Proteins " (Longmans' series) in 1909. In 1905 and 1906 the independent work of Schryver and Leathes proved that proteins are assimilated as amino-acids, the greater part of which is converted into urea by the liver cells and excreted by the urine. He was successful in applying Siegfried's carbamate method for the separation of the products of hydrolysis of the proteins, and by its means he was able to isolate several hitherto unknown substances. Among these may be mentioned oxylysine, $C_6H_{14}O_3N_2$, from isinglass, albumin of cabbage leaves, and edestin. Protoctine, $C_8H_{15}O_3N_3$, was obtained from oat protein.

Connected with his work on proteins, a series of ten papers on gelatin by Schryver and his pupils appeared between the years 1921 and 1927. The main object of this inquiry was to obtain a product of better technological value than commercial gelatin, and most of the work is therefore embodied in Reports to the Adhesives Research Committee of the Department of Scientific and Industrial Research. This work brought him into connexion with numerous firms manufacturing adhesives, to which he acted as consultant. Regarded as a whole, the work stands out not only from its industrial merit, but also as a notable contribution to pure chemistry, in which refined methods of physical chemistry were brought into use.

Gelatin was found to possess nearly all the properties of a globulin, but even when purified by treatment with 0·2 per cent caustic soda and by repeated flocculation in an electric field, it is shown not to be a chemical entity. When the purified substance is heated with water, treated with acids or alkalis, or repeatedly flocculated in an electric field, the hydrolytic products show an increase in the nitrogen that will not react with nitrous acid. Do not these observations of Schryver indicate the necessity of tempering our conclusions—drawn from the chemical substances we isolate from a given neutral product—with caution ? The proteins, the polysaccharides, etc., exist in Nature in a form combined or co-ordinated with other substances.

In 1923 a communication was made from Schryver's laboratory showing that a crystalline carbohydrate can be separated from cabbage leaves in a yield of 0·01 per cent. It is non-reducing and its constitution is probably

$$CH_2OH \cdot CH(OH) - O - CH_2OH.$$

Several important papers emanated from Schryver's laboratory on the chemistry of pectins and their relation to the so-called hemicelluloses and other cell-wall constituents of plants. His work corroborated the ring formula assigned to pectic acid by work in my own laboratory. In 1910, Schryver found that formaldehyde is formed during the insolation of green leaves, but that it exists in combination with chlorophyll. In the course of this he improved Rimini's test for formaldehyde so that it became sensitive to a concentration of 1 in 1,000,000. Among researches in physical chemistry Schryver worked on the state of aggregation of matter and on clot formation, the latter explaining the formation of casein from caseinogen by rennet and the effect of salts.

Prof. Schryver was a man of great personal charm who endeared himself to all his colleagues and pupils. His work was essentially original, based strictly on experimental results without the slightest bias of convention.

ARTHUR R. LING.

WE regret to announce the following deaths :

Dr. J. R. Eckman, associate chemist in the U.S. Bureau of Standards and lecturer in physical chemistry at George Washington University, on Aug. 1, aged forty-one years.

Dr. H. C. Frankenfield, who was in charge of the river and flood service of the U.S. Weather Bureau, on July 31, aged sixty-six years.

Prof. W. H. Perkin, F.R.S., Waynflete professor of chemistry in the University of Oxford, on Sept. 17, aged sixty-nine years.

Dr. J. M. Purser, Regius professor of physic in the University of Dublin from 1917 until 1925, and author of a " Manual of Histology " and of numerous papers on physiology, pathology, and medicine, on Sept. 18, aged eighty-nine years.

News and Views.

IN commenting as we did in these columns in our last issue on Dr. Bonhoeffer's recent work on hydrogen, we should have directed attention to the fact that in NATURE of Feb. 2 this year (p. 160) we published an account of experiments made by Prof. J. C. McLennan and his co-worker, Mr. J. H. McLeod, that established the existence in liquid hydrogen of two distinct kinds of molecules. In these experiments it was shown that when liquid hydrogen was irradiated with the light from a mercury arc, Raman effects were obtained that indicated that both sets of molecules were set into oscillation with the same *vibration* frequency, namely, 4159 cm.$^{-1}$. One of the sets of molecules was, however, set *rotating* with a frequency of 354 cm.$^{-1}$, corresponding to a transition from a zero to a two-quantum rotational state, while the other was set *rotating* with a frequency of 588 cm.$^{-1}$, corresponding to a transition from a single-quantum rotational state to a three-quantum one.

THESE experiments showed that in liquid hydrogen we had some molecules in a zero-vibrational and zero-rotational state and others in a zero-vibrational and first quantum rational state. Intensity measurements showed that there were considerably more (at least twice as many) molecules in the second state than in the first one. The distinctness of the two states was emphasised by the fact that no Raman effects were obtained corresponding to $m=0$ to $m=1$ or $m=1$ to $m=2$ rotational transitions. Dennison, it is well known, in attempting to explain anomalies in the specific heat of hydrogen, had shown by the use of wave mechanics that hydrogen at low temperatures should be regarded as a mixture of two effectively distinct