

on the run; 1. The decrease in poverty caused by abundant employment in wartime. 2. The greatly increased provision of milk for all children and of solid meals for school children. 3. The long "changes of air" due to evacuation of children from congested cities to the country.

The last two causes are not likely to affect us much in this country, but the first, decrease in poverty because of wartime employment, is and this

cause, Dr. Glover believes, has been the most important in accelerating the decline of the disease during the war.

The main cause of the decline, however, is in his opinion of a more subtle nature and is a change in the relationship between man and the streptococcus germ which plays an important part in rheumatic fever, though scientists have not yet agreed whether or not this germ causes the disease.

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#### NUTRITION

## Electrons To Dehydrate

The moisture content is reduced to only one per cent by use of radio-frequency energy in a new process of food dehydration.

► BETTER food dehydration through use of radio-frequency energy to drive out the moisture has been developed. The process makes possible for the first time removal of 99% of the moisture content from a compressed vegetable block, reports Vernon W. Sherman of Federal Telephone and Radio Corporation, who developed the method in cooperation with the Office of the Quartermaster General of the Army.

Evidence indicates that vegetables dehydrated by the electronic method will not deteriorate over a period of one to two years even in hot, humid climates.

As a first step, 80% of the water content of vegetables is removed by conventional dehydration. The vegetables are then compressed into blocks from which the remaining moisture is reduced to one per cent by radio-frequency energy in a partial vacuum. Since other methods of drying require the exposure of as much of the vegetable surface as possible, this process of compressing the vegetables into tight blocks, prior to drying them further, is unprecedented. It is done to concentrate a large amount of food in a small magnetic field for reasons of economy.

About five per cent moisture is generally left in the food by ordinary dehydration using hot air, which involves danger of spoilage, especially in the tropics. Attempts to reduce this moisture content by warm air often give the dried vegetables a tough, blackened skin, called "case hardening," but this does not occur when radio-frequency energy of the proper wavelength is used. Drying is accomplished in about an

hour. The shortwave energy is actually turned on only a part of this time. Due to the speed of the process, apparently, the vitamin content of the dried foods is reported to be unusually high.

The temperature throughout the foods being dried is said to be remarkably uniform, unlike the difference between the outside and inside of food under dehydration by other methods. Electronic drying is well adapted to automatic straight line production, and from laboratory results engineers calculate that one pound of water may be removed electronically as described with less than one kilowatt hour of energy, costing about one cent, which compares favorably with the cost of other methods.

Plans are being considered for construction of a 50-kilowatt electronic food-drier, which would handle six tons a day of dried food, equivalent to perhaps sixty tons of fresh food, to test the new food dehydration method on a commercial scale.

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#### BOTANY

## Bulging Palm Trunks Have Varied Uses

► ONCE IN A WHILE we find nature in a curiously generous mood towards mankind. In western Cuba and on the Isle of Pines, for example, there is a species of palm tree with a big hollow bulge about half-way up its trunk that gives it the quite appropriate name of "palma barrigona" or belly palm. Botanists know it as *Colpothrinax Wrightii*. This bulge is of no discoverable use to

the palm itself, but the country people living in the limited area where it grows find it handy for a wide variety of purposes.

Cut out of the trunk with enough of the solid portion to keep both ends closed and with a bung-hole cut through one side, it becomes a very practical barrel. With a larger opening hacked into the side, it is a watering-trough for livestock. With one or both ends cut off and the openings loosely covered with boards, it is a satisfactory beehive of the more primitive sort. Set on end with the top open, it is a container for any kind of dry materials. Cut across the middle and the two halves upended, it becomes a pair of flowerpots. It has even been made into small canoes by splitting lengthwise.

This remarkable palm is described and pictured in a book recently published by the Botanical Institute of the University of Montreal under subvention of the Atkins Institution of the Arnold Arboretum. Beautifully written in limpid and simple French, excellently illustrated, it appears under the authorship of two leading Canadian botanists, Frère Marie-Victorin and Frère Léon, both of the Brothers of the Christian Schools. The former is at the University of Montreal, the latter at LaSalle College in Havana.

The book, titled *Itinéraires botaniques dans l'île de Cuba*, is simply a day-by-



**BULGING** — Cuba's curious belly palms show their bulging figures to advantage in silhouette against a sunset sky.



**USEFUL**—The hollow "belly" of one of the palms, mounted on a pair of wheels, becomes a very practical tank cart for hauling a farmer's water.

day account of what the two men saw in a season's bumping around on country roads in the interior of Cuba—country that most travellers would consider deadly dull. Much of the territory they traversed would be a sad disappointment to the unprepared visitor of the tropics, for there is no lush, green jungle, no tangle of snake-infested lianas, no exotic orchids. On the contrary, the country is dry, open, grassy or scrubby.

Yet this is just as genuinely the tropics as the stuff in the travel-folder illustrations. And for those prepared to look, there is much to see. There is a great deal of interest, for example, in the ways in which the plants adapt themselves to the more or less arid environment: by fleshy stems in cacti, by succulent leaves in some of the euphorbias, by tough, harsh-textured vegetation.

You even have to dig for your knowledge with a spade, for a surprising number of plants bury their biological treasures under ground to keep them from fierce sun and thirsty air. A wisp of leathery, dark green leaves on wiry stems may be attached to a root or rhizome a couple of feet deep and as thick as your arm.

People from the southeastern United States might be startled at seeing an old friend from home—the Southern liveoak—on the uplands of the western end of the island. This outlier is stated to be the southernmost known station for the liveoak. To give the scene an even more familiar flavor, the oaks are intermixed with pines. They are of an endemic Cuban species.

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species of tick, commonly called the Lone Star tick because of the star shaped marking on its back. The disease was therefore variously dubbed Bullis fever, Lone Star fever, or tick fever.

No guess is hazarded by the Army physicians as to the cause of the disease. But they believe that further laboratory investigation will prove that it is transmitted to man through tick bites.

Since the disease first cropped up last year, cases have been increasing in frequency and severity in the San Antonio area. During May and June 485 patients with symptoms characteristic of the disease were admitted to Brooke General Hospital at Fort Sam Houston.

The disease may be more widely distributed than has been recognized, the physicians point out. Because there will be heavy troop concentrations in rural areas during the war, they believe that the attention of medical officers should be called to the occurrence of this baffling set of symptoms.

In many ways Bullis fever resembles other acute feverish illnesses. Colorado tick fever, dengue fever, malaria, typhus and Rocky Mountain spotted fever were all considered as possible diagnoses and eventually discarded.

Outstanding clinical features include severe headache, inflammation of the lymph glands, unusually low white blood cell count, and high fever ranging from 102 to 105 degrees Fahrenheit. General weakness occurred during the fever stage. Loss of weight was observed in many of the men and convalescence was protracted. In the more severe forms of the disease a fleeting rash appeared early, resembling German measles, and at times typhus, but disappeared within 48 hours.

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#### MEDICINE

## New Disease Attacks

**Bullis fever, an unidentified malady which has attacked troops at Fort Sam Houston, Texas, is increasing in frequency and severity.**

➤ **BULLIS FEVER**, a new, unidentified disease that has attacked troops at Fort Sam Houston, Texas, is believed described in the medical literature for the first time (*Journal, American Medical Association*, Aug. 21).

Col. John C. Woodland, Maj. Mordecai M. McDowell and Capt. John T.

Richards, Medical Corps, Army of the U. S., report that the mystifying set of symptoms was first noticed in a group of acutely ill soldiers who had been on maneuvers at Camp Bullis, a military reservation about 20 miles west of Fort Sam Houston.

All of the cases had been bitten by a

#### MEDICINE

## Black Eye Camouflaged By New Preparation

➤ A QUICK, easy method to camouflage that black eye is offered by Dr. H. Goodman of New York, (*Pennsylvania Medical Journal*, June).

He prescribes a preparation of bismuth subnitrate suitably colored with carmine and calamine to match your skin. Soap and water cleaning of the discolored area, a layer of glycerin, then the powder and you can go home without embarrassment.

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