

INFORMATION

REPORT

ANIMAL WELFARE INSTITUTE

350 FIFTH AVENUE, NEW YORK 1, N. Y.

January-February, 1955

Vol. 4, No. 1

Determination that food animals in the United States and Canada must be slaughtered humanely is growing with great rapidity. In Utah, a bill has been introduced in the legislature to effect this purpose, and its sponsors include both Republicans and Democrats. Their occupations are, appropriately, meat dealer, cattleman, and housewife, with two representatives in the last category.

In British Columbia similar legislation has also been introduced. It has the backing of the packing house union and is being encouraged by the newly formed Humane Slaughter Association, 1495 Robson St., Vancouver.

In Washington, Mr. Christian P. Norgord of the American Humane Association has been actively consulting with government experts in the drafting of a federal bill requiring humane slaughter which is expected to be introduced shortly.

The National Humane Society, a new organization pledged to work against national cruelties, has voted substantial funds to initiate a study of electrical stunning. This method, widely used in nine European countries, was prohibited in the United States a quarter of a century ago on the basis of the "Simonds Report," a piece of research financed by the meat-packing industry, the accuracy of whose conclusions is now being sharply questioned.

Mr. John Macfarlane, Director of Livestock Conservation for the Massachusetts SPCA and a member of the Executive Committee of Livestock Conservation Inc., will leave for Europe in May to visit major European slaughterhouses and to bring back reports and pictures on methods in regular use to render animals unconscious prior to slaughter.

Dr. Lyle Davis of the United States Department of Agriculture has been doing excellent work on the anesthetization of poultry with carbon dioxide which may lead to wide adoption of this method.

For the information of readers desiring to cooperate by purchasing only humanely killed meats, the following is a partial listing of packing plants using the captive bolt pistol to stun cattle: Oscar Mayer & Co., Madison, Wisconsin; Great Falls Meat Co., Great Falls, Montana; Cudahy Brothers Co., Cudahy, Wisconsin; Peters Packing Co., McKeesport, Pennsylvania; L. A. Frey & Sons, New Orleans, Louisiana; Elsheimers Meat Products, West Union, Iowa; C. E. Richards and Sons, Muscatine, Iowa; American Stores Co., Pueblo, Colorado; Fresno Meat Packing Co., Fresno, California; Chicago Dressed Beef, Worcester, Massachusetts; Salter Packing Co., Vernon, California; Triangle Meat Company, Chicago, Illinois. Hormel pork products and C. A. Swanson and Sons turkey products are humanely produced.

Manufacturers of humane slaughtering equipment are: Koch Supplies, Kansas City 8, Missouri, manufacturers of the captive bolt pistol; Barker Poultry Equipment Company, Ottumwa, Iowa, manufacturers of electrical stunning devices for poultry; Allbright-Nell Co., Chicago, Illinois, manufacturers of equipment for the anesthetization of hogs by carbon dioxide.

CRUELTY TO MONKEYS

The number of monkeys being captured and flown to the United States this year is not yet known, but a single flight may bring as many as 2,200. Five airlines have been or will be transporting monkeys, and their schedules vary from three of these flights a month to as many as two in a week. A major animal protective problem is involved, one that has been too long neglected. The Institute has sought the assistance of a number of animal protective societies, both here and abroad, and a limited amount of progress has already been made in reducing the suffering inflicted. Cruelty and the economic waste from the resulting sickness and death of the monkeys go hand in hand.

Here are excerpts from reports of the arrival of some of these animals at Idlewild Airport this month: "A shipment of 900 rhesus monkeys for a large pharmaceutical house from a dealer in Calcutta. Crates were

wooden, 17" x 18" x 35", with wire top and front. Some contained as many as twenty monkeys, most had eighteen. These figures were stamped on the front showing the contents, but in some cases there were fewer in the cages, presumably because they had died en route and been removed. The cages containing large monkeys held fewer animals, but one cage marked '9' contained only two.* Because of crowded conditions which prevented us from seeing into the back of many crates, we could not make an accurate count, but we saw eight dead monkeys and many sick. One crate overturned on the field, in the unloading, and much of the refuse on the floor of the crate rolled out onto the ground. In the refuse was an embryo. A monkey had given birth prematurely. She was lying dead in the bottom of the cage. The attendant said that monkeys weighing over nine pounds should never be shipped because they are older and might be pregnant. Three mothers with nursing babies were seen." An official of the airlines stated that between forty and fifty monkeys had died en route.

In addition to the atrocious overcrowding described above (Twenty monkeys in a crate 17 inches high with floor space 18 inches by 35 inches, means less than four by eight inches of floor space for each monkey!), rough handling causes further suffering. Following is an excerpt from a report on another flight which arrived at Idlewild recently.

A different American pharmaceutical house was ordering from different Indian dealers and using a different airline, but the monkeys were still in trouble; 1300 were being sent on this flight which arrived at night. "Walked long way to plane. Found large van in front of it with steep steel chute connecting the opening in plane to back of van. As we arrived we saw a crate start down and heard a tremendous crash at the bottom. Mr. ———, (our escort from the airline company) called out. When we came into the light he introduced us as 'ladies from the humane society.' No more crates crashed." In the presence of "ladies from the humane society" the men stood ready at the bottom to catch each crate as it sped down the almost perpendicular chute. However, the employees of the American monkey dealer made no similar effort to modify their roughness. All the crates had to be "cleaned" in accordance with federal law. The report states: "The method of cleaning used was as follows: two men picked up each crate and tipped it so that the two-inch opening along the bottom turned toward the floor. They then gave the crate three or four hard knocks against the floor. This threw the monkeys all about and against the wire on the front of the crate. One monkey had lost the end of its tail which was bleeding. Another monkey was almost dead in a crate, lying limply with diarrhea. Excrement dripped on the white bread which was given the monkeys on arrival. Monkeys reached for this bread with great eagerness, fighting over crumbs which fell into their crates before they got their share, but after a few bites, they dropped it aside." In addition to the cruelty these animals are compelled to endure, their diets are changed three or four times in the course of their shift from freedom to captivity, which certainly contributes to weakening their resistance to the diseases that frequently decimate laboratory monkey colonies.

One airlines official accounted for the sending of pregnant females and the overcrowding of crates by pointing out that the Indian dealers are "getting greedy." Naturally, the Indian dealers are not the only ones financially interested. Following is a statement which appeared in the Pittsburgh Sun-Telegraph, December 12, 1954: "The corner drug store may have a good supply of the Salk polio vaccine in time for the 1955 polio season—thanks to 'heated competition' among commercial producers of the vaccine. Basil O'Connor, president of the National Foundation for Infantile Paralysis, told the Sun-Telegraph that the secrecy with which commercial drug houses are 'gearing' for the polio vaccine market is a good sign. The race won't get underway, however, until the verdict on the vaccine's big field test last Spring is given April 1, O'Connor explained." Later, it was reported: "There seems to be every indication that the evaluation study will establish the value of the vaccine. However, as Dr. Van Riper says, the foundation is taking a calculated risk in investing \$9,000,000 in the purchase of vaccine at this time." (New York World Telegram & Sun, February 2, 1955). A monkey dealer on this side of the Atlantic states that he is operating on a cost-plus basis.

Everyone hopes to see an end of polio, but if it is indeed the monkeys that bring an end to this disease, is it too much to ask that they be treated at least as well as animals being sent to zoos or to individual private owners? Such animals are treated in an entirely different and far more considerate way, not only in transit, but at all times, by everyone concerned. It might require a major psychiatric study to get at all the reasons for this, but animal protective workers are familiar with the common justification of any amount and degree of cruelty by the remark that the animal or animals "are going to die anyway." The Animal Welfare Institute believes that animals which are to be sacrificed for human benefit deserve more, not less, consideration than those which, like the pets and animals for zoos mentioned above, are expected to live out their natural life span. It also believes that a part of the money so generously given by the American public to prevent human suffering from polio might very properly be ex-

* (NOTE: Larger monkeys are often pregnant and die when a baby is born prematurely owing to rough handling of the animals in transit. According to an airlines employee, until a month or two ago pregnant monkeys were never shipped, but, he pointed out, the animals have evidently become scarce in some areas and dealers are taking everything they can catch.)

pending in bringing about a reduction of the vast amount of wholly unnecessary suffering now being inflicted on monkeys used for polio research and vaccine production.

ANIMAL CARE PANEL—1954

The first morning of the fifth annual Animal Care Panel (December first and second, Northwestern University, Chicago) was devoted to monkeys and their management, and a considerable amount of valuable information was presented. Many of the matters touched upon are especially interesting as they relate to problems referred to in the preceding article.

Dr. H. L. Ratcliffe of the Philadelphia Zoological Garden stated that confinement in an inadequately ventilated indoor area, in association with unselected humans, is to be considered a major factor in acquiring tuberculosis. Dr. Byron J. Olson of the National Institutes of Health reported on the diagnosis of this disease by the tuberculin test and chest X-ray and stated that tuberculosis in newly arrived monkeys at the NIH had been greatly reduced by the requirement that they be tuberculin tested by the contractor and quarantined in a place subject to spot inspection by government inspectors.

Dr. Ratcliffe stated that a quarantine period of no less than two months is mandatory, pointing out that nutritional deficiencies can be partially corrected during this time. The condition of the monkeys is usually so poor on arrival that, in his opinion, they need six months to get into shape for experiments. "The more abundant the space," he said, "and the better the facilities for exercise, the more rapidly the animal develops robust health." Dr. Ratcliffe's talk was illustrated with slides showing the relative atrophy of the adrenal cortex in monkeys which had been confined to small laboratory cages or to small shipping crates during the course of a long sea voyage. He stated that monkeys which had been in large outdoor enclosures for six months were able to stand prolonged exercise that animals which had been kept in small cages could not stand. This held true even though, to all outward appearances, the monkeys were identical and their diets had been identical.

Dr. Albert V. Hardy of the Florida State Board of Health was asked to assist in reducing sickness of monkeys at Okatie Farms, headquarters for monkeys purchased by the National Foundation for Infantile Paralysis. He said that enteric infections and pneumonia are the chief problems at Okatie, the major one being acute diarrhea. He indicated that although no records are kept of the mortality of the monkeys, it is a serious economic problem. The monkey population at Okatie, according to Dr. Hardy, runs between 2000 and 6000, and practically all are infected with a variety of disease producing organisms. He stated that there is a big difference in the amount of acute sickness in different shipments and that there are indications that there is spread of infection at the farm. Dr. Hardy also referred to overcrowding at Okatie and to "a certain amount of inevitable roughness which isn't good for the animals." Dr. Hardy said, "As a measure of economy, more could be invested by the Foundation in having qualified medical care of the animals . . . much more could be done and should be done."

Four papers were presented in the afternoon session which gave useful information on various aspects of general care and disease prevention for different species of animals. The following morning, an outstanding paper by Dr. Orland Soave, California State Department of Public Health, was read in his absence by Dr. Bennett J. Cohen. The good work being done there is well summarized in the abstract of the paper which states in part: "The Health Department has developed regulations under the law and is in the process of surveying all users of laboratory animals and certifying these users if they prove to be satisfactory. Ancillary functions have developed in the administration of the law, such as consultative service, survey of animal breeders, caretaker training." There are no compulsory procurement clauses in the California State law, and one of its major purposes as stated by Dr. Soave is to ensure against inhumane practices.

Another interesting feature of the second morning session was the presentation of a film showing the housing, feeding and care of experimental animals at the National Institute for Medical Research at Mill Hill, England. Mr. D. J. Short, chairman of the Animal Technicians Association, gave a running commentary. Mr. Short supervises the work of a sizeable group of Animal Technicians at Mill Hill and is himself especially gifted in gentle and skillful animal handling. Other papers included "The Spontaneous Bacterial Infections of Laboratory Mice" and "Problems Related to Housing and Care of Animals in an Industrial Research Laboratory."

Three papers were given whose content was entirely foreign to the main body of material presented. These papers fell into the category of propaganda for animal seizure legislation, and since they were neither scientific nor scholarly, but frequently revealed the least edifying side of biological research, they would have been far better omitted.

THE SCHWEITZER MEDAL AT THE AAAS MEETING

The Albert Schweitzer Medal was displayed by the Animal Welfare Institute at the annual meeting of the American Association for the Advancement of Science, Berkeley, California, December 26-31, 1954. A selection of literature recently published by the Institute also attracted favorable attention among the thousands of scientists and members of the general public who attended the Exposition of Science and Industry. Numerous requests for free copies of "Basic Care of Experimental Animals" and "Comfortable Quarters for Laboratory Animals" were received and the publications have been sent to scientific institutions which wanted them.

Photographs of Dr. Schweitzer writing, speaking, or spending a friendly interlude with some of his animal companions at Lambaréné, French Equatorial Africa, where he carries on his noble care of the sick among the local population, were mounted on either side of the medal. Quotations from his writings accompanied the pictures. At the top stood the basis of his whole philosophy, "Reverence for Life," and the more explicit, "We need a boundless ethics which will include the animals also." Beside a picture taken of Dr. Schweitzer at the Goethe festival during his last visit to the United States, appeared a quotation from his address, "The Problem of Ethics in the Evolution of Human Thought," delivered on the occasion of his installation in the French Academy in 1952: "One last conclusion must be drawn from the principle of devotion: it no longer allows us to concern ourselves only with other human beings. We must behave in exactly the same way towards all living creatures, of whatever kind, whose fate may in some respect be our concern. They too are our kith and our kin, inasmuch as they too crave happiness, know the meaning of fear and suffering, and dread annihilation. To a man who has kept his feelings intact, it is quite natural to have pity for all living creatures."

The last quotation read: "Those who experiment upon animals by surgery and drugs, or inoculate them with diseases in order to be able to help mankind by the results obtained, should never quiet their consciences with the conviction that their cruel action may in general have a worthy purpose. In every single instance they must consider whether it is really necessary to demand of an animal this sacrifice for man, and they must take anxious care that the pain be mitigated as far as possible."

The first Schweitzer Medal and \$500 award will be presented this autumn to encourage men of science to help reduce laboratory animal suffering. Nomination blanks were available at the booth and have been distributed to readers of the Information Report. Many nominations have been received, and persons who have not yet selected a candidate are urged to do so now. Additional blanks are available upon request, or nominations may be made by letter. Aims of the Institute for which the award may be made include: practical replacement of mammals in laboratory procedures by lower forms of life or by physical or chemical methods; the means of reducing or eliminating painful procedures or of reducing the number of animals required.

ANIMAL WELFARE INSTITUTE

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March - April, 1955

Vol. 4, No. 2

On April 1, 1955, Senator Humphrey of Minnesota introduced a bill in the United States Senate to require the use of humane methods in the slaughter of livestock and poultry in interstate or foreign commerce and for other purposes. Humanitarians throughout the nation are acclaiming the Senator's much-needed action. As he pointed out in his explanatory statement on the bill, the use of humane methods of slaughtering food animals has long been established in Europe. He urged our slaughter industry to start to reach European standards at once and eventually to lead the nations of the world in humane, non-cruel slaughtering.

The Senator stated:

"The methods used are the Captive Bolt Pistol, which drives a short bolt into the brain with the bolt stopped from going further by contact with a collar set in oil at the end of the pistol, or by the use of electricity, applied with electrodes to the upper part of the head, which suddenly stops the activity of all parts of the brain and nervous system and permanently immobilizes the whole body. Both methods put the animals to sleep until the knife is applied, and produces death before they awake.

"Europe is far advanced over the United States in such humane methods of slaughter. The practices in our slaughter-houses of shackling animals and hanging them up by one leg before the knife is used to kill them, and with hogs sometimes being run through the scalding tank before they are entirely dead, represent unfortunate cruelty to which the slaughter industry often seems callously insensible.

"Now is an opportune time to bring the slaughter industry in our country up to the European standards of humanity. We not only have the European methods to consider, but I am proud to say another humane method has been developed by Hormel Packing Co. of Austin, Minn. The Hormel Co. in my State uses carbon dioxide gas, making the hogs unconscious within seconds of exposure. The Hormel Co. has used this carbon dioxide method successfully in its own plant since they perfected it, the hogs never awakening through easy shackling, sticking, and scalding by the operators.

"Some other firms in our country have also pioneered in this field. The European captive-bolt method has been voluntarily adopted by the Oscar Mayer Co., at Madison, Wis., and other plants are now beginning with this method.

"Experiments are now being conducted at Iowa State Experimental Station and by the United States Department of Agriculture in Iowa and California toward making the Hormel Method applicable to poultry and other animals.

"We propose or require no specific method in this bill and provide ample time for the slaughterhouses to work out satisfactory methods. The enforcement provisions would not take effect for 5 years.

"However, the American Humane Association feels that this bill and an educational campaign running parallel with it is a much-needed beginning of efforts to bring our slaughter industry to leadership in humane slaughtering of livestock and poultry.

"The bill provides for a four-man committee, including a representative of the Department of Agriculture, of the slaughterers, of the organized trade-union movement engaged in packing-house work, and of the American Humane Association to work out any problems connected with developing more humane practices.

"I am hopeful it can be given early consideration and will be accepted by slaughter-house operators of the country. Veteran meat-inspection officials of the Department of Agriculture have indicated they are in full accord with its objectives."

IMPORTANT AID TO HUMANE SLAUGHTER INVENTED AT MISSOURI PACKING-HOUSE

A brilliant advance in humane slaughtering methods has been made at the Seitz Packing Company, St. Joseph, Missouri. The new method is an example of American inventive talent at its best: simple, inexpensive, practical and humane. There can be no doubt that the American slaughter industry is capable of world leadership in eliminating cruelty from slaughter.

For many years the captive bolt pistol has proved itself a perfect agent for causing instantaneous unconsciousness in the animal on which it is used. However, it is necessary for the operator to be able to take careful aim, and for this purpose a quiet animal is needed. The Seitz Company has solved the problem of keeping cattle still

without the use of holding devices. The method is well described in a speech by Mr. E. Y. Lingle, President of the Seitz Packing Company, with whose kind permission it is reprinted below.

"I appreciate the opportunity to bring you what we think is a new idea in beef slaughtering. This is one phase of our business which we have always considered unpleasant, unsafe, costly and brutal.

"For many years, we, at the Seitz Packing Co., have felt that the method could be improved. We knew that the cause of most of the trouble in this operation is the sudden movement of the cattle in the knocking pen. When cattle are being knocked with a hammer, quite often they move just as the hammer is descending, with a resulting missed or glancing blow, which necessitates another try. A missed or glancing blow usually frightens the cattle and makes it more difficult to hit correctly the next time. In the case of larger and older animals, quite often it is almost impossible to knock them down with one or even two blows. It is the sad truth that sometimes this type of animal must be pounded into submission with several blows. The necessity for several blows can be eliminated by using a Captive Bolt Pistol, but it is difficult to get the cattle to cooperate by standing still so a Captive Bolt Pistol can be used. We have long wanted to use the pistol rather than the hammer, but felt we would have difficulty using it because of the movement of the cattle.

"Recently, the Foreman of our Slaughtering Department, Mr. Harold Watson, developed an idea that has been amazingly successful. It is so simple that we could hardly believe it would work. Like the solution to many problems, the simple answer is the best. Watson knew that cattle are easily blinded by bright lights. For example, how many times have you seen a cattle or almost any animal, for that matter, blinded by the headlights of your car at night? When an animal is blinded, his instinct is to "freeze"—just as he does when your headlights pick him up on the highway at night. Watson applied this line of reasoning to our slaughtering procedure and had the maintenance department install flood lights in each end of our knocking pen about the eye-level of the cattle. It was a very simple installation and a mechanic was able to finish it in a few hours. The lights are left turned off until the cattle are penned and ready for slaughter. When the cattle are in the pen, the lights are flipped on and the effect on the cattle is incredible. They are so thoroughly blinded and stand so quietly that you can reach down and put your hand on their head. We found that knocking the cattle with the hammer became much easier because the cattle were so quiet. The number of missed blows was sharply reduced and the operation was performed more rapidly.

"But even with the lights, the human error caused some missed or glancing blows and we continued to have the same difficulty we'd always had with larger, older animals. Then we realized that we could use the Captive Bolt Pistol, so we got one and tried it. It is so easy to use and so effective that we have no desire to go back to the old hammer method. Our results are better—our operation more efficient—our end product is improved—and, we're slaughtering cattle in a much more humane fashion.

"I would like to outline here a few of the advantages of our present methods. Some of these advantages have come from using the lights, some from the use of the Captive Bolt Pistol, and some from a combination of both lights and the pistol.

1. *Greater safety for the cattle knocker.* Cattle knocking is an unsafe job because when a man swings a five-pound hammer over his head and misses his object or makes a glancing blow—it produces a great strain on the man. We have had several injuries as a result of such missed blows.
2. *The job is easy to teach.* It takes a man of great strength and good coordination to be a cattle knocker if he must use a hammer, and it is a job hard to teach. During times of labor shortage it is one of the most difficult jobs in the plant to keep filled. Now, with the lights and with the Captive Bolt Pistol—you can make an expert cattle knocker out of the average man off the street in an hour's time. It is that simple.
3. *Better results.* We have slaughtered over 5,000 cattle with the lights and with the pistol, and we have had only an occasional "stiff" cattle. Before we had lights, and when we used the hammer, we had stiff cattle every day. These stiff cattle are the ones that do not bleed properly and are very difficult for the butcher to skin because the hide is tight. It is quite apparent now that generally we are doing a better job of bleeding our cattle. The government inspector has remarked that there is less coagulated blood in the heart, and the men on the floor have shown me that there is less blood in the chest cavity when the cattle are eviscerated. Careful investigation has proven these facts to be true. Our beef foreman swears that his cattle "cut" better and that he has less bruises; but, as yet we do not have adequate figures to prove this fact. I do know that in over 5,000 cattle we have had only one "spotter." I know, too, that there is much less lunging about by the cattle in the knocking pen—so, it is natural that we should have fewer bruises.

According to Dr. Garold O. Sigars, Veterinarian, who has observed our method, there are scientific reasons why we are getting fewer "stiff" cattle and better bleeding. He thinks it is a much improved technique over the old way.

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4. *Greater efficiency.* We have made time studies of the slaughtering of several hundred cattle and find that we can load the gun and shoot one cattle every seven seconds. On the basis of one cattle every ten seconds, one man can slaughter 360 cattle per hour and he can continue to do this all day long because his work is much easier than when he used the hammer. Our knocking pen is 9 feet long, a little over 6 feet high and $3\frac{1}{2}$ feet wide. We use the gun from the same platform as when we used the hammer. We believe with this system a gun could be used in knocking pens up to 4 feet wide.

We made no changes in our knocking pen except to install the three outside weatherproof flood lights in each end. The lights can be installed at the ends of the knocking pen or along the sides, if necessary—just so they are about eye level to the cattle and shine in the cattle's eyes.

Time is also saved because the knocker never has to wait a few moments to see if the cattle are going to get up as he does when he uses the hammer. With the gun, he *knows* they won't get up. Since we have started using the gun, *not one* cattle has gotten up. There is a safety advantage here, too.

5. *It is more humane.* No more do we hear the bellowing in the knocking pen because a cattle has been hurt by a misdirected blow. With the lights, the gun is a sure thing—quick to use and with instantaneous results. But even for the packer who insists on using the hammer, lights will give much more humane results because there is much less movement of the cattle, with the consequence that they are easier to strike with the hammer. However, we strongly recommend that where possible, the gun be used with the lights.

"The only disadvantage to the gun is that the brain is not edible when the gun is used because the bolt of the gun forces particles of hide and bone into the brain. Consequently, the Inspection Service will not let the packer save the brain for food. However, the brain in a cattle is worth less than 5¢ each and we feel that if an occasional bruise or dark cutter can be eliminated, we will save much more than the value of the brains.

"Patent is pending on the lighting process and if the patent is granted, charges for use will be nominal because we are very anxious for the industry to use this method. We know that any member of the industry who *can* and *will* improve this cattle slaughtering method will be as pleased with his results as we are with ours."

NEW ORDER FOR PROTECTION OF MONKEYS IN TRANSIT

In seeking to improve the cruel methods of handling and transporting the many thousands of monkeys being flown to the United States for vaccine production and testing, and for research, representatives of the Animal Welfare Institute reported bad conditions they had observed* to the Bureau of Customs in New York. United States Public Law number 72 makes it a criminal offense to import animals or birds into this country under inhumane or unhealthful conditions.

Officials at the Bureau of Customs were kind and cooperative. The Animal Welfare Institute was requested to submit recommendations on proper shipping conditions for monkeys, and suggestions for minimum standards were prepared with the expert advice of Frederick A. Ulmer Jr., Curator of Mammals at the Philadelphia Zoological Gardens, whose wide experience and sympathetic understanding were of great value. The recommendations stressed the need for suitable food (Mr. Ulmer has found that most monkeys which die soon after arrival are suffering from acute malnutrition); keeping the number of monkeys per crate (18' x 18' x 36') at no more than six large (ten pound) or 10 small (four to five pound); keeping them regularly watered, fed, and clean during the trip; providing protection from extremes of heat and cold and exercising care in sending only healthy, non-pregnant monkeys. Mr. Ulmer states that if monkeys are in proper condition at the time of shipment, there should be virtually no deaths en route, not over one half of one percent. This is confirmed by a study carried out by Major Benjamin D. Fremming, and Captains Richard E. Benson and Robert J. Young of the USAF School of Aviation Medicine, Randolph Field, Texas, reported in *Scientific Monthly*, April, 1955. Under properly managed transport conditions, they report losses between 0.2 and 0.7 percent, even though in one case an engine failure forced the plane to be grounded for three days in the intense heat of Saudi Arabia.

Interest in the plight of the monkeys has been world-wide. The Government of India placed an embargo on the export of monkeys on March 10, 1955. It was lifted on April 5, 1955, following assurances by the National Foundation for Infantile Paralysis that there would be greater safeguards for monkeys during their flight to the United States. An editorial in "Conquest," the journal of the British Research Defence Society, indicated its interest in eliminating bad transport conditions. In New York, an Order on the subject of inhumane or unhealthful shipments of animals has been issued to Customs Inspectors and is reprinted on the next page. Continuing vigilance will ensure a substantial reduction in the unnecessary suffering which has been inflicted on monkeys in transit.

* These conditions are fully described in Information Report, Vol. 4, No. 1.

SURVEYOR OF CUSTOMS
OUTSIDE DIVISION
PORT OF NEW YORK

Surveyor's Order No. 7-1955

April 13, 1955

Customs Inspectors and Others Concerned:

Complaints have been received regarding certain shipments of animals arriving here, particularly shipments of monkeys by air.

"Discharging inspectors should whenever and wherever possible inspect shipments of wild animals and birds on arrival, noting their condition, the size of the cages, etc. When, based on his own observation or on advice from the examiner, the discharging inspector has reason to believe that the statute has been violated, he shall make the investigation required by section 12.26 (k) and submit report on the attached form. The report should be made in any case in which the inspector notes any conditions which in his opinion give reason to believe that the transportation was under inhumane or unhealthful condition. If, for example, more than 2 percent of a shipment of monkeys were found dead or dying, or if the cages were unusually small or overcrowded, this should be noted."

Supplies of NYCF 14 have been furnished to the cargo districts.

Harry Edwards
Surveyor

* * *

Public Law 72

"(c) The Secretary of the Treasury shall prescribe such requirements and issue such permits as he may deem necessary for the transporting of wild animals and birds under humane and healthful conditions, and it shall be unlawful for any person, including any importer, knowingly to cause or permit any wild animal or bird to be transported to the United States, or any Territory or district thereof, under inhumane or unhealthful conditions or in violation of such requirements. In any criminal prosecution for violation of this subsection and in any administrative proceeding for the suspension of the issuance of further permits—

"(1) the condition of any vessel or conveyance, or the enclosures in which wild animals or birds are confined therein, upon its arrival in the United States, or any Territory or district thereof, shall constitute relevant evidence in determining whether the provisions of this subsection have been violated; and

"(2) the presence in such vessels or conveyance at such time of a substantial ratio of dead, crippled, diseased, or starving wild animals or birds shall be deemed prima facie evidence of the violation of the provisions of this subsection." (18 U.S.C. 42)

* * *

Customs Regulations of 1943

Section 12.26 (k) When any customs officer has good reason to believe that wild animals or birds have been imported under inhumane or unhealthful conditions in violation of 18 U.S.C. 42, an immediate investigation shall be made to ascertain whether they have in fact been transported under such conditions. The investigation shall determine the provisions made on the vessel or other conveyance for the accommodation of the animals or birds, the suitability of the boxes, cages, stalls, etc., the space, ventilation, and protection from the elements accorded the animals or birds, the facilities for cleaning, feeding, watering, bedding, and such other services as may be required for the species imported. The investigation shall also determine the physical condition of such animals or birds and the ratio of dead, crippled, diseased, or starving animals or birds. If necessary, officers of the Bureau of Animal Industry or Fish and Wildlife Service, or other officers or experts, may be called upon to assist customs officers in the matter.

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INFORMATION

REPORT

ANIMAL WELFARE INSTITUTE

270 PARK AVENUE, NEW YORK 17, N. Y.

May - June, 1955

Vol. 4, No. 3

Humanitarians have become increasingly concerned over a growing animal and child-protective problem: the widespread use of animals for experimentation in elementary and high schools and by high school students in their homes. It is regrettable that at least two colleges and two donors of national science contest prizes encourage activities which are cruel to animals and detrimental to the character of the youths engaged in them. Also, a number of manuals and publications have been issued by other groups describing and encouraging the use of animals in nutrition "experiments" by young children.

The Animal Welfare Institute consulted Dr. Portia Hamilton, a clinical and consulting psychologist and psychotherapist of wide experience, concerning the effects of such activities on children. Dr. Hamilton, who has great sympathy for and understanding of children, pointed out the dangers of exposing them to such projects and warned against the possibility of increasing the child's natural hostilities or aggressive tendencies and effectively laying the basis for sadistic behavior. She emphasized especially the repercussions on disturbed children, of which there are a few in every class-room, indicating at the same time the extreme unwholesomeness for the undisturbed child.

Newspaper accounts of such "experiments" describe grade school children observing the onset of blindness in animals which have been deliberately deprived of proper nourishment, and frequently report death of the animals as the outcome. Manuals suggesting nutrition experiments for schools sometimes list as symptoms which may be expected from the deficient diets offered: bloody discharges, the swelling of eyelids till they close, and the dropping out of teeth.

High school students are encouraged to carry out animal experiments at home by the hope or by the actual receipt of science fair prizes. Two examples as reported in local newspapers are given below:

A high school junior who won a first prize: "Working on live mice, he performed five operations. His objective was trying to induce diabetes in mice by removing the pancreas. He reached the conclusion that the method of his operations was not as effective as other methods. [His] technique was original, working out every step himself."

A high school senior was runner-up in a national contest for "displaying his acquaintance with medical techniques by outlining the 'transplantation of ovarian tissues on 60 female mice of six different inbred strains.' No casualties resulted from his surgery."

Reputable medical schools have always required that student work with animals be conducted under proper supervision in the laboratories of the institution. In the examples given above and others, we find untrained boys in their teens conducting unsupervised, survival experiments in surgery in the privacy of their homes and actually being rewarded for it! It is worth noting that the principals of the schools which these youths attend decline to take any responsibility whatever for the activities described.

While studying the extent of this problem, officers of the Animal Welfare Institute have written to some of the groups responsible for encouraging animal experimentation by children and youths asking them to change their policy. These requests do not appear to have been effective to date. Public attention apparently will have to be focussed on the matter before the necessary action is taken by such groups.

All humanitarians, whether they be experimental biologists who recognize the serious responsibilities involved in the use of animals for research, or whether they are simply members of the lay public interested in the welfare of young people and animals, will be grateful to Dorothy Thompson, whose column on this subject appeared in newspapers throughout the country on June 1 under the heading "Children's Experiments' with Animals Condemned," *and is reprinted below.

"The National Humane Society has called my attention to certain projects that are under way in some elementary and high schools, the extension of which has numerous advocates.

"To teach children and youths proper nutrition, live animals are brought into classrooms—white rats, chickens, guinea pigs, rabbits—and the children are instructed to feed them on diets deficient in certain vitamins, minerals, etc., and see how they sicken and die, while others, fed properly, thrive.

*Reproduced by special permission of Dorothy Thompson, the Pittsburgh Post-Gazette and the Bell Syndicate, Inc.

"These demonstrations vary in time. Some are arranged to continue six or eight weeks. Some books of directions specify that the animals should be killed at the end of four weeks, since by then many will die. There is also a problem of 'garbage' disposal.

It is hoped that by such demonstrations that children will learn to spend their lunch money for milk instead of candy!

"Now, I am not going to argue whether that may or may not be the result. Children, being highly imaginative creatures, do not always draw the expected conclusions from their learning. What does concern me is the effect upon the child's emotional development of being encouraged to indulge in the slow torture of helpless creatures, and the suppression of his protective instincts.

"I am not a sentimentalist. I have never joined the anti-vivisectionists. Carefully controlled scientific experiments made upon animals have contributed immeasurably to the knowledge that has made it possible to wipe out many scourges of both humans and animals.

"But what is being done in the classrooms is not scientific experimentation and it adds nothing to knowledge. The teachers know in advance the results of the mistreatment, and so will many intelligent children. It is, therefore, systematic training in cruelty and indifference to suffering.

"Very often a child's first real love is for an animal, as an infant's most beloved toys are representations of animals, to be cuddled. Children are given pets in order to nurture affectionate and protective feelings. Many Children are more sensitive to the suffering of animals than to that of humans. They become humane by stages.

"The nurturing of protective feelings, to the exclusion of the counter-feelings of aggression and callousness, is the most important element in educating a child to be good—to do as he would be done by, to mind the sufferings of others, to be considerate, helpful, and altruistic.

"I am concerned for the effect of such a manner of learning upon the child, as human soul, in which social and humane potentialities and impulses continually struggle with antisocial, egotistic, and aggressive impulses.

"Our children may be suffering from malnutrition, despite their high average caloric intake. But what society is suffering from, and children, as members of it, are suffering from, in far more serious degree, is the extraordinary brutality, aggressiveness, and callousness of feeling that results in delinquency, crime, and psychopathic derangements.

"Anything which encourages cruelty and indifference in the young is evil and profoundly anti-educational. It is bringing up the child in the way he should not go. It is demonstrating to him that it is all right to mistreat non-human living creatures, if the mistreatment contributes to his own well-being. The logical deduction is that it's all right to mistreat humans, too, if it furthers one's own interest.

"The consciousness it awakens is conscienceless.

"It cannot be defended within any concept of goodness.

"It should be stopped."

ALBERT SCHWEITZER MEDAL TO BE AWARDED

This year the annual meeting of the Animal Welfare Institute will be held at Michigan State College at East Lansing in conjunction with the meetings of the American Institute of Biological Sciences, September 5-9. The Albert Schweitzer Medal will be awarded for the first time, at a ceremony to which Institute members and all those attending the AIBS meetings are invited. Dr. Lee R. Dice, Director of the Institute of Human Biology at the University of Michigan and a member of the Animal Welfare Institute Advisory Committee, will preside. A short report on the progress of humane slaughter will be given by Dr. Ralph Barner of the Department of Animal Pathology at Michigan State College, and the medal will be awarded by Dean-emeritus Edward H. Kraus of the University of Michigan. The name of the recipient will be announced later. Following the ceremony, tea will be served.

Throughout the course of the four-day meetings, an Animal Welfare Institute booth exhibit will be on display where those in attendance may obtain free literature on the proper care and housing of experimental animals and information on other animal protective problems.

LACK OF LOVE AND ATTENTION CITED AS "STRESS FACTOR" DETRIMENTAL TO HEALTH OF FARM AND LABORATORY ANIMALS

Dr. W. N. McMillen, Director of Nutrition of the A. E. Staley Manufacturing Company, whose wide experience with both farm and laboratory animals has led him to recognize the importance of kindness, recently addressed a farm group on the subject "Farm Animals Need Love and Care". He gave numerous striking examples of the material benefits accruing to people who are friendly and considerate in caring for animals of all sorts and sizes, from mice to cattle. With his kind permission, the speech is reprinted below. It should be of value to everyone who is responsible for the care and treatment of animals under his jurisdiction.

"People generally recognize that there are two kinds of dogs—friendly and unfriendly. Dogs recognize that the same thing is true of people. Some people seem to have a knack of getting along with even strange, unfriendly dogs. Others are afraid of getting bitten—and they usually are.

"What a lot of people may not realize is that this same friendly or unfriendly relationship occurs in farm animals as well as with dogs.

"Last summer I walked into a hog barn with a farmer. What a scramble! Pigs squealing and running for every exit. These pigs were on an unoccupied farm and had not been accustomed to people and the contacts they had with the caretakers were, 'Get out of the way, you pig!'

"Five of these pigs were sold to a friendly hogman near Decatur, Illinois. While at his place three days later, these 5 wild hogs were nosing his pants legs. He had them all named and they were the fondest of friends. These pigs grew into 5 fine producing brood sows with very friendly dispositions.

"Last year a young Central Illinois couple was raising chickens in a crowded pen back of their house. The weather was hot and they had to disturb the chickens in getting in to feed and water them. The birds became so irritable that they not only were picking and injuring each other but would actually fight the caretakers when they went into the pens. One of the chickens received a leg injury and was taken into the house for care. Two days later it was cooing on the lady's shoulder and she had already taught it to do tricks.

"One caretaker in our feed laboratory can handle white rats and mice all day and not get bitten. Other caretakers are afraid the laboratory animals will bite and they do. In general, people who have trouble making friends with one type of animal have some trouble in being afraid with most any other class of livestock.

"You can go to some farms and practically all the animals will skedaddle when they see people coming. On other farms they will just about eat you up as they gather around to be petted and loved.

"Maybe you haven't thought of it this way but when farm animals feel abused and ill-treated they may actually get in a state of mind—as we say, beside themselves. This often happens in cases of females at parturition. I have seen many sows become so irritable when having their pig that they were actually ferocious. This happens very seldom on farms where there is a feeling of understanding and confidence between the caretaker and expectant mother.

"Two doctors in a hospital in Denver ran an experiment with rats in which one group was given some extra personal attention at feeding time each day. Care was taken to neglect the other group. To the doctors' surprise the rats that were handled and received the extra attention gained considerably faster and on less feed. The doctors explained that the rats that were neglected may have actually been neurotic.

"High strung, egg-type hens have been known to become so nervous when subjected to a sudden scare that a number of them would actually go out of egg production.

"There is no question but that farm animals under severe stress which makes them uncomfortable become unusually nervous.

"A friend of mine in the Georgia broiler area made the remark to me once that 'a woman can get 3 lbs. more broiler meat from a bag of broiler feed than a man can'. This is just a way of saying that since women have more time to spend in the broiler house and get better acquainted with the chickens, the birds respond to this extra care with added growth.

"When caretakers pay this kind of close attention to their animals, they can immediately spot disease trouble or if anything unusual is occurring. They are then in a position to treat the disease or correct the abnormal conditions immediately. This all makes for profitable livestock and poultry production.

"Livestock authorities are becoming more and more conscious of the tremendous effect of so-called stress factors on the economy of livestock production and profit. These stress factors include:

1. Poor nutrition of the parent stock.
2. Improper preparation of the animal for parturition—overfeeding, feeding too heavy a ration, wildness, abuse, and so forth.
3. Chilling or heating.
4. Cold, damp floors.
5. Drafts.
6. Starvation in young animals due to too little milk.
7. Faulty ventilation—dampness especially.
8. Dehydration due to too little water—very common when young animals start eating.
9. Too little floor space, feeder space or watering space.
10. Low-grade infections.

11. Vaccination, castration, ringing.
12. Medication, worming, spraying, etc.
13. Cull or runty animals or birds a source of infection for healthy ones.
14. Unsanitary surroundings.
15. Having more than one age of animals or birds together.
16. Lack of love and attention.

"Dr. L. E. Hanson of the University of Minnesota says that faulty management is the most widespread problem in hog production today. On visiting many farms and in studying the effect of abuse and stress factors on farm animals, I am sure Dr. Hanson's observation on pigs is true of all classes of livestock and poultry.

"The most successful stockmen are the ones that spend a lot of time with their livestock and birds.

"The fellow who tries to make livestock production a mechanical assembly line type of thing is in for trouble. In some ways livestock production in the United States today is getting too mechanical. It is not enough just to put out feed in a self-feeder and to hope that the automatic waterer is working. Feed and water alone are not enough. It takes more than that to do a good job of caring for livestock.

"The old adage, 'The eye of the master fattens his cattle', is just as true today as it was before all the mechanical gadgets and conveniences removed the necessity of spending as much time with the animals.

"In some ways we are living in an age of the lost art of herdsmanship. A true herdsman, shepherd or flock master knows and understands his animals or birds."

NEWS OF HUMANE SLAUGHTER

A companion bill to that introduced in the United States Senate on April 1 by Senator Humphrey of Minnesota, requiring the use of humane methods in slaughter of livestock and poultry, was introduced on May 9 in the House of Representatives by Representative Martha W. Griffiths of Michigan. Both bills—S.1636 and H.R.6099—have been referred to the respective Committees on Agriculture, where they await hearings.

Hormel & Co. is in the process of installing, in its Fremont, Nebraska, plant, the equipment by which hogs are anesthetized with CO₂ before slaughter. This method, which was invented and first used at Hormel's main plant in Austin, Minnesota, and which was praised by Senator Humphrey at the time he introduced his humane slaughter bill, was described and illustrated in the Institute's Information Report Vol. 2, No. 1.

AWI EXHIBITS HUMANE TRAPS

One of the cruelest inventions of man is the steel trap, which catches an animal by one paw and holds it in a painful, crushing grip until the trapper revisits his trapline. This sometimes is a period of several days. Not infrequently, the animal in its agony gnaws its foot off in order to escape (some muskrat trappers report 20-30% "wring-offs", as a matter of course). The Institute believes that if animals are to be trapped for their fur, they should be killed instantly. Although many trappers agree with this in principle, only a small proportion have as yet adopted the new humane traps.

The Institute maintained an exhibit of humane traps, including the new Zip trap, at the annual Sports and Vacation Show held in March at Kingsbridge Armory, New York, which was attended by thousands of sportsmen and other interested persons from New York and neighboring states. Literature condemning the use of the steel trap was distributed and hundreds of trappers stopped to examine the instant-killer traps on display. Few had ever before seen the Zip trap, which was invented by a professional trapper in Canada. Light, practical and efficient, the Zip trap after extensive testing has become commercially available this year. AWI volunteers who manned the booth urged substitution of the Zip or Bigelow instant-killer traps for the cruel old-fashioned trap and were much encouraged by the response of the majority of trappers.

ANIMAL WELFARE INSTITUTE

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"First Aid and Care of Small Animals" is the title of the Animal Welfare Institute's latest publication, a handbook for the guidance of young people and their teachers. This concise and readable 48-page illustrated booklet was written, at the suggestion of the Institute, by Ernest P. Walker, Assistant Director of the National Zoological Park in Washington, D. C., Mr. Walker knows animals as an expert and as a friend; his excellent publications, such as "The Care of Captive Animals," for the Smithsonian Institution and "The Monkey Book" published by Macmillan in 1954, have contributed greatly to a better understanding of animals and their needs. Topics covered in the handbook are:

- Developing Humane Attitudes
- Learning with Free Wild Animals
- Teaching Nutrition and Hygiene
- First Aid for Wild Animals
- Rehabilitating Wild Animals
- Injured or Ill Animals
- Final Disposition of Animals
- Housing
- Observations on Feeding
- Mammals
- Birds

- Reptiles: Turtles, Snakes, Lizards
- Amphibians: Toads and Frogs, Salamanders
- Fish
- Invertebrates
- Food Cultures
 - How to rear wax moths
 - How to rear meal worms
 - How to rear enchytraeid worms
 - How to rear cockroaches
 - How to rear flies
 - Maintaining earthworm cultures

The Animal Welfare Institute is offering this publication free to teachers in both primary and secondary schools. If additional copies are desired by teachers, or if others would like to purchase copies, they may be obtained for 25¢ each by writing the Institute.

DR. ROBERT C. BAY RECEIVES FIRST SCHWEITZER MEDAL

The first Schweitzer Medal, to be presented each year by the Animal Welfare Institute to a scientist who makes an outstanding contribution to animal welfare, was awarded on September 8 to Dr. Robert C. Bay of Salt Lake City. The ceremony, held at Michigan State University, was presided over by Dr. Lee R. Dice, Director, Institute of Human Biology, University of Michigan, and the presentation to Dr. Bay was made by Dr. Edward H. Kraus, Dean-emeritus of the College of Literature, Science and Arts, University of Michigan.

Dr. Bay, the veterinarian in charge of the colony of 450 beagle dogs at the Radiobiology Laboratory of the College of Medicine at the University of Utah, was born in Greeley, Colorado, February 22, 1922. Dr. Bay was graduated from Colorado College of Agriculture and Mechanic Arts at Fort Collins, and received the degrees of Bachelor of Science in 1947 and Doctor of Veterinary Medicine in June 1950. In presenting the medal and the accompanying check for \$500 to Dr. Bay, Dean Kraus said: "Through the Institute's activities and publications, the basic care of experimental animals and the providing of comfortable quarters for them have been stressed. Efforts are also being made to have more humane methods used in the slaughtering of food animals.

"The Institute early decided that individuals, who have contributed signally in advancing these aims, should be recognized publicly by the awarding of a suitably designed medal and a substantial sum of money.

"It is fitting that the Institute's medal should be named in honor of that world-famous physician, minister, musician and humanitarian, Dr. Albert Schweitzer. The medal was designed by the sculptor, Gustav Bohland. On the obverse side there is an excellent likeness of Dr. Schweitzer and the quotation: 'We need a boundless ethics which will include the animals also.' The various animals depicted on the reverse side emphasize the inscription 'Reverence for Life.'"

Dean Kraus reviewed the research being done at the Radiobiology Laboratory and praised the comfortable quarters in which the dogs under Dr. Bay's supervision are kept, with their spacious kennels and outside runways. He added: "In the experiments, meticulous care is taken to avoid unnecessary discomfort and in cases where severe suffering might ensue, the animal is humanely destroyed.

"It should be emphasized that Dr. Bay has been very active and exceedingly courageous in promoting the need for improved quarters and the more humane treatment of experimental animals, and also in urging legislation requiring humane methods in the slaughtering of food animals.

"Dr. Bay's scientific papers deal primarily with dog research and involve nutrition, care of the unborn, hematology, virus diseases, the various effects of radiation.

"Dr. Bay is a director of the Utah Humane Society, Inc., and has worked closely with other local and national humane groups.

"For his earnest efforts and success in advancing the humane treatment of animals, the Animal Welfare Institute deems Dr. Bay eminently worthy of signal recognition."

* * * *

Dr. Edwin F. Ellis, associated with Dr. Ralph D. Barner of the Department of Animal Pathology, College of Veterinary Medicine, Michigan State University, was the principal speaker at the ceremony. They are working together on the project recently undertaken at Michigan State to investigate humane electrical stunning procedures. He announced that he and Dr. Barner planned to make a trip to the Paulus Packing Plant in Cedarburg, Wisconsin, to witness first hand the electrical stunning of cattle and hogs and to obtain data concerning animals in which lesions may be found due to electrical stunning.

Dr. Ellis stated: "In about 1939 a study was undertaken by Dr. James P. Simonds, M.D., Department of Pathology, Northwestern University Medical School, to determine what lesions, if any, were produced by the electrical stunning of hogs. The work was sponsored by the American Meat Institute and ended, as had a previous study by Swift and Co. in 1936, with the conclusion that electrical stunning was not possible owing to the numerous petechial hemorrhages produced in the various organs. These, it was stated, were easily confused with similar lesions found in hog cholera.

"New interest has been aroused in electrical stunning, partly by a letter received from Dr. M. J. Houthuis, Rotterdam, Holland. Dr. Houthuis states, and I quote, 'there are two methods of stunning hogs by means of electricity. Neither of these methods produce lesions, provided the apparatus is not faulty.' He also informed us that in addition all cattle are now stunned prior to bleeding. We feel that with this information on hand, further evaluation of electrical stunnings is well indicated and badly needed.

"Even greater progress has been made in swine slaughter by the recent development of CO₂ gas for pre-slaughter anesthesia by the Hormel Packing Co. This work is important at a time when two bills, one introduced into the United States Senate by Senator Humphrey of Minnesota, are calling for the use of more humane slaughter methods of livestock and poultry.

"The second great stride in humane slaughter has been made by such companies as the Oscar Mayer Co., Madison, Wisconsin, and the Seitz Packing Co., St. Joseph, Missouri. The method employs a captive bolt pistol, which quickly enters the brain cavity, rendering the animal unconscious. European countries have used such an instrument for some time but improvements have been made in the technique at the Seitz Packing Co. as reported in a speech made by E. Y. Lingle, President. I would like to quote a portion of that speech to you. I quote: 'For many years, we, at the Seitz Packing Co., have felt that the method could be improved. We knew that the cause of most of the trouble in this operation is the sudden movement of the cattle in the knocking pen. When cattle are being knocked with a hammer, quite often they move just as the hammer is descending, with a resulting missed or glancing blow, which necessitates another try. A missed or glancing blow usually frightens the cattle and makes it more difficult to hit correctly the next time. In the case of larger and older animals, quite often it is almost impossible to knock them down with one or even two blows. It is the sad truth that sometimes this type of animal must be pounded into submission with several blows. The necessity for several blows can be eliminated by using a Captive Bolt Pistol, but it is difficult to get the cattle to cooperate by standing still so a Captive Bolt pistol can be used. We have long wanted to use the pistol rather than the hammer, but felt we would have difficulty using it because of the movement of the cattle.' By the use of bright lights to blind the cattle, better knocking was found possible. Mr. Lingle says further, 'But even with the lights, the human error caused some missed or glancing blows and we continued to have the same difficulty we've always had with larger, older animals. Then we realized that we could use the Captive Bolt Pistol, so we got one and tried it. It is so easy to use and so effective that we have no desire to go back to the old hammer method. Our results are better — our operation more efficient — our end product is improved — and, we're slaughtering cattle in a much more humane fashion.' The advantages of this method are outlined as follows:

1. Greater safety for the cattle knocker.
2. The job is easy to teach.
3. Better results.
4. Greater efficiency.
5. It is more humane.

"The only disadvantage mentioned by Mr. Lingle was that the brain became contaminated by the introduction of the bolt into causing a loss of less than five cents per head. This loss, he stated, would be more than offset by having fewer bruised cattle because of more gentle handling.

"In conclusion, I would like to say that if electrical stunning can be developed to a point where it is as successful as CO2 gas and the Captive Bolt Pistol, another more humane tool will be available to the meat packers of our country. It may be proved by careful investigation that the use of electricity is not the answer. In our study at Michigan State we will evaluate procedures carefully and you may be sure that every effort will be made to ascertain the facts and report them to you.

"Dr. Barner and I wish to thank you for entrusting a portion of your important work to us and for the honor of being invited to participate in a small way in such an important event as the awarding of the Schweitzer Medal."

* * * *

The Schweitzer award ceremony was a part of the annual meeting of the Institute, in conjunction with the meetings of the American Institute of Biological Sciences September 5-9. The Animal Welfare Institute booth exhibit, featuring quotations and pictures of Albert Schweitzer, which was scheduled and announced by the AIBS in its Bulletin and by the AWI in its May-June Information Report, was not on display because of a last-minute cancellation on August 27. The reason given was that a protest had been received from the representative of the Physiological Society on the AIBS Board, who objected to the AWI because of its well known opposition to animal seizure legislation. The award ceremony, however, was permitted to be held as scheduled.

TRANSPORTATION OF MONKEYS BY AIR

The methods used in transporting over 100,000 monkeys to the United States during the past year have led to much unnecessary suffering and death. In order to improve conditions for these animals, the Animal Welfare Institute has sought the cooperation of importers, scientists, animal protective societies and law enforcement agencies. Some important progress has been made, although there has been a surprising amount of unreasonable opposition to the fulfillment of simple, basic needs for these monkeys in transit. (One dealer, for instance, expressed bitter resentment toward the Animal Welfare Institute for calling his attention to the fact that his monkeys were being compelled to go without water for long periods.)

Two especially encouraging developments are the recent recommendations proposed by the British Medical Research Council, and the new set of regulations endorsed by one of the largest importers of monkeys to the United States. Losses of monkeys in transit were cut substantially when these latter regulations, reprinted below, were applied to all shipments. The Animal Welfare Institute urges all importers of monkeys to adopt these regulations.

Proposed Regulations for Handling and Shipping of Monkeys

Animals for Shipment

All animals for shipment should be clean looking, healthy, active monkeys in good flesh. They must be free of apparent infection or malady and should weigh from 6 to 8 lbs. No animals under 4 lbs. will be accepted. Also, no pregnant animals will be accepted. Animals should be trapped in the wilds and have minimum contact with people, to avoid tuberculosis and other infections.

Tests and Treatment Prior to Shipment

The attendants looking after the animals should be free of tuberculosis or other apparent disease. Unless all animals have been obtained in locations remote from human habitation, they should be tuberculin tested 4 to 5 days before shipment. The preferred test is to inject intracutaneously 0.1 cc. of *Old Tuberculin* containing 5 mg. into the upper right eyelid of each monkey, then observe them each day for three days for thickening or edema of the eyelid. All reactors must be discarded. Animals should have adequate food and sanitation during the holding period, and

prompt removal of dead, dying, or sick animals should be made. Special care should be taken to look for evidence of bloody diarrhea at the base of the tail, and animals showing these signs should be removed promptly from the colony. The monkeys should be *well* fed and *well* watered just before shipping. They should be put into clean cages, *grouped by sizes*, as soon as possible before take-off. Six to 10 monkeys may be placed in each standard crate, depending on the size of the animals. Food and water should be placed in the crates for the beginning of the flight.

Handling and Care in Transit

Monkeys should be shipped preferably in a pressurized plane. It is recommended that the pressure in the cargo area be maintained in the range of 5,000 to 7,000 feet while in flight. Non-pressurized planes carrying animals should not fly over 8,000 feet. The preferred temperature for the monkeys is 75° to 80° F. Special care should be taken to avoid temperatures below 70° and above 85°. Also, rapid changes in temperature should be avoided. If local conditions make it necessary to have temperatures in excess of 85° F., it is imperative that supplemental ventilation be supplied. Monkeys in a confined area are much more susceptible to heat prostration than they are in their natural habitat. Crates should be stacked in the plane to permit adequate and maximum ventilation. Care should be taken to avoid direct drafts. Adequate and proper ventilation should be provided for the cargo area any time the plane is on the ground. Dry feed *which the monkeys will eat* should be in the cages at all times. This should be replenished at least twice every 24 hours. The animals should be watered well at least four times in 24 hours. It is essential that the feeding and watering trays are not interchanged between cages. For direct flights it is requested that the animals be removed from the plane once at about the halfway point to permit cleaning of the cages. Extreme care should be taken to avoid rough handling of the crates in loading and unloading; crates should also be well tied in the plane to avoid shifting of cargo. It is recommended that an empty crate or two be provided so that weak animals can be segregated enroute and special attention given to feeding and watering them. It would also be desirable to segregate unusually aggressive or "bully" monkeys.

Keeping of Log

A log should be kept up to date during the entire trip and be available to the importer immediately upon arrival of the shipment. This log should include the following information:

1. Time of Departure.
2. Record of stops made along the way and time on the ground of those stops.
3. Temperatures of the cargo area. E.G.-Maximum and minimum temperatures, and average temperatures for most of the trip. In this connection, the temperatures of the cargo area during flight and temperature of the cargo area on the ground should be given.
4. Record of feeding and watering enroute. Comments as to whether the monkeys are eating the food provided.
5. Record of when cages are cleaned.
6. Record of dead animals removed with time of removal (hour and day).
7. Miscellaneous comments which may help in subsequent care of the animals.

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The award of the first Schweitzer medal to Dr. Robert C. Bay on September 8, 1955 was announced in the last Information Report, and the remarks of Dean-emeritus Edward H. Kraus who presented the medal and of Dr. Edwin Ellis who spoke on humane slaughtering methods were quoted. Dr. Bay's acceptance speech appears in this issue.

This November Dr. Bay terminated his connection with the Radiobiology Laboratory of the University of Utah. His resignation was due to the development of conditions within the laboratory which he found intolerable. The more than four hundred beagles which he and his staff had raised and which they knew and treated as individuals were being subjected to unnecessary suffering. It had always been the rule that dogs which began to develop painful symptoms as a result of experimental work should be painlessly destroyed. This considerate policy was one of the major reasons why Dr. Bay was selected to receive the Schweitzer medal. The excellent care and roomy quarters provided for the animals under his supervision were very important considerations too in making a decision on the award. Overcrowding of the quarters began. Other conditions detrimental to the well-being of the animals developed. The climax came when Dr. Bay was refused permission to bring an end to the suffering of a beagle which had developed 27 different fractures as the result of injections of radioactive material. In addition to the painful fractures, the dog's mouth had become severely ulcerated. There was no valid scientific reason for prolonging his suffering, but it was determined that he must have the slow and painful death rather than the quick and painless one which Dr. Bay asked for him. Dr. Bay resigned. He has gone into private veterinary practice.

Men as courageous and humane as Dr. Bay are rare. He is clearly even more worthy of the first Schweitzer medal than was supposed when it was decided that he should receive it.

AMERICAN AND EUROPEAN SLAUGHTERING METHODS

It has been a great disappointment to humanitarians that not one single American packing plant, except the Hormel Company which invented it, has installed a CO₂ tunnel for anesthetizing hogs prior to slaughter. The hogs lose consciousness within a few seconds after entering the 65% concentration of CO₂ and remain unconscious while being slaughtered. Instead of this, however, most hogs killed in the United States are jerked aloft by a chain around one hind foot and sent along a rail or over a huge wheel to the sticker, who stabs the throat of the conscious and screaming animal, which finally becomes unconscious through loss of blood. Sometimes the struggling creature breaks its leg or pelvis. Sometimes it falls down on the floor again, its foot having slipped out of the chain. If it is not correctly stuck, it may go into the boiling water tank while still conscious. Animals are not the only sufferers in this barbarous procedure. Men working under these conditions often sustain painful and serious injuries. The safety record of the packing industry is the second worst in the nation.

It is difficult to understand how anyone could wish to continue with such a system; yet the CO₂ tunnel was invented in 1950, made available to the meat packing industry in 1952, and 1956 will come with no one but Hormel having installed additional tunnels.

LEGISLATION NECESSARY

Persons familiar with the development of humane slaughter in the numerous European countries which now practice it indicate that there is nothing unusual in the failure of the majority of American packers to adopt a humane method of slaughter. Indeed, had they done so they would have provided a unique example of voluntary humaneness. In no country has the majority of animals slaughtered received a merciful death until legislation has been enacted making humane methods of slaughter compulsory.*

Animals in at least half a dozen foreign countries are almost certainly going to benefit from this humane American invention before American hogs—other than those lucky enough to end up in the Hormel plants at Austin, Minnesota, or Fremont, Nebraska where CO₂ tunnels are in operation. In the course of a recent series of visits to slaughterhouses overseas, a representative of the Animal Welfare Institute observed the operation of a new type of CO₂ anesthetizing machine in Denmark's largest bacon factory, where it has been in use for a little over a year. The pigs follow one another willingly down the little corridor leading into the machine. Once inside, they are carried down the level where the carbon dioxide, which is heavier than air, rapidly anesthetizes them. There is a small window in the basement where the pigs may be observed shortly after reaching that level. In every case observed, the

*Countries which now have such laws are England, Scotland, Northern Ireland, Switzerland, The Netherlands, Denmark, Norway, Sweden, Finland, New Zealand and parts of Austria, Germany and France.

pig's head was nodding, his eyes slowly closing, and, as he passed the window, he fell over on his side. When he came up on the other end of the U-shaped tunnel, he was completely anesthetized. He was then promptly shackled and bled. The pigs hang from 5 to 10 minutes before going into the scalding tub.

DANISH CO₂ ANESTHETIZING MACHINE IS COMPACT

The total floor space required for this compact machine is only 6½ feet by 18 feet, and up to 240 pigs per hour can be anesthetized in it. If a single person working in a small plant wishes to do so, he can operate the entrance gate for separating the pigs as they go in and then shackle and bleed them as they come out, at a rate of 80 or more pigs an hour. No special skill is required to operate the machine because it is fully automatic. Its cost is \$4,500.

With the large-scale Hormel tunnel which anesthetizes as many as 600 hogs per hour and the new Danish machine for small to medium sized plants, the field is well covered. The Danish machine is available only in countries outside the United States and Canada at present, but undoubtedly the necessary arrangements will soon be made so that North American plants can obtain this or similar equipment.

It should be noted that a curious objection has been raised by some of the opponents of humane slaughter to the use of CO₂. It has been alleged that it suffocates rather than anesthetizes the animals. Therefore, Dr. Sv. M. Blomquist, veterinary inspector at the Research Institute of the Danish Bacon Factories in Roskilde, (where a very complete study of this method of rendering animals unconscious prior to slaughter has been carried out,) was questioned on this point. He stated that CO₂ is a narcotizing agent whose effect is rapid, the pigs becoming unconscious in five to ten seconds in a concentration of 65%. They do not collapse as a result of suffocation, and they can remain for a relatively long period in the CO₂ atmosphere without suffocating. A pig which remained for approximately ten minutes in this atmosphere was alive, although, of course, unconscious when removed. Mr. N.E. Wernberg, who designed the equipment, states that pigs which are allowed to recover consciousness are fully awake after three minutes and are willing to repeat the trip through the anesthetizing machine without any objection. Those who are interested in obtaining further information from him may address him at 40, H.C. Andersens Boulevard, Copenhagen, Denmark.

Although CO₂ is the newest, it is of course by no means the only, method in everyday use for rendering animals unconscious prior to slaughter. The captive bolt pistol has been widely used since 1912 and is standard equipment for stunning cattle in most civilized European countries. In different sizes, it can be used for every kind of animal. The captive bolt takes the place of a bullet, thus protecting the safety of employees, but an animal shot with it drops instantly unconscious as if a rifle had been used to shoot it through the head. The gun is easy to operate, requiring neither the strength nor the skill that a man trying to stun a large animal with a hammer must have. It is not uncommon for a steer to receive as many as ten or more blows of the hammer before he succumbs. The captive bolt pistol is the old standby, and regardless of what method is being used in any particular slaughterhouse on any particular species of animals, there are sure to be one or more captive bolt pistols on the premises for emergencies if the slaughterhouse has adopted humane methods throughout. Distributor of the Cash-X Pistol in the United States is the Koch Supply Company, Kansas City, Missouri.

HUMANE SLAUGHTER IN THE NETHERLANDS

Electric stunning tongs were first patented in 1928 and are widely used for stunning pigs, sheep, and calves and sometimes cattle. They require skilled operators, as has been recognized in the Dutch law of 1954 which makes it mandatory that electric stunning be applied only by trained stunners who have passed an examination. This carefully detailed law was the result of much study. Dr. M. J. J. Houthuis, who is the Director of the Public Slaughterhouse in Rotterdam and the Chairman of the Committee on Humane Slaughter of the Dutch Society for the Protection of Animals, took a very active part in the development of the Elther Electroshock apparatus, and he was also responsible for seeing that the numerous conditions requisite for the humaneness and effectiveness of electrical stunning were included in this law.

In Rotterdam, cattle and sheep are stunned with the Elther Electro-shock apparatus. Unlike most stunning tongs, it need be applied for only one to one and a half seconds. To an observer, the effect is the same as the captive bolt pistol: the animal collapses instantly. Dr. Houthuis, a veterinarian with a profound interest in the prevention of animal suffering, has designed long-handled stunning tongs with a view to meeting the requirements of American plants where cattle cannot be handled as they are in Rotterdam. He believes that with the proper apparatus, properly installed, tested and maintained, and with trained operators doing the stunning, electrical stunning could be used on a wide scale in American slaughterhouses. Persons desiring additional information may address him at the Public Slaughterhouse, 34 Boezemstratt, Rotterdam, The Netherlands.

In respect to electrical stunning, it is also important that the facts be kept straight, because efforts are being made to sabotage humane slaughter in general, on the basis of the complex problems involved with this method. As noted above, the conditions for electrical stunning must be exactly right and the stunner well-trained. Any deviation is likely to result in one or both of two serious troubles: 1) a painful missed shock or paralysis rather than unconsciousness for the animals, or 2) blood splash in the meat. Dr. Phyllis Croft has done a considerable amount of scientific research in order to establish minimum standards and means of testing whether animals are stunned or only paralyzed. Persons desiring information from her may address her at the Universities Federation for Animal Welfare, 7A Lamb's Conduit Passage, London W.C. 1, England. The Elther Electroshock apparatus as applied to cattle and sheep in Rotterdam provides instant unconsciousness for the animals, and the meat passes the inspection of U.S. Army veterinarians, three of whom were present on the premises at the time of the visit of the A.W.I. representative. They stated that difficulties had been experienced with electrical stunning where the animals were not suspended soon enough afterwards, but that it was satisfactory from a meat-inspection standpoint in Rotterdam. Dr. A.R. Miller, Chief of the Meat Inspection Branch of the U.S. Department of Agriculture, together with eight representatives of American packing companies, visited Rotterdam this October to observe electrical stunning practices there.

In Denmark, five or six of the 84 bacon factories had voluntarily adopted electrical stunning of pigs for periods ranging from five to twenty years before compulsory humane slaughter was put into effect in 1954 as a result of wide public demand. At that time CO₂ tunnels were unknown in Denmark, so electric stunning was inaugurated in all the plants. There were no regulations concerning the equipment or its use, and in short order all kinds of troubles developed. One large bacon factory had a huge number of pork loins rejected by the American Army in Germany on account of blood splash. Some Danish hams were returned from the United States for the same reason. Considerable excitement reigned in the meat industry until the Ministry agreed that electrical stunning should be investigated and the new Danish law requiring humane slaughter was temporarily relaxed to permit suspension of electrical stunning. The captive bolt pistol continues to be used on cattle and the CO₂ plant in Kolding continues for the anesthetization of pigs, but most of the pigs are being currently killed in the cruel, old manner. There is a general expectation that electrical stunning under carefully regulated conditions will be approved this April in Denmark, and the law requiring humane slaughter will go back into effect. It is probable that a number of Danish firms will choose CO₂ rather than electricity, however, since the scientific work carried out in the industry's laboratories indicates that even when it is correctly carried out, electrical stunning has disadvantages for an export business in lightly cured hams and bacon. Studies on the PH of meat from pigs which have been stunned electrically and those which have been made unconscious with CO₂ showed the latter to be the same as that from unstunned pigs and better from the point of view of long-term keeping qualities.

These technical details may seem out of place to some humanitarians, but it is essential that those who want food animals to be humanely killed know the facts. If they do not, the opponents of humane slaughter will take advantage of their ignorance. It is regrettable to have to report that a good deal of confusion has been caused by the inexplicable vacillation and inaccuracy of the American Humane Association and the Massachusetts SPCA concerning humane slaughter. The AHA sponsored the humane slaughter bill introduced by Senator Humphrey (S.1636), then asked that it be held up. The MSPCA first stated that it favored the legislation, then joined the American Meat Institute and the AHA in characterizing Senator Humphrey's bill to require humane slaughter as "prematuration". The MSPCA speaker at the 1955 AHA convention expressed the view that if, through a meeting of minds, we continue along the path started years ago by Dr. Rowley and others the objectives of all groups will be realized. He said he felt this approach might "obviate the need for legislation". He concluded that Senator Humphrey's bill (which had been held for the 1956 session of Congress at the request of the AHA) had "served a worthwhile purpose—it started the cooperation we are now experiencing."

These sentiments are not unlike those which Dr. Rowley, past President of the MSPCA, expressed to the delegates at the American Humane Association convention in 1929. He told them they needn't worry any longer about obtaining humane slaughter because "the packers are with us," and he assured the hopeful humanitarians that the packers would voluntarily adopt humane methods. Thirty years and millions of cruelly-killed animals later, we know that he was wrong.

* * *

SPEECH OF ROBERT C. BAY IN ACCEPTANCE OF THE SCHWEITZER MEDAL

"It is with a great deal of humility that I appear before you today to accept the Schweitzer Medal. I feel very small and unworthy of such an award. I'm sure that there are many others in this country of ours who are much more deserving than I. I accept this award, not for myself, but on behalf of the fine technical staff who have worked so devotedly and untiringly with me in the Veterinary Division, Radiobiology Laboratory, College of Medicine, University of Utah. It has been through the cooperation, personal pride, and conscientious efforts of these people that the beagle colony has gained national and international attention. I would also like to thank Dr. John Z. Bowers, former Dean of the College of Medicine and director of our project, for his far-sighted approach and complete support of the policies we used in the building, maintenance, and experimentation carried on at the Radiobiology Laboratory.

"This problem of humane animal research is a complex one with lack of understanding of the scientist towards humane organizations of your type. I feel very sincerely that the approach the Animal Welfare Institute has taken toward the betterment of animal facilities and care is a very sound one and deserves the attention, consideration, and acceptance of every scientist doing research of any kind with animals. It is most unfortunate that some scientific groups and individuals haven't taken the time or shown the interest to study the purpose and worthwhileness of your efforts. You are not saying that animals should not be used in biological research because you are intelligent people and realize the necessity of animal research for the betterment of *all* living things, but you feel that the comfort and careful manipulation of the animal should be given prime consideration. I must emphatically say, as a novice scientist, that I agree with your recommendations completely.

"It is extremely disgusting to me, speaking from the scientific side, that some animals are so needlessly wasted in biological teaching demonstrations and in actual research simply because the condition of the animal is so deplorable (physically and emotionally) at the time it is used. I feel ever so strongly, and have seen it demonstrated so vividly many times, that much of the research that is published on animals isn't worth the paper it is printed on, to use a trite phrase. This is true simply because the animals were not 'physiologically sound' at the time the experimentation was carried on.

"Too often I've seen thousands of dollars spent on elaborate and precise equipment, trained personnel, and modern laboratory facilities and the most important part of the whole endeavor, the animal, was left until last for consideration and put in a cold, dark, cramped cage, with inadequate ventilation, no consideration given to sanitation or nutrition or comfort. The animal waited in agony, without choice, his fate for the betterment of mankind or someone's personal ego.

"In well-maintained, well-controlled animal colonies the 'biological variations' from individual to individual or group to group are often very great and good controls are difficult. Add unpleasant quartering, disease, poor sanitation, abusive caretakers, and improper handling during experimental proceduring and any chronic experiment is practically void of scientific significance.

"I realize full well that short term experimentation and certain anatomical and surgical procedures can be done with significance with less adequate control procedures. But I ask the physiologist or bio-chemist how he can publish sound physiological data on physiologically unsound subjects?

"It can be shown, in fact it has been shown, that animal research of accurate reproduceable caliber can be done with less expense and with more personal satisfaction where there are adequate and comfortable facilities, where the animals are kept parasite free, disease free, well nourished, and happy. The researcher who loses an animal from neglect, of some type or another, just when the animal is most valuable to his experiment, has wasted valuable time and money. I have seen this happen many times in many places.

"Much of the blame must be placed on the teachers in medical schools, veterinary schools, and biological graduate schools for not teaching the student that kindness to animals is 'Godly', that they are fortunate to be able to use animals in their study, and that the animal should be handled as the most expensive and delicate equipment.

"Too often I have seen graduate students and professors approach an experimental problem involving animals without the slightest concept of the following:

1. Proper housing
2. Proper diet
3. Diseases most likely to be encountered and the measures that should be taken to prevent them
4. How to hold, handle, or manipulate the animal for experimental technics

'A little knowledge is more dangerous than none at all'.

"The role of animal caretakers is of utmost importance. I don't feel this point can be overemphasized; it is the one that is very often not considered at all. I feel they should be of high caliber, paid well, have a personal pride in their work, maintain a high degree of personal sanitation and cleanliness and apply this to every phase of animal care, and most important that he or she be kind and gentle and that he or she likes the animals and gives them individual attention.

"Slow progress is being made in the betterment of laboratory animal facilities but there is much room for improvement almost everywhere. For a country that supposedly leads the world in culture, Christianity, and social progress, we certainly lag behind in our humane approach to animal research.

"I, personally, would like nothing better than to debate my theories and practices with any biological scientist or student.

"HUMANE RESEARCH IS THE FIRST STEP TOWARDS GOOD RESEARCH".

* * *

NEW ADVISORY COMMITTEE MEMBER

A naturalist and writer of great distinction has recently joined the Advisory Committee of the Animal Welfare Institute. Dr. Joseph Wood Krutch is the author of "The Measure of Man", which received the National Book Award for non-fiction published in 1954, "The Desert Year" which was awarded the John Burroughs Association Medal, "The Best of Two Worlds", "The Twelve Seasons", "Henry David Thoreau", and others. In his most recent book, "The Voice of the Desert, A Naturalist's Interpretation", Dr. Krutch writes: "We must be part not only of the human community, but of the whole community; we must acknowledge some sort of oneness not only with our neighbors, our countrymen and our civilization but also some respect for the natural as well as for the man-made community. Ours is not only 'one world' in the sense usually implied by that term. It is also 'one earth.'"

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