

MEDICINE

Heart Attacks Reduced

► A TEN-YEAR STUDY of anticoagulant drugs in 712 heart attack cases has shown that the drugs drastically reduce the occurrence of later attacks. Dr. Benjamin Manchester, assistant clinical professor of medicine, George Washington University School of Medicine, Washington, D. C., reported the research to the American College of Physicians meeting in Boston.

All of the patients studied had already had one or more heart attacks and were divided on a voluntary basis into two groups, one group that received the anticoagulant and one that did not.

Only 14% of those receiving the drug had a second heart attack within five years, while 60% of those not receiving the drug suffered a second attack.

The drugs also reduced the death rate from the second attack. In the drug group only 20.6% died from the second attack, while in the non-drug group the next attack was fatal in 53% of the cases.

Anticoagulant drugs are those that reduce the blood's ability to clot and the two drugs employed were Dicumarol and Sintrom.

"For the man in the street who associates a heart attack with sudden death, invalidism, or shortened life span, anticoagulant drugs have shown that this idea is false," Dr. Manchester said. "A man may continue

to lead a productive and useful life for many years and avoid subsequent coronary thrombosis."

The chief objection to anticoagulants has been the risk of hemorrhage. The selection of patients should be determined on an individual basis and the drugs should not be given to either careless or uncooperative patients, or those who have kidney or liver diseases.

Bleeding complications appeared in only three percent of the patients studied; the bleeding was controlled by injections of vitamin K, without the need for hospitalization, Dr. Manchester reported.

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EDUCATION

Study-Work Plan Urged Spread Colleges Farther

► COOPERATIVE EDUCATION, which allows students to alternate study with work in industry, is to be explored by a conference held in Dayton, Ohio, on May 23 and 24 by the Thomas Alva Edison Foundation, Charles F. Kettering, foundation president, announced.

The spread of cooperative education is being urged as a means of training for a growing number of professions and occupations. It is expected to provide for larger numbers of students who want to go to college.

Cooperative education originated at the University of Cincinnati in 1906. This educational program has since been adopted in approximately 45 institutions of higher learning in the United States. It has had an accelerated growth since World War II, and many schools have established the plan at the request of industry.

Students may now elect the cooperative program in about one-sixth of the country's engineering schools. Last year the program produced more than five percent of the engineering graduates. The number of companies now training students through this plan runs into the hundreds.

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CHEMISTRY

Color Glass Cloth With Silicone Dyes

► DYES from sand have been found to be the first suitable for coloring glass cloth.

Silicone dyes, the first ever created, were described to the American Chemical Society meeting in Miami by Dr. D. L. Bailey of Union Carbide and Carbon Corporation. The dyes now make it possible for the first time to give dark and permanent colors to glass cloth.

"The new silicon compounds," Dr. Bailey said, "not only offer a novel approach to the

synthesis of silicone dyes, textile finishing agents, and organic-silicon copolymers, but also are useful for modifying the properties of conventional types of silicone oils and resins."

Until the creation of these "colors from sand," Dr. Bailey told the meeting, glass cloth had to be coated with a substance that could be dyed. Then, at best, the color was semi-permanent and limited to pastel shades.

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TECHNOLOGY

Free Piston Engine Will Power Cars and Plants

► THE FREE PISTON engine, a strong contender for the automobile engine of the future, is all ready to compete with diesel power, reported Arthur F. Underwood, manager of General Motors research staff activities.

Explaining that the free piston engine is here to stay and faces a bright future, Mr. Underwood told the New York section of the Society of Automotive Engineers that large-size, free-piston turbines now have a fuel economy in the range of similar size diesels.

Smaller units such as being used in GM's experimental automobile, XP-500, will be out of the laboratory "within the immediately foreseeable future," he predicted.

The real saving offered by the free piston engine, Mr. Underwood told the meeting, will be in the lower cost of fuel, since it can probably burn crude oil and shale oil.

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AERONAUTICS

Test Subjects Made Happy by Weightlessness

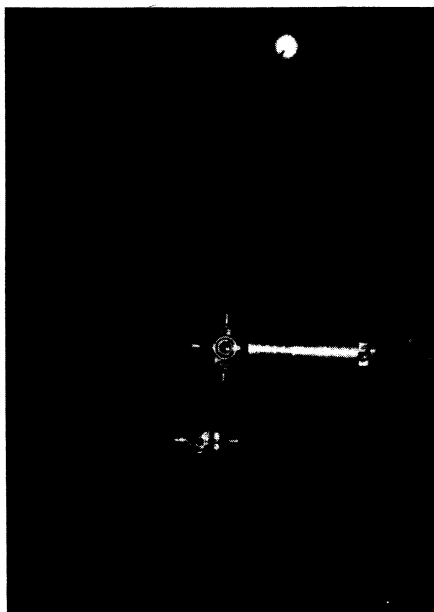
► HALF OF 47 PERSONS exposed for brief periods to conditions humans may encounter in outer space enjoyed their sensations to the point of exhilaration the American Rocket Society in Washington told.

The varying reactions to weightlessness for periods of 10 to 40 seconds were described to the meeting by Siegfried J. Gerathwohl, U. S. Air Force School of Aviation Medicine, Randolph Field, Texas. The 47 subjects were exactly balanced during the short period when a jet plane's inertial pull at the top of an arc equalled the pull of gravity.

Eleven persons, Dr. Gerathwohl reported, found their sensations "neither unduly pleasant nor exactly comfortable." A few of this group were moderately nauseated.

The final third showed some extreme symptoms of motion sickness, including vomiting, Dr. Gerathwohl said. Those in this group occasionally suffered "fear and acute anxiety prior to and during flight," factors that might influence their reactions to weightlessness.

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GULF STREAM INDICATOR—Underwater photograph made 18 inches off the bottom from the Royal Research Ship, *Discovery II*, shows ping-pong ball moving straight south under the Gulf Stream at a depth of 3,070 meters. The photograph is not upside down.