

BIOLOGY—MEDICINE

Influenza Virus Much Smaller Than Previously Supposed

Larger Particles, Once Thought To be Virus Units, Now Believed Normal Cell Components Carrying Them

THE INFLUENZA "bug" that made so many people sick last winter is only one-eighth or perhaps one-tenth the size scientists had previously believed it to be, although that was much too small to be seen even with powerful microscopes.

The diameter of each disease-causing unit of influenza virus is 10 millimicrons or less, Dr. Leslie A. Chambers and Dr. Werner Henle, of the University of Pennsylvania School of Medicine, told the Federation of American Societies for Experimental Biology in Chicago.

A millimicron is a millionth part of a millimeter, which is only .03 inch.

Since the scientists could not possibly see such tiny particles, they had to measure them in various indirect ways, using powerful centrifuges that separate particles of known size from still smaller ones, studying the speed with which particles move through a liquid and checking the calculated measurements with the electron-microscope. Although this instrument will show particles as small as 20 millimicrons in diameter, it did not show the influenza virus particles.

The eight or ten times larger particles which scientists had previously believed were the individual units of the flu virus are now believed to be normal components of body cells which carry the tiny virus particles.

Not only influenza virus but a virus used to make smallpox vaccine and another virus commonly found in the brains of mice are also much smaller than previously supposed and are probably carried on the larger particles which scientists had believed were the virus particles themselves. This was discovered by Dr. Jaques Bourdillon, also of the University of Pennsylvania, in studies of the rate at which viruses moved through a solution. The smaller particles believed to be the real viruses move more rapidly, he found, than the larger, carrier particles.

Science News Letter, April 26, 1941

Morphine May be Safe

PAINLESS childbirth may, contrary to previous medical opinion, be achieved with safety by giving morphine

or one of its derivative drugs to mothers, it appears from experiments reported by Dr. Franklin F. Snyder, assistant professor of obstetrics and gynecology at the University of Chicago, and Dr. Kha Ti Lim, of Peking, China, Union Medical College.

Doctors heretofore have believed it was unsafe to give morphine to abolish the pains of childbirth because the drug was supposed to interfere dangerously with the breathing of the unborn child.

Unborn rabbit babies, the scientists found, continued to breathe rhythmically for two hours or longer even when their mothers had been given 15 times the dose of morphine required to deaden pain. Various other morphine compounds

with powerful pain-killing effects were also studied.

"The results," Dr. Snyder declared, "suggest obstetrical usefulness."

Science News Letter, April 26, 1941

Arthritis Blood Differs

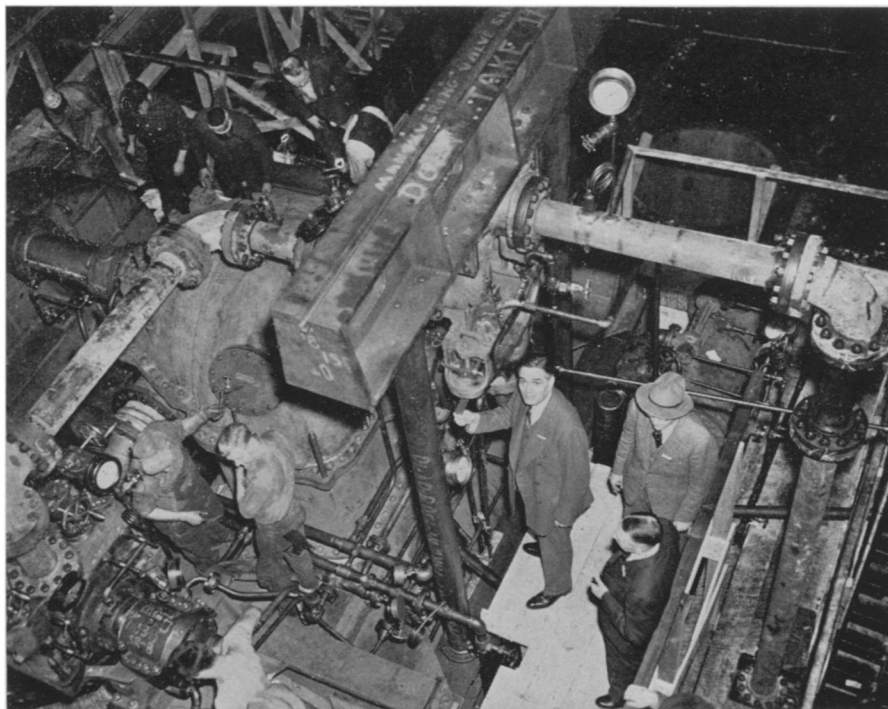
THE protein in the blood of patients with arthritis is different from that in the blood of normal persons, Dr. Otto H. Müller, of Cornell University Medical College, discovered through a test derived by a scientist in Europe, Dr. R. Brdicka, to study cancer and infectious diseases. This is the first application of the test to the study of that baffling and widespread ailment, arthritis.

Patients with gout did not show any significant difference from normal persons in this blood test.

Science News Letter, April 26, 1941

New Test for Vitamin B₁

A NEW way of determining whether or not a person is getting enough of the morale vitamin B₁, one of the "must" ingredients of the new enriched



INSPECTION

Recently appointed Assistant Secretary of the Navy Ralph A. Bard, inspects a boiler which is destined to be used in the new Navy. This boiler is being built at the Westinghouse plant in Lester, Pa., where steam equipment for about 100 fighting ships and merchant marine is being produced for defense. A. W. Robertson, chairman of the Board, and Vice-President R. A. McCarty are the Westinghouse officials who showed Secretary Bard about the plant.