

## IMMUNOLOGY

**Dr. Salk Defends Killed Virus Vaccine**

► THE KILLED poliovirus vaccine was vigorously defended by Dr. Jonas E. Salk at a press conference in New York. However, he also gave the Sabin live poliovirus vaccine equal credit for its ability to control poliomyelitis.

The conference, sponsored by the National Foundation, which has supported both Salk and Sabin research, was in rebuttal of the American Medical Association's statement in June that the live poliovirus vaccine developed by Dr. Albert B. Sabin would be more effective in combating polio.

"I do not wish to be a party to any controversy," Dr. Salk said, referring to a comparison of the two vaccines. However, he added, the American Medical Association has overlooked or ignored the demonstrable evidence that the killed virus has been effective.

Dr. Salk said that because of the Salk-vaccinated population in Denmark and Sweden, poliomyelitis had virtually disappeared from those countries, but added that the Sabin live poliovirus vaccine used in Czechoslovakia and Hungary had virtually wiped out the disease in those areas.

When he began his work, Dr. Salk said, he was seeking an answer to the question of whether or not a killed virus could eliminate a disease. Jenner's work with smallpox had shown live virus to be effective, but no one had proved killed virus could be equally effective. Poliomyelitis was the disease he chose to attack. He believes he has proved his point.

• Science News Letter, 80:72 July 29, 1961

## MEDICINE

**Blood Volume and Flow Measured by Machine**

► AN ACCURATE instrument for measuring directly the speed and volume of blood flow without opening a blood vessel has been developed.

Drs. Walter Feder and Emmett B. Bay, both of the University of Chicago, department of medicine, told the International Conference on Medical Electronics meeting in New York that they hope to be able to use the device in the operating room within a year. The scientists used eight dogs in a total of 35 measurements.

Their electromagnetic flowmeter has four components. A magnet shaped like an elongated "C" fits around the blood vessel. The vessel is cradled in a bed at the lower point of the "C" and silver-silver chloride electrodes pick up the difference in electrical potential caused by the blood flow. The flowmeter's accuracy was checked by collecting blood from a point in the vessel beyond the point of flow at which the magnet was located.

Among practical uses, the apparatus is expected to be of help to a surgeon in the operating room who needs to have dependable measurements of flow in a wide variety of circumstances.

"The effect of various drugs on blood flow can be accurately assayed," Dr. Feder explained. "The extent to which damaged heart valves affect the forward and backward motion of the blood at every instant can be precisely determined."

Flowmeters were developed in both Germany and the U. S. in 1937, but they were inaccurate. Since 1937 scientists all over the world have developed similar instruments, using both alternating and direct current, but some flowmeters have varied very highly in accuracy.

• Science News Letter, 80:72 July 29, 1961

## PUBLIC SAFETY

**Calling Aspirin "Candy" Leads to Poisonings**

► TELLING children that aspirin pills are "candy" very frequently leads to child poisoning.

A study of 94 accidental aspirin poisonings in children shows that in all but one case the children had been told the pills were candy.

The Food and Drug Administration has no plans to label aspirin poison with a skull and bones, so it is up to parents to do their own labeling and take other preventive measures if they are to protect their children from this most common child poisoner.

The toxic effects of aspirin poisoning do not appear until some time after the medicine has been eaten, which is one reason aspirin is a threat to families with young children.

Family ignorance concerning the dangers of aspirin and general lack of safety precautions against household hazards are two main factors in making aspirin a hazard for children. Most families in the study had a special place for medicines but did not appreciate the need for keeping them out of a child's way.

Dr. Roger J. Meyer of Harvard Medical School and Children's Hospital Medical Center, Boston, reports the findings in American Journal of Diseases of Children, 102:17, 1961.

• Science News Letter, 80:72 July 29, 1961

## PHYSICS

**Very High Continuous Magnetic Field Made**

► A CONTINUOUS magnetic field of 126,000 gauss, believed to be the highest ever produced, has been generated at Massachusetts Institute of Technology, Cambridge, Mass.

The extremely high magnetic field was achieved in a tubular coil magnet about the size of a grapefruit, invented and patented by Dr. Henry H. Kolm of MIT. The Kolm magnet is six times as powerful as a laboratory iron electromagnet producing a field of comparable volume. The earth's magnetic field, which governs the movement of a compass needle, is only one-half gauss.

The magnet was tested at the National Magnet Laboratory in Cambridge under a program initiated by Lincoln Laboratory for the Army, Navy and Air Force.

• Science News Letter, 80:72 July 29, 1961

**IN SCIENCE**

## PUBLIC HEALTH

**Overweight Children Become Obese Adults**

► FAT CHILDREN are likely to become fat adults, a nine-year study of 98 overweight children shows.

In cases where children are grossly overweight, that is, 50% to 60% above normal, hospitalization at the beginning of the weight reduction program is advised. The outlook for boys is a little better than for girls, but all tend to be shorter as well as fatter than normal.

"There was a strong tendency for the obesity to recur after initial weight reduction," three British physicians report in the British Medical Journal, July 15, 1961, "and then to persist into young adult life."

The investigators advised energetic treatment of obesity in childhood followed by long supervision to prevent relapse. Among the girls the proportion of grossly overweight patients (above 80% overweight) was greater than at the first examination.

Drs. June K. Lloyd, O.H. Wolf and W. S. Whelen made the study, which is one of very few on the subject, at the University Department of Pediatrics and Child Health and the Children's Hospital, Birmingham, England. Dr. Whelen is now in London, Ontario, Canada.

• Science News Letter, 80:72 July 29, 1961

## MEDICINE

**Annual Physical Exam Shown Essential**

► AN ANNUAL PHYSICAL examination is really necessary, a study of 500 supposedly well business executives has shown. Half of the executives, who ranged from 40 to 50 years of age, had significant unsuspected disease.

One of every five of the major, unsuspected diseases was either high blood pressure or heart disease, and another one out of every five was either a peptic ulcer or gallstones, most of which were without symptoms.

Twelve cancers were detected, an incidence of 2.4% or one cancer for every 41 persons.

Dr. John C. Sharpe of the University of California, Los Angeles, Medical School said the study pointed up the necessity of doing complete routine X-ray examinations on apparently well individuals to detect early disease before symptoms develop.

If routine X-rays had not been done, more than two-thirds of the peptic ulcers would have been missed and 80% of the patients with gallstones would not have known of their presence.

Early detection and proper treatment of many diseases will often prevent disability or save a life, Dr. Sharpe said.

• Science News Letter, 80:72 July 29, 1961

# E FIELDS

## PSYCHOLOGY

### Love Called Essential In Treating the Sick

➤ LOVE SHOULD HAVE its place among the remedies of the physician along with the antibiotics, tranquilizers, insulin and vaccines.

"The physician's love for his patient and the patient's love for his physician is a powerful influence in the restoration of patients suffering functional disorders (behavioral) as well as for those whose illnesses are predominantly organic in nature," Dr. Leo H. Bartemeier, medical director of the Seton Psychiatric Institute, Baltimore, Md., reports.

The importance of love was taught years ago, Dr. Bartemeier indicates, although it has been largely lost when, with the new emphasis on science, the "objective attitude" become characteristic of psychiatry. How to recapture this humanism is now a problem for both undergraduate and post-graduate medical education.

Dr. Bartemeier quoted Dr. Francis Peabody, who some years ago told his medical students at Harvard University that "One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient."

He knew, Dr. Bartemeier states in the journal *Mental Hygiene*, 45:323, 1961, that "the love of the physician for his patients was the central and necessary element in relieving them."

• Science News Letter, 80:73 July 29, 1961

## AERONAUTICS

### Use of Ponds Tested As Runway Safety Factor

➤ TESTS HAVE BEEN conducted with scale models to investigate use of a shallow pond of water at the end of an airplane runway. Ponds have been proposed as a means of stopping jet transports forced to interrupt a take-off or to overrun designated landing areas.

The National Aeronautics and Space Administration said test results showed "the open water pond could stop the model for most of the test conditions."

Full-scale application of the idea strongly interests civil aircraft operators because no modifications or attachments to the airplane would be required, and the arresting system uses no mechanical devices, the report indicates.

Acting on a request from the Federal Aviation Agency, NASA technicians used Langley Research Center's monorail facility at Langley Field, Va., to launch a dynamic model plane into water as a free body, at simulated speeds up to 100 knots, or about 115 miles per hour. The miniature pond represented a full-scale pond 150 feet wide

and 1,000 feet long, with water depths up to three feet.

At maximum speed and water depth, a full-sized transport would require about 950 feet of stopping distance, tests disclosed. Spray caused the inboard flaps to fail when they were down, and drag force damaged the landing gear. But there were no major indications of steering instability.

Tests also were run with plastic covers placed over the pond. This cut down the required stopping distance and ended the spray problem. But at 100 knots, the main gear and nose gear failed on contact with a thick plastic cover. With a thinner cover, the same two gears always failed at entry speeds of 75 and 100 knots, while a slower 50-knot entry speed caused nose gear failure alone during about half of the runs.

• Science News Letter, 80:73 July 29, 1961

## ICHTHYOLOGY

### Artificial Reefs Lure Fish Into Barren Coast Areas

➤ AN ARTIFICIAL REEF, 30 miles long and made of old boats, is being strung along the New Jersey coast from Ocean City to Cape May.

The project, conceived by captains of charter fishing boats, is perhaps the most ambitious one designed to lure fish into the barren stretches of ocean along the coast.

Within the last five years, New Jersey, Delaware, North Carolina, Florida, Texas and California have set up reefs of some kind, Albert Schwartz of the U. S. Fish and Wildlife Service, Washington, D. C., said.

The idea makes use of the fact that fish are naturally curious and tend to congregate around wrecked and sunken ships. The fish apparently are just as curious about old buses, trolleys, auto bodies and big rocks, for they explore these objects as readily as they do a ship.

California has set up test reefs, each of which contains only one kind of discarded vehicle; that is, all buses or all trolleys. The reefs are checked each month for growth of marine organisms, which can serve as food supplies for the fish, and to determine whether the fish prefer one type of junk.

• Science News Letter, 80:73 July 29, 1961

## BOTANY

### International Plant Index Under Way

➤ AN INTERNATIONAL plant index being prepared at the Connecticut Agricultural Experiment Station, New Haven, Conn., has progressed to the genus level.

Sydney W. Gould, research associate at the Experiment Station and director of the project, said that his staff has completed punching of 50,000 IBM cards.

They have organized the plant kingdom into its more general taxonomic categories, and are now working on the next lower classification, the genus.

When the work is completed, in about five years, a complete index of the 1,700,000 Latin plant names throughout the world will be bundled together for the first time in a 50-volume master reference.

• Science News Letter, 80:73 July 29, 1961

## PUBLIC SAFETY

### FAA Head Wants Curb On In-Flight Offenses

➤ A LAW that would make drunken, disorderly conduct aboard a commercial airliner a Federal offense is being pushed by N. E. Halaby, Federal Aviation Agency Administrator in Washington, D. C.

Mr. Halaby said he was "disturbed" to find that no Federal criminal statutes cover in-flight offenses endangering the lives of passengers, crew members and the general public. He said he and Federal Bureau of Investigation Director J. Edgar Hoover are drafting suitable legislation to present to Congress.

Present laws permit the FAA Administrator to sue for a civil penalty, but leave arrests up to local police after a plane on which a disturbance occurred arrives at its destination.

Mr. Halaby said he has "slapped two civil penalty actions on two drunken fools in flight" on the basis of recent complaints in California. He will ask for "maximum permissible deterrent penalties," which would be fines of \$1,000 each.

One of the two offenders, he said, has been held in a southern California jail "for several days" after creating "havoc in the cockpit" during a Chicago-to-Los Angeles flight. In both cases, he said, the men involved were drunk before they boarded their respective planes. No names were released.

Mr. Halaby also believes air carriers should be "stricter and more careful about letting people on planes who are under the influence of alcohol."

As for drinking during the flight itself, Mr. Halaby commented: "There are quite a few people who can go without a drink for the duration of any domestic flight. I commend them to you."

• Science News Letter, 80:73 July 29, 1961

## CHEMISTRY

### New Process for Synthetic Rubber

➤ ISOPRENE for the production of synthetic natural rubber can be produced by a new process at a cost competitive with other beginning materials in the rubber industry.

The new process combines two molecules of propylene, a by-product of petroleum cracking, to form a six-carbon atom molecule called methylpentene. A carbon atom is then knocked off this molecule to give the five-carbon atom molecule isoprene. This compound can be polymerized to form a rubber that is essentially identical to natural rubber.

The process was developed by the Goodyear Company and the Scientific Design Company, V. J. Anhorn and K. J. Frech, Goodyear Company, Gerson S. Schaffel and David Brown of the Scientific Design Company reported.

A new Goodyear plant in Beaumont, Texas, will use the Goodyear-SD process.

• Science News Letter, 80:73 July 29, 1961