

tions, for one can not deduce from it the observed characteristics of the x-peak phenomena—such, for instance, as the way in which the angle of reflection depends upon the angle of incidence of the primary beam, the appearance of only one x-peak in each quadrant and the fact that the critical voltage is always about equal to that of the K series of iodine. The influence of the critical absorption of the chemical elements in the crystal has been indicated on many of our published diagrams.

It is evident from the above-mentioned experiments that all the possible reflections of x-rays by a crystal such as potassium iodide have not yet been thoroughly examined. The possibility of abnormal reflections has a direct bearing upon the analysis of crystals by means of x-rays, especially upon those methods of analysis which require the taking of Laue photographs. For a completely satisfactory analysis of crystals by such a method it would be necessary to determine what the wave-length of the various deflected beams are. Probably no mistakes would be made in analyzing crystals of simple forms, such as cubic crystals, but in the more complicated cases the fact that abnormal reflections occur must always be borne in mind and in case of doubt the wave-lengths of the deflected beams should be determined. It would be difficult to measure the critical voltages for these deflected rays by the photographic method, but they could be easily determined by an ionization spectrometer.

HARVARD UNIVERSITY

GEORGE L. CLARK  
WILLIAM DUANE

### THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE MEETING OF THE EXECUTIVE COMMITTEE

THE meeting was called to order in the board room of the Cosmos Club, Washington, at three o'clock on the afternoon of October 14 with the following members present: Cattell, Fairchild, Howard, Humphreys, Livingston, Osborn, Walcott, Ward. The following were absent: Flexner, MacDougal, Noyes. President Walcott was elected chairman. The minutes of the last meeting were approved as previously circulated. The following interim minute of action by mail was approved: September 17, 1923. On nomination of the section committee of Section M, Mr. John T. Faig was elected to be vice-president for Section M and chairman of the section for the current year.

The permanent secretary's report on the affairs of the association was presented in mimeographed form, and was accepted. The permanent secretary's annual financial report (of September 30, 1923) was presented and accepted, and it was ordered to be audited

and presented to the council at the next annual meeting.

The treasurer's report was presented by Mr. John L. Wirt, who was present by invitation. It was accepted and ordered to be audited and brought before the council at the next annual meeting.

An appropriation of \$4,500 was voted for grants, including the recent Newcomb Cleveland gift of \$500.

The permanent secretary reported that the project of starting a quarterly publication, to include the preliminary announcement of the annual meeting, has been postponed for the present on account of uncertainty as to funds.

The permanent secretary reported that the special committee on the philological sciences is active and that a program on this subject will be presented at the approaching Cincinnati meeting.

The appointment of Dr. Charles A. Shull, of the University of Chicago, to be assistant secretary of the association in the place of Dr. Sam F. Trelease, resigned, was approved. This appointment is for the period from September 1, 1923, to the end of the Cincinnati meeting.

The sponsorship, by the association, of the project on the standardization of engineering and scientific abbreviations and symbols was approved. The association becomes sponsor, along with the U. S. Bureau of Standards and the Society for the Promotion of Engineering Education, for the preparation of a system of standardized symbols, etc., without any financial obligations on the part of the association. The association reserves the right to pass upon the recommendations of the joint committee, when finally made, and, for its own part, to approve or disapprove, in whole or in part. The special committee which represents the association in this work consists of Dr. Henry N. Russell, of Princeton University, chairman; Dr. Augustus Trowbridge, of Princeton University, and Dr. E. W. Washburn, of the National Research Council.

The question of further publicity for the resolution on Pueblo Indian lands (adopted April 22, 1923) was left to the general and permanent secretaries, with power. The resolution has been widely published and a supply of printed copies is available at the permanent secretary's office.

One hundred and twenty-six fellows were elected, distributed among the sections as follows: Section D, 1; Section M, 12; Section O, 112; Section Q, 1.

It was voted that the permanent secretary call a meeting of the executive committee on the evening of Wednesday, December 26, at Cincinnati, if, in his judgment, there are matters for consideration that may not be cared for satisfactorily at the forenoon meeting on the following day.

After the reading of communications from the

British Association for the Advancement of Science, which evidenced the approval of that association, it was voted that the American Association for the Advancement of Science shall hold a summer meeting at Buffalo, preceding the Toronto meeting of the British Association to be held in September, 1924.

The following resolutions were adopted, regarding the permanent endowment of the association and the income therefrom:

(1) *Resolved*: That an assistant treasurer of the association be appointed, to serve till the end of the next Washington meeting, whose duties shall be to assist the treasurer.

(2) *Resolved*: That checks drawn upon the authorized account of the association in the Fifth Avenue Bank, of New York, be signed by the treasurer or assistant treasurer and countersigned by the president or the permanent secretary of the association.

(3) *Resolved*: That the treasurer or assistant treasurer be authorized to open an account with the American Security and Trust Company, of Washington, in the name of the American Association for the Advancement of Science with instructions that checks on this account be signed by the treasurer or the assistant treasurer and countersigned by the president of the association or the permanent secretary.

(4) *Resolved*: That the Finance Committee shall consist of the treasurer and assistant treasurer and three members to be elected by the Executive Committee, one each year for a term of three years.

(5) *Resolved*: That the Finance Committee shall have custody of the securities of the association and general charge of its investments and invested funds, with power to sell and deliver any securities belonging to the association whenever occasion may arise to do so; and the president and treasurer, or assistant treasurer, of the association are authorized, with the approval of said committee, to execute any necessary instrument or instruments of transfer and to affix the corporate seal of the association thereto.

(6) *Resolved*: That all moneys appropriated for use under allotments to be made by the Committee on Grants and not used during the calendar year for which the appropriation has been made, shall revert to the treasury at the end of that calendar year. (Appropriations are generally made at the annual meeting, at the beginning of the calendar year. Allotments are made by the Committee on Grants, and disbursements are made by the treasurer's office in accordance with directions from the Committee on Grants. If an allotment be made and accepted by the grantee and the latter wishes not to draw the funds—or to draw only part of them—within the calendar year for which the appropriation was made, such an allotment is to be considered as used within the calendar year. When a grant is not accepted or is returned by the grantee, the Committee on Grants may re-allot it to another grantee, as of the same calendar year, but no funds appropriated for use under allotments by the Committee on Grants during any year and not accepted by the grantees during that year are to be available for

allotment and disbursal in the succeeding year unless again appropriated for the latter year.)

In accordance with resolution 1, above, Mr. John L. Wirt was elected assistant treasurer of the association, his term of office to expire at the close of the Washington meeting of 1924.

The executive committee voted that the permanent secretary write a note of sympathy and condolence to Mrs. R. S. Woodward, on account of the protracted illness of Dr. Woodward.

It was voted that the annual meeting for 1926 shall be held at Philadelphia, the dates being, according to the adopted schedule, from Monday, December 27, 1926, to Saturday, January 1, 1927. Future annual meetings thus far decided on are as follows:

1924, Cincinnati: Thursday, December 27, 1923, to Wednesday, January 2, 1924.

1925, Washington: Monday, December 29, 1924, to Saturday, January 3, 1925.

1926, Kansas City: Monday, December 28, 1925, to Saturday, January 2, 1926.

1927, Philadelphia: Monday, December 27, 1926, to Saturday, January 1, 1927.

1928, ———: Monday, December 26, 1927, to Saturday, December 31, 1927.

1929, New York: Thursday, December 27, 1928, to Wednesday, January 3, 1929.

A request for exchange of publications was received from the Staats- und Universitätsbibliothek of Hamburg, and the permanent secretary was authorized to send to that library the Proceedings volumes.

A communication (October 10) and an offer were received from a member of the association, concerning the awarding of a prize for scientific achievement in 1924, and the offer was accepted with thanks. The donor is to remain unnamed. A special committee was appointed to consider and provide arrangements for carrying out the terms of the offer. This committee consists of the president, the permanent secretary, and Dr. Cattell, the last being chairman.

It was decided that the section secretaries be invited to be the guests of the association, to meet the members of the executive committee, at a dinner to occur on Sunday evening, December 30, at Cincinnati, the dinner to be preceded and followed by conferences on the affairs of the association.

It was voted that the Saturday evening session at Cincinnati (December 31, 1923) shall be devoted to a series of brief talks by past presidents of the association and the permanent secretary was instructed to invite all living past presidents to take part. This session is planned specially in celebration of the seventy-fifth anniversary of the founding of the association.

It was voted that the collection of photographs of

the presidents of the association be exhibited at the Cincinnati meeting.

The meeting adjourned at 10:30.

BURTON E. LIVINGSTON,  
*Permanent Secretary*

#### MEMBERSHIP IN THE ASSOCIATION

ON September 30, 1923, the total enrollment was 11,704. There were 376 life and sustaining members and 10,411 annual members in good standing, making a total of 10,787 members in good standing. The names of 407 in arrears for two years and those of 510 in arrears for one year remained on the roll. On October 1 the 407 were dropped from the membership list, as is ordered by the by-laws. The corresponding number of names dropped October 1, 1922, was 455. The total enrollment was 11,297 at the beginning of the present fiscal year (1924), of which 10,380 represents the total membership in good standing. On October 1 the annual dues for the fiscal year 1924 become due. The growth of the association for the period since September 30, 1920, is shown by the following tabulation:

	Sept. 30, 1920	Sept. 30, 1921	Sept. 30, 1922	Sept. 30, 1923
In good standing.....	10,002	10,160	10,566	10,787
Total enrollment.....	11,442	11,547	11,646	11,704
New life members for the year just ended .....	22	12	15	27
New members and reinstatements for year just ended .....	.....	922	1,253	874
Died during year just ended .....	.....	.....	87	91
Resignations for year just ended.....	.....	386	362	270
Dropped at begin- ning of year just ended .....	.....	387	705	455

The net gain in total enrollment for the fiscal year 1923 is only 58, but the corresponding net gain in membership in good standing is 221, which is not at all discouraging. Moreover, 27 new life members were enrolled in 1923, an unusual gain. At the end of the fiscal year 1921, 88 per cent. of those on the roll were in good standing. The corresponding percentage at the end of the fiscal year 1922 was 91 and that at the end of 1923 was 92.

BURTON E. LIVINGSTON,  
*Permanent Secretary*

#### THE LOS ANGELES MEETING

##### III

#### THE AMERICAN CHEMICAL SOCIETY

Joint Meeting of the California Section and the Southern California Section held in conjunction with

the Meeting of the Pacific Coast Branch of the American Association for the Advancement of Science, September 19, 1923, in Los Angeles.

*The determination of calcium:* WM. C. MORGAN. Calcium precipitated as oxalate and determined by titration with permanganate always gives results about one per cent. lower than when determined by the gravimetric method.

*Critical solution temperatures:* G. ROSS ROBERTSON.

*A study of pressure and temperature effects on petroleum emulsions:* LAIRD J. STABLER.

*Butyryn:* L. S. WEATHERBY. A study of the yields in the synthesis of butyryn. The conditions under which maximum yields were obtained were determined, together with some of the physical constants of pure butyryn.

*The vapor pressure of monatomic elements:* R. H. MILLER.

*A system of qualitative analysis, including the rare elements:* A. A. NOYES and W. C. BRAY. Presentation of the results of many years work upon the improvement and simplification of the system of qualitative analysis, with special reference to the detection of small amounts of rare elements in the presence of large amounts of other substances.

*Dissociation of hydrogen cyanide at high temperatures:* R. M. BADGER.

*The rate of dissociation of sulphuryl chloride:* D. F. SMITH.

*Studies on the chemical behavior and the chemical properties of insulin:* G. A. ALLES and A. L. RAYMOND. Report upon the improvement in the methods of preparing and testing insulin.

*Some new experiments on the oxidation-reduction theory of contact catalysis:* A. F. BENTON and P. H. EMMETT.

*New studies in nitrogen fixation:* C. B. LIPMAN. (By title.)

*Present status of chemical criteria in soil fertility investigations:* J. BURD. (By title.)

MARK WALKER  
*Secretary, Southern California Section,  
American Chemical Society*

#### SEISMOLOGICAL SOCIETY OF AMERICA

THE Seismological Society of America held a meeting in one of the buildings of the University of Southern California at 2 P. M. on Tuesday, September 18. Second Vice-president Harry O. Wood presided at the meeting.

Two papers were presented, "A proposed research into the possibilities of earthquake prediction," by Ernest A. Hodgson (read by the secretary), and "Can tectonic causes explain Nigger-Bixby and Balboa sloughs?" by Oscar Stromborg. Mr. Wood gave a brief account of the Fault Map of California recently published by the Seismological Society.

S. D. TOWNLEY,  
*Secretary*