

PROCEEDINGS OF THE FIFTIETH ANNUAL
MEETING OF THE MINERALOGICAL SOCIETY OF
AMERICA AT ATLANTIC CITY, NEW JERSEY

RALPH J. HOLMES, *Secretary*

The fiftieth annual meeting of the Society was held on November 10th to 12th at the Chalfonte Haddon Hall in Atlantic City, New Jersey. The regular technical sessions were held on the above dates and integrated as usual with those of the Geological Society of America and its affiliated societies.

50TH ANNIVERSARY CELEBRATION

The preceding two days, November 8th and 9th, were devoted to the celebration of the 50th Anniversary of the Mineralogical Society, the organizational meeting of which had been held at Harvard University, Cambridge, Massachusetts, on December 30th, 1919. The anniversary celebration was devoted in large part to three symposia. Two were held on Saturday, November 8th, and were devoted respectively to 1) The Mineralogy and Petrology of the Upper Mantle and 2) The Sulfides. The single symposium on Sunday the 9th dealt with the Mineralogy and Geochemistry of Non-marine Evaporites. The papers presented at the symposia will be published by the Society as a single volume. This volume, MSA Special Paper 3, will be dedicated to Harry Hess, Chairman of the Symposium Committee until the time of his death, August 25, 1969.

The high point of the celebration was the 50th Anniversary banquet held in Haddon Hall Saturday evening, November 8th with an attendance of 308. Following the banquet, the Roebing Medal for 1969 was presented to Fritz Laves and the Mineralogical Society Award for 1969 to W. Gary Ernst. At the same time honorary fellowships were bestowed on eleven distinguished foreign scientists (outside of North America)-N. K. Belov (Russia), C. W. Correns (Germany), H. von Eckermann¹ (Sweden), G. Gottardi (Italy), H. Heritsch (Austria), H. Kuno¹ (Japan), W. Nowacki (Switzerland), T. G. Sahama (Finland), H. Strunz (Germany), J. Wyart (France) and J. Zemann (Austria).

The Archivist of the Society, George Phair, prepared two very interesting papers, based, in large part, on correspondence in the Society's files, dealing with the origin and early history of the Society and of the American Mineralogist. The latter antedates the society by three and a half years. These were published in the September-October 1969 issue of the American Mineralogist, but guests at the anniversary banquet received a specially bound separate of the two papers.

The highly successful celebration can be credited to the cooperation of many members of the Society working under the supervision of George Faust, who, as Convenor of the 50th Anniversary Celebration, had overall charge of the proceedings.

PRESIDENTIAL ADDRESS

The retiring President, Francis J. Turner, addressed the Society on the morning of November 11th on the subject "Uniqueness versus conformity to pattern in petrogenesis."

BUSINESS MEETING

The annual business meeting of the Society, with an attendance of 48, was held on the morning of November 11th, at which time reports were presented by the President, Secretary, Treasurer and Editor. The President expressed pleasure over the success of the

¹ Awarded posthumously as the recipients died prior to the celebration.

50th Anniversary Celebration, discussed the need to extend to three years the incumbency of the Secretary and Treasurer, and stated that the Council is reviewing the membership-fellowship regulations which will be changed but the dual categories will not be eliminated. He indicated that the procedure for handling fellowship nominations will be streamlined.

ACTIONS OF THE 1969 COUNCIL

The second and last meeting of the 1969 Council was held on Monday, November 10th.

Awards

The Council voted to award the Roebling Medal for 1970 to George W. Brindley, and the MSA Award for 1970 to Bernard W. Evans. The Council emphasized that, in the future, selection of the winner of the MSA Award should be based on a *single* contribution in keeping with the Council's original intent.

Nominations for officers for 1971

The following slate of elective officers for 1971, submitted by the Nominating Committee for Officers, was approved and will appear on the ballot submitted to the membership in September 1970.

President—Julian R. Goldsmith
Vice President—Hatten S. Yoder
Secretary—(not on 1971 ballot)
Treasurer—Alvin Van Valkenburg
Councilors (1971-1973)—(2 of 4 to be elected)
 Sturges W. Bailey
 W. Barclay Kamb
 Rustum Roy
 George Switzer

Fellowship

The Council approved the entire list of 21 members recommended for Fellowship by the Nominating Committee for Fellows. Their names will appear on the ballot submitted for approval by the Fellows in September 1970.

Availability of members and fellows willing to serve the Society

The returns of the questionnaire circulated to all fellows and members asking for an expression of willingness to serve the Society in various capacities would seem to indicate that a relatively small proportion are willing to actively serve the Society. The results are tabulated in the Report of the Secretary.

Changes in the handling of the duties of the Secretary

With the completion of the term of office (November 11, 1969) of the incumbent Secretary, Ralph J. Holmes, the routine aspects of this position will be handled by the Society's headquarters office in Washington, being added to those already handled for the Treasurer. Arrangements have been made with AGI to assume this additional task. The new manager of the Washington office is Mrs. Anne Irving.

Board of Associate Editors

The Council approved the recommendation of the Committee on Committees that both fellows and members be eligible for membership on the Board of Associate Editors, previously restricted to fellows.

ACTIONS OF THE 1970 COUNCIL

The first meeting of the 1970 Council was held on Wednesday morning, November 12th. The budget presented by the Treasurer for 1970 was approved.

Committee and Other Appointive Officers

A list of appointive officers, prepared by the President in consultation with the Secretary and the Committee on Committees, was presented to the Council and with minor changes was unanimously approved. This list will be published in each issue of the American Mineralogist.

Thesaurus of Mineralogic Terms

After considerable discussion but no action on the part of the 1969 Council, the 1970 Council voted support in principle and approved a financial contribution to the extent of \$800, for the support of the Thesaurus project. This project, devoted to the setting up of a Thesaurus of Mineralogic Terms and sponsored by the International Mineralogical Association, has so far been largely the work of Adolf Pabst in cooperation with Anton Preisinger of Austria. A preliminary Thesaurus has been prepared but extensive additions, improvements and revisions are necessary before it will be in a form useful in the indexing of mineralogical publications. Even in its present form, the Editor of the American Mineralogist reported to the Council that it has proved very useful.

Meetings for 1970

The regular sessions of the annual meeting of the MSA will be held in conjunction with that of the GSA and affiliated societies in Milwaukee, Wisc. November 11th to 13th 1970. A joint summer meeting with the American Crystallographic Association will be held in Ottawa, Canada in 1970.

Indexing of the American Mineralogist

The Council authorized expenditure, up to \$800, to permit the Editor to work with AGI in the automating and systematizing of the indexing of articles published in the American Mineralogist.

"Model" Mineralogy Curricula

The request of Dr. S. Ghose, made at the Business Meeting, for the appointment of an MSA Committee to set up a model mineralogy curriculum was not approved by the Council.

REPORT OF THE SECRETARY FOR 1969

Election of Officers

The ballots were counted on October 21, 1969 by a Tellers' Committee consisting of Darlene Richardson, William E. Drake and Ralph J. Holmes. A total of 922 officer ballots had been received by that date and 217 Fellowship ballots. The officers elected to serve in 1970 are:

President—William F. Bradley
Vice President—Julian R. Goldsmith
Secretary—Arnulf Muan
Treasurer—Elected in alternate years (not in 1969)

The two Councilors elected for the three year term (1970-1972) are:

David R. Wones
 Peter J. Wyllie

Election of Fellows

In accordance with the provisions of the Constitution 15 members were elected to Fellowship in the Society:

Thomas W. Donnelly	Frederick A. Mumpton
James R. Evans	Edward J. Olsen
Louis H. Fuchs	Donald R. Peacor
Stefan S. Hafner	Henri L. Saucier
Lisa Heller	David M. Scotford
Akira Kato	Gudmundur E. Sigvaldason
J. Lawrence Katz	Robert E. Zartman
Paul B. Moore	

Two of the 17 approved by the Fellowship Committee and the Council, did not obtain the required 90% favorable votes of the Fellowship and therefore failed of election.

Society Membership

Membership figures for the Society in 1969 are compared below with those for the past three years:

	1966	1967	1968	1969
Honorary Fellows	2	2	2	11
Fellows	460	484	560	462
Members	1,996	2,144	2,161	1,833
	<u>2,458</u>	<u>2,630</u>	<u>2,723</u>	<u>2,306</u>

The pronounced decline in membership (408 less than 1968), following a period of years in which an annual increase had become the rule, calls for explanation. No doubt the drop is in part due to the increase in dues (\$8.00 to \$12.00). In large part, however, the figure is probably misleading, being a consequence of the unsettled condition of the new Business Office of the Society. The transfer of the "routine" duties of the Treasurer to the offices of the American Geological Institute was necessitated by the recent constitutional change, approved by the membership, which limits the tenure of the offices of Secretary and Treasurer of the Society to two years with a single possible renewal (maximum of four years). The above figure (408) merely indicates the number who had not paid their 1969 dues at the time the report was prepared. In many cases this is probably an oversight. Many of these probably have no intention of resigning and will pay on receipt of a second notice from the Treasurer.

The increase in Honorary Fellowships (2 to 11) compared to previous years, results from the inclusion of the foreign mineralogists awarded Honorary Life Fellowships in connection with the 50th Anniversary Celebration. Two of the 11 awarded these Honorary Fellowships have died since the awards were decided on last May. They are Harry von Eckermann of Sweden and Hisashi Kuno of Japan.

Willingness of Fellows and Members to serve the Society

In an effort to involve more of our membership in the affairs of the Society the Council ordered that a coupon be attached to this year's ballot requesting both fellows and members

to indicate willingness to serve the Society in one or more of three capacities: 1) as an officer, 2) as a committee member or delegate to other organizations or 3) as Chairman of a technical session at annual or other meetings.

The following tabulation provides a graphic picture of the response of those who bothered to reply. As usual only about one-quarter (764) of the membership were interested enough to return the coupon. Since 922 returned the ballot for officers, etc., 158 of these failed to return the questionnaire. A few returned it without comment.

	Fellows			Members			Grand Total
	Yes	No	Total	Yes	No	Total	
Willing to serve as an officer	131	97	228	270	264	534	762
Willing to serve on committee or as a delegate	172	49	221	382	154	536	757
Willing to chair technical session	156	66	222	308	220	528	750

The questionnaire is of interest since one frequently hears the criticism that the operation of the Society's affairs has been centered largely in the hands of a relatively small group. It is clear from the returns of the questionnaire that only a small percentage of the membership is interested in devoting time to the business of running the organization. Less than one-third of the Fellows and a far smaller percentage of members expressed a desire to work for their Society.

Fellows lost to the Society by death since the submission of the Secretary's 1968 report

Arthur Kingsbury	8/3/68
Arthur Hallimond	9/3/68
Horace J. Fraser	2/2/69
Harry von Eckermann	5/20/69
Harold D. Wright	7/7/69
Hugh D. Miser	8/1/69
Hisashi Kuno	8/6/69
Harry H. Hess	8/25/69
Robert L. Stone	10/10/69
Walter H. Newhouse	/69

Respectfully submitted,
RALPH J. HOLMES, *Secretary*

REPORT OF THE TREASURER FOR 1969

To the Council of the Mineralogical Society of America:

SUMMARY STATEMENT

(Cash Basis)

	<i>Operating Account</i>	<i>Cash Contingency</i>	<i>Endowment Cash</i>	<i>Total</i>
Cash Balance August 1, 1968.....	\$10,060.48	\$13,824.81	\$ 1,107.69	\$ 24,992.98
Income.....	75,783.74	1,478.45	10,412.23	87,603.42
Expenses.....	(94,426.86)		(19.48)	(94,446.34)
Net Income (Deficit)...	(18,714.12)	1,478.45	10,392.75	(6,842.92)
Cash Transfers.....	8,641.62	(5,000.00)	(3,641.62)	
Cash invested in securi- ties.....			(7,864.13)	7,864.31
Liability—Cash held for others.....	610.00	104.24		714.24
Cash Balance July 31, 1969.....	\$ 597.98	\$10,407.50	\$ (5.31)	\$ 11,000.17
Endowment Fund Se- curities @ Cost.....				182,973.38*
Total Assets.....				\$193,973.55

INCOME

	<i>Total</i>
Dues—Fellows.....	\$ 4,569.20
Members.....	19,243.77
Students.....	1,950.28
American Mineralogist	
Subscriptions and Back Issues.....	25,570.86
Reprints.....	13,209.23
Royalties.....	1,099.85
Indexes.....	4,688.59
Advertising.....	3,636.98
Mailing List.....	499.52
IMA World Directory.....	37.50
Field Guidebook, 1965.....	70.00
IMA Guidebooks.....	203.00
Special Paper No. 1.....	363.71
Contributions.....	410.25
Life Membership.....	160.00
Total Income.....	75,712.74

* Approximate market value of \$255,742 on August 1, 1969.

EXPENSES

	<i>Treasurer</i>	<i>Secretary</i>	<i>Editor</i>	<i>American Mineralogist</i>	
Salaries.....	\$ 3,268.33	\$	\$ 4,796.50	\$	\$ 8,064.83
FICA & Benefits...	171.91				171.91
Assistance.....	88.50	421.76	2,302.90		2,813.16
Honoraria.....	300.00	1,000.00	1,500.00		2,800.00
Insurance.....			20.00		20.00
Equipment.....			240.87		240.87
Materials					
& Supplies.....	1,237.07	234.79	297.13		1,768.99
Rent & Storage....	790.11		320.15		1,110.26
Telephone.....	39.80	594.51	852.28		1,486.59
Postage & Freight..	1,238.32	539.24	979.14	2,754.13	5,510.83
Outside Mailing					
Services.....	269.40	90.09			359.49
Printing &					
Duplicating.....	388.64	688.42	364.02	64,591.97	66,033.05
Books & Periodicals..	8.50		22.20		30.70
Advertising.....	19.50		35.25		54.75
Dues &					
Contributions....	709.00	5.25	10.00		724.25
Entertainment.....	29.33				29.33
Travel.....	429.90	293.70			723.60
Awards.....	369.65	58.70			428.35
Miscellaneous.....	32.85		7.06		39.91
Advance.....	1,000.00		(40.62)		959.38
Mailing List					
Printouts.....	117.96	115.20		87.81	320.97
Overhead.....	735.64				735.64
	<u>\$11,244.41</u>	<u>\$4,041.66</u>	<u>\$11,706.88</u>	<u>\$67,433.91</u>	<u>\$94,426.86</u>
Net Income					
(Deficit).....					<u>(18,714.12)</u>

ENDOWMENT FUND

<i>Bonds</i>	<i>Cost</i>	<i>Market Value^a</i>	<i>Income 1968-69</i>
5M New York Central 5.....	\$ 4,300.00	\$ 3,125.00	\$ 250.00
5M Southern Railroad 5.....	5,743.75	3,737.50	250.00
5M Treasury Bills due 10-30-69.....	4,909.35	4,909.35	
Total Bonds.....	<u>14,953.10</u>	<u>11,771.85</u>	<u>500.00</u>

^a Market value at August 1, 1969.

Preferred Stocks

150 F.M.C. 2.25 cum.....	4,792.90	6,412.50	337.52
60 Jones Laughlin.....	4,987.50	4,200.00	300.00
100 Sun Oil Co. 2.25.....	2,342.63	4,237.50	112.50
Union Pacific.....			200.00

20	Virginia Electric Power 4.80	2,122.95	1,430.00	96.00
50	Virginia Electric Power 5.00	5,942.50	3,725.00	250.00
	Total Preferred Stock	<u>20,188.48</u>	<u>20,005.00</u>	<u>1,296.02</u>

Common Stocks

570	American Telephone & Telegraph	14,880.93	29,853.75	1,335.60
534	Buckeye International	3,832.21	6,942.00	326.70
450	Chase Manhattan Bank	12,682.91	19,125.00	742.50
150	Chesapeake & Ohio	8,643.57	9,281.25	600.00
400	Columbia Gas System	8,057.97	10,450.00	624.00
200	Columbus & Southern Ohio	2,087.50	6,575.00	340.00
150	Continental Can.	4,051.56	9,562.50	322.50
300	Continental Oil	11,061.75	9,750.00	112.50
150	Denison Mines	3,096.00	6,225.00	175.37
125	Detroit Edison	3,548.16	2,937.50	87.50
	Diana Stores			38.00
303	Emhart Corporation	4,774.75	11,211.00	355.05
100	General Motors	9,681.35	7,237.50	301.00
150	General Portland Cement	2,934.69	2,568.75	120.00
508	Greyhound Corporation	2,300.00	9,652.00	508.00
100	Indianapolis Power & Light	3,084.25	2,600.00	75.00
100	Interpace Corporation	2,619.44	2,650.00	100.00
	Keer-McGee Corporation			225.00
100	Kimberly Clark Corp.	5,401.50	6,600.00	255.25
300	Kroger Company	3,245.35	10,050.00	390.00
200	Lear Siegler	1,496.75	3,825.00	90.00
520	Marriott Corp.	2,474.04	16,770.00	23.10
100	Occidental Petroleum Corp.	4,353.06	3,363.50	25.00
100	Phelps Dodge	1,975.00	4,050.00	185.00
220	PPG Industries	6,312.83	7,700.00	308.00
200	Southern Natural Gas	3,600.00	7,650.00	280.00
	Sunray DX Oil			88.80
300	Tenneco Inc.	8,612.07	7,725.00	96.00
175	Union Carbide	10,719.41	7,415.62	300.00
100	Wisconsin Power & Light	2,304.75	2,200.00	153.00
	Total Common Stocks	<u>147,831.80</u>	<u>223,970.37</u>	<u>8,582.87</u>

Combined Totals	<u>182,973.38</u>	<u>255,747.22</u>	<u>13,378.89</u>
---------------------------	-------------------	-------------------	------------------

Interest on Cash			13.86
----------------------------	--	--	-------

13,392.75

CASH CONTINGENCY FUND

Summary of Changes

Balance August 1, 1968		\$ 13,824.81
Interest Income	539.77	
Jewell Glass Legacy	938.68	

Total Income.....	1,478.45
Cash Held for Mineralogical Abstracts.....	104.24
Less transfer to operating account.....	(5,000.00)
Balance July 31, 1969.....	<u>\$10,407.50</u>

ENDOWMENT FUND
Summary of Changes

	<i>Cash</i>	<i>Securities^a</i>
Balance August 1, 1968.....	\$ 1,107.69	\$160,196.99
Securities sold @ Market Value.....	32,304.78	
@ Cost.....	(17,392.52)	(17,392.52)
Capital Gain from sale.....	14,912.26	
Current Income:		
Dividends.....	9,898.37	
Interest on Bonds.....	500.00	
Interest on Cash.....	13.86	10,412.23
Expense:		
Non-resident Alien Tax.....	(19.48)	
Investment of Income:		
Capital Gain.....	14,912.26	
Current Income.....	7,864.13	(22,776.39)
Original Capital reinvested.....		17,392.52
Cash transferred to operating account.....	(3,641.62)	
Balance July 31, 1969.....	(5.31)	<u>182,973.38</u>

^a At cost

MINERALOGICAL SOCIETY OF AMERICA, TRUSTEES OF THE EDWARD H. KRAUSE
CRYSTALLOGRAPHIC RESEARCH FUND STATEMENT OF INCOME
For the Fiscal Year 1969

	<i>Cash</i>	<i>Securities</i>	<i>Total</i>
Balance August 1, 1969.....	\$323.89	\$10,950.00 ^a	\$11,273.89
Dividend Income:			
Deposited to Savings Account.....	150.00		
Receivable from MSA.....	160.00	310.00	310.00
Interest Income.....	18.70		18.70
Balance July 31, 1969.....	<u>652.59</u>	<u>10,950.00</u>	<u>11,602.69</u>

^a 400 Shares Goodyear Tire & Rubber Co. Certificate Nos. NH/0758491 CL/082428
CL 99828 SU 9153 Approximate market value of \$10,750 at August 1, 1969.

The Society's income for the past year was derived essentially from the same sources as those of previous years. Namely, dues, subscriptions, advertisements, back issue sales, interest on investments, etc. As a result of a large increase in publication costs (18%) and the added cost of establishing our new offices in the American Geological Institute's headquarters, the budget for the past year shows a deficit of \$6,842. To compensate for the increased cost in running the Society, the dues were increased by Council action to commence in January 1969. The membership dues are now six dollars a year for students and

twelve dollars a year for fellows and regular members. Subscription rates were also increased to twenty-four dollars a year, beginning in January 1970. A new source of revenue in the form of page charges (twenty dollars per page) was also initiated on August 1, 1968, with the stipulation that the authors who are unable to pay charges will not be held accountable. The payment of page charges is not a condition for publication. With the acute shortage of research funds there has been a tendency by universities and other institutions to plead insufficient funds for page charges. At the present time your Treasurer estimates that less than half of the authors are now honoring page charges. If this trend continues our future income could be seriously hampered. The Treasurer strongly urges that authors notify their institution's business offices that page charges must be given a high priority especially when many are already included in various budgets.

There are a number of members who contribute unrestricted gifts to the general fund and these gifts are indeed appreciated. Small or large contributions are always welcome.

In spite of the past year's poor stock market showing, our income from investments amounted to \$10,412, as compared to \$9,584 for the previous year. Again we can be thankful to the wise counseling of the Finance Committee—consisting of Ed Henderson, Chairman; Tom Stern and Arthur Montgomery. A full report of their activities follows this report.

The offices of both the Treasurer and the Secretary of the Mineralogical Society of America are now located in the American Geological Institute's building on 2201 M Street, N.W., Washington, D. C. 20037. All correspondence concerned with these offices should use the above address. Mrs. Anne Irvin, who is in charge of our offices, began her duties in October, 1969, and she has been a great help in organizing our new set up. For those of you visiting Washington, D. C. we cordially invite you to see our facilities, as well as those of the AGI.

Acknowledgments: It is a pleasure to acknowledge all those who have helped the new Treasurer in his first year of office, and special thanks goes to Miss Marjorie Hooker, who patiently explained all of the details in running the office. I would like to note here that most members will never appreciate the personal time and effort that Miss Hooker devoted to the treasurership during her term of office.

Respectfully submitted,
ALVIN VAN VALKENBURG, *Treasurer*

REPORT OF THE AUDITING COMMITTEE FOR 1969

On October 15, 17, and 31, 1969, members of the Auditing Committee examined the accounts of the Society, including the contents of the Safety Deposit Box at the Federal Office of the Riggs National Bank. We have found them to be in order for the fiscal year, August 1, 1968–July 31, 1969 and truly represented by the accounts of the Treasurer.

The new Treasurer, during this transition period, has managed well the unavoidable problems arising from the change of office and from the simultaneous transfer of some of the administrative functions of the Society to the American Geological Institute. The previous Treasurer, Miss Marjorie Hooker, is to be commended for her continuing voluntary care of reserve stocks of back issues of *The American Mineralogist*, with all the duties involved, to the financial benefit of the Society.

Respectfully submitted,
BEVAN M. FRENCH, *Chairman*
GUNNAR KULLERUD
PAUL DESAUTELS

REPORT OF THE EDITOR FOR 1969

To the Council of the Mineralogical Society of America:

This year has seen some improvement in the speed of processing manuscripts, despite the extra load in the Editor's office for Special Paper No. 2.

PUBLICATION RESULTS

Volume 54 for 1969 totals 1784 pages, including 113¹ major articles and 72 notes. This represents a substantial decrease from 1968. During that year we had reduced our backlog to the point where very few articles already accepted were held over when an issue went to press; during the present year some issues went to press without enough articles to make up the extra-thick issues that members had been receiving for the past couple of years.

This volume contained two special issues. The issue for May-June was dedicated by action of the Council to Jewell J. Glass in appreciation for her bequest to the Society. The issue for September-October was designated in honor of the 50th Anniversary celebration of the MSA. It contained two fine historical articles by our Archivist, George Phair, on *The American Mineralogist: Its First Four Years*, and *The Founding of the Mineralogical Society of America*. The major papers of the volume include the usual wide variety of subject: descriptions of the seven new minerals, crystal structures or major refinements of the structure of ten older minerals, and important new detailed studies of light scattering, twinning and slip systems in the oldest of minerals, quartz.

Dr. B. F. Leonard, on behalf of the American Geological Institute Translations Committee, surveyed the country of publication of references cited in the *American Mineralogist* for the ten-year period 1958-1967. Among other interesting results of this survey is the fact that 40% of the references were from outside the United States.

The flow of manuscripts is summarized in the following table:

PUBLISHING OPERATIONS IN 1969			
	Major	Notes	Total
<i>Status as of January 1, 1969</i>			
In press (53, nos. 11-12, 54, nos. 1-2).....	45	19	64
Accepted manuscripts.....	20	30	50
Manuscripts with editor.....			6
Manuscripts with referee.....			20
Manuscripts with author.....			26
Total manuscripts on hand.....			102
<i>Operations: January 1 to December 31, 1969</i>			
Published (53, nos. 11-12, 54, nos. 1-10).....	129	74	203
Sent to press (54, nos. 3-12, 55, nos. 1-4).....	124	92	216
Manuscripts received.....			268
Manuscripts accepted.....			179
Manuscripts rejected.....			60
<i>Status as of December 31, 1969</i>			
In press (54, nos. 11-12, 55, nos. 1-4)).....	52	38	90
Accepted manuscripts.....	6	7	13
Manuscripts with editor.....			17
Manuscripts with referee.....			35
Manuscripts with author.....			30
Total manuscripts on hand.....			95

¹ The number of 216 reported for 1968 (*Amer. Mineral.* 54, 672 (1969)) was the total number of papers, 133, major articles and 83 notes.

SPEED OF PUBLICATION

As an aid to evaluating the performance of the journal, a table of elapsed times for the various publication processes is presented here.

ELAPSED TIME FOR PUBLICATION PROCESSES

Average Over Issues Handled During Calendar Year, in Days

<i>Interval</i>	1968	1969	<i>AIP</i>
Acceptance-medians	119	80	
(last)	(78)	(36)	} (15)
Editing	60	33	
Composition	59	49	31
Correction	19	27	13
Printing	52	52	57
Total	309	241	
	(268)	(197)	(116)

Inasmuch as such statistics can be defined in very many ways, their basis is described here for future reference. The dates used in calculating this table are those in the Editorial Office; mail times, that often add up to a week in any interval, are included. The *acceptance* interval is the time from the *median* date of receipt of manuscripts of major articles in a given issue, to the median date of acceptance of these articles. Use of the *latest* date of receipt and acceptance in a given issue would give much shorter times as shown by the statistics in parentheses. Use of the *average* date would often give much longer times because a few authors take more than a year for revision. Inclusion of Notes in the calculations would give a shorter interval, because although Notes are not given any extra priority in processing, by virtue of their size they tend to be acted on more quickly both by referees and by authors in revision. Acceptance time lumps together both the work and the delays of referees, revising authors, and the Editor. The *editing* interval is the time from the median acceptance date until the prepared batch of manuscripts for the issue is mailed to the printer. It includes preparation for the printer by the Editorial Assistant, checking by the Editor, and a built-in delay of about 30 days inherent in the fact that two months elapse between issues. The *composition* interval ends when the last batch of galley proofs for the issue is received in the Editorial Office from the printer, about the same time it is received by the author. This time includes further marking by the copy reader, type setting, preparation of cuts, and arrangements of a cut-up galley onto page dummies, all at the printer. The *correction* interval includes the time used by the author in correcting his galley, transferring of these corrections and other corrections to the page dummies by the Editorial Assistant, checking by the Editor, and assembling the issue with an even number of printing forms, table of contents, reprint order, etc. This interval ends when the complete dummy of the issue is mailed to the printer, who in the ensuing *printing* interval makes corrections, sets up and runs the presses, and binds the issue. A printing interval ends when a first run of bound issues have been received by airmail at the Editorial Office. At an earlier date the Treasurer's Office has transmitted to the printer a set of corrections to the mailing list, which are made before labels are printed and the issue is put into the mail to our subscribers. In this particular chart the intervals are averaged for all issues in which *that interval* was within the calendar year; for the various kinds of intervals the set of issues is therefore not the same and usually none of the intervals coincides exactly with the volume itself. Thus a little over a month was the time from the median date of acceptance of manuscripts in 1969 to the time those manuscripts were mailed to the printer, not the median date of

acceptance of manuscripts that appeared in Vol. 54, many of which were edited in 1968. I have tried to be perfectly clear about what we are talking about here, in order to avoid any future misunderstanding of these statistics. Inasmuch as the total time from receipt to mailing so often covers more than one calendar year, the *total* interval shown in the table is simply a sum of the other intervals, rather than an average for any particular set of issues.

Considering now both tables, and that in last year's report, a general and gradual improvement in the publishing situation is evident. During 1968 we gradually worked ourselves out of a back-log by publishing large issues. During 1969 we held the back-log to an insignificant minimum, while effecting considerable improvement in the time required to process manuscripts to acceptance. In doing so we have had to ask for greater promptness of referees in returning papers, and we have been gratified by the response. At the other end of the scale, the times for composition and printing remain virtually unchanged at about 50 days each, and are somewhat longer than the stated schedule of our printer of about 44 and 38 days respectively (allowing for mail time). The times do not vary much from issue to issue, and apparently are as good as they can do. What can be done under other circumstances, in both editing and printing, is suggested by the final column in the Table, which gives a sampling of 18 different journals published in a single month by the American Institute of Physics. That, of course, is a very large operation combining the output of many societies, with its own professional staff. This comparison suggests that we have a long way to go yet, but how much better we can do under the present circumstances is another question.

Looking back, the number of manuscripts received has decreased slightly since a peak in 1967. Perhaps the institution of page charges has inhibited a few authors from sending manuscripts to this journal, although the Treasurer's report will probably show that a large fraction of authors submitted papers despite being unable to pay (a condition common among all journals this year).

SPECIAL PAPER No. 2

The appearance of Special Paper No. 2, *Pyroxenes and Amphiboles: Crystal Chemistry and Phase Petrology*, in September, was a notable landmark in the Society's publishing program. 24 papers were invited by a special editorial board, headed by J. J. Papike, and including Francis R. Boyd, Joan R. Clark and W. G. Ernst, in anticipation of a special symposium on that subject held at Virginia Polytechnic Institute, September 7-11, 1969. The papers are a fine collection of the latest work on these minerals including, on the one hand, detailed crystal structure and spectral determination of cation distributions within crystals, and on the other hand synthesis, chemical analysis, and field studies of phase petrology. The volume appeared in large format, with a color plate and a detailed index, with a total of 314 pages. Through the fine cooperation of authors, editors, and especially the printers, George Banta Co. Inc., the volume was completed and off the press in time for the symposium. Reports from the symposium indicate that the availability of the volume was an important basis for the detailed discussion and the presentation of newer results.

This was the first time that the Council of the MSA had underwritten a separate publication from its own funds (Special Paper No. 1 was funded under an NSF contract). The quality of this product indicates that this was money well invested, and that it will probably be returned in sales.

Plans are now under way to publish the proceedings of the MSA 50th Anniversary Symposia as Special Paper No. 3 in 1970.

NEW PLANS

As time permits, the editor, with the assistance of the Associate Editors is giving some consideration to items of policy such as the following:

- (1) a larger format for the journal, for which our experience with the Special Papers will be valuable [MSA Council authorized detailed study],
- (2) publication of technical review papers [MSA council accepted proposal],
- (3) fast publication of letters [MSA council referred to a new committee],
- (4) a re-evaluation of the policy for depositing tabular data with the ASIS, and
- (5) standards and instructions for the preparation of memorials.

During this year, our first Editorial Assistant, Mrs. Elizabeth Paine left after 3 years of dedicated service. Her place is now taken by Mr. Joseph Feinblatt, who combines experience as a graduate student in chemistry and as a book editor.

ACKNOWLEDGMENTS

The Chevron Oil Field Research Company continued their benevolent understanding of the Editor's needs and problems. The George Banta Company is to be particularly commended for the way in which they expedited the publication of Special Paper No. 2 on top of their normal journal operation.

The Associate Editors, George W. Brindley, W. Barclay Kamb, Gabrielle Donnay E-an Zen, and Richard C. Erd have done fine work both with manuscripts and in advising the Editor. H. J. Greenwood accepted an appointment as Associate Editor, but was unable to continue, and his place was taken by W. G. Ernst. Michael Fleischer and his committee continued to supply us with useful reviews of New Minerals Names. As usual we are much indebted to the many persons who have refereed papers through 1969:

WILLIAM T. HOLSER, *Editor*

REFEREES FOR 1969

S. C. Abrams	J. D. H. Donnay	Lincoln Hollister
John W. Adams	W. G. Ernst	R. A. Howie
A. L. Albee	David Eanes	M. L. Jackson
S. Amelinckx	H. P. Eugster	John Jamieson
J. W. Anthony	H. J. Evans	R. H. Jahns
Daniel Appleman	J. H. Fang	H. W. Jaffee
Michael Bancroft	L. Fanfani	Klaus Keil
Fred Barker	G. T. Faust	G. C. Kennedy
Isaac Barshad	D. J. Fisher	D. J. J. Kinsman
P. M. Bethke	Michael Fleischer	Cornelis Klein, Jr.
J. L. Bischoff	Clifford Frondel	J. R. Kramer
D. W. Breck	R. M. Garrels	Robert Kühn
R. C. Burns	Seymour Geller	Gunnar Kullerud
T. E. Bunch	A. A. Giardini	I. Kushiro
Charles W. Burnham	Subrahta Ghose	Naochiro Soga Lamont
C. J. Cabri	G. V. Gibbs	José Lima de Fera
E. N. Cameron	W. T. Granquist	W. C. Luth
I. S. E. Carmichael	H. J. Greenwood	R. J. Lyon
C. L. Christ	G. E. Goodspeed	J. L. McAtee
J. M. Christie	Glauco Gottardi	Gordon McKay
Joan Clark	E. B. Gross	J. F. McAllister
Paul Cloke	Claude Guillemin	P. Mihalik
D. S. Coombs	Stefan Hafner	P. B. Moore
Alvin Cohen	R. L. Hay	Arnulf Muan
G. K. Czamanski	G. D. Hogarth	F. A. Mumpton
F. W. Dickson	H. D. Holland	J. L. Munoz

T. J. Nash	P. D. Robinson	S. E. Sommer
R. E. Newnham	E. H. Roseboom	Hugo Steinfink
E. H. Nickel	P. E. Rosenberg	E. F. Stumpfl
M. J. O'Hara	Malcolm Ross	L. A. Taylor
Keiichi Omori	Rustum Roy	J. B. Thompson
P. M. Orville	Della M. Roy	R. I. Tilling
Adolf Pabst	W. F. Schreyer	Priestley Toulmin, III
Robert Park	L. T. Silver	H. van Olphen
William Parrish	D. R. Simpson	M. Vedder
R. M. Pierrot	B. J. Skinner	C. J. Vitalano
C. T. Prewitt	Maynard Slaughter	D. R. Waldbaum
Barry Raleigh	Robert L. Smith	E. W. White
W. D. Redfield	D. B. Stewart	H. S. Yoder
P. H. Ribbe	Paul Shlichta	

LIST OF FORMER OFFICERS AND MEETING PLACES

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 E. 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

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

PRESIDENTS (*Cont.*)

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 Fondel
 1957 D. Jerome Fisher
 1958 George E. Goodspeed
 1959 Ralph E. Grim
 1960 Joseph Murdoch
 1961 E. F. Osborn
 1962 Ian Campbell
 1963 C. S. Hurlbut, Jr.
 1964 Leonard G. Berry
 1965 George T. Faust
 1966 Brian H. Mason
 1967 Felix Chayes
 1968 James B. Thompson
 1969 Francis J. Turner

VICE-PRESIDENTS (*Cont.*)

1947 Carl Tolman
 1948 A. 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
 1958 Ralph E. Grim
 1959 Joseph Murdoch
 1960 E. F. Osborn
 1961 Ian Campbell
 1962 C. S. Hurlbut, Jr.
 1963 Leonard G. Berry
 1964 George T. Faust
 1965 Brian H. Mason
 1966 Felix Chayes
 1967 James B. Thompson
 1968 Francis J. Turner
 1969 William F. Bradley

SECRETARIES

1920-1922 Herbert P. Whitlock
 1923-1933 Frank R. Van Horn
 1933-1934 Albert B. Peck
 1934-1944 Paul F. Kerr
 1944-1959 C. S. Hurlbut, Jr.
 1959-1966 George Switzer
 1966-1969 Ralph J. Holmes

TREASURERS

1920-1923 Albert B. Peck
 1924-1929 Alexander H. Phillips
 1929-1930 Albert B. Peck
 1930-1940 Waldemar T. Schaller
 1941-1958 Earl Ingerson
 1958-1968 Marjorie Hooker
 1969- Alvin Van Valkenburg, Jr.

EDITORS

1920-1921 Edgar T. Wherry
 1922-1956 Walter F. Hunt
 1957-1961 Lewis S. Ramsdell
 1961-1966 E. Wm. Heinrich
 1966- William T. Holser

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, S. S. Goldich.
1958 L. G. Berry, C. B. Slawson, A. O. Woodford, S. S. Goldich, B. H. Mason, R. H. Jahns,
C. Milton.
1959 S. S. Goldich, B. H. Mason, R. H. Jahns, C. Milton, W. R. Foster, E. W. Nuffield.
1960 R. H. Jahns, C. Milton, W. R. Foster, E. W. Nuffield, J. R. Goldsmith, Horace
Winchell.
1961 W. R. Foster, E. W. Nuffield, J. R. Goldsmith, Horace Winchell, R. M. Garrels,
O. F. Tuttle.
1962 J. R. Goldsmith, Horace Winchell, R. M. Garrels, O. F. Tuttle, Francis J. Turner,
Hatten S. Yoder, Jr.
1963 R. M. Garrels, O. F. Tuttle, Francis J. Turner, Hatten S. Yoder, Jr., W. F. Bradley,
Howard T. Evans, Jr.
1964 Francis J. Turner, Hatten S. Yoder, Jr., W. F. Bradley, Howard T. Evans, Jr.,
Harold L. James, Joseph V. Smith.
1965 W. F. Bradley, Howard T. Evans, Jr., Harold L. James, Joseph V. Smith, William T.
Pecora, William S. Fyfe, Walter D. Keller.
1966 Harold L. James, Joseph V. Smith, William S. Fyfe, Walter D. Keller, Eugene N.
Cameron, William S. MacKenzie.
1967 Eugene N. Cameron, Robert G. Coleman, William S. Fyfe, Donald L. Graf, Walter
D. Keller, William S. MacKenzie.

- 1968 F. Donald Bloss, Eugene N. Cameron, Charles L. Christ, Robert G. Coleman, Donald L. Graf, William S. MacKenzie.
 1969 Robert G. Coleman, Donald L. Graf, F. Donald Bloss, Charles L. Christ, W. Gary Ernst, Gunnar Kullerud.

ANNUAL MEETING PLACES

- | | |
|-------------------------------|--------------------------------|
| 1920 Chicago, Illinois | 1945 Pittsburgh, Pennsylvania |
| 1921 Amherst, Massachusetts | 1946 Chicago, Illinois |
| 1922 Ann Arbor, Michigan | 1947 Ottawa, Canada |
| 1923 Washington, D. C. | 1948 New York, New York |
| 1924 Ithaca, New York | 1949 El Paso, Texas |
| 1925 New Haven, Connecticut | 1950 Washington, D. C. |
| 1926 Madison, Wisconsin | 1951 Detroit, Michigan |
| 1927 Cleveland, Ohio | 1952 Boston, Massachusetts |
| 1928 New York, New York | 1953 Toronto, Canada |
| 1929 Washington, D. C. | 1954 Los Angeles, California |
| 1930 Toronto, Canada | 1955 New Orleans, Louisiana |
| 1931 Tulsa, Oklahoma | 1956 Minneapolis, Minnesota |
| 1932 Cambridge, Massachusetts | 1957 Atlantic City, New Jersey |
| 1933 Chicago, Illinois | 1958 St. Louis, Missouri |
| 1934 Rochester, New York | 1959 Pittsburgh, Pennsylvania |
| 1935 New York, New York | 1960 Denver, Colorado |
| 1936 Cincinnati, Ohio | 1961 Cincinnati, Ohio |
| 1937 Washington, D. C. | 1962 Houston, Texas |
| 1938 New York, New York | 1963 New York, New York |
| 1939 Minneapolis, Minnesota | 1964 Miami Beach, Florida |
| 1940 Austin, Texas | 1965 Kansas City, Missouri |
| 1941 Boston, Massachusetts | 1966 San Francisco, California |
| 1942 No meeting held | 1967 New Orleans, Louisiana |
| 1943 No meeting held | 1968 Mexico City, Mexico |
| 1944 No meeting held | 1969 Atlantic City, New Jersey |

RECIPIENTS OF THE ROEBLING MEDAL

- | | |
|-----------------------------|---------------------------|
| 1937 Charles Palache | 1956 Arthur F. Buddington |
| 1938 Waldemar T. Schaller | 1957 Walter F. Hunt |
| 1940 Leonard James Spencer | 1958 Martin J. Buerger |
| 1941 Esper S. Larsen, Jr. | 1959 Felix Machatschki |
| 1945 Edward H. Kraus | 1960 Tom F. W. Barth |
| 1946 Clarence S. Ross | 1961 Paul Ramdohr |
| 1947 Paul Niggli | 1962 John W. Gruner |
| 1948 William Lawrence Bragg | 1963 John Frank Schairer |
| 1949 Herbert E. Merwin | 1964 Clifford Frondel |
| 1950 Norman L. Bowen | 1965 Adolf Pabst |
| 1952 Fred E. Wright | 1966 Max H. Hey |
| 1953 William F. Foshag | 1967 Linus Pauling |
| 1954 Cecil Edgar Tilley | 1968 Tei-ichi Ito |
| 1955 Alexander N. Winchell | 1969 Fritz Laves |

RECIPIENTS OF THE MINERALOGICAL SOCIETY OF AMERICA AWARD

1951 Orville G. Tuttle	1961 Joseph V. Smith
1952 Frederick H. Stewart	1962 Douglas S. Coombs
1953 L. H. Ahrens	1963 Nobuo Morimoto
1954 Hatten S. Yoder, Jr.	1964 William S. Fyfe
1955 Julian R. Goldsmith	1965 Peter J. Wyllie
1956 George C. Kennedy	1966 David B. Stewart
1957 Rustum Roy	1967 Alfred E. Ringwood
1958 Charles E. Weaver	1968 Barclay Kamb
1959 Harry F. W. Taylor	1969 W. Gary Ernst
1960 Donald L. Graf	