Die Krystallisation von Eiweissstoffen und ihre Bedeutung für die Eiweisschemie. Von DR. FR. N. SCHULZ. Jena, Gustav Fischer. Pp. 43. 1901.

Not many years have passed since it was customary for physiological chemists, following the suggestion of Thomas Graham, to class proteid substances as *colloids*, in distinction from the *crystalloids* which readily pass through diffusion membranes. The fact that native proteids are indiffusible no longer necessarily implies that they are not capable of crystallization. The achievements of recent years in the preparation of various proteids, both animal and vegetable, in crystalline form have marked a great advance in the study of this important group of organic compounds. The prominent rôle which the proteids assume in the life-processes of all organisms has long made them conspicuous objects of investigation; and now that the possibility of separating them in crystalline form has given promise of improvements in the methods of purification and identification, a new impetus has been given to the investigation of the chemistry of the proteids.

Professor Schulz's monograph is a comprehensive compilation of the literature on the crystallization of the proteids. It includes a review of the occurrence of proteid crystals ready-formed in animal and plant tissues, and a more extensive description of the separation and properties of crystalline preparations from non-crystalline native proteid mixtures. This includes in particular the crystallization of egg- and serum-albumin and the readily obtained vegetable proteids. Other less certain instances (fibrin, casein, heteroalbumose, etc.) are considered in the light of the evidence at present available. Hæmoglobin and related compounds are treated in somewhat greater detail, which their earlier discovery justifies. It is a matter of historical interest to note that Schulz names B. Reichert as the discoverer of the blood crystals (1847), whereas this honor is usually assigned to Otto Funke (1851).

In the concluding pages of Schulz's monograph brief reference is made to the crystallography of the proteid crystals and the significance of crystallization for the chemistry of the proteids. It is a satisfaction to American readers to find the American contributions to the literature of the subject adequately reported by a German writer. Dr. Schulz is a professor at Jena.

LAFAYETTE B. MENDEL.
SHEFFIELD SCIENTIFIC SCHOOL OF YALE UNIVERSITY.

SOCIETIES AND ACADEMIES.

CHEMICAL SOCIETY OF WASHINGTON.

THE 128th regular meeting of the Washington Section of the American Chemical Society was held at Cosmos Club Hall, Thursday evening, October 10. The following program, was presented:

Dr. H. N. Stokes, 'Pyrite and Marcasite.' Dr. Stokes stated that the physical characteristics by which these geologically important dimorphous forms of iron disulphide are distinguished are not always applicable, especially when they occur in the form of concretions. The paper describes a method by which they can always be determined, which consists in boiling an excess of the carefully prepared mineral with a standard solution of ferric ammonium alum, under absolute exclusion of air, until the alum is completely reduced. The reaction takes place in two stages:

$$(1)\ FeS_2 + Fe_2(SO_4)_3 = 3\,FeSO_4 + 2\,S.$$

$$(2)\ 2\,S + 6\,Fe_2(SO_4)_3 + 8\,H_2O = 12\,FeSO_4 + 8\,H_2SO_4.$$

The second reaction is always incomplete, only a portion of the sulphur being oxidized to sulphuric acid. Under the standard conditions the percentage of sulphur oxidized is 60.4 in the case of pyrite and 18 in that of marcasite. The percentage o. sulphur oxidized, or the *oxidation coefficient* (p), is obtained from the equation

$$p = \frac{8.333\,b}{c - a} - 25,$$

which is deduced from the above equations, and in which a, b and c represent the permanganate equivalents of the standard solution and of the ferrous iron and total iron of the resulting solution, respectively. The proportion of the minerals in a mixture of both can be