

PROCEEDINGS OF THE THIRTY-SEVENTH ANNUAL
MEETING OF THE MINERALOGICAL SOCIETY OF
AMERICA AT MINNEAPOLIS, MINNESOTA

C. S. HURLBUT, JR., *Secretary*

The thirty-seventh annual meeting of the Society, held on October 31-November 2, 1956 at the Nicollet Hotel, Minneapolis, Minnesota, was attended by 115 fellows and members. Five scientific sessions were held at which fifty-four papers were presented on Mineralogy, Crystallography, Petrology and Geochemistry.

The annual luncheon of the Society held on November 1 was attended by 185 fellows, members and guests. Following the luncheon, the fifteenth presentation of the Roebling Medal was made to Arthur F. Buddington and the sixth presentation of the Mineralogical Society of America Award was made to George C. Kennedy. The luncheon was also the occasion of the presentation of a certificate to Walter F. Hunt, Retiring Editor of *The American Mineralogist*, in appreciation of his many years of service to the Society.

The Retiring President, Clifford Frondel, addressed the Society on the afternoon of November 1. His subject was *The Mineralogy of Uranium*. At the annual business meeting preceding the presidential address reports were given by the Secretary, Treasurer and Editor. Professor M. J. Buerger spoke on the desirability of an International Union of Mineralogy. Acting on this suggestion, the 1957 Council appointed a committee to investigate the possibility of organizing such an International Union.

In order not to take time from the scientific sessions, only fifteen minutes have been allotted for the annual business meeting. This is too short a time to discuss items of business that may be brought up by members. To correct this situation, the Council has voted that in the future the business meeting will be held at the end of an afternoon scientific session. Discussion can then be held without time limitations.

The 1956 Council of the Society met for seven hours on October 30 and November 1 and discussed twenty-four items of business. The following are those which the Council feels are of general interest to the membership:

Nomenclature Committee. The report of the Committee was given by George Faust, Chairman. In 1955 the Committee submitted to the Council the results of a survey of the literature regarding the methods used to designate indices of refraction. The 1956 Committee, consisting of six members, voted on their preference. The results of the Committee's voting are as follows:

α , β , γ —3 votes; n_x n_y n_z —2 votes; N_x , N_y , N_z —1 vote

It was voted to accept the report of the Committee. It was further voted that the Nomenclature Committee prepare a brief statement giving the background of the various usages regarding designation of refractive indices that could be circulated to the whole membership of the Society. The members would be asked to express their preference and unless important new points are brought up, the result of this balloting is to be considered a final vote on a system to be adopted officially for use in *The American Mineralogist*.

A sub-committee consisting of Tuttle, Goldsmith and MacKenzie is to prepare a report on the nomenclature of the feldspars.

A sub-committee is working on the nomenclature of the clay minerals.

American Geological Institute. The American Geological Institute is endeavoring to put its finances on a firmer basis by having member organizations, of which the Mineralogical Society of America is one, contribute a percentage of the dues paid by members. The Council voted that the Mineralogical Society of America contribute to the American Geological Institute in 1957 10 per cent of the current dues paid by Members and Fellows with the dues of both considered as \$4.00.

On April 23, 1956 there was a meeting of the Government Relations Committee of the American Geological Institute. Our Society representative at the meeting, D. Jerome Fisher, reported that the following items were considered:

1. Mission 66 of Department of Interior to improve National Parks and Monuments.
2. Ways and means of getting geological instruction in U. S. Military Academies.
3. Need for getting essential geological advice into Public Works.
4. How A.G.I. can help the Scientific Manpower Commission.
 - a. Drafting of scientists; educational problems of science.
 - b. Use of scientists in government research laboratories.
 - c. Need to include geologic exploration as research.

International Geological Congress. D. Jerome Fisher, the Mineralogical Society of America representative to the Mexican Congress, reported to the Council on the recent meetings. He suggested that in the future we have more delegates and try to arrange more papers of a mineralogical nature.

Translation of Russian Scientific Publications. The National Science Foundation has undertaken a program of translating Russian publications. The Council felt that mineralogical material should be included and that the best approach to the National Science Foundation would be through the American Geological Institute. Accordingly, the Council voted that the following resolution be transmitted to the American Geological Institute by a Mineralogical Society of America representative: "The Mineralogical Society of America is anxious to see that mineralogical material is included among items translated from the Russian and the Mineralogical Society of America Council will be glad to cooperate in any feasible manner toward this end."

Harvard Supplement. Members of the Harvard Department of Mineralogy requested that they be permitted to prepare papers for and publish a supplement to *The American Mineralogist* during 1957. It is understood that Harvard would assume the complete cost of the supplement and that, separately bound, it would be distributed to all Fellows, Members, and Subscribers of *The American Mineralogist*. It was agreed that the papers should be processed in the same manner as those normally submitted for publication in *The American Mineralogist*. The Council voted to authorize such a supplement.

Decennial Index. Earl Ingerson reported that the manuscript for the Index, prepared under his guidance, has been completed and should be published early in 1957.

The 1957 Council met for three hours on November 1 and discussed the following items of business:

Committee Appointments. President Fisher made various committee appointments which were approved by the Council.

"*Permanent Officers*". The President felt that there was some feeling among the membership that the length of term of the so-called "permanent" officers of the Society should be considered. Accordingly, he appointed a committee to study the matter and to report to the Council.

Endowment Fund. The President requested information regarding the source of the endowment fund. The Treasurer pointed out that it originated essentially in a single gift from Washington A. Roebling in 1926, and agreed that he would elaborate on sources of funds at the November 1957 Council meeting. The Council discussion of ways and means of increasing the endowment resulted in the appointment of a committee to investigate methods and report to the Council.

System of Mineralogy. The desirability of an appendix to Volume 1 was mentioned. Frondel pointed out that such a work would take considerable time and money as well as competent personnel. He agreed to survey the situation and to determine the cost and length of time necessary to produce a "dry bone" appendix.

Committee Reports. The Council voted that a formal report be requested from the Chairman of each committee to reach the secretary before September 1, 1957.

Mineral Names. The President mentioned the necessity of a rediscussion of the Schaller system of mineral names. It was agreed to refer the matter to the Nomenclature Committee.

COMMITTEES OF THE MINERALOGICAL SOCIETY OF AMERICA FOR 1957

The President wishes to remind the Fellows and Members of their privilege of corresponding with the officers and councilors or any of the personnel of the following committees regarding the business of the Society.

Nominating Committee for Fellows

- G. Switzer, *Chairman* 56-58
- R. Holmes 55-57
- A. W. Jolliffe 56-58
- W. R. Foster 57-59
- S. E. Clabaugh 57-59

Roebling Medal Committee

- A. F. Buddington, *Chairman*
- A. J. Frueh, Jr.
- J. Verhoogen
- C. Frondel

Nominating Committee for Officers

- E. N. Cameron, *Chairman*
- G. J. Neuerburg
- J. E. Hawley
- A. C. Waters
- D. McConnell

Mineralogical Society of America Award Committee

- R. A. Rowland, *Chairman*
- G. W. Brindley
- C. A. Chapman
- L. W. Staples
- R. M. Garrels

Nomenclature Committee

- C. O. Hutton, *Chairman* 55-57
- R. S. Cannon, Jr. 55-57
- E. E. Wahlstrom 56-58
- H. S. Yoder, Jr. 56-58
- H. Winchell 57-59
- C. Milton 57-59

Board of Associate Editors

- W. F. Bradley 55-57
- F. J. Turner 55-57
- E. W. Heinrich 56-58
- C. L. Christ 56-58
- J. Murdock 57-59
- R. M. Garrels 57-59

Financial Advisory Committee

- E. P. Henderson, *Chairman* 56-58

Auditing Committee

- M. D. Foster, *Chairman*
- C. A. Anderson
- H. L. James

Mineralogical Abstracts Committee

- L. G. Berry, *Chairman*
- A. Pabst

Constitution Committee

G. E. Goodspeed, *Chairman*
 F. Chayes
 S. S. Goldich

Program Committee

H. W. Fairbain, *Chairman* 57-59
 H. T. Evans 57-59
 O. F. Tuttle, 57

Endowment Committee

A. O. Woodford, *Chairman*
 C. Frondel
 C. B. Slawson

Committee to Study the Length of Officers' Terms

I. Campbell, *Chairman*
 T. F. Bates
 P. F. Kerr
 C. F. Park

Committee to Investigate International Union of Mineralogy

M. J. Buerger, *Chairman*
 A. Pabst
 S. C. Robinson
 J. W. Gruner
 J. D. H. Donnay

Corresponding members of the Committee

G. F. Claringbull
 H. G. F. Winkler
 C. Guillemin

Representatives

A.A.A.S.
 C. Tolman 57-59

*American Geological Institute**Board of Directors*

E. Ingerson 56-57
 L. R. Page 57-58

Government Relations Committee

P. F. Kerr 57-58

Glossary Committee

C. Frondel, *Chairman*
 E. W. Heinrich
 H. R. Gault

National Academy of Sciences National Research Council

J. D. H. Donnay

Committee to set up Criteria for Awards and Medals

R. E. Grim, *Chairman*
 G. T. Faust
 M. L. Keith
 G. C. Kennedy

REPORT OF THE SECRETARY

To the Council of the Mineralogical Society of America:

ELECTION OF OFFICERS AND FELLOWS

Five hundred and forty-one ballots were cast in the election of officers, 165 by fellows and 376 by members of the Society. The officers elected to serve in 1957 are:

President: D. Jerome Fisher, University of Chicago, Chicago, Illinois.

Vice-President: G. E. Goodspeed, University of Washington, Seattle 5, Washington.

Secretary: C. S. Hurlbut, Jr., Harvard University, Cambridge 38, Massachusetts.

Treasurer: Earl Ingerson, U. S. Geological Survey, Washington 25, D. C.

Editor: Lewis S. Ramsdell, University of Michigan, Ann Arbor, Michigan.

Councillors (1957-1959): Samuel S. Goldich, University of Minnesota, Minneapolis 14, Minnesota. Brian H. Mason, American Museum of Natural History, New York 24, New York.

According to the provisions of the Constitution, the following have been elected to fellowship:

- Peter Gay, University of Cambridge, Cambridge, England.
 Arthur Feodor Hagner, University of Illinois, Urbana, Illinois.
 Peggy-Kay Hamilton, Columbia University, New York, New York.
 Richard Thomas Liddicoat, Jr., Geological Institute of America, Los Angeles, California.
 Helen Dick Megaw, Cavendish Laboratory, Cambridge, England.
 Stephen R. Nockolds, University of Cambridge, Cambridge, England.
 Stephen Clive Robinson, Geological Survey of Canada, Ottawa, Ontario, Canada.
 Joseph Victor Smith, University of Cambridge, Cambridge, England.
 Frederick Henry Stewart, University of Durham, Durham, England.
 Ada Swineford, State Geological Survey of Kansas, Lawrence, Kansas.
 James B. Thompson, Jr., Harvard University, Cambridge, Massachusetts.
 Jean Wyart, Faculte des Sciences de Paris, France.

MEMBERSHIP STATISTICS

November 1, 1956

	1955	1956	Gain	Loss
Correspondents	4	4	0	0
Fellows	338	345	12	5
Members	957	1,014	145	88
Subscribers	952	966	70	56
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	2,251	2,329	227	149

The above figures show a net gain of 7 fellows, 57 members and 14 subscribers. Considering the four groups, together, there is a gain of 78, giving a total of 2,329.

During 1956, the Society lost through death five fellows: N. L. Bowen, Washington, D. C.; W. F. Foshag, Washington, D. C.; G. H. Anderson, New York, N. Y.; D. Hoenes, Karlsruhe, Germany; F. Pardillo, Barcelona, Spain.

Respectfully submitted,
 C. S. HURLBUT, JR., *Secretary*

REPORT OF THE TREASURER FOR 1956

To the Council of the Mineralogical Society of America:

Your Treasurer submits herewith his report for the fiscal year beginning August 1, 1955, and ending July 31, 1956.

RECEIPTS

Dues and subscriptions	\$11,957.00
Sale of back numbers	2,306.33
Authors' charges on reprints	1,569.14
Interest and dividends from endowment	5,662.25
Geological Society of America aid for printing the Journal	8,000.00
Advertising	1,175.95
Contributions to Kraus Volume	310.00
Sale of Index, vols. 21-30	14.00
Sale of Index, vols. 1-20	6.00
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Cash on hand, August 1, 1955	\$31,000.67
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	7,747.58
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	\$38,748.25

DISBURSEMENTS

Printing and distribution of the Journal (6 issues)	\$18,228.38
Printing and distribution of reprints	1,546.08
Honoraria to Editor, Secretary, and Treasurer	1,250.00
Clerical assistance	1,143.88
Printing and stationery	477.92
Program and abstracts (1955)	267.04
Roebling Medal (1955)	133.18
Postage and express	766.50
Expenses of officers to 1955 meetings	220.60
New securities purchased	9,047.50
Commission on new securities	89.94
Tax on new securities	1.20
Office equipment	3.29
Safety deposit box	7.15
Refunds	13.51
Telephone and telegrams	1.38
Committee expenses	5.00
Mineralogical Society of America Award certificate	8.00
Contribution to American Geological Institute	100.00
Reprinting back issues	136.53
Expenses in preparation of Index to volumes 31-40	928.81
Mineralogy pamphlet	212.41
Exchange charges on checks57
Purchase of back issues	28.00
Check returned	11.00
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	\$34,627.87
Cash on hand, July 31, 1956	4,120.38
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	\$38,748.25

The endowment funds of the Society as of July 31, 1956, consist of the following securities:

BONDS	
6M Atlantic Coast Line, 4½	\$5,257.50
5M New York Central, 5	4,300.00
5M Southern Railway, 5	5,743.75
	<hr/>
	\$15,301.25
PREFERRED STOCKS	
500 Union Pacific, 4	\$4,570.25
200 Southern California Edison, 4.88	5,250.00
150 Penn-Texas, 1.60	4,487.50
60 Jones and Laughlin, A, 5	4,987.50
55 United States Steel, 7	6,946.20
50 Virginia Electric and Power, 5	5,942.50
10 Consolidated Edison, 5	1,066.64
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	\$33,250.59

COMMON STOCKS

346 Potomac Electric Power.....	\$4,966.73	
200 Columbia Gas.....	3,200.00	
200 Greyhound Corporation.....	2,300.00	
168 Standard Oil of New Jersey.....	1,444.84	
150 Spencer Kellogg.....	3,775.00	
100 Columbus and Southern Ohio Electric.....	2,087.50	
100 Diana Stores.....	1,250.00	
100 Pittsburgh and West Virginia.....	2,787.50	
80 Kroger Company.....	1,990.00	
67 American Telephone and Telegraph.....	9,231.32	
60 United Fruit.....	3,067.50	
50 Chesapeake and Ohio.....	2,368.75	
50 Phelps Dodge.....	1,975.00	
50 Sinclair Oil.....	2,968.75	
40 Plymouth Cordage.....	2,050.00	
30 U. S. Playing Card.....	2,411.25	
24 Public Service Electric and Gas.....	728.40	
		48,602.54
		<u>\$97,154.38</u>
	Respectfully submitted, EARL INGERSON, <i>Treasurer</i>	

DANA FUND

Available balance, August 1, 1955.....	\$99.25
Disbursements.....	99.25
	<u>Account closed, July 31, 1956.</u>
	Respectfully submitted, EARL INGERSON, <i>Treasurer</i>

REPORT OF THE AUDITING COMMITTEE

To the President of the Mineralogical Society of America:

The Auditing Committee has examined and verified the accounts of the Treasurer of the Mineralogical Society of America for the fiscal year beginning August 1, 1955, and ending July 31, 1956. The securities listed in the Treasurer's report, with all future coupons on the coupon bonds attached, are in the safety deposit box at the 17th and G Street Branch of the Riggs National Bank in Washington, D. C.

Respectfully submitted,
MARGARET D. FOSTER
S. ZERFOSS
JOHN C. RABBITT, *Chairman*

REPORT OF THE EDITOR FOR 1956

To the Council of the Mineralogical Society of America:

In order that there might be continuity and direct comparison with reports of previous years, the editor's report for 1956 will follow in general the same plan and procedure of

former years. In general, it may be stated that the accomplishments of the year represent what might be termed the work of a normal year. No special issues devoted to specific purposes or individuals were requested. These special issues have in the past increased the annual volume beyond what might be considered the normal size. Also this year, the first time since 1949, our Canadian neighbors have decided to re-establish their own "Contributions to Canadian Mineralogy," which for the past seven years they have shared with us. We wish them success as there appears to be sufficient available material to justify expanding outlets for mineralogical papers. Also it should have the effect of shortening the period of papers held awaiting publication in our own Journal.

The 1956 volume has 981 pages, averaging about 164 pages for each of the six issues, and contains 64 leading articles. Forty-eight additional short papers, appearing under Notes and News, give an over-all total of 112 published manuscripts for the year. These contributions were received from 144 contributors associated with 57 different universities, research bureaus and technical laboratories. Thirty critical book reviews and six new minerals described in detail for the first time are a few of the other items of special mineralogical interest. Also in the current volume under the heading of New Mineral Names, which includes discredited species and new data, Dr. Fleischer has critically evaluated for our readers 70 mineral names that have been introduced into our literature. As a matter of permanent record, recognition and deep appreciation is here expressed for the valiant service performed by Dr. Fleischer who for the past 16 years has had charge of this section of the Journal. His critical remarks and sound judgment in evaluating the propriety of proposed new mineral names has been of inestimable service.

As in previous years our service during 1956 has extended far beyond our own borders. During the current year 21 manuscripts came from 11 countries: Australia, Brazil, Canada, England, Finland, India, Japan, Netherlands, New Zealand, South Africa and Switzerland.

As in former years the Geological Society of America has continued its liberal financial support defraying a very substantial portion of the printing costs of the Journal. For this timely assistance, with the printing costs on the up-grade, the Society is indeed very grateful and expresses its deep appreciation.

And now a word as to the prospects for 1957. The January-February manuscripts containing 10 main articles and 6 shorter papers are in the hands of the printer at present. In addition at the present time there are on file only a total of 25 papers, aggregating about 330 typed pages, so that substantial progress has been achieved in decreasing the heavy back-log that has caused considerable concern in the past. Instead of about a year that has been required in the past between receipt of material and publication, the interval has been reduced to approximately 8 months. I am sure this is gratifying news to authors and readers alike. I am hopeful that by continuing rigid inspection and stressing condensation as far as practical this record may be continued and the time interval possibly slightly reduced.

Data summarizing the distribution of subject matter in volume 41 are given in Table 1.

In conclusion, in making my report for the last time, after a service as your editor for 35 years, may I take this opportunity to express to the Council, past and present, to the contributors and to our members my thanks for their loyal support and cooperation. Whatever progress has been attained during this period is not due to the work of any single individual but to the joint efforts of all who have shared in this undertaking.

My successor, Professor Lewis S. Ramsdell, has been an assistant editor since 1952 and has been my co-worker on the Journal for a number of years prior to that date. He is experienced and will bring no doubt new suggestions for the further improvement of the Journal. I am sure he will continue to receive the cordial and hearty cooperation that you have so graciously extended to me in the past.

Respectfully submitted
WALTER F. HUNT, *Editor*

TABLE 1. DISTRIBUTION OF SUBJECT MATTER IN VOLUME 41

Subjects	Articles	Pages	Per Cent of Total
Leading articles*			
Descriptive mineralogy and paragenesis.....	13		
Chemical mineralogy and geochemistry.....	16		
Structural crystallography.....	17		
Geometrical crystallography.....	2		
Petrography.....	3		
Optical crystallography.....	4		
Memorials.....	5		
Miscellaneous.....	4		
	64	734	75.4
Short articles—Notes.....	48	129½	24.6
News.....	27	5½	
Proceedings of Society.....	1	45	
Book reviews.....	30	24	
Abstracts of new mineral names.....	70	22	
Total entries.....	240	960	100.0
Illustrations.....	244		
Index, Title page, Table of contents.....		21	
Grand total.....		981	

* Leading articles average 11.5 printed pages.

LIST OF FORMER OFFICERS AND MEETING PLACES

By recommendation of the Council, a complete list of past officers is printed in the proceedings of the annual meeting of the Society:

HONORARY PRESIDENTS

- Edward S. Dana 1925–1935
- Charles Palache 1949–1954
- Edward H. Kraus 1955–

PRESIDENTS

- | | |
|----------------------------|----------------------------|
| 1920 Edward H. Kraus | 1932 Alexander N. Winchell |
| 1921 Charles Palache | 1933 Herbert P. Whitlock |
| 1922 Thomas L. Walker | 1934 John W. Wolff |
| 1923 Edgar T. Wherry | 1935 Clarence S. Ross |
| 1924 Henry S. Washington | 1936 William S. Bayley |
| 1925 Arthur S. Eakle | 1937 Norman L. Bowen |
| 1926 Waldemar T. Schaller | 1938 Ellis Thomson |
| 1927 Austin F. Rogers | 1939 Max N. Short |
| 1928 Esper S. Larsen | 1940 William F. Foshag |
| 1929 Arthur L. Parsons | 1941 Frederick E. Wright |
| 1930 Herbert E. Merwin | 1942 Arthur F. Buddington |
| 1931 Alexander H. Phillips | 1943 John F. Schairer |
| | 1944 R. C. Emmons |

1945 Kenneth K. Landes
 1946 Paul F. Kerr
 1947 M. J. Buerger
 1948 M. A. Peacock
 1949 John W. Gruner
 1950 George Tunell
 1951 A. Pabst
 1952 Michael Fleischer
 1953 J. D. H. Donnay
 1954 Sterling B. Hendricks
 1955 Harry H. Hess
 1956 Clifford Frondel

SECRETARIES

1920-1922 Herbert P. Whitlock
 1923-1933 Frank R. Van Horn
 1933-1934 Albert B. Peck
 1934-1944 Paul F. Kerr
 1944- C. S. Hurlbut, Jr.

VICE-PRESIDENTS

1920 Thomas L. Walker
 1921 Waldemar T. Schaller
 1922 Frederick A. Canfield
 1923 George F. Kunz
 1924 Washington A. Roebing
 1925 Herbert P. Whitlock
 1926 George Vaux, Jr.
 1927 George L. English
 1928 Lazard Cahn
 1929 Edward Wigglesworth
 1930 John E. Wolff

1931 William F. Foshag
 1932 Joseph L. Gillson
 1933 Frank B. Guild
 1934 William A. Tarr
 1935 Ellis Thomson
 1936 Harold L. Alling
 1937 H. V. Ellsworth
 1938 Kenneth K. Landes
 1939 Burnham S. Colburn
 1940 Ian Campbell
 1941 William J. McCaughey
 1942 Martin J. Buerger
 1943 John W. Gruner
 1944 Harry Berman
 1945 George Tunell
 1946 S. B. Hendricks
 1947 Carl Tolman
 1948 Adolf Pabst
 1949 J. D. H. Donnay
 1950 Ralph E. Grim
 1951 Michael Fleischer
 1952 J. D. H. Donnay
 1953 Sterling B. Hendricks
 1954 Harry H. Hess
 1955 Clifford Frondel
 1956 D. Jerome Fisher

TREASURERS

1920-1923 Albert B. Peck
 1924-1929 Alexander H. Phillips
 1929-1930 Albert B. Peck
 1930-1940 Waldemar T. Schaller
 1941- Earl Ingerson

EDITORS

1920-1921 Edgar T. Wherry
 1922-1956 Walter F. Hunt

COUNCILORS

1920 Arthur S. Eakle, Frank R. Van Horn, Fred E. Wright, Alexander H. Phillips.
 1921 Frank R. Van Horn, Fred E. Wright, Alexander H. Phillips, Austin F. Rogers.
 1922 Fred E. Wright, Alexander H. Phillips, Austin F. Rogers, Thomas L. Watson.
 1923 Alexander H. Phillips, Austin F. Rogers, Thomas L. Watson, Esper S. Larsen.
 1924 Austin F. Rogers, Thomas L. Watson, Esper S. Larsen, Arthur L. Parsons.
 1925 Thomas L. Watson, Esper S. Larsen, Arthur L. Parsons, William F. Foshag.
 1926 Esper S. Larsen, Arthur L. Parsons, William F. Foshag, William A. Tarr.
 1927 Arthur L. Parsons, William F. Foshag, William A. Tarr, Alexander N. Winchell.
 1928 William F. Foshag, William A. Tarr, Alexander N. Winchell, Ellis Thomson.
 1929 William A. Tarr, Alexander N. Winchell, Ellis Thomson, Clarence S. Ross.

- 1930 Alexander N. Winchell, Ellis Thomson, Clarence S. Ross, Paul F. Kerr.
 1931 Ellis Thomson, Clarence S. Ross, Paul F. Kerr, William S. Bayley.
 1932 Clarence S. Ross, Paul F. Kerr, William S. Bayley, William J. McCaughey.
 1933 Paul F. Kerr, William S. Bayley, William J. McCaughey, Kenneth K. Landes.
 1934 William S. Bayley, William J. McCaughey, Kenneth K. Landes, E. P. Henderson.
 1935 William J. McCaughey, Kenneth K. Landes, E. P. Henderson, J. F. Schairer.
 1936 Kenneth K. Landes, E. P. Henderson, J. F. Schairer, Arthur F. Buddington.
 1937 E. P. Henderson, J. F. Schairer, Arthur F. Buddington, Arthur P. Honess.
 1938 J. F. Schairer, Arthur F. Buddington, Arthur P. Honess, R. C. Emmons.
 1939 Arthur F. Buddington, Arthur P. Honess, R. C. Emmons, Carl Tolman.
 1940 Arthur P. Honess, R. C. Emmons, Carl Tolman, D. Jerome Fisher.
 1941 R. C. Emmons, Carl Tolman, D. Jerome Fisher, Martin A. Peacock.
 1942 Carl Tolman, D. Jerome Fisher, Martin A. Peacock, Adolf Pabst.
 1943 D. Jerome Fisher, Martin A. Peacock, Adolf Pabst, C. S. Hurlbut, Jr.
 1944 Martin A. Peacock, Adolf Pabst, Michael Fleischer, S. J. Shand.
 1945 Adolf Pabst, Michael Fleischer, S. J. Shand, R. E. Grim.
 1946 Michael Fleischer, S. J. Shand, R. E. Grim, Joseph Murdoch.
 1947 S. J. Shand, R. E. Grim, Joseph Murdoch, H. H. Hess.
 1948 R. E. Grim, Joseph Murdoch, H. H. Hess, Clifford Frondel.
 1949 Joseph Murdoch, H. H. Hess, Clifford Frondel, Lewis S. Ramsdell.
 1950 H. H. Hess, Clifford Frondel, Lewis S. Ramsdell, E. F. Osborn.
 1951 Clifford Frondel, Lewis S. Ramsdell, E. F. Osborn, George T. Faust.
 1952 Lewis S. Ramsdell, E. F. Osborn, George T. Faust, Victor T. Allen.
 1953 E. F. Osborn, George T. Faust, Victor T. Allen, C. Osborne Hutton.
 1954 George T. Faust, Victor T. Allen, C. Osborne Hutton, Felix Chayes.
 1955 Victor T. Allen, C. Osborne Hutton, Felix Chayes, L. G. Berry.
 1956 C. Osborne Hutton, Felix Chayes, L. G. Berry, C. B. Slawson, A. O. Woodford.

Annual Meeting Places

- | | |
|-------------------------------|-------------------------------|
| 1920 Chicago, Illinois | 1939 Minneapolis, Minnesota |
| 1921 Amherst, Massachusetts | 1940 Austin, Texas |
| 1922 Ann Arbor, Michigan | 1941 Boston, Massachusetts |
| 1923 Washington, D. C. | 1942 No meeting held |
| 1924 Ithaca, New York | 1943 No meeting held |
| 1925 New Haven, Connecticut | 1944 No meeting held |
| 1926 Madison, Wisconsin | 1945 Pittsburgh, Pennsylvania |
| 1927 Cleveland, Ohio | 1946 Chicago, Illinois |
| 1928 New York, N. Y. | 1947 Ottawa, Canada |
| 1929 Washington, D. C. | 1948 New York, N. Y. |
| 1930 Toronto, Canada | 1949 El Paso, Texas |
| 1931 Tulsa, Oklahoma | 1950 Washington, D. C. |
| 1932 Cambridge, Massachusetts | 1951 Detroit, Michigan |
| 1933 Chicago, Illinois | 1952 Boston, Massachusetts |
| 1934 Rochester, New York | 1953 Toronto, Canada |
| 1935 New York, N. Y. | 1954 Los Angeles, California |
| 1936 Cincinnati, Ohio | 1955 New Orleans, Louisiana |
| 1937 Washington, D. C. | 1956 Minneapolis, Minnesota |
| 1938 New York, N. Y. | |

RECIPIENTS OF THE ROEBLING MEDAL

Charles Palache, December 1937	Herbert E. Merwin, November 1949
Waldemar T. Schaller, December 1938	Norman L. Bowen, November 1950
Leonard James Spencer, December 1940	Fred E. Wright, November 1952
Esper S. Larsen, Jr., December 1941	William F. Foshag, November 1953
Edward H. Kraus, February 1945	Cecil Edgar Tilley, November 1954
Clarence S. Ross, December 1946	Alexander N. Winchell, November 1955
Paul Niggli, December 1947	Arthur F. Buddington, November 1956
William Lawrence Bragg, November 1948	

RECIPIENTS OF THE MINERALOGICAL SOCIETY OF AMERICA AWARD

Orville Frank Tuttle, November 1951	Hatten S. Yoder, Jr., November 1954
Frederick H. Stewart, November 1952	Julian R. Goldsmith, November 1955
L. H. Ahrens, November 1953	George C. Kennedy, November 1956

1956 ANNUAL MEETINGS AT MINNEAPOLIS, MINNESOTA

The meetings of the following Societies were held on Oct. 31, Nov. 1, 2, 1956.

The Geological Society of America—69th
 The Paleontological Society—48th
 The Mineralogical Society of America—37th
 Society of Economic Geologists—37th
 Society of Vertebrate Paleontology—16th
 Association of Geology Teachers
 Geochemical Society

The complete program listed titles and abstracts of 193 papers. Of these 91 seemed to be of special interest to members of The Mineralogical Society of America. Authors and titles of these papers are listed below. Since by Council action the abstracts will not be reprinted in *The American Mineralogist*, references are given to the *Bulletin of the Geological Society of America*, Vol. 67, Number 12, Part 2, December 1956, pp. 1663–1747 where the abstracts of all the papers of the various societies are reprinted, arranged alphabetically by authors.

PAPERS OF SPECIAL MINERALOGICAL INTEREST

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- GILLES ALLARD: *Dore Lake complex, petrography and metamorphism*. Page 1663.
- VICTOR T. ALLEN AND JOSEPH J. FAHEY: *Actinolite at Iron Mountain, Missouri*. Page 1664.
- LLOYD L. AMES, JR., L. B. SAND, AND S. S. GOLDICH: *Contribution on the Hector, California bentonite deposit*. Page 1665.
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- THOMAS F. BATES AND ERWIN O. STRAHL: *Regional study of the mineralogy and petrology of the Chattanooga shale*. Page 1669.
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