

PROCEEDINGS OF THE FIFTEENTH ANNUAL MEETING  
OF THE MINERALOGICAL SOCIETY OF AMERICA AT  
ROCHESTER, NEW YORK

PAUL F. KERR, *Secretary*.

The fifteenth annual meeting of the Society was called to order Thursday, December 27th, at 2:00 P.M. in Room 206, Chester Dewey Building, University of Rochester, Temporary Chairman A. H. Phillips presiding. The customary business of the society was conducted, including reports by the officers of the society and committees summarized as follows:

MINUTES OF THE LAST ANNUAL MEETING. (Not called for because of previous publication in *The American Mineralogist*, vol. 19, pp. 122-136, 1934.)

DECLARATION OF VOTES FOR OFFICERS AND FELLOWS FOR 1935.

REPORT OF THE SECRETARY.

REPORT OF THE EDITOR.

REPORT OF THE TREASURER.

MEMORIALS:

A brief oral tribute was presented by Dean Edward H. Kraus of the University of Michigan for Henry S. Washington and Stephen Richarz.

Members and visitors rose and stood for a minute in silence out of respect to the memory of our departed fellows at the conclusion of Dean Kraus' address.

REPORTS OF COMMITTEES:

Auditing Committee: Read by Dr. Tom. F. W. Barth, Chairman.

Committee on Affiliation: Read by the Secretary.

Committee on Nomenclature: The Chairman, Dr. W. T. Schaller, requested that the committee be continued although no report was made for 1934.

The business meeting was adjourned at 2:45 P.M. and the President, John E. Wolff, took the chair to preside over the presentation of papers.

The report of the election of officers and fellows for 1935, the report of the Secretary, Editor and Treasurer and the report of the Auditing Committee are given in the following pages. The report of the Committee on Affiliation was printed in full in vol. 20, January, 1935.

ELECTION OF OFFICERS AND FELLOWS FOR 1935

The Secretary announced that 174 ballots had been cast unanimously for the officers as nominated by the council. Officers were declared elected as follows:

*President*: Clarence S. Ross, U. S. Geological Survey, Washington, D.C.

*Vice-President*: J. Ellis Thomson, University of Toronto, Toronto, Ontario, Canada.

*Treasurer*: Waldemar T. Schaller, U. S. Geological Survey, Washington, D.C.

*Secretary*: Paul F. Kerr, Columbia University, New York, N.Y.

*Editor:* Walter F. Hunt, University of Michigan, Ann Arbor, Michigan.

*Councilor, 1935-1938:* J. F. Schairer, Geophysical Laboratory, Washington, D.C.

The Secretary announced that 76 ballots of fellows had been cast unanimously for nominees for fellowship previously approved by the council. Newly elected fellows were as follows:

J. D. H. Donnay, Johns Hopkins University, Baltimore, Maryland.

Edwin B. Eckel, Ganada, Arizona.

George M. Hall, University of Tennessee, Knoxville, Tennessee.

Edwin T. Hodge, University of Oregon, Eugene, Oregon.

Arthur Holmes, Science Laboratory, Durham, England.

James H. C. Martens, Morgantown, West Virginia.

James F. Morton, Paterson Museum, Paterson, New Jersey.

Thomas B. Nolan, U. S. Geological Survey, Washington, D.C.

Hugh S. Spence, Mines Branch, Ottawa, Canada.

C. E. Tilley, University of Cambridge, Cambridge, England.

REPORT OF THE SECRETARY FOR 1934

*To the Council and Members of the Mineralogical Society of America:*

The Secretary reports the statistics concerning the membership roll of the Society for the last twelve months as follows:

MEMBERSHIP STATISTICS

|                  | December<br>1933 | December<br>1934 |
|------------------|------------------|------------------|
| Honorary fellows | 5                | 4                |
| Fellows          | 115              | 125              |
| Members          | 280              | 291              |
| Subscribers      | 257              | 268              |
|                  | —                | —                |
|                  | 657              | 688              |

GAIN AND LOSS FOR 1934

|                                                 | Gain | Loss |
|-------------------------------------------------|------|------|
| Honorary fellows                                |      | 1    |
| Fellows (not including members elected fellows) |      | 2    |
| Members                                         | 60   | 46   |
| Subscribers                                     | 28   | 8    |
|                                                 | —    | —    |
|                                                 | 88   | 57   |

It is interesting to note that the Society has made a net gain in membership of 31 or almost 5 per cent on the basis of the 1933 total. It should be recorded, however, that although both members and subscribers have shown an increase over the previous year the increase in subscribers has been proportionately greater than the increase in members. This appears to be due to the increasing desire on the part of scientific organizations, libraries, and research establishments to make use of *The American Mineralogist*.

A total of about 690 paid copies of *The American Mineralogist* is mailed monthly. These are distributed not only throughout the United States and Canada but a constantly increasing number of copies go abroad.

It is felt by the Secretary that the gain recorded above is in a large measure to be credited to the good will established over a number of years by the Editor, Treasurer and the previous Secretary of the Society. In conclusion it is proper to record appreciation of the efforts of Professor Albert B. Peck who took over the records of the Society during 1933 and turned them over in such excellent condition at the close of the year.

Respectfully submitted,  
PAUL F. KERR, *Secretary*

#### REPORT OF THE EDITOR FOR 1934

*To the Council, Fellows and Members of The Mineralogical Society of America:*

In the report of a year ago the statement was made that in so far as conditions at that time could be foreseen it did not seem likely that any expansion of *The American Mineralogist* was in sight, due to our practically stationary income on the one hand and the possibility of increased printing costs on the other. However, in summarizing the accomplishments of the Journal for the year 1934 it is gratifying to note that considerable progress can be reported along various lines.

In the first place the character of the Journal has been greatly improved through the use of a superior grade of coated paper thus permitting clearer detail in the illustrations, a feature of considerable importance especially in the reproduction of diffraction patterns and photomicrographs. Also, there has been about a 10 per cent increase in the size of the magazine compared with the volume of a year ago. In other words, the current volume exceeds slightly the 600 page mark, and in this respect a new record is established.

This expansion and improvements in the Society's publication were due in no small measure to the assurance of some financial assistance which was very generously voted by the Council of the Geological Society of America at a meeting held last April. Due, however, to certain formalities that had to be complied with and new procedures inaugurated the money was not immediately available so that the expansion, of necessity, had to be modest and restricted to the late issues of the year. Also, because of this aid a more liberal attitude than otherwise would have been possible, was followed in the number of permissible illustrations accompanying many of the manuscripts.

Volume 19 is represented by 58 leading articles received from 35 universities, research bureaus and technical laboratories. If to this number is added the 25 equally interesting but somewhat shorter contributions, we have a total of 83 published manuscripts received from no less than 76 contributors. It is always of interest to note whether articles are received from outside of the States. For many years we have been thus favored by one or more foreign contributions, and in 1934 this number was increased to seven—three from Canada, two from Holland and one each from Germany and South Africa.

On a number of occasions anxiety has been expressed in some quarters that papers dealing with petrography might not be given adequate attention due to the rapid expansion in other fields covered by our periodical. To those who hold this fear attention is called to the fact that during the year eight strictly petrographic

manuscripts have been published and it is our intention in the future to accept a larger number of such papers of moderate lengths should they become available.

As in previous years a survey of the titles of papers that have appeared in volume 19 will reveal the usual wide range of subject matter, including articles on descriptive, chemical and optical mineralogy; geometrical and structural crystallography; mineralography; petrography; as well as memorials to our distinguished deceased fellows. Also book reviews, abstracts of new mineral names, and numerous reports from mineralogical societies at home and in Great Britain have added many additional items of general interest.

The prospects for next year are exceedingly promising. It is our confident hope that the assistance received from the Geological Society of America this past year will be continued during 1935. This will permit of considerable further expansion and at the same time improve the service to contributors by reducing annoying delays in the printing of manuscripts after they have been accepted. In addition it will be possible to undertake shortly a project of major importance to all scientists who use *The American Mineralogist* as a work of handy reference. The year 1935 will conclude the twentieth volume of the Journal and it would seem very timely to consider seriously the issuance in one pamphlet of a carefully prepared bibliography and subject index covering this twenty-year period. Details have not yet been worked out but the cost has been roughly estimated at about \$1200. Perhaps through savings spread over a number of years a fund might be set aside to insure the success of this extremely desirable project.

The concluding table of contents summarizes the distribution of subject matter in volume 19.

| DISTRIBUTION OF SUBJECT MATTER IN VOLUME 19.     |          |       |                   |
|--------------------------------------------------|----------|-------|-------------------|
| Subjects                                         | Articles | Pages | Per Cent of Total |
| Leading articles                                 |          |       |                   |
| Descriptive mineralogy                           | 10       |       |                   |
| Chemical mineralogy                              | 9        |       |                   |
| Optical mineralogy                               | 7        |       |                   |
| Structural crystallography<br>and mineralography | 8        |       |                   |
| Geometrical crystallog-<br>raphy                 | 6        |       |                   |
| Petrography                                      | 8        |       |                   |
| Memorials, etc.                                  | 10       |       |                   |
| —                                                | 58       | 486   | 79.9              |
| Proceedings of societies                         | 32       | 39    | } 20.1            |
| Short articles; notes and news                   | 40       | 68    |                   |
| Abstracts of new mineral names                   | 19       | 7½    |                   |
| Book reviews                                     | 9        | 7½    |                   |
| Total of text                                    | 158      | 608   | 100.0             |
| Illustrations                                    | 156      |       |                   |
| Covers, advertisements, index                    |          | 114   |                   |
| Total                                            |          | 722   |                   |

Respectfully submitted,  
WALTER F. HUNT, *Editor*.

## REPORT OF THE TREASURER FOR 1934

To the Council of the Mineralogical Society of America: Your Treasurer submits herewith his annual report for the year beginning December 1, 1933, and ending November 30, 1934.

## RECEIPTS

|                                         |            |
|-----------------------------------------|------------|
| Cash on hand December 1, 1933 . . . . . | \$1,653.63 |
| Dues and subscriptions . . . . .        | \$1,803.63 |
| Advertisements . . . . .                | 479.64     |
| Sale of back numbers . . . . .          | 80.64      |
| Interest on endowment . . . . .         | \$2,352.75 |
| Author's charges . . . . .              | 36.54      |
| Author's charges on separates . . . . . | 362.98     |
|                                         | <hr/>      |
|                                         | \$6,769.85 |

## DISBURSEMENTS

|                                                                |            |
|----------------------------------------------------------------|------------|
| Printing and distribution of the Journal (12 issues) . . . . . | \$3,286.44 |
| Printing and distribution of separates . . . . .               | 543.89     |
| To the Editor, Secretary and Treasurer . . . . .               | 720.00     |
| Postage . . . . .                                              | 49.42      |
| Stationery . . . . .                                           | 2.85       |
| Printing . . . . .                                             | 52.36      |
| Clerical help . . . . .                                        | 127.44     |
| Committee expenses . . . . .                                   | 35.03      |
| Safety deposit box . . . . .                                   | 8.25       |
| Bank collecting charges . . . . .                              | 1.51       |
| Check tax . . . . .                                            | 1.06       |
| Refunds on dues . . . . .                                      | 2.75       |
| Checks returned . . . . .                                      | 9.23       |
| Telegram . . . . .                                             | 0.86       |
| Roebbling Medal Fund . . . . .                                 | 100.00     |
|                                                                | <hr/>      |
|                                                                | \$4,941.09 |
| Cash balance November 30, 1934 . . . . .                       | \$1,828.76 |
|                                                                | <hr/>      |
|                                                                | \$6,769.85 |

The endowment funds of the Society as of November 30, 1934, are the same as a year ago, and consist of:

|                                                                                              |             |
|----------------------------------------------------------------------------------------------|-------------|
| 45 \$1,000 bonds of the City and County of Honolulu, Water Works,<br>5%, due 1954 . . . . .  | \$45,000.00 |
| 4 Liberty bonds, \$100 each, 4th, 4 $\frac{1}{4}$ %, due 1933-1938 . . . . .                 | 400.00      |
| 4 \$100 bonds, Great Northern R. R., 5 $\frac{1}{2}$ %, due 1952 . . . . .                   | 400.00      |
| 2 \$1,000 bonds, Trenton Mort. and Title Guar. Co., 5 $\frac{1}{2}$ %, due<br>1937 . . . . . | \$ 2,000.00 |
| 2 \$1,000 bonds, Trenton Mort. and Title Guar. Co., 5 $\frac{1}{2}$ %, due<br>1938 . . . . . | \$ 2,000.00 |

1 \$1,000 bond, Denver Gas and Electric Light Co., 5%, due 1951 . . . \$1,000.00

\$50,800.00

In addition there is \$200.00 cash laid aside for the Roebbling Medal Fund.

Respectfully submitted,

W. T. SCHALLER, *Treasurer*.

Washington, D.C.

December 14, 1934.

*To the President of the Mineralogical Society of America:*

The Auditing Committee has examined and verified the accounts and report of the Treasurer for the fiscal year ending November 30, 1934. The Committee also certifies that \$200.00 cash is laid aside for the Roebbling Medal Fund. The securities listed in the Treasurer's report are in the safety deposit box in the vaults of the American Security and Trust Company of Washington, D.C. All future coupons are intact and are attached to these securities with the following exceptions: Four bonds of the Trenton Mortgage and Title Guaranty Company of a total par value of \$4,000, have been changed to registered bonds (registered both for principal and interest) and the coupons detached and destroyed.

TOM. F. W. BARTH, *Chairman*

HERBERT INSLEY

GEO. STEIGER

#### PRESIDENTIAL ADDRESS

The address of Dr. John E. Wolff, retiring President of the Mineralogical Society of America, was delivered on Thursday, December 27 at 12:30 P.M. in the Henry Strong Auditorium before the joint assembly of all societies.

#### CRAZY MOUNTAINS OF MONTANA—SUPER-ALKALINE AND SUB-ALKALINE TERTIARY INTRUSIVE ROCKS AND THEIR PROBLEMS

BY JOHN E. WOLFF, *Pasadena, California*

(*Abstract*)

The paper begins with a brief topographic and geological description of the range, which lies some thirty miles east of the Frontal range and is bounded on the south by the Yellowstone river, on the north by the Musselshell, on the west by Shield's river, and on the east by the tributaries of the Yellowstone and Musselshell, respectively. The area is forty-five miles long from north to south and twenty-five miles wide, divided by Shield's river into a southern area of high and rugged peaks (over eleven thousand feet above tide) with deep canyons, and several small residual glaciers, and a lower northern area, flat-topped and less dissected.

The range contains a remarkable assemblage of intrusive igneous rocks, including in the southern half, a large diorite stock with a mile wide contact ring, forming in ground plan an elongated oval six and a half miles long north and south by four miles east and west—twenty-two square miles in area, with many dikes cutting the mass, and small laccoliths, sills, and thousands of dikes in the enclosing Fort Union (Eocene) sediments. Canyons have cut down over three thousand feet into