

## NUTRITION

# Reducing?—Cut Proteins

► PERSONS WHO want to reduce weight can check their appetites by cutting down on the amount of protein foods, such as meat, fish, eggs and milk, they eat.

This will make them want less of other foods and so cut down on total calories consumed (see SNL, March 21, 1953, p. 179).

For successful reducing, however, fat people must follow a "ritual" of fixed conditions about the kind of foods, meal times, tempo of eating, exercise and even early rising in addition to cutting down on the calories.

Studies showing this were reported by Drs. Vincent P. Dole, Irving L. Schwartz, Jorn Hess Thaysen, Niels A. Thorn and Lawrence Silver of the Rockefeller Institute and Hospital, New York, in the *American Journal of Clinical Nutrition* (Nov.-Dec., 1954).

They put 42 very overweight men and women on a new kind of reducing diet in which only the protein was restricted. Patients could have all the butter, sugar, jelly and rock candy they wanted.

They also got unlimited amounts of fruit for dessert and of fruit juice. Portions of vegetables were generous. Those who liked cereal with cream for breakfast got it, though they were then limited to one slice of toast instead of three.

There was even cake for dessert. But the meat and fish were limited to servings measuring two by two by one-fourth inches, with two strips of bacon making a serving, and only one egg if eggs were substituted for meat at lunch or dinner.

Some of the very fat people put on this diet weighed more than two and a half

times the average weight for their age and height. Many of the patients, 32 of the 42, lost about a quarter of a pound (100 grams) a day. They continued to feel well and tests showed their livers were not damaged.

Discouragingly, however, after the patients were discharged from the hospital most of them returned to their previous ways of eating. When seen three to 12 months later, 52% had regained all of their original weight, 30% had remained nearly steady and 18% had continued to reduce without supervision.

As a check to see whether the protein restriction actually had reduced appetites, the doctors during the test prescribed a high protein supplement for some of the patients. This led to an increase in the amount eaten from the unrestricted part of the diet, showing the protein restriction actually had reduced appetites.

Other factors entered into the weight loss while the patients were in the hospital.

For example, there was no raiding of ice boxes for a late evening snack, although the patients were allowed to save a slice of heavily buttered bread and jam from lunch to eat with fruit juice at bedtime. No alcohol was served, although most of the patients had been accustomed to taking it in moderate amounts. And the foods, although fully adequate according to diet tables, were not what the patients would have chosen for themselves.

Limiting protein in the diet therefore turns out to be a useful aid in reducing but, as with any other diet, medical supervision is necessary for the low protein diet.

Science News Letter, January 22, 1955

compared to the acreage utilized by the sources.

Reduction of smog-forming vapors at the source is accomplished, Dr. Larson said, by the installation of collection equipment, improving the design of basic equipment, or through operational changes which inhibit the discharge to the atmosphere. Possible methods are centrifugal collectors, electrical precipitators, cloth filters and wet collectors.

The third flank of attack, dilution at the source, is accomplished by using sufficient air to make the discharge unobjectionable. Tall stacks are one application of this principle.

Science News Letter, January 22, 1955

## ● RADIO

Saturday, Jan. 29, 1955, 5:00-5:15 p.m. EST.

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Charles D. Marple, medical director of the American Heart Association, and Dr. John W. Ferroe, Director of the Division of Community Service and Education of the American Heart Association, will discuss "Your Heart."

## PUBLIC HEALTH

### Study Smog Problem Using Breathless Humans

► SOME 30 human guinea pigs, picked because they are short of breath, will help solve the air pollution problem, Dr. John J. Phair of the University of Cincinnati College of Medicine, Cincinnati, Ohio, told a meeting of the American Association for the Advancement of Science in Berkeley, Calif.

Chronic heart and lung trouble cause the breathlessness. Such patients are unusually susceptible to air pollution because of their low respiratory reserve, as shown by similar patients during the killing smogs in London, Donora, Pa., and the Meuse Valley.

These 30 patients will be checked every week for three or four months to see how they have been feeling and to have their lung function measured. The checking period will be picked to include months when smog is likely to be greatest.

Environmental temperature and humidity and the general level of air pollution, as assessed by an automatic smoke recorder, will be measured continuously in the bedrooms of the patients.

At the end of this pilot study, Dr. Phair expects to know whether or not there is a specific association between measurable air pollution and measurable effects in the well being of people most likely to be affected by air pollution.

Science News Letter, January 22, 1955

To perform work equal to that of a mole, a man, in size comparison, would have to dig a tunnel wide enough for him to crawl through and 37 miles long, in a single night.

## PUBLIC HEALTH

# Smog-Fighting Methods

► METHODS TO remove smog-forming fumes from automobile exhausts and a three-pronged attack on industrial air pollution were proposed at a meeting of the American Association for the Advancement of Science in Berkeley, Calif.

The best way to remove carbon monoxide from auto fumes appears to be the use of nonleaded gasoline and a catalytic converter, Dr. W. L. Faith, chief engineer of the Southern California Air Pollution Foundation, said. Carbon monoxide, a very toxic gas, is the major component of auto exhausts, he said, and in Los Angeles alone 280 tons of it are spewed forth daily into the air by cars.

He pointed out, however, that manufacturers have considerably cut down the formation of the gas by improved auto designs.

Besides carbon monoxide, auto exhausts also contain hydrocarbons, nitrogen oxides, sulfur dioxide, oil droplets and aldehydes.

Hydrocarbons, along with nitrogen oxides, are now believed to be a smog-forming source when present together in sunlight. The former, Dr. Faith said, could be removed by afterburners, catalytic converters, improvement in carburetion and improved fuels, while the nitrogen oxides might be deactivated by adding a chemical like iron oxide to the gas or exhaust.

At the same symposium on air pollution, Dr. Gordon P. Larson, director of Los Angeles County's Air Pollution Control District, proposed three courses of action to fight industry-caused smog:

1. Zoning factories.
2. Reducing pollutants at the source.
3. Dilution of toxic vapors at the source.

Allocating the use of land to prevent harmful concentrations from occurring at a single source can be an effective measure, he said. In applying this principle, mass rate of emission from an area is