

Nobel Award May Start Controversy

Chemistry—Medicine

"Synthetic cod liver oil", stuff that builds bones and prevents the childhood disease of rickets without the unpleasant taste of the fish oil, was recognized when the 1928 Nobel Prize for chemistry was awarded to Dr. Adolf Windaus of Göttingen, Germany. This is the first time that the Nobel Prize Committee has recognized any of the scientific work done on the problems of human nutrition.

The work for which Dr. Windaus received the prize was the successful repetition of experiments proving that ultraviolet light, either in the sunlight or artificially produced, will activate the chemical called ergosterol and confer on it antirachitic properties. According to information available here the experiments were originally performed by Prof. George Barger of the University of Edinburgh. Dr. Windaus was so impressed by Dr. Barger's original results that he asked permission to collaborate with Barger in subsequent work on the problem. Windaus himself had been experimenting along similar lines without achieving definite results.

A scientific controversy may arise from this Nobel prize award since priority honors and patent rights are involved in the situation.

While the prize was awarded to Dr. Windaus, the subject of the antirachitic properties of foods has engaged the attention of scientific investigators both in this country and Europe for many years. The work along these lines began when Dr. E. V. McCollum and his associates at the Johns Hopkins University found that a substance, known as Vitamin D and found in cod liver oil and to a lesser extent in other fats, has the power of preventing rickets. These scientists also were the first to find that irradiating animals by exposing them to ultraviolet rays would keep the animals from having rickets even if the antirachitic vitamin D was not in their diet.

The next step was taken by Prof. Harry Steenbock of the University of Wisconsin, who, instead of irradiating animals, tried irradiating their food. He worked with a mixture of foods and found that irradiation gave to the foods the antirachitic power. Commercial production of irradiated foods is now in progress under the Steenbock patent. Dr. Alfred E. Hess of Columbia University irradiated the

different classes of foods separately and found that the antirachitic substance was contained in fats. He and everyone else believed for some time that it was the cholesterol of fats that was the antirachitic substance.

Then in July, 1926, Dr. Barger and his associates in England announced that pure cholesterol cannot be activated by ultraviolet rays, but that irradiation does activate ergosterol which is found as an impurity in ordinary cholesterol not purified by a special process. They believed ergosterol had the antirachitic property. Dr. Windaus repeated their experiments, and again tested cholesterol which had been specially purified. He proved definitely that it is ergosterol and not cholesterol which is activated by exposure to ultraviolet light. Dr. Barger and his associate, Dr. T. A.

Webster, have also proved by experiments with animals that this activated ergosterol can prevent rickets.

Pure science has scored over practical and applied science once more. The award of the Nobel Prize for chemistry for 1927 to Prof. Heinrich Wieland of Munich, Germany, is in recognition of experiments on the highly complex compounds known as the bile acids. Dr. Wieland has discovered the structure of the substance which gives bile its color, and has found the relation between this compound and chlorophyll, the coloring matter of green leaves, and hemoglobin, the coloring matter of blood. His work has no medical or practical significance at present and is of interest solely in the field of chemistry.

Science News-Letter, November 24, 1928

In This Issue—

The *National Academy Meets*. p. 317—*We Are Going to Eat Coal*, p. 319—*"Under Water Men Shall Walk,"* p. 321—*We Are Going to Eat Wood*, p. 323—*Synthetic Kingdom*, p. 323—*An Indian Gift*, p. 325—*Broadcasting to Luna*, p. 325—*Fight!* p. 325—*Whence Worms?* p. 329.



SCIENCE NEWS-LETTER, The Weekly Summary of Current Science. Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.

Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address all communications to Washington, D. C. Cable address: Scienservice, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cents a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science.

Advertising rates furnished on application.

Copyright, 1928, by Science Service, Inc. Reproduction of any portion of the SCIENCE NEWS-LETTER is strictly prohibited since it is distributed for personal, school, club or library use only. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service, details and samples of which will be gladly sent on request.

INTERPRETING week by week, the latest developments in the various fields of science, this magazine attempts also to present its articles in the most pleasing and readable typography and the most convenient arrangement.

The *clippability*, *indexing*, and *automatic dating* of each article are unique features.

This is a *separable magazine*. Each original article can be clipped or torn out without losing or damaging another important article on the other side. These original articles are backed by reprinted quotations or excerpts, short one-sentence items, advertisements, and other material not likely to be clipped and preserved.

Each article is automatically *indexed* by the key word printed in italics just below the heading, or at the end of the article when the article has no heading. Articles can thus be filed easily into any system of classification, whether it be Library of Congress, Dewey, or one of the reader's own devising.

Each article is automatically *dated* by its last line.

All of the resources of Science Service, with its staff of scientific writers and correspondents in centers of research throughout the world, are utilized in the editing of this magazine.