

## Drugs for Heart Treatment Seized

► SEIZURE of 68 bottles of a sustained action drug called Peritrate SA, advertised in six issues of the Journal of the American Medical Association as a treatment for heart patients, has been authorized, Dr. James L. Goddard, Commissioner of the U.S. Food and Drug Administration, reports. The color advertisement ran from Dec. 6, 1965 through Jan. 3, 1966, and in the Feb. 7, 1966, issue.

The seizure is the first involving the advertising provisions of the Kefauver-Harris Drug Amendments of 1962, FDA states.

The five-page advertisement is "false and misleading" and the drug's labeling contains claims never approved by the agency, the Government charges. The court papers were filed in the Federal District Courts at Brooklyn, N.Y., and called for seizure of the drug, distributed by Warner-Chilcott Laboratories, Morris Plains, N.J., and in possession of a Glendale, N.Y. firm.

While announcing the Peritrate SA seizure action, Dr. Goddard said that preparations containing the 11 nitrites and nitrates commonly relied upon by doctors for the treatment of angina pectoris, can no longer be labeled or advertised for the treatment of any other condition unless these claims are covered in an FDA-approved New Drug Application.

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### GEOPHYSICS

## 'Shock Absorber' Affects Landforms

► A FEW MILES below the surface of Mars is a giant, planet-wide "shock absorber," which is why that planet has no great continental masses, sea basins and long mountain chains like those on earth.

The same kind of shock absorber, a sheet of hot, plastic rock called the "low viscosity layer," exists on the moon, and has had the same effect, Dr. Johannes Weertman, a Northwestern University geologist, told the Upper Mantle Committee of the International Union of Geodesy and Geophysics in Newcastle, England.

Earth also has such a layer, Dr. Weertman said, but it occurs much further below the surface than on the moon or Mars. It lies within the mantle about 60 to 120 miles below the surface. Therefore, earth's low viscosity layer has less of a damping effect on the vast heat pressures caused by the shifting rock in the mantle.

The earth is composed of an outer crust extending from between 18 and 24 miles below its surface; a mantle of solid rock reaching another 1800 miles or so below, and a molten core.

The rock within the mantle of both planets and the moon is constantly being either stretched or compressed.

This movement creates heat and pressure, which radiate outward toward the surface, Dr. Weertman said.

Part of earth's mantle lies above the layer, free from its damping influence. Although this portion may be as little as three percent of the mantle's thickness, the additional heat forces it sends directly into the crust and the unevenness of these forces may have caused the formation of mountain chains such as the Andes and the Rockies, as well as the continents themselves.

On Mars and the moon, almost all internal stresses have to pass through the low viscosity layers, Dr. Weertman believes, so that the rocky crags and mountains shown in photographs from recent spacecraft such as Ranger 9, Mariner 4 and Lunar 9 have probably originated from meteor impacts and volcanic eruptions.

Dr. Weertman's investigations have not been confined to rock layers. In 1961 he won the Robert E. Horton Award of the American Geophysical Union for a study of the "Stability of Ice-Age Ice Sheets."

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### MEDICINE

## New Salk Vaccine Produced in Canada

► A NEW form of Salk vaccine, which fights all three types of polio viruses, contains proportionately more antigens against the more powerful forms of the disease.

The vaccine, called Trivalent Purified Poliomyelitis Vaccine, has been developed by the Connaught Medical Research Laboratories of the University of Toronto.

To make the vaccine, viruses of the three types 1, 2 and 3 of poliovirus are grown separately and inactivated with formaldehyde. The suspensions of each type are concentrated and purified to remove most of the extraneous protein. They are then combined so that each final dose contains two and one-third times as much type 1 viral-antigen, the same amount of type 2 antigen and one and one-half times as much as type 3 antigen.

Experience has shown that antibody response to type 2 antigen has always been more than adequate, so that a larger dose is not needed. The increased dosage of type 1 and type 3 antigens is designed to provide added protection, particularly against type 1, which has usually been the most virulent virus and the commonest cause of epidemics of paralytic poliomyelitis.

In order to produce the improved Salk vaccine, a new method of purifying and concentrating the viral antigens was devised, as well as a way of measuring the viral antigens with much greater accuracy than previously possible.

Both these developments were accomplished by Dr. Hilda Macmorine and her associates at the Research Laboratories.

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# IN SCIEN

### GENERAL SCIENCE

## Revolt at Pasteur Is Good News in Paris

► THE REQUESTED resignation of the 15 members of the Pasteur Institute's Council of Administration in Paris has succeeded in pumping new life into the famous scientific organization named for Louis Pasteur.

Three Nobelists who had received the Prize for their studies in genetic regulation helped to draft a statement of confidence in Louis-Joseph Pasteur Vallery-Radot, president of the council, who backed the reform efforts. Dr. Pasteur Vallery-Radot, a grandson of the famous Pasteur, has been named honorary president of the council, it was reported in Science, 151:809, 1966.

Drs. Francois Jacob, Andre Lwoff and Jacques Monod, the Nobelists, have kept up a stream of criticism at the rigid structures for scientific research in France. Under the new regime, only three of the old council remaining as members, a heavy representation of top French science administrators will lend strong support to the enlarged budget sought by the rebelling scientists. Scientists themselves are now represented on the council, and are expected to improve the climate for research.

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### TECHNOLOGY

## Computer for Billing, Stockkeeping Shared

► BOTH PATIENTS and doctors are benefiting from an octopus-like computer system that adds up bills, takes inventories and orders stock for eight hospitals in the Twin Cities area.

The system is expandable so that many of the 180 hospitals in and around Minneapolis-St. Paul can be added.

Just keeping track of bills, accounts and insurance payments involves 35 different kinds of reports, all of which must be available on demand.

Payrolls, maintenance schedules, even patients' diets will all find their way into the octopus' electronic clerical tentacles. A way is currently being sought to let the system help with laboratory tests such as blood chemistry, hemoglobin and urinalysis.

The eight hospitals now sharing the computers will each have an average revenue this year of only about five million dollars, so any cost cutting that the system produces will certainly be significant. The cost for the service is \$2,200 per month, including both the Honeywell computers and the people to run them. This is considerably less than it would cost on a nonsharing basis.

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# CE FIELDS

## PHARMACOLOGY

### FDA Bans Sulfa Cold Drug, Asks New Labels

► ONE LONG-ACTING sulfa drug called Madricidin, manufactured by Hoffman-LaRoche Inc., has been ordered off the market by the United States Food and Drug Administration, and two other manufacturers must re-label their long-acting sulfonamides.

Madricidin can cause severe blistering and inflammation of the mucous membranes, Dr. James L. Goddard, FDA Commissioner, stated. The side effects, called the Steven-Johnson syndrome, have caused some deaths, according to reports to FDA, he said.

Relabeling of Kynex tablets (Lederle) and Midicel tablets (Parke, Davis & Company) is demanded.

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## AERONAUTICS

### Sea Stations May Control Atlantic Air Traffic

► A FLOATING CHAIN of air traffic control stations across the Atlantic could be in operation within three years, the British Ministry of Aviation has found.

The chain would allow transatlantic airliners to navigate much more accurately than they can today, thus enabling them to fly closer together.

A three- or four-station network would cost at least \$140 million, including the most modern radar search and radio communication equipment. The stations would be built on concrete cylinders several hundred feet long which would float vertically and be anchored to the ocean bottom.

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## GENERAL SCIENCE

### United States Hit Hard By Floods and Storms

► HURRICANES, FLOODS, droughts and tornadoes caused more disasters throughout the United States in the last two years than ever before recorded.

As the year progresses, more floods are anticipated, while the northeast drought continues and the tornado season approaches.

In both 1964 and 1965, 25 disasters were declared emergencies under the Federal Disaster Act, according to the Office of Emergency Planning in the executive office of the President.

Hurricane Betsy, which crossed Florida last September, then struck Louisiana and Mississippi was the worst single disaster of the year. When final cost figures are assembled, this disaster

may prove more costly than the Alaska earthquake and the Christmas floods of 1964 along the Pacific Coast.

Fortunately because of the system of advance warnings, the hurricane did not take many lives.

Major U.S. calamities in the last two years, in addition to Betsy, include the Alaska earthquake on Good Friday, 1964, causing property damage of \$400 million and costing 156 lives; the hurricanes of 1964, including Cleo, Dora and Hilda, which swept through Florida, Georgia and Louisiana, among the worst storms in 25 years, killing 49 people and causing \$500 million damage; the winter floods of Christmas, 1964, in California, Oregon and Washington, taking 45 lives and costing \$500 million in property losses.

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## MEDICINE

### U.S. Physicians Face Great Odds in War

► VOLUNTEER PHYSICIANS from the United States are working against alarming odds to boost medical services in South Viet Nam.

The report came from 32 doctors, the first contingent of a volunteer physicians corps working under the auspices of the Government's Agency for International Development (AID). Eight physicians are added to the project every two weeks. Their tours last 60 days.

There are only 200 native South Vietnamese doctors working full-time for its population of 16 million. The others are either serving in the armed forces or teaching.

Diseases, both rare and routine, flourish in the country. Lepers roam the streets and South Viet Nam's maternal death rate is 25 times that of the United States.

Hospitals are few and antiquated. Two or three patients to a bed is common. In addition, in certain areas Viet Cong propaganda has turned the population against immunization programs.

One volunteer, Dr. George F. Brockman of Greenville, Ky., reported that the U.S. doctors probably would find adequate basic equipment in the provincial hospitals, but poorly trained personnel.

Dr. Gene Schulze, a psychiatrist from Flatonia, Texas, found, however, that the single mental institution in South Viet Nam lacked soap, intravenous fluids and blood pressure gauges. There were only two native doctors for the 2,000 patients.

Besides giving supplies, Project Viet-Nam is borrowing military men for its medical program. Teams of 16 men from the Army, Navy and Air Force are being trained to move from province to province treating the sick and wounded.

More volunteer physicians from the United States are needed wrote James H. Winchester in Today's Health, March 1966.

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## BIOCHEMISTRY

### 'Fight or Flight' Trait Is Blocked in Humans

► THE "FIGHT or flight" response to danger, caused by an emergency mechanism of the adrenal glands, is all very well for a chipmunk pursued by an eagle, but it can be harmful to man—perhaps to soldiers fighting in Viet Nam.

The New York Academy of Sciences, therefore, met to consider a new group of chemicals that can neutralize harmful effects of epinephrine which is secreted by the two adrenal glands lying close to the kidneys.

Epinephrine can elevate blood pressure in some persons to the point of causing a heart attack or stroke. Thus chemicals that can block or neutralize the effect of epinephrine can have great value.

One such chemical, called DCI, or dichloroisoproterenol, was reported at the meeting by Dr. Neil C. Moran of Emory University, Atlanta, Ga. Dr. Moran said that other drugs of the same class, called adrenergic blocking agents, have been synthesized and studied in chemical manufacturing companies as well as at universities and other research institutions.

DCI was first discovered at Lilly Research Laboratories. Later, Dr. Moran and his co-workers uncovered the blocking effect of the chemical on the heart and suggested that DCI be classified as a beta adrenergic blocking agent.

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## EPIDEMIOLOGY

### Influenza Epidemic Hits West Coast

► THE FLU season has struck late this year, but it has struck.

Beginning in California, Asian flu, which did not hit the West last year, has been identified by the California Department of Health, and confirmed by the Communicable Disease Center in Atlanta, Ga. This was in line with predictions made last summer by the United States Public Health Service.

Type A flu hits all age groups, CDC told SCIENCE SERVICE, and more deaths can be expected among the older people than in the East Coast states, which so far have reported only type B flu. In Los Angeles, more than 250,000 school children have been kept at home with the A virus.

Six states—Georgia, Alabama, Connecticut, Massachusetts, Florida and Rhode Island—have reported type B influenza. Maine, New Hampshire, Vermont, New York and New Jersey have reported influenza-like illnesses.

Physicians cannot readily distinguish type A from type B as the symptoms are similar. Type B comes in four-year to six-year cycles. Type A comes in two-year to three-year cycles. The vaccines given by the U.S. Public Health Service include both type A and type B.

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