VETERINARY MEDICINE

Watch for New Disease, Pet Owners Are Warned

➤ PET OWNERS have been alerted to watch for signs of a new, highly fatal dog disease that may be slowly spreading throughout the nation.

The American Veterinary Medical Association said the disease, called "heptatitis X," has been diagnosed in at least seven southeastern states. Research workers at the School of Veterinary Medicine of Alabama Polytechnic Institute have definitely established that the disease is not just a new type of canine infectious hepatitis or Rubarth's disease, which it sometimes resembles.

The exact cause of the new malady has not been found, but it is a liver infection which has proved to be nearly 100% fatal. Typical symptoms include loss of appetite and listlessness. Affected dogs often appear anemic, and a yellowish discoloration of the mucous membranes may be noticed.

The illness usually is noticed more than a week before death, but, in some cases, dogs have died of hepatitis X suddenly, without any visible signs of illness.

Pet owners are advised to seek a diagnosis by a veterinarian if symptoms of the disease are noticed or "mystery deaths" occur.

"Further study is needed to find out how widespread this condition has become, and to determine the cause so steps may be taken to find the proper treatment," AVMA officials said.

Science News Letter, July 4, 1953

VETERINARY MEDICINE

Immortality for Bulls In Sex Cold Storage

➤ A KIND of immortality is in prospect for bulls. It will come through cold storage of the male sex element of cattle. These semen banks would make it possible for a bull to father calves long after he has died.

More steaks, butter and milk are another prospect. The number of offspring from one highly bred bull could run into the hundreds of thousands instead of the few hundreds now considered good in natural service or the thousands through artificial breeding.

Frozen semen banks have not yet taken their place with blood and bone banks, but live calves have been born from cows artificially bred with frozen semen.

The first such calf known to have been born in America was a heifer "dropped" on the farm of John and Melford Hill of Janesville, Wis. The frozen semen was from one of the Wisconsin Scientific Breeding Institute's bulls. The institute cooperated with the American Foundation for the Study of Genetics in the experiment.

The British were the first to conduct experiments in successfully freezing and thawing semen, E. O. Conrad, manager of the institute in Madison, Wis., reports. The semen is frozen carefully through the low temperature range of 40 degrees Fahrenheit to 110 degrees below zero Fahrenheit. The British scientists discovered that this could be done if glycerol is used as a buffer to prevent injury to the sperm during the freezing and thawing.

The Wisconsin institute has repeated the British experiments and has bred over 2,000 cows with frozen semen, some stored as long as four months.

Science News Letter, July 4, 1953

VITAL STATISTICS

1952 Suicides at All Time Low Level

➤ SUICIDES HIT an all time low in 1952, statisticians of the Metropolitan Life Insurance Company in New York report for the company's industrial policyholders.

The 1952 rate in this group was 5.6 per 100,000 at ages one to 74. This is 10% less than the 1951 rate. Previous low was 6.3 per 100,000 recorded in 1945.

For the general population of the United States, there were about 17,000 suicide deaths. The record low suicide rate is, the insurance statisticians point out, "a good index of the psychological and economic well-being of our people."

"The prevention of self-destruction," they point out, "depends upon detecting the early signs of mental depression and persuading the potential suicide that his or her difficulties can be resolved constructively."

The greatly increased provisions being made for economic security at older ages through annuities and pension plans, life insurance and individual savings should, in the statisticians' opinion, help to reduce suicide resulting from economic pressures in later life.

Science News Letter, July 4, 1953

WILDLIFE

Duck Reports Rival Tall Fish Stories

➤ THE FISHERMEN'S position of eminence as a truth-stretcher is being seriously challenged by the nation's duck and goose hunters, sober statistics from the U. S. Fish and Wildlife Service indicate.

Returns by the nimrods from a post card survey of wildfowl killed showed so many errors on the side of optimism, reports the Wildlife Management Institute, that, without judicious subtraction by the statisticians, the whole waterfowl harvest survey would be invalid.

Wounded pride and the usual numerical increase that accompanies retelling of a hunting expedition accounted for many of the padded reports. Then, too, maybe fishermen hunt ducks in the off season.

Science News Letter, July 4, 1953

IN SCIEN

ASTRONOMY

Two Faint Periodic Comets Rediscovered

➤ TWO PERIODIC comets, about 60,000 times too faint to be seen with the naked eye, have been rediscovered in the northern sky.

Drs. Elizabeth Roemer and Hamilton M. Jeffers of Lick Observatory, Mt. Hamilton, Calif., are the observers who spotted the two comets making their periodic trips across the sky. Comet Brooks(2) 1946E, in the constellation of Pisces, the fishes, at the time of its rediscovery on June 18, has a period of about seven years. Prior to 1886, when the comet made an extremely close approach to Jupiter, its period was about 31 years.

The second comet, Pons-Brooks 1884-1, has the very long period of about 70 years. It has previously been seen in 1812 and 1883-84, and this year was spotted on June 20. Magnitudes of the comets are 18 and 17, respectively.

Science News Letter, July 4, 1953

GENERAL SCIENCE

Additive Evaluating Committee Is Appointed

➤ THE NATIONAL Academy of Sciences has announced appointment of a committee to "appraise the quality of the work performed by the National Bureau of Standards in relation to the battery additive AD-X2." (See page 6.)

Chairman of the committee is Dr. Zay Jeffries, retired vice-president in charge of the chemistry department of General Electric Co.

Drs. E. K. Bolton, retired director of the chemistry department of Du Pont Company; William G. Cochran, professor of biostatistics, Johns Hopkins University; John G. Kirkwood, professor of chemistry, Yale University; Victor K. La Mer, professor of chemistry, Columbia University; L. G. Longsworth, Rockefeller Institute; Joseph E. Mayer, professor of chemistry, University of Chicago, and John C. Warner, president of Carnegie Institute of Technology, are members of the evaluating committee.

The committee was appointed at the request of Secretary of Commerce Sinclair Weeks, who requested the resignation of Dr. Astin as head of the National Bureau of Standards in connection with the controversy over the battery additive AD-X2.

Another committee, headed by Dr. Mervin J. Kelly of Bell Telephone Laboratories, is investigating the functions of the Bureau in the "light of present national needs."

Science News Letter, July 4, 1953

CE FIELDS

PHYSICS

Polarized Proton Beam Probes Heart of Atom

➤ A POLARIZED proton beam, a new tool for the study of forces in the heart of the atom, has been achieved at the University of Rochester, Rochester, N. Y.

Polarization of the beam is "high," Dr. Charles L. Oxley of the University revealed to the American Physical Society meeting in Rochester. In the polarized beam, the protons are given a definite spinning direction. With such a beam the polarization which results when a proton comes close to a nucleus and bounces from it is detected by scattering the polarized protons a second time and measuring the angles at which they are bounced from the second scatterer.

Such measurements are similar to those that are made with light rays passed through or reflected from two polaroid pieces held a few inches apart.

The polarized proton beam can be used to study the details of production of mesons, high-energy sub-atomic particles found within the nucleus, resulting from collisions of protons with definite spin directions.

Dr. Oxley also reported that the forces acting between two protons are more like those acting between magnets than like the direct gravitational force acting between the sun and the earth.

Science News Letter, July 4, 1953

MEDICINE

Summer Camp Helps Diabetic Child

➤ SUMMER VACATIONS are now here and many youngsters and their parents have already planned a vacation spent at a camp.

Children with diabetes need not be deprived of the fun of the camp experience. There are special camps for diabetic children which may help these youngsters even more than other camps help non-diabetic children.

Almost every child with diabetes needs insulin. Every one must follow a special diet. Every one must forego the candies and sweets other children are allowed. The child learns to measure his insulin dose, to give himself the hypodermic injection of insulin, to test his urine for sugar, to watch his diet.

Frequent reminders from parents and constant watching or nagging, however, may make the boy or girl rebellious. The danger is especially great as the child reaches the teen-age, or adolescence.

At camps for diabetic children, the child can eat and play with others who are also watching diet, urine tests, insulin shots. He loses the feeling of being different and may come to understand and accept his situation without rebellion. He can gain independence from parents who may be over-protecting. The parents themselves have a chance to relax and get their own feelings straightened out so that they, too, can learn to accept the situation more calmly.

Children with diabetes can lead comparatively normal lives, and they can lead long, useful and productive lives. But they must learn to understand their requirements and limitations. And they must be under regular supervision of a doctor who will prescribe insulin and diet and change the prescriptions for both as they may be necessary.

Science News Letter, July 4, 1953

GEOLOGY

Largest Collection Yields New Minerals

➤ THE WORLD'S largest natural mineral collection, the Crestmore quarry near Riverside, Calif., has revealed two more rare minerals.

These are scawtite and afwillite, recently found and identified by Dr. Joseph Murdoch, University of California at Los Angeles geologist.

Scawtite, a colorless crystalline calcium carbonate-silicate, has been found in only two other locations in the world, Scawt Hill in Ireland and in Montana.

Afwillite has also been found in only two other places: Scawt Hill and the Kimberley region in Africa.

"Neither mineral has any commercial value but both are of interest to geologists because of their rarity and unusual structure," said Dr. Murdoch. "They are formed on rare occasions when hot igneous rock intrudes into limestone and produces new combinations of elements in the limestone."

The discovery of the two minerals brings the total of minerals known to exist in the quarry to more than 130 varieties.

Science News Letter, July 4, 1953

ENGINEERING

Dye Shows Stresses Moving Through Water

➤ HOW TURBULENCE can hold back a submarine or the hull of a surface boat can be seen better by use of a new dye in the water.

Onset of turbulence can be seen when the dye, dropped into the water, streaks through the test tank with currents set up by the boat. The dye, "milling yellow," is found ideal for the experiments by Fred N. Peebles, assistant professor of chemical engineering at the University of Tennessee.

The dye is cheap, plentiful and does not readily spoil either by aging or by reacting with other materials with which it comes in contact during the tests.

Science News Letter, July 4, 1953

ELECTRONICS

"Postcards" Rush to Aid Of British TV Industry

➤ SETS FOR elaborate TV shows soon may cost the BBC no more than the price of a few picture postcards due to a new technique currently under development in London.

BBC television engineers are experimenting with a new "inlay" process for adding spectacular backgrounds to TV shows performed before cameras in cramped studios. The process does away with ghostly actors who seem to flit across video screens when the live picture merely is mixed with another picture being shot by another camera.

The new equipment lets a TV producer "punch holes" into the live TV picture. Background scenery is fed into the holes from postcard-sized photographs. The result gives the illusion that the actor is speaking on the deck of a bobbing sailboat, a wind-swept mountain peak or from a crashing jet fighter plane.

The inlay system works at the flick of a switch. It is scheduled to hit British video screens sometime this summer.

Science News Letter, July 4, 1953

MAMMALOGY

Shrew's Heart Beats 1,300 Times a Minute

➤ THE LONG-TAILED shrew, our tiniest mammal, is one of the country's fastest livers.

About an eighth the size of a puny mouse and the weight of a one-cent piece, this shrew must breathe some 800 times a minute to maintain its enormously high rate of metabolism. Its heart beats from 500 to 1,300 times a minute, or 10 to 20 times a second.

The normal adult human breathes about 15 times a minute and has an average heartbeat rate of 72 per minute.

Measurements of the shrew's respiration and heart beat rate were made by Drs. Peter R. Morrison, Fred Ryser and Albert R. Dawe, zoologists at the University of Wisconsin.

In general, the larger the mammal, the slower the heart beat rate, as the figures compiled and published in the *American Scholar* (Summer) by Dr. Paul D. White, executive director of the National Advisory Heart Council, show:

The mouse has a heart beat rate of 620 to 780 per second; new-born human, 120 to 140; human adult, 50 to 90; elephant, 24 to 53; and the beluga whale, 12 to 23.

Heart rates of small birds, like canaries and humming birds, have been recorded at about 1,000 beats a minute, said Dr. White. Cold-blooded animals, on the other hand, have relatively slow heart rates. The tortoise heart beats about 10 to 20 times a minute; the frog, 30 times a minute.

Science News Letter, July 4, 1953