

● RADIO

Dr. W. W. Bauer, director of the American Medical Association, will discuss with Miss Jane Stafford, Science Service medical writer, research being reported at the meeting of the Association, as guest scientist on "Adventures in Science," with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, June 5, 3:45 p.m. EDST, 2:45 EST, 1:45 CST, 12:45 MST and 11:45 a.m. PST. Listen in on your local station. Listen in each Thursday.

Two servings of vegetables daily, one of which should be green or yellow.

Two servings of fruit daily, one of which should be a good source of vitamin C, such as the citrus fruits or tomatoes.

Bread, flour and cereal, most and preferably all of it whole grain or the new, enriched bread, flour and cereals.

Some butter or margarine with vitamin A added.

Other foods to satisfy the appetite.

Total number of calories are set at 3,000 for a moderately active man and 2,500 for a moderately active woman.

Cheaper cuts of meat, Dr. Roberts reminded, are just as nourishing as the more expensive ones.

Many people, in fact the majority of Americans follow this pattern now in planning their daily diets. They do not always quite come up to the yardstick, however. The green vegetable, Dr. Roberts pointed out, may only be a scrap of lettuce under a salad, and even if a more generous serving is given, it may not all be eaten.

Defense on the nutrition front calls for actually eating daily the food allowances set by the new yardstick.

The minority who do not now get meals up to the yardstick make up about one-third of the population. Plans are being considered at the Conference to help them bring their daily meals up to defense diet standards.

Science News Letter, May 31, 1941

BOOKS

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ENGINEERING

Electrical Currents Prevent Corrosion of Submerged Pipes

All Corrosion of Pipe in Contact With Water or Moist Earth Is Caused by Electrolytic Action

HOW electric currents can counteract the process by which submerged pipes act as parts of an electric battery and are corroded was described to the meeting of the American Petroleum Institute by N. A. Miller, of Universal Oil Products, Inc.

Mr. Miller declared that all corrosion of metal in contact with water or moist earth takes place by just one means, that of electrolytic action. In this process, the metal pipe or other structure forms one pole of a battery. The other pole may be formed by another metal, or spots of impurity or mill scale on the first. Current flows from the anode to the cathode, and the former is gradually consumed.

To counteract this process, the current must be made to flow the other way. Sometimes pieces of other metal are placed nearby, which will become anodes more easily than the metal to be protected. Then, the latter becomes the cathode, and is not corroded. But still better is the application of a direct electric current to flow in the proper direction.

Mr. Miller described installations of such a system by oil refineries, especially in pipes of open tank condensers. Though the operating records are meager, he stated, "what information we do have indicates positive beneficial results." He urged further investigation of the subject, and pointed out that records available concern locations where corrosion was initially very bad.

"Additional data are necessary to establish the economics involved in the border-line cases," he concluded.

Science News Letter, May 31, 1941

Living Organisms Blamed

BACTERIA and other living organisms are responsible for some kinds of corrosion, which may affect non-metallic as well as metallic objects. W. J. O'Connell, Jr., of the technical division of Wallace & Tiernan Products, Inc., told the meeting about these pests, and methods of combating them.

One kind, for example, affects con-

crete. The bacteria produce hydrogen sulfide gas, which reacts to produce sulfurous or sulfuric acid, either of which will attack the concrete.

He pointed out that methods for controlling these organisms are well known, but that attention must be paid to physical, chemical, electrochemical, biochemical and biophysical aspects of the problem in applying them.

Science News Letter, May 31, 1941

NUTRITION

Feather-Weight Rations For Parachute Troops

FEATHER-WEIGHT rations for ski and parachute troops are being studied by the U. S. Army. Also in the experimental stage are thirst-quenching tablets for soldiers on the march.

Describing these newest tight-packed foods, Miss Mary Barber, food consultant to the Quartermaster General's office, emphasized that research to perfect them is still going on, and the foods are not yet accepted for Army use.

A sample of the emergency ration for ski and parachute troops resembles a slab of brown toast. It will probably contain pemmican, which is jerked meat, and also whole wheat flour, soy flour, and molasses. It will provide about 450 calories for energy, which, as army rations go, is a "light lunch."

Anti-fatigue tablets with which the Army is experimenting contain dextrose, which is fruit sugar and a good source of energy. They also contain citric acid and vitamin B₁. They stimulate the flow of saliva, Miss Barber pointed out, and serve to relieve thirst on the march. Evolving its anti-fatigue tablets, the U. S. Army has studied foreign special rations, including some furnished German troops.

Science News Letter, May 31, 1941

Selected *Indians* at several CCC training centers are being taught modern signaling methods, important in defense.