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A STATEMENT ON HIGH SCHOOL SCIENCE TEACHING BY DEAN ARMISTEAD

Dr. W. W. Armistead, Dean of the College of Veterinary Medicine of Michigan State University, has made an excellent statement which might well be used as a guide by all teachers of high school biology. Extra copies are available without charge on request from the Animal Welfare Institute for distribution to schools and science fairs. The statement is as follows:

Although the interest of high school students in biological research certainly is commendable and should be encouraged, living animals sometimes are mistreated in laboratory exercises. Such practices must be condemned by all legitimate scientists who respect life and understand research. There is no justification for conducting in the secondary school an experiment which would cause pain to an animal.

Secondary school administrators should insist that every experiment involving live animals fulfill at least the following conditions:

1. No experiment using live animals should be attempted unless comfortable quarters, adequate food and water, and humane treatment can be provided.
2. Such an experiment should have as a clearly defined objective the teaching of some biological principle which can not be taught effectively without animals.
3. Important collateral objectives of every such experiment should be to train students in the proper handling of animals and to teach reverence for life in any form.
4. If the school faculty includes nobody with training in the proper care of laboratory animals, the services of such a person on a consulting basis should be sought. Often a local veterinarian is happy to offer this kind of help.

DIRECTIVE ON THE TREATMENT OF EXPERIMENTAL ANIMALS

With the kind permission of Dean Charles G. Wilber of Kent State University, the following memorandum which he has issued to ensure proper care of experimental animals is published below. The Animal Welfare Institute is glad to provide "Basic Care of Experimental Animals" in the amounts needed to all institutions using animals. There is no charge for this service.

KENT STATE UNIVERSITY GRADUATE SCHOOL
KENT, OHIO
16 February 1962

M E M O

To: All Departments Concerned
From: The Dean of the Graduate School
Subject: Care of Laboratory Animals

1. Directors of theses and dissertations are urged to remind graduate students that acceptable experimental results cannot be obtained from sick, abused, or improperly handled animals.

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VISITS TO LABORATORIES SHOW NEED FOR H.R. 1937

During the past ten years, representatives of the AWI have visited laboratories throughout the country making careful note of the conditions of experimental animals. Wherever bad conditions have been observed, and they are discouragingly common, we have requested that they be corrected. Occasionally, as in the case of a hospital in New York which received strong adverse newspaper publicity on these conditions, we have succeeded in obtaining the necessary changes. In many cases, however, the conditions have either been unchanged, or only slightly modified.

The provision to laboratories of thousands of free copies of our educational manuals "Basic Care of Experimental Animals" and "Comfortable Quarters for Laboratory Animals", as well as other free information, has, we believe, prevented some animal suffering which would otherwise have taken place. It is clear, however, that education alone is totally inadequate to deal with the negligence, callousness, and the sometimes extreme obstinacy which are at the root of most of the worst conditions. Only a mandatory law can give the reasonable protection urgently needed by experimental animals in regard to their care, their housing, and their use in experiments, so that civilized standards will obtain in laboratories throughout our nation. H.R. 1937, which is now pending before Congress, and which is modelled on the British Act in effect since 1876, would provide this protection.

A few specific examples of the type of mistreatment which is common, taken from notes compiled over the ten-year period, are submitted below.

Eastern Hospital Laboratory, 1961

Rabbits in cages too small for them to lie down and stretch out. They must sit perpetually with legs underneath them or bent sideways. Doctor in charge of rabbits said he saw no reason to change since he had had a rabbit in such a cage since 1958 and it can still walk when taken out of the cage, which means to him "as a doctor" that it is all right. Sick rabbit shown to another doctor whose name was on this animal's cage (rabbit was coughing, sneezing, yellow mucous running from nose and encrusted on paws.) This doctor declined to look at the rabbit but instead stated that they take very good care of the animals, that they don't let them become ill because "it is to our interest to have them in the best health." He left the room a few minutes later without examining the rabbit. On a return visit to this hospital a thin kitten with a head operation was observed with one paw bent back and dragging; the foot was covered with dried discharge. The doctor stated that they could not "examine the cats from head to foot" (though he received over \$30,000 U.S. Public Health Service grant money using these cats last year).

Eastern Medical School, 1961

All dogs caged, never released for exercise. Three emaciated dogs curled up and uninterested even though most of the dogs were barking furiously. A grey poodle with incredibly matted fur, with food and filth stuck in it. ——— said he had trimmed it once, so it must have been there for a long time. This dog did not respond in any way but stood mute and motionless in its cage. A black and tan mongrel was too tall to hold its head normally. When standing, the dog's back was rubbing against the top of the cage. The university refused to build cages any bigger despite urgent requests to do so when the building was

first constructed. . . . Post-operative dog room: many were too sick to rise, some had had two operations. One heart surgical case was emaciated, had a tremor and lacked one eye from which red flesh extruded. ——— first explained dog's condition as brain surgery, but later decided the dog had lost his eye and developed chorea before coming to ———. Apparently, this did not deter its use for heart surgery. The dog drank water almost continuously. No attendants in any of the dog rooms. Asked if dogs as sick as those we had seen can get up for hosing of cages ——— said they could. He said none of the dogs we saw had been given any sedation. . . . Many rabbits, like some of the dogs, were in cages too small to stretch out in normal resting position. Two rabbits quite often were squeezed into one such small cage. Their noses were running in many instances and there were sounds of coughing. The room was very hot and ammonia pricked the observer's nostrils. Rats were generally better housed though some were extremely overcrowded despite the presence of empty cages, and some had been blinded till their eyes actually disappeared by radiation. Mice had the most comfortable cages of all the animals. Same conditions were observed in this laboratory from 1956 on. Yet this institution received over \$3,000,000 last year from the U.S. Public Health Service.

Eastern Hospital Laboratory, 1960

Dr. ———, head of animal laboratory, a recipient of over \$60,000 annually from Public Health Service grant, repeatedly misrepresented facts and broke promises about animals and their care. He flatly refused to supply water to guinea pigs, took an infant guinea pig up and threw it back in the cage remarking "how healthy it is." The little animal lay struggling on its side unable for some time to regain its feet.

Government Laboratory, 1961

Employee weighing rats swung them in and out of cages by their tails, slamming cages shut. Within a few minutes' observation one animal's tail was caught, another animal's foot caught and injured and blood flowed. However, the employee's methods received approval from the scientist in charge. Shortly after, the employee was observed smoking in the hallway, the frenzied speed of his working period apparently forgotten.

Eastern Medical School, 1954

Box of opossums deliberately thrown on the concrete floor by employee. No comment from scientist who observed rough handling. Monkey in cage so low it could not stand normally but always had to crouch. Mother dogs with tiny pups confined to all metal mesh cages with no bedding; nothing but dry dog food thrown on floor of cage to eat.

Eastern Medical Center, 1953

About 100 dogs in windowless room, all metal mesh bottom cages, never released for exercise. Dogs strong enough to do so barking, slamming against the cages so that it was necessary to shout at the top of one's lungs in order to be heard. A dog still unconscious, brought directly from operating room, lay on metal mesh; nothing to lie on, no cover or means of keeping animal warm. Laboratory veterinarian unable to tell what was wrong with individual desperately ill animals, not acquainted with their cases.

Western Medical School, 1953

One hundred or more dogs in windowless dark room which had just been cleaned. Dr. ——— admitted that virus infections often spread in this room. Dogs too sick to get up had been hosed down with the cages. An old, half blind spaniel was soaking wet, lying trembling on the bottom of the cage. It had had major surgery. Stronger dogs were barking, begging for attention. The noise was intense, the air overlaid with moisture. We were also shown the elegantly appointed meeting room next door to the huge operating room for surgical experiments on dogs. The contrast between the waste space in the operating room and the overcrowding in the dogs room was shocking. (U.S. Public Health Service grants last year over

\$1,000,000 for each of the last three institutions referred to.)

Middlewestern Medical School, 1960

Mice used by research worker who last year received over \$50,000 in U.S. Public Health Service grants were reportedly dying of starvation because instead of mouse pellets, they were given rat pellets so hard that the mice were unable to eat them.

Middlewestern Medical School, 1952

Thousands of hens in cages so tightly packed that it was impossible to estimate how many were in a cage. In response to ———'s statement that the housing of the chickens was terrible, attendant said he had seen it worse than this.

Twenty young Cocker Spaniels housed in all-metal cages, never released for exercise. They were frantically excited and anxious to be let out.

An estimated 60,000 animals of all types were used annually at this time. In none of the large animal areas shown us was there provision for exercise.

Middlewestern Pharmaceutical Company, 1952

Half-grown chickens kept in a battery designed for baby chicks. They could not raise their heads, but were forced perpetually to crouch.

Rabbits in cages in which they could not stretch out in normal resting position. No exercise for dogs.

Eastern Medical School, 1959

Small room containing small mesh-bottom cages used for post-surgical dogs. Large spaniel, still unconscious, was lying in a cage so small that its head was forced up against one side in order to get the animal into the cage.

Middlewestern Medical School, New Research Building, 1955

All animal rooms windowless. All same size. Small cages for all types of animals: cats, dogs, rabbits, guinea pigs. No comfort for animals.

Middlewestern Medical School, 1951

Row after row of dog cages stacked up three tiers high. All dogs appeared dejected or sick, some growled, two or three feebly wagged their tails. Some extremely emaciated. Unconscious dog strapped to a board brought into room. No attendants to be seen.

Eastern Dental School, 1962

Anesthetized monkey lying without any provision for warmth in mesh bottom metal cage. Evidence of epidemic disease among the cats which were coughing, mewling, refusing to eat. All were maintained on wide-spaced diamond mesh through which their toes slipped. Sores observed on one cat's feet. Many of the cages so dark it was impossible to see the cats clearly. Cage bottoms were encrusted with feces. There were no sanitary pans, no resting boards. Some cats had large surgical wounds. Dogs in wire mesh bottom cages. About twenty are never released for exercise. The other twenty are let out, but the runway to which they are released was filthy. The entire animal quarters were infested with cockroaches and wild rodents. The investigator using the sick cats received nearly \$30,000 last year as a U.S. Public Health Service grant for this work.

Western Hospital, 1961

Fifty dogs perpetually caged in windowless room. Many extremely emaciated. English Setter with thyroid gland implanted in brain was nearly a skeleton; its fur was wet, and it turned round and round in its cage in insane fashion from time to time. Boxer with an implant in a mammary gland had been there nearly two years. Its face was strange and expressionless. It, too, was emaciated. A German Shepherd in the corner was hunched up. It did not stand up to greet visitors but crept painfully to the front of the cage. Dr. ——— says they expect the dogs to lose weight. Institution received over \$300,000 U.S. Public Health Service grants last year.

An article released in December by the National Society for Medical Research, opponents of H.R. 1937 for the humane treatment of laboratory animals, was titled: "RESEARCH DOGS ARE MORE PAMPERED THAN PETS. Kid Gloves in the Lab." Its lead paragraphs, as published in the Arlington Heights (Ill.) Herald, stated: "If a Texas millionaire wanted to give his pet hound the world's finest care, he would be hard put to equal the kid-gloves treatment which thousands of dogs receive today in modern animal research laboratories throughout the nation. In immaculately-kept 'vivariums' maintained by government health agencies, universities, pharmaceutical laboratories and research hospitals throughout the U.S. and Canada, dogs and dozens of other animals from mice to goats are vastly more pampered than the most prized household pets—and for good reason."

Such brazen attempts to mislead the public about conditions in laboratories would be beneath notice but for the fact that they have helped to bring about the situation which exists today. An astronomical increase in the numbers of animals used in laboratories has taken place without the provision of any safeguards for the animals. The taxpayer pays for the animals and their use, but he has no guarantee of any kind against their abuse.

The above instances were selected in an attempt to give a general picture without constant repetition of similar situations found in laboratory after laboratory. Beyond the suffering directly caused, inept management leads to additional suffering and waste. For example, failure to mark cages, which can lead to confusion and error, is a very common practice. (Often even when cages are marked, inquiry reveals that an old marking has been left on the cage. For example, the name of a doctor who had not used dogs for three years was still "identifying" dogs in one animal room recently visited by AWI representatives. In another, a cat was "found" occupying a cage for a similar length of time, everyone assuming that it belonged to somebody else.) Students sometimes try a substance out on an animal to "see what will happen". Planning, identification of animals and recording of experiments ought to be the rule in any laboratory having the privilege of experimenting on living animals.

H.R. 1937, by providing humane standards in the treatment of animals used for experiments in laboratories supported in whole or in part by federal funds, would put an end to inexcusable suffering. By providing the means of enforcing those standards through the licensing of experimenters and the requirement of minimum record-keeping, it would also improve the quality of research.

DEAN WILBER

(Continued from Page 1)

2. In order to insure that every graduate student who is working with vertebrate animals is informed of the minimal requirements for proper handling of experimental animals, I ask that each supervisor of graduate students demand that each student under him read and understand the following publication:
BASIC CARE OF EXPERIMENTAL ANIMALS
published by the Animal Welfare Institute
3. Copies of the publication are available in Graduate House, gratis, through courtesy of the Institute.
4. Each laboratory in which animal experimental work is performed should have posted in a conspicuous place the rules of ethical use of such animals. The laboratory supervision should sign the declaration and demand rigid compliance by all using the facilities.
5. These rules are essential to the effective advancement of biological science.

CHARLES G. WILBER

OPENINGS AS NATURE COUNSELORS

Science teachers, college students, and other young women interested in conservation and ecology are now being recruited to serve as summer nature counselors, according to an announcement by the Girl Scouts of The United States. In taking such employment, many natural science enthusiasts can combine vacation and vocation working with girls 7 through 17 years old at Girl Scout camps. The Girl Scouts maintain 22 Memorial Forests devoted to wild life conservation.

To qualify as a nature consultant, a woman must be at least 21 years old and have the required specialized knowledge, based either on formal training or on personal interest in the study of nature and the out-of-doors. Salaries are determined by the individual's experience, qualifications and training. Those interested may apply to: Miss Fanchon Hamilton, Girl Scouts of the U.S.A., 830 Third Avenue, New York 23, N. Y.

The Animal Welfare Institute manual, "First Aid and Care of Small Animals" has been widely used by Girl Scout leaders in developing a humane attitude toward wild life.

NEW DEVICE TO END SHACKLING AND HOISTING

A major advance in the humane handling of cattle prior to kosher slaughter has been announced. A new type of restraining pen, which meets the sanitary standards of the Meat Inspection Division of the U.S. Department of Agriculture, has been developed by Cross Bros. Meat Packers, Inc., a leading Philadelphia firm. It is approved as being in accordance with ritual requirements by the Joint Advisory Committee of the Synagogue Council of America and the National Community Relations Advisory Council. Use of the pen will put an end to the present system of shackling with a chain around one or two legs and hoisting the fully conscious animals. Prompt adoption of the new pen will prevent much pain and fear now being inflicted.

The Allbright-Nell Co. of Chicago, manufacturers of the equipment, is now accepting orders for the pen. The address of the company is: 5323 So. Western Boulevard, Chicago 9, Illinois. The pen makes use of a pneumatic system which will maintain present production rates, accommodating approximately 60 head of cattle per hour. It will reduce injuries to slaughterers and animals.

The successful development of this pen, and its subsequent approval by the MID and Jewish leaders, makes possible prompt enactment of state humane slaughter bills that prohibit shackling and hoisting of conscious animals whether or not they are destined for ritual slaughter. It is expected that a similar device will soon be developed for calves and sheep, so that those animals not handled manually when prepared for ritual slaughter will also receive humane pre-slaughter handling.

State Legislation

Bills designed to protect those food animals not covered by the Federal Humane Slaughter Act which went into effect August 30, 1960, have been introduced in four State legislatures.

Commenting editorially on one of the humane slaughter bills pending before the New York State legislature, the *New York Times* on February 10, 1962 stated:

Humane Slaughter At Last?

In 1958, long after many other nations had acted similarly, the United States outlawed cruelty in the slaughter of meat animals by packers selling to the Federal Government. But this law falls short of dealing with the problem nation-wide.

A dozen states have passed humane slaughter laws. New York is not among them. For three years the Legislature has failed to act. Now, with a bill introduced by Senator William T. Conklin of Brooklyn, it has a new opportunity to show the mercy to prevent needless suffering on the part of food animals, and to make less degrading the work of men in slaughterhouses.

The bill, in a form recommended by the Council of State Governments as model uniform legislation, would require that as a preliminary an animal be made insensible to pain by mechanical, chemical, electrical or other means "that are rapid and effective." The point would be to spare the animals the barbarities and uncertainties of the present method, a description of which we will also spare our readers. The reform has other, even monetary, advantages. But the abomination of unnecessary cruelty to animals, and the effect on man of permitting it, is such compelling reason for passing this bill that others don't matter.

Let's not wait one more year for correction of the nauseating practices followed at present.

WHY CAN'T THE U.S.A. HAVE A SENSIBLE SYSTEM TO STOP THE FLOW OF DISEASED ANIMALS INTO LABORATORIES?

The Laboratory Animals Centre of the Medical Research Council Laboratories of Great Britain reports in its current *Newsletter* concerning the accreditation scheme whereby reliable animal suppliers are recommended to laboratories: "We have had numerous applications for accreditation but very few certificates have been given. The LAC feels that many of these applicants would not serve the laboratories well, and also that their location would entail transport problems. Our aim is to keep the standard high, thus ensuring that laboratories receive reliable animals at a reasonable price."

The report further states: "During the past six months, with the exception of one serious outbreak of ectromelia, there has been very little evidence of infection in accredited stocks." It invites users to inform the Centre of any dissatisfaction with stock received from accredited breeders.

It would appear to be highly desirable for a similar system to be instituted in our country. In visits to laboratories, it is common for representatives of the Animal Welfare Institute to be told that the sick animals we see were sick when they arrived from the supplier. One animal supervisor assured us that it was not just the rabbits in his laboratory that were sick, but that all the laboratory rabbits in the city were suffering from the same complaint.

In another instance, the sickness of the cats was ascribed to the dealer, and in the next laboratory we visited (which bought cats from the same establishment) the cats were sicker still. An experienced veterinarian from a third laboratory pointed out that it is necessary to purchase twice as many cats as are actually needed because the average mortality is 50%. The animal seizure law which is in effect in the city in question has done nothing to solve this problem.

The Institute of Laboratory Animal Resources compiles a full listing of breeders and dealers in laboratory animals throughout the country; however, it makes no distinction whatever between first-rate establishments and those with intolerably low standards. All are listed identically. The laboratories are compelled to "experiment" individually to

find out which breeders supply healthy animals. In one case, the illness of the rats purchased from a particularly insanitary breeding establishment was so remarkable that it had never even been reported in the literature. The unwillingness to make any distinction between good and bad dealers and breeders is a most serious weakness in the ILAR program which has otherwise many good points.

Although the liberality with which biological research is supported by the federal government means that many laboratories can afford financially to buy sick animals and let them die to no purpose, the question should be asked whether they can afford morally and scientifically to do so.

An impartial and trustworthy agency should visit establishments which supply animals to laboratories, make available a listing of properly operated ones and encourage comment from laboratories on the state of the animals received. Much suffering and waste would be saved thereby and the cost would be miniscule in relation to the funds now being expended in the use of laboratory animals.

Another solution might be an active campaign to enforce the anti-cruelty statutes as was recently done in Ontario, where a major supplier of several species of laboratory animals was sentenced to sixty days in jail without option of fine for mistreatment of the animals that he depended upon for his livelihood.

THE SOURCES OF FUNDS FOR ANIMAL EXPERIMENTATION

Under the heading, "U.S. Research Aid is Found Soaring, Voluntary Health Agencies said to Provide only 5%", the *New York Times* of February 3, 1962 gave a summary of statistics compiled by the National Information Bureau. The article states in part: "The National Information Bureau, an unofficial, non-profit, advisory service on philanthropic giving, issued its estimate on the source of \$715,000,000 spent for health research in 1960. The Government's share was 56 per cent; private industry, notably pharmaceutical companies, provided 32 per cent; endowed non-profit foundations and hospitals, 7 per cent; and the remaining 5 per cent was from the voluntary agencies.

"Federal appropriations for the National Institutes of Health alone have increased from \$59,000,000 in fiscal 1953, the bulletin noted, to a request for \$780,000,000 in fiscal 1963."

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March-April 1962

Vol. 11 No. 2

SENATOR CLARK INTRODUCES BILL FOR HUMANE TREATMENT OF LABORATORY ANIMALS

Senator Joseph S. Clark of Pennsylvania introduced into the U.S. Senate on March 28th S. 3088 for the humane treatment of experimental animals, a companion bill to H.R. 1937. Senator Clark's bill has been referred to the Committee on Labor and Public Welfare. Hearings on the identical bills can now be scheduled by either Senator Lister Hill, Chairman of the above mentioned Committee, or by Congressman Oren Harris, Chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives, before which H.R. 1937 is pending.

Senator Clark introduced S. 3088 after careful consideration as a matter of conscience. In view of the fierce opposition the proposal has aroused, his humaneness and courage are worthy of the greatest respect and his work deserves the active support of all humanitarians.

Introduction of S. 3088 calls for a statement on the provisions of the bill and the principles upon which it is based. These principles have stood the test of time in a nation renowned for the wisdom of its law making, the achievements of its scientists, and the humaneness of its attitude toward animals. The British Act of 1876 stands as the most just and humane law on animal experimentation ever enacted. The eight major points listed below are incorporated in the companion bills now pending in Congress, S. 3088 and H.R. 1937.

Basic Principles of the British Act which Humanely Regulates Experiments on Animals

The Act is based on the principle that the infliction of suffering is, in itself, wrong but that, within limits, it should be allowed as a special privilege to highly trained persons of serious purpose for needed work which can be accomplished only in this way. Following is a summary of the means by which this has been brought into practice by law in Britain.

- 1) *Licensing.* Each scientist who uses animals for experimental purposes is individually licensed and responsible for the animals he uses. Each laboratory where animals are used is registered.
- 2) *Inspection.* Well-qualified inspectors under the direction of a Chief Inspector have access to laboratories and records and make unannounced inspections.
- 3) *Pain Rule.* The pain conditions limit the amount of suffering inflicted.
- 4) *Care & Housing.* Minimum standards of care and comfortable housing are required.
- 5) *Records.* Records adequate to allow the inspectors to enforce the law are required. These include: a) submission of the plan of work showing that it has genuine scientific need to be done and has been planned as humanely as possible; b) identification of animals used and their disposition; and c) a brief annual report.
- 6) *Student Work.* Student work, as distinct from research conducted by qualified scientists, must be painless.
- 7) *Scope.* The Act applies to all vertebrate animals.
- 8) *Enforcement.* Compliance with humane principles is obtained because experimental plans may be disapproved on humane grounds and because a scientist's license may be suspended or revoked for failure to comply.

The British Act is administered by the Home Office. It is a criminal statute; however, its enforcement has relied

on the licensing system rather than on prosecution. S. 3088 and H.R. 1937 were drafted to follow this time-tested example. The purpose of the measures is to provide an effective incentive for humane planning of experiments and to prevent needless suffering before it takes place rather than to aim at punishment after the event.

For this reason, each scientist who uses animals would be licensed. His plan for an experiment or series of experiments would be submitted to the Secretary of Health, Education and Welfare. Unless disapproved at once by the Secretary, the licensee would be at liberty to proceed. Contrary to assertions made by opponents of the measures, there is no requirement for prior approval, and hence the spectre of protracted delay is purely imaginary.

Another groundless fear which the opponents have sought to instill in the minds of scientists is that of a great burden of paperwork. S. 3088 and H.R. 1937 call for less record keeping than the British Act, and as Dr. Leon Bernstein, who for 18 years did physiological research and teaching under the Act, wrote, "The formalities involved are trivial: I do not recall that in my own case they ever occupied more than one minute of my time for each experiment I performed, and perhaps thirty minutes for the completion of the annual report."*

The purpose of the Pain Conditions attached to all British licenses is to prevent animals from dying slowly in agony and to limit, so far as possible, lesser suffering. S. 3088 and H.R. 1937 require that "animals which are suffering severe and prolonged pain shall be painlessly killed."

Regarding care and housing of experimental animals, S. 3088 and H.R. 1937 require: "(a) All premises where animals are kept shall provide a comfortable resting place, adequate space and facilities for normal exercise, and adequate sanitation, lighting, temperature control and ventilation. (b) Animals shall receive adequate food and water and shall not be caused to suffer unnecessary or avoidable pain through neglect and mishandling."

All institutions supported in whole or in part (through grants) by Federal funds would be required to observe the humane conditions, and all scientists in these institutions would be licensed.

A Shift in Position by Opposing Forces

When legislation providing for the humane treatment of experimental animals was first introduced in the 86th Congress, organized scientific opposition took the position that it was unnecessary—that all was well with the animals in laboratories and only crackpots could think otherwise. Now, however, it is generally conceded that something needs to be done—but, according to the opponents, it must not take the form of mandatory law. Like the meat packers (who managed to delay humane slaughter legislation for more than a quarter of a century by this simple expedient) they plan to set up a committee which, it is asserted, will bring about the necessary improvements in the treatment of experimental animals by voluntary means.

Virtually any effort to raise standards in laboratories is welcome, for there is a vast amount of work to be done, but to suppose the Animal Facilities Certification Program of the Animal Care Panel could be a substitute for needed legislation would be naive in the extreme.

Even on the lowest level—the kindergarten of humanitarian thinking, so to speak—the Animal Care Panel has demonstrated inability to progress, as witness the recent reprinting (June, 1961) in its journal, *The Proceedings of the Animal Care Panel*, of the discussions which took place at its first meeting in 1950. Comments of some of

*For Dr. Bernstein's full letter, see Information Report, Vol. 10, No. 3.

the panellists on the prolonged caging of dogs are quoted below:

"Dr. Brewer: We have kept dogs in cages as long as five years with only occasional release. It is emphasized that such long confinement is not common and is used for such as 'blue baby' dogs. Of course, these dogs are exercised, but they are not taken out of the cages for that purpose regularly. . . .

"Comment: At Illinois, dogs have been kept in cages for as long as seven years, especially those dogs used in hypertensive studies. These dogs like their cages and are unhappy elsewhere except when being observed or handled by the investigator.

"C. C. Hargreaves: We have also kept dogs in cages for seven years. . . .

"H. H. Struck: If you provide a 5 by 5 by 10 pen for each individual dog you have to provide too much space. Most dogs are content with a cage, especially if you walk them every couple of days. In our case, we have cages in three tiers. . . ."

It might have been hoped that after eleven years of activity on the subject of animal care a change of heart could have taken place among ACP policy-makers—a little pity for the dogs caged seven long years, even a little generosity in emulation of the generosity of Congress in providing several thousand percent more money to experimental laboratories in recent years.

Need for Legislation Is Clear

How could an honorable Member of Congress accept ACP accreditation as a guarantee against the infliction of needless suffering on the millions of animals now being purchased by laboratories with money provided by the taxpayers?

By the same token, how could a Congressman accept the statement now being sent out by public relations personnel for the U.S. Public Health Service, Division of Research Grants, National Institutes of Health, that: "The Public Health Service has long observed the most humane rule possible—that an animal be used for experimental research *only* when no other feasible and satisfactory method is available." If they have already been doing this, why object to legislation which uses these very words?

The fact is, however, that even the American Medical Association is sharply criticizing the wastefulness of the National Institutes of Health. An article in the April 13, 1962 issue of *The Wall Street Journal* states in part: "The [AMA] journal noting a sharp increase in Federal spending on medical research in recent years, claimed it is 'probable' that 'huge sums of money are spent on doubtful, artificially blown-up, occasionally ridiculous projects . . . far too few people have realized that the stepped up efficiency with which these sums are raised does not necessarily mean that they are equally efficiently spent.' The journal warned medical school administrators to be on the watch for unwise use of research grants on unscientific projects, to watch for 'grant eaters' and to guard against what it called 'scientism'."

The Journal of the AMA gives the following description: "Scientism is not easy to define, but it is not hard to recognize. Research administrators get it and it spreads like wildfire. Its epidemiology and statistical significance are now being studied; but much committee work is still needed to define it as a syndrome. A true scientist, a true educator, or a trained practitioner of medicine is immune. But it does infect people who are none of these. The disease is highly infectious, is spread by seminars and work shops, by mail and telephone. Only withdrawal of grant money, with proper diversion of funds elsewhere, can dry it up. Like a fungus it remains dormant until suddenly wetted by a skillful 'grant-eater'. Scientism may be defined as 'grant getting by wisdom of application'—a combination of pseudoscientific, pecuniary pedantry and integrated cooperative research based all too often on irrelevant or misinterpreted data, and compounded by mass computer techniques."

The National Institutes of Health have failed signally to bring about humane treatment of animals in institutions to which it makes grants (see Information Report Vol. 11, No. 1). There needs to be legislation administered entirely separately from the NIH to require decent treatment of these animals. A Chief Inspector or Administrator working directly out of the office of the Secretary of Health,

Education and Welfare, with a small group of full-time inspectors located in different parts of the country, could do this work effectively. Because they would be enforcing Federal law specifically designed to prevent needless suffering in laboratories, they could be expected to become (like their counterparts in Great Britain, all of whom are medically qualified), experts on humane technique of equal help to the animals and the scientists. Of interest in this connection is a comment by Professor R. J. Harrison of the London Hospital Medical College: "On two important occasions the Home Office made suggestions of the very greatest help and significance which materially increased the standard of the research and the importance of the results."

Contrast this with the shockingly ignorant statement which appeared in "Research Highlights. National Institutes of Health, 1960. Items of Interest on Program Developments and Research Studies Conducted and Supported by the Institutes and Divisions of NIH, as Presented to the Congress of the United States, U.S. Department of Health, Education and Welfare, Public Health Service." On page 271 of this document, it is reported: "Data were obtained from 40 adult cats anesthetized with Nembutal or curare preparations." Confusion between anesthetics such as Nembutal (which render animals unconscious and unable to feel pain) and muscle relaxants such as curare (which leave the animals conscious but paralyzed so that they are unable to move or make a sound) is inexcusable. A recent editorial in *Anesthesiology* (September-October, 1961) states in part: "Other researchers may have immobilized animals with muscle relaxants rather than anesthetic agents. This procedure is unwarranted and to be condemned! Quite likely, however, many investigators are uninformed as to adequate anesthetic procedures in animals which would obtund or eliminate pain and discomfort without interference with results of the experiment."*

Immobilization of Unanesthetized Animals

Immobilization of conscious animals by means of physical restraint has become commonplace. The cruel, old punishment of putting men in the stocks has found a new expression in the monkey chair, the various similar restrainers for rabbits, hamsters and rats which are advertised and publicized, and, to a somewhat lesser degree, the Pavlov stand and similar restrainers for dogs.

The passionate protest of a dog against his stand is described by Pavlov in his "Conditioned Reflexes" and after describing how he "inhibited the freedom reflex" by withholding all food from the dog except when it was in the stand, how it lost much weight, but finally gave in, he states: "It is clear that the freedom reflex is one of the most important reflexes or, if we use a more general term, reactions, of living beings. . . . Some animals as we all know have this freedom reflex to such a degree that when placed in captivity they refuse all food, sicken and die."

It is not the purpose of the AWI to condemn *all* use of physical restraint. Rather, it is the purpose to call attention to increasingly widespread use of methods which should be used *only* when they are absolutely necessary, and further to ask humane scientists to consider whether these and other distressing experimental procedures are being used casually as a matter of course, without serious effort on the part of users to substitute more humane experimental design.

Letters to the AWI from experienced scientists concerning ill-planned and useless research confirm the comments quoted earlier from the *AMA Journal*. With this thought in mind, we quote excerpts on *methods* reported in *The American Journal of Physiology*. In making this presentation it is emphasized that no judgment is being made on the value of any of the experiments mentioned. They are selected simply to illustrate types of experimental procedure which we hope most scientists agree should not be undertaken lightly.

"Five rhesus monkeys (3.0 - 4.5 Kg., 4 males and 1 female) had stainless steel electrodes implanted stereotaxi-

*The editorial suggests that a book be written by anesthesiologists on anesthetics for animal experiments. The AWI hopes a complete text will be prepared on all species commonly used in laboratories and calls attention to "An Introduction to the Anesthesia of Laboratory Animals" by Phyllis Croft, Ph.D., M.R.C.V.S., available from the AWI for 50¢. This covers the smaller species.

cally with a Labtronics instrument. . . . The animals were maintained at all times in primate chairs.

. . . In the absence of lever pressing a 10 ma shock, preceded by a 10-second 'warning' clicker, was delivered to the monkey's feet every 40 seconds and lasted for a maximum of 15 seconds. Each lever press, however, postponed the shock for 40 seconds. . . .

. . . Since the animals were well trained on an avoidance schedule, any painful or unpleasant stimuli could be expected to reinstate and sustain avoidance responding. Stimulation of the medial forebrain bundle area did not produce this effect. . . ." (*American Journal of Physiology*, October, 1960).

It should be noted that the monkeys were maintained at all times in primate chairs, that is, in a sitting position with the head protruding through a hole in a plastic slab. The above and the following experiment describe stimulation. Stimulators are commercially produced and advertised, and one of the numerous models is recommended in the promotional literature as follows: "The controls are sufficiently uncomplicated for undergraduate student use, yet the range of variables is such that the '751' is quite at home in the research lab. Stepped controls of Frequency and Duration allow resetting to provide consistent, repeatable experiments."

Another experiment using the combination of stimulation with physical restraint of unanesthetized cats is described in the January, 1961 issue of the Journal. It states, in part: "The first animals were restrained by means of a wide leather collar. This method was inadequate since some head movement was possible and also because struggling soon commenced and prevented adequate recording. Plaster casts were individually fitted for all succeeding cats. The casts were cut along the midline to provide two close-fitting shells and, prior to each testing, the animals were replaced in the casts. Infrequently a brief period of anesthesia, induced by trichloroethylene inhalation, was required for recasting untamed cats. . . .

"Rigidly restrained monkeys assume a sleeplike state, and arousal is difficult to maintain. Cats in this experiment responded in a similar fashion . . .

. . . the application of shocks throughout a series of trials with systematic adjustment to produce a flat EEG pattern accompanied by frequent vocalizations should have insured general arousal . . .

" . . . severe measures are taken to maintain arousal."

In addition to the above procedures, these cats also had had sets of electrodes implanted in their heads and were being rotated in the dark. It would be hard to think of a series of experiments more abhorrent to this species of animal.

Having both hind legs immobilized with steel pins for 101 days till they atrophied (*American Journal of Physiology*, May, 1961) was a procedure undergone by a different group of young experimental cats.

Death by Starvation or Deficiency

In another experiment, weanling kittens were slowly killed by feeding them an inadequate diet. The authors report (*American Journal of Physiology*, January, 1961): "The effects of the pyridoxine-free diet were quite striking. Within 4-6 weeks the deficient animals exhibited lack of weight gain, loss of subcutaneous tissue, coarseness and thinning of the body hair, and progressive ataxia. Ultimately the deficient animals became progressively weaker, developed generalized seizures, and, if left on the diet, died. . . .

"Approximately 25 kittens were started on the deficient diet. Of these only 11 were available for final study. The other 14 died after rapid onset of seizures before the studies could be performed, from intercurrent infections, or, in one case, from trauma resulting from falling in the cage." This piece of research was carried out at the NIH's own laboratories in Bethesda.

"In the following, we report results on gastric ulcers in mice, subjected to prolonged, continuous starvation." With these words the authors (*American Journal of Physiology*, March 1960) introduce the account of their treatment of 120 mice, 24 of which they hoped would be pregnant (12 actually were). "During starvation, the mice lost approximately 40% of body weight." The authors state that in examining the stomachs, "if too much hair or feces were present, results were discarded". This desperate attempt

to fill their stomachs with anything brings to mind the restraining cages advertised by their manufacturers as preventing animals from "attacking tubes and other fixtures."

Dogs can stand the deprivation of food for much longer periods than such small animals as mice. Even following severe surgery, some of them survived fasts up to six weeks. The *American Journal of Physiology* October 1957 tells how the dogs were subjected to two separate operations in which the surgical mortality was described as so high that "the animals were not studied or standardized before surgery" ("complete bilateral paravertebral ganglionectomy and denervation of both adrenal glands."). It is reported that "one dog died during the first fast and another during the first realimentation with casein." For when the dogs were finally allowed food, it was not a balanced diet. One was calculated to "show many features characteristic of a rather severe alarm reaction." The authors report that "Selye states that fasting is an alarming stimulus and sensitizes the animal to other alarming stimuli". The dogs, now having been subjected to two major operations, starvation up to six weeks, and feeding with an improper diet, "dermatitis, cutaneous ulcerations and alopecia" in the sympathectomized dogs "were much more frequent and often intense." The authors show their familiarity with starving dogs, stating: "Normal, healthy dogs tolerate prolonged fasting surprisingly well. During the first 2 or 3 weeks they frequently appear stimulated and are unusually playful and lively, later their reactions are slowed but they are usually in good condition for as long as 5-6 weeks."

Burning

Pain-relieving drugs are especially needed when burns have been inflicted; anesthesia at the time of infliction is essential. Yet both these means of preventing extreme suffering are omitted in some experiments. For example: (*American Journal of Physiology*, March 1960) "Dogs closely clipped and shaved the day before the experiment, were anesthetized (pentobarbital sodium 30 mg/kg), the required vessels cannulated, and the determinations accomplished. The dogs were then blackened with powdered lamp black and 30% of the calculated body surface burned at an intensity of 4.4 cal/cm²/sec. for 5.0 seconds (22 cal/cm²). The determinations were then repeated 1, 3 and 5-6 hours following the injury. All blood removed by sampling was replaced by an equal amount from a donor dog. In some dogs morphine (0.5-1.0 mg/kg) was administered immediately after the 1-hour measurements." On the next page the statement is made: "The response of plasma volume and red cell mass to the injury was not modified by morphine." Nevertheless, out of 29 dogs used, only 6 received morphine.

The same authors in a second paper (*ibid*) state of the time following the 5-6 hour period after the burn of about one third of the dog's body: "After this time blood pressure usually shows a gradual decline until death finally ensues." Apparently, the animals were not put out of their misery but allowed to die of the burns without sedation of any kind even after the last (5-6 hour) measurements were made.

An example of burning with no anesthetic may be found in the *American Journal of Physiology*, October, 1957, in which the authors state: "In order to obtain plasma from burned rats, unanesthetized animals were strapped by the legs to a wooden board and dipped into boiling water up to the rib cage for 5 seconds. They were removed from the board immediately after burning. After a 15-minute interval, the rats were lightly anesthetized with ether and bled in the same manner as described for the control animals."

The authors make these comments: "Due to evidence of the protective action of anesthesia against burn, the animals were not anesthetized. . . ."

Another kind of burning with microwaves is described in the *American Journal of Physiology* (August, 1961): "Adult mongrels of either sex 1-5 yr. of age, were exposed 2,800 Mcycle/sec pulsed microwaves. . . .

"To study thermal regulation, dogs were maintained in an environment of 120 F, 50% humidity or 103.5-105 F, 20% humidity for varying periods of time. Some dogs were exposed to 2,800 Mcycle/sec microwaves while in the 103.5-105 F environment. . . .

"Clinical response. The dog pants as soon as irradiation starts. As exposure continues, the rate of panting increases

and may stabilize only to increase again as the rectal temperature rises. Salivation occurs in many dogs, the amount increasing with the duration of exposure. Most animals display increased activity varying from restlessness to extreme agitation. In all but terminal cases the dogs are alert throughout the exposure. Marked vasodilation of the skin and mucous membranes is observed. Terminally (4-6 hr at 100 mw/cm² or 2-3 hr at 165 mw/cm²) weakness develops and, in extreme cases, the dog becomes prostrate. Recovery, when it occurs, is gradual. Except in extreme cases where water is ignored, thirst is increased.

"Exposure of rabbits at 165 mw/cm² produces an extremely violent reaction. Within 5 min, desperate attempts are made to escape from the cage. Peripheral engorgement of all vessels yields an acrocyanotic picture. The ears develop a 'fried' or 'cooked' appearance. Forty minutes of exposure results in death. When rabbits are exposed at 100 mw/cm² for 1 hr, they become prostrate. . . .

"Temperature response . . . in the dog . . . In phase III, period of thermal breakdown: the temperature rises above 106 F, continues increasing rapidly until a critical temperature of 107 F, or greater, is reached. If exposure is not stopped, death will occur. . . .

"Burns. Dogs may develop superficial burns on various portions of the body, but particularly on the thoracic cage (Fig. 3). Five to six days following exposure, the affected skin sloughs, leaving a deep, clean, noninfected area identical in appearance with a third degree burn. The central portion appears to devitalize with development of a process not unlike dry gangrene. . . .

"Exposure of the head with continuous wave 2,800 Mcycle/sec invariably resulted in marked swelling of the tongue, with production of numerous vesicles containing serous fluid. There were burns of the skin, subcutaneous tissue, and muscles of the exposed area."

Stress

Stress has become a popular term, and it has invited mistreatment of animals in order to induce it. For example, in order to stimulate lactation in 60 virgin female rats, groups of the animals were subjected to "severe cold (0°C) 24 hr/day; intense light and heat (35°C) produced by placing two 150-watt reflector floodlights over the cage containing the rats for 12 hr/day; restraint produced by wrapping the tails or hind legs of the rats with several turns of masking tape, and then taping the tails or hind legs of five of the animals together for 12 hr/day. This procedure greatly hindered the movement of each animal and resulted in considerable fighting among the rats. Preliminary trials with simple restraint, produced by securing the forelegs of the rats to their thorax by several turns of masking tape, showed that this was not a severe enough stress to initiate lactation; therefore the more severe method was adopted: starvation, with no food or water for 5 days; subcutaneous injection 0.1 or 0.2 cc 10% neutral formaldehyde to five rats each." The rats underwent this mistreatment for 16 days before being killed. (*American Journal of Physiology*, May 1960).

In another experiment, a series of amputations of incisors and a daily ulceration of oral mucosa was tried on groups of young rats. The authors state that "a severe form of ulceration was produced by daily application of high frequency, coagulating electric current to the oral mucosa adjacent to the lower incisors," and that "In the same experiment other rats were subjected to repeated amputation of the lower incisors, and the usual results were obtained." In most of the experiments the incisors were amputated with toe-nail clippers just level with the gums for maximum exposure of the pulp of the tooth. The authors say their studies suggest "that the response of the pulp to amputation is dependent on sensory receptors." The amputations were done under what the authors describe as "light ether anesthesia". There is no indication of the use of any type of pain-relieving substance at any

time following the amputations or for the severe ulceration. The paper states, "The rats with incisors amputated most frequently exhibited the greatest retardation in rate of total growth." Some of the rats underwent a series of eight amputations at 2-day intervals. (*American Journal of Physiology*, July, 1960).

Automation In Experiments Which Cause Pain and Fear

One of the most serious problems relating to the infliction of suffering on animals in laboratories is a massive increase in the numbers of animals used, together with a growth of callousness and easy acceptance of experimental methods that cause great distress to animals but involve a minimum of personal exertion because they are mechanized.

A clear illustration may be found by comparing with later developments the protests written in 1949 by experimental biologists and published in the August sixth issue of *The Lancet*. The protests were levelled against experiments which they felt to be unusually cruel. But since 1949 experiments of the type described have changed from occasional to mass-produced. Dr. F. Golla spoke of the dishonor cast on medical research by a study entitled "Effects of Chronic Fear on the Gastric Secretion of HCL in Dogs," in which intermittent electric shocks were applied to seven dogs over a period of six months.

In 1959, apparatus of this type had been perfected for mass use and was announced (January, 1960) in the newsletter of a commercial breeder of laboratory animals in the following terms: "A new electromechanical apparatus for stressing small animals has been developed. It consists of a grid-floored plastic cage system, divided into cubicles, which makes it suitable for large numbers of small animals instead of the usual one or two. The cubicles are restricted in height in order to discourage rats, if these are the occupants, from standing erect and deliberately placing their hind feet on bars of identical polarity. No water or food receptacles are provided in the system since these make it possible for the animals to avoid contact with the floor . . . some of them are apt to bite the rods which they can easily recognize as the source of their discomfort. This, in turn, may cause convulsions and spinal fractures. Either acute or chronic stress may be produced by adjusting the intensity and duration of the shock . . ." (*Carworth Quarterly Letter*, No. 56, reprinted from the *Journal of Applied Physiology*, 14(5):869, 1959).

Also described is an improved restraint-technic for producing stress and cardiac necrosis. The report states: "Although the rats bite their paws in trying to free themselves, this drawback may be overcome by either cutting the animals' incisors or by adding a special collar to the board. . . . Using this apparatus and technic, typical enlargement of the adrenals, thymicolymphatic involution and gastric ulcers are produced in a few hours, reactions which become very marked in 24 hours . . ." (ibid)

In another *Lancet* letter, six signatories invited scientific readers to "assert with us that treatments of the kind to which we have referred at the beginning of this letter are to be condemned as shocking to a normal human conscience." These treatments include the tumbling of animals in a Noble-Collip drum. Since 1949, the use of the drum in the United States has spread widely.

The word "drumming" has become an accepted verb. For example, the March, 1960 issue of the *American Journal of Physiology*, stated: "Rats were drummed according to standard procedure in the Noble-Collip drum, males receiving 600 revolutions and females 650." Another established term is "drum trauma" as, for example: "The fact that this drug predisposes rats to the lethal effects of drum trauma . . ." (ibid). Injuries caused by drumming are referred to as follows: "In the last experiment only those animals surviving for 80 minutes after drumming (and therefore in a true state of shock) were used, all deaths from frank internal injury having been excluded."

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SENATOR NEUBERGER SPONSORS LABORATORY ANIMALS BILL

**New England Federation of Humane Societies
Supports It, But Bitter Opposition Comes
From National Anti-Vivisection Society**

Senator Maurine Neuberger (D., Oregon) has joined Senator Joseph Clark (D., Penna.) in sponsoring S. 3088 for the humane treatment of experimental animals. Humanitarians are grateful to Senator Neuberger for her valuable support of the measure and are urging that hearings be scheduled on S. 3088 or its companion bill, H.R. 1937 introduced by Representative Martha Griffiths (D., Mich.).

At its annual meeting for 1962, the New England Federation of Humane Societies passed the following resolution: "Resolved: That the New England Federation of Humane Societies go on record as favoring the passage of H.R. 1937 authored by U.S. Representative Martha Griffiths, providing for the proper treatment of animals used in experimentation, and the Federation further urges its members to write to their individual Congressional Representatives requesting favorable consideration of this legislation."

The National Anti-Vivisection Society continues to attack what it calls the "vicious regulation bills", and in a recently circulated memorandum makes the extraordinary claim that the proponents know that regulatory legislation has no chance of passage. This claim is the exact opposite of the truth. Patriotic Americans know that our country can and will come up to civilized standards in legislation for the humane treatment of experimental animals. The opposition of extremists on both sides (for scientific extremism and anti-vivisectionist extremism join hands in opposing H.R. 1937 and S. 3088) may delay, but cannot defeat, sound animal protective legislation.

MAJOR HUME RECEIVES HIGH HONORS

The Order of the British Empire was awarded to Major Charles W. Hume, June 2, 1962, for services to animal welfare. Major Hume is known to readers of the Information Report as the Secretary-General of the Universities Federation for Animal Welfare, whose clear and vigorous articles on the British Act of 1876 and other matters pertaining to animal protection have often appeared in these columns. Author of "The Status of Animals in the Christian Religion" and of the first chapter in the "UFAW Handbook on the Care and Management of Laboratory Animals", he has written articles for *Nature*, *The Lancet* and *The Observer* such as "The Ethics of Animal Experimentation" and "The Strategy and Tactics of Experimentation."

Through his leadership, the Cruel Poisons Bill has just become law in England, passage taking place the day before he received the O.B.E. The law will come into effect at the end of the year and will bring about elimination of cruel poisons as more humane ones are introduced. Major Hume and his colleagues at UFAW were responsible for passage of the first anti-trap legislation in England in 1939. Prohibition of the use of the cruel leg-hold trap was finally achieved in that country two years ago.

Major Hume is the founder of UFAW, the first animal protective society to enlist broad scientific support for its endeavors. The chairman of its Scientific Advisory Committee is a recent Nobel prize winner, Professor P. B. Medawar, Director of the National Institute of Medical

(Continued on Page 2)

WASHINGTON POST CALLS FOR HEARINGS ON LABORATORY ANIMALS BILL

Senator Clark Replies to Critics

The Washington Post called for hearings in an editorial published May 9, 1962. It is reprinted below.

"Humanity To Animals

"Senator Clark has introduced a bill for the humane treatment of animals employed in scientific experimentation. The bill does credit to him as a man of sensibility and reverence for life. It is a bill modeled upon the British Act of 1876 and it is not intended in any way to impede or limit genuine scientific research involving experimentation upon living creatures. It is designed simply to prevent wanton, needless or sadistic torture of animals; it calls for elementary decency in the treatment of animals before experimentation; and it calls for care consistent with the experiment in putting them out of their misery when the experiment is over.

"Judging from the squeals of anguish emanating from medical researchers when a companion measure was introduced in the House some time ago, Senator Clark's bill will be denounced as antivivisectionist and antiscience. It deserves no such denunciation. If any of its provisions interfere in any way with the real needs of research workers, they should be eliminated. For this reason we hope that hearings on the bill will be scheduled soon in the House or the Senate so that scientists can have ample opportunity to point out imperfections and seek the elimination of requirements they consider onerous.

"Scientists can have no quarrel with the purpose of this bill. It is indisputable that important strides in medicine have been achieved through experiments on living animals. The knowledge gained by these experiments thoroughly justified the pain they inflicted. Humanity has been enriched by such research and must continue it. But the callous or careless infliction of pain is a debasement of humanity."

* * *

Critics of the bill wrote to the *Post*, and Senator Clark replied, stating in part: "The first letter, signed by a physiologist from Minneapolis, says the bill is too strong.

"The second, written on behalf of the Humane Society of the United States, says the bill is too weak.

"It occurs to me that one of the two critics, at least, must be wrong. Actually, in my judgment, S. 3088 steers a desirable middle ground between two extreme positions.

"It does not, as suggested by Dr. Visscher of the University of Minnesota, make the Secretary of Health, Education and Welfare a czar. It merely creates a licensing system similar to that used satisfactorily in Great Britain since 1876. If unnecessary cruelty to animals is established the license can be revoked. There are no criminal penalties.

"The bill could not possibly 'stop . . . experimentation for many years, until other methods (than animal experimentation) had been demonstrated to be futile.' The suggestion to the contrary is based on tortuous reasoning from the statement of policy in the act to the effect that animal experimentation should be used only when no other feasible or satisfactory methods are available. The bill does not curtail in any way legitimate experimentation with animals.

It is *not* an antivivisection measure. The amount of time required to file the necessary application and reports under the similar act in Great Britain is about one-half hour plus one minute per experiment — hardly the waste of 'significant fractions' of scientists' time as charged by Dr. Visscher."

Hearings would provide the opportunity so badly needed by the scientific community to discuss and gain full understanding of the proposed legislation which seeks only to prevent needless suffering.

CRUELTY IN SCIENCE FAIRS

An experienced science teacher has written to the Institute that he was "appalled" by some of the projects he saw exhibited at the National Science Fair held recently in Seattle. "Experiments involving skull surgery, skin grafts and oxygen and vitamin starvation were exhibited. One girl had joined two rats surgically", he wrote. "I am writing to Dr. Watson Davis and other science fair leaders regarding this and questioning the right of students to perform and exhibit such experiments. I checked the rules of as many of the regional fairs as were available and found that all have rules regarding experiments on animals but they are still getting into fairs and are winning awards."

Science Service, whose director, Dr. Davis, is referred to above, is actually encouraging the infliction of suffering on animals by high school students through its promotion of *Science Projects Handbook*. So is the National Science Foundation, which provided taxpayers' money for distribution of this handbook to more than 25,000 teachers and "cooperators" in science fairs.

"Nearly a million teen-age boys and girls throughout the world are having fun discovering science," says the Handbook's first sentence. Further, "This is the book that every young scientist should have for his very own. It is full of hints and ideas." What "fun", "hints and ideas" for "boys and girls" are to be found in the chapter on Medical Sciences? The first suggestion is for "shocking" pregnant mice and rats in the refrigerator in order to produce monstrosities. For example, "Experiment V. One pregnant mouse was shocked in the refrigerator at 38°F for 13 days, from the seventh to the nineteenth day, for from 1¼ to 4 hours. On the twentieth day, a day early, she gave birth to 9 babies. In this litter, as a result of this environmental factor, 5 babies were born with malformations— 2 with cephalhematomas (blood tumors of the brain) and 1 with no skin covering his skull. These babies were stillborn." Or, "Experiment IV. One pregnant rat was operated on in the ninth day of pregnancy, Dec. 23, 1957. In the operation I removed amniotic fluid from 4 yolk sacs, attempting to cause congenital malformations. During the operation she ceased breathing, but I revived her by inhaling and exhaling through a rubber tube held over her nose. About 13 days later she gave birth to 8 babies. As a result of this operation 3 babies were deformed, 1 with a malpositioned heart and 2 with malpositioned testes."

The next "hint" is for inducing cancer in baby chicks and turkeys. An example from the student's report on her National Science Fair project: "Another bird, although nothing appeared in the wing web, died of cancer in the head, which possibly developed because of cancerous tissue eaten by the chicken. Dissection showed that the tumor had progressed from the left eye to the throat and had closed the gullet, preventing the bird from eating."

It would seem that only a painfully warped mentality could regard such things as "fun". There are, of course, other factors involved in the motivation for cruel science fair projects — for example, prizes and publicity. Here is a verbatim report from an experienced newspaperman: "Last Friday I was in the office of an ear specialist and he told me with much laughter of his search for a cancer-causing chemical. His son's project — he's a seventh grader — was to paint this substance onto the skins of rats repeatedly until they discovered skin cancer. I mention this specifically because of a comment by the doctor. 'The kids say that unless they choose the most exotic projects, their teachers will ignore them and they haven't a chance of winning a prize.' I believe he made the inference, also, that they had little chance of help unless the instructors thought the project sufficiently exotic to command attention in the newspapers and of the judges."

Interviews With High School Students

Reports received from humanitarians in different parts of the country concerning conversations they have had with high school students about science projects are highly disturbing, too. For example, a high school student, asked about animals in his biology class, said: "One girl brought in four white mice for observation but she didn't take care of them so they died." The report continued, "He had operated on two cats. I asked him, 'dead cats?' He said with a great deal of pride, 'No, *live* cats. Two of them. One of them was pregnant.' I asked the nature of the operation, and he said he took out the unborn kittens. I asked him if he just did this on his own or was it part of his school work. He said it was part of his schoolwork. It was a project."

In another city, a boy who had tied off the ureters of rabbits told a humane society official about this abdominal surgery with enthusiasm. "I just love to get in there", he said. Another student at the same school, however, was very unhappy because he had poisoned a hamster of which he was fond. He decided against any further science projects because of this experience.

Is discouragement of young people with kindly feelings and encouragement of those who frankly express a love of abdominal surgery really what we want to aim at in the development of scientists and doctors? Again, it would seem that warped mentalities are being allowed to exert a destructive influence on young people.

AUTHORITATIVE NEW BOOK ON PESTICIDES

The latest book by Miss Rachel L. Carson, distinguished author, naturalist and member of the Advisory Committee of the Animal Welfare Institute, entitled "Silent Spring", will be published on October 8 by Houghton Mifflin Co., Boston. Prior to publication, it is being printed in installments in the *New Yorker Magazine*, beginning with the June 16 issue.

Miss Carson spent four years gathering data from all over America and from other parts of the world on the effects of pesticides now in general use. The facts as set forth in this book are shocking. One chapter is devoted to the possible connection between the widespread use of certain chemicals and the incidence of cancer in man. Another deals with the genetic effects of certain chemicals which parallel those of radiation.

Miss Carson explains what is meant by the "balance of nature", showing how careful we must be with the great power now at our command not to disturb this balance in a way that will ultimately do more harm than good. She describes the lethal chemicals that have been invented in the brief period since World War II and are being produced in greater strength and variety every year. She shows that much of this program is self-defeating. While we have been progressively poisoning our own environment, many types of insects including flies and mosquitos have been breeding superior races composed of individuals immune to chemical attack.

Miss Carson points out, however, that there is a positive side to the picture. We are learning more and more about non-chemical control that in the long run will be both safer and more effective than the deadly chemicals with which we are now poisoning the world.

MAJOR HUME RECEIVES HIGH HONORS (Continued from Page 1)

Research. The work of one of UFAW's staff members, Dr. Phyllis Croft, in distinguishing between states of anesthesia and of paralysis during consciousness is internationally known. In humane slaughter, whaling, oil pollution and many other fields, UFAW has brought first-rate scientific thinking to bear. At the same time, its artistic standards are high, with Fougasse, the former editor of "Punch", as chairman and contributor of witty and beautiful drawings.

The Animal Welfare Institute is proud to be associated with UFAW as its representative in the United States and congratulates Major Hume on this well-deserved honor.

HUMANE EDUCATION: SURVEY AND ARTICLE

A survey of users of the AWI manuals, "First Aid and Care of Small Animals" by Dr. Ernest P. Walker and "Humane Biology Projects", is being conducted in order to find out how effective these teaching aids have been in practice and how the AWI can best continue and expand its program of humane education of young people.

Response from the educators has been overwhelmingly favorable. The majority of replies come from classroom teachers in elementary or secondary schools who requested that one or both of the manuals (which are supplied free to teachers) be sent to them. Many comments have also come from teachers' colleges, superintendents, principals, librarians, Scout Leaders, and camp counsellors.

Numerous reports, in some cases highly detailed, have been received about birds and small animals which had been injured, but which were rescued, brought back to health and finally released in their natural environment, as a result of careful reading of "First Aid and Care of Small Animals."

Users of "Humane Biology Projects" frequently comment that their classes have learned to appreciate the complex world of animals and that destructive attitudes had been modified so that previous prejudices and hostile feelings towards animals had changed.

Requests for additional AWI publications for teaching use were common among the unsolicited remarks. Reprints of an AWI article on humane education appearing in the May issue of "Childhood Education" will be sent to all who request it from the Institute. The title of the article is "Befriending Animals".

HUMANE SLAUGHTER PROGRESS

Humane slaughter bills have been enacted into law this year in Maryland and Michigan, bringing the total of State humane slaughter laws to 14. In both legislatures, the bills as originally introduced required humane pre-slaughter handling of animals for kosher slaughter, but in both cases the requirement was eliminated prior to passage.

Despite widespread public demand, state humane slaughter bills meet with determined opposition. The legislation was proposed at four successive sessions of the legislature in Michigan before it was finally passed this year under the leadership of Representative Gilbert Bursley (R., Ann Arbor). Opponents sought to kill the bill by offering a fantastic series of amendments in a two-hour floor battle at the second reading of the bill in the Michigan House of Representatives, but Representative Bursley carried the day; except for the exemption from the humane provisions of the bill of pre-slaughter handling of animals to be killed kosher, the bill as passed is an excellent one. Since there is little kosher slaughter in Michigan, the number of animals which can still be shackled and hoisted while conscious will not be large when the bill goes into effect in 1963.

In New York State, no humane slaughter bill was reported out of Committee in either the Senate or the Assembly. An article published by the *Christian Science Monitor* March 22, 1962, gives a clear account of the situation and is reprinted herewith by permission.

New Kosher Handling Device Available

The Food Handling Machinery Corp., 3630 Haverford Ave., Philadelphia 4, Penna. has announced that it is now taking orders for the new device for humane pre-slaughter handling of kosher cattle. This device, described in the January-February Information Report, is a new type of restraining pen which meets the sanitary standards of the Meat Inspection Division of the United States Department of Agriculture and is approved as being in accordance with ritual requirements.

Slaughter Bill Held Up in Albany

By Frederick W. Roevekamp

Staff Correspondent of The Christian Science Monitor

New York

Legislation for humane slaughter, a fast-spreading movement in the United States in recent years, has come to a near stand here.

A humane-slaughter bill is being kept in committee in the state Legislature in Albany because of the opposition of Jewish groups. They argue that it indirectly threatens their right to eat kosher meat.

The controversy is heated but goes on mostly behind the scenes. This may well be due to the recognition by most people concerned that the complexities of this issue with all its inflammable aspects invites ready misunderstanding.

Controversy's Focus

What is being debated is not whether shechita, as the Jewish ritual slaughter is called, is more or less humane than other methods. Humane groups backing the bill agree, and the bill under consideration specifically declares, that shechita is a humane method.

The controversy revolves around the method of "hoisting and shackling"—transporting the animals while conscious suspended by a leg in assembly-line fashion—to the spot in the plant where they are slaughtered. This involves severe cruelties, humane societies say, especially for heavy animals.

Hoisting and shackling was common practice among packers until the pressure of public opinion led to application of ways of stunning the animals before hanging them up.

Federal Law Passed

Four years ago, a federal law was passed which made this anesthesia mandatory for all packers doing business with the United States Government.

Humane-group leaders estimate that the federal law affects about 80 to 90 per cent of the meat produced in the United States. The remaining packers are mostly small firms not doing any government business and those producing kosher meat.

Kosher producers were specifically exempted by the federal measure due to a last-minute amendment by Sens. Clifford P. Case of New Jersey and Jacob K. Javits of New York.

Dilemma Seen

Behind the amendment was the concern of Jewish groups, particularly Orthodox ones, which said they were in a serious dilemma.

Hebrew ritual requires that animals are slaughtered before being stunned. Experts say that shechita involves no excessive suffering. This is why humane groups concede the method to be humane.

But some Jewish leaders say no reliable and economic alternate method has been developed for transporting cattle to the slaughter spot. To ban hoisting and shackling, therefore, would be to prevent economic methods of kosher production and thus interfere with religious practice, it is argued.

The technical complexities

involved resulted in a widespread mistaken notion that hoisting and shackling are an inherent part of shechita, Jewish leaders explain.

Pen Developed

Now, however, a restraining pen has been developed to replace hoisting and shackling to the satisfaction of all—rabbi, Department of Agriculture inspectors, and humane groups. It was developed by Cross Brothers, a Philadelphia firm.

This is a major reason why the humane bill in Albany this year calls for a ban on hoisting and shackling. It would give packers time until January, 1964, to install alternate devices, presumably the Cross Brothers pen.

Jewish opposition nevertheless has remained strong. The Synagogue Council of America, which is described as the Jewish counterpart to the Protestant National Council of Churches, says it objects to being singled out in legislation, even in an approving fashion.

Compulsion Opposed

Dr. Philip Hiat, who has represented the Synagogue Council of America at public hearings in Albany, said here last week:

"We are against solving this by legislation. Many packers have started to reform without compulsion. We prefer the nongovernmental approach."

Humane leaders, among them Mrs. Christine Stevens, secretary-treasurer of the Society for the Animal Protective Legislation, disagree:

"Packers have been slow in self-reform," she said. "When Hormel [a large meat-packing concern] introduced the humane method most other companies did not follow until they were compelled to."

"Legislation is needed in this field. This is why there is a federal law."

N.Y. Bill Watched

Humane leaders, including those of the Humane Society of the United States, the National Catholic Society for Animal Welfare, and other major groups, regard the New York bill this year as a pivotal phase in the attempt to bring all meat production under a humane code.

There are some Jewish leaders, who strongly disagree with what they call the "strictly Orthodox" resistance to legislation against shackling and hoisting.

Among these are leaders of the American Council for Judaism, a relatively small Jewish group. It holds that Zionist organizations have used the popularity of Israel for making themselves the spokesmen for American Jewry, which, the council charges, they are not.

The New York bill is sponsored by Sen. William T. Conklin of Brooklyn. A companion bill in the House is sponsored by Assemblyman Luigi R. Marano, also of Brooklyn.

WILDERNESS BILL SUPPORTED

The following article, written by the distinguished critic and naturalist, Mr. Brooks Atkinson, concerning the Wilderness Bill now pending before the U.S. House of Representatives, appeared in the *New York Times* on June 1, 1962, and is reprinted by permission.

Critic at Large

Foes of Wilderness Bill Are Working for Amendments as House Deliberates

By BROOKS ATKINSON

ALTHOUGH the Senate passed the Wilderness Bill last September (78 votes to 8), the House is still cogitating. Conservationists suspect that the strategy of the opposition may consist in amending the bill enough to destroy its purpose. Specifically, the opposition may succeed in eliminating thirty-nine so-called Primitive Areas (constituting nearly 8,000,000 acres) from the immediate protection of the "wilderness" designation.

Senator Clinton P. Anderson's bill defines wilderness "as an area where the earth and the community of life are untrammelled by man, where man himself is a visitor who does not remain." All the lands now proposed as parts of the wilderness are already in the Government system as National Parks, National Forests, Wildlife Refuges and Game Ranges. "This is in a very real sense last-chance legislation," Senator Anderson said in advocating the bill last summer. "True wilderness is not a renewable resource. . . . Unless we reserve true wilderness areas now, the influence of man is inevitably going to consume all that we have."

The effective opposition consists of mining, oil and lumbering industries who object to a national system that will lock up natural resources susceptible to exploitation. At a committee hearing recently a representative of the mining industry evoked the most popular of current bogymen: He said that the Wilderness Bill would put us at a disadvantage with the Russians who can exploit their minerals freely.

The bill passed by the Senate unfortunately includes provisions that endanger the purpose of keeping wilderness areas forever wild. They represent compromises. For instance, the President is empowered to authorize prospecting for oil, gas and minerals under certain circumstances, and the building of water conservation works. Grazing will be permitted as currently practiced. Although the Wilderness Bill concerns only 2 per cent of the lands owned by the Government, the bill as now written does not guarantee their inviolability absolutely. In New York we know that there are always plausible pressures against the inviolability of Central Park and the New York State Forest.

When conservation of national resources was a new subject a half century and more ago, the sentimental point of view was politically effective. John Muir, voluntary field agent for conservation, said: "The forests of America, however slighted by man, must have been a great delight to God, for they were the best he ever planted." In those relatively irresponsible days, the only national parks and forests protected against lumbering were those patrolled by the United States Cavalry. During the seven years between 1881 and 1887 nearly \$7,000,000 worth of timber was stolen from Government lands that were not patrolled. We are not that callous now—or, are we?

But the necessity of preserving certain wilderness areas has more than a sentimental value today. It has a spiritual value. For it is now possible for man to bulldoze the entire continent and destroy all other forms of life. The great human predator can consume his own environment. Since Muir's day, the science of ecology has taught us that the relationship of various forms of life to one another cannot be destroyed without also destroying the species—of which man is one. But it is now technologically possible to develop a civilization that has no relationship to nature. We can exchange living for mere animal existence and reduce mankind to the status of vermin.

Certain animals, like the grizzly bear and the antelope, cannot exist without a backlog of wilderness. Certain birds, like the whooping crane, the giant condor and the golden eagle, are dependent on the seclusion of wilderness areas; and it is possible that we will eventually lose all of them, as we lost the passenger pigeon and the heath hen.

But wilderness areas have a grander use than the preservation of certain animals and birds. They contain the materials of knowledge. They preserve records of our past and clues to our destiny. It was from primitive areas in South America and the Galapagos Islands that Darwin discovered a fact of nature that revolutionized thinking. He could never have discovered the origin of species in a bulldozed continent covered with superhighways and split level ranch houses. Let's hope that does not become the future of our species.

"TIDAL WAVE OF OVERPRODUCTION"

In the following excerpts from the *Congressional Record* of March 8, 1962, the enormous volume of biological research is described by experts in terms which show clearly the wide extent of duplication and waste. In no case is the concomitant needless animal suffering and death mentioned; however, most biological research is done on living animals and many of these animals are haphazardly housed and cared for, and pain and fear is inflicted on them. To continue such useless suffering is inexcusable.

The forthcoming Senate report on "Medical Research Information" has been prepared by the staff of the Subcommittee on Reorganization and International Organizations.

It quotes leading medical authorities who have characterized the multiplication of medical journals and articles as a "blight," a "flood," a "deluge," and an "avalanche."

The report recalls a statement in 1956 by the then Senator John F. Kennedy on the need for coordination of medical research information, so as to avoid "wasteful duplication."

These facts and observations are presented in the report: 4,000 medical journals throughout the world publish over a quarter million articles in over 30,000 issues yearly; over 188 abstracting and indexing services vainly attempt to keep up with the "torrents" of literature; over 38,500 research projects currently underway, are registered with the science information exchange; since 1946, the leading abstract service, Excerpta Medica, has published over 1 million abstracts, but there is no master index for ready access; a medical researcher today may have to rely on an abstract journal which summarizes an article published, perhaps, 2 years ago, based upon research which was completed 3 years ago, but which may have first been discussed in a seminar 5 years ago.

"Time is of the essence," HUMPHREY stated. "Each passing day involves loss of precious time—which means added pain, suffering, and premature death."

Cancer researchers, the report notes, have stated that already science may possess clues to the conquest of one or more types of cancer, but the information may be buried so deep in the literature that it cannot be found. . . .

Conway Zirkle, Ph.D., professor of botany, University of Pennsylvania: "Innumerable scientific discoveries are buried in our libraries, and many will be exhumed, but only after they have been discovered anew, and discovered independently. Many of our scientific discoveries now might just as well not be made."

"For some years now I have been investigating the history of biology. In every field in which I have done any research, I have always found a number of precursors, that is, men who did the work earlier but who were ignored. Over and over again I have found forgotten work that could have advanced our science by many years—perhaps by many generations."

"Today approximately 1 million scientific papers are published each year. When placed end to end they will reach to utter confusion."

National Science Foundation: "The annals of science include many cases of 'lost' data, significant papers which did not come to the attention of investigators for years or decades after publication. The result of such cases in the past has been unnecessary duplication of effort, the waste of investigators' time and funds, and delays in the progress of research. The situation continues to be a source of considerable concern, perhaps more so today than ever before, as the volume of published information increases throughout the world."

Hans H. Hecht, M.D., professor of clinical medicine, University of Utah: "It is clear that the ever-increasing volume of scientific medical production in this country, primed, fostered, forced, and bought by millions of dollars lavished on institutions and individuals carries within itself the lethal seed of oblivion. To be of permanent value, research needs to record, publish, and publicize its results. Yet the tidal wave of overproduction in the biological sciences has made it almost impossible (a) to provide a forum for early presentation in the conventional framework of scientific journals, and (b) for the individual investigator to know and assess the activities of others even in his own limited field."

Stafford Warren, M.D., dean, School of Medicine, University of California at Los Angeles: "More medical research has been published since World War II than in all prior history."

Alan Gregg, M.D., vice president, the Rockefeller Foundation: "The medical literature of today exemplifies all too fully the biological adage that life is choked by its own secretions."

Homer B. Fell, Ph.D., director, Strangeways Research Laboratory, Cambridge, England: "Our scientific world is becoming like a crowded cocktail party, in which everyone shouts a little louder in the hope of making himself heard, until at last the volume of speech is such that almost nothing can be distinguished."

"I foresee a time when (the scientific historian) alone will be able to save research from progressing like a stage army, with the same old investigations coming round over and over again—briefly fashionable, and then forgotten until next time." . . .

David E. Price, M.D., Deputy Director, National Institutes of Health: "It is said that it is easier to repeat research than to dig it out of the literature. It is said that, if a scientist properly searches the literature in preparing for his research or in connection with the different steps of his work, he will not have time to carry out the research project itself. If these charges are true, then we seem to be strangling ourselves to death, or to be traveling in circles."

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REPRESENTATIVE KENNETH ROBERTS HOLDS HEARINGS ON LABORATORY ANIMAL BILLS

Hearings on H.R. 1937, introduced by Representative Martha Griffiths, and H.R. 3556, introduced by Representative Morgan Moulder, were held September 28th and 29th before the House Committee on Interstate and Foreign Commerce Subcommittee on Health and Safety which is headed by Representative Kenneth Roberts. The hearing room was packed, and there were so many witnesses to be heard that the hearings had to be continued on the 29th though they had been scheduled for only a single day.

The first witness was Senator Maurine Neuberger, co-sponsor of S. 3088, companion bill to H.R. 1937. Senator Neuberger said she was proud to be a sponsor of the bill.

"It is generally recognized," she said, "that those who use animals for experimental purposes do so because they expect to achieve results which will be of benefit to mankind. Perhaps we become too concerned about ends, rather than means. There is really no reason why the animals used for scientific purposes need be handled in a callous manner, nor why they cannot be insulated against painful procedures. The measure which I am sponsoring in the Senate with Senator Joseph S. Clark of Pennsylvania is based on principles which have been used in Great Britain for more than 80 years. The British Cruelty to Animals Act grew out of a petition to Parliament sponsored by leading scientists of the day, including Charles Darwin and Thomas Huxley. An Act was subsequently adopted in 1876 establishing the rights of laboratory animals. The British legislation provided for licensing of individuals who use animals for experimental purposes, inspection of record-keeping by the Government, and minimum standards of care and comfortable housing of animals. The measure also established a 'pain conditions' limit on the amount of suffering inflicted during experiments with animals. These are elements which require inclusion in our own approach to a solution of the problem."

Senator Neuberger asked that "Notes on the Law Relating to Experiments on Animals in Great Britain", published by the Research Defence Society, and Information Report Vol. 11, No. 2, published by the Animal Welfare Institute, be printed in the record of the hearings.

Congressman Morgan Moulder, sponsor of H.R. 3556, and a member of the House Committee on Interstate and Foreign Commerce, testified in support of his bill. As readers of the Information Report know, H.R. 3556 differs in several respects from H.R. 1937, but both bills are legally based on the taxpayers' right to be assured of the humane use of Federal funds. Congressman Moulder stated on this subject:

"... the bill is simply a proposal that the Congress impose certain controls over gifts of Federal funds, and expenditure of Federal funds. The bill is addressed to Federal agencies that make grants for medical research and that spend money in such research or in allied fields. H.R. 3556 would have absolutely no effect on any individual worker or institution that is not using Federal funds. The effect would be very widely inclusive, of course, because we are this year spending and giving away more than a billion dollars of Federal money on medical research, but my bill would not affect any scientist or laboratory that did not voluntarily seek public money. It seems to me to be eminently reasonable that the Congress should impose conditions on grants of the tax-payers' money. We do the same thing in many other circumstances, and, indeed, we have an obligation to do so."

Congressman Moulder asked the Chairman to call upon Dr. E. L. Miller, Special Consultant on the teaching of biology of the Stephen Austin State College in Texas, and Professor James Mehorter a psychologist, and Dean of Students at Berkshire College, both of whom spoke for

THE NEW YORK TIMES RECOMMENDS ENACTMENT

The following editorial appeared in the October 26 issue of *The New York Times*.

Experiments With Animals

Many of the great achievements of modern medical research would not have been possible without experimentation on animals. Researchers must remain free to avail themselves of this invaluable technique; but all freedoms bear inherent responsibilities.

Public hearings were held recently by the House Committee on Interstate and Foreign Commerce on legislation to insure the proper care of laboratory animals and to prevent unnecessary experiments and unnecessary pain. Responsible researchers know that good care of animals is essential to valid experimentation. Nevertheless the thirst for scientific knowledge combined with human carelessness may sometimes result in laboratory conditions and procedures which do not meet the highest standards of medical research.

Bills introduced in the Senate and House during the past session were patterned on legislation enacted in England 86 years ago. The British example, which has not hampered fruitful medical research, should be followed here.

H.R. 3556, emphasizing the dangers of sadistic influences in education. Professor Mehorter urged that "Congress should act decisively against cruelty now too frequently perpetrated in the name of science", pointing out that "Frustration ulcers are a specialty field of some of my colleagues" and stating that thousands of experiments, (sometimes mere demonstrations) in central nervous systems studies include intense assaults. Speaking as a psychologist, he discussed mental hygiene and affirmed that "Society is harmed by cruelty that has the appearance of social sanction."

Next to testify was Monsignor Leroy E. McWilliams, President of the National Catholic Society for Animal Welfare. Monsignor McWilliams stated that he had read scientific journals and that some experiments have degenerated to mere torture. He quoted the late Pope Pius's view that the inhumane treatment of animals was degrading to man, and St. Thomas's admonition that animals may appear against us in the Last Judgment. Monsignor McWilliams urged enactment of H.R. 3556 amended to make anesthetic mandatory for all painful procedures.

Dr. Paul Kiernan was then called. He said in part,

"I am pleased to appear as a witness in favor of the proposed bill H.R. 1937. I appear as an individual representing no group. My practice is surgery as a consultant in surgery, at the Washington Clinic, Washington, D.C. and associate professor of surgery, Georgetown University Medical School. . . I am well aware of the objections raised by medical research groups but am completely baffled by the reasons given for these objections. One would think the purpose of this bill were to prohibit animal experimentation and that it were sponsored by anti-vivisectionists. This is certainly not the case. Is it not perfectly reasonable to provide adequate and comfortable space, food and water for animals used in experimental work? There should be no objection from any source to the use of anaesthesia except where such use would interfere with the experiment. Complete and accurate records are characteristic of good research and therefore would inflict no burden. Certification for licensure of personnel is reasonable and will impose no hardship. . . Controls are necessary only because some of us do and may forget that animals cannot speak up for their own protection. Even the most responsible investigator may on occasion need a reminder. This the bill H.R. 1937 will provide." Dr. Kiernan also placed in the record a letter from Dr. John H. Lyons, whom he characterized as "one of the great surgeons of this country, Dean of Washington surgery, and President of the District of Columbia Medical Society. As fellow surgical staff members of the Washington Clinic we had many opportunities to discuss the need for and merits of this proposed legislation. He died in February of this year. Dr. Lyons planned to appear as a witness favoring this bill."

Dr. Kiernan further read a letter from Dr. John Walsh which stated of H.R. 1937, "I heartily endorse it in its entirety."

Dr. Leon Bernstein, head of the Physiology Research Laboratory of the Veterans Administration Hospital in San Francisco, and Associate Clinical Professor of Medicine and a consultant staff member of the Cardiovascular Research Institute of the San Francisco Medical Center of the University of California, was next to testify. He stated in part,

"I would like to thank you for giving me this opportunity to present testimony in support of Bill H.R. 1937, and to say that the views I shall present are my own and not those of the U.S. Veterans Administration."

Having done research in both the United States and England, Dr. Bernstein made valuable recommendations on the administration of the legislation, based on his experience of British practice:

"In my opinion what should be done is: 1) to designate the places in which experiments on living animals may be done—e.g. the laboratories of the schools of science or medicine of most universities and of the independent medical research foundations, and of good government and industry; 2) to license those who may do them, remembering that a license should be granted not as a status symbol but because the applicant demonstrates his serious intent to perform medical or biological research and his possession of the necessary academic qualifications for doing this; and 3) to define the kinds of permission that would be given for experiments of a few different types. Thus, experiments calculated to cause no pain could be done at any time by any licensee without the administration of anesthesia; those calculated to cause pain, but done under anesthesia, and in which the animal was destroyed when the object had been achieved and before regaining consciousness, could be done at any time by any licensee, without his needing to obtain specific permission—the majority of experiments would fall in this category; those in which the animal's survival was essential if the object was to be achieved might be allowed for the whole of an approved research project; while for those in which the objective could not be achieved without inflicting pain permission would be given for only one or a few repetitions of the experiment, after which the application would have to be renewed."

Dr. Bernstein's analysis is based on British practice, in which the "pain conditions" of the Act prohibit the infliction of severe and prolonged suffering, and may limit the number of animals used in a painful experiment.

Professor Alistair N. Worden, Director of the Huntingdon Research Centre, followed Dr. Bernstein. Professor Worden is a veterinarian and biochemist who has had a license for 24 years under the British Act which regulates animal experimentation. He is editor-in-chief of the Anglo-American journal "Animal Behaviour" and co-editor of "The UFAW Handbook on the Care and Management of Laboratory Animals." As Director of the Huntingdon Research Centre, he is responsible for licensed premises and the physicians, veterinarians, pharmacologists, and toxicologists at the Centre have individual licenses. He pointed out, "The records that have to be returned [to the Home Office] are but a fragment of those that any trained research worker will keep anyway. The so-called 'red-tape' associated with the application and records is very slight indeed, and does not intrude upon the worker's time nor into his research, provided, of course, that he obeys the Act." Summing up his view of the value of the British Act of 1876 he said, "The freedom of all and sundry to use animals indiscriminately would not in my opinion improve either the quality or the value of British research."

Major C. W. Hume, Secretary-General of the Universities Federation for Animal Welfare with headquarters in London, appeared in support of H.R. 1937 stating in part,

"I thank you for permitting me to tell you something about British experience in preventing the irresponsible treatment of animals used for scientific research, an experience which has extended over 86 years. Our system has been attacked in the United States by two opposite groups of extremists. At one extreme the anti-vivisectionists claim that it is ineffective and is merely a screen for unlimited cruelty in the laboratory. At the other extreme the National Society for Medical Research claims that our system seriously hampers research in Britain. Although these views cancel one another out, Mr. Rohweder, on one side, recently exchanged letters with Mr. Clarence Richard, on the other, whereby the two parties agreed to collaborate in opposing reform. My task is to show where the truth lies between these two extremes, but in passing I must notice a third line of resistance to which some of the less fanatical opponents of reform have retreated. These allege that although the British can work a system like this, the Americans are incapable of doing so. Those who administer it do indeed have to be men of exceptionally high intellectual and moral calibre, capable of understanding the purposes and requirements of scientific research, humane, incorruptible, endowed with tact, firmness, moral integrity, and common sense. We are asked to believe that while such men can be found in Great Britain, they cannot be found among the 150 million citizens of a nation which, on the technical side, has sent a satellite to Venus, and on the moral side is leading the defense of the free world against the threat of intellectual and spiritual enslavement. The task set by the Clark and Griffiths Bills is indeed a formidable one, but to say that the United States is unequal to it is as preposterous as it is insulting."

Major Hume read letters from some of Britain's most distinguished medical and scientific authorities. He said, "Lord Brain, better known as Sir Russell Brain, a past President of the Royal College of Physicians and editor of the neurological journal "Brain", would himself have come to testify but for the shortness of notice. Instead he has sent me the following letter." The letter stated in part,

"A very large volume of animal experiment is now carried out in the United Kingdom. The existence of the restrictions and inspections imposed by law in my experience work extremely well and prevent the infliction of unnecessary pain on experimental animals without in any way restricting the activities of genuine scientific research."

Major Hume continued, "The Queen's surgeon, Sir Arthur Porritt, who is President of the Royal College of Surgeons and is also a Fellow of the American Society of Clinical Surgery and has been appointed to the Legion of Merit of the United States, has written to me as follows:

"As I said to you in my letter of 7th August, I am more than sorry I cannot come to Washington but I am quite sure that you will be able to put the case admirably. As you will know, at the Royal College of Surgeons, we have a large number of research departments in which animals are used and, as President, I deal with a vast number of requests from establishments outside the College during the course of the year. Quite honestly, I have never heard of any genuine surgical research being hampered by our present regulations for preventing the infliction of unnecessary pain on laboratory animals. Much as I admire American surgery and surgeons, I am sure the statement that our surgeons have to go to America to learn research is both untrue and unworthy. There are certain places and certain projects in America which are unique but the same applies in this country and I am sure there is very genuine mutual respect between both countries, neither of whom would claim inclusive rights to the best method in anything! I hope your mission is a success."

Letters from Sir Russell Brock, Professor C. A. Keele, and Dr. John Baker were read by Major Hume. He said,

"Here is a letter from Prof. P. B. Medawar, F.R.S. who received the Nobel Prize for Medicine and Physiology in 1960 and has recently become Director of our National Institute for Medical Research; he has also been Chairman of the Scientific Advisory Committee of UFAW which I represent here today." Professor Medawar's letter stated in part,

"Let me say first that I am in favour of regulations of this general kind. They restrict the performance of animal experiments to those qualified to execute them. They ensure certain basic standards of care for animals of all kinds, not only for those which arouse the sentimental interest of the public. They also ensure that experiments which may give pain or discomfort are not lightly or hastily undertaken. The fact that there are forms to fill in and an inspectorate to satisfy brings it home to the beginner in research that doing experiments on living animals is a serious business. . . Finally, I do not agree that medical research work in this country is handicapped by Home Office regulations."

Of Sir Graham Wilson, Major Hume said he is "Director of the Public Health Laboratory Service, and an Hon. Fellow of the American Public Health Association. He has been, among other things, Professor of Bacteriology in the University of London and is the author of some standard works on bacteriology." His letter states in part,

"Personally I have a strong regard for the feelings of animals, and either with or without a licence I should refuse to undertake any experiment that caused severe or lasting pain. Not all workers, I am afraid, are so scrupulous, and it is against these that in my opinion animals deserve protection. The system operating in this country seems to me to work well. To the conscientious investigator it offers no bar; to the unscrupulous, of whom in Great Britain there must be very few, it offers a wholesome check."

Following Major Hume was Ann Cottrell Free whose achievements in obtaining a badly needed change in housing for the test beagles of the Food and Drug Administration are well known. She urged enactment of legislation to protect other laboratory animals and said,

"I could not believe it when a troubled F.D.A. scientist told me in October, 1959 that deep in the sub-basement of the South Agriculture Building dogs were kept in cages for life. Only seeing would be believing. I obtained permission to see these animals. In those windowless, sub-basement rooms hundreds of dogs flung themselves against the bars of their cages, piled tier on tier. They were barking, screaming, whining. A few were mute — and drooped their heads in the dark corners. Others circled ceaselessly in their cages. The steel grids beneath their feet showed their pathetic, circular path. (These dogs—mostly beagles—are used primarily for the testing of food additives. Some remain in their cages for seven years.) . . . Appropriation of funds to remove these wretched animals from their medieval jails—where they are acting as servants of humanity—was a landmark in Congressional concern for animals. It should set the course for future legislation to improve the lot of laboratory animals."

The first witnesses to speak in opposition to the pending bills were Dr. W. T. S. Thorp and Dr. Maurice Visscher, both of the University of Minnesota. They appeared jointly. Dr. Visscher is Professor of Physiology at the Medical School, Dr. Thorp is Dean of the Veterinary School. Dr. Thorp stated that he was Chairman of the Committee on Animal Facilities of the National Research Council which conducted a survey on laboratory animal quarters. He said

that ten members of five survey teams divided the country into Northeast, Southeast, South Central and West. They visited 58 non-profit institutions. He asked that the first report be included in the record of the hearings and said that a more detailed second report was now in preparation including information from approximately 500 mail questionnaires. He said that in the past four years he had made 160 site visits on matching NIH grants for health research facilities, and that it had been his observation that there has been a marked improvement in animal facilities as a result of funds. He said that regulatory bills would require expensive, massive regulatory machinery and that the objective can be obtained by making funds available to study the needs of animal care.

Chairman Roberts asked Dr. Thorp if he had observed many instances of cruelty and inadequate care in animal facilities, and Dr. Thorp assured him that he had seen no evidence of cruelty adding, "True, you will have evidence of good or fair facilities."

Dr. Visscher stated that he was representing the American Physiological Society in opposition to the pending bills. He said it was necessary to distinguish between the care and maintenance and the scientific use of the animals and that the distinction had not been made plain. Pointing out that "We are not without some regulatory procedures," he cited the "dog pound act" of 1949 in Minnesota and, in reply to a question by the Chairman, stated that nine other states and some municipalities had similar legislation. He said that he had heard from British colleagues that there is not great objection to the Act of 1876 but that there is not agreement among British scientists that it would be wise to pass such legislation here. He said such legislation was not necessary in Minnesota. He made no comment on testimony given previously by Christine Stevens on behalf of the Animal Welfare Institute which included the following statement:

"Opponents of H.R. 1937 will tell this Committee that even larger amounts of money than they are now receiving from the government is all that is needed. It is our experience that in visiting new laboratories it is common to find large amounts of money spent on stainless steel and shiny tile, but these are far from being a guarantee of decent treatment of the animals. In a medical school fitted out with long stretches of gleaming corridors we found cats being kept in cages with nothing but wide-spaced one-way wires for floors. There were two cats in each of these cages, and in every case, one of them was perched on the feeding bowl to keep off the wires that pressed into their sensitive paws. . . What of the dogs in this institution? One lay dead, not yet observed by anyone, despite the endless assurances by the National Society for Medical Research of which I would like to give just one example. 'Research Dogs are More Pampered than Pets, Kid Gloves in the Lab. If a Texas millionaire wanted to give his pet hound the world's finest care, he would be hard put to equal the kid-gloves treatment which thousands of dogs receive today in modern animal research laboratories throughout the nation.' This wildly untrue release was used, according to the NSMR, by 200 publications. How does this jibe with a manual gotten out in the NSMR's home state and recommended by one of its most active board members? Here is the University of Minnesota's recommendation on 'How to Clean a Dog Cage. . . After feeding all of the dogs in the

area assigned to you, go back and remove any dead dogs from their cages.' On the next page it shows how to hose a dog cage with the dog in it: 'Open the door slightly, holding it so the dog cannot jump out. Run the nozzle over the top of the door as shown in the drawing at the right. Wash the walls and bottom grate. Then run the nozzle under the door to flush out the catch pen.' Incidentally, these quarters are new, less than two years old, so the decision to house dogs in basement cages three tiers high without provision for exercise and to hose the cages with the dogs inside was deliberate. According to the *St. Paul Dispatch*, February 16, 1961, 700 dogs are housed thus, and a spokesman for the medical school was quoted as saying, 'Research is big business at the university. In fact, government and foundations last year backed our medical research with more than three million dollars in grants.' Business is a lot bigger this year with a total of \$9,620,965 of the taxpayers' money given to this university by the National Institutes of Health in 1961."

Following Dr. Visscher on the witness stand was Dr. L. Meyer Jones speaking for the American Veterinary Medical Association. Dr. Jones' pseudo-scientific and patronizing remarks antagonized those members of the audience who had expected a different attitude from the A.V.M.A. "Animals," he said, "possess a different level of intellect and different sensorial patterns from that of man. The problems of interpreting the animal's intellect and biological needs are best left to the veterinarians and other biological scientists who specialize in the care of experimental animals." If Dr. Jones has some scientific proof to offer showing why dogs' "sensorial patterns" cause them to enjoy being shut up in cages in a sub-basement, often wetted when their cages are being hosed but never released for exercise, the pages of the AWI Information Report are open to him to present that proof in the next issue. What Dr. Jones did not offer in factual information he sought to make up for with rhetoric: "Humaneness to animals is a philosophy of mind. Humaneness can not be legislated!!" Possibly he has forgotten the massive change-over from inhumane to humane methods brought about in the slaughtering industry by passage of the Federal Humane Slaughter Act. In response to a question by Congressman Paul Rogers, Dr. Jones said that persons experimenting on animals "should be permitted to conduct their experiments as they feel proper."

Next to speak was Mrs. Marie Woodward of the Woodward Research Corporation representing the National Capital Area Branch of the Animal Care Panel. She opposed the bills.

Dr. Bennett Cohen appeared next. He said he was Chairman of the group sponsoring the report made by Dr. Thorp (Institute of Laboratory Animal Resources, National Academy of Sciences, National Research Council) and was speaking as a representative of the Animal Care Panel. He said there had been greater advances in animal care in the last few years than in the previous 150 years and emphasized that dissemination of information was "the only way." He offered copies of the Journal of the Animal Care Panel for the Committee and said that 100 animal technicians are now certified as to their competence and that the Animal Facilities Certification Board has a

Public Health Service Grant. He said the word "humane" is not a "static" thing, that standards considered humane in 1850 would not be considered humane today. He said that American animal care is the equal of British animal care and that the existence or lack of existence of the British Act "makes not one iota of difference."

In response to a question by Congressman Rogers as to whether his group had authority to take any action, Dr. Cohen replied that to a scientist "the greatest sanction is the disapproval of his peers". He said, "I am not acquainted with inhumane conditions", though he added that he had seen things he would like to improve. In answer to further questions on self policing, he assured Congressman Rogers that the National Institutes of Health do look into the adequacy of animal research facilities.

Chairman Roberts announced that since there were 27 more witnesses to be heard, a five-minute limitation would be placed on oral statements and written statements accepted for the record.

Dr. Nathan Brewer, Associate Professor and Superintendent of Animal Quarters, University of Chicago, speaking in opposition to the pending bills, said that the College of Laboratory Animal Medicine is living evidence that the scientific community is indeed aware of the benefits conferred. He called attention to the symposia conducted each year on the subject, one at the annual meeting of the American Veterinary Medical Association, the other at the annual meeting of the Animal Care Panel.

Mr. Fred Myers, Executive Director of the Humane Society of the United States, testified in favor of H.R. 3556. He submitted his prepared statement for the record and emphasized the magnitude and the urgent nature of the matter under discussion. He said that some 300,000,000 animals are used each year, most of them being shipped in interstate commerce, that a spokesman for medical research predicted that the value of the animals to be used would soon equal the monetary value of all livestock grown on the farms and ranches of the United States, and that Beaufeuillet Jones predicted that by 1970 requests for funds for medical research would have grown to two billion dollars. Mr. Myers then turned to two large instruments which had been brought in at the beginning of the hearings. Pointing to the Noble-Collip drum, he said it was an instrument in common use in many laboratories to produce traumatic shock in small animals whose legs are taped together before they are put in the drum. They are then subjected to from 200 to 1000 turns of the drum at 80 to 100 revolutions per minute. He said the animals will live from one hour to 7 or 8 days before they die. He then pointed to the Blalock Press saying that one of the hind legs of a dog is placed in the press and left in for four or five hours. Although the dog is anesthetized while his leg is in the blunt teeth of the powerful press, he may live from one hour to 12 or 14 days after removal, during which time he is fully conscious. Mr. Myers then offered photographs to the Committee and a report on a

poll conducted by the Society noting that a statement expressing the need for legislation was signed by a great number of scientists, including the Director of Oak Ridge Nuclear Research and 24 University Presidents.

Dr. Carl Pfeiffer, head of the Section on Pharmacology of the New Jersey Neuropsychiatric Institute, stated that he was a past president of the American Society of Pharmacology and Therapeutics and that he was speaking against the bills. "In the first place," he said, "I have never seen what the previous speaker called a common piece of laboratory equipment." He said these devices were used during the war, and that the Noble-Collip drum may be used in the rare laboratory, but it is very rare. (Note: Had Dr. Pfeiffer made even a cursory survey of the literature he could not assert that "drumming" is a rare procedure or that this type of work was almost completely confined to war-time research. The most recent (September, 1962) issue of *The American Journal of Physiology* reports on drumming as follows: "Rats were subjected to 600 rev of a Noble-Collip drum. Of 32 rats, 19 died within 90 min. of the initial injury. Since, in our experience, appreciable activation of histidine decarboxylase does not occur within 90 min., tissues were not assayed. One rat died in about 3 hr. but was inadvertently lost for assay. Only three rats dying from delayed shock were obtained; these were sacrificed during a period of 250-300 min after drumming and tissues assayed.")

Dr. Pfeiffer said that foreign scientists come to the United States to work because they need no licenses, rather than to Britain where three or four months is needed before a foreigner can obtain the proper credentials. He said he is a U.S. Public Health Service consultant on a National Institutes of Health study panel which decides on grants and that they have project site visits and previous publications to help them decide. He said that H.R. 3556 would place the putting of two worms on a hook under the bill and require anesthetization of fireflies placed in a bottle and that "Scientists of whom I speak for 8,000 are against bureaucratic, restrictive and needless legislation." Asked if his position is against both bills in toto, he replied in the affirmative.

Next to testify was Dr. C. A. M. Hogben from the University of Iowa who said he was "the son of a distinguished British biologist," and that he was here primarily to correct the information on the origin and impact of the British law. He said it was in general considered burdensome and that scientists would ask for repeal if it were not for anti-vivisectionists.

Miss Helen Jones, Executive Director of the National Catholic Society for Animal Welfare, testified next, urging enactment of H.R. 3556, amended to require the giving of anesthetic for any painful procedure. She stated that the cost of administering the bill would be only 1/2400 of the money given in grants by the National Institutes of Health for the year 1963.

Mrs. Alice Wagner, editor of *Popular Dogs*, submitted an article on cruelty to laboratory animals which she had published, and a number of letters subsequently received. One, from a student at the University of Chicago, said in part, "I am not saying anything about the experiments on dogs and other animals, all sizes, as some of the tests might help in some way, but no one seems to care about them, if they have water or food or any care after the experiments, or if they are kept clean. When the head guys tell you they always use anesthetics, they lie. At night I keep thinking about the dogs. I wish you could come out and visit here or have one of your reporters visit. Sometimes I have to walk away I feel so sick about the dogs. But my mother says I have to stick it out. Trying to produce convulsions in dogs is terrible. I know they wouldn't let you see that, though. Shock experiments, removal of organs, blocking intestines, or the urine outlet so that the bladder ruptures are only run-of-the-mill these days. You'd be surprised to hear what professors and some students can think up. No student would write to any newspaper no matter how he felt about what he saw. Even students are getting afraid to talk to each other."

Dr. F. William Sunderland of the University of Pennsylvania submitted a statement for the record in opposition to the legislation and Dr. Arthur H. Brayfield, representing the American Psychological Association, testified in opposition.

Dr. Robert A. Moore, Dean of the Downstate Medical College of the State University of New York, submitted the Principles of Laboratory Animal Care of the National Society for Medical Research and statements in opposition to the legislation by Dr. I. S. Ravdin and by Dr. Stanley Bennett, Dean, College of Medicine, University of Chicago, who could not be present.

Dr. Helen Taussig spoke as vice-president of the American Heart Association in opposition to the legislation. She objected to the provision in H.R. 3556 requiring the use of animals to be kept to a minimum. She said she was not quite clear if a new application would be needed each time a change was made in experimental work such as blue baby surgery. [Note: this is not called for either in the British Act of 1876 or the pending legislation based on this Act.] She said this would be a waste of money, time and energy. She said, referring to the *Blalock* press, that crushed limbs seem terrible, but people were crushed in the war.

The Chairman asked Dr. Taussig if some consideration might be given to repetition of experiments, whether a reporting system for exchange of information might be possible. Dr. Taussig said this would be very difficult. Dr. Hogben volunteered an emphatic "No! No!" from the audience.

Mrs. Paul Twyne, President of the Arlington Animal Rescue League, and an alternate on the District Animal Allocation Board, urged enactment of the pending bills. She reported on personal observations in laboratories.

On September 29th, the Chairman opened the session by reading statements received from Senator Joseph Clark and Miss Rachel Carson in support of H.R. 1937.

Dr. William P. Herbst then appeared in support of H.R. 1937, stating that England and Denmark had improved research by enacting regulatory legislation. He said that authority for its administration could not be placed in better hands than the Department of Health, Education and Welfare. Asked by the Chairman if he believed this legislation would unnecessarily hinder medical research, Dr. Herbst replied, "I do not. . . A doctor might not engage in one particular piece of research, but that would not be of sufficient magnitude to be used against passage of the bill." In response to the Chairman's request that he detail his training experience, Dr. Herbst said he had done research on the action of certain drugs in regard to malignancy, and that he is President of the American Board of Urology, Clinical Professor of Urology at Georgetown University, and Civilian Consultant for Walter Reed Army Medical Center, the National Naval Medical Center, and the National Institutes of Health.

The next witness was Mrs. Robert Gesell, speaking in support of H.R. 1937. She stated,

"After 50 years of observing the sporadic attempts of some investigators in this country to provide moderately humane treatment to experimental animals by their own efforts, I wish to testify in favor of the Griffiths bill. . . Some 40 years ago Dr. Cannon of Harvard University was instrumental in writing rules for experimentation on animals. These rules were widely displayed in research laboratories. My husband, a physiologist, greatly admired Dr. Cannon and thought him to be a humane as well as a brilliant man, so he believed these rules were largely for the protection of laboratory animals. Dr. Chauncey Leake about a year ago said he thought so too. But in June of 1952, Dr. Carl Wiggers, Chairman of the Department of Physiology of Western Reserve, stated in a speech at his class reunion at the University of Michigan, that 'some years ago, approximately 1918, the A.M.A. appointed a committee headed by Dr. Cannon for the primary purpose of combatting anti-vivisection propaganda. Toward this end a set of rules and regulations was drawn up which reflected common practice in different laboratories. These have ever since been posted conspicuously in hospitals and laboratories to remind investigators, it is true, but chiefly to assure visitors that animal experiments are being conducted and supervised properly. Those rules were not drawn up, as has been misquoted, because Dr. Cannon saw the need of a restraining force to curb man's curiosity within proper bounds. I was there, Charley.' Dr. Wiggers then said that he had been impressed by the care taken in the tumbling of unanesthetized rats in a Noble-Collip drum (their paws were bound together so they could not even try to protect themselves from pain). Of the contusions from which the rats died 47-50 minutes later, he said, 'discomfort, anxiety and mental perturbation of rats, yes, but certainly no severe pain.' He then went on to say, 'Perhaps it is significant that rats were used. A similar apparatus for tumbling dogs and cats could have been built but the thought, I think, has never suggested itself.' Noble-Collip drums are still used by investigators in experiments on so-called stress. Dr. Wiggers also defended the slow drowning of 160 dogs (unanesthetized) and the infliction of contusions by 700-1000 blows on the legs of anesthetized dogs by a specially designed leather mallet. These dogs were promptly allowed to come out of the anesthetic and to die from 50 minutes to 9 hours later. . . This public statement, as well as numerous denunciations of any wish to curb cruelty to laboratory animals as either anti-vivisectionist or crypto-anti-vivisectionist, makes voluntary regulation of cruelty to experimental animals by present day scientists appear doubtful.

In fact, most organizations of research men react violently to any thought of reform." Mrs. Gesell concluded by emphasizing the importance of "an unbiased law requiring individual licensing, unannounced inspection by incorruptible and informed inspectors, and above all the pain rule which prohibits severe and prolonged pain to any animal even though the hoped-for result of the experiment has not been attained."

Mrs. Peyton Hawes Dunn spoke for WARDS, neither for nor against the pending bills.

Following Mrs. Dunn was Mr. Larry Andrews, Washington representative of the National Anti-Vivisection Society, speaking against the pending bills on behalf of his Society and the International Conference against Vivisection.

"I desire to make it very clear that the organizations I represent are unalterably opposed to H.R. 1937 and H.R. 3556, popularly known as bills seeking to regulate vivisection, or animal experimentation. We oppose such legislation now and in the foreseeable future. . . We are thoroughly convinced that this proposed legislation will perpetuate what we regard as an evil practice, instead of curing it", he said.

The last witness to be heard was Mrs. Frances Holway,

who reported on her appointment to a committee of the Animal Care Panel which was designed to deal with ethical considerations with respect to experimental animals. She described how pressure was brought to bear clear of the question of painful experiments and to discuss only the housing and care of experimental animals. Now, she said, the committee deals only with equipment, housing and care, with no mention of suffering. Mrs. Holway said she resigned because ethical considerations were dropped and she could not even agree with the position adopted by the ACP committee with respect to the housing of the animals.

* * *

Copies of the printed record of the hearings may be obtained by writing to the Clerk of the Committee on Interstate and Foreign Commerce, Mr. W. E. Williamson, at the House Office Building, Washington, D.C.

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ANIMAL CARE PANEL MEETING

The thirteenth annual meeting of the Animal Care Panel, held in Chicago October 2-5, demonstrated once again the two divergent facets of this group. On one hand, well-prepared papers were presented by able men interested in good animal care. On the other, a pervasive commercialism fused unpleasantly with some specimens of confused thinking and some very dubious practical demonstrations on animals.

Demonstrations

One live demonstration showed how to thrust the head of an unanesthetized rabbit into a V-shaped cleft in a board and strap the animal down tightly on its back with leather thongs. This method was recommended when irritating substances are to be put in a rabbit's eye or painted on its skin. A Panel member volunteered the information that rabbits are strapped down like this for hours at a time.

The closed circuit television demonstrations were conducted in a somewhat carnival atmosphere, with the moderator calling out between demonstrations: "And away we go!", "There's a lot more coming; be sure to stay for the whole show!", etc. The audience laughed as a mouse struggled to get away from the demonstrator each time he swung it down by the tail and explained that this was the way to produce "tail-tension" for vaccination. More laughter greeted the announcement by another demonstrator of the reason for his shaking hands in a chest operation on a mouse: "You should have seen me last night", he quipped, and, as he later showed the abdominal organs, expressed the regret that it was not in technicolor. "You think this mouse is not really stiff", he said, unpinning its feet from the board and lifting it up, thus giving him the opportunity for still another joke about his own condition the night before. The moderator greeted his efforts with the encouraging exclamation that that was "a real grand show!" Taking blood from the orbital sinus of mice was another feature of the show, which included a special demonstration on how to pluck fur from chinchillas. The head of a commercial laboratory asked a local breeder of chinchillas for the fur trade to show how to pluck a large patch down to the skin, and stated that one could pluck almost $\frac{2}{3}$ of a chinchilla's fur out "without creating a state of shock". (No one doubted that he had had any scruples about testing this statement, for earlier this same individual had given a paper in which he described having deprived chinchillas of food and water for 32 days until they finally died.)

It is regrettable that the more serious and humane members of the Animal Care Panel do not express themselves vigorously to the Panel Officers who plan and conduct the annual meetings.

Report on the Hearings

Dr. Bennett Cohen, past President and member of the Board of Directors gave a strangely oriented report, at the business meeting, on the Washington hearings where he had represented the Animal Care Panel. He began by saying it was difficult to know how to present his report because there was so much beneath the surface. "Like an iceberg", there was "a great deal hiding under-

neath." He said he was not sure "how best to bring you this day and a half and its implications", but thought it best to "report on surface events". He said he received a call from Mr. Garvey of the National Society for Medical Research on Wednesday; Mr. Garvey asked that he go to the hearing for Dr. Rabstein, President of the Animal Care Panel. He said that Mr. Rohweder had learned Monday evening about the hearings, and that it was Dr. Cohen's "personal comment that it is an interesting phenomenon that a hearing of this type would be at such a late date". He reported that those who were to testify against the legislation met in Washington shortly before the hearing. The meeting was called to order by Dr. Robert A. Moore, who has served as coordinator for the National Society for Medical Research. They were told to keep their presentations brief and to give the scientific community's reasons for opposing the legislation.

Dr. Cohen emphasized his astonishment at "how Congressional colleagues treat each other. There seems to be a certain patten that goes along when Congressmen speak to each other or especially when a Congressman speaks to a Senator." He referred to "a long interchange . . . each complimenting each other about how each has safeguarded the nation. This is part of the iceberg picture, I suspect."

When he came to reporting on the Noble-Collip drum, he asked a member of the audience to give him the name, then referred to "the Collip drum that had been used in the war years in experiments on shock." (Apparently Dr. Cohen is not a reader of the *American Journal of Physiology* any more than Dr. Pfeiffer is. See the Note following Dr. Pfeiffer in the previous article.)

Describing his own testimony, Dr. Cohen emphasized the "constructive" aspects: "increased support of research and training" and funds for building and remodeling. He referred to what he called the "cultural aspects" and his idea of the "relatively humane", adding that it is a shame that those who support these bills do not see how important it is that we accept the concept without being "fixed or rigid".

After noting the statements of other witnesses, Dr. Cohen said, "We have a wonderful ally in Larry Andrews of the National Anti-Vivisection Society". He said that the proponents of the bills describe themselves as "this moral and moderate group standing between the extremes of the National Society for Medical Research and the anti-vivisectionists". He went on to say, "so we do have allies in the National Anti-Vivisection Society."

Dr. Cohen concluded by asking his listeners to "go back and work hard. I really mean this. Sell your story to your neighbors down the street." Of the proponents, he said, "Boy, they've got a wonderful, plausible story. Taken out of perspective this makes a good bit of reading . . . the only way we can come out of this legislation in good shape . . . we have to generate the same kind" of demand. He added, "Sure, behind the scenes you have to get your Deans to see the Congressmen and say, 'Look, Joe, this bill is no good, and we want constructive action.'" He finished with the exhortation to "go home and fight with the same dedication I know all of us feel on this issue."

ALBERT SCHWEITZER MEDAL TO RACHEL CARSON

The Schweitzer Medal for 1962 will be awarded to Miss Rachel Carson, author of "Silent Spring," in recognition of her contribution to the protection of vertebrate animals from needless suffering and death resulting from excessive use of dangerous insecticides. The medal will be presented at the annual meeting of the Institute on January seventh, by Dr. Robert Cushman Murphy.

Miss Carson's previous books, "The Edge of the Sea" and "The Sea Around Us," expressed great understanding and appreciation for nature, and in "Silent Spring" she shows why nature, including man, must be protected from the most massive, deliberate poisoning the earth has ever received.

Those who would like to continue and even increase the wholesale spreading of the chlorinated hydrocarbons and other highly toxic substances have tried, by a variety of means, to counteract the powerful effect that "Silent Spring" has had on readers. In a speech before the Women's National Press Club, December fifth, Miss Carson replied to her critics and has given permission to reproduce her speech in full below.

The reports by the National Academy of Sciences Committee on pesticides were characterized, in the pages of the *Atlantic Naturalist*, as representing an American type of Lysenkoism, an unscientific distortion presented in the guise of a responsible report. Miss Carson makes reference to this, and we have quoted a second well-informed source, *The Wilson Bulletin*, on the same subject immediately following the text of her speech.

* * *

Speech by Rachel Carson

My text this afternoon is taken from the *Globe Times* of Bethlehem, Pa., a news item in the issue of October 12. After describing in detail the adverse reactions to *Silent Spring* of the farm bureaus in two Pennsylvania counties, the reporter continued: "No one in either county farm office who was talked to today had read the book, but all disapproved of it heartily."

This sums up very neatly the background of much of the noisier comment that has been heard in this unquiet autumn following the publication of *Silent Spring*. In the words of an editorial in the *Bennington Banner*, "The anguished reaction to *Silent Spring* has been to refute statements that were never made." Whether this kind of refutation comes from people who actually have not read the book or from those who find it convenient to misrepresent my position I leave it to others to judge.

Early in the summer — as soon as the first installment of the book appeared in the *New Yorker*—public reaction to *Silent Spring* was reflected in a tidal wave of letters—letters to Congressmen, to newspapers, to Government agencies, to the author. These letters continue to come and I am sure represent the most important and lasting reaction.

Even before the book was published, editorials and columns by the hundred had discussed it all over the country. Early reaction in the chemical press was somewhat moderate, and in fact I have had fine support from some segments of both chemical and agricultural press. But in general, as was to be expected, the industry press was not happy. By late summer the printing presses of the pesticide industry and their trade associations had begun to pour out the first of a growing stream of booklets designed to protect and repair the somewhat battered image of pesticides. Plans are announced for quarterly mailings to opinion

leaders and for monthly news stories to newspapers, magazines, radio, and television. Speakers are addressing audiences everywhere.

It is clear that we are all to receive heavy doses of tranquilizing information, designed to lull the public into the sleep from which *Silent Spring* so rudely awakened it. Some definite gains toward a saner policy of pest control have been made in recent months. The important issue now is whether we are to hold and extend those gains.

The attack is now falling into a definite pattern and all the well known devices are being used. One obvious way to try to weaken a cause is to discredit the person who champions it. So the masters of invective and insinuation have been busy: I am a "bird lover — a cat lover — a fish lover" — a priestess of nature — a devotee of a mystical cult having to do with laws of the universe which my critics consider themselves immune to.

Another well known, and much used, device is to misrepresent my position and attack the things I have never said. I shall not belabor the obvious. Anyone who has really read the book knows that I favor insect control in appropriate situations, that I *do not* advocate complete abandonment of chemical control, and that I criticize the modern chemical method not because it *controls* harmful insects, but because it controls them *badly* and *inefficiently* and creates many dangerous side effects in doing so. I criticize the present methods because they are based on a rather low level of scientific thinking. We are capable of much greater sophistication in our solution of the problem.

Another piece in the pattern of attack largely ignores *Silent Spring* and concentrates on what I suppose would be called the soft sell, the soothing reassurances to the public. Some of these acknowledge the correctness of my facts, but say that the incidents I reported occurred some time in the past, that industry and Government are well aware of them and have long since taken steps to prevent their recurrence. It must be assumed that the people who read these comforting reports read nothing else in their newspapers. Actually, pesticides have figured rather prominently in the news in recent months: some items trivial, some almost humorous, some definitely serious.

These reports do not differ in any important way from the examples I cited in *Silent Spring*, so if the situation is under better control there is little evidence of it.

What are some of the ways pesticides have made recent news?

1. The *New York Post* of October 12 reported the seizure by the Food and Drug Administration of more than a quarter of a million pounds of potatoes—346,000 pounds to be exact—in the Pacific Northwest. Agents said they contained about 4 times the permitted residues of aldrin and dieldrin.

2. In September, Federal investigators had to look into the charge that vineyards near the Erie County thruway had been damaged by weed-killer chemicals sprayed along the highway. Similar reports came from Iowa.

3. In California, fumes from lawns to which a chemical had been applied were so obnoxious that the fire department was called to drench the lawns with water. Thereupon the fumes increased so greatly that 11 firemen were hospitalized.

4. Last summer the newspapers widely reported the story of some 5000 Turkish children suffering from an affliction called *porphyria*, characterized by severe liver damage and the growth of hair on face, hands and arms, giving a monkey-like appearance to victims. This was traced to the consumption of wheat treated with a

chemical fungicide. The wheat had been intended for planting, rather than for direct consumption. But the people were hungry and perhaps did not understand the restriction. This was an unplanned occurrence in a far part of the world but it is well to remember that large quantities of seed are similarly treated here.

5. You will remember that the bald eagle, our national emblem, is seriously declining in numbers. The Fish and Wildlife Service recently reported significant facts that may explain why this is so. The Service has determined experimentally how much DDT is required to kill an eagle. It has also discovered that eagles found dead in the wild have lethal doses of DDT stored in their tissues.

6. This fall also, Canadian papers carried a warning that woodcock being shot during the hunting season in New Brunswick were carrying residues of heptachlor and might be dangerous if used as food. Woodcock are migratory birds. Those that nest in New Brunswick winter in the southern United States, where heptachlor has been used extensively in the campaign against the fire ant. The residues in the birds were 3 to 3.5 ppm. The legal tolerance for heptachlor is ZERO.

7. Biologists of the Massachusetts Fish and Game Department have recently reported that fish in the Framingham Reservoir on the outskirts of Boston contain DDT in amounts as high as 75 ppm, or more than 10 times the legal tolerance. This is, of course, a public water supply for a large number of people.

8. One more item—an Associated Press dispatch of November 16th: a sad commentary on technology gone wrong. A Federal Court Jury awarded a New York State farmer \$12,360 for damages to his potato crop. The damage was done by a chemical that was supposed to halt sprouting. Instead, the sprouts grew inward.

We are told also that chemicals are never used unless tests have shown them to be safe. This, of course, is not an accurate statement. I am happy to see that the Department of Agriculture plans to ask the Congress to amend the FIFRA to do away with the provision that now permits a company to register a pesticide under protest, even though a question of health or safety has been raised by the Department.

We have other reminders that unsafe chemicals get into use—County Agents frequently have to amend or rescind earlier advices on the use of pesticides. For example, a letter was recently sent out to farmers recalling stocks of a chemical in use as a cattle spray. In September, "unexplained losses" occurred following its use. Several suspected production lots were recalled but the losses continued. All outstanding lots of the chemical have now had to be recalled.

Inaccurate statements in reviews of *Silent Spring* are a dime a dozen, and I shall only mention one or two examples. *Time*, in its discussion of *Silent Spring*, described accidental poisonings from pesticides as *very rare*. Let's look at a few figures. California, the only state that keeps accurate and complete records, reports from 900 to 1000 cases of poisoning from agricultural chemicals per year. About 200 of these are from parathion alone. Florida has experienced so many poisonings recently that this state has attempted to control the use of the more dangerous chemicals in residential areas. As a sample of conditions in other countries, parathion was responsible for 100 deaths in India in 1958 and takes an average of 336 deaths a year in Japan.

It is also worthy of note that during the years 1959, 1960, and 1961, airplane crashes involving crop-dusting planes totaled 873. In these accidents 135 pilots lost their lives. This very fact has led to some significant research by the Federal Aviation Agency through its Civil Aero-medical Unit — research designed to find out *why* so many of these planes crashed. These medical investigators took as their basic premise the assumption that spray poisons accumulate in the pilot's body — inside the cells, where they are difficult to detect.

These researchers recently reported that they had confirmed two very significant facts: 1. That there is a causal relation between the build-up of toxins in the cell and the onset of sugar diabetes. 2. That the build-up of poisons

within the cell interferes with the rate of energy production in the human body.

I am, of course, happy to have this confirmation that cellular processes are not so "irrelevant" as a certain scientific reviewer of *Silent Spring* has declared them to be.

This same reviewer, writing in a chemical journal, was much annoyed with me for giving the sources of my information. To identify the person whose views you are quoting is, according to this reviewer, *name-dropping*. Well, times have certainly changed since I received my training in the scientific method at Johns Hopkins! My critic also *profoundly disapproved* of my bibliography. The very fact that it gave complete and specific references for each important statement was extremely distasteful to him. This was *padding* to impress the uninitiated with its length.

Now I would like to say that in *Silent Spring* I have never asked the reader to take *my* word. I have given him a very clear indication of my sources. I make it possible for him — indeed I invite him — to go beyond what I report and get the full picture. This is the reason for the 55 pages of references. You cannot do this if you are trying to conceal or distort or to present half truths.

Another reviewer was offended because I made the statement that it is customary for pesticide manufacturers to support research on chemicals in the universities. Now, this is just common knowledge and I can scarcely believe the reviewer is unaware of it, because his own university is among those receiving such grants.

But since my statement has been challenged, I suggest that any of you who are interested make a few inquiries from representative universities. I am sure you will find out that the practice is very widespread. Actually, a visit to a good scientific library will quickly establish the fact, for it is still generally the custom for authors of technical papers to acknowledge the source of funds for the investigation. For example, a few gleaned at random from the *Journal of Economic Entomology* are as follows:

1. In a paper from Kansas State University, a footnote states: Partial cost of publication of this paper was met by the Chemagro Corporation.

2. From the University of California Citrus Experimental Station: The authors thank the Diamond Black-Leaf Co., Richmond, Virginia for grants-in-aid.

3. University of Wisconsin: Research was also supported in part by grants from the Shell Chemical Co., Velsicol Chemical Corporation and Wisconsin Canners Association.

4. Illinois Nat. Hist. Survey: This investigation was sponsored by the Monsanto Chem. Co. of St. Louis, Mo.

A penetrating observer of social problems has pointed out recently that whereas wealthy families once were the chief benefactors of the Universities, now industry has taken over this role. Support of education is something no one quarrels with — but this need not blind us to the fact that research supported by pesticide manufacturers is not likely to be directed at discovering facts indicating unfavorable effects of pesticides.

Such a liaison between science and industry is a growing phenomenon, seen in other areas as well. The AMA, through its newspaper, has just referred physicians to a pesticide trade association for information to help them answer patients' questions about the effects of pesticides on man. I am sure physicians have a need for information on this subject. But I would like to see them referred to authoritative scientific or medical literature — not to a trade organization whose business it is to promote the sale of pesticides.

We see scientific societies acknowledging as "sustaining associates" a dozen or more giants of a related industry. When the scientific organization speaks, whose voice do we hear — that of science? or of the sustaining industry? It might be a less serious situation if this voice were always clearly identified, but the public assumes it is hearing the voice of science.

What does it mean when we see a committee set up to make a supposedly impartial review of a situation, and then discover that the committee is affiliated with the very industry whose profits are at stake? I have this week read two reviews of the recent reports of a National Academy

of Sciences committee on the relations of pesticides to wildlife. These reviews raise disturbing questions. It is important to understand just what this committee is. The two sections of its report that have now been published are frequently cited by the pesticide industry in attempts to refute my statements. The public, I believe, assumes that the Committee is actually part of the Academy. Although appointed by the Academy, its members come from outside. Some are scientists of distinction in their fields. One would suppose the way to get an impartial evaluation of the impact of pesticides on wildlife would be to set up a committee of completely disinterested individuals. But the review appearing this week in *The Atlantic Naturalist* described the composition of the Committee as follows: "A very significant role in this committee is played by the Liaison Representatives. These are of three categories. A.) Supporting Agencies. B.) Government Agencies. C.) Scientific Societies. The supporting agencies are presumably those who supply the hard cash. Forty-three such agencies are listed, including 19 chemical companies comprising the massed might of the chemical industry. In addition, there are at least 4 trade organizations such as the National Agricultural Chemical Association and the National Aviation Trades Association."

The committee reports begin with a firm statement in support of the use of chemical pesticides. From this predetermined position, it is not surprising to find it mentioning only *some* damage to *some* wildlife. Since, in the modern manner, there is no documentation, one can neither confirm or deny its findings. *The Atlantic Naturalist* reviewer described the reports as "written in the style of a trained public relations official of industry out to placate some segments of the public that are causing trouble."

All of these things raise the question of the communication of scientific knowledge to the public. Is industry becoming a screen through which facts must be filtered, so that the hard, uncomfortable truths are kept back and only the harmless morsels allowed to filter through? I know that many thoughtful scientists are deeply disturbed that their organizations are becoming *fronts* for industry. More than one scientist has raised a disturbing question—whether a spirit of lysenkoism may be developing in America today—the philosophy that perverted and destroyed the science of genetics in Russia and even infiltrated all of that nation's agricultural sciences. But here the tailoring, the screening of basic truth, is done, not to suit a party line, but to accommodate to the short-term gain, to serve the gods of profit and production.

These are matters of the most serious importance to society. I commend their study to you, as professionals in the field of communication.

REPORT ON PESTICIDES OF THE WILSON ORNITHOLOGICAL SOCIETY'S CONSERVATION COMMITTEE

From "The Wilson Bulletin" June, 1962

PESTICIDES. — The thorough review of the effects of insecticides on terrestrial bird life in the Middle West by Hickey (1961) leaves only relatively recent developments for evaluation by the Committee. In addition to Hickey's review, Brown's (1961) appraisal of mass insect-control programs is recommended for reading.

The National Academy of Sciences-National Research Council has published reports (Part I, Evaluation of Pesticide-Wildlife Problems, and Part II, Policy and Procedures for Pest Control, designated Publication 920-A and Publication 920-B, respectively) by two subcommittees of the Academy's Committee on Pest Control and Wildlife-Relationships. They may be obtained from the Printing and Publishing Office, NAS-NRC, 2101 Constitution Avenue, Washington, D.C. at \$1.25 each.

Part I, Evaluation of Pesticide Wildlife Problems, has been examined. We are disappointed in it. The stature of the National Academy of Sciences-National Research Council will not be enhanced by this publication. The fear expressed in the last annual report of the Conservation Committee (Scott et al., 1961:316) is realized. The report is neither detailed nor documented, and there is a stiffness

about it which makes it as a forced compromise instead of an unbiased, philosophical evaluation of the problem. Perhaps this could have been avoided if the report had been prepared by scholars who were not so closely associated with the problem. An important theme centers around a defense of pesticides. No one stands to profit from this, and something is lost. The problem, as we see it, does not lie with whether the wise use of pesticides in general is justifiable. The problem lies in the question of whether the utmost intelligence is employed in decisions to use or not to use a pesticide in a particular situation and, if so, whether operating specifications such as kind and form of pesticide, rate of application, time of application, etc., reflect consideration of wildlife and other values.

With the announcement of the formation of a Federal Pest Control Review Board, October 1, 1961, another step was taken toward reduction of inconsistencies in federal policy.

By contrast with the National Academy of Sciences National Research Council study of pest control and wildlife relationships, we hold forth more hope for improvement of this serious problem through the work of the Federal Pest Control Review Board. While the Board is advisory in nature, it was established at the request of the President and also reflects the authority of the offices of the participating Secretaries. The Board consists of two members from each of the following Departments: Agriculture, Defense, Interior, and Health, Education, and Welfare. The establishment of this Review Board provides wholesome evidence of recognition of an important problem. It has enormous potential for public good. It is to be hoped that the committee will prove effective in eliminating, or at least restraining, large-scale pest control operations which are poorly conceived or poorly executed and which ignore or neglect wildlife and other values.

LICENSING PROVISIONS IN PROPOSED BILLS

Recent discussions of legislation for the humane treatment of experimental animals between representatives of scientific groups and representatives of the Animal Welfare Institute have brought to light certain misunderstandings concerning the intent of those sections of H.R. 1937 and S. 3088 which deal with licensing. At the suggestion of a scientist who has given considerable attention and thought to the subject, the following summary of the nature of individual licensing and the reasons for it is submitted.

Following the British example, the AWI supports legislation providing for the licensing of each individual who uses experimental animals. The principle is the same as in the issuance of many other types of licenses, namely that the person applying for it must demonstrate to the licensing authority that he is properly qualified to hold the license. In Britain this authority is the Secretary of State; in the United States, under the above-mentioned bills, it would be the Secretary of Health, Education and Welfare.

A license under the British Act states:

"CRUELTY TO ANIMALS ACT, 1876

Licence

to

Experiment on Living Animals

"In pursuance of the powers vested in him by the above Act, the Secretary of State hereby licences of to perform experiments on living animals at the place or places named in the first condition annexed hereto, subject to the restrictions and provisions contained in the said Act, and subject also to the further conditions annexed hereto, and to such other conditions as the Secretary of State may from time to time think fit to prescribe. This licence, unless earlier revoked, shall be in force up to the first day of or for such longer period as may from time to time be authorized by the Secretary of State in writing. Home Office, Whitehall. day of"

There follow four places for renewals of the license, space for special conditions attached to the license and the ten conditions (including the Pain Conditions) which are attached to all licenses. Finally, the full text of the British Act appears on the last two pages of the license, thus en-

sure that all licensees have available full information on their obligations under the Act.

The licensee is responsible for his animals, under the British law, and if the animals are mistreated his license can be suspended or revoked. It is upon this sanction that the effectiveness of the Act lies. The British Act (but not H.R. 1937 and S. 3088) provides for prosecution. However, as stated by the British Research Defence Society, "In practice, the power to revoke a licence or cancel a registration is such a powerful sanction that the need to prosecute is most unlikely to arise."

Some opponents of the bills have suggested that control of inhumane actions could be obtained by merely licensing institutions, omitting the licenses for individual scientists. Advocates of such a system must ask themselves if they really would wish to see an entire medical school suddenly stop *all* work with animals because *one* person in that school was guilty of breaking the law. Should important and properly conducted work be disrupted and a hundred innocent persons be punished because one man was cruel? This would appear to be as unwise as it would be unfair. No thinking person who expects the law to be enforced could possibly advocate it.

NEW YORK STATE HUMANE ASSOCIATION URGES CONGRESSIONAL ACTION TO PROTECT LABORATORY ANIMALS

Mr. Raymond Naramore, President of the New York State Humane Association, has sent to each member of the United States Congress from New York State, a copy of the resolution passed at the Association's annual meeting in Utica endorsing legislation to require humane treatment of experimental animals. Mr. Naramore sent copies of newspaper editorials with his letters to the Senators and Representatives and urged their support of legislation embodying the principles outlined in the resolution whose text is given below in full.

Resolution Passed Unanimously by the New York State Humane Association at Annual Meeting, Utica, N. Y., November 16, 1962

WHEREAS the need for federal legislation to prevent needless suffering of laboratory animals was clearly demonstrated in testimony submitted by doctors, scientists and humane workers at the hearings September 28th and 29th in Washington, D.C., and

WHEREAS the New York State Humane Association seeks to reduce animal suffering to a minimum wherever it may occur,

NOW, THEREFORE, be it resolved that the New York state Humane Association urges the Congress of the United States to enact legislation embodying the following basic principles:

- 1) Licensing. Each scientist who uses animals for experimental purposes is individually licensed and responsible for the animals he uses. Each laboratory where animals are used is registered.
- 2) Inspection. Well-qualified inspectors under the direction of a Chief Inspector have access to laboratories and records and make unannounced inspections.
- 3) Pain Rule. The pain conditions limit the amount of suffering inflicted.
- 4) Care and Housing. Minimum standards of care and comfortable housing are required.
- 5) Records. Records adequate to allow the inspectors to enforce the law are required. These include: a) submission of the plan of work showing that it has genuine scientific need to be done and has been planned as humanely as possible; b) identification of animals used and their disposition; and c) a brief annual report.
- 6) Student Work. Student work, as distinct from research conducted by qualified scientists, must be painless.

- 7) Scope. The Act applies to all vertebrate animals.
- 8) Enforcement. Compliance with humane principles is obtained because experimental plans may be disapproved on humane grounds and because a scientist's license may be suspended or revoked for failure to comply.

NEW SUPPLEMENT AVAILABLE TO SCIENTISTS

A new 32-page supplement to the Institute's loose-leaf manual "Comfortable Quarters for Laboratory Animals" has recently been completed and mailed out to the more than 700 scientists who wrote to the Institute to request copies either of the supplement or the entire 108-page publication which includes the new material. Complete floor plans as well as pictures and descriptive material showing good housing for guinea pigs and other small animals, dogs, cats, chimpanzees and poultry are included. The supplement also shows various items which contribute to the comfort of animals, such as a radiant heat panel and sleeping pallet for dogs, an exercise wheel for hamsters, and nest boxes for cats.

A listing of the contents of the new supplement follows:

- Guinea pig quarters, Allington Farm, Porton Down, Salisbury, England
- Animal house at Little Bromwich General Hospital, Birmingham, England
- Outdoor dog runs connected to inside pens, Ralston-Purina Company, St. Louis, Missouri
- Dog quarters, Los Alamos Scientific Laboratory, Los Alamos, New Mexico
- Outdoor kennel for dogs at School of Veterinary Medicine, University of California, Davis
- Indoor dog runs at Ontario Veterinary College, Guelph
- Dog quarters, Veterans Administration Hospital, Oteen, North Carolina
- Dog quarters, J. Hillis Miller Health Center, University of Florida, Gainesville
- Animal quarters, University of Mississippi Medical Center, Jackson
- Cat breeding quarters, Allington Farm, Porton Down, Salisbury, England
- Dog and cat quarters, Morris Research Laboratories, Topeka, Kansas
- Chimpanzee quarters, Aeromedical Field Laboratory, Holloman Air Force Base, New Mexico
- Oregon Primate Research Center
- Poultry Disease Laboratory, University of Maine
- Resting boards for dogs, Harvard Medical School, Boston
- Self-operating door for dogs and cats
- Nest box for whelping, Dog Research Division, Ralston-Purina Company
- Two-compartment whelping cage
- Mobile colony cat cage
- Cat cages with nest box, Harvard Medical School, Boston
- Automatic watering device for animals
- Automatic watering cup for dogs
- Portable panel fencing for dogs
- Automatic drinking fountain for dogs
- Radiant heat panel and sleeping pallet for dogs
- Identification band
- Exercise wheel for hamsters

Any institution having a copy of "Comfortable Quarters for Laboratory Animals" which does not include this new supplement is invited to write in for a copy. The complete publication will be sent, upon request, to any institution or individual scientist planning construction of new animal quarters or remodeling of existing quarters. One extra copy for the use of architects will also be provided.

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