

## British M.D.s Take Exam For U.S. Hospital Jobs

► A RECORD number of young British doctors, dissatisfied with conditions under the welfare system, have just taken a day-long examination to qualify for appointments in U.S. hospitals.

Three large halls in the Bishopsgate Institute, London, were filled with the 730 doctors taking the examination. Police were needed to control the surge of people at the doors.

Another examination was held at the same time in Edinburgh, Scotland.

The candidates paid a \$10 fee to sit and tell American medical authorities about their qualifications and experience. There were also 180 electronically-scored multiple-choice questions to be answered in three hours, one a minute.

The test was a wide-ranging one covering medicine, surgery, mid-wifery and gynecology.

Applications for the test had to be in by June 15, which was before the Government announced its "credit squeeze" aimed at curbing inflation. The move cancelled a previously planned salary increase that would have benefited the younger doctors.

Another examination is to be held in February, and an even bigger turnout is expected then.

PHYSIOLOGY

## Baby's Sex Predicted By Prenatal Fluid Test

► THE SEX of 39 babies has been predicted with 100% accuracy by microscopic examination of fluid cells removed from the mother's womb.

The amniotic fluid samples used in the study were obtained from pregnant women sensitized to Rh-antigen and undergoing perforation of the uterus so that the fetal well-being could be evaluated.

In spite of the accuracy of the test, the Albany Medical Center scientists who did the research said they do not recommend its use "to satisfy the curiosity of parents concerning the sex of the unborn baby, since the aspiration of amniotic fluid is not without danger to the mother and to the fetus."

The fluid is removed from the mother's womb by passing a small hollow needle through her abdomen into the amniotic sac and removing the fluid through the needle into a syringe. A fetus is scored as male when no sex chromatin bodies are seen in cell nuclei, and as female when one sex chromatin body is identified in the nuclei of cells.

Reporting in the *New England Journal of Medicine*, the researchers said

the test "may be helpful to the geneticist and obstetrician in the diagnosis of sex-linked hereditary diseases and thus become an important tool in preventive eugenics."

The earliest prediction was made in the sixth month of pregnancy, and most predictions were made during the seventh or eighth month. The test could have numerous uses eugenically. One example would show such recessive sex-linked hereditary diseases as hemophilia and pseudoglioma with severe mental deficiency, where in certain circumstances, the sex of the baby might be an indication for or against a therapeutic abortion.

Prenatal determination of sex also may be important in sex-limited diseases such as testicular feminization of a male fetus. In cases of this kind, it may be possible to develop treatment of the mother during pregnancy to change the internal hormonal environment of the fetus that causes the feminization.

The senior investigator was Dr. Anthony P. Amarose, associate professor of obstetrics and gynecology. Collaborating were Dr. Arthur J. Wallingford Jr., assistant instructor, and Dr. E. Jurgen Plotz, professor and department chairman.

MEDICINE

## Abuse of Drugs Can Cause Kidney Failure

► ABOUT 20% of all cases of acute kidney failure studied at Georgetown University Hospital, Washington, D.C., were caused by toxic compounds.

The list includes phenacetin, which the U. S. Food and Drug Administration has placed under a warning label concerning prolonged or frequent use, although it is sold over the counter.

Dr. George F. Maher of the Georgetown University School of Medicine told the Third International Congress of Nephrology that the kidney is highly susceptible to toxic agents because of its large blood supply, high rate of metabolism and the "high solute concentrations achieved through the elaboration of urine."

The toxic substances most often implicated were salts of certain heavy metals, notably bichloride of mercury; organic solvents, such as carbon tetrachloride; radiographic contrast substances injected into various internal structures visible to X-rays; certain therapeutic agents, especially sulfonamides (which are prescription drugs) and certain analgesic preparations used in excess.

These substances may be swallowed, inhaled, injected or absorbed through the skin.

The use of the artificial kidney has proved beneficial as a means of removing toxic substances from the blood within the first 48-72 hours after the kidneys are exposed to them.

# IN SCIENCE

PUBLIC HEALTH

## Pep Pills Act on Brain Like Heat Stroke

► A LETHAL DOSE of pep pills, or amphetamine, can affect the brain in the same way as heat stroke.

Abuse of these drugs, which are valuable when used under a physician's direction, has led to serious physical effects and occasionally to death, but few reports are available that show the result of acute massive amphetamine poisoning in man.

Using 45 mongrel dogs to find out what happens physically under the effect of large doses of amphetamine, two pathologists found that many of the effects are similar to those previously observed in humans.

The nervous system, heart, lungs, circulation and metabolism were studied by Maj. George D. Lundberg, chief pathologist at William Beaumont General Hospital, El Paso, Texas, and Maj. Edward G. Zalis, Medical Corps, 97th General Hospital, Frankfurt, Germany. Their findings, reported to the meeting of the American Society of Clinical Pathologists in Washington, D.C., revealed complex interrelated physiologic effects from the acute poisoning.

Not only were the brains of the animals similar to those of heat stroke victims, but cases of heat stroke have been reported showing similar lesions in the vicinity of the heart.

The results were similar whether the amphetamine was injected or given by mouth. Effects included elevated fever, or hyperpyrexia, acidosis, shock, rapid heart action, oxygen deficiency, destruction of red blood corpuscles and death of heart muscle.

MILITARY SCIENCE

## Anti-Ambush Tool Tested for Viet Nam

► A TRACTOR blade that can clear away trees and foliage that could hide ambushers in Viet Nam is now being tested at Ft. Belvoir, Va., by the U.S. Army.

Weighing more than 4,600 pounds, the blade can clear an acre of ground in an hour. It also carries a "stinger," a sharp projection used to split large trees so they can be sheared at ground level. The same blade can be used to pile cut material in even rows and to construct drainage ditches.

A smaller version, weighing only 2,800 pounds, can clear half an acre an hour. Both blades are made commercially by the Rome Plow Company, Cedartown, Ga.

## MEDICINE

### Voluntary Sterilization Approved by Majority

► VOLUNTARY sterilization as an effective method of birth control is acceptable to a majority of the people in the United States, according to a national poll.

Sterilization for "women who have more children than they can provide for properly and who ask to be sterilized" was approved by 64% of the persons polled.

About two million men and women living in this country have reportedly chosen sterilization as a contraceptive measure. Judson Landis, professor of family sociology at the Institute of Human Development in Berkeley, Calif., reported in the *Journal of Marriage and the Family*, Aug. 1966, that in two California counties alone physicians perform 1,500 vasectomies (operation for sterilizing men) a year.

The Association for Voluntary Sterilization, Inc., and the American Civil Liberties Union, acting independently of each other, have protested that the Office of Economic Opportunity has banned the use of OEO funds to assist low-income men and women in OEO-supported family planning programs who may wish to be voluntarily sterilized.

## RADIO ASTRONOMY

### Soviets Building New Radio Telescope

► A NEW, powerful radio telescope at the Institute of Radio Physics and Electronics is being constructed near Chuguyev, Russia.

The observatory director, Yevgeniy Petrovich Konovalenko, reported that the telescope will cover an area greater than 150,000 square meters. The antennas are laid out in the form of a "T"; the length of the "wings" is about 2 km and their width is 60 m; length of the "tail" is 920 m.

The telescope, designated the "UTR-2," will be able to receive signals from a distance of ten billion light years.

At present underground cables are being laid out that will connect all 2,400 antenna-vibrators into a common system.

The length of the electrical system will exceed 150 km. The "UTR-2" beam will be controlled automatically by a computer that will use a stipulated program to focus the radio telescope on any desired point in the sky. The telescope will be able to operate on five

beams simultaneously and processing of the results will be by electronic computer.

S. Ya. Braude, Corresponding Member of the Academy of Sciences USSR, deputy director of the institute for scientific work, noted that the institute already is using three radio telescopes, the largest of which, the "UTR-1," operates in the wavelength range from 12 m to 25 m; detection of radio signals from sources billions of light years away already is possible with that instrument.

However, the "UTR-2" will have a reach ten times as great. Work on the latter, which is being done by the trust "Yuzhspetsstroy," should be completed in 1966.

A report on the progress in construction appears in *Soviet-Bloc Research* in Geophysics, Astronomy, and Space, a publication of the U.S. Department of Commerce.

## GENERAL SCIENCE

### Rabbits, Pigeons, Mice Listed as Nonmailable

► THE U.S. POSTAL Service has made it quite plain that the mails are not the place for rabbits, pigeons, squirrels, white mice and other small warm-blooded animals.

In the first place, sanitation is a big problem. Also the service is not equipped to water and feed the small creatures.

Consequently, Postmaster General Lawrence F. O'Brien has announced that the animals from now on will be specifically listed as nonmailable.

A few animals, including snakes, poisonous lizards and insects, were clearly listed as nonmailable, but the status of the warm-blooded animals has been open to confusion at post offices.

The new regulations should prevent further error, said Mr. O'Brien. They will not, however, go into effect until 30 days after they are published in the Federal Register. During that period, the public may comment officially on the regulations.

## BIOLOGY

### Mountain War Is Declared on Dingoes

► WAR has been declared on the wild dogs called dingoes in the Blue Mountains of New South Wales, 50 miles from Sydney.

More than 20,000 poisoned baits in the form of strychnine-impregnated brisket fat have been dropped from the air over otherwise inaccessible parts of the area. This is the first time aerial poisoning has been tried in the mountains. More than 200 of the dingoes, that prey on sheep flocks for miles around, have been destroyed there by trapping since 1962.

## MEDICINE

### Lymph Inflammation Misdiagnosed as Cancer

► PATHOLOGISTS and surgeons were warned of a "diagnostic pitfall" in spotting postvaccinal lymphadenitis.

Dr. Robert J. Hartsock, chief of the hematologic pathology branch at the Armed Forces Institute of Pathology, reported in Washington, D.C., analyzing 20 cases, none of which should have required surgery. Nine of them had been diagnosed as malignant lymphomas, and in 14 cases the history of vaccination was overlooked before an operation was performed.

Twelve of the 20 patients complained of a mass that caused pain or was tender on pressure. All 20 had received smallpox vaccine, but 10 of them had also been inoculated with tetanus, typhoid, typhus, cholera, diphtheria, pertussis, influenza or Salk vaccine.

The median age of the group was 20, the youngest being nine months old and the oldest 34 years of age. The median interval between vaccination and biopsy was 35 days, with the shortest interval four days and the longest 180 days.

The cause of the reaction to vaccination has not been identified, Dr. Hartsock said. Similar changes have been observed in the lymph nodes of patients with infectious mononucleosis and herpes zoster, or shingles.

## ZOOLOGY

### Whales Saved May Be Last of Their Kind

► SKINDIVERS who drove a mother whale and her calf out of Sydney Harbor may have saved the last of a rare species on the New South Wales coast.

The whales were identified as the rare Southern Right variety by Dr. W. H. Dawbin of Sydney University from underwater photographs taken by the skindivers.

"The Southern Right whale was the foundation of the Australian and Antarctic whaling industry in the 1800s," he said. "They were considered the 'right whale' to catch, hence the name. They were slaughtered by the thousands.

"In the Antarctic 200,000 of them were killed by American whalers alone. By 1900 the herds had been decimated and the Australian whalers had to turn to the sperm whale in eastern states and the humpback in Western Australia."

In 1929, with sightings of the Southern Right whale almost nonexistent, the Australian State Governments decided to put the species under total protection. This belated step to save the species was followed by other governments throughout the world. However, protection did not produce new herds and the species seems doomed.