

## PUBLIC HEALTH

# Speedy Vaccine for 'Flu

Could make vaccine quickly to stop new strain of influenza, tests prove. Large number of laboratories would cooperate in the production.

► IF AN enemy tried to spread a new strain of influenza in this country as part of a germ warfare campaign, we could make a vaccine against it fast enough to stop the epidemic very quickly.

In a trial run with a strain of 'flu virus flown from England last January, one pharmaceutical house made 1,000 doses of vaccine in 22 days. Another made 1,000 doses in 23 days, Dr. W. Palmer Dearing, Acting Surgeon General of the U. S. Public Health Service, reported.

This means, he explained, that a large number of laboratories could produce enough vaccine in short enough time to meet the needs of this country "if threatened by the spread of a dangerous type of influenza from abroad."

If a new and virulent type of influenza started in this country, the vaccine could probably be made in time to reduce to a minimum its effects in large segments of the population.

Although the record 23-day vaccine production job was completed by the middle of February, news of it was withheld for a number of reasons. Chief among these,

presumably, was that Public Health Service and Defense Department officials were interested in it as a trial run of germ warfare defenses.

The influenza that was widespread last winter was so mild that vaccination against it was not thought advisable, but news of a vaccine might have swamped pharmaceutical houses with demands for it. The manufacturers were making the vaccine on the trial run at their own expense for the U. S. Influenza Study Program.

This program was organized in 1948 in cooperation with the World Health Organization by the Surgeons General of the Army, Navy, Air Force and Public Health Service. It gathers news of influenza outbreaks all over the world and isolates and studies the various strains of influenza viruses with a view to preparing vaccines.

While influenza might not be the particular germ warfare agent used by an enemy, experience with this modern type of 'flu fighting, and perhaps even the same organization, could be turned to stopping other germs in case of germ warfare.

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## MEDICINE

# Exercise for Tired Feet

► ARE YOU having trouble with your feet? Can they stand up under increasing avoirdupois? Do they feel tired at night?

Three simple exercises for tired feet are offered by Walter C. Crowe, Thayer Jorris and William Fowler, members of the developmental physical education staff at the University of California at Los Angeles.

1. The first exercise can be done while reading the evening paper. With the legs on a footstool, stretch and separate the toes as far as possible. Then grab with the toes, as if attempting to hold something tightly, until the feet start to tire.

2. The second exercise requires standing behind a chair with the hands resting on its back. Place the feet with the big toes together and heels three or four inches apart. Keeping the balls of the feet flat, bend the knees just slightly, rotating them outward as far as possible without moving heels or toes. Repeat five or ten times.

3. The third exercise requires walking forward slowly and naturally 10 to 15 steps. Just before each foot makes contact with the floor, turn the front part of the foot inward as far as possible—pigeon-toed manner.

Practice these exercises at least once a day and you will strengthen your foot muscles and reduce fatigue, the U.C.L.A. physical instructors say.

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## PHYSICS

# Rocketeers Reminded Earth Turns by Aiming Correction

► IF ANYONE doubts that the earth rotates, let him try aiming one of the record-breaking 250-mile-high rockets being fired by Army Ordnance from White Sands, N. Mex., proving grounds.

If the earth's rotation were disregarded, such a "Bumper" two-stage rocket would descend approximately 15 miles from its target. The earth would move that far under it during the 10 minutes that it is in the air, Robert P. Haviland, project engineer for General Electric Co., Schenectady, N. Y., conducting the firings, has computed.

There are approximately 10 variable factors taken into consideration when high-altitude rockets are fired. In addition to

the rotation of the earth, these include range and direction of the target, trajectory, geography, wind direction, wind velocity and air density. Rotation of earth was considered a minor factor in computing earlier rocket and guided missile trajectories.

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## INVENTION

# Warn Truck Drivers Of Low Underpass

► TRUCK DRIVERS entering an underpass on the highway will be able to determine if there is proper overhead clearance for the truck body with a device which brought Henry S. Marx, New York City, patent 2,554,371. A light or an alarm in the cab gives the warning. A flexible metal rod, attached to the front of the cab's roof, projects upward a little higher than the top of the truck's body. If it hits the roof of the underpass, it bends to make an electric connection that activates the signal.

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## ZOOLOGY

# Black Frogs Turn White After Shot of Hormone

► BLACK FROGS become white ten minutes after an injection of hormone extracted from their pituitary glands or from shrimp eye glands.

This is because the long delicate branches of dark pigment cells in the skin of frogs, fish and crustaceans suddenly contract when a dose of hormone is injected, explained Dr. Gottfried Koller, head of the zoology and comparative physiology department at the University of Saar in Saarbrücken.

These animals normally regulate the stretch of their pigment cells by themselves for protection from enemy eyes and jaws. For instance, when a frog is on a dark background, the pigment cells spread out in all directions in his skin, and he blends into the scenery. But if the frog should swim to a brighter background, he shoots out some hormone from his glands and contracts the pigment cells, thus leaving himself lighter in color.

Dr. Koller finds that the hypophysis glands of frogs and eyestalk glands of shrimp not only regulate the contraction of pigment but also regulate the content of water in the body of these animals.

Frogs and shrimp must have light for adaptation to their background, Dr. Koller explained further. After 24 hours in the dark, the gland extract loses its effectiveness. With only five minutes of light, however, the extract is again activated.

For his experiments, Dr. Koller uses one part of extract to one million parts of water. One or two hours after the injection, the animal again becomes his natural color.

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