

age. This is at present purely speculative. Many more experiments are necessary. But those who breed animals for man's use or food may be able eventually to accelerate production enormously through use of thymus extracts.

Dr. Hanson who prepared the potent extract had previously given to the world a powerful extract of the parathyroids, tiny glands in the neck which govern bone formation. Because his extract was reported in a little-known medical journal, a Canadian scientist, Dr. J. B. Collip of McGill University, was credited with having first extracted the parathyroid hormone. But Dr. Hanson was able to prove his claim to pri-

ority and was awarded a patent for his product. Unselfishly sacrificing his chance for personal profit in the interest of the advancement of science, he assigned to the Smithsonian Institution in Washington all income and royalties accruing to him under the patent.

Three years ago Dr. Rowntree, then at the Mayo Clinic, gave the first dose of cortin to a human patient suffering from then-hopeless Addison's disease. His clinical use of the hormone extracted by Princeton University scientists from the adrenal gland cortex was the first application of this important substance for the saving of human life.

*Science News Letter, May 12, 1934*

stances.

Important as are the applications of nutrition discoveries to human health and well-being, as in the prevention of rickets, beri-beri, infantile scurvy and pellagra, Dr. McCollum foresees other advantages to be derived from them. Profits from the raising of farm animals may be increased enormously by applying present knowledge of proper feeding.

*Science News Letter, May 12, 1934*

#### PHYSICS

### It's Raining Radium— But Not Much

**R**AIN BRINGS down radium, washing it out of the air, G. R. Wait and A. G. McNish of the Carnegie Institution of Washington told members of the American Physical Society. But you need not go out with a bucket the next time it rains, for the quantity is exceedingly minute—to be measured only with delicate instruments that tell of the electrified or ionized state of the air. With such an instrument in the open near their laboratory, the two physicists found that as the rain began the ionization of the air increased rapidly, to fall off again when it stopped.

The decrease with time was of such a character, they said, "as to be explainable by assuming that decay-products of radium, principally radium B and radium C in equilibrium with it, are carried to the earth's surface by rain."

*Science News Letter, May 12, 1934*

#### PHYSIOLOGY

## At Least Three Vitamins Still Await Discovery

**D**ISCOVERIES of new vitamins and further effects of gland hormones were predicted by Dr. E. V. McCollum of the Johns Hopkins University and Dr. Oscar Riddle of the Carnegie Institution of Washington, who were presented gold medals of the American Institute in recognition of their researches.

"There is little reason to doubt that at least one new fat-soluble vitamin remains to be discovered," Dr. McCollum said, "and probably at least two more water-soluble vitamins exist."

Dr. McCollum discovered vitamin A in 1913, and since has been a leader in nutrition research.

All the main elements of hormonal control of reproduction appear now to be known, Dr. Riddle declared, in emphasizing that the women of the present generation are the first who could possibly know and learn the basis and the meaning of the cycles and adjustments which are peculiarly theirs. Not one of the four hormones chiefly involved in human or animal reproduction had been separated or assayed twelve years ago and the most recently separated is less than three years old.

Dr. Riddle, working at Cold Spring Harbor, N. Y., extracted the prolactin hormone from the anterior pituitary gland, demonstrated the thymovitin hormone of the mysterious thymus gland, and has done other important glandular researches.

Many new and spectacular researches in nutrition will come to light during

the next ten or twenty years, Dr. McCollum believes. The recent discovery that paprika is a rich source of ascorbic acid or vitamin C suggests that research among plants of unusual or specialized structure may prove fruitful.

Sodium, calcium, magnesium, chlorine, iodine, phosphorus, sulfur, iron, copper and manganese are known to be indispensable in the diet. Yet with the exception of calcium, phosphorus and magnesium very little is known of the roles played by these essential sub-

#### PHYSICS

## Penetrating Rays Sprayed Up From Thunderclouds

**P**ENETRATING radiations resembling cosmic rays, but "softer," are thrown upward into the air from the tops of thunderstorm clouds, like spray from the tops of waves. They come to earth again to the eastward of the cloud, drawn down by the earth's magnetic field.

These radiations, which are made up of speeding negative electrons, were described before the meeting of the American Geophysical Union by Dr. B. F. J. Schonland, noted South African student of the physics of the air, who is visiting in the United States.

Dr. Schonland stated that when he

began his investigations of penetrating radiations caused by lightning, he thought he would find electrons poured directly earthward as well as upward into the higher levels of the air; but this proved not to be the case. He has found that lightning-engendered radiations can influence cosmic-ray detecting instruments as much as a thousand miles away from a thunderstorm, and he stated that another investigator claims for them an even greater radius of action. But their effect is always felt to the eastward of the storm that gives them birth, never toward the west.

The research was undertaken with