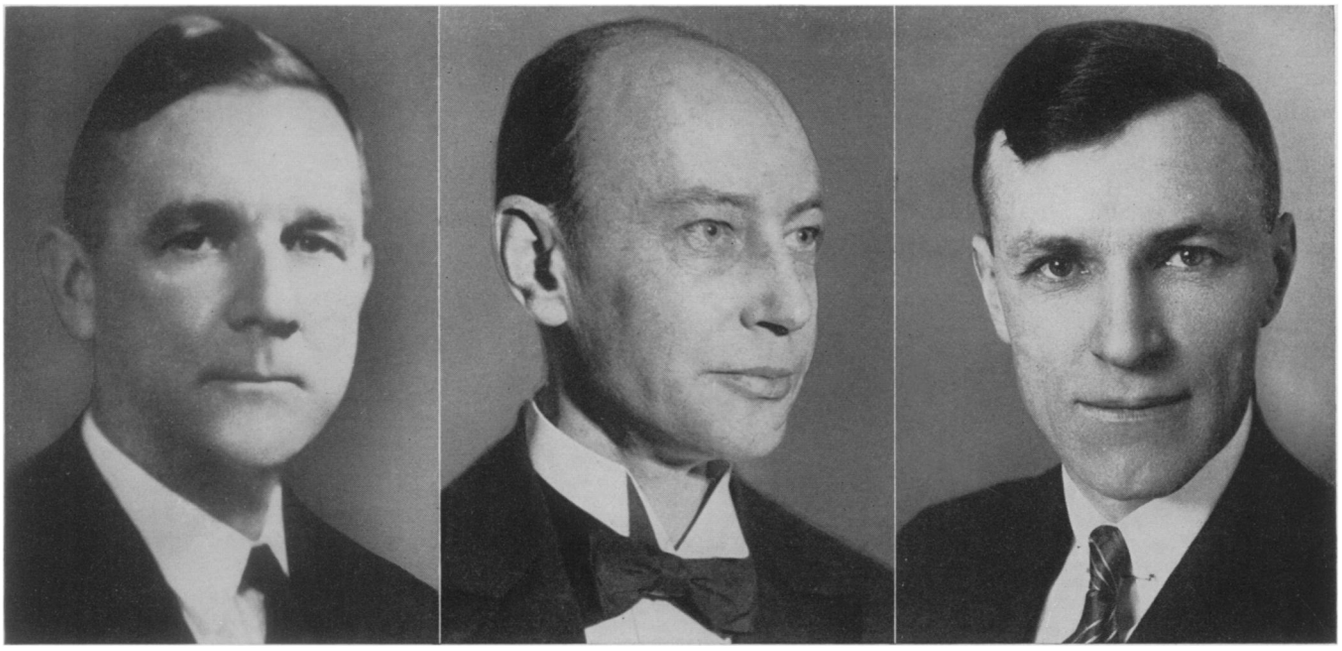

WINNERS OF THE NOBEL PRIZE IN MEDICINE, 1934

Dr. George H. Whipple, (left) of the University of Rochester, Dr. George R. Minot, and Dr. William P. Murphy, (right) of Harvard Medical School, have now been honored for their great conquest of the dread disease pernicious anemia.

MEDICINE

Conquest of Anemia One Of Medicine's Great Epics

Diagnosis, "Pernicious Anemia," Was Not Long Ago A Death Warrant; Conquerors Receive Nobel Prize

ONCE when a doctor shook his head and said: "pernicious anemia," it was a death warrant executed in two or three years by the slow progress of this blood disease.

In 1926 the medical world was thrilled, as it is occasionally by some great advance, by reports from Harvard Medical School that liver, the ordinary calf or beef liver of that tasteful liver and bacon dish, was capable of conquering pernicious anemia.

Today the disease fighters who made mankind unafraid of one more disease are honored for their work by that highest of science's awards, the Nobel prize in medicine.

As insulin subdued the toll of diabetes, so liver is a specific for pernicious anemia. And as the achievement of insulin was crowned by a Nobel award to the group responsible, so liver for anemia is now recognized.

Like many great discoveries in science, the conquest of this disease of the bone marrow, a disease that prevents the formation of enough vigorous red blood cells, came slowly. The first act occurred in the animal experiment laboratories of Dr. George H. Whipple of the University of Rochester. The second act came when Dr. George R. Minot of Harvard Medical School seized upon Dr. Whipple's results and reprieved by the grace of science pernicious anemia patients.

It seemed simple after it was done. The patient ate large quantities of liver —as much as half a pound a day. That is, it was simple if the patient happened to like liver but most of them did not.

Since then the treatment is dietetically less heroic for the material in liver that counteracts the disease has been extracted and it is only necessary for the patient to take relatively small doses of extract.

But in the early days, the patients ate liver and they had to like it. One incidental effect when the news got around was that perfectly well people who did not need to eat liver to save themselves from death decided to eat more liver. The price shot upward under increased demand which did not help the economics of combating the disease.

Within the first four years after announcement of the treatment in 1926, life insurance statisticians found that the mortality from this disease for white persons had been reduced by about half between the ages of 55 and 74 years in which range formerly the heaviest mortality from this disease had occurred. At the same time, pathologists in medical schools were finding themselves hampered in their teaching because they could not find a sufficient number of patients suffering from the disease to be used in showing medical students how this disease affects the body.

Perhaps it was because he suffered from diabetes and thus learned first-hand the vital importance of scrupulous attention to diet that Dr. Minot discovered the value of liver in treating pernicious anemia. According to reports, it was while he was weighing every morsel of his own food, before the discovery of insulin, that he began to investigate the eating habits of his pernicious anemia patients. He found them finicky eaters, over-fond of fats and disliking meat and other protein foods. Then he heard of Dr. Whipple's laboratory experiments.

The University of Rochester scientist had given dogs another kind of anemia —simple anemia—and had found that

feeding liver or muscle meat cured their anemia. Dogs do not get pernicious anemia, and the two kinds—simple and pernicious anemia—are quite different. Furthermore, muscle meat such as beefsteak had never helped pernicious anemia patients.

Still, Dr. Minot decided to give liver a trial, perhaps spurred on to this decision by the knowledge that liver was being found valuable in pellagra and sprue, two diseases which had certain similarities to pernicious anemia.

The striking improvement in the first liver-fed pernicious anemia patients seemed too good to be true, so Dr. Minot enlisted the unprejudiced aid of another physician, Dr. William P. Murphy of Harvard Medical School. Without telling Dr. Murphy of his own results and hopes, he persuaded the latter to try liver feeding for pernicious anemia. When Dr. Murphy's liver-fed patients showed the same striking improvement Dr. Minot felt sure enough of the method to make the first public announcement at a scientific meeting.

Science News Letter, November 3, 1934

PHYSIOLOGY

Anemia Research Began With No Thought of Application

By DR. GEORGE H. WHIPPLE,
University of Rochester Physiologist, Nobelist in Medicine, 1934.

UNPREDICTABLE by-products of research in physiology are rarely brought to the attention of the layman.

The studies which led to the appreciation of liver as a food to promote hemoglobin regeneration were taken up with no idea of any clinical application. We wished to find out how the body built up hemoglobin and what materials could best be utilized by the body.

These studies are still being carried forward to determine what elements of food are most essential to make new hemoglobin. Dogs are best suited for these studies and all work has been done on these animals. They are frequently used to standardize liver fractions to be used in the treatment of human disease.

Future progress in the control of other diseases can not be predicted with any certainty, but if history has any significance it points to future by-products coming from investigations in the wide field of pure science which will enable the physician to bring under control still other diseases which afflict human kind.

It is never safe to state that any bit of accurate knowledge about body physiology is useless for in the future some student may sense its application to the study of some particular disease state. Progress is often made by way of detours which look very unfavorable at first.

Science News Letter, November 3, 1934

MEDICINE

Nobel Prizeman Simplifies Liver Treatment of Anemia

A MORE effective, more convenient and cheaper liver extract for controlling pernicious anemia is the latest achievement of Dr. William P. Murphy, one of the trio of American scientists whose conquest of this disease was crowned by the Nobel medical prize announced last week.

Instead of a patient's eating a quarter to half pound of liver daily or swallowing three doses of the older less concentrated liver extract daily, the new liver extract is injected in a muscle only once monthly.

Developed at Peter Bent Brigham Hospital, Boston, with the cooperation of Dr. Guy W. Clark of the Lederle Laboratories, the new concentrated extract for intramuscular injection is expected to reduce the difficulties and expense of treating unfortunate victims of this disease. Dr. Murphy made known the possibilities of the new extract in responding to a Science Service request for comment on his latest work.

The average pernicious anemia patient to keep well must:

Eat eleven pounds of liver during each month, costing about $5.50, or

Take by mouth a potent liver extract, three vials daily, or 84 doses during each month, costing approximately $17.00, or

If the new Murphy-Clark extract is used, one shot into a muscle once monthly, the extract costing only $1.20.

The death rate from pernicious anemia at ages 30 to 50 years has been only half so great since liver treatment came into use, Dr. Murphy explained. He predicted further reductions and that there need be no deaths if patients cooperate.

Science News Letter, November 3, 1934

ORNITHOLOGY

First "Eskimo Chicken" Raised in Captivity

THE FIRST "Eskimo chicken," or ptarmigan, ever to be raised in captivity was described before the recent meeting of the American Ornithological Union in Chicago, by its foster-parent, Prof. A. A. Allen of Cornell University. (*See SNL, Aug. 4, p. 77*). Although now living far to the south of any country known to ptarmigan, at least since Ice Age times, this friendly little bird of the Arctic has adapted itself well to its environment, and has not presented any infancy troubles beyond those shown by the more familiar ruffed grouse, which has already been raised in captivity by Prof. Allen.

The bird is now changing into its winter white coat of feathers, and is at present in a sort of half-and-half uniform—dark summer plumage above and winter white underneath. Moulting in this species differs from that in other birds in that it seems to be a continuous process throughout the year.

The rearing of this ptarmigan chick on the Cornell University campus was one result of a three thousand mile expedition to Churchill, Manitoba, on which Prof. Allen was sent last June, under the auspices of the Grouse Investigation Committee of the American Game Association, to further the studies of the ruffed grouse which he has been making for many years. He sent back a considerable number of ptarmigan eggs, but only one hatched.

Science News Letter, November 3, 1934