

PUBLIC HEALTH

Bubonic Plague in U. S.

One death in California resulted from Black Death. Was first case in United States since 1951. Danger lies in infection of rats and wild rodents by infected fleas.

► IN THE MIDDLE AGES bubonic plague, or the Black Death, killed half the population of England, and untold hundreds of thousands more on the European continent.

In California, this same Black Death last month (June) killed one American.

We could have another rampant epidemic of the Black Death if plague infected fleas, believed responsible for the one death, got onto the rats in any large city.

Plague infected rat fleas are found almost constantly in Hawaii. Plague infection in the domestic rat population of the United States mainland, however, has been rare in the past 30 years. So no one really fears a plague epidemic here.

State and Federal health authorities, however, are literally beating the bushes in the southern California area where the latest plague victim is believed to have caught his fatal infection. The man, a retired Navy chief petty officer, Andrew Paul Sakacs Jr., U.T.C., had gone fishing in a stream in Ventura County. Three days later he got sick and developed typical buboes, or swellings of the lymph glands, which give this form of the plague its name, bubonic.

Plague germs were found in the material from these buboes when examined in the State Health Department Laboratory at

Berkeley, Calif.

The patient was taken to the Naval Hospital at Corona, Calif., where he died in spite of antibiotic treatment which now is the best treatment for plague. It is believed the man's age may have been against him, since older persons are less likely to survive plague.

Ground squirrels and other wild rodents in California and other western states have been found infected with plague from time to time. The germs of the disease spread from these rodents to men via fleas. Chief Sakacs is believed to have been bitten by a plague-infected flea on his fishing trip.

If the health teams now scouring the area find evidence of plague infection in the wild rodents, they will carry on rodent extermination by trapping and using cyanide in rodent burrows. Rodents trapped will be combed for fleas and then destroyed and examined. The fleas will be ground up and injected into laboratory animals to see whether they carry the bubonic plague infection.

The California plague case is the first in the United States since 1951, and the first in California since 1947. The last case of human plague in the U. S., in 1951, was in New Mexico. This state also reported two cases in 1950 and that same year

Arizona reported one. In 1949 three cases were reported in New Mexico.

Science News Letter, July 7, 1956

MICROSCOPY

TV Device Takes Live Cell Pictures

► CLEARER, more detailed pictures of living cells in ultraviolet light can now be taken with a new device (*Nature*, June 23).

It is called a flying-spot ultraviolet television microscope and was developed by Drs. P. O'B. Montgomery, F. Roberts and W. Bonner of the University of Texas's Southwestern Medical School, located in Dallas, Tex.

Its advantages, they state, are immediate visual presentation of the image and a great reduction in the amount of ultraviolet light needed to produce the image.

The TV-microscope they developed uses new deep ultraviolet scanning television-like tubes and ultraviolet photomultiplier devices that amplify light. The picture is photographed by exposing a photographic plate to several successive frames displayed on the tube.

Grants for the research leading to development of the device came from citizens of Dallas, the Damon Runyon Memorial Fund, the Rockefeller Foundation and the Texas Instruments-Geophysical Service, Inc., Foundation.

Science News Letter, July 7, 1956

MEDICINE

Anti-Clotting Defect May Affect Thrombosis

► A NEW TYPE of defect in the blood clotting mechanism may play a part in coronary occlusion, or thrombosis, and in other conditions of thrombosis, it appears from studies by Drs. Henry H. Henstell and Miriam Feinstein of the Cedars of Lebanon Hospital and the University of Southern California, Los Angeles.

The defect consists of production by the body of proteins called globulins that are able to combine with and precipitate prothrombin and accessory factors from blood plasma. This results in two changes: 1. Reduction in clotting factors in the blood, causing hemorrhages; and 2. localized concentrations of prothrombin and accessory factors, causing thrombi, or clots.

Clotting defects, both hemorrhages and thromboses, are known to occur in sicknesses in which abnormalities of plasma globulins are known to exist. In other conditions, such as thrombophlebitis, coronary occlusion and the thrombosis that sometimes follows operations, the cause of the clots, or thrombi, has not been discovered in spite of many years of investigation by many scientists. The Los Angeles researchers think such cases should be reinvestigated in the light of their new theory.

Findings on which the theory is based are reported in *Science* (June 22).

Science News Letter, July 7, 1956



RESCUE DEVICE—The frogman being rescued in this picture is actually traveling faster than the rescue boat. He is being drawn in by the tensioned cord which works like the released rubber band in a slingshot.