

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,  
Nobel 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 con-

centrated 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.

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#### ORNITHOLOGY

## First "Eskimo Chicken" Raised in Captivity

**T**HE 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.

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