

THE JOURNAL

OF THE

AMERICAN CHEMICAL SOCIETY.

THE BALTIMORE MEETING.

THE Baltimore meeting of the society held December 27 and 28, 1893, was in every respect most successful. This is due in large part to the local committee of arrangements, which in turn expresses itself as under great obligations to Prof. Ira Remsen.

The sessions were held Wednesday, December 27 and 28, 1893, in Prof. Remsen's lecture room in Hopkins Hall, Johns Hopkins University.

Addresses of welcome were made by D. C. Gilman president of the university, and Ira Remsen Prof. of chemistry.

President Gilman, in behalf of the Johns Hopkins University, extended a hearty welcome to the society and offered it all the facilities for its work which the libraries, halls, and laboratories of the university would afford. He referred to a medieval custom, the migration of students from one seat of learning to another, and compared it with the modern and American usage, which transports professors, instead of students, from one point to another. Thus the Christmas and Easter holidays, as well as the long vacation of summer, are now the favorite times for the assembling of literary and scientific associations like that now welcomed to Baltimore.

He then briefly described the buildings of the university, and made an allusion to the many distinguished men of science, from Europe as well as from this country, whose voices have been heard within the walls of Hopkins Hall where this American Chemical Society now holds its annual meeting.

Prof. Remsen in welcoming the society to the chemical lab-

oratory gave a brief account of the way the present building gradually came into being. The laboratory is called Dalton Hall, a name that has a deeper significance than appears at first sight. Dalton was a member of the Society of Friends, and the founder of the Johns Hopkins University and several of those whom he selected to act as trustees of the university were also members of this society. Certainly to every thinking chemist the name of Dalton is a most inspiring one. He gave us some of the greatest thoughts of our science, and laid the foundations of the most profitable speculations in regard to the constitution of matter. His work has been of inestimable value, and has contributed very largely to the advancement of the science of chemistry. The speaker then said that in emphasizing the science of chemistry, as he is very apt to do, he did not wish to be misunderstood. Everyone recognizes the importance of the chemical industries. These need no spokesman. The fact that pure science is not, a mere luxury, but of importance to mankind, is, however, often lost sight of, and it seems desirable that occasionally a voice should be raised in its defence. While this was not necessary on the present occasion, the speaker wished to declare his own attitude, in order, as far as possible, to avoid misunderstanding. Science and industry must go hand in hand. They are mutually dependent. The man of science who speaks with disrespect of the industries is certainly short sighted; and the same is true of the industrial chemist who speaks disrespectfully of science.

In replying to the addresses of welcome the president, Harvey W. Wiley, said that the present membership of the society was 681, of whom 542 had paid all dues. The names added during the year numbered nearly 400. He referred to the valuable work accomplished by the older members and the sacrifices they had made in order that the society might become truly, as well as in name, a national organization. These remarks applied especially to the members of what is now the New York Local Section.

There are now over 4000 professional chemists in the United States, and this allows ample opportunity for enlargement of the membership which is rapidly going on.

We rejoice that there is no longer reason that Americans should go abroad to study chemistry. Facilities equal to those offered abroad are now to be had at the Johns Hopkins University and at other institutions in our own land.

The president then read the annual address which has already been printed in the January issue of this JOURNAL.

G. F. Barker read a memorial of the late Dr. F. Sterry Hunt, at the conclusion of which the members rose to honor his memory.

After a recess of five minutes, Edward Hart was elected secretary pro tempore. The reports of the secretary, treasurer, librarian and editor were then read and adopted.

The treasurer's report follows :

TREASURER'S REPORT.

RECEIPTS.

Balance on hand, January 1st 1893.....	\$ 518.41
Cash received from dues for 1893.....	1,994.79
“ “ “ “ “ 1894.....	200.00
“ “ “ “ “ 1895.....	5.00
“ “ “ arrears of dues.....	105.15
“ “ “ subscriptions to JOURNAL.....	72.00
“ “ “ advertisements in JOURNAL.....	213.45
“ “ “ sales of back numbers.....	67.47
“ “ “ Initiation fee (F. J. Wulling).....	5.00
“ “ “ exchange.....	.07
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	3,181.34

EXPENDITURES.

General expenses.....	\$ 380.42
Journal of 1892.....	654.73
“ “ 1893.....	1,784.70
New York Local Section.....	115.00
Cincinnati Local Section.....	59.93
Providence “ “.....	18.33
Baltimore meeting.....	84.18
Overpayment of Dues returned.....	5.00
Initiation fee returned (F. J. Wulling).....	5.00
Balance on hand in bank of the Metropolis.....	74.05
Checks on hand.....	<hr/>
	3,181.34

CHAS. F. MCKENNA, Treasurer.

No bills or claims, presented up to date and audited, remain unpaid. Accounts examined and found correct, E. and O. E.

FRANK T. KING, A. P. HALLOCK, DURAND WOODMAN.	}	Finance Committee.
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New York, December 22, 1893.

Reports from the secretaries of the New York, Rhode Island, and Washington Sections were read, reporting a good attendance and the presentation of numerous papers at the meetings.

The New York Section has allied itself with other scientific bodies in New York City forming collectively the Scientific Alliance. There is no amalgamation in this nor does the council of the alliance to which each society delegates three members have any control over the internal affairs of the constituent societies. The present membership is 147 a gain of fifteen during the year. Total expenses for the year ending October 6, \$38.60. Present officers, Peter T. Austen, chairman; M. Loeb, secretary and treasurer; A. A. Breneman, Wm. McMurtrie, and A. C. Hale, executive committee; P. T. Austen, Wm. McMurtrie, and J. H. Stebbins, delegates to the Scientific Alliance.

The Rhode Island Section reports an addition of one name to its membership making a total of seventeen members. Nine meetings were held from September 1, 1892, to July 1, 1893, at which numerous papers of interest were presented. The officers are, John Howard Appleton, chairman; E. E. Calder, secretary-treasurer; and the chairman and secretary-treasurer, *ex-officio*, and Charles Catlin, executive committee.

The Washington Section. At the meeting of the Washington Chemical Society held May 11, 1893, the society voted to become a section of the American Chemical Society, and certain amendments to the constitution were presented to make it conform to such action. These amendments and a revised constitution were adopted December 14, which consummates the formation of the Local Section. No meetings were held between May 11, and October 31. The section has 94 members. The officers are F. P. Dewey, president; Cabell Whitehead and K. P. McElroy, vice presidents; E. A. de Schweinitz, treasurer; A. C. Peale, secretary; F. P. Dewey, T. M. Chatard, K. P. McElroy, E. A.

de Schweinitz, A. C. Peale, H. W. Wiley, F. W. Clark, Cabell Whitehead, and R. B. Warder, executive committee.

The Cincinnati Section presented no report. Since the meeting a report from the local secretary has been received which shows that the present membership is fifty-five a gain of seven. Eight meetings have been held at which numerous papers were read. The officers are: president, C. R. Stuntz; vice-presidents, W. Mumper and E. Twitchell; secretary, W. Simonson; treasurer, H. E. Newman; and directors, W. Dickore, J. U. Lloyd, A. C. Ramsay and E. C. Wallace.

The following papers were then read :

The Widespread Occurrence of Barium and Strontium in Silicate Rocks. *W. F. Hillebrand.*

The Estimation of Small Amounts of Barium and Strontium in Silicate Analysis. *W. F. Hillebrand.*

A Plea for Greater Completeness in Chemical Rock Analysis. *W. F. Hillebrand.*

A Study of the Distribution of the Oleo-resins in *Pinus Palustris*. *Oma Carr.*

Salicylic Acid in Food. *K. P. McElroy.* Read by title.

Utilization of Garbage. *Bruno Terne.* Read by title.

Adjourned at 2 P.M.

In the afternoon a visit was paid to the works of the Baltimore Copper Smelting and Rolling Company, under the guidance of members of the local committee. The raw material consists of Anaconda Matte which is worked up into copper by the ordinary method of roasting and smelting. The impure copper is then subjected to electrolysis and subsequently melted and cast. Another portion of the roasted copper oxide is boiled with sulphuric acid and the blue vitriol crystallized out and sold. Silver is separated by the addition of a small amount of common salt.

In the evening a dinner complimentary to the visitors was given by the local committee at the Eutaw House. Dr. Wm. Simon acted as toastmaster and H. W. Wiley, Wm. McMurtrie, Ira Remsen, F. W. Clarke, J. H. Appleton, Edward Hart, W. L. Dudley, and C. B. Dudley responded to toasts.

THURSDAY, DECEMBER 28.

Papers were read as follows :

Some Facts Relating to Type Writing Machine Oils. *Thomas Taylor.*

Report on the Determinations of Atomic Weights published during 1893. *F. W. Clarke.*

The Detection of Strychnine in an Exhumed Human Body. *W. A. Noyes.* Read by Edward Hart.

The Importance of the Study of Biochemistry. *E. A. de Schweinitz.* Read by C. E. Munroe.

Upon Uniformity in Sampling and Assaying Copper Bullion. *G. W. Lehmann.* Read by title.

The Preservation and Arrangement of Chemical Abstracts and Clippings. *Thomas M. Chatard.*

Historical Notes on the Electro-metallurgy of Zinc. *Charles Platt.*

The Phenylhydrazin Test for Glucose in Urine. *C. E. Pellew.* Read by title.

Expert Testimony. *W. P. Mason.*

The Boric Acid Springs of Tuscany. *W. P. Mason.*

Phosphorus in Steel. *C. B. Dudley.*

Some Points in the Volumetric Estimation of Phosphorus. *C. B. Dudley.*

Determination of Phosphorus by the Molybdate Method in Presence of Arsenic in Iron, Steel and Ores. *James O. Handy.* Read by C. B. Dudley.

The Analysis of Malt. *J. A. Miller.* Read by title.

Determination of Nickel in Steel. *Jos. Westesson.* Read by title.

Preliminary Note on Electrical Organic Analysis. *Edward Hart.*

Convenient Resistance Board for Use with Blackened Lamps. *Edward Hart.* Read by title.

After a recess of five minutes the secretary read a telegram of congratulation from A. B. Prescott, of Ann Arbor, Mich., as follows:

ANN ARBOR, MICH., December 26, 1893.

Prof. H. W. Wiley, or Secretary American Chemical Society,
Baltimore, Md., (Hotel Rennert).

"I rejoice with Society upon the results of ninety-three; the membership enrolled, the JOURNAL established, the organization effected and the congress of chemists overflowing, each an event in American Chemistry; an event international is Bolton's Bibliography of Four-Hundred Years. With regret that I must be absent,"

ALBERT B. PRESCOTT.

The secretary was instructed to make a suitable response.

The report of the committee of canvassers was presented showing the election of H. W. Wiley as president; A. C. Hale, secretary; C. F. McKenna, treasurer; F. E. Dodge, librarian; C. F. Chandler, P. T. Austen, C. A. Doremus and H. C. Bol-

ton as directors to serve two years. C. B. Dudley, C. E. Munroe, Wm. McMurtrie and J. H. Appleton to serve as councillors for three years.

H. W. Wiley, chairman of the committee on new charter, reported that he had been unable to obtain a meeting of the committee, but that on his individual responsibility he reported in favor of the surrender of the New York Charter and the organization of the society under a new charter to be obtained from Congress. At the suggestion of Dr. McMurtrie and C. E. Munroe the matter was referred to the council for further examination with power to act.

On motion of Edward Hart the president was authorized to appoint a committee of seven to include the members of the committee on papers and publications to act as an advisory board on matters pertaining to the "style" to be used in the JOURNAL. (nomenclature, spelling, punctuation, etc.). The president subsequently named the following persons to act as members of this committee: Edward Hart, chairman; J. H. Long, Edgar F. Smith, A. B. Prescott, G. C. Caldwell, T. H. Norton and H. Carrington Bolton.

On motion of J. H. Appleton a committee of seven was appointed to petition Congress for a more specific wording of that part of the Tariff bill pertaining to importation of duty free apparatus and supplies for scientific work. The committee consists of C. E. Munroe, chairman; H. B. Nason, Edward Hart, E. F. Smith, J. H. Appleton, A. B. Prescott and W. L. Dudley.

Dr. Wiley thanked the society for the honor done him in a re-election to the office of president. He believed, however, as the office of president was entirely honorary that two terms for one person was a mistake. As the mistake had now been made he felt bound to accept, especially as a declination to serve would put the council to inconvenience and delay business that should be attended to promptly.

Mr. C. F. McKenna offered his resignation as treasurer, stating that he found the work required so much time that he felt unable to longer attend to it. Referred to the council.

On motion of F. W. Clarke the thanks of the society were voted to the local committee of arrangements, to President D. C.

Gilman and Prof. Ira Remsen, of Johns Hopkins University, for courtesies extended, to the Baltimore Copper Smelting and Rolling Co., the Lazzaretto Chemical and Fertilizer Co., and the Maryland Steel Co., for the privilege of inspecting their plants, and to Baker, Whitely and Co., and the Rasin Fertilizer Co. for transportation.

Adjourned.

In the afternoon the members visited the works of the Maryland Steel Co., at Steelton. The tugs Sea-Wall and Chicago carrying the party down the bay.

These works comprise four large blast furnaces, two twenty ton Bessemer converters and a complete ship building plant. A recent addition is the immense shears operated by hydraulic power which were used in lifting Krupp's gun from the vessel to the car upon which it was transported to Chicago. The party were taken through the works by Mr. Frank T. King and through the Bessemer Steel department by Mr. G. F. Knapp.

Local Committee of Arrangements.—C. P. Van Gundy, chairman; W. B. D. Penniman, secretary; Wm. Simon, W. J. Gascoyne, R. D. Coale, Chas. Glaser, G. W. Lehmann, A. R. L. Dolme, A. J. Corning, Wm. Glenn and G. A. Liebig, Jr.

REGISTER OF MEMBERS IN ATTENDANCE:

Wm. McMurtrie,	W. F. Hillebrand,
Chas. F. McKenna,	G. L. Spencer,
P. Fireman,	H. B. Nason,
Walter B. Randall,	Wm. P. Mason,
Charles L. Parsons,	J. H. Appleton,
Chas. B. Dudley,	E. C. Franklin,
E. W. Allen,	Thomas Taylor,
W. D. Bigelow,	G. A. Chalmot,
H. W. Wiley,	W. R. Orndorff,
Edward Hart,	A. P. Sharp,
W. J. Gascoyne,	Charles Platt,
W. B. D. Penniman,	R. M. Parks,
A. L. Browne,	Sam'l P. Sadtler,
W. Liman,	Thomas M. Chatard,
C. P. Van Gundy,	H. H. Hawling,
Wm. Bromwell,	G. B. Pfeiffer,
Wm. Simon,	G. F. Barker,
A. R. L. Solme,	Geo. Steiger,
R. D. Coale,	Robt. B. Warder,

Chas. Glaser,
 Wm. Glenn,
 A. J. Corning,
 Charles E. Munroe,
 Eugene Byrnes,
 Wirt Tassin,
 August E. Knorr,
 Oma Carr,
 T. C. Trescott,
 Wm. H. Krug,
 F. W. Clarke,
 W. P. Cutter,

T. R. Wolf,
 H. B. Hodges,
 Edgar F. Smith,
 Wm. M. Groevsnor, Jr.,
 W. L. Dudley,
 G. W. Lehmann,
 J. B. Littlewood,
 W. N. Mumper,
 John Johns,
 Edgar Richards,
 Marcus Benjamin,
 Lyman B. Hall.

THE WIDE-SPREAD OCCURRENCE OF BARIUM AND STRONTIUM IN SILICATE ROCKS.¹

BY W. F. HILLEBRAND.

AMONG the mass of published analyses of igneous eruptive and metamorphosed eruptive rocks, those in which barium and strontium are noticed are few indeed, unless the work has been of a special nature, like that of Sandberger in the development of the lateral secretion theory. Yet the very numerous analyses of igneous eruptive rocks of all ages and kinds made in the laboratory of the United States Geological Survey during the past thirteen years, have shown that these elements are distributed widely and in considerable quantity, in the United States at least, and doubtless elsewhere.

The percentages of barium and strontium oxides when present are usually below 0.1 per cent. each, but higher amounts are by no means uncommon, and for certain districts seem to be the rule rather than the exception. Within the past year two series of rocks from Colorado and Montana have been analyzed, both of which are noteworthy for the high percentages of barium found in them. Of seven rocks constituting the Colorado series six held from 0.13 to 0.18 per cent. BaO, while in the seventh the percentage was 0.43. The SrO ranged from 0.07 to 0.13 per cent. for six, and was 0.28 per cent. for that one highest in BaO. Of thirteen geologically related rocks from Montana, embracing basic as well as acid and intermediate types, the range of BaO

¹ Read at the Baltimore meeting, December 27, 1893.