

NUTRITION

Provide Food for Morale in Disasters

► PLANS FOR disaster feeding should be made with an eye to psychology as well as nutrition. The importance of this is stressed by Dr. James M. Hundley of the National Institutes of Health, Bethesda, Md., in the *Journal of the American Medical Association* (April 18).

If people have water to drink, they can survive for many days without food, so a high priority must be given to an emergency supply of safe drinking water.

Next on Dr. Hundley's list comes hot coffee, and it must be hot, for grownups, and milk for babies and children. This is primarily for the morale effect. This fills the first need in the hours immediately after the disaster. The hot coffee provides needed stimulation and the milk, besides being good for the children and babies, calms their parents' anxiety.

Provision of these two items shortly after a disaster is also helpful because it shows that "the community is still functioning, that others are not fleeing in panic and that doomsday has not yet arrived," Dr. Hundley declares.

Vitamins and a balanced diet can be safely forgotten during the first days after a disaster. It is unlikely that any one will be dependent on emergency feeding for much more than a week. Well nourished persons, even those on the edge of undernourishment before the disaster, will not develop deficiency diseases for lack of this or that vitamin or food essential within a week or so.

Food, therefore, should be planned primarily to relieve hunger and sustain morale. This, however, does not mean that any old food will do. The foods should be familiar, well liked foods that everyone will eat.

People who have just been through a disaster are much more likely to refuse unfamiliar or unliked foods than they would when not in such a state of stress.

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TECHNOLOGY

Slippery New Plastic Simplifies Cookie-Making

► A SLIPPERY new plastic with a tongue-twisting name, polytetrafluoroethylene, is helping cookie makers to satisfy the appetites of a hungry public.

L. W. Cornell, Minnesota Mining and Manufacturing Company development engineer, told the American Society of Mechanical Engineers meeting in Columbus, Ohio, that Teflon, as his company calls it, is so slick that dough does not stick to it.

Bakers have used it to coat their cookie trays. The trays carry a series of depressions into which dough is rolled to shape the cookie. The plastic prevents dough from sticking to the pan and also cuts cookie damage.

The plastic has other unique properties which suit it for use in jet aircraft, guided missiles, aircraft motors and electrical insulation. It works well at 500 degrees Fahrenheit and can stand intermittent temperatures as high as 600 degrees. It retains its flexibility at temperatures as low as 100 degrees below zero. Weathering has no effect upon it.

It is as inert chemically as glass. This means that it can be used to line vats containing hot nitric and sulfuric acid.

Although its price tag sports a large figure, it has economically replaced asbestos, specialty rubbers, bronze and cast iron in some applications.

Science News Letter, May 16, 1953

AGRICULTURE

Grain Planting Acreage Upped in Soviet Union

► THE SOVIET Union reports 8,000,000 more acres of grain and other crops were planted there this spring than in the spring of 1952, said Dr. Lazar Volin, Russian expert with the U. S. Department of Agriculture.

The Russian report did not give figures for the total spring planting of these small grains, however, Dr. Volin said.

Total acreage in the USSR devoted to grain and other crops in 1952 throughout the entire year has been reported by the Soviets—385,000,000 acres. This shows an increase over the pre-war figure of 378,000,000 acres for such crops, Dr. Volin said.

Science News Letter, May 16, 1953

INVENTION

Tires Pick Up Fewer Stones With New Groove

► STONES IN the grooves of your automobile tires will be much less of a problem if the kind of grooves recently patented are adopted.

The grooves, straight ones which go all around the circumference of the tire, are cut at an angle. Also on one wall of the groove there is a bulge and opposite the bulge an indentation. Inventors are William F. R. Briscoe and Verne H. Berry, Detroit, and they have assigned their patent, number 2,637,362, to the United States Rubber Company.

When the tread is pressed into contact with the road, the sides of the grooves nearest the outside of the tire are deflected inward. Thus the width of the groove is made much less, and thus only the smaller stones can get into the groove. Once the groove leaves contact with the road, it widens again. Then the tire loses its grip on the stone.

The inventors say that tires with these grooves were observed to have approximately 25 times as much resistance to stone pick-up as tires with the previously best-known stone-ejecting grooves. This was after the tires were used on a test road.

Science News Letter, May 16, 1953

IN SCIENCE

GERONTOLOGY

Crowded Homes Send Oldsters to Hospitals

► APARTMENT LIFE may be hard on old people, causing them to break mentally to such an extent that they become patients in mental hospitals.

A suggestion that this might be the case appeared in a study reported by Dr. Ernest M. Gruenberg of the New York State Mental Health Commission at the meeting of the American Psychiatric Association in Los Angeles.

Or, on the other hand, it may be that old people who are senile and mentally disturbed because of hardening of the brain's arteries cannot be cared for in small, crowded apartments.

The answer cannot be given without further study, but in Syracuse, N. Y., there is an area with high rates of first admissions of older people to mental hospitals, and this area coincides with the area of greatest crowding in multiple family dwellings.

The area does not coincide with the area of lowest socio-economic status but rather with that of low and medium rentals. Syracuse does not have very crowded, very low rental areas nor very crowded, high rental areas. Studies in other cities where these conditions do exist may show more about the relation of crowding to high rates of first hospital admissions of mentally sick old people.

Science News Letter, May 16, 1953

OPHTHALMOLOGY

Score Most Blindness As Inexcusable

► LITTLE OR no excuse remains for blindness of many kinds anywhere in the world, Dr. Derrick Vail, head of the department of ophthalmology, Northwestern University Medical School, Chicago, told the World Medical Association at its first Western Hemisphere conference in Richmond, Va. A new cause of blindness, retrolental fibroplasia, on the other hand, still baffles scientists.

"Blindness due to trachoma, ophthalmia neonatorum, most other ocular infections, cataract, detached retina, nutritional diseases and even glaucoma, can be avoided," he said, "if only the facts that are now known about the treatment and care of those conditions can be put into effect."

Premature babies, whose lives are now saved by improved obstetrical techniques, are now, however, developing a new form of blindness, "retrolental fibroplasia," Dr. Vail said. This disease was unknown before 1942.

Science News Letter, May 16, 1953

CE FIELDS

BIOCHEMISTRY

Arthritics Make Abnormal Body Chemical

► DISCOVERY OF a body chemical that develops in patients with arthritis was announced by Dr. C. P. Rhoads, director of Sloan-Kettering Institute for Cancer Research, New York, at the meeting of the Association of American Physicians in Atlantic City, N. J.

The chemical is an "abnormal hormone" produced by the adrenal glands which also produce cortisone, famous for the relief it gives to arthritis patients. The abnormal compound is called 17a-hydroxypregnalone.

This abnormal hormone was found in the urine of seven arthritis patients but not in the urine of 29 normal persons. With production of this hormone goes decreased production of normal hormones such as cortisone. Giving cortisone causes a drop in the amount of the abnormal hormone.

The discovery was made in research by the late Dr. Konrad Dobriner and Drs. T. H. Kritchevsky, Attallah Kappas and T. P. Gallagher, all of Sloan-Kettering Institute.

Science News Letter, May 16, 1953

PHYSIOLOGY

Body Thrifty With Muscular Energy

► TONIC CONTRACTION is not the normal state of healthy postural muscles, says Drs. H. J. Ralston and Benjamin Libet of the University of California Biomechanics Group in San Francisco.

Electromyographic research of recent years casts doubt on the common belief that "tone" or "tonus" in normal skeletal muscles means that they are in a state of partial contraction from continued nervous bombardment. Continuous activity of these muscles was supposed necessary to keep our bodies upright against gravity.

Electrodes inserted into the postural muscles of persons who are sitting or even standing in relaxed positions have shown that these muscles are electrically silent most of the time. Since the feeblest contraction of voluntary muscle is easily detected electrically, it must be concluded that our skeletal muscles are usually at rest when we are. A "springy," healthy skeletal muscle, that is said by the doctor to be "in good tone," is not actively contracted.

Then how do we maintain an easy upright posture? Largely through balancing on our bony skeletons and through the natural elasticity of our tissues. The body makes full use of the passive stretch of ligaments and muscles before the muscles will

actively contract to keep it from swaying and falling. When the postural muscles do come into play, it is only briefly, to put us in a new position of balance. These frequent shifts of position can be observed in anyone who is sitting or standing at rest.

For investigators believing the postural muscles to be continuously active, the fact that they did not easily fatigue was a perplexing problem that called forth elaborate and ingenious explanations. The problem of not fatiguing is happily simplified if there is no prolonged contraction of these muscles.

This view that the body is more parsimonious of muscular energy than previously supposed appears in the *American Journal of Physical Medicine* (April).

Science News Letter, May 16, 1953

INVENTION

Patent Method of Scrambling TV Pictures

► A METHOD of sending scrambled TV pictures during wartime received patent No. 2,636,936. Invented by Dr. Alfred N. Goldsmith, chairman of the board of technical advisers for the Radio Corporation of America, New York, the system presents a jumble of light on video screens unless the receiver is equipped with an oscillator to straighten out the picture. The method can be used in pay-as-you-see-it TV areas to prevent non-subscribers from watching the program without cost. Dr. Goldsmith assigned his patent to RCA.

RCA also was assigned patent No. 2,636,671 covering a radio and TV audience-counting system invented by Robert Evert Shelby of Teaneck, N. J. The system reveals how many radio or TV sets are tuned to a given station. It eliminates the need for surveying the audience by telephone or for house-to-house visits.

Science News Letter, May 16, 1953

TECHNOLOGY

Underground Water Used in Air Conditioning

► RADIANT ENERGY and subterranean water have been harnessed to operate a unique all-year air conditioning system built into a \$7,000,000 general hospital being completed in Glen Oaks, N. Y.

During summer operation the 500-bed Long Island Jewish Hospital will be cooled by circulation of underground water at a natural temperature of 50 degrees. This will be done through ceiling and wall coils. In winter the same coils will be utilized to circulate heated water, warming the rooms through radiation.

An elaborate control system, developed by Minneapolis-Honeywell engineers and utilizing some 300 thermostats, sensitively regulates the radiant panel heating, or the cooling, in each of the hospital's rooms and work areas.

Science News Letter, May 16, 1953

PSYCHOLOGY

Authoritarian Tendency Less With Extreme Drive

► PERSONS WHO are notably high or low in their need for achievement are less likely to be authoritarian than those whose need for achievement is of moderate intensity.

This was found by Dr. David C. McClelland and his colleagues, Henry N. Ricciuti and Edward O. Swanson, at Wesleyan University in a study looking for ways to predict degree of success in school.

They developed a method for analyzing stories for particular kinds of imagery that shawed an achievement drive. The stories were told in tests designed to show how clearly new ideas and knowledge are interpreted.

Persons who are high in need for achievement as determined by their methods show much greater improvement in performances of complex tasks in the course of a short learning period than do those who are low in achievement need. They also are more resistant to social pressures designed to instill them with erroneous suggestions.

Science News Letter, May 16, 1953

PSYCHIATRY

Nervous System Makes People Argue Both Sides

► IT IS not a sense of fair play but the way the nervous system reacts to emotions that makes a person present both sides of an argument when he feels strongly on the subject.

This explanation was given by Dr. George F. Sutherland of the University of Maryland School of Medicine, Baltimore, at the meeting of the American Psychiatric Association in Los Angeles.

The same mechanism explains why a person feels better after he "blows his top," Dr. Sutherland said.

The effect of an emotional stimulus is thrown off through a series of rhythmic swings that get weaker and shorter like a pendulum slowing down, according to Dr. Sutherland's theory. As a further example he said:

"In a speech, the politician usually begins by denouncing the opposition. After a time he will continue with an apparent change of heart and even on occasion make some mildly complimentary remark with regard to his opponent.

"This phase, however, is short-lived and seldom as enthusiastic as his original contention to which he soon returns. The second attack is never as vehement or lengthy as the first.

"This alternate talking 'for' and 'against' continues until a point is reached where he has nothing further to say on the subject. He then consults his written or mental notes and starts in afresh, repeating the same maneuver on the next topic."

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