

at the Division of Biologics Standards, NIH, cautiously announced recently that he had recovered an agent, referred to as A-1, in rabbit kidney tissue cultures inoculated with material from the NIH pool. However, he will not say that he has discovered a virus causing serum hepatitis, and continues his search. A great number of people have isolated agents from the serum of people with clinical hepatitis, but this is not necessarily the agent that is causing the disease, Dr. O'Malley said.

Three Arizona investigators who started their virus hunt with some of the plasma obtained from NIH believe they have really isolated the serum hepatitis virus.

### Prisoners Inoculated

Dr. Vern Bolin, director of the Bolin Laboratories of Phoenix, Ariz., with Drs. John B. Alsever and James D. Barger of the Southwest Blood Banks in Phoenix, inoculated Arizona State Prison volunteers who later became ill with serum hepatitis.

But much work remains to be done by these and other researchers.

Two of the largest grants made recently for studies on hepatitis were given by the John A. Hartford Foundation of New York.

A \$408,900 grant was awarded to the Presbyterian Hospital in New York for a three-year study of both infectious and serum hepatitis. Dr. Stanley E. Bradley, director of medical service at the hospital, is directing the research.

The other grant, for \$327,000, went to Stanford Research Institute, Menlo Park, Calif. Dr. Gustave Freeman, chairman of the institute's department of medical sciences, will direct the research on "conventional and new concepts of the nature of the disease."

### Eight Grants Made

Eight grants totaling \$80,000 have been made by the National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Md.

Among the institutions receiving these funds will be Harvard University, for microbiological studies on human cells in test tubes in an attempt to cultivate the virus responsible for infectious hepatitis.

Johns Hopkins University, Baltimore, also received a grant, for experiments with virus hepatitis in mice. Washington State University, Seattle, received another to work on canine virus hepatitis in tissue culture. Children's Hospital in Los Angeles got another grant to work on gamma globulin and post-transfusion in hepatitis.

In addition to serum and infectious hepatitis, which are most common, toxic hepatitis can be contracted from a patient's allergy to chemicals. These include the cleaning compound, carbon tetrachloride; insecticides; chloroform; arsenic and substances inhaled, absorbed through the skin or taken by mouth.

While hepatitis viruses remain elusive and tricky, 1,000 to 2,000 cases of the disease each week are swelling the total of misery in this country.

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### MEDICINE

## Persistent Hoarseness Related to Arthritis

► PERSISTENT hoarseness can be a symptom of rheumatoid arthritis.

If the hoarseness is a symptom of damage to the cricoarytenoid joint, which is a major part of the voice box (larynx) controlling vocal cord movement, rheumatoid arthritis may be suspected.

The joint is difficult to see or feel except through mirror examination, but recent autopsy examinations revealed it was damaged in seven of eight persons who had been rheumatoid arthritis patients.

The damage ranged from irregularity to almost complete destruction of the articular joint surface. The microscope revealed inflammation.

Drs. Harry Bienenstock, George E. Ehrlich and Richard H. Freyberg of the Hospital for Special Surgery, New York, reported the autopsies to the eighth scientific interim session of the American Rheumatism Association meeting in Washington, D. C.

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### TECHNOLOGY

## Navy Designs Craft For Land, Sea Rescue

► A 29-FOOT craft that can skim over the sea buoyed up by its own cushion of air and land on the water for rescue operations has been designed at the U.S. Navy's David Taylor Model Basin in Washington, D. C.

Known as GEM (ground effects machine), the craft can carry a crew of six men and can glide over rough terrain and mount slopes with a 40% incline.

A design feasibility study by H. Chaplin, made available by the Office of Technical Services of the U.S. Department of Commerce, reported that, powered with a free-turbine engine, the GEM's estimated top skimming speed three inches above any surface would be 80 miles an hour. The wide flat craft would weigh about 10,000 pounds.

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### PUBLIC HEALTH

## Radiation Sickness Can Be Treated

► RADIATION SICKNESS can be treated and most persons will recover just as they would from any other illness.

Serious effects, such as permanent sterility, burns over the entire body and loss of hair may occur if radiation exposure is high, *Today's Health*, Jan., 1962, reports. However, temporary effects are more common.

"It is true that if you receive a radiation exposure of approximately 300 roentgens over a short period of time there is a chance that after two or three weeks you may lose your hair," the magazine said. "But in several months your hair will grow back."

Similarly, persons made temporarily sterile may regain their ability to reproduce

after some weeks or months. The only time a person may be "burned" is when fallout remains on exposed skin surfaces instead of being washed off.

Radiation sickness is not really a sickness in the sense of a disease caused by germs, such as the common cold. Radiation has an effect only on living cells. The greater number of these cells affected, the greater the sickness.

The basic rule of treatment is to "treat the symptoms." If the victim complains of nausea or has a fever, these symptoms should be treated exactly as they would under other circumstances.

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### METALLURGY

## Sapphire "Whiskers" Increase Metal Strength

► THE INCLUSION of "whiskers" of sapphire grown from pure aluminum has been shown by scientists at General Electric Company's Missile and Space Vehicle Department to increase the strength of pure silver about five times. (Sapphire is a form of corundum, or  $Al_2O_3$ ).

The method is based on the fact that the "whiskers," single sapphire crystals, retain their strength even at very high temperatures. However, they have neither the rigidity nor the bulk to be used as whole parts. It will be possible in the future to develop stronger combinations by using a higher percentage of whiskers, stronger whiskers, and using a stronger base metal, such as steel. At this stage, the major problems lie in the bonding the whiskers to the metal and eliminating pores in the finished composite.

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### MEDICINE

## Computer Used to Help Diagnose Heart Disease

► A COMPUTER has been used to help diagnose heart disease, five scientists reported to the Eastern Joint Computer Conference in Washington, D. C.

Information indicating the electrical, mechanical and acoustical properties of both normal and diseased hearts is stored in the computer's memory. After a person's electrocardiogram has been taken, the record is fed to the computer. It then determines the patterns of various wave forms and compares them to those in its memory.

This automatic system gives reproducible results that compare favorably with those obtained by cardiologists using manual methods.

C. A. Steinberg and W. E. Tolles of Airborne Instruments Laboratory, Deer Park, Long Island, N. Y., Sidney Abraham and Dr. C. A. Caceres of the U.S. Public Health Service, and Dr. A. H. Freiman of Cornell University Medical College, New York, developed the techniques for the use of a digital computer as an aid in diagnosing heart disease.

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