

## NUTRITION

**Study Shows Many Fat People Like It That Way**

MANY FAT PEOPLE are that way because they really do not want to lose weight.

Others overeat to obtain emotional satisfaction, while still others lack the intelligence to understand the aims of a diet program.

These are the conclusions of two Philadelphia physicians, Drs. Donald Berkowitz and Nathaniel Berk, reported in the *Journal of the American Medical Association*, 172:1381, 1960. They studied 100 patients referred to the obesity clinic of the Sidney Hillman Medical Center, Philadelphia. All were at least 20% overweight and their weight varied from 151 pounds to 320 pounds.

The 93 women and seven men received treatment that consisted of education, reduction of food, an appetite suppressant drug called Levonor, supplied by the Nordson Pharmaceutical Laboratories, Irvington, N. J., exercise and psychotherapy. Thirty-eight of the 100 did not even finish the course, virtually all gained weight after stopping treatment, and 19 gained beyond their original weight.

Of the remaining number, 42 lost 20 pounds or more, and one woman lost 70 pounds. She originally weighed 320. Twenty lost less than 20 pounds and six were discharged after having reduced to normal weight. Fifty-six were still under treatment at the end of the year.

The educational effort consisted of "brain-washing" the patients of nutritional fancies. The doctors decided that 20% just could not grasp the lesson. All patients were given the appetite suppressant three times daily before meals. Again, 20% failed because the emotional need to eat did not depend on appetite. Half of the 58 failures, which included those who withdrew plus those who lost less than 20 pounds, lacked motivation, the doctors decided.

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## PSYCHOLOGY

**Most Murders Done By Persons Who Are Sane**

MOST MURDERS are committed by persons who are not mentally ill, but who have an abnormal or infantile disregard for human life. This is the conclusion of Dr. Manfred S. Guttmacher in a new book, *The Mind of the Murderer* (Farrar, Straus and Cudahy). (See p. 254)

Dr. Guttmacher teaches psychiatry at Johns Hopkins University and the University of Maryland, is in private practice of psychiatry and for 25 years has been Chief Medical Officer to the Supreme Bench of Baltimore.

Of 175 cases studied by Dr. Guttmacher, 53 of the murderers were mentally ill, 105 were clearly not psychotic and 17 were seriously abnormal but a psychosis at the time of the crime could not be definitely established.

A number of clear differences between the insane murderer and those who were not psychotic are cited by Dr. Guttmacher.

Nearly every murder committed by an insane individual is preceded by some sign of insanity. A third of Dr. Guttmacher's group had had previous institutionalization for mental illness.

Victims of the insane killer are generally intimate associates, frequently his own children. Most insane killers show no remorse and freely confess. The motives they give seem completely inadequate to a sane person.

The crimes of an insane killer are generally extremely bloody and are not well planned; he often kills with whatever object he can pick up and in full view of onlookers. Only one-fifth of the mentally ill murderers had a record of previous convictions for assault or serious criminal offense while two-fifths of the non-psychotic group had such convictions.

More than a third of the mentally ill murderers had no memory of the crime or had only partial memory. This was rare among the non-psychotic unless the perpetrator was dead drunk at the time.

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## MEDICINE

**Tiredness May Mean Physical Illness**

IF A PATIENT'S main complaint is tiredness, he is probably physically ill, rather than just worn out.

Dr. Geoffrey Ffrench of Oakville, Ontario, Canada, studied 1,200 patients, 105 of whom listed tiredness as the first or second most important reason for reporting to the doctor. Physical examinations revealed that 25% of the tired patients were anxious or tense, but had no actual physical illness.

The other 75% had diseases and dysfunctions ranging from alcoholic gastritis to leukemia and pneumonia. A person with thyroid deficiency was most likely to report tiredness, and anemia patients came second. Heart disease, lung cancer and infectious mononucleosis also frequently resulted in complaints of fatigue.

Dr. Ffrench also noted that in cases of endocrine dysfunction, such as diabetes mellitus, the patient could be tired when the gland was functioning too little or too much.

Details of the research are reported in the *Canadian Medical Association Journal*, 82:665, 1960.

Science News Letter, April 16, 1960

## ANTHROPOLOGY

**Relocated Indians Become Self-Supporting**

SEVEN out of ten Indians who have left their reservations and settled in western and Midwestern cities have become self-supporting, it is reported by the Bureau of Indian Affairs. Since 1952, 31,259 Indians have been relocated. Progress is also reported in a program of vocational training for adult Indians. During the two-year period, 1958-59, 2,017 Indians have been enrolled.

Science News Letter, April 16, 1960

**IN SCIEN**

## MEDICINE

**Treatment May Result From Heart Muscle Study**

A NEW LINE of treatment for heart attack patients could come from studies of heart muscle cells and the food elements that make these cells grow.

Dr. James W. Green, associate professor of physiology and biochemistry at Rutgers Bureau of Biological Research, New Brunswick, N. J., is working to determine the nutritional requirements of heart muscle cells as distinct from the nutritional requirements of the whole heart.

Acute damage to heart tissue (such as after a heart attack) is followed by replacement with scar tissue, Dr. Green explained. If some way could be found to supply a nutritional environment that promotes the growth of heart muscle in such cases, the scar tissue would be less readily formed, he said, and the heart would be more functional when healed.

At the moment Dr. Green is concerned with growing heart muscle cells in test tubes and culture plates. He needs large quantities of cells that grow for periods of time long enough to permit biochemical analysis.

The problem of separating the heart muscle cells from the surrounding connective tissue (which makes up scar tissue) has been solved. This was accomplished by using seven- to eight-day-old chick embryo hearts and trypsin, a digestive enzyme that causes the actual separation of the two kinds of cells. Dr. Green has adapted the separation technique for use on the hearts of newborn mice.

The next step will be an attempt to grow the heart muscle cells in whole suspension cultures for large scale use in analysis.

Science News Letter, April 16, 1960

## MEDICINE

**Swiss Tranquilizer Cuts Epileptic Seizures**

A SWISS-MADE drug appears to be twice as effective in preventing epileptic seizures as other, currently used anticonvulsants, a team of doctors reported in Coral Gables, Fla.

The drug, Librium, has been tested for six months by Dr. Samuel Kaim of the department of psychiatry, Dade County Veterans Administration Hospital in Coral Gables, and Dr. Ira Rosenstein.

They discovered its effect as an anti-convulsant while using it as a general tranquilizer. Epileptic patients showed a marked reduction in epileptic seizures. Since that discovery, the drug has been given to 24 epileptic patients; 23 have responded to the treatment and one has shown no change.

Science News Letter, April 16, 1960

# CE FIELDS

## AGRICULTURE

### Herbicide Shows Low Animal Toxicity

A NEW HERBICIDE has been reported that is especially effective in killing young plants yet has a low acute toxicity for warm-blooded animals.

It is active against many weeds, such as wild oat, bracken, chickweed and cleavers. Seeds of some plants, however, such as rice, groundnuts, corn and sunflower, show a distinct resistance to it.

The substance is 2,6-dichlorobenzonitrile and is known by the code name H 133. Experiments involving its use were described in *Nature*, 186:89, 1960, by H. Koopman and J. Daams of N.V. Philips-Duphar, Holland.

H 133 was found to be especially effective in inhibiting germination of seeds. It is easily absorbed by seeds either from a solution or from the vapor.

Young growing tips were found to be very sensitive to the compound, which acts via the roots as well as by way of the green parts of the plants. Older and full grown plants were not damaged.

Experiments in which respiration or photosynthesis was measured showed that neither of these processes in tobacco leaves was inhibited if the leaves were placed in a saturated solution of H 133.

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## ARCHAEOLOGY

### Salvage Work May Bring Prestige, Temples to U.S.

THE UNITED STATES may gain prestige in the eyes of the world, as well as a few ancient temples and other art treasures, if she helps save them.

George C. Denney Jr., of the Senate Foreign Relations Committee, reported that an amendment to the foreign aid bill, proposed by Sen. A. S. Mike Monroney (D-Okla.), would allot funds to save the Egyptian treasures. The money would come from Egyptian currency amounting to about \$100,000,000 that have piled up in that country from the sale of U.S. surplus farm products. It is estimated that only about half of that amount will be used for the rescue work.

Dr. John A. Wilson, chief archaeologist at the University of Chicago, testified before the Senate Foreign Relations Committee that it would be to our advantage to support the efforts to save ancient treasures located in the Nile valley that will become a 300-mile long lake when the new high Aswan dam is built.

Dr. Wilson, who is also the head of the National Committee for the Rescue of the Monuments of Nubia, said the salvage operation, invited by both Egypt and Sudan

as well as UNESCO, will offer us a chance for international cooperation. He sees as a result of our participation that new objects of art and new archaeological material will benefit American museums (Egypt and Sudan have promised the countries that help in the rescue action half of the treasures they salvage).

He quoted American interest in Egyptology which has always been high. He said that the American collections of ancient Egyptian treasures are the greatest in the world next to those of Egypt herself. He also predicted that America may be able to transport and rebuild one or more of the salvaged temples in this country.

He added that our interest and help would arouse the admiration of the scholarly world and boost our reputation abroad in this endeavor of high historical importance.

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## ENGINEERING

### 750,000 Volts to Test Experimental Power Line

AN EXPERIMENTAL extra-high-voltage transmission line to operate at 750,000 volts is to be built along the Ohio River near Apple Grove, W. Va., this year.

Planned to be only six towers long, the line will be a joint project of the American Electric Power Service Corporation, New York, and the Westinghouse Electric Corporation. It will be used by engineers to explore the technical and economic aspects of transmitting large blocks of electric power for long distances by using extremely high voltages.

Such lines some day may let electric utilities generate power right at the fuel source where the fuel price is low. The lines thus would be used to get the power from, say, the coal field to the big city where it is needed.

The new line will be made of three sections so three kinds of conductors can be tested at once. Measurements will be made on such factors as humidity, atmospheric pressure and temperature.

Contributing to the project also will be Kaiser Aluminum & Chemical Corporation, The Lapp Insulator Company, Inc., Ohio Brass Company, The Thomas & Betts Company and American Bridge Division of U.S. Steel Corporation.

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## TECHNOLOGY

### Economical TV Projector Eliminates Scratches

A CONTINUOUS television film projection system will enable local stations across the country "to combine the economy of 16-mm projection with 35-mm quality." Designed by Eastman Kodak Company for the General Electric Company, the projector incorporates a new diffused light system.

It is said to practically eliminate the effects of scratches and dirt particles on 16-mm films and to project a steadier image on the screen.

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## AERONAUTICS

### Radar System Maps Enemy Lines, Soldiers

A REVOLUTIONARY low-distortion, airborne radar system that can keep an eye on enemy troops in almost any kind of weather has been developed.

The radar can produce aerial maps of thousands of square miles of land per hour, night or day. The system gives U.S. field commanders near-photographic, up-to-the-minute information on troops and material movements well behind enemy front lines, and pinpoints targets scattered over wide areas.

Designed to operate at altitudes of 1,000 to 5,000 feet, the radar can see through camouflage, rain and fog. It also distinguishes between stationary and moving objects and can identify field ice, icebergs and fishing vessels that drift with the current.

In aerial photographs, objects at the edge of the picture appear to be smaller because they are farther away from the camera. The side-looking radar has a mechanism for correcting this distortion and everything in the viewing field is reproduced on the same scale.

The system, designed for the Air Force by Texas Instruments Incorporated in Dallas, Tex., can map from either piloted or unmanned aircraft at ground speeds of 200 to 900 miles an hour. It simultaneously records strips of terrain, either three or six miles wide, on both sides of the aircraft and relays the information back to a ground receiver station.

One modification of the system will allow mapping at ground speeds up to 2,500 miles an hour, and a second modification will map 10- or 20-mile widths.

It has already been used in the North Atlantic to identify icebergs, growlers, and field ice in fog.

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## CHEMISTRY

### Graphite Rolls Up Like Window Shade

THE LUBRICATING properties of graphite are due to microscopic layers, inside the graphite crystal, that roll up like window shades and act like roller bearings, recent research indicates. This modifies the older explanation—that the graphite layers slide over each other like a slippery deck of cards.

Dr. W. Bollmann and J. Spreadborough of the Battelle Memorial Institute, Geneva, Switzerland, found the tiny rolls by using an electron microscope which magnified graphite samples 24,000 times.

The lubricating quality of graphite changes with varying conditions of temperature, pressure and humidity. These changes are more easily explained by the roll-up theory than by the slide theory, the investigators reported in *Nature*, 186:29, 1960. If the layers actually slid over each other, they could become "locked" together by foreign atoms. If this ever happened, graphite would be no good as a lubricant.

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