

## BIOPHYSICS

**Radioactive Stitches  
Check Bladder Cancer**

► NYLON SURGICAL STITCHES enclosing radioactive cobalt are helping patients with cancer of the bladder to survive with normally functioning bladders.

Of 22 patients treated this way, 16 are well and free from disease for periods of from three months to four years, Dr. Vincent Vermooten of the University of Texas Southwestern Medical School, Dallas, reported at the International College of Surgeons meeting in Chicago.

Five of the 22 patients have died, two from causes other than cancer. One is alive a year after the treatment, but is believed still to have cancer.

The radioactive cobalt in nylon stitches is used as a barrier to the spread of the bladder cancer without the need for removal of the bladder and consequent urinary crippling of the patient. Object of the treatment is to destroy the cancer at its outer margin.

"The main bulk of the tumor matters little. Only the cells at the periphery of the growth, the cells that are actually invading the tissue, are important," Dr. Vermooten said.

"If a barrier can be placed at that point, then what happens to the main bulk of the tumor is of no serious consequence as it is relatively harmless. Whether it sloughs off or is removed by diathermy at the time of surgery makes little difference."

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## PSYCHOLOGY

**Want Old Folks to Be  
Busy and Independent**

► COUNTRY PEOPLE, at least in Pennsylvania, want their old folks to be self-sufficient, active in job and in the community, and independent financially and personally.

This is shown by interviews with 2,000 persons in a rural village and the surrounding township, constituting one adult member of 90.2% of all households in the region. The survey's results were reported to the American Psychological Association meeting in Chicago by Drs. Joseph H. Britton, William G. Mather and Alice K. Lansing of Pennsylvania State University.

Nearly half of those interviewed believe a person should work as long as he is physically able. One out of five of young people under 40 think people should retire at 60 or before, but only 7.5% of those who have already reached this retirement age are of the same opinion.

There are differences in opinion between the age groups on the question of whether the old person should live alone. Only 23.2% of the young people want the elderly person to live by himself, but 39.2% of the elderly themselves want to live alone.

A majority (68%) of the elderly believe

it is all right for an elderly person to remarry if he can find a suitable mate, but this opinion is almost unanimous (91.9%) among those under 40.

More than half (51.8%) of the young people believe that most grandmothers love their grandchildren, but the older people themselves are not so sure. Only 39.2% answer yes to this question.

More than half (57.1%) of young people think an older person should be active in the community, but 35.8% of the elderly know of no groups that would welcome them.

People in the better occupational groups and with more education feel that elderly people should seek professional help of minister or doctor to solve mental health problems. The less well educated and poorer people feel that their family and friends should look after the old folks.

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## HEMATOLOGY

**Blood Platelets Play  
Part in TB Genesis**

► PLATELETS, colorless disks in the blood involved in blood clotting, "play an important role in the genesis of tuberculosis," Dr. Alfred L. Copley of Paris, France, reported at the International Society of Hematology meeting in Boston.

The primary reaction of animals against TB germs introduced into the bloodstream, Dr. Copley found, is a clot, or thrombus, formation of platelets stuck with the germs, and subsequent changes in the walls of small blood vessels.

Plasma from rabbits immunized against TB with BCG vaccine showed more stickiness of germs to platelets than plasma from nonimmunized rabbits. The same was true of human blood platelets and plasma. The stickiness is insignificant in blood serum, however.

The findings, Dr. Copley said, open a new field of study in immunology, or resistance, to disease as well as showing the importance of platelets in tuberculosis.

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## METEOROLOGY

**Hurricane Hunters  
Stay on Alert****See Front Cover**

► AS A VITAL PART of the Joint Hurricane Warning Service of the U. S. Air Force, Navy and Weather Bureau, the Navy has been performing low-level hurricane reconnaissance since 1946.

Shown on the cover of this week's SCIENCE NEWS LETTER is a jet plane, the F2H-2P Banshee, from the Navy's light photographic squadron based on Florida's east coast. It is flying a high-altitude photo weather mission to obtain information on the tropical storms aimed at better understanding of their nature and paths.

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## GENERAL SCIENCE

**Science Foundation Tells  
Of Government Science**

► THE FEDERAL GOVERNMENT spends more than \$2,000,000,000 a year and directly employs more than 130,000 scientists on scientific activities in 38 agencies, a National Science Foundation survey indicates.

This immense program has evolved from isolated, small-scale and loosely knit programs located in a few bureaus to large-scale and highly organized programs spread through virtually all the cabinet departments and major independent operating agencies of the Government, the report states.

Industry and universities are doing research and development of importance to the Government through grants and contracts from Federal funds. New Government-financed research centers have been established, managed by industrial concerns and educational institutions.

The 349-page report is titled "Organization of the Federal Government for Scientific Activities." (See p. 188.)

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## ENDOCRINOLOGY

**Hormone Controls Red  
Blood Cell Formation**

► A HORMONE from the pituitary gland controls production of red blood cells, at least in the rat, five scientists of the University of California, Berkeley, have discovered.

They are Drs. A. N. Contopoulos, D. C. Van Dyke, J. H. Lawrence, H. M. Evans and M. E. Simpson. Their new hormone was reported at the International Society of Hematology meeting in Boston.

The pituitary, a small gland buried at the base of the brain, has been called the master gland because its hormones affect so many other glands and body functions. It is the source of ACTH, the adrenal stimulating hormone famous along with cortisone for relief of arthritis.

The new-found hormone that stimulates red blood cell production is called the erythropoietic factor.

Powerful preparations containing this hormone have been prepared from sheep pituitary glands by methods similar to those used in preparation of ACTH. Further purification of the hormone to separate it from ACTH is now being attempted.

The hormone is effective in rats when given by mouth. It repairs anemia induced in rats by various means and, in normal rats, leads to an excessive number of red blood cells.

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# CE FIELDS

## HEMATOLOGY

### Choosing Blood for Emergency Transfusion

► IN AN EMERGENCY with a patient bleeding seriously, it is sometimes impossible to get enough of the right kind of blood for transfusion.

How to meet some of these situations safely with the wrong blood was reported by Dr. Ernest Witebsky of Buffalo at the meeting in Boston of the International Society of Blood Transfusion with the American Association of Blood Banks.

For the patient with the relatively uncommon AB blood group, it is theoretically possible to give blood of any group if it were not for the presence in the donor's blood of incompatible isoagglutinins. These substances, which can clump the patient's red cells, can be eliminated by titration of the donor's serum or by adding blood group specific substances or both.

In the case of men and boys who are Rh negative, and who have not previously had transfusions, Dr. Witebsky and associates have given as much as 10 to 20 pints of Rh positive blood before or during operations without any bad results. They do not do this over a longer period than three days, but do not hesitate to give any amount of blood needed in that time.

The patient might eventually develop antibodies to the Rh positive blood. Dr. Witebsky pointed out, however, that it is better to have a living patient likely to develop Rh antibodies than "an unsensitized one who could not be saved because of lack of blood."

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## HEMATOLOGY

### Regulator Drug Keeps Blood From Clotting

► FOR PATIENTS with coronary thrombosis and others needing treatment to prevent blood from forming dangerous clots in blood vessels, a new drug to be taken by mouth plus a regulator for it has been found.

Good results with the combination were reported by Dr. Charles E. Brambel of Notre Dame, Ind., at the International Society of Hematology meeting in Boston.

The anticlot drug is called Phenprocoumon or Marcumar. The regulator is Phytomenadione, or Konakion.

Small doses of Phenprocoumon given on two consecutive days have an anti-clotting effect lasting five to seven days, Dr. Brambel found. For long-term treatment he gives small daily doses. The sustained anti-clotting effect of this powerful drug does not lead to the dangerous condition of too-ready bleeding and hemorrhage if small

doses of Phytomenadione are swallowed with it. This regulating drug does not counteract the anti-clot effect too greatly, so the danger of clots is also missed.

Dr. Brambel has given the combination to 300 patients and studied the effect in periods ranging from one month to one year.

Hemorrhage when patients are getting anti-clotting, or anticoagulant treatment may be precipitated by stress, Dr. L. B. Jaques, L. M. Fisher and G. J. Mogenson of Saskatoon, Can., reported.

When rabbits were getting an anticoagulant, half of them died from hemorrhage when subjected to the stress of frostbite or of insulin shock or other stressful conditions.

Stress, the Canadian scientists think, may be the major factor in starting hemorrhage of patients getting anticoagulants.

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## BOTANY

### Taro Plants Help Trace Pacific Peoples

► THE ORIGIN of the Maori and other Polynesian people may be traced through a study of taro plants whose starchy tuberous rootstocks are the "potato" of the Pacific Islands, Dr. J. A. Rattenbury, botanist of Auckland University College, New Zealand, suggests in *Nature* (Sept. 8).

While a majority of the 60 taro varieties studied to date have a diploid chromosome number of 28, a 42-chromosome variety has been found in the Cavalli Islands under circumstances strongly suggesting it has survived there since the earliest known Maori settlement, Dr. Rattenbury reports.

In their island-to-island migrations, the Pacific races carried with them some cultivated food plants and established these plants in their new settlements.

Certain species of the taro plant are particularly suitable for tracing such movements because they do not flower readily in many localities and rarely, if ever, set viable seed.

They are propagated by cutting off the base of the rootstock, which is eaten, and then replanting the upper portion, which includes both roots and shoot. Because of this manner of asexual propagation, the chromosome number is likely to remain constant over long periods.

Japanese and Indian scientists have independently reported 42 chromosomes.

"With no evidence so far to the contrary," Dr. Rattenbury concludes, "it is not inconceivable that the New Zealand variety has derived from southeastern Asia by way of the Malayan Peninsula and the chain of islands to the south and east."

Dr. Rattenbury emphasized that it is too soon to make any sweeping conclusions about the original home of the Maori, but it may be possible through the study of taro, sweet potato and yam to trace this and other racial groups farther and farther back into prehistoric times.

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## GENERAL SCIENCE

### Government Widens Scientific Information

► THE GOVERNMENT has set up a new program to disseminate results of scientific research.

The program, called "Government Research Information," was announced by Dr. Alan T. Waterman, director of the National Science Foundation. It is designed to make the results of federally-supported basic scientific research that is unclassified more widely available to "scientists everywhere."

Three Government offices are supporting the NSF in the undertaking, which promises wider dissemination of some 20,000 unclassified technical reports resulting from Government-sponsored research each year. They are the Foundation's Office of Scientific Information, the Library of Congress and the Office of Technical Services of the Department of Commerce.

Specifically, the program is to assist any research scientist to:

1. Learn what unclassified scientific reports on Government research are being issued in his field of interest and how he can obtain them.

2. Obtain, on a subscription basis, a report-announcement service that automatically will keep him informed regarding the bulk of such reports in fundamental research and through which he can purchase copies of listed reports.

3. Obtain access to a well-catalogued reference collection of unclassified scientific reports on federally-supported basic research that he can consult much as he now consults books in a reference library.

Any research scientist anywhere in the world can have access to the three aids.

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## HEMATOLOGY

### Sees Way to Prevent Fatal Maternal Bleeding

► A WAY to prevent a major cause of death of mothers in childbirth, hemorrhage from the uterus, was reported by Dr. O. D. Ratnoff of Cleveland at the International Society of Hematology meeting in Boston.

This fatal hemorrhage is usually associated with a general tendency to bleeding, Dr. Ratnoff and others have observed.

In some patients, it may be associated with the acute development of a severe state of deficient fibrinogen in the blood. Fibrinogen is the chemical from which fibrin, essential portion of the blood clot, is formed. When there is too little fibrinogen, blood does not clot normally. Hemorrhage in various childbirth conditions may follow.

Diagnosis of the fibrinogen deficiency is not hard, Dr. Ratnoff said. If the condition is recognized early, suitable treatment with the fibrinogen fraction of blood, in addition to other measures, may be of value in preventing the fatal hemorrhage.

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