

## MAMMALOGY

**White House Squirrel Fund Gives Grant-in-Aid**

➤ A RESEARCH monument to the unknown squirrels, missing in action at the battle of the White House grounds, is now available to a highly-educated squirrel student.

The monument, \$202.48, was given to the Wildlife Management Institute in Washington by Sen. Richard L. Neuberger (D-Ore.), who raised it from private contributions in behalf of the much-publicized White House squirrels.

The money, SCIENCE SERVICE learned from the Institute, is now on deposit and is known as the "Squirrel Fund." It is available for a grant-in-aid to be awarded to a working graduate student in an accredited college or university for a serious study of squirrels.

Sen. Neuberger originally intended the money for construction of a wire fence to protect both the squirrels and the President's putting greens.

The project requirements are unrestricted as to the type of squirrel to be studied, gray, black, or red, but they are discriminatory in that only wild squirrel projects will be considered.

"Country squirrels, that is, who would not know the difference between a putting green and a television camera," the Institute adds.

Science News Letter, May 14, 1955

## PSYCHOLOGY

**Some Unemployed Men Cannot Become Workers**

➤ SOME UNEMPLOYED men, who lack the drive to work, may be beyond treatment and, therefore, must depend on a kindly employer or welfare agencies, a British doctor reported.

These men are not emotionally unstable as are psychopaths, Dr. W. L. Tonge of the Medical Research Council for Research in Occupational Adaptation pointed out, but have an absence of drive and are irresolute.

Basing his conclusions on the results of a 12-month psychiatric study, asked for by men who were classed as "psychiatrically disabled" and who had experienced long-term unemployment, Dr. Tonge said that the possibility remains that "these unhappy people can be neither treated nor coerced into becoming more productive citizens." When such conditions are found in wealthy men, he said, they are regarded as amusing eccentrics; in poorer men, however, "our society takes a sterner view."

During interviews, the patients showed that they were ineffective in all aspects of life.

They only rarely offered their thoughts on what they wanted in life or what they would like to do. Even when the interviewer touched upon subjects which might normally awaken self-interest, they were vague.

"Their complaints and dissatisfactions, their present difficulties or previous happiness, their hopes and fears for the future, whatever was in question, would arouse no definite effect or point of view which could be seized upon and discussed. A striking feature was their tolerance of the worst conditions and their seeming inability not only to obtain satisfactions, but even to desire them," Dr. Tonge reported in the *British Medical Journal* (April 30).

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## INVENTION

**Camera Can Be Turned Into Radiation Detector**

➤ EVERY CAMERA in the United States is a potential radiation detector. This has been made possible by an invention which converts conventional cameras into detectors. The device does not interfere with the use of the camera for normal photographic purposes.

Invented by William A. Shurcliff of Cambridge, Mass., the detector unit employs a photosensitive sheet which will record a light spot on a black background when subjected to X-ray or gamma radiations. In describing his invention Mr. Shurcliff used a polaroid-type camera, stating that the immediate developing ability of this camera is a valuable means for determining the intensity of the radiation.

In operation, short-wave electromagnetic radiations pass through an intensifier, which emits a fluorescent light that causes the light spot. The radiation-caused light spot is readily distinguished from normal film fogging or from that caused by light leaks, Mr. Shurcliff points out.

The device was awarded patent No. 2,705,757. Its patent rights were assigned to the Polaroid Corporation of Cambridge, Mass.

Science News Letter, May 14, 1955

## MEDICINE

**Compatible Color TV Designed for Doctors**

➤ THE FIRST color television system compatible with black and white sets and designed specifically for medical use was put on exhibit at the National Academy of Sciences meeting in Washington.

Commercial broadcast facilities could be used to televise operations in color as readily as closed circuits under the new system. It is built around a new, compact color TV camera having three Vidicon pickup tubes similar to the type used for black and white television.

Pictures could be seen on standard home-type color TV receivers with no alteration, scientists of the Radio Corporation of America said. The system was developed by a team of RCA scientists including L. E. Flory, J. M. Morgan and J. E. Dilley working under the direction of Dr. Vladimir K. Zworykin.

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**IN SCIENCE**

## PUBLIC SAFETY

**Surgeons Advocate Auto Safety Belts**

➤ THE DOCTORS who patch up victims of auto accidents today urged car manufacturers to put safety belts in future automobiles.

Or, if that is not practical, some other device that will resist impacts of at least 20 times the force of gravity should be installed, according to a statement issued by the American College of Surgeons, Chicago, in its *Bulletin* (May-June).

Since a large percentage of injuries and deaths occur at speeds of 40 miles an hour or less, the national organization of 20,000 surgeons also suggested:

1. Doors that will not open at relatively slow speed impacts.
2. Seats and cushions that will not rip away in an accident.
3. Energy-absorbing interiors for automobiles.

The group pointed out that the percentage of auto occupant deaths rose about 25% from 1933 to 1953.

The statement, prepared by the committee on trauma, under the chairmanship of Dr. R. Arnold Griswold of Louisville, Ky., was approved by the Board of Regents of the College of Surgeons.

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## PUBLIC HEALTH

**Marriages May Need Radiation Clearance**

➤ IF A nuclear war is ever fought, children and teen-agers among the survivors will do well to get and keep an accurate record of how far they were from ground zero at the time, and of how much radiation fallout struck them. Such a record might protect them from giving birth to radiation-damaged offspring later.

Genetic mutations from radiation may be recessive traits, Dr. John Bugher, director of the Atomic Energy Commission's division of biology and medicine, said in Las Vegas, Nev.

In that case, the damage would not show unless two persons carrying the recessive trait married. Then their children would show the effects of the radiation damage to their parents' genes.

It might even be that to get a marriage license in the future, a couple might have to produce records showing that at least one of them could not have previously been exposed to a potentially gene-damaging amount of radiation, just as their parents may have had to show a negative blood test for syphilis.

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# CE FIELDS

## MEDICINE

### See Particles That May Be Cancer Viruses

► PARTICLES THAT may be cancer viruses have been seen in ultra-thin slices of mouse breast cancers viewed through an electron microscope by three scientists at Johns Hopkins Hospital in Baltimore.

The particles could not be seen in normal mouse breast tissue nor in pre-cancerous breast tissue, according to the American Cancer Society, which supports the research by Dr. George O. and Mrs. Margaret K. Gey and Dr. Frederick B. Bang.

Whether similar particles exist in other forms of cancer is not known. In their studies, cells were sliced to a thickness of 400 angstrom units.

Such a slice is so thin it is invisible to the naked eye, but can be seen in an electron microscope that can magnify objects up to 100,000 times their size.

The particles look like viruses. They are round and have a dense area in the center or at one side. As many as 100 of them were counted in one microscopic area of a cell. They existed in bead-like rings around cell structures, in clusters and singly. The particles resemble but are smaller than the viruses of influenza and vaccinia.

Now under particular study by the scientists are a variety of breast tumors cultured by Dr. H. B. Andervont of the National Cancer Institute, Bethesda, Md. Some of these have similar particles and are now under test for the presence of virus. No human cancer at this time is known to be caused by a virus.

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## AGRICULTURE

### New Desert Farms Bring Insect Swarms

► THE MORE desert lands are cultivated, the more grasshoppers and locusts are cultivated.

This unfortunate give and take irony of arid land agriculture was brought to the attention of the International Arid Lands Meetings in Albuquerque, N. M., by Dr. B. P. Uvarov of London's Anti-Locust Research Centre.

Pointing out that human interference with the natural vegetation has set up ideal conditions for inviting insects to multiply, feed and swarm, Dr. Uvarov said that "the development of the truly arid lands is only beginning, but we have seen that it is almost certain to benefit such inhabitants of the desert as locusts."

The British scientist emphasized that past experience with "the oldest and most serious

enemies of agriculture," should serve as a warning for future desert cultivation schemes.

"The problem tends to become more and more acute, and ever increasing efforts and expenditures are required to reduce losses from grasshoppers by chemical methods, which alone will never provide a satisfactory solution."

Likening the cause of grasshopper plagues in semi-arid lands to the deterioration of soil and its erosion, Dr. Uvarov put much of the blame squarely on humans and their "too rapid and thoughtless development" of the land. "Irrigated crops in the southern United States, Argentina and Central Asia suffer from grasshoppers whose existence in these arid lands was made much easier by man," he said.

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## SURGERY

### Esophagus Replaced by Intestinal Transplant

► INTESTINAL SECTIONS have successfully replaced diseased esophaguses in ten patients, Dr. K. Alvin Merendino, professor of surgery at the University of Washington, Seattle, has found.

In the operation, a part of the intestine is transplanted at the junction of the lower esophagus and the stomach as a substitute for the sphincter, he told the American Surgical Association meeting in Philadelphia. The sphincter is a valve-like organ that prevents gastric juices from backing up into the esophagus.

The disease resulting from its failure to function is known as peptic esophagitis. The new surgical technique was used only on patients upon whom all conventional methods of surgery had been tried without lasting results, Dr. Merendino said. The ten patients ranged from a boy of 17 to a 71-year-old woman.

The studies were supported by Initiative 171 funds and by the U. S. Public Health Service. Dr. Merendino was assisted in the research by Dr. David H. Dillard, a research fellow at King County Hospital.

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## ENTOMOLOGY

### Fishfly, One of Earliest Metamorphic Insects

#### See Front Cover

► THE FISHFLY, which begins its slow, nocturnal flights about this time of the year, is among the earliest insects with complete metamorphosis, fossil records show.

Found near rivers, streams, ponds and lakes, it has a wingspan of from 2¾ to 3½ inches.

The cover of this week's SCIENCE NEWS LETTER shows the moth-like insect. It lays as many as 2,000 eggs, the larvae of which take over two years to develop.

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## MEDICINE

### Many Viruses Destroy Test Tube Cancer Cells

► A WIDE range of viruses that completely destroy cancer cells growing in test tubes has been discovered by two University of Minnesota scientists, Drs. William F. Scherer and Jerome T. Syverton.

They found that the viruses of herpes simplex, pseudorabies, vaccinia, polio and five kinds of encephalitis destroy cancer cells taken from a human cancer of the neck of the womb and kept growing in test tubes since February, 1951.

Whether their studies will be of any use in treating cancer patients is not known, according to the American Cancer Society, which supported the research.

Scientists at other laboratories have tried to treat both animals and humans by giving them both living and dead viruses, but patients have not been cured by such tests.

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## AGRICULTURE

### To Control Insect Pests By Preventing Growth

► A NEW concept of insect control, keeping insects from growing up, is being evolved by scientists at the U. S. Department of Agriculture research center in Beltsville, Md. It promises fewer houseflies and safer foods.

Applied to insect and pest control, it promises to be as important as the introduction of DDT more than a decade ago.

Using "Peter Pan" chemicals, the aim of the new concept is to keep insect pests from ever becoming adults and laying eggs rather than killing them outright. These chemicals had been thought to be too mild as conventional insecticides.

Preliminary tests already indicate that these chemicals can be used effectively against DDT-resistant flies, now the rule rather than the exception in many areas. In addition, the chemicals are "non-toxic" to humans and animals and allow control where poisonous insecticides could not be used.

Foreseeing the growth-inhibiting control method as a valuable weapon of the future, the Agriculture scientists have found that chemicals like colchicine and aminopterin prevent cell division. Others, sulfanilamide and coumarin, slow down an insect's metabolism. In the past, many of the chemicals were used with highly toxic insecticide agents, but rarely alone.

In one test with piperonyl butoxide, used alone, DDT-resistant flies were more affected than normal ones. Only three percent of the resistant-flies reached adulthood.

The scientists point out that much experimental work is still to be done, but use of the "slow-down" chemicals will receive wider attention in the next few years.

Science News Letter, May 14, 1955