

*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.

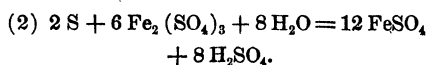
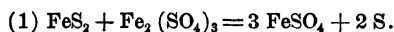
SHEFFIELD SCIENTIFIC SCHOOL OF  
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#### SOCIETIES AND ACADEMIES.

##### 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:



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 of 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

determined to within 1 to 3 per cent. by finding its oxidation coefficients and referring to an empirical curve of oxidation coefficients obtained by experiments with artificial mixtures. It was shown that the concretions described by geologists and mineralogists as marcasite are frequently pyrite, that the density affords no criterion of the composition, and that the hypothesis that most specimens of pyrite and marcasite, even when well crystallized, are mixtures of the two, or paramorphs, is without foundation. It was also shown that their behavior towards cupric sulphate solutions is essentially similar and affords no evidence in support of the hypothesis of Brown that the chemical constitution of the two minerals, or the state of valency of the iron is different. The full details are to be found in the recently published Bulletin No. 186 of the United States Geological Survey.

W. H. Seaman, 'Insolubility of Inorganic Salts in Hydrocarbons'; contribution from the laboratory of Howard University Medical College. The author stated that several years ago he had the pleasure of announcing to the society a generalization on the insolubility of glycerol ethers in glycerol. Now he is able to make a still more important generalization, that all inorganic salts are insoluble in hydrocarbons of the paraffin series. Fifty-three different salts have been kept in contact with benzine, kerosene and soft paraffin for periods varying from two to six months, without taking up a sufficient quantity of any salt to produce any residue on evaporation in a watch glass that is visible by a pocket microscope.

The writer does not know of a single analysis of petroleum in which the presence of inorganic salts has been reported, and in view of the fact that the petroleum has been in contact with some kinds of salts since it was formed, the natural conditions go far to support the generalization stated. Only in the case of  $(\text{NH}_4)_2\text{CO}_3$  was there any marked change; a brownish color was generally developed when in contact with this salt, the cause of which is not ascertained. At the suggestion of Professor F. W. Clarke, anhydrous  $\text{Fe}_2\text{Cl}_6$  was prepared and tested, but the result was the same. The following is a list of the salts used:

Ammonium sulfocyanid, bromid, phosphate, oxalate, carbonate, chlorid, nitrate; antimony sulfid; barium chlorid, nitrate, carbonate, di-oxid; bismuth nitrate; arsenious acid; calcium chlorid and nitrate; ferric chlorid and ferrous sulfate; ferric ferrocyanid; magnesium carbonate; potassium bromid, cyanid, carbonate, iodid, bichromate, sulfate, chlorate; magnesium dioxide; potassium acetate; sodium bicarbonate, acetate, nitrate and sulfate; tartar emetic; zinc oxid; potassium ferrocyanid, chromate, hydrate, picrate, chlorid, nitrate; sodium borate, carbonate, chlorid, hydrate, nitrite, thiosulfate; ammonium molybdate, bichromate, sulfate; ammonia alum; magnesium sulfate and lithium carbonate.

L. S. MUNSON,  
*Secretary.*

#### NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE first meeting of the N. Y. Section of the American Chemical Society, held on Friday evening, October 11, at the Chemist's Club was very largely attended. Professor Marston Taylor Bogert, of Columbia University, is the newly elected chairman of this Section, which, on September 30 last, entered upon the second decade of its usefulness with a membership of over four hundred. Upon the recommendation of the Executive Committee, the Section decided to award annually a medal to that member of the Section who shall have presented, during the preceding year, the best paper embodying original chemical research. The minor conditions affecting the award and a suitable name for the medal will be decided upon later.

The program of papers included a report by General Secretary Professor Hale upon 'The Recent Meeting of the American Chemical Society, at Denver.' Dr. McMurtrie gave an interesting account of a 'Short Trip among the Mines, Smelters and Chlorination Works of the West.' Mr. Jacob G. Lipman, of the New Jersey Experiment Station, gave an account of his 'Studies in Nitrification.'

Professor Edward Hart, of Lafayette College, and Editor of the *Journal of the American Chemical Society*, read an interesting paper upon 'Technical Chemical Education,'

which brought forth a long discussion, participated in by prominent teachers of chemistry and industrial chemists. There seemed to be some weight of opinion in favor of the view that time may be spent in attempts to teach the details of such industries as dyeing, brewing, acid manufacture, etc., that might better be devoted to acquiring the broad general principles of chemistry, mechanics and engineering, leaving the technical training to be acquired in the factory or works.

Dr. H. W. Wiley, of the U. S. Department of Agriculture, gave a paper upon 'The Government Laboratories of Great Britain.' This was profusely illustrated by lantern photographs taken by Dr. Wiley. The director of this laboratory is Professor T. E. Thorpe, C.B., LL.D., F.R.S., past president of the Chemical Society. In regard to the equipment of this laboratory Dr. Wiley thinks we might do well to imitate its ideal system of ventilation and excellent apparatus. Solid silver flasks are used for saponification tests under pressure. On the other hand, British chemists in general will do well to imitate the American Society of Official Agricultural Chemists in regard to the adoption of standard analytical methods. In Professor Thorpe's laboratories some of the American 'official methods' have been adopted.

JOHN ALEXANDER MATHEWS,  
Secretary.

#### THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy of Science, of St. Louis, on the evening of October 21, 1901, forty-five persons present, Professor F. E. Nipher, of Washington University, delivered an address on 'Progress made in Physics during the Nineteenth Century.'

WILLIAM TRELEASE,  
Recording Secretary.

#### DISCUSSION AND CORRESPONDENCE.

##### PATAGONIAN PERSONALITIES.

A RECENT article in SCIENCE was none too soon in drawing attention to the puerilities and solecisms perpetrated by some botanists in their endeavor to grapple with the mysteries of the Latin language. We scarcely like to arouse the

anger of zoologists by suggesting that they are just as bad, but at any rate some of them are not far behind. It is therefore satisfactory to hear that the International Congress of Zoologists has decided that errors of etymology, orthography and grammar are not to remain perpetual disfigurements of scientific writings simply because some would-be systematist never went to school. But there is a class of names against which there is no rule, appalling though they often are to the mind of the scholar. We allude to the monstrosities pieced up out of modern proper names, or even barbarous dialect words, often in unnatural union with a Greek or Latin suffix, *e. g.*, *Leedsichthys*, *Koninkocidaris*, *Lapworthura* (a polite way of showing respect truly!), *Etheridgaster* (which does *not* mean airy stomach), *Urobenus* (not, as some ingenious German supposes, derived from *öupa* and *βαρνα*, but an anagram of *Bournerus* by which a Mr. Bourne has been immortalized).

But all previous efforts—if one can dignify with such a term the results of pure laziness or incompetence—are left far behind by the latest fantasies of Florentino Ameghino in 'Notices préliminaires sur des Ongulés nouveaux des terrains crétacés de Patagonie,' published in the *Boletín de la Academia Nacional de Ciencias de Córdoba* (July, 1901). Zoologists may retort that this gentleman is only a paleontologist; well, then he should have more sympathy with the dead languages than to burden them with such abortions as the following: *Henricosbornia*, *Guilielmoscottia*, *Oldfieldthomasia*, *Ernestokokenia*, *Josepholeidya*, *Ricardolydekkeria*, *Guilielmosfloweria*, *Henricofilholia*, *Thomashuxleya*, *Edwardocopeia*, and others too many to quote. Space, however, must be found for two gems, further enriched by footnotes: *Maxschlosseria* 'J'ai employé le prénom sous la forme germanique plus en usage, car c'est la racine du nom latin, qui est trop long,' and *Asmithwoodwardia* 'Je n'ai utilisé que l'initiale du prénom, car autrement il aurait résulté un nom excessivement long. D'ailleurs, cet auteur signe d'habitude A. Smith Woodward.' That 'd'ailleurs' is delicious; the man would actually find excuses for not giving us *Arturo-smithivoodvardia*. Will the Zoological Congress