

## MEDICINE

**Reserpine Compounds  
May Help Treat Tumors**

► THE ADDITION of small amounts of reserpine compounds has been found to improve the action of anti-folic compounds now used in the treatment of certain types of tumors and leukemia.

Dr. Eli D. Goldsmith of New York University described successful experiments on the fruit fly at the 11th International Entomological Congress in Vienna. Dr. Goldsmith conducted his experiments at NYU's College of Dentistry where he is professor of histology and coordinator of research.

Previously reported action by reserpine against leukemia and the tumor sarcoma 37 in the rodent led Dr. Goldsmith to test it on the fruit fly *Drosophila melanogaster*, used in studies of heredity.

Using low doses of two reserpine compounds, Singoserp and Serpasil, in combination with anti-folic compound Aminopterin, Dr. Goldsmith lowered the percentage of adult flies that normally emerge from the larvae.

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## MEDICINE

**Epidemics and Deaths  
Caused by "Cloud Babies"**

► NEW RESEARCH ON STAPH, the cause of epidemics and deaths in even spic-and-span hospital nurseries, suggests that some babies live in a cloud of bacteria. The researchers call them "cloud babies" because they contaminate the air and infect others around them.

"Cloud babies" may be sick themselves or merely carriers of disease.

The new concept is an attempt to explain how staph spreads in hospital surroundings.

The researchers say that in an enclosed, unventilated space, a cloud baby may act like a vaporizer and contaminate the air so that a neighboring infant breathes in the infection.

Data were obtained with an apparatus that sampled air to show the spread of *Staphylococcus aureus*. The work was reported in the American Journal of Diseases of Children, 100:161, 1960.

Collaborating on the research were Drs. Heinz F. Eichenwald and Olga Kotsevalov, assisted by Lois A. Fasso, a registered nurse, all of New York.

"Obviously," the investigators say, "both staphylococci and viruses must be acquired by the infants from someone, be it mother, nurse, attendant, physician, or another infant. Once a cloud baby has been produced and the air is contaminated, the personnel too become infected and can then serve to transmit the organisms to other infants or to introduce the infection into clean units. A cloud baby epidemic cannot be terminated by focusing one's attention only on the infected infants or only on the infected staff; both must be screened and any carriers removed from the nursery unit."

The investigators concluded that their evidence clearly indicates that cloud babies

are an important factor in explosive outbreaks of staph infection and disease, both during their stay in the nursery and, after discharge, within the family unit.

An editorial, introducing the cloud babies report, says in part: "Once in a blue moon a journal is privileged to publish an article which introduces an important revolutionary concept. The cloud baby concept of Eichenwald's is in our opinion as revolutionary as the term is clever."

The editorial adds: "What is needed is a carefully designed experimental approach to show how staphylococci can perform the preposterous feat of seemingly 'evaporating' from a moist surface without any hint of a sneeze. When this almost unbelievable phenomenon can be explained, the cloud baby will have a firm foundation."

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## RADIO

**Pinpoint Eight Sources  
Of Strong Radio Waves**

► THE POSITIONS of eight strong sources of radio waves broadcasting in the heavens have been pinpointed by two scientists at the Naval Research Laboratory in Washington, D. C.

Drs. Russell M. Sloanaker and J. H. Nichols made the new, accurate measurements at a wavelength of four inches using the Laboratory's giant 84-foot antenna. The positions they measured are absolute ones, so they can be used for locating other sources of celestial radio waves.

Most determinations of a source's position are found relative to other bright sources. The eight selected sources are scattered over most of the sky visible from Washington, D. C. They include the two strongest sources, Cassiopeia-A and Cygnus-A. The latter is believed to be two vast stellar systems, or galaxies, in collision.

The others are Taurus-A, Virgo-A, the Orion Nebula, the Omega Nebula, Sagittarius-A and Centaurus-A.

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## GEOPHYSICS

**Ionosphere Studied by  
Scanning Antenna**

► AN ANTENNA to provide scientists with a new tool for the study of the earth's reflecting layer of radio waves, the ionosphere, has been developed at the National Bureau of Standards.

Without benefit of electrical or mechanical moving parts, the antenna scans an arc of 42 degrees and can determine immediately the direction of radio signals received from a "forward scatter" transmission.

In this type of very high frequency radio propagation, radio waves are scattered from cloud-like concentrations of electrons in the lower ionosphere and may arrive at the receiver site from many directions.

The new antenna can help pinpoint the direction from which the scattered signal arrives, and could prove of value in tracing the best paths for forward-scan communication.

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**IN SCIEN**

## ROCKETS AND MISSILES

**1,000 Satellites Will  
Need Tracking System**

► SO MANY SATELLITES are being planned that a world-wide satellite tracking and cataloguing system needs to be built, an American engineer has told the International Astronautical Congress in Stockholm, Sweden.

The engineer, Peter R. Dax of Westinghouse Electric Corporation's electronics division in Baltimore, Md., predicted there will be 1,000 man-made objects in orbit within ten years. He proposed a tracking system of seven powerful radar installations circling the earth.

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## METEOROLOGY

**Weather Records Lost  
In Antarctic Fire**

► THE FIRE at Mirny, the Russian scientific station in the Antarctic, which took the lives of eight scientists and demolished the meteorology building, also destroyed meteorological records vital to the study of weather conditions on the white continent.

Morton Rubin, U.S. Weather Bureau meteorologist who spent 15 months at the Russian station, said all the meteorological records compiled at Mirny since January of this year probably were destroyed. There were probably no duplicates or copies.

"I know that recently, at least, they were not microfilming there," Mr. Rubin said. "Their policy was to keep the records until the end of an expedition and then ship them to the Soviet Union. From there they were released to other countries. It is winter in the Antarctic now and there is no shipping—no way of getting the records out."

The fire started during a storm on Aug. 3, during which wind gusts of 126 miles an hour occurred. Cause of the fire is undetermined, according to cabled reports received by the National Science Foundation from the U.S. Navy station at McMurdo Sound.

A spokesman for NSF said there were about 40 buildings at the Mirny station, and reports indicated that only the meteorology building had been destroyed. Records in small satellite stations, all within about 40 miles of Mirny, are safe.

The scientists who perished include five Russian aerologists, a Russian meteorologist, a Czechoslovakian meteorologist and a German meteorologist.

Mr. Rubin said, "It is a terrible thing. Eight irreplaceable scientists have been lost. I knew some of them personally. It is a great blow to the work we intended to do with their data. But it is heartening to know that the four men who survived will continue."

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# CE FIELDS

## PUBLIC HEALTH

### Radiation Use Requires Health, Safety Experts

➤ A SERIOUS deficit exists in the number of experts being trained to cope with public health and safety problems accompanying the rapidly expanding use of radiation of various kinds in the United States.

Surgeon General Leroy E. Burney of the U. S. Public Health Service warned that by 1970 at least 4,000 additional physicians, engineers and physicists trained in radiological health and protection measures will be needed.

This means that colleges and universities should be admitting at least 600 candidates annually for such training instead of the 200 now being trained each year.

The Surgeon General said that nearly half of the 4,000 additional experts needed would be employed by industry as it expands its use of nuclear power, of X-rays and isotopes.

Others will be needed in health agencies, hospitals, universities and research organizations.

Dr. Burney made his statement in response to a report from the PHS division of radiological health following a three-day symposium at Princeton, N. J., with officials from various universities.

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## PSYCHIATRY

### Mental Patient's Relapse Can Be Predicted

➤ WHETHER a patient discharged from a mental hospital will need to be readmitted within the next five years can be predicted with the use of a standard psychological questionnaire, David J. Gouws of the Western Psychiatric Institute and Clinic, University of Pittsburgh, told the meeting of the American Psychological Association in Chicago.

In fact, Mr. Gouws found three such questionnaires that could serve as such a psychiatric crystal ball. The first was a selection of 52 questions from the Minnesota Multiphasic Personality Inventory, or MMPI to psychologists.

This 52-question scale, known as the "Ps scale" was originally developed to measure probability of success of shock treatment. The second was a scale developed to measure the adjustment of military personnel. The third was a kind of "yes-man" measure, 24 items also selected from the MMPI to measure "acquiescence."

The three scales, Mr. Gouws found, could be used to predict the probability of relapse regardless of the type of treatment used, whether insulin or electric shock treatment or general hospital supportive care, including individual psychotherapy.

The fact that the three scales predict im-

provement regardless of the type of treatment would seem to indicate that the scales measure is not so much responsiveness to shock treatment as it is of a general characteristic, or group of characteristics, which has been called "propensity to improve."

Another use of a psychiatric interview scale was described to the meeting by Drs. Donald R. Gorham and John E. Overall of the Veterans Administration Central Neuropsychiatric Research Laboratory at Perry Point, Md.

These psychologists developed a short scale that could be used to reveal changes in the symptoms of patients after taking one of the tranquilizers.

Approximately 80 patients were given each of six different kinds of treatment. They were evaluated before and after treatment.

A short scale of only nine questions was found to be reliable for indicating the results of the various treatments on the patients' symptoms and is recommended by the investigators for future research of this kind.

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## TECHNOLOGY

### Tacoma, Wash., Installs Moving Ramps

➤ HEART-TAXING CLIMBS up four steep blocks in the business district of Tacoma, Wash., will soon be ended by moving sidewalks.

The conveyors will be installed in lighted tunnels through existing buildings and in a covered area-way where existing buildings are being demolished. Installation of the first set of moving ramps should be completed this fall. The total project is expected to be finished by late this year or early in 1961.

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## ASTRONAUTICS

### Heat Resistant Materials A Must for Space Vehicle

➤ EXTREME temperature-resistant flexible materials to be used in space ship deceleration devices are the goal of \$250,000 worth of contracts recently awarded by the Air Force to two Boston-area companies. The two firms are Arthur D. Little, Inc., Cambridge, and Fabric Research Laboratories, Inc., Dedham.

This or similarly-oriented research must be successfully completed before the Air Force can launch, and recover intact, a technically sophisticated manned space vehicle.

There are several approaches to space vehicle recovery, each with the same goal: the kinetic energy of a moving vehicle must be absorbed by some mechanism during re-entry into the atmosphere in such a way that intense heat will not enter the vehicle itself, perhaps destroying the vehicle and creating unbearable temperatures for any human occupant.

This goal must be attained before a manned space vehicle can be launched.

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## MEDICINE

### Virginia Law Helps Rehabilitate Alcoholics

➤ GOOD LEGAL AID can make the therapy and rehabilitation of alcoholics successful, Dr. Ebbe C. Hoff, medical director of the division of alcohol studies and rehabilitation of the Medical College of Virginia, told delegates to the 83rd annual meeting of the American Bar Association in Washington, D. C.

In a panel discussion on alcoholism and alcohol-induced offenses, Dr. Hoff said that more than a decade ago Virginia became the first state legally to recognize alcoholism as a disease rather than a crime.

He reported on the success of Virginia's pioneer effort in the rehabilitation of alcoholics under his division, which was established in 1948 by the Virginia Assembly.

The legislation placed the alcoholism rehabilitation program under the state health department and within the setting of a teaching medical center.

Five and a half percent of the patients accepted for care by the division have been referred from the courts. Most of the court referrals are from the judges of the Juvenile and Domestic Relations Court.

Discussions and conferences between the judges and the physicians have proved very beneficial, as demonstrated by the remarkably high rate of clinical success in the rehabilitation of court-referred alcoholics. Care is taken to avoid the implication that referral to the division by the court is a substitute for, or an alternative to sentence.

"The division receives a certain proportion of homeless, chronic court offenders but the plan of long-term rehabilitative care in a clinic setting has not proved a satisfactory method for the 'skid row' personality," Dr. Hoff said.

Therapy begins with a period of hospitalization and a complete medical and psychological examination and diagnosis. A social worker also contributes to the investigation.

In talking to the professional staff, the patient is assured of a confidential relationship. Only with his consent are members of the family, Alcoholics Anonymous and others who may be concerned with his welfare brought into the program plan.

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## CHEMISTRY

### Index Chemicus Lists New Chemicals Promptly

➤ THE FIRST COPIES of Index Chemicus, a monthly listing of the new chemical compounds reported by scientists all over the world, have been published. More than 60,000 new chemicals are reported each year in scientific literature and few scientists can hope to scan the total coverage of even a limited field. Index Chemicus lists each new compound by name, molecular formula and structural diagram, and gives in addition the original journal reference and author. New chemicals appear in Index Chemicus, published in Philadelphia, Pa., within 30 days after their appearance in the original journal.

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