

MEDICINE

Migraine Headaches Among School Children

► MIGRAINE headaches are not limited to adults. Many school children suffer from the attacks, a study of nearly 9,000 school children in Sweden has shown.

Four out of every hundred of these children suffered from migraine headaches, Dr. Bo Bille, Swedish pediatrician, found in a survey conducted in Uppsala. Even at the age of seven, there were more than one out of every 100 students afflicted.

Stroboscopic effects, such as the flickering of a TV or film screen, reflections from the sun on snow or water, or telegraph poles and the poles of a fence sweeping past a train window, were blamed for the headaches.

Girls—like women—more often suffer from migraine than boys and men, although the frequency is about the same during the first few years at school.

• Science News Letter, 82:24 July 14, 1962

MEDICINE

Iron Injections May Be New Cancer Cause

► CANCER is caused, in mice, by iron-carbohydrate compounds such as are used to treat low levels of iron in the blood. The inference is that human beings could develop cancer from the same kind of iron injections.

Humans are known to be susceptible to malignant tumors due to iron, Dr. J. Fielding of Paddington General Hospital, London, said. Miners digging iron ore, he reported in the British Medical Journal, June 30, 1962, have a high incidence of lung cancer.

The two iron compounds that give cancers to mice are iron-dextran and iron-dextrin. The malignant tumors did not show up until six months or a year after the injections. However, mice injected with iron-sorbitol did not develop sarcomas.

Dr. Fielding said his mice studies indicate that iron compounds used for human treatment should be readily absorbed following repeated doses, as iron-sorbitol is. Development of cancer, he suggests, depends partly on the amount of iron that is not absorbed, but remains near the area injected.

The iron compounds were injected in low doses, much lower in comparison to body weight than those given in human therapy.

• Science News Letter, 82:24 July 14, 1962

MARINE BIOLOGY

Lost Radio Makes A Whale of a Trail

► MISSING, one bright orange radio; last seen submerging on a large right whale in Cape Cod Bay.

The two-by-eight-inch cylindrical radio was attached to the whale's back from a helicopter in an attempt by Dr. William E. Schevill of the Woods Hole Oceanographic Institution to track the once-abundant marine mammal. The large orange "tag" has

ceased transmitting, but is visible when the whale surfaces to breathe.

Right whales, known scientifically as *Eubalaena glacialis*, were abundant in the early 17th century, when the East Coast was settled, Dr. Schevill told SCIENCE SERVICE. They were greatly reduced by shore whaling and have been rare for the last 200 years. Right whales are now internationally protected.

The National Science Foundation is supporting the tagging research in order to find where the small numbers of right whales, seen along the coast early each spring, spend the rest of the year. Dr. Schevill hopes that any sightings of the solitary marked whale will be reported.

• Science News Letter, 82:24 July 14, 1962

HORTICULTURE

Germ Killer Speeds Seed Germination

► HYDROGEN PEROXIDE, normally used to kill germs, has been found to speed the germination of pine seeds.

The unusual effect of this explosive corrosive compound on slash and loblolly pine seeds soaked hours in a very dilute solution was discovered by Drs. Mason C. Carter and LeRoy Jones at the Southeastern Forest Experiment Station of the U.S. Department of Agriculture in Asheville, N.C. A minimum of 24 hours soaking for slash pine and 48 hours for loblolly was required.

Soaking in the hydrogen peroxide increased both the rate and extent of germination, the scientists reported. Fifty percent of the seeds germinated in one and one-half days as opposed to normal eight and one-half days.

Stimulations of this extent would be quite important in forest nursery and seeding operations, they pointed out, because a large part of mortality occurs during the germination period.

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SPACE

Radio Parachute for Satellites, Fire-Fighting

► FIRE-FIGHTERS, rocket designers and soldiers will soon have a parachute at their disposal which can bring their needed equipment (or salvaged nosecones) safely to earth within a few yards of the target.

The homing parachute, developed by Sandia Corporation in Albuquerque, N. M., is a standard chute with one panel removed. A radio transmitter controls the descent of the package by positioning the parachute opening.

The control unit can respond over 50 miles, from heights needed in this missile era. It can be used through heavy fog or smoke to bring in equipment or relief supplies. And it can be guided in moderate and shifting winds. Payloads are connected to the homing chutes by means of a swivel attached below the control unit.

Tests are continuing in Texas and California under contract with the Atomic Energy Commission.

• Science News Letter, 82:24 July 14, 1962

IN SCIENCE

GEOPHYSICS

Tunnel Through Ice Of Swedish Glacier

► IN A NARROW valley far up on Sweden's highest mountain, scientists are tunneling along the bottom of a huge glacier.

Glaciologists all over the world are interested in the project aimed at learning how the landscape was formed by the glaciers that once covered Sweden. The tunnel under the ice near the Tarfala polar research station will be 300 to 450 feet long and is expected to take six weeks to complete.

Led by Profs. Gunnar Hoppe and Valter Schytt of Stockholm, the huge saws and other equipment totaling 30 tons were transported over some 20 miles of rugged mountain terrain earlier this year, it was reported in the Transactions of the American Geophysical Union, 43:175, 1962.

• Science News Letter, 82:24 July 14, 1962

TECHNOLOGY

New Electronic Device Saves Money, Brains

► ENGINEERS have again designed the ultimate: an electronic "computer" to count seeds.

Combining the marvel of the electronic eye, the vibrator and the automatic counter, the 85-pound seed "bucket" can count twice as many seeds as an experienced inspector can by hand, the U.S. Department of Agriculture reported in Washington.

Seeds, poured in the central bowl, get their "marching orders" from vibrations. In single file they slide down a small chute, pass the beam of an electric eye (which relays the signal to a counter) and into a box or bag.

The counter measures wheat, barley, corn, peas and peanuts with high accuracy, missing only one out of every 10,000 seeds in tests. It is now in use with the Federal-State Peanut Inspection Service.

• Science News Letter, 82:24 July 14, 1962

HORTICULTURE

Seeds Coated With Wax For Earlier Planting

► RUSSIAN scientists are coating their seeds with wax for planting when the ground is still cold.

The coating protects the seed from mold and bacteria in the soil. The cold does not affect the ability of the seeds to germinate, the Russians claim.

A portable machine with two workers can coat 440 to 660 pounds of seeds in one hour. Although only corn seeds were coated with paraffin, there is no reason why other seeds could not be used. The method was reported in the Russian magazine Science and Life, 4:44, 1962.

• Science News Letter, 82:24 July 14, 1962

E FIELDS

PSYCHIATRY

Treatments May Spread Genes for Mental Ills

► THE AMAZING therapeutic techniques that have helped return many mental patients home to lead "normal lives" are not unmixed blessings.

A warning that the released patient may pass on to another generation defective genes inherited from his parents was sounded by Dr. John S. Pearson, clinical psychologist at Mayo Foundation, Rochester, Minn., in the Psychiatric Research Reports of the American Psychiatric Association.

Without the modern treatments, a mental patient might expect to spend his entire life in the mental hospital. Under modern conditions, he can look forward to an early discharge and return to the community where he can lead a normal life, marry, and have children.

This is where the harm may be done.

If it is later established that some mental diseases originated from such a defective gene, psychiatrists have cause for concern over the load of harmful genes modern successful psychiatric treatments are spreading through the population, Dr. Pearson pointed out.

It is analogous, he explained, to the way that the discovery of insulin may have increased the gene frequency for diabetes.

• Science News Letter, 82:25 July 14, 1962

SPACE

Clue to "Glenn Effect" In Astronaut's Pocket

► THE CLUE to the identity of the luminous particles observed by Astronaut John H. Glenn Jr. may be in the pocket of the next orbiting astronaut.

A small pocket spectroscope carried along in space should solve the mystery of what the bright spots, known as the Glenn effect, are, Dr. Charles M. Herzfeld of the Department of Defense Advanced Research Projects Agency said in SCIENCE 136:1121, 1962. Dr. Herzfeld believes that the color of the spots, their luminosity and the period of visibility indicate that they are condensed nitrogen and possibly oxygen irradiated by the sun.

Other scientists have theorized that the shiny spots may be flakes of ice or paint from the capsule. The yellowish-green color of the particles rules against the ice theory, Dr. Herzfeld told SCIENCE SERVICE. "Ice when luminous is blue in color," he said; luminous nitrogen is light yellow-green.

He gives no support to the paint flake theory.

The ARPA research scientist believes that nitrogen and oxygen released by the capsule became luminous when the rays of the rising sun hit them. (Glenn had observed

the particles after each sunrise on his orbital flight.)

The National Aeronautics and Space Administration is seriously considering Dr. Herzfeld's suggestion that a spectroscope be included in the equipment of the next astronaut. A spectroscopic reading by the astronaut would show whether the luminosity lies in the spectrum for trapped nitrogen and oxygen atoms.

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MEDICINE

AMA Launches Program For Mental Health

► THE AMERICAN Medical Association is launching a new mental health program aimed at improving the treatment of the mentally ill throughout the United States.

Hospitals, research and education are among the areas needing special attention, the AMA Council on Mental Health said. The program will be two-pronged, combining projects of national scope with activities at the state and local level.

To map out exact plans, cooperating organizations are meeting at the AMA's first National Congress on Mental Illness in Chicago in early October, Dr. Lauren H. Smith of Philadelphia, chairman of the Council on Mental Health, reported in Chicago.

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HORTICULTURE

Rice Surviving in Cold Water Seen by Scientists

► RICE that can withstand chilly irrigation waters in the United States is being developed.

Researchers have evaluated more than 50 leading U.S. and foreign varieties for cold water tolerance and developed advanced techniques for making the tests. This work is being done by U.S. Department of Agriculture and California Agricultural Experiment Station scientists who are cooperating in a rice-improvement program.

Plans call for breeding new varieties with increased tolerance to cold water.

Thus far, no variety has been found to have more cold water tolerance than Caloro, a U.S. variety of rice, it is reported in Agricultural Research, 11:13, 1962, a USDA scientific publication.

California produces about 20% of the rice grown in United States.

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GEOLOGY

Oldest Rock Found In Western Hemisphere

► THE OLDEST ROCK known in the Western Hemisphere is 3.2 billion years old. The rock is in western Minnesota.

Although rocks more than 3 billion years old have been found in Africa and Russia, the oldest rocks previously known in the Americas was 2.8 billion years. The Minnesota rock was dated by Dr. Edward Catanzaro of the U.S. Geological Survey.

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MEDICINE

Heart Study Possible By New Safe Technique

► HEART DIAGNOSIS without resorting to a chest operation has been reported by two Stockholm physicians.

Inspection can be made of the heart's right auricle by means of an endoscope (an instrument used to peer into body cavities) introduced into a vein in the neck just over the collar bone. This vein leads direct to the heart.

Drs. Torsten Silander and Eric Carlens began experimenting with this method some 18 months ago, working first with dogs and later with humans.

The instrument consists of a straight double tube about a foot long, which tapers to a point. This point contains an optical lens and mirror system, an electric lamp and a small inflatable balloon of transparent rubber.

When the endoscope is in position, a common salt solution is pumped into the balloon, which becomes inflated and presses the blood aside. A clear picture of the heart walls can be obtained by this new method of cardioscopy so that any defects can be localized.

The physicians said the method is not intended to replace previously developed methods of X-ray diagnosis but will complement them. It has been used on three men and three women with congenital defects in the right auricle.

In a modified form the method has been used for uterine diagnosis of some 70 women patients.

• Science News Letter, 82:25 July 14, 1962

BIOCHEMISTRY

Diet Causes Mental Deficiency in Rats

► PHENYLKETONURIA, an inborn error of metabolism that causes human babies to be born with a very serious mental deficiency, has been simulated in baby rats by feeding them a special chemical supplement to the diet.

The supplement consisted of one percent DL-phenylalanine and was fed to the mothers until the young were four weeks of age; then it was given to the baby rats.

Young rats receiving the special diet failed to learn to turn a small wheel when they heard a brief warning sound. By turning the wheel they could avoid a mild electric shock. The control group fed on a normal diet learned to avoid the shock quite rapidly.

The change in learning behavior was not permanent. Forty-five days after the first test, they were given another chance to learn the avoidance behavior. At that time they had been on a normal diet for 20 days. By the fourth session the rats were doing almost as well as the control animals that from the first had never been on the experimental diet.

The experiments were reported in Nature, 194:1286, 1962, by Drs. Yen Hoong Loo, Erol Diller and John E. Owen Jr., of Eli Lilly and Company, Indianapolis, Ind.

• Science News Letter, 82:25 July 14, 1962