

PUBLIC HEALTH

Psittacosis Breaks Out

Workers in Texas processing plants for turkeys have been hit with parrot fever four times so far this year. Prior to antibiotic treatment, this lung disorder was a killer.

➤ THE ARMY has turned down two carloads of turkeys from Texas because of a dangerous disease in the plant that processed them, SCIENCE SERVICE has learned.

The disease is psittacosis, or parrot fever.

Two Army inspectors are now sick with parrot fever caught when they inspected turkey processing plants in Texas.

So far this year there have been four outbreaks of the disease among workers in turkey processing plants in Texas. In one week, the last in May, 97 cases of the disease were reported from Texas to the U. S. Public Health Service. This is more than three times the number reported from Texas the previous week. From 10 other states, 12 cases were reported the last week in May.

Psittacosis is a lung disorder, something like pneumonia or influenza. It was a killer before the discovery of antibiotic drugs, or so-called mold remedies of the penicillin class.

So far this year there have been no deaths from it, but the disease has been severe and there have been relapses in patients treated with antibiotics.

Psittacosis from turkeys is a much more severe disease than psittacosis from parrots or parakeets.

The disease gets its names, psittacosis and parrot fever, because it was first discovered in parrots and birds of the parrot, or psittacine, family, such as love-birds, parakeets and the like. It has, however, also been found in pigeons, canaries and chickens as well as turkeys. Scientists call this non-parrot form ornithosis, from the Greek word for bird.

The disease is caused by a virus. Humans get it from contact with sick birds and from dust that gets contaminated with the virus.

The first outbreak in a turkey processing plant occurred in Texas, in 1948, it is believed, although health authorities were not able to get very complete evidence on this outbreak.

Questions health and veterinary authorities would like answered are:

1. Is the disease occurring unrecognized in turkey processing plants in other states? The assumption is that if there were many cases, they would be recognized, however.

2. Can housewives, cooks or others handling carcasses of diseased birds get psittacosis? This is considered possible but not likely to be frequent.

3. Can regulations be made or enforced to clean up the situation at the source, that is, the diseased flocks? Department of Agriculture authorities say this would be difficult because it would mean inspection of all

flocks in Texas, and because it is hard to distinguish psittacosis from air sac disease in post mortem examination of the fowl.

The Food and Drug Administration has power to act if it can be proved that turkey meat from diseased birds is being shipped in interstate commerce. From a practical standpoint, this also would be difficult. The birds when shipped are usually eviscerated.

Detecting the virus in them would depend on bits of lung tissue being left in the birds, since that is where the virus primarily lodges, or on the possibility of finding the virus in the liver. Food and Drug authorities have learned that the virus was found still alive in turkey livers after the fowl and livers had been frozen for 21 days.

Fourth puzzling question is why has the disease struck in Texas? Other states produce turkeys and have turkey processing plants, but apparently no psittacosis in the birds or humans handling them. One guess, but it is only a guess, is that Texas turkeys caught the disease from infected parakeets slipping across the border from Mexico.

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PHYSICS

Sun-Powered Battery

➤ A SUN-POWERED battery has successfully changed light to electricity using a crystal of cadmium sulfide, the yellow powder used as a pigment in paint.

This development has been announced by the Air Research and Development Command. The cadmium sulfide crystal, about the size of a sugar cube, was tested at the Wright Air Development Center, near Dayton, Ohio. A solar battery using silicon as the light-to-energy converter was recently developed by Bell Telephone Laboratories. (See SNL, May 1, p. 278.)

Conversion powers of the miniature generator are so great that a wafer-thin slab four feet by 15 feet will supply enough current to operate lights and all other electric appliances for an average house 24 hours a day. The crystal, ARDC suggested, could be built into the roof of a house.

Attached to opposite sides of the crystal are electrodes, or terminals, one of silver and the other of indium. A wire running from the positive electrode to a motor or battery and back to the negative electrode forms the circuit to make the solar generator.

Amount of power is determined by the area of the electrode attached to the crystal. In the first model, a contact area one-eighth-

• RADIO

Saturday, June 26, 1954, 3:15-3:30 p.m. EDT

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Father Francis Heyden of the Society of Jesus, astronomer at Georgetown University, Washington, D. C., will discuss the total eclipse of June 30.

PSYCHOLOGY

Soviet Psychologists at International Meeting

➤ SOVIET RUSSIA had four representatives at the XIV International Congress of Psychology meeting in Montreal.

Three of the four delegates presented papers at a session devoted to recent advances in psychological conditioning. Conditioning has particular interest to Russian psychologists because the pioneer in the field, Ivan Pavlov, was a Russian. He died in 1936 but his work has tremendous prestige in the U.S.S.R. Pavlov's ideas have been approved officially by the Soviet government. (See p. 398.)

The Russian psychologists were Dr. E. N. Sokolov of Moscow University; Dr. E. A. Asparatjan of the Academy of Sciences of the U.S.S.R.; Dr. B. M. Teplov of the Academy of Pedagogical Sciences of the U.S.S.R. and Dr. A. B. Zaporozhets of Moscow.

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inch square produced one-third of a volt. The power output could be doubled or tripled, according to Donald C. Reynolds and Lt. Col. Gerard M. Leies of Wright Air Development Center.

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ZOOLOGY

Rats and Guinea Pigs Make Inaudible Sounds

➤ LABORATORY RATS, guinea pigs and several other animals besides bats and porpoises produce inaudible, or high frequency, sounds, Dr. John W. Anderson of Cornell University, Ithaca, N. Y., has discovered.

The other animals are the flying phalanger, squirrel monkey, cotton-headed marmoset, white-armed marmoset, lion-headed marmoset and Kina Balu giant rat.

The high frequency sounds may serve for communication between individual rats, Dr. Anderson thinks. Whether or not rodents use these for orientation as bats do is not known. Details of his findings, some of which were made at the National Zoological Park in Washington, are reported in *Science* (June 4).

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