

PROCEEDINGS OF THE THIRTY-EIGHTH ANNUAL
MEETING OF THE MINERALOGICAL SOCIETY OF
AMERICA AT ATLANTIC CITY, NEW JERSEY

C. S. HURLBUT, *Secretary*.

The thirty-eighth meeting of the Society was held on November 4-6, 1957 at Haddon Hall, Atlantic City, New Jersey. As in past years, the scientific sessions were integrated with those of the Geological Society of America and the other affiliated Societies. Of the total of thirty-one scientific sessions, two were devoted to mineralogy, one to petrology, one to crystal chemistry and four to geochemistry, at which eighty papers were presented.

The annual luncheon of the Society on November 5 was attended by 232 fellows, members and guests. This is the largest number ever to attend a Society luncheon. Following the luncheon the fifteenth presentation of the Roebling Medal was made to Walter F. Hunt and the sixth presentation of the Mineralogical Society of America Award was made to Rustum Roy.

The Retiring President, D. Jerome Fisher, addressed the Society on the afternoon of November 5. His subject was *Pegmatite Phosphates and Their Problems*. At the annual business meeting, held at 4:30 P.M., November 5, brief reports were given by the President, Treasurer, Secretary and Editor. General discussion, particularly regarding symbols for refractive indices, took place from the floor. It is the hope that in the future more members will come to the Annual Business Meeting prepared to raise questions and take part in discussion.

COUNCIL ACTION

The 1957 Council of the Society met for thirteen hours and discussed thirty-eight items of business. There are several of these items which the Council felt are of general interest and should be reported to the membership. The President in his report has mentioned most of these but two others worthy of consideration are given below.

Constitution. A committee was appointed in 1956 to study the Constitution and make suggestions that would bring it up to date. A large portion of the time of the 1957 Council was spent in considering the report of this Committee. The Council recommends many changes in the Constitution, some minor but others of major importance, which will be published in the May-June issue of the *American Mineralogist*. The membership will be asked to vote on the recommended changes in September, 1958.

One of the proposed changes that will be of interest to many members is in regard to the election of Councilors, two of whom are elected annually. It is proposed that the ballot carry the names of four nominations for Councilor and the membership be asked to vote for two.

Free reprints. As an economy measure, instituted in March, 1956, no free reprints have been given authors of papers published in the *American Mineralogist*. However, the Council voted that beginning with the January-February 1958 issue, 50 free reprints are to be given to the author of each major article and each Note published in the *American Mineralogist*.

The 1958 Council met for three hours on November 6 and discussed the following items of business:

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

International Mineralogical Association. Professor M. J. Buerger was appointed official

delegate to the organizational meeting of the International Mineralogical Association to be held in Madrid, Spain, 1958. Professor L. G. Berry was appointed alternate delegate.

Mineralogical Abstracts. In 1959, the Mineralogical Society of Great Britain and the Mineralogical Society of America will jointly publish the new *Mineralogical Abstracts*. The Council voted the equivalent of 500 English pounds to underwrite the establishment of this project.

Pamphlet on Careers in Mineralogy. The Council voted that the Society should provide a pamphlet on *Careers in Mineralogy*, to be distributed by the American Geological Institute and appointed Charles Milton chairman of a committee to prepare it.

Indices of Refraction Symbols. The Council voted that the Editor be instructed to use α , β , γ as index of refraction symbols, in papers published in the *American Mineralogist*.

MSA notice for museums, universities, etc. The Council instructed Professor D. J. Fisher to prepare copy for a notice giving the aim of the MSA and instructions on how to join the Society. When printed, these notices will be sent to a selected list of museums and universities, but will be available to anyone on request. An announcement of this notice is to be made in the *American Mineralogist*.

1958 COMMITTEES OF THE MINERALOGICAL SOCIETY OF AMERICA

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

A. W. Jolliffe, *Chairman* 56-58
G. Switzer 56-58
W. R. Foster 57-59
S. E. Clabaugh 57-59
C. O. Hutton 58-60
A. L. Anderson 58-60

Roebling Medal Committee

Ian Campbell, *Chairman*
J. R. Goldsmith
C. A. Anderson
C. E. Tilley
R. E. Emmons

Nominating Committee for Officers

A. C. Waters, *Chairman*
G. C. Kennedy
W. F. Bradley
G. W. Bain
H. L. James

Mineralogical Society of America Award Committee

L. W. Staples, *Chairman*
E. W. Heinrich
L. H. Ahrens
W. S. Burbank
Rustum Roy

Program Committee

H. W. Fairbairn, *Chairman* 57-59
H. T. Evans 57-59
O. R. Grawe 58-60

Nomenclature Committee

C. Milton, *Chairman* 57-59
E. E. Wahlstrom 56-58
H. Winchell 57-59
C. S. Hurlbut 58-60
M. Fleischer 58-60

Board of Associate Editors

E. W. Heinrich 56-58
C. L. Christ 56-58
J. Murdoch 57-59
D. J. Fisher 58-60
G. T. Faust 58-60
R. M. Garrels 57-59

Financial Advisory Committee

E. P. Henderson, *Chairman* 56-58
A. Montgomery 57-59
M. Hooker 58-60

Auditing Committee

W. T. Pecora, *Chairman*
M. E. Mrose
F. R. Boyd

Mineralogical Abstracts Committee

L. G. Berry, *Chairman*
 A. Pabst
 M. E. Mrose

Endowment Committee

A. O. Woodford 56-58
 A. Montgomery 57-59
 J. B. Jago 58-60

Representative to AAAS

C. Tolman 57-59

Representatives to American Geological Institute

Board of Directors

L. R. Page 57-59
 C. Frondel 58-60

Glossary Committee

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

Government Relations Committee

P. F. Kerr 57-59

Research Committee

E. Ingerson, *Chairman*
 J. F. Schairer
 S. Zerfoss

National Research Council

J. D. H. Donnay 56-58

REPORT OF THE PRESIDENT

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

Reports of your officers make it clear that our Society has had another good year as measured by material things. Our Journal, far and away the most important contribution we make towards the advancement of the mineralogical sciences, has continued to thrive under its new editor. The outstanding sacrifices made by him, and by our long-standing secretary and even longer-standing treasurer, are far too little appreciated, even by the other officers and councillors who for a few years are in more or less close contact with them.

Our Council meets but once a year. This of necessity means a considerable burden of correspondence throughout the year, and a heavy program at the meetings. For instance the retiring council alone this year had 38 items of business listed on its advance agenda. One innovation put into effect this year which seems to be of value is the requirement that all reports from committees and representatives be submitted to the Secretary by September 1. These can thus be duplicated and distributed to the Council well in advance of the meeting. This not only gives time for careful appraisal of matters well before the meeting, but permits the possibility of a limited amount of correspondence in an attempt to clear up controversial points. It is hoped that at least some of the Officers' Reports (perhaps tentative) may be submitted early in this fashion in the future.

This past year the number of committees has been larger than usual. The membership of these is listed on pp. 269-270 and 572 of Vol. 42 of our Journal. Over fifty different fellows besides the twelve on the Council have participated in these activities; in addition we have five other names among our representatives to the various societies. Thus more than seventy different fellows (or over 20% of our total) have played a direct role in keeping us functioning this year. Who says this is not a democratic organization? On behalf of our Society it is a pleasure to thank all these fellows, and particularly the Committee Chairman, for their labors.

Besides the usual committees that our Society always needs, this year we have had several extraordinary ones dealing with the following matters: Criteria for Medals and Awards, Endowment Funds, International Mineralogical Association, Lengths of Officers' Terms, Mineralogical Abstracts, and Revision of the Constitution. In the preceding

notes the Secretary has reported on the deliberations of the Council as regards some of these items; my comments on some of the others are as follows.

International Mineralogical Association. The proposal that this organization be formed was brought up in our open business meeting last year in Minneapolis. Professor Buerger was named chairman of a committee which acted with such speed that a first international meeting was held at Montreal July 16, 1957. Delegates from twelve countries besides Canada and the United States were in attendance. All continents but Africa were represented. Nine European countries including the U.S.S.R. sent delegates. The following was accomplished: 1) election of a set of three interim officers with six delegates; 2) a committee from these is preparing a constitution; 3) a meeting of delegates is scheduled to be held in Madrid in April 1958; and 4) there was discussion of needed commissions.

It seems to me that this is a perfect example to show that our membership exclusive of the Council can initiate important business. While the open meeting at Atlantic City on November 5, 1957 was satisfactory as regards attendance and discussion, and a great improvement over such meetings in the past which I have attended, nevertheless in my opinion it would have been more satisfactory had there been less time devoted to relatively negative matters such as criticism of the Council, and if more signs of a live membership making proposals for positive action to advance our science had been in evidence. What good suggestions can *you* make at our St Louis meeting next fall?

Length of Officers' Terms. This committee under the chairmanship of Professor Campbell prepared an outstanding report. It recommended no change as regards present customs except for two items: 1) the office of editor be appointive rather than elective; and 2) the secretary and treasurer be elected for three-year terms, with a maximum of three terms. The committee was strongly in favor of item 1, and rather luke-warm as regards item 2. After careful deliberation the Council accepted the first of these, but voted no change as regards the second. As a result, item 1 will go on the ballot next September.

Nomenclature Committee. The chairman, Professor Hutton, reported that the committee has been unable to agree on one subject on its agenda—the nomenclature of crystal forms. There are two sub-committees, one on nomenclature of feldspars, which has not yet completed its deliberations; and one on the nomenclature of clays, which seems to be bogged down because of lack of agreement. This report is at first glance discouraging; but what it really means is that we are still pretty ignorant. Facts are not sufficient to justify final conclusions.

A fresh new committee has been constituted. It may attack new problems; members with suggestions or comments should transmit them to Chairman Milton or Secretary Hurlbut. In addition this committee will cooperate with a similar British committee in connection with Mineralogical Abstracts, and also a corresponding committee of the International Mineralogical Association.

Glossary Committee. The American Geological Institute has published a glossary of geology which is now in its second printing. It is expected that a new edition will appear within a few years. If you find errors in the present edition in any section dealing with the mineralogical sciences, kindly transmit a memorandum covering these to our committee chairman, Professor Frondel.

I would call particular attention to our endowment fund. This was started by a magnificent unrestricted gift of \$45,000 by Colonel Washington A. Roebling in 1926 with the expressed wish that “—the whole, or part of it, be devoted to the publication of the monthly magazine, *The American Mineralogist*—.” By 1940, when the present treasurer took over, this fund amounted to nearly \$53,000. Since then, under the watchful eyes of our Finance Committees and the Treasurer, this amount has more than doubled. There have been only very minor gifts (since the original one) to this fund, but besides capital

gains, interest, and dividends, the fund has been increased by \$100 for each life membership (whether voluntary or due to retirement, or to selection as correspondent or M.S.A. award winner; of course only the first of these adds any "outside" money to the fund). With continued careful scrutiny of our investments plus an active campaign to increase the principal substantially, by the time of our fiftieth anniversary, our Society should be in a position to carry forward on its own resources. We should not put all the burden of trying to raise this needed money on the shoulders of the members of one committee. While each of us should report good prospects to Chairman Woodford of the Endowment Committee, it must be realized that if only half of our members sent in checks for double their annual dues for each of the next twelve years, this would add \$50,000 to our endowment funds by the time of our golden jubilee. This is an age in which organizations such as ours are very dependent on small gifts continuing over a period of years; if your dues-check is oversize, our Treasurer will understand.

In addition to the usual financial aid the Geological Society of America gives us each year to help carry the cost of publishing the *American Mineralogist*, which is very vital in our maintenance of a superior journal at a nominal subscription price, it is a pleasure to acknowledge the receipt of a generous grant from the National Science Foundation underwriting the publication costs of the current Decennial Index to our journal prepared by Dr. Ingerson. It is urged that all fellows, members, and subscribers purchase a copy of this index. Early compliance with this request will give each of us more use of it during the period when it is most valuable, and also will relieve the Society's storage and amortization problems. Even if you don't feel able to contribute to the endowment fund, surely you can help out the cause of dissemination of mineralogical literature to this extent. Why not send the Treasurer three dollars now?

The year as President has been very interesting to me; I see no reason to think that the Society has failed to survive it in good fashion. I deeply appreciate the honor conferred on me in electing me to this office. It is my one excursion into administration, and may such a thing never happen again! With confidence in the future, even though it involves doing the mineralogy of the moon, and great personal pleasure, I turn over the gavel to Professor Goodspeed.

Respectfully submitted,
D. JEROME FISHER.

REPORT OF THE SECRETARY

To the Council of the Mineralogical Society of America:

ELECTION OF OFFICERS AND FELLOWS

Six hundred and twenty ballots were cast in the election of officers, 184 by fellows and 426 by members of the Society. In addition, ten were irregular and not included. The officers elected to serve in 1958 are:

President: George E. Goodspeed, University of Washington, Seattle, Washington.

Vice-President: Ralph E. Grim, University of Illinois, Urbana, Illinois.

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

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

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

Councilors: (1958-1960) Charles Milton, U. S. Geological Survey, Washington, D. C.
Richard H. Jahns, California Institute of Technology, Pasadena, California.

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

F. Donald Bloss, University of Tennessee, Knoxville, Tennessee.

- Dorothy Carroll, U. S. Geological Survey, Washington, D. C.
 George W. DeVore, University of Chicago, Chicago, Illinois.
 Herbert D. Glass, Illinois State Geological Survey, Urbana, Illinois.
 Donald Lee Graf, Illinois State Geological Survey, Urbana, Illinois.
 Marjorie Hooker, U. S. Geological Survey, Washington, D. C.
 William Scott MacKenzie, Dept. of Geology, University of Manchester, Manchester
 13, England.
 Helen Ruth Stobbe, Smith College, Northampton, Massachusetts.
 Alvin VanValkenburg, National Bureau of Standards, Washington, D. C.
 Charles Edward Weaver, Shell Oil Company, Houston, Texas.
 E. Joseph Weiss, University of Texas, Austin, Texas.

MEMBERSHIP STATISTICS

November 1, 1957

	1956	1957	Gain	Loss
Correspondents	4	3	0	1
Fellows	345	356	17	6
Members	1,014	1,075	131	70
Subscribers	966	1,041	128	53
	<hr/> 2,329	<hr/> 2,475	<hr/> 276	<hr/> 130

The above figure shows a net gain of 11 fellows, 61 members and 75 subscribers. Considering the four groups together, there is a gain of 146, giving a total of 2,475.

During 1957, the Society lost through death six fellows: G. D. Louderback, Berkeley, California; A. L. Parsons, Toronto, Canada; J. C. Rabbitt, Washington, D. C.; A. F. Rogers, Berkeley, California; S. J. Shand, Edinburgh, Scotland; B. Wasserstein, Pretoria, South Africa. Also through death, the Society lost F. Slavík, of Praha, Czechoslovakia, a correspondent.

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

REPORT OF THE TREASURER FOR 1957

To the Council of the Mineralogical Society of America:

Your Treasurer submits herewith his report for the fiscal year beginning August 1, 1956, and ending July 31, 1957.

RECEIPTS

Dues and subscriptions	\$13,050.19
Sale of back numbers	1,383.39
Authors' charges on reprints	2,615.17
Interest and dividends from endowment	6,293.46
Geological Society of America aid for printing the Journal	8,000.00
Advertising	713.76
Sale of Index, vols. 21-30	10.00
Sale of Index, vols. 1-20	4.00
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	\$32,069.97
Cash on hand, August 1, 1956	4,120.38
	<hr/>
	\$36,190.35

DISBURSEMENTS

Printing and distribution of the Journal (6 issues)	\$15,708.83
Printing and distribution of reprints	2,481.77
Honoraria to Editor, Secretary and Treasurer	1,250.00
Clerical assistance	1,168.25
Printing and stationery	520.61
Program and abstracts (1956)	225.00
Roebling Medal (1956)	134.65
Postage and express	696.15
Expenses of officers to 1956 meetings	151.65
New securities purchased	10,018.18
Commission on new securities	37.50
Tax on new securities	1.08
Office equipment	435.90
Safety deposit box	7.15
Refunds	19.46
Telephone and telegrams	6.39
Committee expenses	5.03
Mineralogical Society of America Award certificate	7.00
Special certificate of appreciation to Walter F. Hunt	35.00
Contribution to American Geological Institute	516.00
Expenses in preparation of Index to volumes 31-40	1,126.20
Checks returned	107.20
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	\$34,658.82
Cash on hand, July 31, 1957	1,531.53
	<hr/>
	\$36,190.35

The endowment funds of the Society as of July 31, 1957, 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
40 Potomac Electric Power, 2.44	2,000.00
10 Consolidated Edison, 5	1,066.64
	<hr/>
	\$ 35,250.59

COMMON STOCKS	
346 Potomac Electric Power	\$ 4,966.73
215 Columbia Gas	3,436.25
200 Greyhound Corporation	2,300.00
168 Standard Oil of New Jersey	1,444.84
150 Spencer Kellogg	3,775.00
150 Consolidated Denison	3,096.00
100 Buckeye Steel	3,800.00
100 Columbus and Southern Ohio Electric	2,087.50
100 Diana Stores	1,250.00
100 Pittsburgh and West Virginia	2,787.50
83 Kroger Company	1,990.00
75 American Telephone and Telegraph	10,117.25
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
	56,620.72
	\$107,172.56

Respectfully submitted,
EARL INGERSON, *Treasurer*

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, 1956, and ending July 31, 1957. 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,
C. A. ANDERSON
H. L. JAMES
MARGARET D. FOSTER, *Chairman*

REPORT OF COMMITTEE ON ENDOWMENTS

The Mineralogical Society of America needs more endowment. The present endowment of about \$100,000 should be increased to \$300,000, to provide for our present operations. However, as our costs are constantly going up, and as some expansion in our operations seems necessary, especially in connection with the proposed abstract journal, an increase of the endowment to about \$400,000 would be most desirable. The need is urgent, and gifts large and small will be welcomed at any time.

One attractive device, widely used, is to give stock that has increased markedly in value. The donor avoids paying capital gains tax, and can take as a tax deduction the full market value of the stock. Of course, the deduction cannot exceed the allowable limit of 20 per cent of adjusted gross income during the tax year.

Fellows and members are also urged to consider the Society when writing their wills,

and to bring the Society's needs to the attention of interested friends who might make bequests for the advancement of mineralogy. Property left to the Mineralogical Society of America is exempt from inheritance and estate taxes. Bequests should be made to the Mineralogical Society of America, Inc., Washington 25, D. C.

Committee on Endowments

A. O. WOODFORD, *Chairman*

C. FRONDEL

C. B. SLAWSON

REPORT OF THE EDITOR FOR 1957

To the Council of the Mineralogical Society of America:

The 1957 volume of *The American Mineralogist* contains 940 pages, compared with 974 for 1956. This averages about 160 pages per bimonthly issue. There are 65 leading articles, and 39 shorter papers, making a total of 104 published manuscripts. These were received from 162 contributors, representing 37 schools, institutions, and industrial laboratories; 27 in the United States and 10 in foreign countries. Four new minerals were described in detail for the first time. There were 23 book reviews, 8 notices of publications, and 20 miscellaneous notes. Dr. M. Fleischer continued his valuable section of New Mineral Names, New Data and Discredited Minerals, with 75 entries. Our Society is greatly indebted to Dr. Fleischer for this service. We appreciate not only the valuable information but also his pertinent comments.

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. We are grateful for this assistance and wish to express our appreciation.

In recent years there have been at times quite large backlogs of manuscripts on hand, so that in some cases there was too long an interval between receipt of a manuscript and its publication. When Dr. Hunt retired as Editor, he had this situation under control, as shown by the fact that after the January-February, 1957, manuscripts had gone to the printer there were only 25 additional manuscripts on hand. To keep the backlog under control, the Council in 1956 authorized a special supplement to the November-December, 1957, issue. Papers from Harvard University were to be held up for this supplement, thus leaving more room in the regular issues for other manuscripts.

By midsummer, however, because of the comparatively small number of manuscripts on hand, and the small number anticipated from Harvard, the idea of a supplement was abandoned, and it was decided to put the Harvard papers in the regular November-December issue. This decision was also influenced by the fact that in the three-months period from August through October, 1956, only five manuscripts were accepted for publication.

Subsequent developments show how unpredictable the supply of manuscripts can be. The number from Harvard increased to 14 leading articles and 5 shorter notes, making a large November-December issue. Moreover, in contrast to the 5 manuscripts received in the three months August through October last year, this year in the same period 27 were received. This about doubles our backlog and will require considerably larger issues for the first two or three numbers of 1958 to get back to normal. However, few of these manuscripts will have to wait more than eight months. In this connection, it might be well to consider the following facts. Manuscripts are sent to the printer about two months before the issue is out, for example, about January 12 for the March-April issue. But these manuscripts are being assembled, marked for the printer, and the arrangement and size of illustrations figured out during the preceding two weeks, beginning about December 28. Thus any manuscript arriving after January 1 could not appear before the May-June issue, nearly six months later.

However, since the editor does not wish to completely clear out all manuscripts on hand, it could very well be the July-August issue, nearly eight months later. This delay can be considered quite normal, unless the editor made it a policy to send in all manuscripts received up to a certain deadline. This might mean a very large issue, with a chance of having the following issue a very small one.

The new editor wishes to express his thanks for the help he has received from the Editor Emeritus, Dr. Hunt. The fact that he has been available for consultation on many questions has made the editorial task much easier. The George Banta Company Inc., publishers of the Journal, also deserve mention. Their efficient cooperation and great experience have made the change in editors possible with very few errors of commission or omission.

There should also be acknowledged the help of the Associate Editors, Drs. W. F. Bradley, C. L. Christ, R. M. Garrells, E. Wm. Heinrich, J. Murdoch and F. J. Turner. Their prompt reading of manuscripts and reporting on their acceptability, and their suggestions to the authors, all constitute an important service. Similar help has also been received from Drs. G. W. Brindley, R. M. Denning, D. McConnell, A. Pabst, and H. Winchell. Ten manuscripts were rejected, and quite a number were revised after receiving criticisms and suggestions.

As already stated, there are enough manuscripts on hand to provide for several larger issues early in 1958.

A summary of the distribution of subject matter in Vol. 42 is shown in the following table.

DISTRIBUTION OF SUBJECT MATTER IN VOLUME 42

Subjects	Articles	Pages	Per Cent of Total
Leading articles*			
Descriptive mineralogy and paragenesis	19		
Chemical mineralogy and geochemistry	8		
X-ray analysis and crystal structure	6		
Geometrical crystallography	1		
Petrography	4		
Differential thermal analysis	4		
Physical properties	9		
Memorials	3		
Miscellaneous	11		
	65	730	79.2
Short articles	39	116	21.8
Notes	23	5	
Proceedings of Society	1	26	
Book reviews and notices	31	18	
Abstracts of new mineral names	65	26	
Total entries	201	921	100.0
Index, Title page, Table of Contents		19	
Grand total		940	

* Leading articles average 11.2 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
 1921 Charles Palache
 1922 Thomas L. Walker
 1923 Edgar T. Wherry
 1924 Henry S. Washington
 1925 Arthur S. Eakle
 1926 Waldemar T. Schaller
 1927 Austin F. Rogers
 1928 Esper S. Larsen
 1929 Arthur L. Parsons
 1930 Herbert E. Merwin
 1931 Alexander H. Phillips
 1932 Alexander N. Winchell
 1933 Herbert P. Whitlock
 1934 John W. Wolff
 1935 Clarence S. Ross
 1936 William S. Bayley
 1937 Norman L. Bowen
 1938 Ellis Thomson
 1939 Max N. Short
 1940 William F. Foshag
 1941 Frederick E. Wright
 1942 Arthur F. Buddington
 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
 1957 D. Jerome Fisher

VICE-PRESIDENTS

1920 Thomas L. Walker
 1921 Waldemar T. Schaller
 1922 Frederick A. Canfield
 1923 George F. Kunz
 1924 Washington A. Roebling
 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
 1957 George E. Goodspeed

SECRETARIES

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

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
 1957-Lewis S. Ramsdell

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.
 1957 Felix Chayes, L. G. Berry, C. B. Slawson, A. O. Woodford, Samuel S. Goldich.

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.	1957 Atlantic City, New Jersey

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 1956
William Lawrence Bragg, November 1948	Walter F. Hunt 1957

RECIPIENTS OF THE MINERALOGICAL SOCIETY OF AMERICA AWARD

Orville Frank Tuttle, November 1951	Julian R. Goldsmith, November 1955
Frederick H. Stewart, November 1952	George C. Kennedy 1956
L. H. Ahrens, November 1953	Rustum Roy 1957
Hatten S. Yoder, Jr., November 1954	

1957 ANNUAL MEETINGS AT ATLANTIC CITY, NEW JERSEY

The meetings of the following Societies were held on November 4-6, 1957.

- The Geological Society of America—70th
- The Paleontological Society—49th
- The Mineralogical Society of America—38th
- Society of Economic Geologists—38th
- Society of Vertebrate Paleontology—17th
- Geochemical Society—2nd
- Association of Geology Teachers

The complete program listed titles and abstracts of 280 papers. Of these 130 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. 68, Number 12, Part 2, December 1957, pp. 1693-1816 where the abstracts of all the papers of the various societies are reprinted, arranged alphabetically by authors.

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- VICTOR T. ALLEN: *Minerals in laterites in the state of Bolivar, Venezuela*. Page 1693.
- LYOUD L. AMES, JR.: *Chemical analyses of the inclusion fluids in a group of New Mexico minerals*. Page 1694.
- L. L. AMES, JR. AND L. B. SAND: *Factors affecting maximum hydrothermal stability in montmorillonites*. Page 1695.
- G. C. AMSTUTZ: *Genesis of spilitic rocks and mineral deposits*. Page 1695.
- G. C. AMSTUTZ: *Natural arseno-sulfide glass*. Page 1696.
- DANIEL E. APPLEMAN: *Crystal-chemical study of johannite*. Page 1696.
- G. E. ASHBY, R. C. KELLAGHER, AND W. A. CHISHOLM: *Apparatus for the study of electron trapping in minerals*. Page 1697.
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