

## Test Trial on Animal Cruelty Coming to End

► SCIENTISTS and educators throughout the country kept a close watch on New Jersey during the highly significant test trial on animal experimentation.

The trial left a mass of testimony from nationally-known scientists and a very expensive record (for a county court).

Judge Charles S. Barrett Jr. is expected to give his opinion in written form. His decision will either affirm or deny the right of high school students in New Jersey to experiment on live animals.

Whatever the decision, it is believed that the case will be taken to the New Jersey Supreme Court for final clarification of that state's anticruelty statute.

Unfortunately the legal terms "cruelty" and "needless pain" have not been well defined, and medical researchers have found themselves likely targets for attack by animal lovers. The scientific argument holds that using animals for a worthwhile and necessary purpose is not cruel, even though the animals may experience some pain.

Essentially the same argument was used for the Essex County trial in Newark. The defense claimed that the student who injected a cancer virus into four chickens under school auspices did it for a worthy end—his own enlightenment.

Distinguished scientists who participated in a national effort to boost high school biology have given lengthy testimony on the need to educate youngsters with living creatures rather than charts and dead frogs.

The attorney for the Society for the Prevention of Cruelty to Animals, which brought the complaint, repeatedly attempted to rule out such testimony, saying it was "immaterial."

Each time Judge Barrett overruled the objections. "Needless pain" is the question at issue, he said.

• *Science News*, 89:184 March 19, 1966

### OCEANOGRAPHY

## Sea Fossils Indicate Movements of Sea Floor

► AFRICA and the Americas may have separated about 160 million years ago, drifting apart at the rate of six-tenths of an inch per year.

But inspection of fossilized sea creatures has shown that for the past 20 to 25 million years the continents have stayed where they are, reported Drs. Tsunemasa Saito, Maurice Ewing and Lloyd H. Burckle of the Lamont Geological Observatory, part of Columbia University at Palisades, N.Y.

Well-preserved samples of fossilized marine animals five-thousandths of an inch in diameter were dredged from two sites on the crest of the undersea

ridge that runs down the middle of the Atlantic Ocean, the scientists reported in *Science*, 151:1075, 1966. The fossils, called foraminifers and coccoliths, were dated from the early Miocene epoch, about 25 million years ago.

Some scientists have calculated that the crest of the undersea ridge is much younger than the flanks, and that the ocean floor crusts become progressively older toward the continents. These scientists adhere to the theory of continental drift—the idea that the continents were once joined together and then drifted apart through the ages to create the Atlantic and Indian Oceans.

Other scientists oppose the drift theory, saying that the locations of continents, ocean basins and crust are permanent.

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### METEOROLOGY

## Avoiding Turbulence Costs \$6 Each Flight

► EVEN THOUGH an airline passenger has a ride as smooth as silk, he shares in the cost of about \$6.00 each flight to cover the expense of trying to avoid en route the mysterious phenomenon known as clear air turbulence.

CAT is the acronym used by those trying to learn more about the unpredictable turbulence that occurs when the sky is blue. CAT is not the usual turbulence associated with storms, but freakish vertical updrafts and down-drafts that occur without warning at the high altitudes used by jets. No fatal crashes have yet been attributed directly to CAT.

Attending a two-day conference on CAT in Washington, D.C., were not only meteorologists, but also representatives of the airlines, aircraft manufacturers, and government and civilian agencies concerned with the problem.

Although admittedly the estimate is rough, Jerome Lederer of the Flight Safety Foundation, New York, reported the \$6.00 per flight cost of turbulence. He noted that this was the first attempt to check on the economic effects of turbulence on airline operations.

Mr. Lederer based his estimate on the costs of temporary grounding for inspections and repairs, of training crews to cope with CAT, of disseminating information on turbulence and of injuries sustained by passengers. His data was obtained from several airlines covering a wide geographic area.

The price was difficult to determine because the accounting systems do not readily separate costs of turbulence from those of operation. However, Mr. Lederer extrapolated the cost of all the major airlines to arrive at the \$6.00 per flight estimate.

The CAT meeting was sponsored jointly by the Institute of Navigation and the Society of Automotive Engineers, with the participation of the American Meteorological Society, Federal Aviation Agency and Flight Safety Foundation.

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# IN SCIENCE

### CONSERVATION

## Owls, Ducks and Geese Join Harvard Wildlife

► BLUE-WINGED TEAL, Canada geese, barred owls and other birds will be studied in a newly established wildlife research center for Harvard University.

Muskrats, mink and otter are other shy creatures to be observed as they roam the 700 acres in the Estabrook Woods near Concord, Mass. A separate tract of 80 acres in Bedford is also included in the Harvard wildlife center.

The woodlands, open fields, marshlands and ponds will serve as living laboratories for research including animal populations, animal behavior and soil chemistry. The area is already a refuge for one of the most varied communities of New England mammals, 27 species having already been recorded. Scientists hope to assess the impact of today's environmental factors of drought, pesticides and pollution on plants and animals.

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### MEDICINE

## Minute Tumor Found Causing Sudden Death

► THE SMALLEST tumor that can cause sudden death has been found in a patient who died before surgery could be performed.

The tumor was found in a critical area of the heart called the atrioventricular (AV) node—a part of the electroconduction system and one of the regulators of heart rhythm.

Dr. Paul L. Wolf, professor of pathology, Wayne State University School of Medicine, Detroit, told the International Academy of Pathology meeting in Cleveland, Ohio, that very few such tumors have been found in the past 50 years. It is a tumor of uncertain origin that causes complete heart block with fainting spells.

A 67-year-old man had entered the hospital with symptoms of complete heart block. He was being evaluated for implantation of an artificial pacemaker, when he suddenly died.

Careful inspection of the heart revealed a tiny tumor less than a tenth of an inch across, destroying the AV node. It caused transitory and finally fatal complete heart block. It is frequently called a mesothelioma of the AV node since it may arise from epicardial mesothelial cells. It consists of numerous cyst-like spaces which destroy the AV node.

Physicians and pathologists should consider the possibility of this lesion in patients with heart block.

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# E FIELDS

## MEDICINE

### Ineffective Lozenges Being Taken off Market

➤ **ANTIBIOTIC** lozenges promoted for the treatment of sore throat and throat pains associated with coughs and colds are being taken off the market if they are sold without prescription, the Food and Drug Administration announced.

In spite of 15 years' experience, FDA said such lozenges sold over-the-counter have not proved effective. Many other preparations containing antibiotics likewise lack medical evidence that they do any good.

Before the Kefauver-Harris Drug Amendments of 1962 the law required that preparations containing five antibiotics and their derivatives be given premarketing clearance by FDA on a batch-by-batch basis to prove safety and efficacy. The antibiotics were: penicillin, streptomycin, chlortetracycline, chloramphenicol and bacitracin.

Other antibiotics were put on the market before 1962 through the New Drug Procedure, requiring only that each preparation be proved safe before it was marketed.

The 1962 Drug Amendments, however, provided that all antibiotic products for human use be approved by FDA for both safety and efficacy, and subject thereafter to batch-by-batch certification. Some 70 manufacturers will be affected.

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## GENERAL SCIENCE

### Congress Hears Animal Research Testimony

➤ **A CONGRESSIONAL** subcommittee heard testimony on a series of bills which, if passed, could limit scientific research with live animals.

The bills would authorize the Secretary of Agriculture to "regulate the transportation, sale and handling of dogs and cats intended to be used for purposes of research or experimentation, and for other purposes." Some bills include other animals as well.

The proposed legislation would ostensibly protect animal owners from having their pets stolen and sold to scientific laboratories.

However, much of the scientific community believes the real impact of the bills is directed against medical research itself.

Suspicion is based on the fact that the legislation seeks to prevent theft only where research is concerned. In addition, many of the proposed laws would require scientific establishments to be licensed before they could purchase experimental animals.

This would give to the Department of Agriculture the authority to regulate medical research facilities, testified Dr. Lowell M. Greenbaum, president of the New York State Society for Medical Research.

Biomedical research normally is the work of the Department of Health, Education and Welfare through the National Institutes of Health.

Dr. Helen B. Taussig, president of the American Heart Association and the woman who helped to alert the country to the thalidomide danger told the hearing that the controversial Poage and Resnick bills are indeed directed against medical research. They call for laboratories to be licensed but neglect to spell out what regulations will be enforced, she stated. She said that laws already in effect make it difficult for institutions to secure animals and that this has given rise to "underground activity and disreputable animal farms."

Speaking for the Humane Society of the United States, Oliver Evans, president, said his organization strongly opposes the legislation.

Any laws dealing with animal experimentation in laboratories should "do so in ways which will not impede the progress of scientific discovery," he said.

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## PUBLIC HEALTH

### Car Exhaust Levels To Be Tighter by 1970

➤ **ALREADY ONE** of the most active states in preventing car exhausts from polluting the air, California is setting tighter standards for the harmful fumes issuing from a vehicle's exhaust pipe.

Two main pollution culprits, half-burned hydrocarbon particles and deadly carbon monoxide, will be reduced by 1970 to 180 parts per million for the hydrocarbons and one percent for the gas, Donald A. Jensen of the Motor Vehicle Pollution Control Board said in Los Angeles. Present California law requires used vehicles back to 1955 models to have acceptable exhaust controls, which can be installed for less than \$65.

These same tighter restrictions will be applied by the Federal Government on all new cars throughout the nation by 1970, Mr. Jensen told members of a three-day Air Pollution Medical Research Conference, held by the American Medical Association.

Complex changes have been made on California cars in one of the "most intensive peacetime crash programs in automotive history," said Mr. Jensen.

He strongly urged that private automotive industry voluntarily become heavily involved in pollution emission research, and stressed the fact that the Federal Government may state what controls are necessary, but should never dictate how to control the emissions.

Private industry must do more than its share in clearing up vehicle emissions, he said.

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## SPACE

### Space Medicine Trade Agreed on by US-USSR

➤ **THE UNITED STATES** and Russia have set up a joint editorial board, the first of its kind, to prepare and publish a review of research in space biology and medicine in the two countries.

Seven U.S. scientists have agreed to serve on the editorial board, whose co-chairman is Nobelist Melvin Calvin of the University of California, Berkeley.

The U.S. and Russia also have an agreement for the exchange of weather information obtained by satellites. This exchange is not in operation yet because the Soviets are not known to have launched a weather satellite.

It is likely, however, that they are tapping the weather photographs taken by ESSA II using the Automatic Picture Transmission technique. These show the weather for about 2,000 miles from the receiving station.

The biological-medical report will appear in late 1967 and 1968 as a two- or three-volume set, published by each country in its own language and at its own expense. The editorial board expects to have selected the authors for the different chapters by the beginning of next year.

There will be a progress review every three months by the National Aeronautics and Space Administration and its Russian counterpart for the project, the USSR Academy of Sciences.

The first volume will be concerned with life on other worlds, including a chapter on sterilization of spacecraft.

Volume two will cover biomedical information about man's responses to weightlessness, radiation and other conditions in space, while volume three will be devoted to life support and protection systems.

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## BOTANY

### Seeds for Spring In New THINGS Package

➤ **APPROPRIATE** for spring planting are six unusual kinds of seeds contained in the THINGS of science unit (No. 304) being received now by some 27,000 members.

Permanent decorations will result from one kind of seed, ornamental corn, that will have colored kernels. The dahlias are dwarf hybrids, the sweet peas are mixed and grow knee-high, and there are four-o'clocks, tomatoes and lettuce seeds in the do-it-yourself scientific experiment kit. How seeds grow and how to make them grow are explained in the text giving directions for 20 experiments.

The seeds kits can be obtained postpaid by any *Science News* reader by sending 75 cents to SCIENCE SERVICE, 1719 N St., N.W., Washington, D.C. 20036, or it will be sent as free bonus unit if you order a membership at \$5 for 12 monthly units.

• *Science News*, 89:185, March 19, 1966