I. Election of Officers

Dr. James R. Scherer of the Western Regional Research Laboratory, USDA, Albany, California, was elected president of the Coblentz Society by the Board of Managers on March 2. Jim is a widely-known and highly-respected spectroscopist who works with equal ease in both theoretical and applied spectroscopy. Other officers are Dr. R. W. Hannah, Secretary, and Dr. W. J. Potts, Treasurer.

II. Annual Meeting of the Coblentz Society

The annual meeting of the Society was held at 5 p.m. on March 3 at the Convention Center, Cleveland, with about 50 members in attendance.

President Charles Angell opened the meeting with a word of welcome to the attendees and the new members of the Board, Kermit Whetsel and Robert Bauman. In response to a question, those present expressed unanimous preference for the 5 p.m. time for the annual meeting.

Officer and committee reports were given as follows:

A. Treasurer's report - C. Angell, in the absence of W. J. Potts

See item IV.

B. Membership - E. D. Becker. Membership remains roughly constant near 700. Members are urged to remind their colleagues about the benefits of membership.

C. Spectral Publication - Mrs. C. Craver

Volume 7 has been issued. Volume 8 is about 80% finished and will be issued in late 1971 or early 1972. Sadler Laboratories have stepped up their sales efforts, but the program is still operating in the red. The break-even point for sales is about 200 sets per volume. Up to February 1, 127 sets of Volume 5, 132 sets of Volume 6, and 68 sets of Volume 7 have been sold.

Spectroscopists are encouraged to continue donating potential Class II spectra to the program.

D. 1972 Coblentz Symposium - K. Whetsel

A number of topics were suggested, and it was recommended that the membership-at-large vote on them.

See item X.
E. Infrared Techniques - Jeanette Grasselli

To further the committee's objective of upgrading techniques by the use of visual and educational material, several approaches were tried: (1) 8-mm films on mulling and spectrometer operation; (2) Advanced Infrared Techniques Clinic (cancelled for 1971 because of low enrollment); and (3) slide-tape presentations, technically validated by the Coblentz Society, and sold by Sadtler Laboratories. Six programs were edited, and the consulting fee of $1200 received by the Society. The Infrared Techniques Committee has now completed its work and is being replaced by an Education Committee.

III. Meeting of the Board of Management at Cleveland

A. Coblentz Symposium

It was decided to request some additional time for the symposium to give both the Coblentz Awardee and the invited speakers more time to develop their topics. The membership meeting could then be held immediately following the Symposium.

B. Infrared Techniques Committee

The Board expressed thanks to Mrs. Grasselli for the very considerable time, effort, and skill she devoted to the functioning of this committee.

C. Evaluation of IR Spectra

Dr. R. N. Jones reported that the question of specifications for interferometric spectrometers was not easy to resolve, and recommended that further study be given the problem. No specifications for gas and vapor phase spectra have yet been adopted, and Dr. Jones suggested publishing a set of tentative recommendations in order to get spectroscopists' reactions (see item VII). The 400 cm⁻¹ lower range limit for Class II spectra has been changed to 450 cm⁻¹.

D. Finance Committee

President Angell had appointed a Finance Committee (Mrs. C. Craver, J. Ferraro, W. J. Potts, A. L. Smith) to make recommendations to the Board on how to rescue the Society from its financial crisis (see Treasurer's report, item IV). This group has met several times and considered a number of alternatives. They also negotiated for a higher return on spectra sold, provided the Coblentz Society took responsibility for marketing. After considerable discussion, the Board arrived at the following conclusions:
1. Because of recent good cooperation received from Sadtler Laboratories, and in view of the general economic malaise, no change in the marketing structure should be made at this time.

2. Volume 8 should be completed and marketed, but further work suspended on Volume 9 until income catches up with costs.

3. The need for further spectra, evaluated by present methods, should be carefully examined.

E. Committee Appointments for 1971

- Spectra evaluation: R. N. Jones, Chairman
- Auditing: R. Bauman and K. Whetsel
- Membership, Publicity: R. Bauman
- Symposium 1972: K. Whetsel
- Finance: C. Craver, J. Ferraro, W. J. Potts, A. L. Smith
- Education: J. Grasselli
- Liaison with Joint Committee: A. L. Smith
- Editor of Newsletter: A. L. Smith
- Spectrum Editor: C. D. Craver
- Coblenz Representative to SAS: J. Ferraro

IV. Treasurer's Report

Balance on hand March 3, 1970

Receipt:
- Dues: $598.00
- Royalty payments from Sadtler: $16,788.12
- Sale of microfilm spectra: $3,743.16
- Tuition, Mar. 6, 1970, IR clinic: $750.00
- Donations from industry: $1,500.00
- Consulting fee, Sadtler Labs: $1,200.00
- Miscellaneous: $45.00

Total Receipt: $24,624.28

Payments:
- Operating expenses (mailings, postage, stationery, misc.): $1,376.27
- Evaluated Spectra preparation: $22,672.96
- Class II spectra program: $750.00

Total Payments: $24,799.23

Balance on hand March 2, 1971: $345.53

Respectfully submitted,

W. J. Potts, Jr., Treasurer
Notes

(1) Royalty payments from Sadtler consist of payments on Sets 1-5 (original Coblentz collection) and Sets 6 and 7 (evaluated spectra):

<table>
<thead>
<tr>
<th>Sets</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>1-5</td>
<td>$4,640.00</td>
</tr>
<tr>
<td>6,7</td>
<td>$12,148.12</td>
</tr>
<tr>
<td></td>
<td>$16,788.12</td>
</tr>
</tbody>
</table>

(2) Spectrum publication expenses this year:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional charges, Clara S. Craver</td>
<td>$18,815.75</td>
</tr>
<tr>
<td>Spectral evaluation (subcontracted from Mrs. Craver)</td>
<td>1,269.00</td>
</tr>
<tr>
<td>Photographic copying</td>
<td>1,815.25</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>772.96</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$22,672.96</strong></td>
</tr>
</tbody>
</table>

(3) The Society owes Mrs. C. Craver approximately $15,000 for work done but not yet billed.

V. Infrared Training Courses

From time to time we receive word of training courses in infrared spectroscopy and related fields. Through its Applications Support Centers, Beckman Instruments now offers on a regular basis formal training programs in AA, UV-Visible, and IR spectroscopy. Conducted by experts in the field, the 2-4 day courses cover instrument operation, sample preparation, special techniques, and spectral interpretation. Further information can be obtained by phoning or writing K. E. Stine, Director, Western Region Applications Support Center, BECKMAN INSTRUMENTS, INC., 4115 E. Artesia, Fullerton, California 92632. Telephone (714) 521-3700, extension 546.

VI. Raman Spectroscopy

In view of the close relationship between infrared and the revitalized field of Raman spectroscopy, President J. R. Scherer has appointed Ted Becker to chair a committee that will explore ways in which the Society can involve itself in the latter. Anyone having suggestions on how the Society should or should not be involved is urged to contact Dr. E. D. Becker, National Institutes of Health, Bethesda, Maryland 20014.

VII. Tentative Recommendations for Gas and Vapor Spectra (Class III)

1. For analytical purposes, it is recommended that the following conditions be used:
The sample path length should be 5 to 10 cm and should be stated. A reference cell of the same path length, evacuated or filled with inert gas, may be used in the reference beam to reduce spurious atmospheric absorptions.

The pressure of the absorbing gas should be selected so as to display the significant features in the spectrum, while showing a minimum number of bands so strong that structure is lost (note also Section II-C). For a cell path of 10 cm, a partial pressure of 20 to 50 mm of the absorbing species will often give an adequate spectrum, although considerable variation from the suggested pressure may sometimes be necessary. Very intense absorptions should be rescanned at lower pressure (by a factor of approximately 5), but the number of additional tracings should be kept to a minimum, and they should be placed on the chart in such a way that the recorder traces do not cross or otherwise interfere.

Bands containing closely-spaced but resolved vibration-rotational structure should be presented on a second chart with an expanded abscissa scale. In this case it is desirable to attach a calibration spectrum indexed by fiducial wavenumber marks (preferably another gas; see "Tables of Wavenumbers..." referenced in Sec. IV A).

The pressure of the absorbing gas should be clearly indicated for each trace. A dry, inert diluent gas (N₂, Ar, He) should be used to bring the pressure of the system to 700 mm, and the total pressure as well as the identity of the inert gas should be stated. The approximate temperature of the system should also be given.

2. For documentation purposes, gas and vapor spectra may be recorded under a wide variety of conditions. Since the conditions chosen will reflect the purpose for which the spectrum is recorded, it is not considered feasible to recommend specific parameters. The following data should appear, however, as part of the record: pressure; temperature, path length; approximate resolution of the spectrometer; other gases present and their approximate partial pressure; and if a multi-reflection cell is used, the number of reflections.

3. Users of gas and vapor spectra must recognize that such spectra are strictly qualitative, since the intensity of an absorption may depend strongly on the total pressure as well as on the partial pressure of the absorbing species. (Intensities may change by a factor of 5 or more upon pressurizing a gas from zero to one atmosphere with an inert diluent.) Furthermore, the intensities of different bands do not respond equally to pressurization.
On the other hand, the exact frequency of sharp spikes is likely to be important for qualitative analysis. Thus, it is especially important for gas and vapor spectra that wave-number calibration accuracy be established and maintained.

Comments and suggestions are solicited and should be sent to Dr. R. N. Jones, Division of Pure Chemistry, National Research Council, Ottawa 2, Ontario, Canada.

VIII. Payment of Dues

A number of members have not yet paid either their 1970 or 1971 dues (total, $4). For their convenience, a statement of account is enclosed. All members are urged to pay their dues promptly; those who find it necessary to resign should inform the secretary.

IX. What's Wrong with this Spectrum?

Answer to the problem in Mailing No. 49: the abscissa (wave-number) scale is displaced by 100 cm\(^{-1}\) (200 above 2000 cm\(^{-1}\)). And, two more obvious shortcomings; there is either a bubble in the film or the spectrometer zero is improperly set, and the film is much too heavy (bands at 1700 and 3200 bottom out rather badly).

This month's problem:

Propylene dibromide (1,2-dibromopropane) is a good material for testing spectrometer performance. What's wrong with the spectrometer?
X. Topics for the 1972 Symposium

Please indicate 1 and 2 for first and second choices.

A. Low Energy Spectroscopy
B. Vibrational Spectroscopy of Biopolymers
C. Applications of Raman Spectroscopy
D. Solution of Chemical Problems by Combined Spectroscopic Techniques
E. Fluorescence Spectroscopy
F. Attenuated Total Reflectance Spectroscopy
G. IR and Raman Spectroscopy of Polymers
H. Low Temperature IR Spectroscopy
I. High Temperature IR Spectroscopy
J. Spectroscopy Applied to Environmental Problems

Send to Dr. Kermit B. Whetsel
Tennessee Eastman Co.
Kingsport, Tennessee

before June 1, 1971.