

that is needed is the addition of hot water.

This new feeding system, Col. Jackson reports, will not limit combat feeding of perishables to Christmas, Thanksgiving and special holidays. Instead, it will almost make every day a holiday in the sense the soldier will be getting varied hot meals.

### Advantages of the New System

The saving to the taxpayer, who annually foots the Army's \$520,000,000 grocery bill, will be substantial. Space will be saved, the number of cooks reduced, and transportation and storage problems alleviated.

The meals are also designed for the mobility needed in a nuclear war, where troops might have to rely on air drops much more than they have in the past.

One of the biggest problems solved, Col. Jackson thinks, will be that of eliminating the boredom and monotony of Army eating—a traditional gripe of the American soldier.

In addition to worrying about the fellow in combat, the Quartermaster Corps researchers have been working to change the menus for the soldiers who have just come off the battle line for rest and rehabilitation. This is a big problem, Col. Jackson notes.

"We hope to change the types of cuisine," he says. "In this way, we hope to eliminate the criticism of the monotony of food that accompanies troops just back for a rest."

### Complaints Removed

The Army admits current rations, when eaten over a long period of time, become quite tiresome. Tests conducted during and since World War II have shown this to be true. Canned meats, for example, when fed to troops for some time, elicit complaints of tastelessness from the soldiers, as well as jokes. Therefore, to bolster morale and correct the situation, the Army is planning "a completely different family of foods," to serve the men in rest camps.

They will try to simulate the "A" ration or Stateside menus much more than the "B" ration or canned goods, now used.

To achieve this goal, the Quartermaster scientists will rely on uncooked, dehydrated and irradiated foods that can be shipped and stored without refrigeration.

Although cooks will still be needed in the rest areas, it appears the era of "cooks and bottle-washers," at least in combat, is fast coming to an end.

Science News Letter, May 11, 1957

## RADIO

Saturday, May 18, 1957, 1:45-2:00 p.m., EDT "Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Col. William D. Jackson, chief, office of research and development, Office of the Quartermaster General, U. S. Army, will discuss "Atom Meals."

### METEOROLOGY

# Computers Aid Prediction

► WEATHER TRENDS for years in advance will be forecast within the next ten years with sufficient accuracy to have "economic usefulness," a U. S. Weather Bureau expert predicted.

These long-range outlooks would show such weather patterns as a drought lasting several years, Jerome Namias, chief of the Bureau's extended forecast section, told a joint meeting in Washington of the American Meteorological Society and the American Geophysical Union.

Several groups, including one at the Weather Bureau, are working to find sound methods for extending the future time covered by valid weather forecasts, now limited to 30 days. Although there is no information now available to show seasonal and longer predictions work out to a higher degree of accuracy than by chance alone, Mr. Namias said he expected a "break-through within the next ten years."

The reason, he reported, is the "sheer ability" of electronic computers to handle tremendous mountains of data. Using giant

"brains," meteorologists can test "thousands of ideas in the time they previously could have checked only one."

Mr. Namias said statistical long-range weather predictions based on past records would be totally explored within five years. These explorations would highlight the nature of the problem, which could then be solved within the following five years.

A more immediate step in automatic weather prediction was outlined by Dr. George P. Cressman director of the Joint Numerical Weather Prediction Unit, run by the Navy, Air Force and Weather Bureau.

By 1958, electronic computers will not only be making weather forecasts, he said, but a curve plotter attachment will become available for automatically drawing the resulting weather map for any number of stations around the country.

Whether this system will be put into use depends on administrative and legislative decisions.

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### PHYSICS

# Examine Russian Photos

► U. S. SCIENTISTS may soon be doing their experiments aimed at learning about the structure of atomic cores using photographic emulsions exposed in Russia.

They will, that is, if both Governments agree to such an international scientific exchange. Hope for this development was expressed informally by physicists attending the Seventh Annual Conference on High Energy Nuclear Physics at the University of Rochester, N. Y.

Two reasons for the American scientists' hopes are: 1. Russia is now operating the world's largest atomic particle accelerator, at an energy of 8.3 billion electron volts (Bev), more than two Bev higher than the biggest in the U. S., the University of California's bevatron at Berkeley; and 2. both the bevatron and the second largest U. S. machine, Brookhaven National Laboratory's cosmotron, have been out of operation for several weeks now due to mechanical difficulties. The backlog of emulsions accumulated when the two machines were running has been fairly well exhausted.

Since any large atom smasher in operation produces more emulsions than can be analyzed at one institution, both the Berkeley and Brookhaven groups send many of those produced to physicists at other institutions around the country and abroad outside of the Iron Curtain.

Prof. Marian Danysz, Polish co-director of the Joint Institute for Nuclear Studies about 90 miles from Moscow, told SCIENCE SERVICE the Russians hope to have their big new machine, a proton synchrotron

that the Russians call a synchrophasotron, operating at a level of nine Bev within "two or three months." They plan, he said, to do some experiments at that level before increasing the energy to ten Bev.

Both Prof. Danysz of the University of Warsaw and Prof. Vaclav V. Votruba, also a co-director of the Joint Institute, agreed that the reported Russian atom smasher of 50 billion electron volts is still in the "planning stage." (See SNL, April 27, p. 261).

Science News Letter, May 11, 1957

### NUTRITION

# Food Protein Increased By Adding Fish Flour

► ADDING a small amount of defatted fish flour to millet and grain sorghum results in as much as six-fold increase in the body weight of rats fed on this kind of diet, Dr. Barnett Sure, University of Arkansas, Fayetteville, reported to the American Institute of Nutrition meeting in Chicago.

The defatted fish flour is a mixture of carp, smelts and whittings and increases the protein efficiency of the foods as well as the body weight, he reported.

When five percent defatted fish flour was added to the proteins of grain sorghum, the animal's body weights increased by 644% and the protein efficiency ratio, which is the gain in weight per gram of protein intake, increased by 213.2%.

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