

## NUTRITION

**Try to Improve on Hen by Oiling Eggs**

➤ NAVY SCIENTISTS are trying to improve on the hen's manufacturing processes by a new method of oiling eggs before shipping them to the fleet.

The idea is to give U. S. sailors a tastier egg, and commissary officers an egg that will store 60% longer than eggs now oiled by dipping.

Called the "thermostabilized shell egg," it is sprayed for 15 minutes with oil at a temperature of 135 degrees. This causes a thin film of egg white to form inside the shell, throwing up an extra barrier to bacteria that penetrate the porous shells and spoil the eggs.

The Navy also is working on a better-tasting dried egg product. Scientists are trying to get rid of the "off-flavor" of past dried eggs, which has been traced to a breakdown of glucose in the egg.

They have found that this glucose can be removed by treating the raw egg with a baker's yeast or a special enzyme. After this is done, the egg is dried to a low moisture content.

Both enzyme- and yeast-treated eggs are to be tried out on sailors aboard destroyers in the Atlantic. Fresh and frozen eggs will be tested.

Science News Letter, July 31, 1954

## GEOLOGY

**No Uranium Prospectors Comb Mexican Hills**

➤ THERE ARE no get-rich-quick uranium hunters in Mexico. Unlike the United States, Mexican laws make it totally impractical for individuals to prospect for radioactive minerals.

Immediately after the explosion of the atomic bombs over Japan, the Mexican government decreed that all radioactive materials found in Mexico were part of the national mineral reserves. There has been no basic change in this law since it was issued in August, 1945.

Under existing laws, if a Mexican geologist or amateur prospector discovers radioactive material, he must report the find to the Mexican Government within 30 days. The material then becomes the property of the Government. The discoverer receives no reward, nor is the owner of the land compensated.

Failure to report a discovery of radioactive material, whether made deliberately or inadvertently, can result in a sentence of 10 years and a fine the equivalent of 80 cents to \$800 in U. S. money.

Extracting, refining, transporting or producing radioactive material is controlled by the Government, and any scientist working with radioactive material must have the consent of the Government or face losing his license for from two to six years.

Importing and exporting radioactive material without the consent of the Govern-

ment is punishable by six to 12 years in prison and a fine the equivalent of \$40 to \$1,600 in U. S. money.

In 1949, the law was modified to allow private industry to mine radioactive minerals for the Mexican government. However, because of the complicated contractual agreements involved, there are no companies mining radioactive materials in Mexico today.

At present, only one uranium field has been described in a published report, in the State of Chihuahua, bordering Texas.

Until a program similar to that of the United States, based on reward to the individual or a planned government survey, is worked out, there will be only sporadic and accidental reports of radioactive mineral fields in Mexico.

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## SURGERY

**Surgery Better in Ruptured Disk Cases**

➤ THE PATIENT with sciatica and backache from a herniated, or ruptured, disk in the lower back had better have the disk removed surgically if he wants to get back to full time work and avoid further attacks of pain and disability.

This appears from a report by Dr. Clark H. Millikan, now at the Mayo Clinic, Rochester, Minn., in the *Journal of the American Medical Association* (July 24). Dr. Millikan was formerly at the State University of Iowa, Iowa City.

Dr. Millikan followed 429 patients with protruded intervertebral disks in the lumbar region who were treated three or more years previously. Of these, 329 had operations, 100 were treated conservatively.

Conservative treatment consisted of absolute rest in bed for 10 to 14 days with heat and massage, pain relieving drugs, and instructions when the patient left the hospital to sleep on a hard bed and to avoid sudden twists or strains of the low back. The operation was one in which much of the herniated disk as well as the protruded portion pressing on nerve root was removed.

Of the patients treated by operation, 50% were able to return to their former jobs and work at 100% capacity. Of the conservatively treated, only 30% could do this. Only five percent of the ones who had operations had a return of their sciatica and back pain, compared to 60% of those treated conservatively.

Summing up, Dr. Millikan says an operation should probably be done when there is progressive paralysis or loss of sensation; when an extremely severe, protracted attack of sciatica does not respond to conservative treatment; when there are repeated attacks of sciatica with the production of considerable incapacity; when there is failure to improve during an adequate trial of conservative treatment or when the patient cannot afford, for economical reasons, to continue conservative treatment for an indefinite period of time.

Science News Letter, July 31, 1954

**IN SCIENCE**

## PSYCHOLOGY

**Music Helps Prevent Juvenile Delinquency**

➤ TO KEEP your child from becoming a juvenile delinquent, teach him to play a saxophone or the piano.

This advice comes from Dr. Hazel Nohavec Morgan, Northwestern University music educator, who contends that children who learn how to play a musical instrument do not become juvenile delinquents.

"Music enhances a child's feeling of belonging," she said, "It gives him, among many other things, an outlet for his emotions and makes his whole life richer."

Dr. Morgan believes that parents should be more interested in what music does to their child than what their child does to the music.

"There is nothing worse," she emphasized, "than parents who push a child with average talent into a full-scale program of formal lessons and enforced practice sessions. Any art learned under compulsion yields nothing but permanent antagonisms."

On the other hand, Dr. Morgan advises that parents with a musically gifted child should see that he is allowed to develop his full potentialities.

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## GEOLOGY

**Australian Dry Lake Full of Water and Fish**

➤ AUSTRALIA'S LAKE Eyre, normally a dry desert, for the first time within living memory is full of water and teeming with fish.

Although white men have been in Australia over 150 years, topographical knowledge and geographical information of the vast continent is still sparse.

Aerial surveys have revealed a great deal, but there is still one part about which very little is known. That is the desert region along the border line of South Australia.

Bushmen who have lived around this region all their lives are puzzled by appearance of water in the lake after years of drought.

Scientists who visited the lake in former years have said it would never be full of water again. They said fish would never live in the lake because it was too salty.

Now nomad aboriginals have reported that the lake is teeming with fish. Where do all the fish come from? Do they live in mud during the time the lake is dry?

Michael Sawtell, famed old timer of the inland, said a few years ago he saw thousands of pelicans near Lake Eyre. Pelicans live on fish.

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# CE FIELDS

## TECHNOLOGY

### Titanium Is Giving Better Kitchen Enamel

► TOUGH FLEXIBLE enamel made of titanium dioxide is going into service in kitchenware as the result of extended research by the department of ceramic engineering at the University of Illinois.

Use of this porcelain enamel eight-thousandths of an inch thick instead of one-fiftieth of an inch thick as on older coatings will make it resistant to bumps and bangs. Metal having the thin enamel coat can be bent back and forth without breaking the glass finish.

The new titanium enamel has been used previously upon refrigerators, stoves and other large objects, replacing the antimony and zirconium types of earlier years.

A group of porcelain enamel concerns provided the ground-up titanium "frit," which is the material used in the enameling, and cooperated in the research by Drs. Arthur L. Friedberg and F. A. Petersen.

Science News Letter, July 31, 1954

## DERMATOLOGY

### Housewives' and Sailors' Hands Lack Acid Mantle

► HOUSEWIVES AND sailors and others who suffer from the skin trouble popularly known as housewife's or dishpan hands have lost the "acid mantle" from their skin.

Evidence for this and good results with a skin cream that is on the acid side are announced by Dr. Paul Gross of Columbia-Presbyterian Medical Center, New York, and associates in the *Archives of Dermatology*.

Dr. Gross calls the skin trouble a form of nummular eczema. The word nummular refers to the coin-shaped spots on the skin. Chapped hands and ankles and cracks on hands and fingers are all part of the same trouble that comes because the normally acid protecting layer of the skin has been removed by soap, detergents and alkalis in general.

Special tests to show whether the skin can neutralize alkalis distinguish the condition from other eczemas such as come from contact with irritating substances. Skin of patients with housewife's eczema and nummular eczema has lost the ability to neutralize alkali. Skin of patients with contact dermatitis and without eczema is acid enough to neutralize alkali.

Physicians, dentists, nurses, hairdressers and others whose work calls for frequent contact with soap and alkalis suffer from the same skin trouble and can be helped by the same means.

These means, Dr. Gross reports, consist

in taking care of nutrition, especially the vitamin A content of the diet, and in using a cream or ointment that is acid.

The one he and his associates found gives good results is an oil in water emulsion containing a buffered solution of aluminum acetate. It is called Acid Mantle Creme by the manufacturer, Dome Chemicals Inc. It is now being made available to the medical profession.

Dr. Gross' associates in the study of this widespread skin condition and the new cream were Dr. Milton B. Sloane, also of Columbia-Presbyterian, and Drs. Milo O. Blade and Benjamin J. Chester of the U. S. Public Health Service Hospital, Stapleton, Staten Island.

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## MEDICINE

### Industrial Know-How Aids Cancer Treatment

► INDUSTRIAL KNOW-HOW is working to bring better, cheaper cancer treatment. The principle of "automation," used in many automatic industrial production machines, has been used in a new cancer treatment unit by the W. F. and John Barnes Company, manufacturer of special machines and automatic controls, Rockford, Ill.

The new unit is the first to use radioactive cesium for a source of cancer destroying radiation. Cesium, a by-product of the atomic energy program, is produced when uranium atoms are split. It makes up about six percent of fission wastes.

The radioactive cesium for the unit was prepared by the Oak Ridge National Laboratory. The showing of the treatment unit in which it was incorporated was in the nature of a preview for the evaluation board of the Oak Ridge Institute of Nuclear Studies medical division.

The unit is known officially as a cancer teletherapy unit, meaning that the radiation treatment is given externally. It is described as featuring "universal control and a built-in computing machine to direct a pre-set treatment pattern."

In operation, the unit is controlled in a way similar to that used for automatic anti-aircraft gun control.

Automatic control devices and the built-in computing machine keep the radiation beam focused on the tumor throughout the various movements, with the therapist sitting at a control console directing the treatment pattern. Controls are designed so that when certain patterns of movement have been determined for treatment of individual cases, they can be repeated automatically and accurately for the duration of each dose by means of simple setups of the control mechanism.

After a brief test period, the machine will be shipped to Oak Ridge where a long period of testing the characteristics of the unit and its radiation source will be carried out before it becomes available for treatment of patients.

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## TECHNOLOGY

### Chemical Heat Exchanger Used in New Package

► USING THE same "heat-of-fusion" principle proposed for storing solar heat in temperature conditioned houses, Dr. Maria Telkes, New York University research associate, has cooperated in the development of a new package for shipping medical specimens that maintains temperatures for three days.

Particularly designed for shipment of living tissue cultures of cancer cells used for testing the Salk polio virus, the new package contains a salt solution that takes up heat when the package gets too hot and gives it off when it gets too cold. In this way, the temperature can be limited between 37 degrees and 100 degrees Fahrenheit for 72 hours.

The heat is supplied or taken up by the change in the form of chemical salts, such as Glauber's salts. Such chemicals, when solid, absorb heat until they melt. When they are liquid, they give off heat in crystallizing.

The container could be adapted for shipment of drugs, food and other materials that need temperature control during transportation. The National Foundation for Infantile Paralysis paid for the development, which was undertaken by the research division of New York University's College of Engineering.

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## NUTRITION

### Fight Fat With Packages Of Food for 14 Meals

► FOURTEEN PRE-PACKAGED meals have been prepared for fat people who find it "impossible to lose weight" or who, after losing a few pounds, "simply cannot lose any more."

A California physician, Dr. Louis Shattuck Baer of Burlingame, Calif., and one of his patients have worked out a 1,100-calorie per day reducing diet that is not a diet list, but the actual food the person desiring to reduce would consume.

It is a two-week course in eating. There are 14 packages, each containing breakfast, lunch and dinner for one person. Each meal is different. The noon meal is wrapped so that it can be easily and inconspicuously carried by the person who must eat, lunch away from home. All the foods are cooked and require only heating or chilling. The diet packages may be stored at room temperature.

Dr. Baer points out in the *Journal of the American Medical Association* (July 10) that it is very encouraging to patients to find that they can lose weight without drugs of any type.

The completeness of the packaged diet is a major factor in helping patients to avoid the temptation to eat more than just what is provided.

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