

## SOCIOLOGY

**Supports Basic Research  
In Social Sciences**

► THE NATIONAL Science Foundation has now a new division to handle grants to support basic research in the social sciences. Assistant director of the new division is Dr. Henry W. Riecken, psychologist on leave of absence from the University of Minnesota.

Current budget for the new division is \$3,400,000, which should support about 130 grants.

The need for increased support by the Government for basic research in the social sciences was stressed by Dr. Alan T. Waterman, director of the National Science Foundation, when he reported establishment of the new division.

"Several large private foundations have either diminished their support of basic research in the social sciences or have shifted the emphasis of their support to applied social sciences," Dr. Waterman said.

"Some of the foremost social scientists in the United States are now pursuing research under Foundation grants. Establishment of the new division should indicate to them and their colleagues that the Foundation is pledged to assist in the study of basic problems in the social sciences and the development of research techniques, rather than applied craftsmanship in social affairs or in contemporary social problems.

"We are confident, as well, that this action will help to attract into the fields of the social sciences additional able young investigators whose interests and skills equip them for such work," Dr. Waterman said.

• Science News Letter, 79:40 January 21, 1961

## NUTRITION

**Gain Less Fat Nibbling  
Than Eating Two Meals**

► RATS FED their food in two daily meals store more fat and less protein in the body than rats allowed to nibble freely throughout the day.

There is also a difference in body composition between rats eating large meals and those nibbling whenever they so desire.

This factor, not generally stressed by nutritionists, may be important in understanding diseases in man who has become a meal-eater rather than a nibbler in order to adapt to his social conditions.

Researchers found that in two groups of rats, the bodies of animals allowed to nibble contained 20.4 grams of fat, or 9.6% of the body weight. The bodies of force-fed (on the meal-eating schedule) animals contained 39 grams of fat, or 17.6% of the body weight.

The nibblers gained only 0.3 grams of fat in a two-week period while the force-fed animals gained 23.7 grams of fat.

Of another group of rats, the nibblers gained an average of 12.9 grams of protein and only 4.9 grams of fat while the force-fed animals gained only 9.9 grams of protein and 13.2 grams of fat.

Researchers also found that when a natural nibbler is made to take its food in

the form of large meals, it conserves more calories and stores them as fat.

When determining the efficiency of a diet, the amount of weight gained per unit weight of food consumed is compared. Doing this, researchers found that the food consumed by the rats was twice as efficient when eaten as a meal than when nibbled over a longer period. The findings are reported in the *Nutrition Reviews*, 19:9, 1961.

• Science News Letter, 79:40 January 21, 1961

## ROCKETS AND MISSILES

**Pogo, Ego and Ogo  
To Orbit in Space**

► POGO will be launched in a polar orbit within three years, the National Aeronautics and Space Administration reported in Washington, D. C.

NASA's POGO is a variation of OGO, an orbiting geophysical observatory, to be built by Space Technology Laboratories, Inc., Los Angeles, Calif. The contract calls for delivery of three OGO craft to NASA within three years at a cost of more than \$15,000,000.

OGO will be NASA's first standardized satellite, with a stock model structure, basic power supply, attitude control, telemetry and command system. It will be able to carry 50 different geophysical experiments on any one mission in its compartments. For this reason, it is referred to as the "streetcar" satellite.

The thousand-pound standardized satellite will be launched by an Atlas Agena B vehicle. Its weight includes 150 pounds of scientific experiments. Two six-foot-square solar paddles will be attached to OGO, which will be six feet long and three feet wide.

OGO will be stabilized so that its axis will point toward the earth and will be equipped with both gas jets and reaction wheels for attitude control.

An OGO-EGO will go on the first mission, a study of energetic particles in an eccentric orbit with altitude variations from 170 miles to 70,000 miles from earth.

POGO, scheduled to follow EGO nine months later, will have an altitude range of 120 to 650 miles above the earth. It will be used to study the atmosphere and ionosphere.

• Science News Letter, 79:40 January 21, 1961

## PHARMACOLOGY

**New Peroxide Ointment  
Found More Effective**

► PRELIMINARY STUDIES of a hydrogen peroxide ointment showed it to be three times more effective than sulfadiazine against staphylococcus.

Drs. Herbert M. Cobe and Emanuel Loumis of Temple University, Philadelphia, reported that the T-3 ointment was urea peroxide in a glycerol solution.

It differs from the usual ointments in that it contains no water, which has an important effect when T-3 comes in contact with body fluids such as pus and blood.

• Science News Letter, 79:40 January 21, 1961

**IN SCIEN**

## MEDICINE

**Find Cases of Paralysis  
From Wartime Syphilis**

► GENERAL PARALYSIS of the insane, or paresis, a disease almost forgotten in recent years, is making a comeback.

The upsurge of G.P.I. during the past three years is believed due to cases of syphilis contracted during World War II and treated with just enough penicillin to mask the early stages of syphilis but not enough to eliminate it.

Drs. S. Bockner and N. Coltart of North Middlesex Hospital, London, report that until 1958 they saw only one or two cases of G.P.I. each year among the 500 mental patients admitted to their ward. In 1959, nine such cases were admitted, and another British group encountered 14 cases in a 17-month period in 1957-58.

In all cases of G.P.I. the Wassermann test for syphilis is positive. Frequently the patient has slurred speech, tremor of the tongue and lips, and abnormal pupils. Mental abnormalities may include disorientation and confusion regarding times, places and persons, manic excitement, irritability, delusions and amnesia, particularly for recent events.

Drs. Bockner and Coltart conclude in their report in the *British Medical Journal*, Jan. 7, 1961, "It is now 15 years since the 1939-45 war ended, about the correct time interval for the appearance of G.P.I. from syphilis contracted during the war . . . Our recent experience suggests that G.P.I. must once again be considered in the differential diagnosis of psychotic states."

• Science News Letter, 79:40 January 21, 1961

## GENERAL SCIENCE

**Underdeveloped Nations  
Get Equipment From Reds**

► THE COMMUNIST BLOC is furnishing much more scientific and technical equipment than the Western world to such underdeveloped countries as Egypt, a scientist reported.

Dr. W. Albert Noyes Jr., professor of chemistry at the University of Rochester, Rochester, N. Y., and editor of the *Journal of the American Chemical Society*, said that on his visit to universities in Egypt he saw analytical chemical balances from Communist China and much mechanical equipment from East Germany. He found, however, very little equipment from Western Europe and the United States.

Dr. Noyes stressed the necessity of the U.S. helping to train scientists and engineers from Latin America, Africa, the Middle East and Asia. He spoke at the dedication of a new chemistry hall at Franklin Institute in Philadelphia.

• Science News Letter, 79:40 January 21, 1961

# CE FIELDS

## ZOOLOGY

### Yellowstone Bears Sleep In Steam-Heated Den

➤ ONE OF THE FAMOUS Yellowstone Park black bears is again occupying a steam-heated den in geyserland for her long winter nap. Her two cubs are with her.

The den is pawed out of the upper rock layers of a hot spring formation. Fresh diggings of rocks and gravel and bear "signs" of fur and tracks can be seen at the entrance to the den. The winter home is heated by fumes from an unnamed active hot pool just below the den. Another bubbling spring lies a short distance above the den.

The bears' winter home is just across the road from Gem Pool on the main road between Old Faithful and Madison Junction.

The steam-heated quarters will be occupied until next spring when the bears' long winter sleep will be ended.

The black bear has one of the longest and most complete hibernations of any of the mammals.

• Science News Letter, 79:41 January 21, 1961

## ECONOMICS

### Coordination of Oil Import Policies Urged

➤ UNLESS both Western Europe and the United States coordinate their policies on importing oil within a common framework, the Western world will be in a "precarious" and dangerous position, when a serious international crisis erupts.

The subtle interdependence between European and United States oil import policies is not recognized on either side of the Atlantic, Sam H. Schurr, director of the energy and mineral resources program for Resources for the Future, Inc., reported at the American Association for the Advancement of Science meeting in New York.

The difference between the U. S. and Western European energy policies is based on their different evaluations of the dangers to security involved in depending on foreign oil imports.

The United States believes that security is gained by restricting the amount of low-cost oil imported into the country, whereas the Europeans favor more oil imports from widely separated sources so that no new crises such as the Suez will cut off their oil supply.

Another difference, Mr. Schurr said, is that the United States can rely mainly on its own rich sources of oil and Europe must rely on foreign sources for the future.

However, the Europeans are actually greatly influenced by the U. S. policy. If the United States seriously restricted the entry of foreign oil, this would strongly influence the price of oil on the world

market. At the same time, if the import restrictions were dropped, investment in U. S. domestic oil exploration and development would be severely curtailed. This would make less oil reserves available in the United States, a source that Europe ultimately relies upon as their security safeguard.

Mr. Schurr strongly urges that the United States and Western Europe resolve these problems in the newly established Organization for Economic Cooperation and Development so that the Western world may have a stable, dependable energy policy.

• Science News Letter, 79:41 January 21, 1961

## OCEANOGRAPHY

### Marine Life Under Arctic Ice Studied

➤ THE FIRST PLANKTON samples collected by a submarine under the polar ice are now being studied by scientists in the United States.

The scientists are trying to determine the area where the marine life of the North Atlantic Ocean begins to mingle with that of the North Pacific.

Dr. George D. Grice, marine biologist at Woods Hole Oceanographic Institution, Woods Hole, Mass., and Dr. John Mohr, biologist at the University of Southern California, Los Angeles, are analyzing samples collected last summer by the nuclear submarine, Seadragon, during its voyage under the frozen ice of the North Pole.

The samples were collected by an automatic sampling device built for the trip. The device, attached to the submarine's conning tower, uses tiny nets for scooping samples of plankton each hour from the Arctic water. After each 24-hour run the sampler automatically shuts itself off. When the submarine surfaces, the samples are removed and frozen.

In the past, plankton samples from underneath the ice were obtained by lowering nets through holes drilled through the ice.

• Science News Letter, 79:41 January 21, 1961

## GEOLOGY

### Molybdenum Gives Clue For Finding Ore Deposits

➤ A METAL dissolved in streams in such small quantities it can scarcely be detected may lead prospectors to rich ore deposits.

Using a new method devised by U. S. Geological Survey scientists, less than one part per billion of this metal, molybdenum, in water can be detected. Molybdenum, a silvery white element similar to iron, is an important indicator of ore deposits because it is generally found with ores whose metals are needed for industrial purposes.

The metal is dissolved in water when streams flow through an area containing the ore deposits.

Streams are tested for traces of molybdenum by taking a water sample and passing it through a resin that traps the minute particles of metal. The resin is leached by an acid and, if the metal is present, the acid solution turns amber.

• Science News Letter, 79:41 January 21, 1961

## TECHNOLOGY

### Proposed Roller-Road Future Commuter System

➤ A HIGH-SPEED electric highway system may someday whisk rapid transit commuters to and from work. This system could probably solve the increasing problems of traffic jams on the highways and of overloaded public transportation systems.

The system, described as a Roller-Road, was recommended as a possible solution to the interurban transportation problem by Dr. Lawrence R. Hafstad, General Motors' vice president and director of research, to the 40th annual meeting of the Highway Research Board in Washington, D. C. Roller-Road can transport automobiles and their occupants in piggy-back fashion at speeds up to 150 miles per hour and commuters at speeds up to 75 miles per hour.

The highway would consist of a series of rubber rollers, similar to inverted roller skates, spaced 20 feet apart, and built on the ground. The rollers are powered by small individual motors. Flat-bottomed carriers for the automobiles would be supported and propelled by the rubber rollers. Guide rails on either side of the Roller-Road would steer the carriers along the rollers.

This new concept in mass transportation is said to be more reliable and safer than anything proposed thus far for solving the country's very complex transportation problems.

The Roller-Road was invented by two Westinghouse Electric Corporation engineers, Charles Kerr Jr. and Clarence Lynn.

• Science News Letter, 79:41 January 21, 1961

## BIOCHEMISTRY

### Antibiotic Decreases Irradiation Mutations

➤ THE ANTIBIOTIC actinomycin D cuts the number of irradiation-induced mutations of fruit flies in half.

Dr. Walter J. Burdette of the University of Utah College of Medicine, Salt Lake City, discovered this property of the drug while studying the number of tumors destroyed and the number of mutations produced by therapeutic irradiation of male fruit flies.

Actinomycin D, he found, not only reduced the number of tumors, but also counteracted the radiation by decreasing the number of mutations. The concentration of the drug needed to accomplish this was only one-thousandth of a percent in the culture medium on which the flies were raised.

Whether actinomycin D can produce a similar reduction in the frequency of natural mutations, those not produced by irradiation, is still to be determined. Dr. Burdette has not yet found just how the drug acts to reduce mutations.

However, he reports in Science, 133:40, 1961, it is of "interest" that there is a drug that can reduce this damaging effect of irradiation.

• Science News Letter, 79:41 January 21, 1961