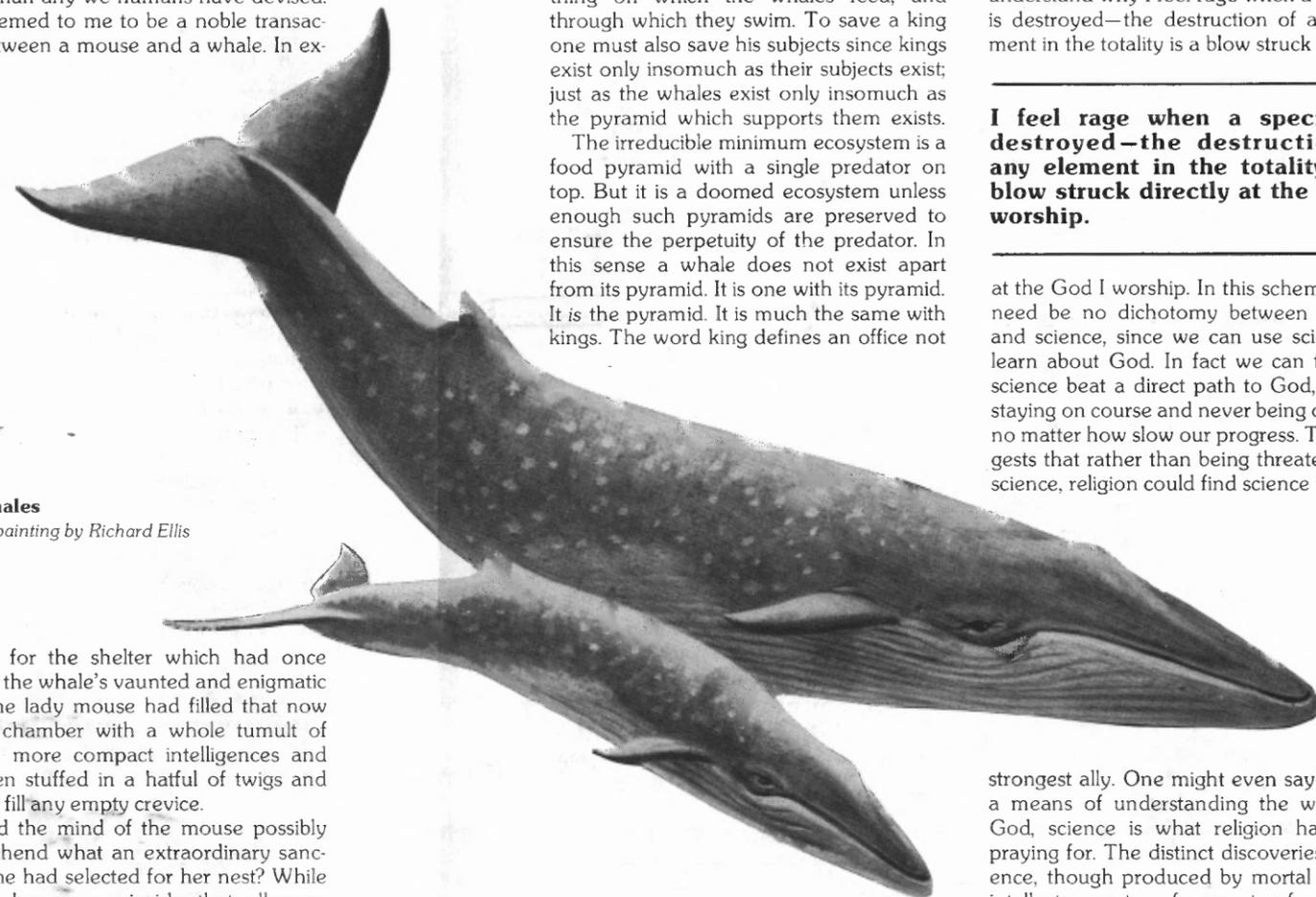
commerce degrade us so. It will confound our descendants. We are the generation that searched on Mars for evidence of life but couldn't rouse enough moral sense to stop the destruction of even the grandest manifestations of life on earth. In that sense we are like the Romans whose works of art, architecture and engineering inspire our awe but whose traffic in slaves and gladiatorial combat are mystifying and loathesome.

Sei whale appears

Some years ago a sei whale appeared in our bay. For several days our hydrophones picked up its low calls in the distance, surely one of the most mysterious and eerie sounds on this planet. And then the calls stopped. A few days later we had word that the whale had died and was ashore many miles from camp. We mounted an excursion to save the skeleton and trucked the bones back to whale camp where we stored them along the back of the beach, beyond the reach of storm waves. But the skull was too large to go down the steep road that descends the cliffs to the bay and so it was offloaded on the plateau above, where it now lies, alone in the desert, out of sight of the sea, surrounded by bushes.

In January of this year I paid the skull a visit to see how it was faring, and as I surveyed the "decay of that colossal wreck" I thought I saw something move. It had appeared momentarily at a round hole in the

base of the skull—the so-called *foramen magnum*; that passageway through which the spinal cord communicates with the brain. A few moments later I saw it again: it was the face of a mouse. I investigated at closer range and found that she had built her nest in the brain case of the whale—a much more exotic consumptive use for a whale than any we humans have devised. This seemed to me to be a noble transaction between a mouse and a whale. In ex-



Sei Whales
from a painting by Richard Ellis

change for the shelter which had once housed the whale's vaunted and enigmatic mind the lady mouse had filled that now vacant chamber with a whole tumult of smaller, more compact intelligences and had then stuffed in a hatful of twigs and grass to fill any empty crevice.

Could the mind of the mouse possibly comprehend what an extraordinary sanctuary she had selected for her nest? While nursing her young inside that allegory-filled cave of the whale's skull could she imagine sunless worlds beneath the sea filled with slowly wheeling galaxies of phosphorescent creatures; or 6,000-mile migrations; or towering icebergs? No matter, it was good, solid housing.

I don't fault the mouse's use of the skull, because, after all, she chanced upon it quite by accident. But it is curious how mundane even the most exotic uses are to which mammals, ourselves included, put whales. It is as if we had a lapse of spirit and could not figure out how to profit from cultures other than our own.

Because whales now have so many advocates and have taken on an international lustre, it is not surprising that they have also attracted opponents among the ranks of those from whom they might usually expect support. One often hears that too much time is being spent on such glamorous beasts while myriad lesser known species cry out for protection. And that is of

course partly true. But there is a vastly practical reason for concentrating on a major species. If we wish to save the apex of a pyramid, we must save the entire pyramid. If we are to set aside enough of the oceans to ensure a viable population of whales—the kings of the sea—we will have to ensure a healthy abundance of everything on which the whales feed, and through which they swim. To save a king one must also save his subjects since kings exist only inasmuch as their subjects exist; just as the whales exist only inasmuch as the pyramid which supports them exists.

The irreducible minimum ecosystem is a food pyramid with a single predator on top. But it is a doomed ecosystem unless enough such pyramids are preserved to ensure the perpetuity of the predator. In this sense a whale does not exist apart from its pyramid. It is one with its pyramid. It is the pyramid. It is much the same with kings. The word king defines an office not

an individual. A king who has lost his subjects and been dethroned has no meaningful existence. He is like anybody else—lost in the crowd and soon forgotten. It is, I feel, a good strategy in conservation to identify animal and plant kings and then to guarantee their kingdoms.

While on the subject of kings and pyramids I want to look at the totality of intersecting, interlocking, interacting pyramids—the whole of life on earth. Years ago the concept was advanced that integrated animal societies which are made up of individual organisms (for example ant colonies) are in fact a single entity or "super-organism" as it was labelled. It now seems reasonable to many of us that all organisms and super organisms combine to create a super-super-organism—the whole of life on earth. The elements of this super-super-organism though individually mortal are collectively immortal, and the laws that govern them are natural laws.

It is to this immortal oneness—to the totality of life—that I sometimes find myself praying. Would it therefore be outrageous to call these mortal elements which are collectively immortal, God? And to call the immutable laws that explain them God's laws? If I take this step several things fall immediately into place: for example I can understand why I feel rage when a species is destroyed—the destruction of any element in the totality is a blow struck directly

I feel rage when a species is destroyed—the destruction of any element in the totality is a blow struck directly at the God I worship.

at the God I worship. In this scheme there need be no dichotomy between religion and science, since we can use science to learn about God. In fact we can through science beat a direct path to God, always staying on course and never being diverted no matter how slow our progress. This suggests that rather than being threatened by science, religion could find science to be its

strongest ally. One might even say that as a means of understanding the works of God, science is what religion has been praying for. The distinct discoveries of science, though produced by mortal human intellects, are true fragments of an overarching, immortal intelligence called natural laws. They are unit ideas contained within an incomprehensibly larger overarching idea. In this sense they are rather like those mice nesting within the brain case of the whale.

I have long felt that the love of all life on earth (a concept that is interchangeable with the word conservation) needs to be written into religions—is in fact overdue to become a religion in its own right. Should this come to pass it would be a religion with science at its root. We should not feel that science is somehow an inadequate base upon which to build religions. On the contrary, science can uplift the soul, give the spirit wings and teach it how to soar. Science can lead us to revelations that faith cannot. It can provide insights as deep (perhaps deeper?) than those which come through faith. Some scientific truths transcend religious beliefs and illuminate God's works. In this way they are more like artis-

tic creations "which do not imitate actuality but transcend it and illuminate reality."

In my own experience I have found that at their best the revelations of science are as uplifting, as inspiring, as the greatest art. Though I am not a card-carrying artist I am an amateur musician and have at several periods of my life spent more time playing chamber music than doing science. And, although there is nothing I have enjoyed more than music, I can testify that even the intense delight of playing, for example, the slow movement of Opus 59, No. 1 (or the entirety of the last Beethoven quartets) did not exceed what I felt when I learned about black holes, or drifting continents, or replicating molecules or the spontaneous origin of life, or even, I must admit, whale songs. In fact these are spiritual delights which compare favorably with those deriving from religion and music—they make interesting companions and do not clash as much as we might have feared.

If we can fire the imagination of the human world on behalf of non-human life we will be living in a more enlightened world and will not be facing the prospect of dying from a great loneliness of spirit.

I have taken this detour because I wished to cast in a new light the role that I feel science can play in conservation. We have long recognized the essential value of science for resolving conflicts over how a species shall be managed (for instance, how quotas shall be set or hunting seasons fixed). But that is just its journeyman's duty; we cannot ever hope to inspire any major changes in how species are viewed by humankind, and hence how they are treated, unless we can inspire our own species with a sense of the magnitude and sweep of what will be lost if we fail to act. The only route we can use to make the kinds of discoveries that will inspire us to action is through science—the best means man has yet devised to learn about the cosmos. If we can fire the imagination of the human world on behalf of non-human life we can inspire a constituency for the wild world which will rise, roaring, to its feet and demand the rights of all life on earth. If man can progress that far and recognize that he is not the master of ceremonies but just another pretty face among millions of other beguiling species, and that all us species have bit parts—crucial bit parts—and that it is no disgrace to have a bit part if one plays it well, then the show can go on. If this ever comes to pass we will be living in a more enlightened world and will not be facing the prospect of dying from a great loneliness of spirit.

Lab animals continued

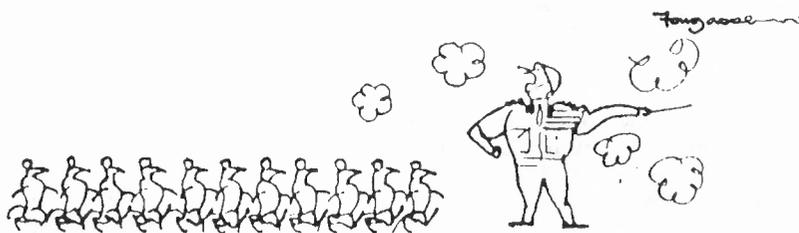
the Draize test rather than the standard six; a substance be regarded as not toxic if there are no reactions at a level of 5000 mg per kg of body weight. Dr. Morganroth said it is routine to do dermal toxicity tests before the Draize test and asked if a substance is "a dermal irritant, why do the eye?"

Dr. Richard Griesemer, Director of the Biology Division, Oakridge National Laboratories, said that no more than 300 substances a year can be screened using standard animal tests and that it would take two centuries to test all those in commerce. He cited one example in which 80,000 mice would be needed to establish a single datum point. He spoke of a 10-fold variation in LD₅₀ tests in animals and a 1000-fold difference in testing isoproterynol in male Sprague-Dawley rats. He pointed out that the testing of chemicals is just beginning and that the number of animals needed to test two chemicals together is very large. He characterized this as "almost not practical, but we're being asked to do it by our regulatory agencies."

Dr Frank Schabel, Jr., Director of Chemotherapy Research at the Southern Research Institute which, according to press reports, uses

tiating these species." He said conditions for laboratory chimps range from "relatively ideal to totally inadequate." He urged that 1) chimps must be acquired humanely—so ruling out commercial exploitation in which "5-10 mothers must be shot to obtain one baby"; 2) chimps' special needs, including space and play, must be satisfied; 3) institutions sponsoring research with chimps must bear responsibility for their lifetime care or controlled release into the wild—while those financing such research must provide lifetime funds; 4) no experiments should be permitted without prior review by appropriate committees.

Because there is unique sensitivity *in utero* to exposure to chemicals via the mother, Dr Norton, Professor of Pharmacology at the University of Kansas School of Medicine, is interested in "reducing our total dependence on the adult animal." She mentioned the failure of the rat to be a satisfactory model for thalidomide, characterizing it as "a completely ineffective model in that case." She pointed to the value of the chick embryo for nervous system and behavioral studies because there are no maternal influences during development,



10,000 mice a week, described testing of anticancer drugs on tumor-bearing and leukemic mice. Dr Harry Rowsell of the Canadian Council on Animal Care commented, "While I can support the need for animals in cancer research [I am concerned about] the end point when many are miserable, ill, sick." He asked why, when the irreversibility of tumor growth had been observed, "cannot they be given a humane death?"

Dr Alfred Prince, head of the Virology Laboratory of the New York Blood Center stated that the "previously accepted distinction between man and chimpanzee is becoming blurred." He pointed to the fact that "biochemical and immunological data provide little basis for differen-

it is convenient for observations during development, the reliability of results is good, the cost of purchase and maintenance is low, and human allergic reactions are minimized.

AWI President, Christine Stevens, asked how the animal testing system can be truly safe and efficient when most substances remain untested because of expense and lack of toxicologists and facilities. She pointed out that the United States uses more animals than any other country and therefore has a particular obligation to lead in developing substitutes for laboratory animals and in changing our regulations accordingly. Dr John Beary of Georgetown Medical School urged a prompt change in Draize test methodology. "Right now," he said,

"they could use a slit lamp. Ophthalmologists use it in their offices every day."

Dr Roland Nardone, Professor of Biology at Catholic University, characterized the prospects for non-animal tests as "better now than ever before because of the advances in tissue culture." Dr John McCormack of Johnson Baby Products described in detail an *in vitro* assay he developed to detect water-soluble irritants. Cells from a single rat provide the equivalent of 48 rabbits which would otherwise be used in a Draize test. The new test has, he said, "a high degree of precision, repeatability and accuracy".

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Nobel Laureate speaks out

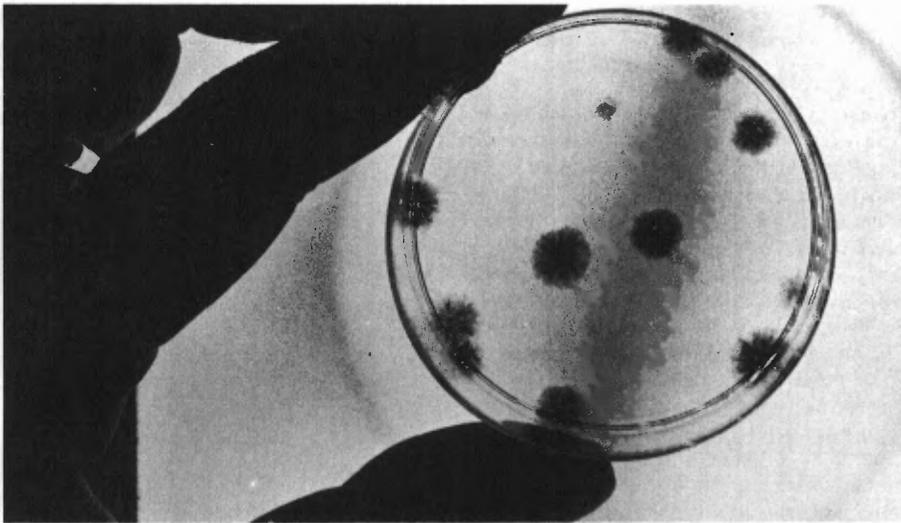
"Right now there is almost no rationale for deciding whether the mouse, the rat, the rabbit, the guinea-pig or the monkey is going to be the better model for effects on human behavior . . . The one or two or three hundred million dollars a year that we're now spending on routine animal tests are almost worthless from the point of view of standard-setting . . . It is simply not possible with all the animals in the world to go through new chemicals in the blind way that we have at the present time, and reach credible conclusions about the hazards to human health. We are at an impasse. It is one that has deep scientific roots and we had better do something about it."

From a recent statement made by Dr. Joshua Lederberg, a geneticist, Nobel Laureate and president of Rockefeller University.

A Search for Environmental Ethics—
an initial bibliography. \$8.95

Smithsonian Institution Press Books, PO
Box 1579, Washington DC 20013

The ethics of conservation are a fertile field and one that has grown apace since the war. For the first time the widely scattered literature has been harvested. Arranged alphabetically by author and title with an introductory essay by the Secretary of the Smithsonian, this bibliography is an invaluable tool for those pursuing the ethical quest.



Cell cultures are increasingly being used as substitutes for laboratory animals.

Photo: National Institute on Aging, NIH.

Dr Mathew Scharpp, Department of Cell Biology, Albert Einstein College of Medicine, speaking on monoclonal antibodies said they "give us a whole new vista." Homogeneous and predictable, they can be produced in virtually unlimited amounts. "Once a monoclonal antibody has been generated, it is much less expensive" than using animals. He pointed to the rapid growth of interest in the field, noting that the technology was first described in 1975 and that the 20 or 30 papers on the subject of two years ago had by June 1980 grown to 140. He expressed hope that the Food and Drug Administration would give its approval for routine *in vitro* assays using this technique.

Nobel Prize-winner Dr Marshall Nirenberg of NIH described mouse neuroblastoma cells as "exquisitely sensitive to environmental conditions." Dr Nardone commented that Nirenberg's outstanding work has prompted the development of a system for neurotoxicological evaluation.

Dr Frederick De Serres of the National Institute of Environmental Health Sciences reported that an evaluation of 30 especially promising short-term tests for carcinogenicity was completed six months ago. Using 42 coded samples, 11 of which were selected because they were difficult to spot in the Ames test, it was found that the short-term animal tests gave lower sensitivity and accuracy than the *in vitro* tests. For example, rodent tests gave only 50-60% accuracy—comparable as Dr De Serres noted, to flipping a coin. In contrast, the *in vitro*

transformation test gave 95% sensitivity and 89% accuracy. Dr De Serres asked, "How representative are the 42 coded substances? Are all *in vivo* assays equally insensitive?"

Dr Richard Cramer of Smith, Kline and French spoke on "Quantitative Analysis of Structure/Activity Relationships" and said it was not unusual in his computer analyses to look at several variables at once. He characterized *in vitro* testing as "cheaper, faster and cleaner to interpret."

Despite rational comments such as these, however, an impassioned debate took place during the ensuing panel discussion. Using phrases such as "vain hope" and "criminally insane" certain scientists showed themselves strongly hostile to attempts to substitute non-animal tests.

Professor Thelestam from the Karolinska Institute's Biology Department reported on the Swedish National Committee for Laboratory Animals formed in 1979. New Legislation requires that research animals be raised for the purpose. Ethical boards have been established to consider the importance of the experiment, the suffering of the animals and "the three Rs." Anyone who wants to use animals has to apply to a board. Professor Thelestam announced that in September an international conference will be held in Sweden similar to the NIH symposium but limited to consideration of LD₅₀ and acute toxicity tests.

LD₅₀ is that dose of a toxic substance which will kill 50% of the animals tested.

Alternatives to Pain in experiments on animals

by Dallas Pratt M.D.

Argus Archives, 228 East 49th St., NY 10017, 1981.

\$3.95 + \$1.00 handling.

In this country a large proportion of basic research studies use animals. How much of this can be justified on the basis of scientific merit remains debatable, but certainly some portion of these studies might be better done in alternative systems. With ever dwindling resources to fund basic science, it would be prudent to investigate the feasibility of alternatives to animals. The major problem in addressing this issue is the lack of a source reference that not only summarizes current animal research, but also provides a source of alternative systems.

Dallas Pratt's book is an important contribution to the arena. The introductory chapters consider the issue of pain and suffering in animals (for example, whether animals can actually feel pain); ensuing chapters then survey a number of major fields such as behavior research, cancer and toxicology with numerous examples of cruel and also humane animal studies. Many of the animal examples are familiar (such as the Draize test); the most valuable portions of the book, however, describe scientifically valid alternatives to the animal tests.

An example of the general format of the book can be illustrated by the chapter on cancer. After a brief introduction of the scientific limitations of animal studies on cancer, such as the different innate susceptibility to cancer between mice and men, there follows a lengthy discussion of alternatives including the use of human cells in cell culture, human tissues in organ cultures, epidemiological studies, as well as other tests such as the Ames Salmonella test for mutagens. What is most impressive is that the majority of the references cited for alternatives are very recent (1975-1980); thus, this represents a rich sourcebook for scientists in many fields. Often the reason for a scientist using animals for his studies is that he is simply not aware of alternative methods that might be more suitable scientifically, as well as economically.

There are a few areas presented which could be debated as to interpretation, but these are really quite minor, and do not detract from my overall impression of this book. It is a well-researched, well-written and honest account of alternative methods with which to conduct scientific inquiry.

Philip Noguchi, M.D.

¹ Dr. Noguchi is conducting cancer research in the Bureau of Biologics, Bethesda, Maryland.

PERIODICAL PLEASURES by John Gleiber

Since it is unlikely that many readers of these pages curl up regularly with *The Trapper** this seems a good place to bring up some interesting points that surfaced in just one article in the February issue. It was brought to our attention by kind friends.

Parker Dozhier of Bigelow, Arkansas, is (with good reason, I think) concerned lest the general public get a clear look at trapping techniques.

"Hunting and trapping are privileges that have been granted to us by the lawmakers. . . . For this reason trappers, who are on the razor's edge in some areas of losing these privileges, should be constantly aware of prying eyes.

"The bunny [sic] hugger out for a Sunday morning drive in the woods does not want to see a fox in a trap at the edge of a hayfield, even if it's your hayfield. The neighbor that drives up in your yard to borrow a couple of eggs doesn't need to see a carcass pile that would rival Mt. Hood.

"If you feel as if you must trap in some high visibility areas give that critter enough

chain to hide. That pile of 'possum carcasses is not going to get any better with age, deal with them on a day to day basis. Each and everyone of us are obligated to all users of wildlife to leave the best impression we can on the non-users. And *the best way to do that is to make every effort to be invisible.*

"We, as trappers, cannot afford any exposure before the unknowing public. . . . The public simply does not need to be exposed. The lady shopping for a fur coat does not need a lesson in wildlife management, all she needs is a checkbook. By maintaining as low a profile as possible, many of our problems of the past, will fade into the background.

"There is a place for all of the bunny huggers in this world, they are called consumers and we need them."

[Emphasis supplied]

The bunny huggers, dear reader, are you and me.

*The Trapper, Box 550, Sutton, NE 68979

The *International Journal for the Study of Animal Problems* is published bimonthly by The Institute for the Study of Animal Problems, an organization sponsored by The Humane Society of the United States and The Royal Society for the Prevention of Cruelty to Animals. If you can get to the end of that sentence, you'll read anything.

It is attractively designed and covers a wide range of topics from general animal interest articles to mildly high level scientific writing. There are short, topical news items, notices of meetings and legislation and, of course, book reviews.

Director Michael Fox is originally British and Associate Director Andrew Rowan is from South Africa. Combined with 35 distinguished editorial advisors from all over the world, they contrive to give the *Journal* a pleasant, slightly cosmopolitan air.

Annual subscriptions are \$25 for individuals, \$45 for institutions, and \$17.50 for students. Orders should be addressed to Journal Department, The Institute for the Study of Animal Problems, 2100 L St., N.W., Washington, D.C. 20037. Lovers of acronyms should be delighted to find they are instructed to make their checks payable to "HSUS for ISAP."

Greek rest home for old horses

The ancient Greeks are said to have revered animals but this feeling does not seem to have been inherited by very many modern Greeks. "I would never want to be an animal here," said a Greek TV commentator, showing the charred corpse of a dog which had been hung from a tree in an Athens suburb and then burned to death.

In January Greece joined the European Economic Community. The EEC, some of whose original members are not exactly blameless in matters of animal cruelty, are putting pressure on Greece to mend its ways. The government has responded with a bill which makes cruelty to animals a punishable offence.

Another response, this time from a Greek citizen, comes from Theo Antikatzides D.V.M. and member of Animal Welfare Institutes's International Committee. In the spring of 1980 a French TV team filmed the appalling condition of horses being transported from Greece to France and Italy for slaughter there as horsemeat. Dr. Antikatzides has written to AWI to say that though the film made a great impact on the Greek public, the Ministry has done nothing. He has therefore founded the Hellenic Organization for Retiring Senile Equines (HORSE). The society has its own Horse Rest Farm where up to 50 decrepit horses can be sheltered and paddocked until they die of old age. Those wishing to

help can become members of HORSE; membership fee, \$50. The address is: HORSE, Hellenic Organization For Retiring Senile Equines, Boyatti-Attica, Greece.

Dog therapist makes TV

Some 10 years back the *Information Report* told the story of a mongrel dog which was about to be used in laboratory experiments but escaped this gruesome fate by becoming a canine therapist at the Children's Psychiatric Hospital, University of Michigan. One reader was so entranced with this story that she delved deeper and produced a full-length book—*Skeezer, Dog with a Mission*. The book has now been made into a 2-hour film and will be shown on NBC TV on 7 May.

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Whales and parrots share CITES spotlight

Whales and parrots were the chief beneficiaries of the 3rd meeting of the Parties to the Convention on International Trade in Endangered Species (CITES) in New Delhi, 25 February-8 March. Of the now 67 government Parties, 50 attended.

Altogether 350 species of animals and plants were added—in every case by overwhelming majorities—to the lists used by CITES members to prohibit (Appendix I) or monitor (Appendix II) international trade in wildlife and their products.

By a 37-2 majority the conference backed a West German proposal to give sei, fin and sperm whales Appendix I protection. Only the two major whaling nations, Japan and USSR, voted against. The US which offered a much less whole-hearted measure bringing whale protection into line with the latest rulings of the International Whaling Commission abstained on the vote as did Norway and Paraguay.

Although the impact of the whale vote was clouded by USSR and Japanese statements that they may enter reservations on these species, so permitting themselves to continue trade in sei, fin and sperm whales, the CITES decision now puts pressure on the 1981 meeting of the IWC to bring its own quota system into line with the CITES listings.

US opposes

In a 32-4 vote all parrots except budgerigars, cockatiels and Indian ring-necked parakeets were placed on one or other Appendix. This means that of the nearly 200 parrot species now on these lists 31 are banned from trade while the remainder can only be traded with export permits granted by the country of origin.

The four countries to oppose this UK proposal were Switzerland, Liechtenstein, Chile and—the United States. Most surprising and difficult to understand is the US vote.

Shortly before the CITES meeting the US shocked the international community by retracting its own well documented proposal to list all parrots and

putting forward instead a severely truncated list of just 25 parrot species.

Neither fiscally conservative politics nor consumer-nation protection can justify the new US posture. It was the conservative UK government—whose monetary policies have been applauded by President Reagan—which put forward the parrot proposal. It was the consumer nations of the EEC and Canada which supported the proposal, knowing that the new listings would not for the most part prohibit trade and hoping that the required monitoring would make that trade sustainable. As for the third-world producer nations most endorsed the parrot listings as an aid to controlling trade and confounding smugglers.

Those in New Delhi detected the hand of the pet trade in the drafting of the 'revised' US parrot proposal. It excluded most of the endangered and threatened parrots found in legal and illegal trade currently entering the US either legally or illegally. Credit (if that's the word) for its narrow construction was given to those within the new administration who want to put the brakes on environmental and animal protection. The global community would have none of the new US game of environmental brinkmanship but what effect will this governmental peer pressure have on the US delegation now that it has returned home?

There will be strong pressures urging the US to do what it has never done before—to take out reservations. There will be strong pressures urging implementation. The outcome will shed some light on the new administration's attitude on global conservation, and it is an outcome which all who care about animal protection will wish to try to influence. The final decision—expected early May—is that of

The Bird Business is a 121-page, color-illustrated study of the cage bird trade—a trade which accounts for some 7½ million wild birds every year. At the CITES conference in New Delhi the book was eagerly devoured by delegates who—armed with the horrific facts—have made the world a slightly safer place for parrots and other pet birds. Written by Greta Nilsson with a foreword by S. Dillon Ripley, *The Bird Business* is available from AWI, PO Box 3650, Washington DC 20007. Price: \$5.00.

the Chief, Office of Scientific Authority, US Fish and Wildlife Service.

Other decisions

- The US and Canada jointly proposed very restrictive criteria for placing on Appendix II those species not currently threatened by trade. Various nations objected strongly that this proposal went flat against the fundamental principles of the Convention, undermining its effectiveness in a number of ways. Objectors included India, Uruguay, USSR, Australia, Sweden, Malaysia, Papua New Guinea, West Germany, UK, France.

- Guidelines for the humane handling and transport of live species in the CITES listings were adopted. The Parties also agreed to try a new voluntary system of advising each other by post on the condition of live specimens received in trade.

- Semi-precious black coral used widely for jewellery and ornaments will be protected.

- The North American gyrfalcon population, now increasing, was moved from Appendix I to II, so allowing trade by permit. All falcons in trade must be banded, and the US and Canada agreed to review the situation should evidence arise that endangered European populations are being smuggled on to the market.

- A committee will report to the next meeting of the Parties on the feasibility of 'reverse listing' (the listing only of those species which may be freely traded).

- Confiscated skins, hides and horns of endangered species will be destroyed whenever it is not possible to store them under the strictest security. In particular all Parties still outside CITES are being urged to stop trading in rhinoceros horn.

- The 'ranching' of species such as turtles and crocodiles is permitted under very strict conditions—including a marking system to distinguish ranched animals from wild ones.

- Parties will investigate the usefulness of forgery-proof documents and security stamps to accompany legally traded wildlife products.

Fran Lipscomb

Also available from AWI is our annual report for the period July 1979 through June 1980. The report takes the form of an illustrated booklet and is sent free to all who request it.

Please send me _____ copies of THE BIRD BUSINESS at \$5.00 each, for which I enclose \$_____.

Name _____
Address _____

Thousands of primates die in transit every year

Every year thousands of primates are imported into the US to satisfy the needs of medical and pseudo-medical research. And every year thousands die before ever the men in white coats get hold of them. This doesn't mean that the researchers end up with fewer than they want; it just means that they order more than they need knowing that death will claim many on the way.

The International Primate Protection League has been studying the records at the Center for Disease Control Atlanta, Georgia. Taking only one species, the

mates during 1978 and 1979 involving high mortality. Deaths during capture and holding prior to shipment do not, of course, show up. The drain on wild populations is thus even greater than the figures suggest. All species mentioned are on the endangered or threatened list of CITES.

While the paramount concern is for conservation and humane treatment, there is another worrying aspect of this sorry trade. Sick animals can endanger the health of all who handle them, and their use by scientists can invalidate research and contaminate the end product.

Species	Number	Shipper	Importer	Dead on arrival	Died in quarantine
Tree Shrews	100	Siam Zoo, Thailand	Primate Imports	56	24
"	200	"	"	190	0
"	100	"	"	92	1
"	200	"	"	161	12
Crab-eating Macaque	60	Falcon, Indonesia	"	17	11
"	60	Inquatex	"	15	22
"	80	Primaco	"	19	7
"	60	Primex	Hazelton, NJ	16	11
"	80	Darsono	"	11	35
Silver Langur	20	"	Minnesota Zoo	8	12
Owl Monkey	40	Sanchez, Panama	South American Primates, Miami	0	37

vervet monkey, IPPL found that in the first 10 months of 1979 just one importer (Primate Imports Corporation, New York) received some 40 shipments from Ethiopia, Kenya and Somalia and that a full 30% of these monkeys died either on the journey or during the subsequent 90-day quarantine period. For one particular exporter, Workneh & Nadir of Ethiopia, the death rate was over half—52%.

Below are some shipments of other pri-

One of the world's leading virologists, Dr. S. Kalter, has severely criticized the negligence of animal dealers, both exporters and importers. He has said: "No in-depth study is made to ascertain the cause of death among animals following capture. They are simply discarded and the holding station acts as a primary source of infection for all arriving animals. Likewise very little is done by importers to determine the cause of deaths."



Protecting Whales—Alaska

To protect humpback whales in Glacier Bay National Monument, Alaska, not more than 339 small vessels and commercial fishing vessels may now enter the bay during the whale season. Entries by charter vessels will be at 1976 levels. The commercial harvesting within Glacier Bay of the humpback's principal food (capelin, sand-lance, euphausiids, shrimp) is also prohibited. These new regulations are in force 29 January 1981 through 15 May 1983.

Protecting Whales—South Africa

As from 5 December 1980 South African law prohibits the killing or capture of any whale at any time and the disturbance or harassment of any whale during the 6-month breeding season. (Under this law persons coming within 300 meters of whales and persons who do not "proceed immediately" to put at least 300 meters between themselves and any close-surfacing whale are guilty of disturbance or harassment.) Since similar regulations already cover dolphins the new law means that all cetaceans in South African waters are now fully protected.

Save the whales—AWI

Richard Ellis, artist and author, has brought out a new book, *The Book of Whales*. The text, lavishly illustrated with the author's drawings and paintings, has full descriptions of 33 whale species. Mr. Ellis's artistry is well known to many AWI supporters because all contributors of \$15 and upwards to our *Save the Whales* campaign receive their choice of his exquisite color prints of humpback whales or sperm whales.

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INFORMATION REPORT

ANIMAL WELFARE INSTITUTE

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Summer 1981

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Four Countries Join International Whaling Commission Canada Quits

New Directions at the IWC

Never has so much happened in such quick succession before an annual meeting of the International Whaling Commission (IWC). Four new countries have joined: India, China, St. Lucia, and Dominica. And Canada, under intense fire for its vote against the sperm whale moratorium at the 1980 IWC meeting, has withdrawn from the Commission and will attend only as an observer.

Canada's former Commissioner, who cast the swing vote condemning 1320 sperm whales to death, would have become Chairman of the IWC this year had Canada remained a voting member of the Commission. This important position must be filled when the Commissioners convene July 20th in Brighton, England.

Garrett named Acting U.S. Commissioner

The United States will fight for the moratorium on commercial whaling, which it successfully proposed at the 1972 Stockholm Conference on the Human Environment, under the leadership of a battle-scarred, veteran whale protector, Tom Garrett, who has served as Deputy U.S. Commissioner for three years and now steps into the position of Acting U.S. Commissioner. Garrett has worked for whales, researched and written about them as a private citizen and on behalf of Monitor In-

ternational, Defenders of Wildlife, and Friends of The Earth, attending IWC meetings for the past ten years as an NGO (non-governmental organization observer).

Garrett was proposed as U.S. Commissioner by Secretary of the Interior James Watt, a former classmate at the University of Wyoming. Animal welfare, environmental and conservation groups are solidly behind this significant action of the Reagan Administration despite highly publicized disagreements on a number of other issues.

Thor Heyerdahl's plea for whales

Norway, the world's third largest whale killing country, held a "Hvalens Dag" (Whale Day) program June 15th at the Sjøfarts Museum. It is the first whaling country to hold a celebration for whales in their own right. Leading Norwegians of worldwide fame sent messages of encouragement. Liv Ullman cabled at length from New York, and Thor Heyerdahl's telegram was quoted in the Norwegian press as follows: "Many people hope and believe as I do that a nature-loving country and a nature-loving Prime Minister will show the courage and will to protect the whales." Heyerdahl had reported earlier on the great decrease

(continued on page 2)

FWS Shows Its Sting

STING ONE—FEBRUARY. Five tons of walrus ivory, valued at \$450,000, are seized by agents of the US Fish and Wildlife Service posing as buyers. Searches are simultaneously conducted in five states but the main seizures are in Alaska.

STING TWO—MARCH. Sea otter, sea lion and seal pelts are seized by agents of the US Fish and Wildlife Service posing as buyers. Two men are arrested. Two days later more sea otter pelts are confiscated at Anchorage airport

(continued on page 9)



Credit: James A. Estes, University of Arizona, Tucson, Arizona, courtesy of IANACE, copyright AAAS 1974

The sea otter is protected by law but still preyed on by man for its highly prized pelt.

New Directions at the IWC

(continued from page 1)

in the number of whales observed by him on his world famous voyages.

Dagbladet, a leading Norwegian newspaper, carried a major story by Hakon Lund headlined with a quotation "Boikott norske varer" (Boycott Norwegian goods) and illustrated with photographs of Gregory Peck, Crown Prince Harald, Thor Heyerdahl, and Flo, the humpback whale balloon whose appearance last year in Oslo had a highly hostile reception from the police.

The article reported on the Animal Welfare Institute's television spots featuring Peck and Jack Lord, and referred to what is termed "Norway's dilemma"—its vote for a ten-year moratorium on commercial whaling at the Stockholm Conference on the Human Environment, and its subsequent reversal on that stand. Another "dilemma" spotlighted by *Dagbladet* is Norway's use of the cold harpoon on minke whales. Lund refers to the "death fight" which takes half an hour because the whalers say use of explosives in the harpoon spoils too much meat.

Sir Peter Scott in a long feature story in *Aftenposten*, another major newspaper, emphasized the whales' great brains, "bigger than ours," and their highly developed social system. Referring to the cold harpoon, he urged that it "must be possible to protect the whale against such a cruel method of killing that we would not think of using against a cow."

The marketing director of Nestle-Findus, whose sales of canned whale meat have been severely criticized, told the press that all such sales stopped this June "in view of the growing opposition against whale catching."

Clearly, Whale Day, organized by Siri Hall with support from Sonia Löchen and other Norwegian humanitarians and conservationists, has had a valuable influence. However, Foreign Minister Frydenlund told the Norwegian Parliament that a general moratorium on commercial whaling must be resisted because catching of minke whales is "important for many districts." An estimated 600 "small whalers" (fishermen who kill small whales as opportunity offers) still operate off the coast of Norway.

French Scientist Speaks Out Against Delay

"The only objective and irrefutable observation concerning the evolution of Cetacean stocks in the past 40 years is that, as the years have passed, faced with the accelerated depletion of stocks, the International Whaling Commission has been forced into increasing protection of species, thus providing a proof of failure in terms of management policy. Starting from the largest Cetaceans, and finally arriving at the minke whales, the stocks have all been more or less maltreated and are in poor condition. Those that have been protected are only finding a precarious balance after a very long interval. Finally, the human exploitation of certain resources of the environment that are indispensable for the survival of Cetaceans (krill, fish), and the various pollutions of the marine environment, do not help to offset the depletion of the stocks. It would be perfectly hypocritical to hide behind the unconditional acceptance (by deliberately or haplessly ignoring any critical sense) of pseudo-scientific results (by this I mean the use of rational high-level techniques applied to insufficient and approximate data) to rule on the future of Cetaceans. In the absence of a massive influx of complete and really usable data, the short-term solution of providing some hope of preserving the species resides in the determination to establish a moratorium intended to protect all the species."

—From Proposals by the Government of France for a Moratorium on the Commercial Exploitation of Sperm Whales and Minke Whales. Appendix A, "Limitations and Problems Raised by the Development and Use of Mathematical Models in the Management of Stocks of the Great Cetaceans," by M. Pascal Laboratoire de la Faune Sauvage et Cynégétique.

Something is Splendid in the State of Denmark

A very happy note is the follow-up of a meeting on June 16th at the Danish Embassy with Ambassador Otto Borch and Counselor Søren Dyssegaard and representatives from the Animal Welfare Institute, Monitor/USA, Greenpeace/USA and The Society for Animal Protective Legislation. As always, the Danes were courteous, interested and well-informed. They said they would be in touch with Copenhagen and would present our positions urging further whale protection at the IWC meeting in Brighton.

Counselor Dyssegaard has sent a letter to John Gleiber of SAPL dated July 7, 1981 and stating in part:

"It is the intention of the Danish Government to instruct its delegation to the meeting to support the proposal for a moratorium on all commercial whaling.

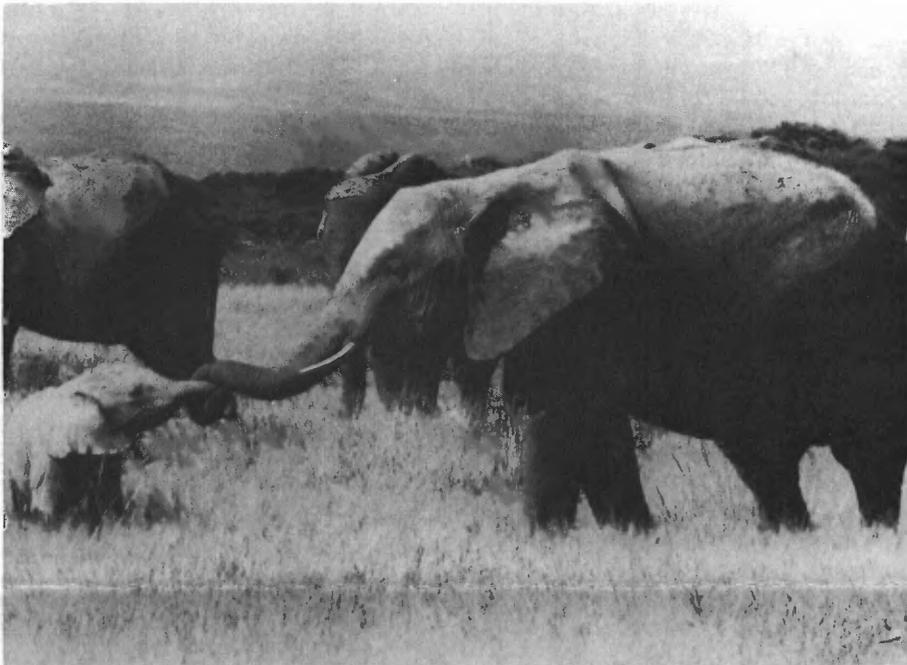
"Finally, it appears likely, from what we understand, that Denmark will support a ban against the use of 'cold harpoons' in commercial whaling at the annual meeting."

Physty makes it!

The first-ever saving of a stranded *Physeter catodon* or sperm whale—and a sick one at that—was quite a media event. But then sperm whales, sick or well, very rarely beach themselves. However, in mid-April on Coney Island, Physty did just that.

With some difficulty the giant whale was towed very gently to sick bay—a nearby boat basin. There pneumonia was diagnosed and Physty was force-fed on penicillin and squid laced with chloromycetin. The recovery curve had its ups and downs but after a week the patient was passed fit enough to be asked to leave. Somewhat reluctantly Physty agreed and was last seen heading out into the deep Atlantic.

Whale School 1981 is offering a 7-day Advanced Workshop, 16-22 August. It will provide experience, using the latest research techniques, to students and instructors already knowledgeable in marine biology and/or cetology. The fee—which includes all meals, camping facilities and membership of the Whale Museum—is \$500. Write to: Whale School 1981, PO Box 1154, Friday Harbor, Washington 98250.



Here it is a tug of love. But with man it is a tug of war—and the elephant is losing.

Credit: Cynthia J. Moss, African Wildlife Leadership Foundation

HELP SAVE THE ELEPHANT!

The elephant once roamed all of the African continent and much of southern Asia. Today the African elephant's range has been reduced to "islands" scattered throughout the sub-Saharan region, and its numbers to around 1.3 million, perhaps 15% of the population just 100 years ago. The Asian elephant is virtually extinct in the wild; only a few thousand of this relict population exist in remote pockets.

The elephant is steadily losing habitat to the expansion of human population throughout Africa and Asia. But the major reason for the rapid decline in recent years has been massive poaching for ivory.

Since the early 1970s hundreds of thousands of elephants have been shot, poisoned, speared and even burned by murderous gangs encouraged by greedy officials and unscrupulous traders. In some African countries army troops have used machine guns and rocket-launching helicopters to decimate whole herds. Large numbers of tiny tusks, no more than a few inches long, are appearing on the world market, testimony to the deaths of thousands of baby elephants.

Planeloads of the ill-gotten ivory have been shipped out of Africa to Europe and the Far East (mainly France, Belgium, West Germany,

Hong Kong, China and Japan). In one massacre in Zaire in 1978, corrupt officials diverted 20 tons of highly toxic pesticide from coffee plantations and gave it to gangs who dumped it in water holes and streams. Thousands of elephants suffered horrible deaths, as well as all of the birds, monkeys, antelopes and other wildlife over a vast area. So much ivory was loaded aboard one plane that it almost crashed on takeoff.

Today the ivory adorns the wrists and necks of women in the wealthy nations; major department stores in the US and Europe feature these "baubles" in newspaper ads. In the Far East collectors buy carvings of ivory. Wealthy investors everywhere have been stockpiling ivory tusks as a precious commodity, like gold and silver. The value of ivory has rocketed in recent years as speculators hoarded it, perhaps in anticipation of the extinction of the species.

You can help save the elephants by curbing the demand for the ivory that is causing their destruction. Write a letter to your local department store or jewelry store, asking them where they got their ivory and if they can be sure that poachers had no hand in it. Write a letter to your local newspaper, alerting the public to the elephant's plight. If enough people speak out, we can save the elephants. Please help.

Craig Van Note
Executive Vice President, Monitor

HARDLY GODLY

American missionaries are apparently the chief killers of elephants in Sierra Leone, accounting for 90% of the annual slaughter. So keen are they on this 'sport' that they are even flying their teenage children over from the States to join them in the hunt. Sometimes they have hunting licenses, often they do not. On the homeward trip their trophies, carved and raw ivory, go into their personal baggage.

This disturbing information comes from Geza Teleki of George Washington University who has recently completed a 6-month tour of Sierra Leone and Senegal. Mr. Teleki also gives news of those two notorious animal dealers residing in Sierra Leone, Franz Sitter and Suleiman Mansaray. Prohibited by presidential decree from trafficking any longer in chimpanzees—though not before decimating West Africa's chimp populations—they have switched their attentions to other animals. Franz Sitter in particular is making big money on the export of all varieties of live animals as well as skins, tusks and hides.

Mr Teleki reports that in Senegal ivory traders do a brisk business without bothering to acquire official documents authenticating the source of the ivory and licensing its sale. Apparently much of the ivory reaching Dakar is smuggled from Sierra Leone across Guinea.

In Sierra Leone, however, the situation could be on the mend. The Cabinet has approved a national conservation strategy. In 1982 hunting restrictions will be imposed on a long list of rare species and all wildlife exports will be banned in order to protect the areas that are scheduled to become reserves. Chief among these is the proposed Outamba-Kilimi National Park. This 980km² tract of almost untouched savanna forest contains numerous endangered animals, including leopard, elephant, chimpanzee, colobus monkey and crocodile. A small 30 km² swamp, rich in reptile and bird life, has already been established as the Mamunta-Mayoso Game Reserve.

Research Award

As in previous years a West German foundation is offering up to DM 50,000 for outstanding papers on animal welfare. Entries must be submitted by 31 December and if not in German must have a German summary. Details may be had from: Felix Wankel Research Award for Animal Protection, Ortlindestr. 6/VIII, D-8000 Munich 81, West Germany.

One of last year's winners was Dr. Andrew Rowan of the Institute for the Study of Animal Problems. His subject: Alternatives to Laboratory Animals in Toxicology Testing.

What do pigs want? Ask them!

"If you want to know what a pig wants, ask a pig" runs the headline of a long article in the March 13 issue of the British journal, *Farmers Weekly*. The article describes the work of the Agricultural Research Council's Institute of Animal Physiology at Cambridge.

The Institute has devised experiments (based on the techniques of operant conditioning) to get pigs to "state" their preferences. For instance, do pigs prefer light to darkness and, if so, all the time or just some of the time? Bearing in mind that wild pigs are nocturnal animals, the slightly surprising answer is that pigs kept alone like to have the light on 72% of the time. Whether pigs in groups are equally "switched on" to light is now being studied.

What is the point of all this? Research worker Dr. Douglas Ingram says: "We know that hormonal activity affects growth rate and general performance, so there may be some opportunity to influence the pig's commercial performance if we can determine preferences."

From this it is clear that the Institute holds to the view that animal welfare and sound management are one and the same thing. Dr. Bob Baldwin puts it this way: "Our experiments are designed to allow pigs to tell us what they want. There are obvious links between social rank, aggression and outbreaks of ear and tail biting. The more we can learn about the pig's basic behavior, the greater will be our chances of avoiding sporadic outbreaks of bullying and cannibalism under intensive conditions."

Dinner's late—never mind

Pigs are remarkably adaptable. When "dinner time" was shifted from 2:30 p.m. to 9:30 p.m.—a 7-hour difference—they very quickly adjusted. By the second day they were happily sleeping through to the later hour.

This adaptability may make life easier for the stockman—and pigs certainly do thrive in very different systems—but this is not to say that they

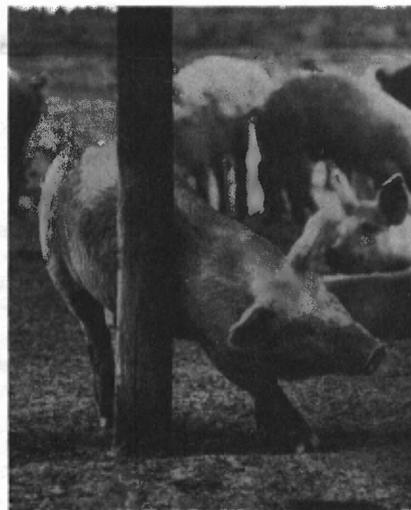
will learn to love all environments equally. Far from it.

Pigs are intelligent and inquisitive. Boredom could be one reason for poor (unprofitable) performance. Perhaps they should be encouraged to "work" for their food, water and even light. Perhaps, too, their environment should be more varied and stimulating than it normally is in commercial units. Says Dr. Elizabeth Walsler: "Pigs are extremely interested in any loose fittings in the pen and will continually explore and play with them. There is certainly no harm in deliberately adding simple and inexpensive loose components like chains, to try to create added interest." Providing logs and small pieces of timber enables pigs to engage in their natural rooting and shovelling behavior. Pigs also like to eat straw and use it as bedding and nesting material.

Meanwhile in Edinburgh . . .

Parallel research is going on at the Edinburgh School of Agriculture. Pig behavior there is being studied at its roots. Stage one of the project began when six groups of adult pigs were turned loose to breed freely. Their outdoor home is a rich environment. A steep sloping site, it includes pine woodland, gorse bushes, springs, two streams and boggy marshland with rushes at the bottom of the hill.

Nearly all nests are sheltered on at least one side (the wind in Edinburgh can be biting cold) and often have an open view facing south. **Fully enclosed nests are rare. A view**



Rubbing against a post is a favorite activity of pigs. Provision should always be made to enable them to do this.

seems to be important—as confirmed by a preference for hilltops from which approaching intruders can easily be spotted.

Practical application of this work will appear in the next issue of the *Information Report*.

Dr. Grzimek on factory farming

The distinguished scientist and author, Dr. Bernhard Grzimek, has given his permission to reprint the following translated excerpt from his book From Grizzly Bear to Cobra recently published in West Germany.

As food consumers, we are collaborators in the torture of animals. Few of us are aware of how much suffering is involved in the production of eggs and veal and pork.

Calves live in complete darkness in cells so narrow they cannot turn around. Their only nourishment is a milklike fluid. When thirsty they lick urine from the walls and floor. Because of their diet, designed to make them anemic, these calves have difficulty breathing and their swollen legs will hardly support them. Because of their dietary deficiency, they crave iron and will also lick anything made of iron that they can reach.

Pigs—similar to dogs on the biological scale—are squeezed between iron bars and forced to lie, without bedding, on iron gratings. They are also kept in the dark, in this case to prevent tail biting, with no chance for any normal activity.

Three of every four eggs are produced by horribly tortured hens. They are crowded into wire cages stacked one above the other. These cages are so cramped that birds are crowded beneath and atop other birds. The wide-spaced wiring of the cage floors means the hens can never stand naturally. The bottoms of the cages (sloped so that the eggs roll forward) increases their discomfort. Muscles and tendons are strained, joints ache. Such "battery hens" can never rest on a comfortable perch, stretch their wings, or even, take a dust bath. The mucous membrane of the cloaca protrudes after an egg is laid, and the other birds will often peck at this sensitive area. Crowded, bored and frustrated hens fight, pull out each others feathers, and sometimes kill and cannibalize each other. To help prevent this, beaks are notched with a hot knife which makes pecking, even for food, extremely painful. Such birds are constantly plagued by mites because they cannot use their damaged beaks to groom themselves.

(continued on page 8)

Magical encounter with a humpback

For several days while snorkelling in Hawaii I had been "calling" the humpback call. Though the whales seemed to ignore me I persisted. And then one day it happened. As I swam I noticed a humpback coming closer. I gave my call. The whale began circling me. When she was between me and the shore she gave a wonderful performance of ballet in slow motion. First her body broke surface, then the enormous fluke was lifted high and held, coming down only slowly. She was about 50 yards away and beckoning me. It was hard to follow her movement below the surface as the water was cloudy.

Suddenly I heard her very near. I heard her breathing. Like a huge valve puffing in slow rhythm. Then I saw the top of her body about 20 feet from me. I hesitated—then swam towards her. She had been motionless but now she dived, very gently. I stopped swimming and floated, turning in her direction.

And then—there they were! Not one whale but three! Snuggled against a huge mother humpback, greyish black with bright barnacles sprinkled over her body, was a sleek black baby not much larger than myself—and behind them came "auntie," less than a third the size of mother.

I was at the mother's head, my eyes looking into her eye. I was hypnotized and gazed incredulously, being sure at this point that I had nothing to fear. The tableau was motionless, calm and beautiful.

The slight movement of the ocean drifted me shoreward and the mother whale followed by bending her body towards me. As she did this the baby drifted at right angles to her and while I was pushing slowly away the baby's fluke almost hit my head. I became a little anxious. Did the mother really want me this close to her new-born baby?

She turned on her side. I was now right alongside the huge fluke. With

one motion she could wallop me into extinction. But she didn't. I decided to drift closer to the "auntie" and made a few strokes in that direction. Then something awful happened.

There was a sudden extremely loud noise overhead. Startled I looked up. A small helicopter was directly over us. When I looked down again just seconds later the whales were gone.

Postscript. Two days later while swimming round the reef I again sang the whale song. Almost immediately it was answered. I thought it was a snorkeller imitating me. But no. As I swam beyond the reef it was clear the answer came from far out—rhythmically at one second intervals in unison with my own call.

I altered my call. No reply. I reverted to my first call and back came the answer again. I was hoping the whale would approach as before. But this time it did not happen.

If only certain areas of these waters could be off-limits to speed boats. Then whales I believe would be more willing to come inshore. Fast-driven speed boats also scare away the reef fish—and can be dangerous to submerged snorkellers.

**Elfriede Puga
Kihei, Maui, Hawaii**

A small plant can help save Leviathan

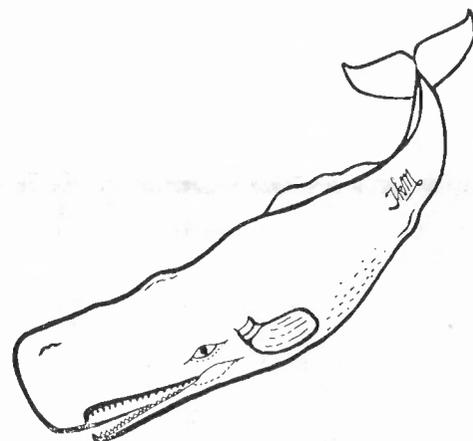
A plant that produces a liquid wax with properties unique to the plant kingdom. A plant that provides, in the words of the Australian government's *Inquiry into Whales and Whaling*, "a suitable substitute for sperm-whale oil in almost all applications." A plant that thrives in near-rainless desert where other plants would wither and die. The name of this miracle plant? Jojoba—*Simmondsia chinensis*.

Demand for the precious oil—unlike sperm oil it is so pure it needs virtually no refining—is growing apace and more and more desert countries are becoming producers. The world's largest jojoba project is in Costa Rica. There the government-owned company *Rancho San Rafael SA* is busy transforming several thousand acres of arid desert into a flourishing and highly lucrative plantation. The jojoba's roots go deep to tap the ground water 30 feet down, and once the bushes have reached

maturity (3-5 years) every acre is expected to yield an annual profit of \$12,000.

Another country interested in jojoba is Argentina. AWI has heard from Luis Carpineti who works for the country's Forest Institute Research Department (IFONA). He says jojoba is being experimentally cultivated in various parts of Argentina. He points out some of its incidental virtues. It grows happily in salty soil, makes appetizing forage for wildlife and livestock, and "is ideal for those who like green salads—and is also good for people who have high blood pressure."

All this from just one little nut tree!



Ho ho ba yu ga (Jojoba oil is) ホ、バ油が

Kujira inochi no (Of whale's life) 鯨命の

Suku i gami (The Savior) 救い神

Courtesy of Thomas K. Miwa, Miwa Jojoba Laboratories

Jojoba is among dozens of former Indian crops that today lie unloved and untended within US borders. . . . Indians, who have long roasted jojoba beans for "coffee" and used the oil as hairdressing, have spearheaded a drive to bring the crop into modern agriculture. . . . Indian reservations in the Southwest harbor some of the worst pockets of poverty in the nation. The land is useless for conventional crops, often two-thirds of the work force is unemployed. In five or ten years jojoba could bring self-sufficiency to reservations that have depended on federal services for a century. . . . So great is demand that in 1980 the San Carlos Apaches in California received as much as \$3300 for a barrel of jojoba oil the yield of a single well-tended quarter acre.
from National Geographic, May 1981

33

A Hawaiian bird sues . . . and 12 grizzlies follow suit

The tiny and very rare palila is a member of the honeycreeper family. It lives only on the upper slopes of Hawaii's dormant volcano, Mauna Kea, and feeds only on the seeds of the flowery mamane tree. Little by little sheep and goats, first introduced to Hawaii about 200 years ago by European explorers, have eaten away its habitat and food source, so much so that in 1975 it went on the Endangered Species list.

In 1978, with a little help from its friends in mainland America, the palila sued the state of Hawaii—the first lawsuit ever brought in the name of a species. The bird won. The state, bleating loudly, appealed. The bird won again.



National Park Service, courtesy of U.S. Fish and Wildlife Service

Take care or I'll sue!

Periodical pleasures by John Gleiber

Probably the most concise environmental publication with an overview of just what is going on throughout the world is *Oryx*, the official magazine of the Fauna and Flora Preservation Society (address: Zoological Society, Regent's Park, London NW1, England). Membership rates for the United States range from \$10 for Students to \$20 for Ordinary Members to \$40 for Benefactors. Life memberships are \$600 for those aged 60 or under and \$300 for those over. That should remind you we are all mortal.

Subjects in a recent issue include whales, condors, Brazilian sideneck turtles and lechwe (highly specialized antelopes). It's small enough to slip into a pocket or a handbag and scholarly-looking enough to make it a surprise to find *Oryx* T-shirts advertised—between the special currency arrangements for Zambian members and announcement of the 1981 tour to Peru.

The writing and reporting is of a uniformly high calibre. There are interesting photographs, maps and charts for the serious reader and a "Briefly" column giving information in capsule form which is both instructive and entertaining. Where else could you find out that the elk population in Estonia is up?

A typically alert member of our staff (not, alas, me) recently read through *Association Trends* which is published at 7204 Clarendon Road, Washington DC 20014 for "America's top 25,000 association executives." Page 2 of the 10 April issue reports a speech made by Mike Gretschel, President of National Outdoor Sports Advertising, Inc. It's an interesting account of the campaign the National Rifle Association approved and which, according to the magazine, "skyrocketed" enrollment.

Gretschel proudly announced that "using direct mail, TV, telephone and space ads, the project has succeeded through a widespread distrust of bureau-

crats and fear of legislators. . . ." Besides this emotional impetus, the NRA member-development program includes a sportsman/hunter offer. Gretschel said that more than 50% of the success of a mailing is determined by the way the offer is formulated, and in this case he included liability, theft and gun-loss insurance. "Emotional appeal is added with a description of NRA's foes."

It makes one proud to not be a member of the National Rifle Association.

One of the most genuinely charming magazines I have encountered in a long time is *Swara*, the magazine of the East African Wildlife Society which incorporates "Panda News from World Wildlife Fund/Kenya." *Swara* means antelope in Swahili, but I bet you know that.

While not a "glossy" magazine, the color photographs are lovely and the articles have a pleasing blend of information and lore with an almost familial kind of folksiness. A recent issue celebrated the first birthday of Juma, an artificially reared baby elephant at the Nairobi National Park Orphanage, told about genets which, it turns out, are more mongoose than cat, and had a smashing piece about endlessly romantic Kilimanjaro.

Anyone who leaps through this and does not have an almost irresistible urge to head for the nearest international airport has either a heart of stone or an exceptionally clear-sighted view of the state of his bank account.

The East African Wildlife Society was founded to "safeguard wildlife and its habitat in all its forms as a national and international resource." Ordinary US membership is \$18 with airmail service for the magazine an additional cost. Write to the Society at PO Box 20110, Nairobi, Kenya. Other than cash, you may use American Express or Diners Club.

Spurred on by the famous victory of the tiny 6-ounce bird, 12 heavyweight grizzly bears from Wyoming (in company with the Sierra Club and Defenders of Wildlife) have sued the federal government. They allege that the granting of mineral exploration rights in an area which they inhabit violates the National Environmental Policy Act and the Endangered Species Act. They claim that the Forest Service and the Fish and wildlife Service have failed to give due weight to their biological needs.

Animal testing—alternatives funded

Four separately funded research programs have been established with the goal of finding a non-animal alternative to the Draize eye-irritation test. This test uses large numbers of rabbits to determine the safety of cosmetics, detergents and many household products. The chemical to be tested is placed in one eye of a series of living rabbits and the effects are noted.

Dr William Douglas of the Tufts University Medical School has been awarded a grant of \$100,000 by the New England Anti-Vivisection Society to develop an alternative to the Draize test. He will study the toxicity of chemicals on cells cultivated from human corneal tissue.

A three-year grant totalling \$176,000 was awarded July 9 to Joseph Leighton, M.D. of the Medical College of Pennsylvania's Department of Pathology, to develop a non-animal substitute for the Draize test. Dr. Leighton will study inflammation caused by different substances on the chorioallantoic membrane of the chick embryo. The work is expected to complement the study at Tufts University. The American Fund for Alternatives to Animal Research is the lead organization making the grant, assisted with substantial contributions for each of the three years from the Air Chief Marshall the Lord Dowding Fund for Humane Research and the American Anti-Vivisection Society.

Revlon Inc. is providing a \$750,000 3-year grant to The Rockefeller University. According to Dr. Dennis Stark, Associate Professor and Director of Rockefeller's Laboratory Animal Research Center, initial research will use tissue culture.

Avon, through the Cosmetic, Toiletry and Fragrance Association, has committed \$250,000 towards the creation of a national center for the study of alternatives and has set aside a further \$500,000 for special research projects. Funding for the national center will also come from other cosmetic companies and possibly from other industries. Some 20 research institutions have been invited to submit research proposals. One of these institutions will be selected as the national center.

Salmon fishery nets porpoises and seabirds in thousands

Thousands of Dall porpoises and hundreds of thousands of seabirds are killed each year by Japanese salmon gillnets in the North Pacific and Bering Sea. Yet on 10 June the US granted Japan's salmon fishery a further 3-year permit, so allowing this massive destruction of marine life to continue. Why?

US spokesmen contend that to have refused the permit would simply have meant the Japanese fishery setting its nets outside the US zone. This would not stop the "incidental take." Indeed the government thinks that such a move would probably result in higher mortality for both Dall porpoises and seals and disrupt the migration of salmon to Alaska. Seabirds, though, are a different matter.

Recent studies (David Ainley *et al*) show that since its inception in 1952 the salmon fishery has accounted for some 10 million seabirds—almost twice the original estimate—and that some populations of diving birds are in trouble. Petrels, fulmars and albatross are very liable to become entangled as they attempt to seize the netted fish.

Bird mortality is governed by two main factors. One: mesh size of net. If the mesh is small, under 82 mm, very few birds are trapped. Two: distance from breeding grounds. Within 50-75 nautical miles of their nesting sites, seabirds, particularly murre and puffins, are more densely concentrated, so more likely to be caught. (The salmon gillnet fishery off Greenland kills 350-500,000 thick-billed murre a year, 88% of them within 30 nautical miles of the coast.)

Lethal necklace

Massive monofilament webbed drift nets used by the Japanese salmon fishery are illegal for US fishermen. The Russians don't use them either. It is a wasteful way to catch salmon. Set like curtains across 10 miles and more of sea, these nets catch anything too large to swim through the mesh. Monofilament netting is indestructible; it does not rot. An entangled dolphin or seal may break free but still be adorned by an irremovable and (finally) lethal "necklace" of net.

The 3-year permit to the Japanese salmon fishery to take 5500 Dall porpoises a year with exemption from the incidental take requirement of the Marine Mammal Protection Act was issued under the following conditions:

1) A greater Japanese-US research effort, with the emphasis on designing

nets and gear that will not be so wasteful. An annual report on this research is required.

2) No incidental take of harbor porpoises, white-sided dolphins or killer whales is allowed.

3) The industry must pay for an unspecified number of observers on their vessels who will monitor compliance with the permit requirements. The seabird problem has not been dealt with directly. Neither the Department of Interior, which administers the Migratory Bird Treaty, nor the Department of Commerce, which oversees marine mammal conflicts with the salmon fishery, would claim jurisdiction. The permit granted by Commerce, however, urges the fishery to cooperate with the US and Japanese governments in developing methods to reduce seabird mortality. Commerce will help develop an appropriate research program and will instruct observers to count and identify injured and dead birds caught in the nets. But where the money for a full study will come from remains unclear.

Drinking water stays

Livestock awaiting slaughter will continue to have access to drinking water. The Department of Agriculture has rejected the petitions of the American Association of Meat Processors and the Iowa Beef Processors, Inc. The former claimed there were difficulties in supplying water in the final holding pens and that since animals do not readily drink in strange surroundings they were not being mistreated if denied water in their last 24 hours of life. The regulations were promulgated under the 1978 humane slaughter amendments to the Federal Meat Inspection Act.

Why are common songbirds not so common any more?

Scarlet tanager, western tanager, black-and-white warbler, rose-breasted grosbeak—common songbirds of the United States. But common for how much longer? And are they really US birds? The two questions are linked. For these migrants spend upwards of half their lives in the neo-tropical forests of Latin America. And these forests are fast being felled by multinational timber companies and are being converted into marginal cropland and shortlived cattle pasture. (Our liking for hamburgers is swallowing up huge tracts of these forests. McDonald's sells 3 billion hamburgers yearly, using 300,000 head of cattle).

Destroy habitat and you destroy not only the wildlife that lives there now but all the unborn generations to come. Of all threats to wildlife, habitat destruction is the greatest. And no habitat is under greater threat than the forests that are the winter home of some of "our" best-loved songbirds.

The theory that this winter home consists only of second-growth forest, with the mature forest left to the all-the-year-round inhabitants, has been disproved. Studies show that the migrants freely mingle with the stay-at-homes in the mature forest—what's left of it. Since 1968—according to the Fish and Wildlife Service annual survey conducted in 1700 US sites—fewer and fewer migratory songbirds have been making the spring trip north each year.



Photo by James C. Leupold, courtesy of U.S. Fish and Wildlife Service

What will be the fate of the beautiful Scarlet tanager?

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Factory Farming

(continued from page 4)

In Germany, alone, 6,000,000 hens are housed like this. Because of this overcrowding they are very susceptible to disease. High egg-yield is no indication of health or well-being. Most battery hens have degenerated livers. Their droppings have a high water content indicating that many trace elements and water-soluble vitamins are lost. The pale yellow yolks are artificially colored to make them more appealing. 15 shades of yellow are currently available. It is worth noting that owners and employees of such poultry "factories" usually get their own eggs from free range hens.

Factory farmers seem only to consider high yields and low labor costs. It is cheaper to allow a certain percentage of the animals to die rather than pay for adequate caretaking. Thousands of calves once suffocated when artificial ventilation failed during the night. Near Plattling, 100,000 chickens died within an hour when the air conditioning broke down.

Animals have in theory won certain rights. According to a new law anyone who does not provide suitable housing or limits the movements of animals, so as to cause pain, suffering or injury, can be prosecuted. This law is administered by the Minister of Agriculture. Although only a scientist specializing in animal behavior is qualified to determine the housing needs of each species, the Minister of Agriculture appointed a committee of "experts," mostly poultry producers or representatives of the poultry industry.

A Dusseldorf court dismissed a complaint against this author claiming that he had called chickens kept in batteries "concentration camp hens." He did not invent this expression. It had been approved by Martin Niemoller and Dr. Wankel, former concentration camp prisoners themselves. Two Nobel Prize laureates, Professors Konrad Lorenz and Karl von Frisch have publicly stated that keeping hens in batteries constitutes extreme cruelty.

Under pressure from the industry, as well as from countless humanitarians, the Minister of Agriculture responded by allotting 1,500,000 marks (about \$700,000) of taxpayers' money for a study to determine whether keeping hens in batteries was not, in fact, inhumane in spite of the fact that many exhaustive studies are already in existence. This meant a 5-year delay was won for the factory farmers of the poultry industry.

Many dairy cows *never* see sunlight or grass from their birth to their death. The goal of ever higher milk and meat production quotas requires an ever increased daily intake of high protein feed which contains many insecticides. While some are

excreted by the animals, others, like DDT, remain in the milk. Antibiotics and the hormones that are mixed with feeds for a quicker weight-gain leave residues which are then ingested by the human consumer. The widespread use of penicillin and related antibiotics gives rise to resistant strains of bacteria. These various drugs can also cause allergic reactions and hormonal imbalances so that they are not effective when really needed.

The government is trying to restrict the use of these dangerous substances by changing the law. It is doubtful that they can succeed. Over 50,000,000 marks a year changes hands in the black market. There are not enough trained inspectors to test the constantly increasing number of toxic agents and other additives in our foodstuffs, and, even more seriously, in animal feeds. When investigators studied carcasses of 521 pigs and 137 calves that had passed inspection, dangerous substances were found in 14½% of the pigs and in 82½% of the calves.

Minister of Agriculture Josef Ertl has written that where there are large numbers of animals, medication cannot be given on an individual basis and that, when the outbreak of a disease is feared, drugs must be administered simultaneously to every animal. Since disease is a constant threat, Dr. Ertl recommends that antibiotics be used regularly as a food supplement.

Small amounts of pesticides are retained in the human body, particularly in the liver. Even when liver damage is not evident, its defenses against pathogenic agents may be weakened. This may be the reason for the prevalence of hepatitis and other infectious diseases.

Animal husbandry is being taken over by large business firms. Since farming began, it has always worked hand in hand with nature. Manure was spread on the fields where it was broken down by soil bacteria and changed into humus. The enormous amount of manure produced by factory farms cannot be handled this way. Liquid manure is polluting brooks, rivers and lakes which are already polluted. Sometimes, it is spread on the ground or placed in underground containers. Salmonella, which causes so much intestinal damage in man and animals, can easily live in liquid manure for over a year. When manure gets into rivers and lakes, it promotes a heavy growth of algae which decomposes and kills fish and other forms of life.

Agriculture is necessary for our survival—it should be supported by revenues from industry. We cannot return to the horse and the plow. Without a fuel supply, fields would lie fallow. But those responsible for our agrarian policy should not artificially industrialize our agriculture—to the detriment of the farmer and our environment.

This is no Sport

Organized dogfighting with heavy gambling on the outcome is alive and well in the United States despite the federal law passed in 1976 to prevent dogfighting on an interstate basis. Congressional appropriations committees have starved it of enforcement funding. Full-blooded dogfights to the death involve some 10,000 people nationwide—and about 25% of them live in Georgia according to the Humane Society of the United States.

According to Gene Tharpe, writing in *The Atlanta Constitution* on March 30, 1981, 100 men, women and even small children were gathered in a Richmond County (Georgia) barn to enjoy a sanguinary evening of dog fights. The police arrived, arrested 18 people and seized nearly \$40,000 in cash, 50 pistols, seven cases of untaxed liquor and quantities of marijuana, cocaine and pills.

In Georgia, dogfighting, though illegal, is merely a misdemeanor carrying only a light penalty. The state's General Assembly is considering a bill that would make the offense a felony, a greatly needed strengthening of the law.

This barbarous "sport" is prevalent in the Southeast, Southwest, Great Lakes region and California.

Recently, in California, where according to Statute 597.5 it is a felony to "... own, possess, keep or train a dog with the intent that the dog shall be engaged in an exhibition of fighting with another dog," eleven people were arrested due to quick action by U.S. Customs Inspectors Jay O. Erdman and John J. Morley. They spotted a mangled pit bull dog in a car coming across the Mexican border and notified San Diego Police Officer Fred Hill who placed the driver under arrest. Additional officers were then stationed at the border and they arrested others coming in with injured dogs. The dogs were seized and taken to the Mission Valley Emergency Animal Clinic. Officer Hill said: "The condition of the dogs was almost beyond description. Some had their ears chewed off and others were bleeding profusely from deep gouges and bites on their legs and other parts of their bodies." County Animal Control Officer Steve Crane said "Some of the dogs were so badly chewed up a veterinarian couldn't even find veins to administer medication."

Because of this strong law and efficient enforcement, by the end of May seven verdicts had been handed down. The penalties included fines ranging from \$1000 to \$3000 and sentences of 10 to 30 days in jail.

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The Sting

(continued from page 1)

while awaiting shipment to Japan.

STING THREE—APRIL. Still more sea otter pelts, with a black market value of up to \$2500 each, are seized by agents of the US Fish and Wildlife Service posing as buyers. Two men are arrested. They claim they could deliver 26,000 otter pelts.

Congratulations to the Fish and Wildlife Service for three fine "sting" operations! But unhappily the sting in this tale does not stop there. The federal agents were able to act as they did because sea mammals are protected by the 1972 Marine Mammal Protection Act. Now the Act itself stands in urgent need of protection.

There is big money to be made from marine mammals—witness the above cases. But the mammals also have other powerful enemies. Many oil and fishing interests view them as unwelcome intruders—and their protection as costly and tiresome.

This year the Marine Mammal Protection Act comes up for reauthorization. Certain interests are demanding that Congress make major changes. Some even question if the Act is "really necessary."

Action to date

On 6 May the US Senate Commerce Committee voted to reauthorize the MMPA for two years, stipulating that the parties most concerned must make "substantial progress" toward resolving their differences by 31 July. Any resulting amendments will be voted on by the full Senate in the fall.

On 13 May the House Merchant Marine and Fisheries Committee narrowly amended the 2-year reauthorization, reducing it to just one year.

Under the present Act it is the federal government which controls the fate of marine mammals. States can assume management only if they extend the same protection as does the federal government. Alaskan representatives have said they want to manage their own marine mammals and want the shift to be made without formal hearings which allow cross-examination of witnesses.

More than one year essential

Assessment as to what is a healthy population for the various marine mammal species has been a job for

scientists who study the creatures with other co-habitants in their environment. Only in recent years have some of these populations started to reach this healthy level, a range known as Optimum Sustainable Population (OSP).

To provide a stable atmosphere for the proper enforcement of the Act, reauthorization for more than one year is essential. Also a 1-year reauthorization will mean the Marine Mammal Protection Act and the Endangered Species Act come up simultaneously for consideration by Congress in a year's time. The overlap would more easily allow enemies of the MMPA to eliminate it in the guise of merging it with the Endangered Species Act. There would then be no protection for the hundreds of thousands of seals and dolphins and other marine mammals which are not strictly endangered or threatened.

The Marine Mammal Protection Act protects all marine mammals, not just those facing extinction. Its enactment and implementation has been cited as an example of model legislation for sound marine conservation. It should not be mauled or murdered or merged to appease the selfish and short-sighted demands of a vocal minority.

Lead shot kills birds without hitting them

Last winter Lake Puckaway, Wisconsin, provided macabre and massive evidence that lead shot can kill without ever hitting its target. Freak weather and food conditions combined to induce several thousand



Credits Photo by Ray C. Erickson; courtesy of U.S. Fish and Wildlife Service

And when these geese nestlings grow up will they live—or die of lead poisoning?

Canada geese to winter at the lake instead of flying further south.

The lake's shallow bottom is strewn with lead pellets fired by hunters. The wintering geese swallowed quantities of these pellets while feeding and at least 3000 of them died from lead poisoning—as was proved when gizzards were cut open and the pellets revealed.

Tragically Governor Dreyfus of Wisconsin had signed a bill early in 1980 lifting the state's prohibition against lead shot, arguing that the ban was unjustified. The argument, always flimsy, has now been shot to ribbons. Wisconsin should promptly reimpose the ban on lead pellets and allow only steel or, better still, the new non-toxic "soft-iron" shot.

Flesh-eating birds at the top of the food chain are also at risk. Dr Milton Friend, Director of the National Wildlife Health Laboratory at Madison, Wisconsin, says: "I'm disturbed at how often we find lead poisoning in bald eagles." A carcass analysis by the Fish and Wildlife Service showed more eagles dying from lead poisoning than from pesticide poisoning.

Over in England the problem is not hunters but fishermen. Post-mortems on swans from the Thames, Tees, Avon and other rivers, revealed that more than half of them had succumbed to lead poisoning after swallowing lead fishing weights. The rest had up to three times the normal amount of lead in their blood—victims of the estimated 250 tons of lead annually dumped by anglers in Britain's waterways. (The comparable figure for spent lead shot in the US is 3000 tons.)

Disturbing effects of vehicles on desert soils

Recreation, housing and the needs of defense are putting increasing strain on arid landscapes in the southwestern states. In 1979, the Council on Environmental Quality reported that 25% of Americans take part in "ORV recreation." On arid soils especially this can do great and lasting damage. The 22 May issue of *Science* (page 915) reports on field experiments in the western Mojave Desert, California, to assess and predict the effect of "off-road vehicles" on arid soils.

A prime concern is the rate at which compacted soil recovers. Invading vegetation may appear within a few years but extrapolation of data in a long-abandoned townsite in Nevada suggests that native perennials may need a century or more. The funereal pace at which damaged desert soils regain their former healthy structure means that erosion persists long after the destructive deed has been done. Desertification is not an affliction confined by the laws of nature to the Third World.

CITES product ban stays

Good News! The U.S. will honor the new CITES listings in their entirety. There will be no U.S. "reservations" on parrots or any other species.

The equivocal line, especially on parrots, taken by the American delegation at the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) meeting of the Parties last March in India had aroused fears that the U.S. might duck its international obligations and, alone among member countries, permit unmonitored trade in threatened parrot species to continue. It has not happened.

The three-month grace period in which parties are entitled to omit from their own national list species newly added to the CITES lists has now passed. The U.S. 100% "no reservation" remains intact. Good!

Pet birth control clinic pays off

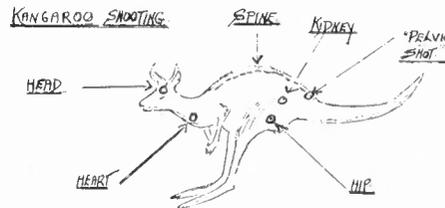
In August 1976 the Vancouver branch of the Society for the Prevention of Cruelty to Animals opened a Spay and Neuter Clinic. Its effect has been most marked. In 1976 over 80,000 cats and dogs in the Vancouver area were destroyed as being "surplus to human requirement." By 1980 the figure had dropped to 17,800. In the same period the number of dead animals picked up off the streets declined by 90%—from 310 to 31.

Another bonus is that attacks by dogs on livestock are now rare—and reimbursements to farmers for animals lost correspondingly low. In one municipality (Delta) farmers received nearly \$6000 in 1976. In 1980 the sum was just \$34—the value of six chickens.

"... roos have tremendous vitality and die very hard."

For seven years the U.S. government gave protection to kangaroos by banning imports of hides and meat. But on 29 May the U.S. Interior Department lifted the ban. Shortly before the official action, Judge Aubrey Robinson ruled in District Court that Interior's action was legal. Defenders of Wildlife, which had brought the test case, appealed 3 June for summary reversal by the Court of Appeals. No action has yet been taken by the court. The pending case deals with the question of whether commercial trade can be authorized in species listed as Threatened under the Endangered Species Act. The Red Kangaroo and both the Eastern and Western Grey Kangaroo, chief targets of the commercial skin and meat trade, remain on Interior's Threatened Species list. But quite apart from this question, important as it is, the extreme cruelty routinely employed in the commercial killing of kangaroos cannot be tolerated by U.S. consumers. Documented repeatedly over the past ten years is the appalling fact that it is common practice to shoot to cripple, not to kill. The accompanying diagram shows the location of the "pelvic shot," "hip shot," and "kidney shot." Advice from *The Roo Shooter*, by Keith Weatherly (1968, Pacific Book) includes "When you shoot a roo for skin with a heavy rifle, it's no good to blow out half its chest. You shoot for the pelvis, even from the front . . . the tiny copper-jacketed bullet would have to break the pelvis or the spine . . . the classical pelvis shot . . . six inches above the tail, two inches off the center line of the back." Another comment from *The Roo Shooter*: "... roos have tremendous vitality and die very hard."

The human-like cries and sobs of wounded kangaroos are frequently described: an article in *Audubon* magazine March 1974, by Franklin Russell states: "When we raced up to him he was dying.



His whimpering child-like cries, coupled with those two front paws reaching out blindly, intertwining, rubbing each other in what appeared to be anguish, evoked the despair of unexpected death. Big Red died when an ax shattered his head."

In *Kangaroos Goodbye* Virginia Kraft wrote "We drove to where the kangaroo had fallen. It struggled to get up . . . flailing big feet at the air and flinging its body in violent half-circles as if pinioned by one hip to the ground. It was making low snorting noises like a child trying to stifle sobs it can no longer control . . . and all the while it looked at us . . . with dumb hurt eyes."

Colin McCaskill of the Sydney Office of the Royal Society for the Prevention of Cruelty to Animals told *Australian Penthouse*, January 1980, that because of the remoteness involved many shooters merely wound the animal leaving it to lie in misery through the night. "That allows them to make the kill on their return, making the meat still fresh."

Joeys in the pouch or at foot are generally swung against the truck or a tree to smash their heads or stamped to death under a boot. Others are missed and left to perish slowly.

To date no kangaroo products are known to have reached the U.S. market. Readers of the *Information Report* are urged to be on the lookout to boycott and protest strongly against any such products encountered. Please write the Animal Welfare Institute about any kangaroo leather products, fur or meat you may see offered for sale in the coming months.

Animal Welfare Institute

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The stage is now set for Congress to act

Hopes high after lab animal hearings

When Congressman Doug Walgren (D. Pa) opened the hearings on *Use of Animals in Medical Research and Testing* on 13 October, he left no doubt of the importance he attached to the subject. "There is a broad feeling that the pain and suffering of animals used in scientific research and testing should be reduced to an absolute minimum," he said, "I share that feeling and regard it as a critical consensus about the respect due to life in all its many forms. This hearing is not simply on the question of how many animals are treated and cared for by scientists. We are exploring the more difficult question of when, and under what circumstances, the use of live animals is justified."

Chairman Walgren concluded by naming three goals "... to reduce as much as possible the numbers of animals used in research and testing by placing emphasis on alternatives to animal use; to give more thought to the limited circumstances when the use of animals may be justified; to make sure the proper conditions for treatment and care exist when animals must be used. It would have been easy for the Subcommittee to duck this issue. However, as Chairman of the Subcommittee, I believe there is no more important subject deserving our attention."

The Congressional sponsors of the two principal bills among the seven pending before the Subcommittee were first to testify, Congresswoman Pat Schroeder (D. CO) for H.R. 4406 and Congressman Robert Roe (D. NJ) for H.R. 556. Mrs Schroeder urged the Subcommittee to prevent "the subjugation of animals to unnecessary pain."

Her bill to amend the Animal Welfare Act would remove the existing exemption on the actual research; (at present there are no restrictions on the way experiments are conducted); require each institution using vertebrate animals to establish an animal care committee to pass on proposed animal experiments; define pain; end repeated painful use of an animal; require adequate space for exercise; and establish a committee including animal welfare members to advise the Secretary of Agriculture in administering the law. Congressman Roe's bill would

establish a national center for alternative research, provide training, prohibit use of animals if alternatives are available, and direct no less than 30% of total NIH research funds to development of alternatives.

A case in point

The appalling treatment of monkeys at the NIH-funded Silver Spring laboratory had received extensive media coverage just prior to the hearings. Alex Pacheco, who worked as a volunteer at the laboratory and whose complaints resulted in the raid by Montgomery County Police in Maryland, reported to the Subcommittee on the case.

Pacheco said, "The animals were injured and allowed to injure each other ... to collapse through not being fed." He described "open wounds, broken bones, fingerless hands, improper bandaging by untrained staff."

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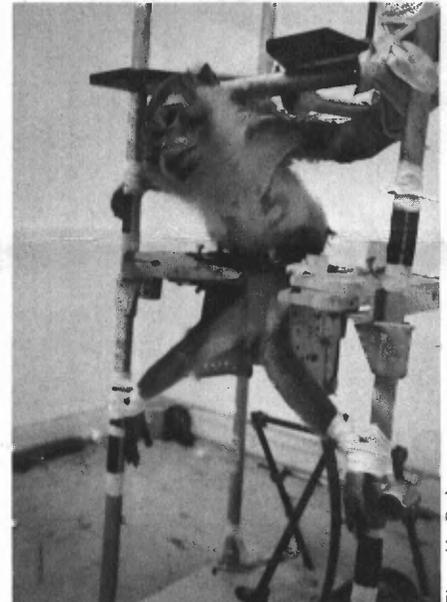


Photo: Alex Pacheco

The disgusting treatment of monkeys at the NIH-funded Silver Spring laboratory has been widely reported. Note the extreme pressure on the abdomen of this crab-eating macaque. (More pictures on center pages.)

The great roo row

The US is or was the Australian beef industry's best overseas customer—importing around 300,000 tons of beef a year. "Is or was" because the scandalous revelation that Australian "beef" can be kangaroo or horse—or even buffalo or wild pig—has put a big question mark over the whole future of this multi-million dollar trade.

The governments on either side are deeply worried. The US embargoed for a time all Australian meat shipments and combed the country to confiscate dubious supplies. The Australians for their part have set up a Royal Commission to investigate the scandal and to "uncover" the story of a 4-year cover-up.

At government level the health issue is paramount. Australian shadow Minister of Health, Mr Roper, has said: "Kangaroos are being shot at night, then left all night—while bacteria grows in them—and then processed the next day, most probably in unhygienic conditions."

But if health is a prime concern, so also is cruelty. The last issue of the *Information Report* (as it was then called) described just how kangaroos meet their death at the hand of man.

Now from Australia comes another horrifying account, this time on film and made by an Australian wildlife group.

The film shows kangaroos being shot at night from the back of a truck and the truck heedlessly running over wounded animals. In one scene a wounded kangaroo jumps a small wire fence and is chased by two men. One man grabs the struggling animal by the tail while the other tries to cut its throat with a knife. The sound of laughter greets the final killing.

A director of the Australian Wildlife Protection Council commented: "If a person does this for the cameras, it makes you shudder to think what he would do unobserved."

Meanwhile in Britain a health officer claims that at least 2% of the beef sold in the UK comes from doubtful sources—including kangaroo. He says that at least eight criminal rings are involved and "making huge profits."

We end by repeating the request we made in the summer. Please write the Animal Welfare Institute about any kangaroo leather products, fur or meat you may see offered for sale.



Credit: The Kangaroo Protection Committee

The meat stays fresher, longer if kangaroos are immobilized with a bullet but not killed. Barbarous cruelties like this are the real scandal behind the kangaroo meat cover-up.

DDT raises its ugly head again

In the United States it was a big threat to birds in its day. The peregrine falcon almost went under. The bald eagle suffered badly. The threat? DDT. Its day? In the US the 1960s and early '70s—but right now in many developing countries.

Zimbabwe, for example, uses 1000 tons of DDT a year. And news comes that the fish eagle—a majestic bird two and a half feet long with a six-foot wing span—is feeling the effects. Last season around Lake

Kariba over half the eggs of 40 clutches examined by game warden Ron Thomson turned out to be 40% thinner than normal. This means—as happened with the American bald eagle—that they will not hatch.

Mr Thomson says that "the fish eagle could cease breeding round Lake Kariba in less than a decade." He also says that in Zimbabwe high levels of accumulated DDT have been found in human breast milk, dairy products, beef and corn.

Gull deaths show all's not well with Lake Mono

Modern man lives by manipulating his environment. In so doing he lives dangerously. Manipulation means change and change, as we well know, can spell disaster for all life. An early warning system is therefore essential and nature provides a ready-made one—birds. Their sensitive organisms respond more quickly than our own grosser clay to disturbances in nature's balance.

This has long been known of course (the miner's canary) and is one reason why birds are good to have around and why their conservation is important. In California this lesson has recently been underlined—in a very sad manner. Please read on.

On the doorstep of Los Angeles lies a fine stretch of freshwater, Lake Mono. But every year it lies a little lower, stretches a little less far and loses a little more of its freshwater freshness. Last spring tragedy struck.

Virtually all the baby gulls which hatched on the islands in Lake Mono died. The gulls feed almost exclusively on brine shrimp. At a critical time for the fledglings the shrimp hatch failed and the young gulls starved. Conservationists and city officials alike were shocked. Laboratory tests had suggested that brine shrimp could tolerate Lake Mono's steadily rising level of salinity—rising as the lake itself steadily sinks.

Did the lab tests lie then? Not exactly. The season's second hatch of brine shrimp survived normally. So why the earlier failure? Because the eggs of the first hatch, unlike those of the second, spend the winter at deep lake levels where (so it is surmised) the water has undergone chemical changes which analysis has not detected.

Which all goes to show that even where stalwart environmentalists and conscientious scientists are in plentiful supply (as they surely are in California!) things can still go dangerously wrong. It has required the tragic death of thousands of birds to tell us that the health of Lake Mono is imperilled.

Californians have got the message. Congressman Norman D. Shumway (of California) has sponsored a bill in the House of Representatives which would establish Lake Mono as a National Monument and thereby ensure exemplary management of "this precious national treasure."

One more heave!

At this year's meeting of the International Whaling Commission in Brighton, England, a three-quarters majority of nations voted that sperm whales no longer be killed and the monstrous "cold" (non-explosive) harpoon be replaced a year from now with a less dastardly device. That is the good news. The bad news is that three countries have filed objections (see page 11) and that yet again the bid to put a stop to all commercial whaling failed. One more heave could do it, though!

Once a tight little club of whaling and ex-whaling nations, the IWC is now more and more being "infiltrated" by those whose philosophy has nothing in common with the view that whales are simply a resource to be exploited. This year there were seven newcomers and six of them clearly believe that whales have an intrinsic right to life and "belong" to all nations as part of our common heritage. (The seventh nation, China, neither spoke nor voted—"this year we learn".)

Thanks to these conservationist reinforcements—with Uruguay, India and Jamaica adding passion and eloquence to the fire-power of their votes—plus some very astute tactics by the more seasoned campaigners, the Japanese were outgunned and also, for once, outmanoeuvred. On the crucial sperm-whale vote the Japanese "bloc" disintegrated.

As always at the IWC, though, the victory had a price tag attached to it. Certain whaling nations asked for, and got, more whales in their next year's quota than the scientific committee had recommended. Peru was given extra Bryde's whales, Iceland and Spain extra fin whales, and even Greenland, via Denmark, was again allotted 10 humpbacks despite landing 13 last year and despite the perilous state of the stock.

Least deserving were perhaps the Spaniards. They may have been helped by the paltry scientific data for their area, but more than one-third of their catch last year consisted of undersized whales. Not only had they flagrantly broken IWC rules but as the US Commissioner, Tom Garrett, pointed out, "Anyone who is familiar with the history of whaling knows that as the stocks approached collapse the percentage of undersized whales in the catch increased dramatically."

Rising over the past four years from 5% to 20% to 29% to 35%, the increase in the Spanish catch of "baby fins" has certainly been dramatic. And with Portugal, still outside the IWC, also taking whales, the north Atlantic stock could be in deep trouble.

As for the Japanese the bitter pill they were forced to swallow was coated with sugar to help it down. They were given 1030 more minke whales than last year and a little bit of hope that a sperm-whale hunt may still be permitted in the north Pacific. The scientific committee will meet next March to assess Japan's claim that stocks in the area are sufficient to allow a quota. But a three-quarters majority is now needed to overturn the new zero ruling.

Golden opinions

One entirely satisfactory aspect of this year's meeting was the performance of the United States. Whereas in recent years the US has been vacillating and even devious, the head of delegation, Tom Garrett, was forceful and straightforward, winning golden opinions from conservationists. While Garrett's lifelong dedication to the saving of whales more or less guaranteed his strong stand, he was undoubtedly helped by the absence this year of an issue which has gravely impaired US effectiveness in the past—that of Eskimos versus bowheads.

However the issue has not gone away; it has just been put to sleep until the 1983 meeting, by which time much research must have been accomplished and hard thinking done to ensure the survival of one of the world's most endangered cetaceans.

It is time to recognize the errors of the past. Available information is inadequate to protect the whales while commercial whaling continues, and it is for this reason as well as others that the United States has proposed an indefinite moratorium on commercial whaling. I urge you to join with us and other people throughout the world to secure the protection of these magnificent creatures and wish you success in your important work.

Ronald Reagan

An extract from President Reagan's message to the IWC.



Excerpts from Statement by Tom Garrett, Acting US Commissioner to the International Whaling Commission, before the House Subcommittee on Human Rights, 22 September 1981.

Prior to the 1981 Brighton meeting, an analysis presented by Greenpeace showed that the quantity of whale meat



Credit: John Domont

Head of US delegation, Tom Garrett

exported to Japan had remained nearly constant for the years 1979 and 1980, at around 4,000 tons per year. This appeared to corroborate reports that the Spanish whalers were exceeding their 1980 maximum of 240 whales.

Although Spain denied killing in excess of the 1980 quota, they did release statistics showing a rapid rise in the percentage of undersized whales taken, reaching almost one third of the total 1980 catch.

The Scientific Committee produced three conflicting quota recommendations for this population for the 1982 quota: one for zero, one for 137 (the average take for the period 1968-77), and a third for 210 animals. The Spanish Commissioner requested 240 whales. Eventually a quota of 210 fin whales was adopted. All American scientists present believed that the increasing kill of immature animals may reflect a lack of enough mature animals to make up the quota and might indicate changes in population structure similar to those preceding the collapse of the Antarctic and the North Pacific fin whale stocks. We should continue to monitor this situation carefully.

Humane killing

Humane killing was a major substantive concern during the Brighton

continued page 4

Friends of the whale



Credit: John Domont

Congressmen Pete McCloskey and Don Bonker, stalwart supporters of the whale, confer at the IWC meeting in Brighton, England.

Garrett—continued

ing. After much discussion, the IWC agreed to accept a ban on the use of non-explosive harpoons for minke whales beginning with the 1982-83 pelagic season and 1983 coastal season. However, any of the affected countries may file an objection and we must have a course of action in mind to meet this possibility. The other whaling nations concerned may be looking to the Japanese to provide the technology needed for compliance. There is a general feeling that the Japanese can develop an efficient explosive harpoon for minke whales which will not destroy a large amount of meat.

The reaction of Japan and other whaling nations to the events at Brighton depends in some measure on what we do. Japan, in particular, may not want to risk losing the fish it catches in the eastern Bering Sea and Gulf of Alaska for a few hundred sperm whales.

I would expect Japan to initiate dis-

cussions soon with conservationist countries, particularly with the United States, about the future of whaling. If we are prepared to bargain at high levels of government, it may be possible to lay the groundwork this year for a phaseout of commercial whaling.

This year worldwide sentiment against whaling was felt as never before in the Commission. At the same time, with concern over juridical zones intruding increasingly into the policies of the various nations, the future of whales may yet become hostage to "larger concerns." If this is a time of hope for bringing commercial whaling to a close, it is also a time of considerable peril.

I believe that our nation will stand firm on our policy of opposition to commercial whaling, enunciated in the President's letter to the 1981 IWC meeting. I believe that many of the other governments will stand by us and that together we will prove equal to the challenge.

Japanese Whalers at the Buddhist Temple

The chief priest, wearing a canary-yellow robe and with his head shaved, began praying: "Release their souls from agony. Let them go over to the Other Side and become Buddhas." Then he and the other priests chanted, on and on, hypnotically. . .

Finally the chief priest delivered a short homily: "I am pleased that you have chosen our temple for this service. I used to eat whale meat in the army. And so I feel very close to whales." The reference to

whales was not out of place, since this service was attended by employees of Japan's largest whaling company. The souls they prayed for were those of the whales they had killed. . .

Had the service been an act of genuine Buddhist piety and not a sham, the whalers and company officials would have repented of their innumerable violations of the first Buddhist precept of not killing, they would have prayed to Kannon, the bodhisattva of compassion, for forgive-



Greenpeace charge

Greenpeace has charged that last November in Japan a baby humpback was hacked to death for its meat. From a photograph of the remains, whale biologist Robert Brownell was able to verify the species. Greenpeace has protested strongly to the Japanese; the highly endangered humpback has been officially protected by the IWC since 1966.

Justice catches up

On 19 July 1978 a crew member on board the purse seiner *Repulse* amused himself by shooting repeatedly at a humpback whale. Two and a half years later justice caught up. Two men from the US Forest Service had spotted the outrage and reported it. On 13 February 1981 in Anchorage a federal judge fined the owners and operators of the boat a hefty \$15,000 for a "heedless and senseless" violation of the Marine Mammal Protection Act.

Martita dances

From *The New Haven Register*, 9 August

Martita Goshen, who has toured the world on behalf of the Animal Welfare Institute and the Cousteau Society, creates dances in homage to near-extinct wildlife. Her hope is to influence mankind in the preservation of endangered species. And well she might, judging by the effectiveness of her choreography.

Especially remarkable was her depiction of a wolf's frantic flight in a wilderness invaded by hunters safely packaged in planes. Transversing the enormous stage in high-speed runs, she evoked the terror of the helpless animal who is mercilessly shot down.

Tragic, too, was the fate of a harpooned whale. Projecting an uncanny illusion of the immensity of oceanic space, the dancer poignantly enacted the whale's slow expiration as explosive harpoons ripped its interior.

ness; and they would have pledged to cease the further slaughter of innocent whales. . .

But of course none of this took place. As for the Buddhist priests who lent themselves and their temple to this charade, motivated no doubt by visions of a large donation from the whaling company, their actions speak eloquently of the fallen state of Japanese Buddhism today.

Extracts from *To Cherish a Life* by Roshi Philip Kapleau.

"It takes outlaws to stop outlaws"



Sea Shepherd II, the whale conservation vessel, entered Siberian waters last August—and came out again with a Soviet "escort" and photographs that brand the Russians as liars to the IWC. Pleading the subsistence needs of Siberian aborigines, the Soviets have for many years been granted an annual quota of around 200 gray whales "exclusively for native use." But whale conservationists have for some time had nasty suspicions—which have now turned out to be nasty facts. In the following article Eric Schwartz, one of the crew of Sea Shepherd II, explains.

"Sometimes it takes outlaws to stop outlaws", says conservation activist, Paul Watson. Long dissatisfied with the traditional weapon of petitions and protests, Watson was the man responsible, as skipper of Sea Shepherd, for the ramming and sinking of the notorious pirate whaler, Sierra. Now he has turned his sights on the Russians.

Sea Shepherd II, skippered by Watson and with an international crew of 8 women and 21 men, left Glasgow, Scotland, last April. Four months and 14,500 miles later this ex-North Sea fishing trawler entered Russian waters west of Alaska. The aim? To stop the Soviet killing of the gray whale. The plan called for documenting illicit Russian operations and, if possible,

finding the commercial whaleship Zevezdny and putting her out of action.

Undetected, or at least undeterred at the start, Watson and crew searched briefly for the Zevezdny. Unable to find her they then steamed to the small Russian port of Loren. Here, Watson suspected, the Russians slaughtered the whales and fed them to minks on nearby farms.

Into a bay teeming with gray whales Watson and two other crew members were lowered, striking out for the shore in a small rubber boat. On arrival they found women carving whale meat, while on a hill above stood a mink farm within a conveyor belt's reach of the slaughtering area.

Soldiers, assuming they were Russian, stood casually on the beach as Watson and company photographed the operation. Watching them drift to within 15 feet of the shore, the soldiers began to wave, motioning them to land. They were within easy shouting or shooting distance and Watson jovially, in English, asked them what they wanted.

Startled by the revelation that the crew was not Russian, the soldiers ran—the three raced back to the ship—and events began rapidly unfolding.

—The lookout in the crow's nest spotted a helicopter gunship in the distance.

—Word reached the ship over the ham radio that the Kremlin had sent a diplomatic note to the American embassy in Moscow, informing them that the Sea Shepherd crew would be arrested for espionage. The American State Department immediately declared that they were maintaining an "observer's status."

—Another helicopter arrived.

—A ship appeared in the radar and sped toward the Sea Shepherd. The captain pronounced it a warship capable of doing three times the Sea Shepherd's speed, and decided to turn back toward the border.

Amid diving helicopters and a maneuvering warship a thick Russian accent came through the radio: "Sea Shepherd! Stop immediately!"

Saved by a whale

"Stop killing whales!" shouted back Watson, and as the crew looked toward the Russians and prepared for the worst, a whale surfaced between the two ships. It swam steadily between them, as if drawing with its body the line of a truce.

Almost immediately the Russians stopped dead in the water. They seemed uncertain what to do next. They dropped back further. The helicopters disappeared. The Sea Shepherd re-entered American waters.

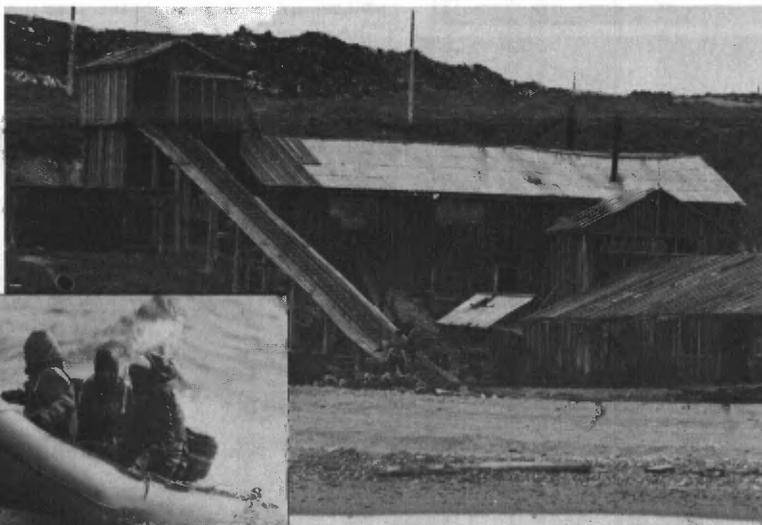
Two additional forays were made into Siberia in search of the Zevezdny. On the third mission two warships blocked the Sea Shepherd's path; running short of fuel and provisions, Captain Paul Watson decided to call it quits.

Watson calls the mission "80% successful" and plans to take the photographic proof of the Russian operation to the infractions committee of the IWC.

"If this is true," said Tom Garrett, head of the US delegation to the IWC, when the Soviet operation was described to him, "it certainly makes liars out of the Russians." Garrett said that when the IWC meets next summer in England the US will ask that international observers be allowed to visit that Siberian area.

"Two months before this mission," said Watson, "no one knew for certain that the Russians were hunting gray whales commercially. Now the world knows, and if international pressure is brought to bear the IWC will respond and the Russians will be forced to stop."

Finding no shortage of challenges, Watson and his Sea Shepherd crew will plow on. In February the ship will reach Iki island, Japan, and confront Japanese fishermen who spear and club dolphins to death annually.



Credit: Sea Shepherd Conservation Society, Los Angeles, CA

Here in Loren, Siberia, slaughtered gray whales are landed and women carve up the meat. On a hill above stands the mink farm. Inset: Watson and two companions, cameras at the ready, head for the shore.

Lab animal hearing—continued

He presented photographic evidence and answered many questions by different members of the Subcommittee.

The NIH grant has now been suspended following an extensive investigation by NIH. Dr William Raub, Associate Director, testified following Pacheco. He stated that NIH had a written assurance from the Institute for Behavioral Research that it was complying with NIH guidelines, but admitted that there is "no mandatory site visit" and "no regular site visit" by NIH. However, site visits two and three years ago on research applications from the laboratory indicated that



Photo: Alex Pacheco

that they will fulfill their duty?" He further asked, "How non-involved, how disinterested do your own guidelines require a committee to be?" Congressman Bob Shamansky (D. OH) commented that the "paper looked good" and characterized current NIH responsibility for animals used in research it financed as "a non-system hiding behind a paper curtain." Asked by the Chairman, "How do you define and quantify suffering of animals" and what the NIH criteria for undue suffering were, Dr Raub passed the question to Dr Joe Held, D.V.M. of NIH, who said "In the bulk of biomedical research, there is no pain or suffering" and characterized assessment of suffering as "almost entirely subjective."

Following the NIH testimony, the Department of Agriculture requested that there be no interrogation concerning the Silver Spring case because "the Department became a party to proceedings in court." Thus the Department's total failure to rectify the appalling abuses in the laboratory was not examined at the hearing.

Animal welfare testimony

Next to testify were representatives from animal welfare groups and research bodies. Nearly half the animal welfare spokesmen were trained scientists; not one of the researchers was associated with any humane group.



Photo: Alex Pacheco

Silver Spring laboratory. The contents of the one and only refrigerator for medicines and "fresh" fruit (rotting apples).

the facility was "satisfactory." The Chairman asked, "How many laboratories are under your close surveillance nationwide?" Dr Raub answered that NIH has assurances from 650 laboratories which it funds throughout the country and that "only a handful" had been found not to be in compliance.

The Chairman asked whether the makeup of IBR's Animal Care Committee raised any eyebrows. "Do they make any representation

"Under present circumstances a research scientist can do whatever he or she wants to do to an animal, regardless of whether or not it is likely to cause great pain and suffering. . . . The cost of not passing this legislation is continued abuse of animals and widespread suffering in laboratories and research facilities." Dr Michael Fox

Dr Jay Glass of the University of Pittsburgh School of Medicine stated: "Individual researchers, be they students or full professors, function with complete freedom to treat their animals as they see fit. Upon whose shoulders then falls the responsibility for ensuring humane treatment of research animals? The answer is the most beleaguered person at a research institution, the veterinarian. The vet's primary job is to keep up a constant supply of cats, dogs, monkeys, etc. for the scientists. The M.D. or Ph.D. superstars are breathing down his neck daily to keep the supply of animals coming. He has little time to monitor how these animals are actually used. In the hierarchy of a medical school, the vet is low man on the totem pole. To challenge a faculty scientist bringing in a million dollars in research funds would most probably cost the vet his job."

Dr Michael Fox, Director of the Institute for the Study of Animal Problems, said: "We enthusiastically endorse the provisions of H.R. 4406" as a bill which "strives to strike an acceptable balance be-

tween the needs of scientific research and the concerns of the mainstream animal welfare movement."

Dr Andrew Rowan, on behalf of the Scientists Group for the Reform of Animal Experiments, pointed out that current regulations requiring tests on animals are "not good science." He called for incentives to encourage the development of non-animal tests. The call was echoed by Congressman Fred Richmond, long-time champion of alternatives legislation. He urged that "whenever possible the federal government develop and use tests that do not use live animals."

Donald Barnes, who publicized cruel government experiments, was fired, then reinstated, then quit, emphasized that only about 50% of experiments on animals are published in scientific journals.

Nancy Payton, speaking for the Massachusetts S.P.C.A. in support of H.R. 4406, cited laws in Denmark, England, Norway, Sweden, Switzerland, France, West Germany, The Netherlands, Italy, Finland, and Luxembourg regulating animal experiments. She recommended addition of two members of the public with animal welfare qualifications to the institutional animal care committees required under H.R. 4406 to review protocols for experiments on animals.

Henry Spira, whose successful coalition against the Draize test brought about almost \$2 million of funding from commercial concerns for research to develop alternatives, testified: "There is increasing concern about experiments involving deprivation, learned helplessness, electric shock, radiation, and aggression. These are being perceived as massive public works programs for dull Ph.Ds."

"After the public had found out what was happening at the Institute for Behavioral Research, in the Congress' backyard, the NIH cut off

the funding within the month. This needs to become the pattern. Congress appropriates the funds and must demand accountability from the funding agencies."

Spira proposed that the General Accounting Office investigate behavioral research on animals; that the "National Toxicology Program and all other regulatory bodies immediately organize high-level task forces to develop and validate batteries of non-animal systems to replace current animal tests;" that NIH promote efforts to replace animals or reduce their use following the patterns already established with the Diabetes Committee (Public Law 93-354) and nutrition research.

Congressman Vin Weber (R., Minn.) asked if a reduction in the numbers of animals used was occurring. Mr Spira cited the October 1981 issue of MD magazine, which states that in 1958 20 million animals were used; in 1978 the number had risen to 90 million. An increase in income for Charles River Laboratories was given as 34%.

Society for Animal Protective Legislation testimony presented by Christine Stevens cited the problem of secrecy. The Subcommittee was supplied with "a copy of a report which NIH itself prepared and then suppressed. . . it is a substantial 210-page publication prepared at public expense. It was an objective study to which all interested parties were able to contribute, but NIH did not wish the Congress to have this information."

Mrs Stevens, urging the Subcommittee to authorize funding for development of alternatives, said: ". . . the world's biggest breeder of mice, Charles River Laboratories, has a \$6.4 million government contract, 1980-1983 to operate a 'Primary Genetic Center for Rodents in Biocontaminant Environments.' This is just one single contract paid

from tax funds to a company which is making fat profits from extensive sales to non-government enterprises. In contrast, no tax funds at all have been allocated for the specific purpose of replacing animals in tests or reducing the numbers required, and this despite the fact that those which have been developed are far less costly in both money and time."

Citing the AWI paperback book, *Physical and Mental Suffering of Experimental Animals, A Review of Scientific Literature from 1975-1978*, copies of which were supplied to each Subcommittee member, she also referred to a paper from the August 1981 issue of *Experimental Neurology*, which described cats placed in stereotaxic instruments after extensive surgical interventions. General anesthesia was discontinued, and the animals were paralyzed with only local anesthetic on the wounds, then seizures were induced by blowing up bal-

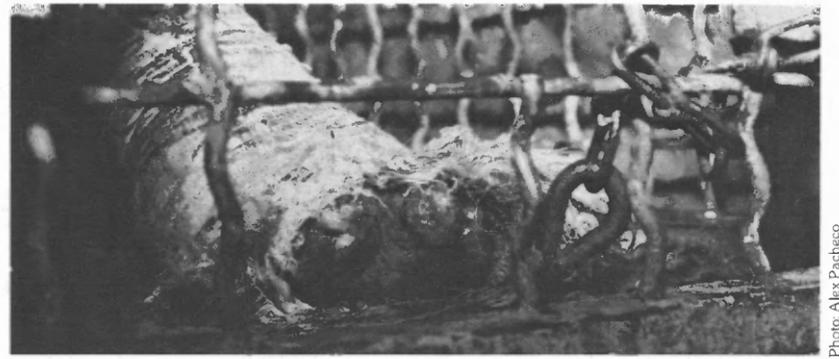


Photo: Alex Pacheco

Silver Spring laboratory. Self-mutilation of a deafferented limb; this macaque, in frustration, has bitten off its toes. What protection now for the mutilated limb? Only the tattered remnants of a dirty bandage.

loons which had been inserted in their stomachs. The animals could not move or cry out to show pain or fear.

To protect against suffering which cannot be detected, the following amendment to H.R. 4406 was suggested: "If local anesthetics are used, the animal must be able to behaviorally demonstrate the presence of pain (paralytics may not be present)."

Congressman Judd Gregg (R., NH) asked for suggestions for amendments to H.R. 4406 and made the valuable suggestion that, instead of merely authorizing personnel who observed abuses to

report them to the authorities without fear of losing their jobs or prejudicing their advancement, a provision be added making the reporting of animal mistreatment mandatory.

Dr Ernst Knobil, representing the Federation of American Societies for Experimental Biology, and Dr Edward Melby, speaking for the Association for Biomedical Research, expressed support for H.R. 220 which would authorize \$12 million to promote the development of non-animal methods of research, experimentation and testing. But Dr Gerald Levey, spokesman for the American Association of Medical Colleges, opposed it, saying "Although the trail may be obscured, the 'alternative methods' money will surely be found by reducing NIH program funds."

The American Psychological Association represented by Dr Perrie Adams urged postponement of any action on the pending bills.

Asked by Minority Counsel how many cases had come before the APA's ethics committee, Adams indicated only two or three instances in the three years since the committee was formed. To an inquiry about follow-up action he said: "There was not enough evidence to pursue" in any of the cases, so activity by the Association was confined to "correspondence back to the person who referred it to us." Counsel noted that in the Silver Spring case "You couldn't say you couldn't substantiate the evidence." The Chairman said he would look forward to the Association's proceedings in the case.

British MPs want an end to factory farming

No more hens in battery cages, no more sows in close confinement, no more calves in crated stalls. After examining from every angle the thorny issue of animal welfare in factory farming, this is what an all-party committee of British MPs is demanding for Britain (and for Europe). Not immediately but soon. And with a combination of new laws and financial suasions to bring it about.

Over many months the MPs visited different farms practising different systems, and interrogated both the "industry" and welfare bodies. In July came their report. It is a radical document. Sharply critical of intensive practices, it endorses a great many of the proposals championed by animal campaigners.

Hens: The report calls for battery cages to be phased out over, say, a 5-year period. Thereafter no battery eggs should be produced and imports of such eggs should be banned. In the meantime the number of birds in each 20" x 18" cage (a widely used size) should be cut from the present four, five, and even six to three. A new law should prohibit beak-trimming except as "a last resort" and then only by a skilled operator.

Contrary to popular belief and farmers' propaganda "the cost of producing eggs in

Today animal welfare is receiving more attention, but we have a feeling that it is still regarded as a tiresome complication engendered by vocal sentimentalists who need to be placated at minimum cost to producers' profits. To the extent that this is true, it is high time for a change of attitude.

strawyards or on deep litter or wire-mesh floors would be only some 20% more than in normal 5-bird cages." This translates to about 12½% extra in the shops—hardly a decisive obstacle to change, especially in view of a Gallup Poll finding that 63% of British women would be prepared to pay more for non-battery eggs.

A switch to a totally free-range system was not recommended, though. Besides costing appreciably more, it would eat up a great deal of land—"more than the county of Berkshire."

Pigs: The MPs found that while pig systems are many, none is a clear-cut winner on welfare grounds. All the same "we

Taxation policy should avoid encouraging undesirable methods of husbandry. Grants and other financial incentives should be used positively to encourage better methods.

cannot bring ourselves to regard close confinement of sows by stalls or tethers throughout their pregnancies—that is, for most of their adult lives—with anything but distaste." The report therefore urges that "financial grants be so directed as to provide positive support to producers using

the 'small-group' system; they should not be given to those using close-confinement methods."

Pigs housed indoors should always have access to a bedded area and should not be

Ministerial and official thinking should give more weight to animal welfare than seems to have been the case hitherto.

kept in total darkness. Castration should be forbidden and tail-docking discouraged. The welfare aspect of very early weaning (nearly 40% of piglets are weaned at under 4 weeks old) should be thoroughly investigated. Sows in close confinement should be given some plaything to relieve frustration and boredom, "even if it is no more than a few bits of straw, a chain or an old motor tyre."

Calves: For veal calves the MPs say that "the evidence is overwhelmingly in favor of the loose-yard system: not only was it advocated by the welfare organizations and the vets, but despite some reservations in their oral evidence the Farmers' Union told us unequivocally in writing that

Society has a duty to see that undue suffering is not caused to animals, and we cannot accept that that duty should be set aside in order that food may be produced more cheaply. Where unacceptable suffering can be eliminated only at extra cost, that cost should be borne or the product foregone.

they 'would actively advocate an adaptation to this system in the future. . . . No grants of any kind should henceforth be made to facilitate crated production."

In effect this section of the report amounts to a ringing declaration in support of Volac, the company which has pioneered the loose-yard system in Britain and which sells its produce under the brand name Quantock Veal. The essential features of the system are that the calves are housed in groups of up to 40 in strawyards, protected by naturally ventilated buildings, with access at all times to liquid feed and water and freedom to consume

roughage. (For a picture of Quantock calves in their spacious home, see the Spring 1981 issue of the AWI Information Report.)

The MPs also want "labelling which makes clear the method of production" and a ban on exclusively liquid feed for calves.

There is inevitably a European dimension to this whole issue. As a member of the European Economic Community, Britain is committed to "the freedom of movement of goods." This means that Britain cannot forbid the import from EEC countries of, for example, battery eggs, whatever its own internal legislation on the matter. The MPs' report says, though: "This does not mean that the UK Government and producers should hang back or drag their feet; on the contrary we think

The authorities should be ready to prosecute not only cases of wilful or persistent disregard of the law but also cases of neglect or carelessness in which exemplary consequences would have a useful deterrent effect.

that they should give a strong and sustained lead towards eliminating undesirable practices and achieving the highest attainable standards of welfare."

As it happens there is a golden opportunity for giving just such a lead right now. During the final months of this year Britain's Minister of Agriculture, Peter Walker, is also the chairman of the EEC Council of Agriculture Ministers. This gives him the authority to write the ministers' agenda. It is a rare chance to exert influence.

Statements in bold type are taken from the House of Commons Agriculture Committee's report on Animal Welfare in Poultry, Pig and Veal Calf Production.

Meanwhile in the US . . .

The US Department of Agriculture is spending \$380,000 on a 2-year study of farm animal care. The study is primed by the growing awareness that animal welfare and productivity are very closely linked. It is widely acknowledged that stress can lead to slower growth, loss of weight and greater proneness to disease.

Research will focus on intensively raised poultry, veal calves and pigs. One of the centers of research is the University of Minnesota where behavior of sows in and out of farrowing crates will be investigated.

The rain of death

That "gentle rain from heaven" of which Shakespeare spoke is not what it used to be. Over large tracts of Earth the rain that rains is acid rain, sulphur dioxide pumped into the atmosphere by coal-fired power stations and descending again as a most ungentle part of normal rainfall.

Under this rain of death crops fail, trees wither, and life in river and lake and pond slowly chokes. Moreover the acid that rains on one country often originates in another. The "fall-out" thus transcends domestic politics.

In Europe the Swedes, sourly aware that foreign industry is much to blame for the sad state of their once so fish-rich lakes and streams, are hosting an

Almost everything is down. Everything. Acid rain affects the birds that feed on fish, the fur-bearing animals that feed on fish. The way I look at it, everything in nature is dependent on food, and when you reduce the food supply for those birds and animals, it affects other birds and animals that aren't directly dependent on aquatic insects and fish.

The snowshoe rabbit is down, the fox is way down, deer are down, way down, the bobcat is down, the raccoon is down. Even the porcupine is disappearing. Bear is fairly plentiful but of course a bear is like a pig. It will eat anything from bark to garbage. Frogs and crayfish are way down. Kingfisher, osprey, gulls, they're all down. The loon has disappeared...

You don't see fish jump anymore. There are no fish to jump, and even if there were, there'd be no insects to make them jump. It gets to a point where you're going to have to play God again and start all over by making the environment comfortable for the littlest insect.

This statement comes from Bill Marleau, forest ranger for 33 years in the western Adirondacks in upper state New York. He is quoted in the article *An American Tragedy* by Robert H. Boyle in *Sports Illustrated*, 21 September 1981.

international conference on acid rain next spring. On the American continent a Canadian government study complains that Canada, especially the provinces of Ontario and Quebec, is importing 27.5 million tons of sulphur dioxide a year from its southern neighbour, and that before the century is out 48,000 lakes north of the border may die.

The United States is also concerned. And the concern is not just diplomatic. In many northern and northeastern States rainfall is 40 times more acid than it should be. In the Ohio Valley crops are being seriously damaged while in the Adirondack Mountains half the high-altitude lakes no longer have fish and many of the plants have died too.

Earlier this year a joint US-Canada government work group published an "interim report" on the destructive effects of acid rain. The Washington-based Environmental Defense Fund has issued its own summary of this report and has pointed out that "entire ecosystems are threatened." The Fund calls for "action now to curtail sulphur dioxide emissions."

Birds suffer too

Not only are fish the most prominent victims of acid rain but restocking may well be impossible. Fresh-water fish populations are often genetically distinct, having adapted to local conditions. Even if acid levels decline, replacements may not survive. And certainly they will not survive if acid rain has expelled essential elements from the water. The case for "action now" is therefore a very strong one. Irreversibility, no less than extinction, is for ever!

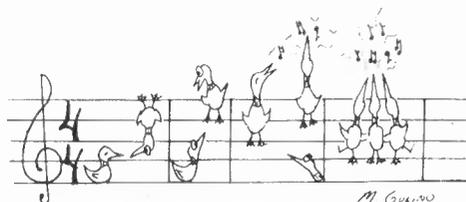
As well as fish, many frogs, toads and salamanders also find reproduction impossible in acid waters. The mammals and birds which feed on fish and amphibians are thus hit too. Among vulnerable mammals are mink, otter and muskrat. Among vulnerable birds are many varieties of duck and merganser, the great blue heron, the belted kingfisher and the common loon (which is now very rare).

Acid rain kills not only by preventing

reproduction but also by releasing toxic metals buried in the soil of lake or forest. In northern Germany aluminum salts, released in this way, are poisoning the roots of trees. A beech forest there is considered to be doomed and a spruce forest unlikely to survive.

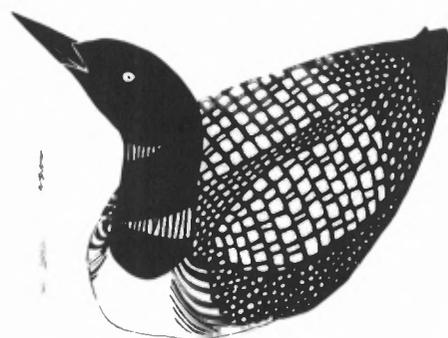
The US National Commission on Air Quality says that a 40% cut in sulphur dioxide emissions—equivalent to 7 million tons a year—could be achieved by 1990 and would put less than 2% on consumers' bills. That's surely a tiny price to pay for so great a gain!

For further information on the destructive effects of acid rain, write to: Environmental Defense Fund, 1525 18th Street, NW, Washington, DC 20036.



Voices of the loon

The song of the loon is a many-splendored thing: yodel, hoot wail, tremolo and combinations thereof. The loon delights in solos, loves duets and hugely enjoys chorusing with his own kind and even with other kinds (coyotes, for example). *Voices of the Loon* captures it all on record, price \$9.00 post free from National Audubon Society, 950 Third Avenue, New York, NY 10022 or from North American Loon Fund, Meredith, NH 03253. Profits will go to management of the common loon plus research and education.



The common loon is now very rare.

Keep coyotes away with big animals...

Poisons, traps, guns—these are the time-honored weapons for protecting sheep from coyotes and dogs. But the weapons, besides being cruel, are neither selective nor effective and today they are being sharply questioned not just by softhearted animal lovers but by hardheaded sheep farmers. Surely there must be a better way?

Yes, there is—large guardian animals living with the flock. George Heinlein, a professor of animal science at the University of Delaware, champions the donkey. He has been rearing donkeys with his goat herd since 1957 and maintains they need less training than dogs and are more trustworthy. Another champion of donkeys is sheep farmer Tim Morris of Reisterstown, Maryland. He has 75 donkeys guarding his 2000 ewes. "Since we've had the donkeys in the field I don't think we've lost a single ewe," he says—adding that of the 75 maybe seven or eight, "the most aggressive ones," do all the protecting.

Meanwhile in Morton, Wyoming, sheep farmers John and Betty Lye are seeking help from an unlikely animal—the South American llama. This bold experiment began last year. Keen-sighted and inquisitive,

the llamas, when in the right place, proved adept at scaring off marauding coyotes. They simply spat and the coyotes vanished.

But llamas and sheep did not easily mix, probably because they had not been reared together. So there were still some losses. This year a baby llama was raised with the new-born lambs. During the summer it grazed alongside the sheep and the coyotes kept their distance!

... or a little conditioning!

An entirely different means of curbing coyote predation is by what the psychologists call "taste aversion conditioning." In essence this consists of baiting dead sheep with some mildly toxic compound, so giving the sheep-devouring coyotes a disagreeable emetic and (it is hoped) a strong disinclination to touch mutton again.

Some very interesting field work along these lines has recently been done in California—under the direction of the Department of Psychology, California State College, San Bernardino. The com-

monly used was lithium chloride and from fairly extensive trials it seems clear that the method works. Although sheep killings did not drop to zero (a conditioned aversion to sheep carcasses may not always carry over to live animals), they were very significantly down on former levels. The case for "aversion therapy" is a strong one—made all the stronger by the very similar findings of a recent 3-year study in Saskatchewan, once again using lithium chloride.

The Californian psychologists make the telling point that sheep farmers often unwittingly encourage coyote predation. They go on to say, though, that this bad habit can easily be turned to good account. "It is a common practice for sheep herders to discard their dead sheep in close proximity to their herds, thereby 'setting a table' for roaming coyotes and ensuring that they acquire a taste for mutton. It is our contention that this harmful practice can easily be turned to the advantage of the sheep farmer by simply injecting the discarded carcasses with a solution of lithium chloride."

It is a solution which works!

References: *Behavioral Biology* 20, 91-95 (1977), *Behavioral and Neural Biology* 29, 532-536 (1980) and 31, 214-224 (1981).

RANCHER SPEAKS OUT ON 1080

The whole problem with 1080 is that a carcass cannot be treated with this poison so that it will kill only coyotes. It kills most of our meat-eating mammals and a lot of birds. Right now in Wyoming we are losing a lot of wildlife habitat to mineral development. We sure don't need to impact our wildlife further with poison.

If poison had ever solved any problems there might be some argument.

But it hasn't. Even when several kinds of predator poisons were being used, with hardly any restrictions, sheep ranchers continued to go out of business and sheep numbers went downhill. Poison isn't going to solve a lot of economic problems that must be solved if the sheep industry is to make a comeback.

Along with other predators, coyotes can be a real asset to help con-

trol rabbits, ground squirrels and other rodents. Some winters my haystacks have fed 30 rabbits for every cow I was feeding. My ditchbanks are honeycombed by ground squirrels. Without the predators things could get much worse.

Testimony of Eugene Hodder before the EPA hearings on predator control, 29 July 1981.

Book

First Aid and Care of Wild Birds

David and Charles, 1980, North Pomfret, VT 05053, \$28.00

edited by J.E. Cooper and J.T. Eley

Birds are a crucial and integral part of our ecosystem and heritage. *First Aid and Care of Wild Birds* gives us great insight into their illnesses and injuries and how best to treat them. It is an excellent resource book and an invaluable tool in the emergency room/laboratory environment. Much care has been given to detailing the measures to be employed from the initial encounter with the sick or injured bird to the time when it is ready for release back into the wild. Written for both the scientist and layman, this is the ultimate bird care book.

Ralph T. Heath, Jr, Director
Suncoast Seabird Sanctuary, Inc.

Periodical pleasures by John Gleiber

Those long winter evenings will be here before you know it. You might consider turning off your television set and settling down with "Humpback Whales", *A Catalogue of Individuals Identified by Fluke Photographs*. The individuals are, I hasten to add, whales, and there are 108 pages of photographs of flukes (with 10 photographs to a page) for you to study, restudy and identify. There is an index at the back for you to either check your scores or just peek a little. This is the second edition (I'm just getting round to it) and is published by the College of the Atlantic, Bar Harbor, ME 04609. The price is \$10.00.

For sheer professionalism, it would be hard to beat, or even match, *The National Fisherman*, a monthly (semi-monthly in

April) magazine published by Journal Publications of 21 Elm Street, Camden, ME 04843 at \$1.50 per copy. It is invaluable for the clear picture it presents as to just what is going on in the fishing industry today. For example, it kept us current on the ways the tuna industry coped with regulations regarding seining and showed that the industry, far from collapsing into economic ruin, as their spokesmen direly predicted, actually flourished.

The Orion Nature Book Review of which we wrote so glowingly such a short time ago ceased publication with the October issue. Associate Editor Aina Niemela (a name to turn the hair of a copy editor snow white) writes "Costs do not permit us to continue the publication." Alas!

Around the wicked world

JAPAN, NORWAY and ICELAND filed objections 9 November to the cold harpoon ban set during the 1981 IWC meeting, and Japan filed an objection to the sperm whaling prohibition. Significantly, the Soviet Union, South Korea and Brazil did not file cold harpoon objections although they take large numbers of minke whales. Because other countries did object, however, they have an additional 90 days to file on the cold harpoon.

COLOMBIA is a new member of CITES—with effect from 29 November. This should mean an end to the huge exports of wild animals, often accompanied by forged documents. (Last December 3000 caimans arrived in ITALY bound for a captive-breeding farm. Within three months nearly all had died from neglect and malnutrition.) For many years Colombian laws protecting wildlife have been strict—on paper. But the country's conservation agency *Inderena* has apparently been powerless to enforce them. Customs officers at Barranquilla airport have not even allowed *Inderena* officials on to the runway!

MONGOLIA now includes the snow leopard among permissible game. The government is eager to attract rich foreigners who are not fussy about tourist facilities. Snow leopards live in the High Altai in eastern Mongolia. Any of three firms, two in the UNITED STATES and one in WEST GERMANY will take you there—in the company of hunters and for \$50,000.

LEBANON was responsible for a depressing non-event last year. In countless eastern European villiages the eagerly awaited storks, harbingers of spring, never arrived. On their long migrating journey from southern Africa they had got no further than Lebanon. There thousands were massacred—apparently for their beaks. But what is the value of stork beaks?

JAPAN, according to Friends of the Earth, Tokyo, is pushing the Himalayan

musk deer ever closer to extinction. Poaching, smuggling and corruption, financed by Japanese interests, is active in and around Nepal—which banned all trade in musk in 1973. When Japan ratified CITES last year, it took out a "reservation" on this Appendix I species and continues to import Himalayan musk to the tune of some 30,000 animals a year.

Fur imports to Japan are booming mightily. In the fashionable salons most of these furs come from wild animals ("wild" equals "better" to Japanese customers). Highly endangered species of leopard and tiger are especially prized.

So Polish horses must go west— but need they suffer?

Every year thousands of Polish horses are transported by rail and road to slaughterhouses in Italy and France. (The meat shortage in Poland takes second place to the government's desperate quest for hard currency.) From start to finish the journey can take days, during which time watering facilities are often very poor and veterinary care rudimentary.

Last March inspectors in the West German town of Bebra, just over the border

CHINA'S official New China News Agency quotes scientists as saying that half of the country's 130 endangered species are on the verge of extinction because of reckless killing and exports. The scientists ask for stricter laws and an educational program aimed at the hundreds of thousands of Chinese "commercial" hunters. Last year a peasant convicted of shooting a giant panda was jailed for 18 months.

SOUTH AFRICA is permitting cheetah skins to be sold openly in curio shops in Johannesburg, according to World Wildlife Fund, Kenya. And a Transvaal farming magazine advertises cheetah trophies ("vermin") for \$480.

from East Germany, carried out a spot check on a newly arrived consignment of 78 horses bound for France. Several of the animals were found in urgent need of attention. On this occasion (for once) they got it.

Abuses will only cease when the live trade is stopped. Horses due for slaughter should be killed in their own country and then exported in refrigerated cars.

Good bird business— for a change!

Zimbabwe, a new recruit to CITES, has banned all commercial bird exports pending revision of the country's wildlife laws.

Ecuador has banned the commercial export of all birds with the exception of 38 species which are subject to quota controls.

Bahrain, in response to information about the re-export of Australian parrots, now requires ministerial approval for the export of all live birds.

Back to the Jungle

In May 1980 two chimpanzees and one pygmy chimpanzee were discovered by West German border officials in a sack in the boot of a car which was coming from Belgium. The driver was charged and the animals, in a piteous state, were freed and taken to Frankfurt Zoological Gardens. The pygmy chimp had a broken arm and was barely alive. The two chimpanzees were extremely thin and in very poor health.

Not until 16 months later did the case come before the courts and until then, on

continued page 12

Animal Welfare Institute

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Ivory artdealer "agrees" to fund elephant campaign

Undercover investigations led to the seizure of 300 ivory carvings, valued at \$1 million, at the Stanley Masry Gallery in Los Angeles. The collection violated California's Endangered Species Act. As well as paying a \$5000 fine and forfeiting his collection, Masry agreed—as part of his no-contest plea—to pay \$1500 for an advertising campaign denouncing the slaughter of elephants and also to give \$3000 to the city to set up public display booths at the County Zoo and Los Angeles airport. The display will make plain that the ivory was yanked from the heads of slain elephants—and will be seen by visitors from all over the world to the 1984 Olympics.

Jungle—continued

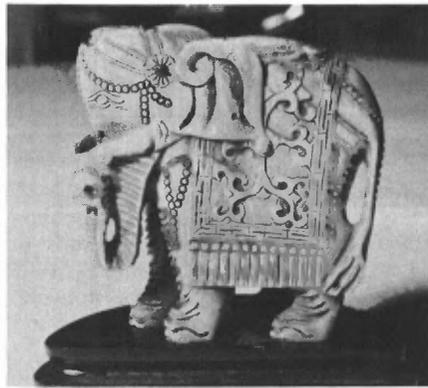
the order of the CITES authorities, the animals remained at the zoo. In that time they fully recovered, tripling their weight and again becoming vivacious young apes.

Now the two chimps are "home" once more. On 25 September they returned to The Gambia. After a period with Stella Brewer's Chimpanzee Rehabilitation Project they will be released into the wild. The future of the pygmy chimpanzee is still unsettled. His native land is Zaire but a suitable rehabilitation center does not exist there.

Animal Welfare Institute
P.O. Box 3650
Washington, D.C. 20007

In view of its greatly increased coverage and size, the AWI Information Report is celebrating its thirtieth year of publication with a new name, *The Animal Welfare Institute Quarterly*.

This may be
beautiful. . .



Credit: Los Angeles Police Dept., Los Angeles, CA

This ivory elephant from the Stanley Gallery was one of many carvings seized by the Los Angeles police.

but it cannot
excuse this



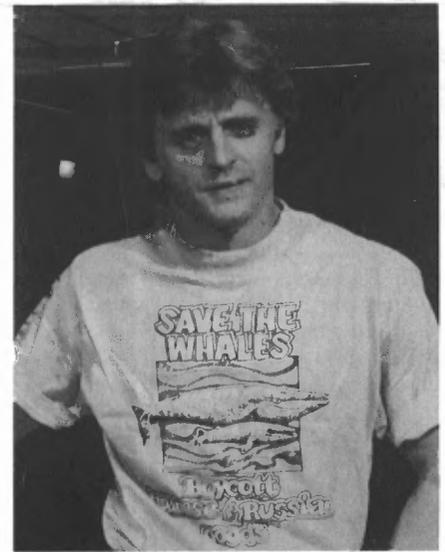
Credit: WWF/Kenya Information Services

Poachers hack away at the elephant tusks, part of the poaching frenzy that threatens rhinos and other African wildlife.

Help this Russian save whales!

Mikhail Baryshnikov, Artistic Director of the American Ballet Theatre, is a Soviet defector. He is also an ardent lover of whales who deplors their continued slaughter. At NBC studios he has made televised tapes, lasting 10, 20 and 30 seconds, which movingly state his views on whales—and whalers. These tapes are intended for television stations which are willing to run them without charge as a public service.

Please try to get your local t.v. station to participate. Then, if successful, write to us at AWI giving all the necessary details and we will speed the tape on its way. Help to save whales! We're winning—but we must keep up the pressure!



Mikhail Baryshnikov is here seen sporting his AWI T-shirt. You can have one too! Adult small, medium, large or extra large, \$6.00; children small and medium, \$5.00. Order direct from AWI.