

MEDICINE

Effective Flu Vaccine

► AN OIL-MIXED flu vaccine has proved 90% effective against two types of respiratory disease.

Physicians read in the *Journal of the American Medical Association*, 179:594, 1962, that the vaccine, consisting of eight inactivated virus strains suspended in an oil emulsion rather than the usual water solution, was studied in a field trial involving more than 5,000 men stationed at Lowry Air Force Base, Denver. The trial occurred during the winter of 1959-60.

The vaccine was "remarkably effective" against influenza Type A (sub) 2 and adenovirus Type 7, which produces flu-like symptoms, Dr. Gordon Meiklejohn, department of medicine, University of Colorado School of Medicine, Denver, reports.

Outbreaks of these two viral infections occurred about two months after the vaccine had been administered to half of the men, he states. Ninety-four percent of the vaccinees were protected against the flu, and 90% were protected against adenovirus infection.

Thirty-five men in the unvaccinated group had the flu, compared with two in the vaccinated group. Forty of the unvaccinated men contracted adenovirus infections, compared with four of the vaccinees.

The findings indicate that oil-mixed vaccines protect "at least as well as" water-mixed vaccines and, because of other advantages, may be preferable to water-mixed vaccines for the prevention of respiratory disease, Dr. Meiklejohn believes.

The advantages of the oil-mixed vaccines are that they do not require as much killed virus and may provide longer protection. Immediate reactions may be less frequent

and severe, and numerous viruses can readily be injected in a small volume.

A *JAMA* editorial said that effectiveness of such vaccines should be continually explored "since they may provide the simplest approach to the control of a very large number of infectious diseases."

A nearly fatal reaction to one of the new antimalarial drugs is reported by Drs. Harold O. Perry, Lloyd G. Bartholomew and David G. Hanlon of the Mayo Clinic and Mayo Foundation, Rochester, Minn. Amodiaquine caused hepatitis (inflammation of the liver) and agranulocytosis (in which the white blood cells decrease). Adrenal steroids were credited with saving the life of the patient described (p. 598).

The removal of skin blemishes should be done by experts, an editorial in the *Journal* advises. Wrinkles, "crow's feet," "bags under the eyes," and other signs of aging, can sometimes be repaired by plastic surgery. Also, sailor's and farmer's skin, which becomes thickened, can be remedied by a technique using wire brushes. Two articles on the changes of aging processes sparked the editorial (p. 650).

Another article (p. 609) reports a study of 1,633 patients who had had Caesarean operations (for childbirth) under spinal anesthesia. Drs. Frank Moya of Columbia University and Bradley Smith, U.S. Naval Hospital, Portsmouth, Va., states the majority of the patients suffered no ill effects provided small doses of the anesthetic were given and the blood pressure was maintained. The study was made over eight and a half years.

• *Science News Letter*, 81:149 March 10, 1962

TECHNOLOGY

Test Traffic by Computer

► FREQUENT SWITCHES in traffic patterns, which generally cause confusion, have been made in the heavily congested Nation's capital without causing tie-ups or panic.

Direction of flow, parking patterns, speed regulations, width of the street and various other factors are being changed frequently by officials on a nine-block section of a heavily traveled street, but motorists go merrily along as if nothing was different.

Why are the Washington drivers not panic-stricken by this quick-changing game of automotive musical chairs?

The whole routine is done on a digital computer, far from the congested Thirteenth Street being used as the test site.

Traffic rules or changing regulations are programmed and fed into the electronic device and "vehicles" are numbered and given precise goals, differing speeds, varying functions and sizes. Traffic lights are automatically adjusted to the desired conditions and nearly all determined patterns are fed

into the computer. After information on volume of traffic and the controls has been fed into the system, the simulated traffic flow is recorded on paper and motion picture.

The results show the computer caused the "vehicles" to behave in what seems to be a realistic manner. They did most of the definable things done in city traffic.

This operation will be useful in predicting the detailed effects on traffic flow due to changed situations, and in revealing the best plan of attack for city and highway planners without disrupting actual traffic.

The National Bureau of Standards developed the computer routine for the Bureau of Public Roads.

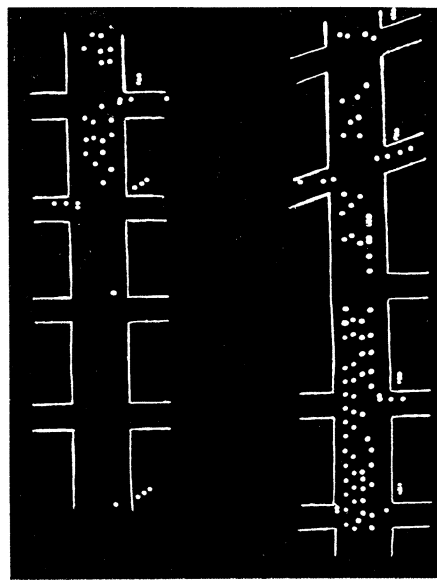
A motion picture of the simulated traffic was made from the image on an oscilloscope. The image was formed by computer operations repeated for each one-fourth-second real-time interval.

The camera is triggered for four frames

following each computation cycle by means of solenoid beside it and circuitry below.

When processed and projected at 16 frames per second, the film presents the model operating in actual time. Several runs of three complete 80-second traffic-light cycles (four minutes) were obtained by this method.

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TRAFFIC SIMULATION

PUBLIC HEALTH

Food Fallout Increases; Little Danger Seen

► FALLOUT LEVELS in food are expected to increase during the next few months, but "it is highly unlikely that protective measures will be necessary in the months ahead to reduce the intake."

This observation was made by Dr. Donald R. Chadwick, chief of the Division of Radiological Health, Public Health Service, Washington, D. C. It was made in connection with the release of a PHS survey made on levels of strontium-89, strontium-90 and iodine-131 in milk samples from more than 60 cities throughout the country.

The strontium measurements cover the period of September through November, 1961. They are not much above the levels found before the Soviets began nuclear weapons tests last fall.

However, it is expected that a rise will occur in spring when increased rainfall will contain fallout now in the troposphere.

The PHS, working with the Department of Agriculture and the Atomic Energy Commission, has set up a pilot plant using an ion-exchange process for removing strontium from milk.

"The process is very promising," Dr. Chadwick said, "but at its present stage of development, and in view of present and foreseeable levels of radioactive strontium, its widespread use is not justified."

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