

MEDICINE

Drugs Need Disease

► SCIENTISTS have found some drugs that should cure, but are presently mostly unemployed and looking for work in the form of a disease to cure.

This seeming paradox of medical science was revealed by the American Cancer Society in reporting the work of Dr. Peter P. H. DeBruyn of the University of Chicago, whose research on the drugs is supported by the Society.

The drugs are known as amino-acridines. They contain properties which, scientists have theorized, should be useful in treating cancer. Experiments to date, however, show that they are not useful in treating animal cancers.

Two qualities make the drugs highly prized, the Society says: they are non-toxic and "tiny hydrogen bombs can be tucked neatly into each molecule of the drugs, and these bombs will continue to go off for several hours after they have reached their target."

The "tiny hydrogen bombs" are radioactive chemicals incorporated into the amino-acridine molecule. One such chemical has been radioactive tritium, triple-weight hydrogen. Its explosions are violent, but within only a very small radius.

Dr. DeBruyn's tests using this method to

study the drugs' possible effect on cancers have led to the hope that they might be effective in brain tumors.

The drugs, which stain the nuclei of living cells with a bright luminescence that Dr. DeBruyn says look like "Times Square" under an ultraviolet microscope, do not go to normal nerve or brain tissue.

Another University of Chicago scientist, Dr. Lorenzo Rodriguez, has injected amino-acridines into patients and mice with brain tumors, shortly before the tumors were removed.

"When cancerous brain tissues were placed under the microscope they presented a spectacular picture. It was like a city alive with lights," he reported.

Normal nerve tissue appears black in contrast.

The scientists think that, with a more powerful radioactive chemical, nerve tumors might be blasted and destroyed, and normal tissues saved. It is a long way from theory to therapy, they said, but theoretically the chemicals might prove of benefit to patients with fast-growing brain tumors.

Some British doctors use the amino-acridines against bacterial infections, some German doctors use them against some viruses and a few American scientists have used them to stop the synthesis of certain viruses.

Science News Letter, May 19, 1956

● RADIO

Saturday, May 26, 1956, 1:45-2:00 p.m. EDT.

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS Station.

Dr. I. H. Abdel-Rahman, Secretary General of Council of Ministers and the Egyptian Atomic Energy Commission, Cairo, will discuss "Science in Egypt."

BOTANY

Launch 20-Year Vegetation Survey

► A 20-YEAR STUDY of the vegetation growing in 1,000 square miles of southeastern United States has been launched by Harvard University scientists.

The project will seek to locate and identify every kind of seed plant and fern growing in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. Present knowledge of the plant life of this area is based on a study made 35 years ago.

The study is headed by Dr. C. E. Wood Jr. of Harvard's Arnold Arboretum and Dr. Reed C. Rollins, director of the university's Gray Herbarium. Purpose of the research, which has the cooperation of botanists in several southern universities, is to codify, illustrate and describe the nature and geographical distribution of each plant group.

The new guide is expected to be of great value to private and Government agencies.

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NUTRITION

Seek Better Tasting Frozen-Dried Meat

► SOME of the tougher cuts of beef will be frozen and dried, then reconstituted into something that eats like a tenderloin steak or filet mignon if research under way in Chicago comes up to its present promise.

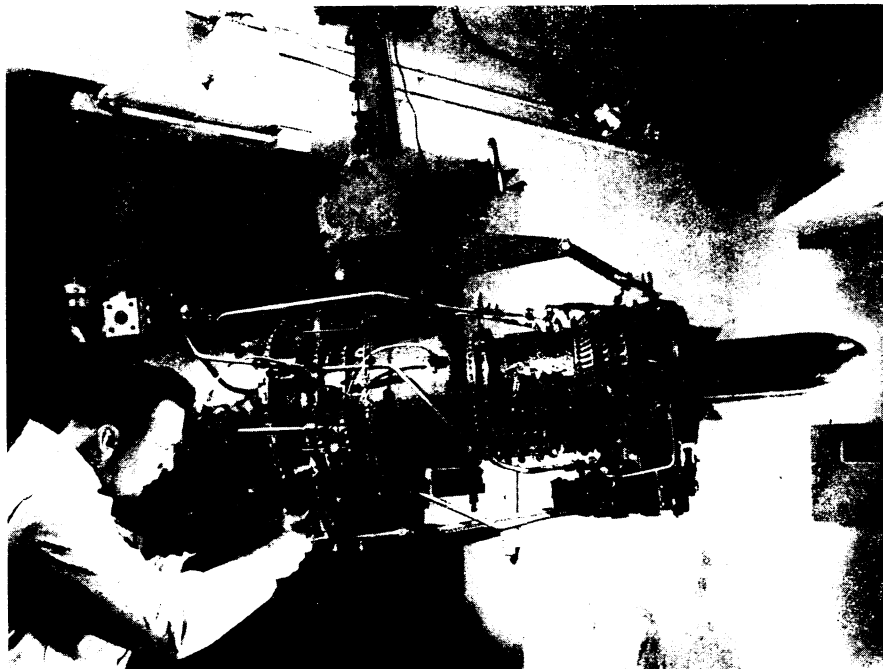
The research is being done by the American Meat Institute Foundation under contract with the Quartermaster Food and Container Institute for the Armed Forces.

Freeze-dehydrated beef cubes and slices that, on immersion in water, soak back to an essentially normal condition for cooking and serving in the usual way have already been produced on a laboratory scale. The process is now being applied experimentally on a commercial pilot scale.

To give the meat good flavor and make it more tender than it was before the freezing and drying, various protein-attacking enzyme chemicals are being tested. These are added to the water in which the frozen-dried beef is soaked before cooking.

While the Armed Services are interested because of the obvious transportation, storage and field service advantages such meat would have, the meat institute foundation hopes the research will also pave the way for creation of frozen-dried products acceptable for civilian production and distribution.

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GAS TURBINE ENGINE—The Sikorsky S-58 helicopter will be the flight test vehicle for the T58 turboshaft engine shown here. The engine is on test for the Navy's Bureau of Aeronautics at General Electric's small aircraft engine department, Lynn, Mass. It packs more than 1000 horsepower into a 59-inch, 325-pound frame.