

EDUCATION

Government Could Hurt Research Abroad

➤ **FEDERALLY SUPPORTED** research projects dealing with insurgency in foreign countries could damage the position of the "uncommitted" field researcher, stated the executive board of the American Anthropological Association in Denver, Colo.

Controversy was sparked last summer with the cancellation of Project Camelot, an Army research project in Chile. President Lyndon B. Johnson and the State Department applied pressure to cancel research into the dynamics of revolution in that country.

Such Federal activities could jeopardize social research abroad and affect access to foreign countries, said the board.

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PUBLIC HEALTH

Pesticide Limits Asked For All Dairy Products

➤ **LEGAL LIMITS** for residues of DDT and two related pesticides in milk and other dairy products are being proposed by the U.S. Food and Drug Administration at the request of the California Departments of Public Health and Agriculture.

The California proposals would establish limits for residues of DDT, DDD and DDE in milk at 0.05 parts per million each. If more than one of the three chemicals is present, the total may not exceed 0.10 ppm.

Limits in butter, cheese and ice cream would be set at 1.25 ppm each in the fat portion of the products, with the provision that if more than one of the three is present, the total may not exceed 2.50 ppm in the fat.

Small amounts of these pesticide chemicals are unavoidable in milk because of the widespread pest control operations, the California scientists state, but the petition seeks to prevent the deliberate use of these chemicals on dairy animals, in their feed or in dairy barns.

FDA Commissioner George D. Larrick plans to appoint a high level scientific advisory committee to take a new look at the pesticide problem.

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MEDICINE

Control of Hodgkin's Disease Seen in Future

➤ **CONTROL, IF NOT CURE**, of the lymph node malignancy called Hodgkin's disease, was reported in New York as a distinct possibility.

Dr. John E. Ultmann of Columbia University College of Physicians and Surgeons told a symposium on Hodgkin's disease that new treatment is available that promises to "extend useful life in many patients and to cure some."

The symposium was jointly sponsored by the National Cancer Institute, Bethesda, Md., and the American Cancer Society.

Dr. Eric C. Easson of Christie Hospital and Holt Radium Institute, Manchester,

England, elaborated on the optimistic report he published two years ago, in collaboration with Dr. Marion H. Russell, which was titled "Cure of Hodgkin's Disease."

The attitude of pessimism among many physicians and patients was combatted with examples of the long survival of a growing number of patients treated.

Defining "cure" as it applies to Hodgkin's disease, Dr. Russell says, "We can speak of cure when in time—probably a decade or so after treatment—there remains a group of disease-free survivors whose progressive death-rate from all causes is similar to that of a normal population of the same sex and age constitution."

The combination of treatments leading to control or cure of specific types of this complex disease includes at least four different drugs, as well as radiation when X-ray can be tolerated.

About 3,200 deaths annually in the United States are due to Hodgkin's disease, Dr. Ultmann pointed out. It is both discouraging and encouraging, however, that occurrence of the disease is more frequent than deaths from it. This could mean that a number of patients live long enough to have their deaths attributed to other causes, but since appropriate therapy does suppress the tumor, there is real hope for the future—even in the lifetime of many patients now afflicted.

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SURGERY

Treat Acromegaly By Freezing Pituitary

➤ **ACROMEGALY**, a painful, disfiguring, difficult-to-treat disease is responding to treatment by freezing the pituitary gland.

Acromegaly, caused by abnormal activity of the pituitary gland, is characterized by gross misshaping of the face and enlargement of hands and feet as well as painful headaches. Radiation treatment of the pituitary has had only limited success.

Dr. Robert Rand, a neurosurgeon, at the University of California at Los Angeles Medical School, reported results in treating five cases of the disorder at the third International Congress of Neurological Surgery held in Copenhagen, Denmark.

A freezing probe, utilizing liquid nitrogen, is inserted through the nasal passage and sinuses into the pituitary. The freezing virtually destroys the overactive part of the gland.

Within a few weeks following surgery, facial coarseness begins to disappear, and hand and foot size decrease markedly. Pain and general weakness associated with the disease also diminish. Supplementary hormones may be needed in the absence of the so-called "master gland."

The technique has also been used successfully to treat other pituitary disorders involving tumors.

One patient, a 36-year-old woman whose facial features are normal again, has been followed for 20 months since the cryosurgery and has shown no sign of recurrence of acromegaly.

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IN SCIENCE

PUBLIC HEALTH

New Venereal Disease Vaccine Suggested

➤ **A NEW VACCINE** against venereal disease has been suggested: syphilis spirochetes "tamed" by radiation.

Dr. James N. Miller of the University of California Medical School at Los Angeles reported that spirochetes causing syphilis can be rendered noninfectious by gamma rays without apparently changing the characteristics of the organism.

This is the first step toward incorporating the organisms in a vaccine, Dr. Miller noted. However, he estimated that at least several years' work is necessary before a vaccine can be developed.

The bottleneck so far is whether these "tamed" organisms can be made to protect against the syphilis germ. So far it has not been demonstrated that the irradiated spirochetes stimulate antibody production.

Larger doses of the "tamed" spirochetes that have been employed may be the answer. Or it may be possible that the radiation-treated organisms can confer immunity in other ways than by stimulating antibody production.

An upswing in the venereal disease rate in recent years, particularly among teenagers, makes a syphilis vaccine appear urgent. The World Health Organization has expressed an interest in this work as a means of combating the worldwide syphilis problem.

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PHYSIOLOGY

Drug Succinate Reported For Undersea Explorers

➤ **THE POISONOUS EFFECTS** of oxygen in undersea exploration as well as in space may be overcome if the new drug called succinate proves as effective in humans as in experimental animals.

Oxygen poisoning has been a limiting factor in the use of hyperbaric medicine and in man's ability to descend more than 200 feet beneath the sea. In the pressure of great depth, oxygen buildup in the body can damage brain tissue and lead to convulsions, unconsciousness and death, Dr. Aaron P. Sanders of the Duke University Medical Center told the international hyperbaric medicine conference in Durham, N.C.

This same factor is a potential problem in space exploration because astronauts must breathe pure oxygen. To prevent abnormally high oxygen tension, atmospheric pressures inside spacecraft must be kept at one-third normal atmospheric pressure.

Using rats, Dr. Sanders and his co-workers injected succinate, which kept the animals normal in appearance, active and alert after exposure to high-pressure oxygen.

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E FIELDS

EDUCATION

Engineering Grads Have No Trouble Getting Jobs

► STUDENTS GRADUATING from the nation's engineering schools this year experienced no difficulty in obtaining desirable jobs at the highest starting salaries to date, it was found in a placement survey just conducted by the Engineering Manpower Commission of Engineers Joint Council. Over 87% had made definite commitments by the time of graduation, and 98.9% had job offers or specific plans.

One out of every four for whom information was available is going to graduate school. This is an increase of 3.1% over last year and marks a continuing trend toward advanced education for engineers.

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BIOLOGY

Meteoritic 'Life' May Be Bacteria From Earth

► THE MYSTERIOUS organic compounds detected on fallen meteorites may not indicate life in outer space but may, instead, have been formed from earth-living bacteria that were picked up by the meteorites as they struck earth.

For the first time, three types of common bacteria were isolated and identified from samples of carbonaceous meteoric samples by Drs. J. Oro and T. Tornabene of the University of Houston in Texas.

The organisms isolated from one meteorite were identified as *Bacillus cereus* and *B.adius*, and from another meteorite as *Staphylococcus epidermidis*, the scientists reported in Science 150:1046, 1965. *Bacillus* is a large genus of rod-shaped bacteria, and *Staphylococcus* is spherical. The organisms numbered from about 1,800 to 6,000 per gram of meteorite. No bacteria were found on samples from a third meteorite.

The scientists isolated the organisms by washing meteorite fragments in sterile water, shaking the solution and then placing the floating material on nutrient agar. The results of the first tests were duplicated two months later when the tests were repeated.

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MEDICINE

Anesthetic Injection Cuts Scalp of Infants

► A VISIBLE PUNCTURE mark in the scalps of four babies was reported in Boston as a result of accidental injection of a local anesthetic into the fetus during childbirth. Two of the babies died.

There is no indication in the physicians' report that the anesthetic itself, mepivacaine, was to blame, but they warned in

the New England Journal of Medicine 273:1173, 1965, that further study of local anesthetics "reaching the fetus" through the placenta should be made.

"Accidental intoxication of the fetus by local anesthetics should be completely preventable," the report stated. Previous reports have shown, however, that "reluctance to report unfavorable results" has concealed the fact that the toxicity of such anesthetics has not infrequently caused serious complications or death.

The mepivacaine report came from Babies Hospital, Columbia-Presbyterian Medical Center, New York. The trade name is Carbocaine, produced by Winthrop Laboratories, which originated the pain killer Novocain (brand name of procaine hydrochloride).

Breathing difficulties and abnormally slow heart beats were noted in all four babies, and they all went into convulsions. The two who lived, however, apparently have suffered no ill effects.

Winthrop Laboratories officials revealed that no complaints had been received there against the use of Carbocaine. The drug is considered to have fewer complications than Novocain, and full precautions about any possible side effects are given in the Physicians' Desk Reference.

Dr. John C. Sinclair, senior author of the Journal article, is temporarily in Japan, and his collaborators have all taken up other duties. They were Drs. Howard A. Fox, Joseph F. Lentz, Gilbert L. Fuld and Jerome Murphy.

Not only did the babies get the pain-killer intended for the mothers, the mothers themselves got no relief from labor pains. Caudal anesthesia is injected into the lower spine in the region of the sacrum, which forms the back wall of the pelvis, and the coccyx, or end of the spine.

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EDUCATION

Fourteen New Medical Schools Planned in U.S.

► AN ERA OF "MAJOR EXPANSION" will bring 14 new medical schools to completion by 1970, making a total of 101 in the United States.

Some very interesting experiments in medical education are expected, says the 65th annual report on medical education by the American Medical Association's council on education.

Although the new schools will be competing for faculty members with existing schools, they will open up new opportunities for leadership to young, vigorous medical scientists, the report stated. From 800 to 1,000 new positions will be available.

Besides the 14 schools, at least 10 other institutions probably will follow through with other new medical schools. Eight of the 14 schools planned will provide full four-year programs leading to the M.D. degree. The other six are expected to be two-year schools covering basic medical sciences, several of which may ultimately become four-year institutions when they have become established.

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TECHNOLOGY

Pocket-Size Siltmeter Aids Harbor Dredging

► MILLIONS OF DOLLARS can be saved by a compact meter, the size of a pack of cigarettes, which constantly measures the amount of silt settling in shipping channels.

The siltmeter, developed by a mechanical engineer at the research station of the British Transport Docks Board, Southhall, England, has an optical sending head so that the concentration of silt or ooze on the bottom of the harbor or channel can be measured and recorded continuously.

It has been used in ports of England, Pakistan and Sierra Leone, and takes the place of expensive sampling operations to detect the silt layers. Once the meter records excess silt settling in a channel, dredging can be done quickly at the exact location.

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BOTANY

Plants Sometimes Reject Pollen From Own Species

► CABBAGES, BROCCOLI and turnips sometimes reject pollen from their own plants, but readily accept pollen from another.

To study the phenomenon of rejection and selection, the National Science Foundation has granted \$32,000 to Prof. Donald H. Wallace of the New York State College of Agriculture at Cornell University, Ithaca, N.Y.

Complicating the study is the fact that pollen rejection does not work the same way all the time. Sometimes it reverses itself and foreign pollen is rejected instead.

Proteins in the female organ of the flower appear to be the key to the puzzle. How the proteins influence pollen rejection and acceptance, however, is unknown.

The proteins were first discovered when rabbits were injected with water extract from cabbage flower ovaries. The rabbits produced an antibody against proteins in their blood.

Knowledge of the role of protein could open the way to improved production of hybrid varieties, commented Prof. Wallace. Hybrid plants usually grow rapidly, and are vigorous and productive.

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PUBLIC HEALTH

Spacecraft Material Used as Rescue Blanket

► A TISSUE-THIN, shining, tough material, originally developed to keep spacecraft objects at room temperature in spacecraft, can be wrapped around rescued disaster victims to keep them warm and dry in wet or freezing weather.

The almost weightless blanket, made of aluminized plastic-base material by the National Research Corporation, subsidiary of Norton Company, is so thin it can be folded up into handkerchief size and carried in the pocket.

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