



THE

CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XXVI

MAY, 1970

NUMBER 5

Presented to

George S. Hammond

on the occasion of his

Remsen Memorial Lecture

sponsored by

*The Maryland Section of the American
Chemical Society*

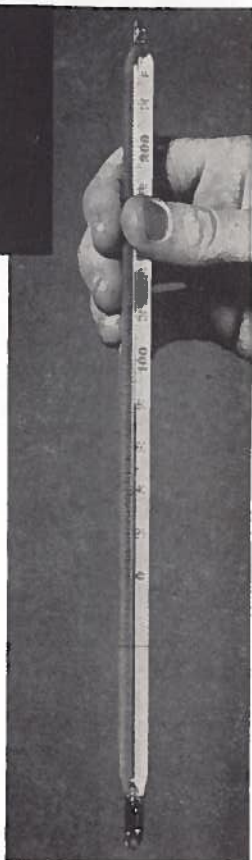
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Teacher, Investigator, Author, Administrator

May 20, 1970

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THE CHESAPEAKE CHEMIST



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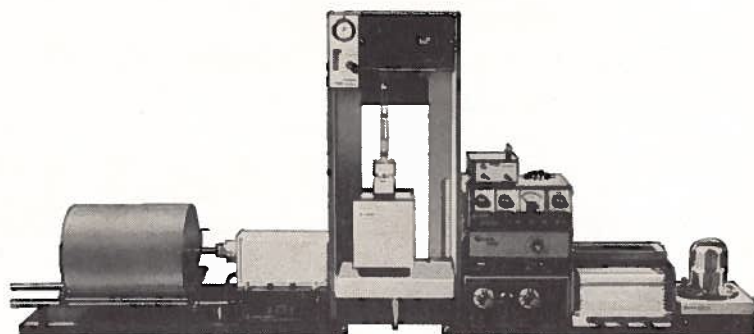
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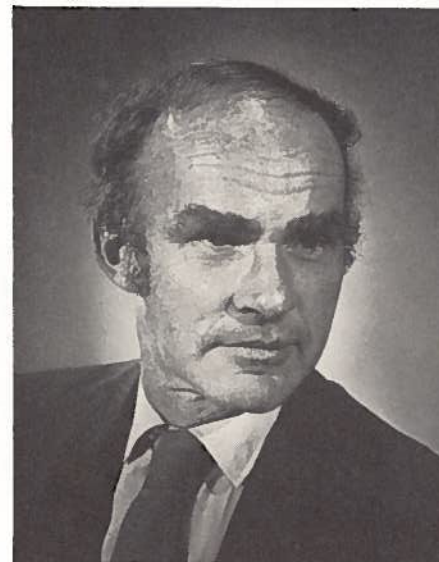
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TWENTY-FIFTH REMSEN LECTURE



DR. GEORGE S. HAMMOND

DATE AND TIME:

Wednesday, May 20, 1970 at 8:30 P.M.

PLACE:

Shaffer Hall, Homewood Campus, The Johns Hopkins University.

SPEAKER:

Dr. George S. Hammond, Arthur Amos Noyes Professor of Chemistry, California Institute of Technology.

SUBJECT:

"Chemical and Physical Decay Processes in some Bichromophoric Compounds"
(see page 7 for précis).

DINNER:

Clipper Room, Shriver Hall.
Cocktails 6:00 P.M., dinner 6:30 P.M.
(Reservations are necessary and limited; use form on page 11).

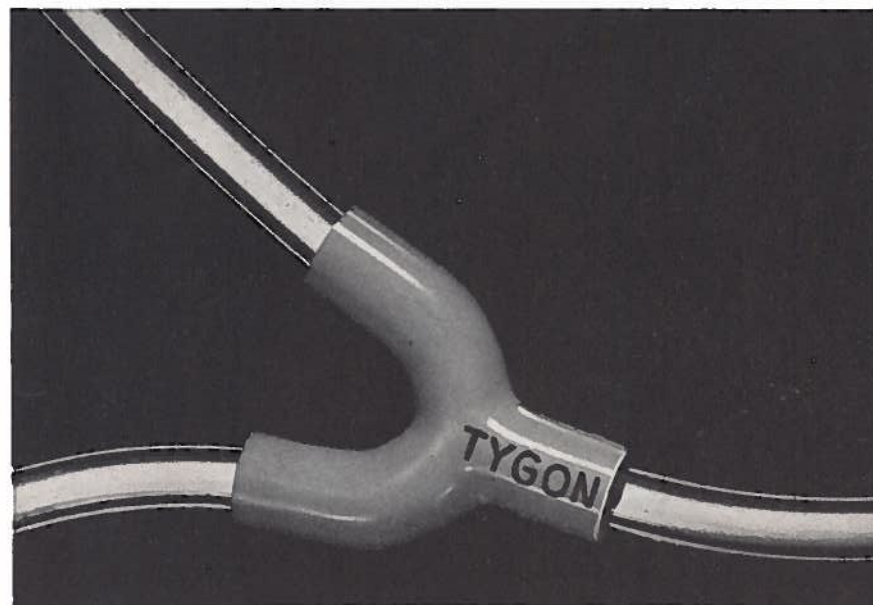
PARKING:

Free parking is available in the lot adjacent to Shriver Hall.

MIXER:

Refreshments will be served in the Clipper Room after the lecture. Everyone is welcome.

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THE REMSEN MEMORIAL LECTURE

The Maryland Section of the American Chemical Society inaugurated in May 1946 a series of annual lectures in honor of Ira Remsen, first Professor of Chemistry and second President of the Johns Hopkins University. The First Remsen Memorial Lecture was part of the centennial celebration of Remsen's birth. It was the intention of the Maryland Section that Remsen Memorial lecturers should be chemists of outstanding ability, as exemplified by Ira Remsen's long and devoted career as an exponent of the highest standards in teaching and research in chemistry.

The Remsen Memorial lecture delivered in May or June each year, is the highlight of the year's activity of the Maryland Section. The lecturer is chosen by a special committee which meets early in the year to consider possible candidates for the honor. A reception and dinner in honor of the recipient of the Award is held at the Johns Hopkins Club and is attended by officials of the Johns Hopkins University, American Chemical Society, and many members of the Maryland Section. The lecturer is introduced by a distinguished colleague, and after his address, he is presented by the Chairman of the Maryland Section with the engraved Remsen Memorial scroll and an honorarium from the Maryland Section. An informal refreshment hour follows the meeting.

Past Remsen Memorial Lecturers have been, in chronological order annually since 1946, Roger Adams, Samuel C. Lind, Elmer V. McCollum, Joel H. Hildebrand, Edward C. Kendall, Hugh S. Taylor, W. Mansfield Clark, Edward L. Tatum, Vincent du Vigneaud, Willard F. Libby, Farrington Daniels, Melvin Calvin, Robert B. Woodward, Edward Teller, Henry Eyring, Herbert C. Brown, George Porter, Harold C. Urey, Paul D. Bartlett, James R. Arnold, Paul H. Emmett, Marshall W. Nirenberg, Har G. Khorana, and Albert L. Lehninger.

It was fitting that the Maryland Section should establish the Remsen Memorial Lecture as a recognition of American

chemists whose attainments continue the distinguished pattern that Ira Remsen created. From the foregoing list of the eminent recipients, it is gratifyingly obvious that the high standards of the original Remsen Memorial Lecture Committee have been adhered to constantly. It is apparent that those chosen over the years have been among the outstanding leaders in American Chemistry.

The Twenty-Fifth Remsen Memorial Lecture will be given by Dr. George S. Hammond, who will speak on "Chemical and Physical Decay Processes in some Bichromophoric Compounds".

CHEMICAL AND PHYSICAL DECAY PROCESSES IN SOME BICHROMOPHORIC COMPOUNDS

Molecules containing two unsaturated units separated by one or more saturated centers usually show evidence of only weak interactions in their ground states. Upon electronic excitation the interaction may become much stronger so that excitation is delocalized between the two units. However, there *may* be enough time lag in interconversion among compound excited states to prevent automatic cascade of the system to the lowest excited state of a given multiplicity. A good deal can be inferred, but not rigorously established, about the characteristics of the compound excited states by study of photoreactions.

GEORGE S. HAMMOND

As Arthur Amos Noyes Professor of Chemistry, George S. Hammond occupies a professorship that honors the distinguished chemist whose efforts helped the development of the California Institute of Technology as a great research institution.

Dr. Hammond, an outstanding scientist in the field of photochemistry, is Chairman of the Division of Chemistry and Chemical Engineering at the Institute. He is intensely interested in chemical

(Continued on Page 11)

EXECUTIVE COMMITTEE MINUTES

Minutes of the Executive Committee Meeting of the Maryland Section of the American Chemical Society held on January 12, 1970 at Loyola College.

The meeting was called to order at 8:20 P.M. by the Chairman, Joseph Cogliano. Present were: Richard J. Kokes, Paul Stamberger, J. L. Straughn, Donald E. Jones, Jerome Goldenson, Edward J. Poziomek, Frederick S. Lee, Melvin P. Miller, Theodore C. Berenthien, John I. Stevens, Timothy Parr, Yale H. Caplan, Ernest F. Silversmith, and Herbert S. Aaron.

The minutes of the previous meeting were accepted as published in the January 1970 issue of *The Chesapeake Chemist*, with the exception of a correction offered by Dr. Jones, whereby the last part of the second paragraph was corrected to read: "Dr. Jones suggested that the check for \$376.25 from the last MARM be put into the sinking fund for MARM, or into the Section Scholarship Fund. Mr. Glocker moved that the money be placed into the Scholarship Fund. Dr. Jones seconded the motion."

The Treasurer's Report was given by Mr. Goldenson as an Annual Report for 1969. During 1969, the Section had a total income of \$9093.80, and expenditures of \$7,753.84. Cash on hand as of December 31, 1969 was \$7,457.36. Since \$2,076.25 of the receipts were for the Scholarship Fund, however, the Section actually ran at a deficit during 1969. Mr. Goldenson raised the question of whether the Section dues should be increased. The Chairman pointed out that with the National dues increase, we would be receiving some additional income from the National Office, and therefore, we should not consider raising the local dues at this time. The full Treasurer's Report is attached as an addendum to these minutes.*

Dr. Silversmith gave the Special Scholarship Report. He stated that let-

* Editor's Note: The treasurer's report was actually published in the March issue of *The Chesapeake Chemist*.

ters had gone out to various high school chemistry teachers in the area asking for nominations for the award. It is planned to sponsor two students for two years, each at \$1000 per year. Dr. Kokes announced that the following committee has been formed to make the selections: Dr. Silversmith (Chairman), Dr. Belle Otto, Dr. Joe Scarlett, and Dr. John Gryder.

Timothy Parr reported that Dr. Samuel Goldheim, former Chairman of the Section and a member of the Executive Committee, had suffered a heart attack early in December, and has only just returned home from the hospital. Apparently, he has made an excellent recovery, but will be required to rest at home for an extended period. Dr. Goldheim had been serving as Chairman of the Physical Arrangements Committee for the 6th MARM, and he will probably not be able to continue to serve in this capacity.

Dr. Jones reported on the status of the arrangements for the 6th MARM. He stated that all program chairmen have been selected, and symposia are tentatively planned in all the major fields. The Meeting will be held at the Civic Center, from whom a rental contract is currently in hand and will soon be signed. A chemical exhibition will be held in conjunction with the Meeting, and 50 booths will be available for rental. The preliminary budget for the Meeting has been estimated at \$14,000, which should be covered by receipts from the Meeting. Dr. Jones stated that some additional operating funds were required by the committee, and moved that \$500 be advanced as a loan from the Section to provide operating funds for the MARM Committee. The motion was seconded by Dr. Kokes. The motion was passed.

Dr. Cogliano read a letter from the National Office which stated that the 25th Anniversary of the Chartering of the Student Affiliate Chapter of the ACS at the University of Maryland was coming

(Continued on Page 14)

MARYLAND SECTION NEWS



GOVERNMENT

FORT DETRICK

Mr. James R. E. Smith retired from Fort Detrick in February after twenty-seven years service in research and development. Dr. William F. Daniels has moved his professional employment from Fort Detrick to the Army Advanced Material Concepts Agency, Alexandria, Virginia. The Fort Detrick Biochemistry Study Group has presented two recent lectures: Mr. Dennis LaCroix and Mr. John Iverson, U.S. Department of Agriculture, Washington, D.C., discussed "Quantitative Aspects of Gas Chromatography" on January 22, and on February 16 Dr. John Lambooy, Associate Dean of the Graduate School for the Baltimore Campuses of the University of Maryland, discussed "Something New about Vitamin B₂".

The Fort Detrick Branch of the Scientific Research Society of America has presented three recent lectures: Mr. David W. Young, Atlantic Richfield Company, spoke on "Antonio Stradivari—the Artist and the Chemist" and played his Stradivarius violin on February 19; Dr. Edward E. Daub, University of Kansas, spoke on "Maxwell and his Demon" on March 18; and Dr. Abraham H. Black, Professor of Psychology, McMaster University, Hamilton, Ontario presented the annual Sigma Xi lecture "Reinforcing Changes in the Nervous System" on April 13.

COVER

Facsimile of the scroll to be presented to the twenty-fifth Remsen Memorial Lecturer, Dr. George S. Hammond.



ACADEMIC

UNIVERSITY OF MARYLAND

Seminars were recently presented in the Department of Medicinal Chemistry by Dr. Herbert S. Aaron, Edgewood Arsenal who spoke on "Conformational Analysis and Dilute Solution Infrared Studies of Aminoalcohol Systems", and Dr. Albert Hybl of the Department of Biophysics of the University of Maryland School of Medicine who spoke on "X-Ray Diffraction Applied to the Study of Membrane Lipids".

THE JOHNS HOPKINS UNIVERSITY

Dr. Richard J. Kokes on a recent trip to Europe gave the following lectures. "Formation of Allylic Species on Zinc Oxide" and "Intermediates in Catalysis" at the University of Technology, Trondheim, Norway; "Some Aspects of Hydrogenation and Isomerization over Oxides and Metals" at the Norwegian Chemical Society, Trondheim, Norway and at the University of Lund, Sweden; and "The Mechanism of Ethylene Hydrogenation over Zinc Oxide" at the Symposium on Elementary Reactions at Gas-Solid Interfaces in Edinburgh, Scotland.

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OBSERVATIONS ON A PROGRAM FOR DRUG EDUCATION

This spring the Maryland Council for Community Services in cooperation with the Maryland State Drug Abuse Authority is sponsoring a state-wide drug education program. The Maryland Council for Community Services is an organization of community colleges concerned with seeking solutions to common community problems. Members include Allegheny Community College, Anne Arundel Community College, Catonsville Community College, Chesapeake College, Community College of Baltimore, Federal City College, Essex Community College, Frederick Community College, Hagerstown Junior College, Harford Junior College, and Montgomery College.

The drug education program is geared to provide factual information for the adult community so that the community can feel secure in its direction as to how to handle the problem of drug abuse. Community in this case is defined as parents, teachers, school administrators, church groups, law enforcement agents, health agencies, and adults concerned about the problems of drug abuse. The mechanism involves one day symposia at the various colleges. These symposia (some of which have already been held) are being coordinated by the Maryland Council for Community Services but are being developed at the local level by advisory committees. A typical committee includes educators, lawyers, religious leaders, psychiatrists, medical doctors, chemists, pharmacologists, law enforcement officers, students, rehabilitation officers, etc.

A training session for local advisory committees was held on March 19, 1970 in Baltimore. The purpose was to provide instruction to the local advisory members on all aspects of drug abuse as found in the objectives of the program. The specific objectives are to help the community to be able to identify the various types of drugs and terms used by today's drug abusers, the various social implications, the legal problems, the physiological and psychological effects of drugs, and the responsibilities of the community for drug abuse.

The local committees are extending objectives of the program into other projects. As one example, the local advisory committee at Harford Junior College has divided itself into three groups. The first concerns itself mainly with the one day symposium. Another is forming a drug information center at the college. It will provide to interested individuals or groups the most accurate information available on the abuse of drugs. Yet another group is dealing in programs for and with youth in the county.

The entire program is impressive because it represents a state-wide mobilization of a variety of talents to meet a community need. Undoubtedly, the present program will serve as a model for future efforts to meet other community needs.

Edward J. Poziomek
Member at Large,
Executive Committee
Maryland Section, ACS

Joseph Cogliano, Chairman of the Maryland Section, appointed Dr. Poziomek to represent the Section as a local advisory member of the state drug education program.

MEN AND MOLECULES

Some members have been asking about broadcasts of the radio series presented by the American Chemical Society, 'Men and Molecules'. The titles of the current topics are published in *Chemical and Engineering News* and are broadcast (according to the magazine) in the Maryland area by: Baltimore, WFMM-FM, Sunday 8:15 A.M. and Friday 1:05 A.M.; Bethesda, WHFS, Sunday 6:30 A.M.; Brunswick, WTRI, Sunday 10:00 A.M.; and Hagerstown, WJEJ, Sunday 6:15 P.M.

COPY DEADLINE

Copy for the *Chesapeake Chemist* should be forwarded to the Editor not later than the tenth of the month preceding publication.

DR. GEORGE S. HAMMOND

(Continued from Page 7)

dynamics and supervises a large research group in the field. He is also greatly concerned about the philosophy of education in general and curriculum revision in the field of chemistry in particular. His contribution to innovative education includes direct participation as well as vocal advocacy.

A *magna cum laude* graduate of Bates College, Dr. Hammond holds master's and doctor's degrees from Harvard University. After a postdoctoral year at UCLA, he joined the faculty of Iowa State University in 1948 and remained there until 1958, when he came to Caltech as Professor of Organic Chemistry. He became Arthur Amos Noyes Professor of Chemistry in 1964 and Division Chairman in 1968.

Among Dr. Hammond's awards are a Guggenheim Fellowship, the American Chemical Society Award in Petroleum

Chemistry, the Edward Curtis Franklin Memorial Award for Outstanding Contributions to Chemistry, and the James Flack Norris Award in Physical Organic Chemistry. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. Dr. Hammond has published almost two-hundred papers, coauthored five books, is coeditor of a reference series, is a member of several editorial boards, and acts in an advisory capacity to a number of scientific boards.

SIXTH MARM
FEBRUARY, 1971
BALTIMORE

Twenty-Fifth Remsen Memorial Lecture
MARYLAND SECTION
American Chemical Society
WEDNESDAY, MAY 20, 1970

Cocktails 6:00 P.M.

Dinner 6:30 P.M.

Clipper Room, Shriver Hall
The Johns Hopkins University

Mr. Allen Bednarczyk
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Md. 21030. Phone 666-3155.

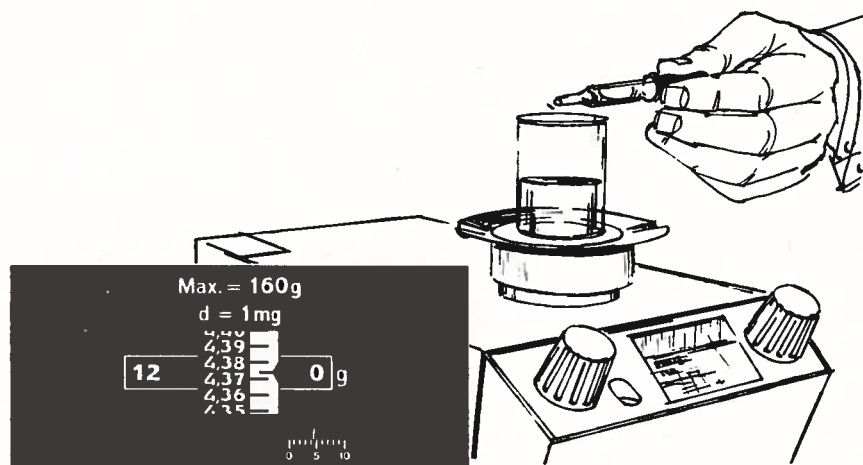
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NEW MARYLAND SECTION MEMBERS

The Chairman and Officers of the Maryland Section of the American Chemical Society welcome the following new members of the Section, and cordially invite them to attend the monthly meetings and participate in other Section affairs.

Joseph E. Antenson, Pleasant Street, Baltimore.

Rudy F. Aquino, E. University Parkway, Baltimore.

Mrs. Priscilla R. Costello, Dartmouth Road, Baltimore.

PFC Jack Leroy Downie, Edgewood Arsenal.

Dr. William L. Foohey, Downwest Ride, Columbia.

Dr. Kenneth A. Freeman, Churchton.

Dr. Paul George Gabbert, Stanmore Road, Baltimore.

John Frederick Halsey, McCollum-Pratt Institute, Baltimore.

Dr. Thomas Thorntor Holloway, Johns Hopkins University, Baltimore.

William Edward Jacobus, Sugarloaf Court, Baltimore.

Miss Sharon Sophia Krag, Johns Hopkins Sch. Med., Baltimore.

Miss Barbara Ann Kuc, N. Charles Street, Baltimore.

Mrs. Susan Kay Laird, Springhill Drive, Greenbelt.

Dr. Hayden Ivan Lipp, Nuttal Avenue, Edgewood.

Harold Paul Patterson, Brookway, Columbia.

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The Editor and Staff of the *Chesapeake Chemist* thank all those who contributed to the Chemist during the past year, and wish all the members a pleasant summer.

REMINDERS

Maryland Section Award—Each member has been asked to nominate a worthy candidate for the 1970 Maryland Section Award. Details were published on page 9 of the April issue of the *Chesapeake Chemist*. Note that the deadline for nominations is May 15.

1970 Section Dues—each member should have received by now a notice for his 1970 local section dues of \$2. Remember that the local dues help to support the monthly meetings, the Remsen Memorial Lecture, the Maryland Section Award and other activities of the Maryland Section. Although there is no deadline for payment of the dues you are urged to remit the payment as soon as possible to Dr. John I. Stevens, 15 Ridge Road, Severna Park, Maryland 21146. Due to an error by our mailer some members may have received two notices: you may pay both if you wish but only one would be acceptable.

1970 Questionnaire—for those persons who have received the questionnaire for the 1970 National Register of Scientific and Technical Personnel but have not completed and returned it, may we urge that you do so now. If you have misplaced your questionnaire or have not received a mailing, please write to the National Office. The Government uses the information from the register survey to detect and forecast scientific manpower needs and to determine trends in various scientific fields.

SIXTH MIDDLE ATLANTIC

REGIONAL MEETING

(MARM)

FEBRUARY 3, 4, 5 (1971)

CIVIC CENTER, BALTIMORE

EXECUTIVE MINUTES

(Continued from Page 8)

up, and asked if we would care to plan any special activity to commemorate the occasion. It was pointed out that the Maryland Chapter is actually associated with the Washington Section, and that we had probably been notified in error. The Chairman stated that he would contact the National Office regarding the matter.

Dr. Cogliano read a letter from the National Office inquiring whether the Section would be interested in sponsoring an ACS Short Course this spring. Dr. Stamberger volunteered to help with any arrangements, provided someone would work with him on the project. Dr. Lee volunteered to assist Dr. Stamberger look into the matter.

Dr. Cogliano read a letter from Sister Jane Marie Brown, College of Notre Dame of Maryland ACS Student Affiliate Chapter, asking if we would contribute some financial help in addition to bus transportation for delegates to the annual Student Affiliate ACS Meeting-in-Miniature, to be held this year at Georgetown University on April 10th. Dr. Lee moved that the charter bus fare plus \$100, not to exceed a total of \$200, be contributed for this event. The motion was seconded and passed.

Dr. Jones raised the question of whether films should be purchased for local educational program needs. The Chairman asked that this question be put off for a future discussion.

Dr. Cogliano suggested that a new 35 mm projector that would handle both glass and cardboard mounted 2x2" slides should be purchased by the Section. He stated that a Kodak Model 850 would do the job, at a cost of about \$150. Dr. Silversmith moved that we purchase a Kodak Model 850 projector with a zoom lens. The motion was seconded by Mr. Goldenson. The motion was passed.

Dr. Cogliano suggested that the May meeting, which is currently open, be held as a dinner theatre party meeting on Thursday, May 7th at Martin's West. The matter was discussed, and it was recommended that the Chairman should go ahead with such a plan, and that the

Washington Section of the ACS and the local AIChE Chapter be invited to join us for that evening.

Dr. Kokes asked for suggestions for future program speakers, and raised the question of whether next year's meetings should all be held at Eudowood Gardens. The matter was discussed, and it was generally agreed that a few of the meetings should be held at various local colleges, if at all possible. The Chairman stated that new members are still invited to be guests at one of the dinner meetings.

Dr. Caplan reported that a financial report on *The Chesapeake Chemist* is in preparation. He stated that it appears that some of the regular advertisers may be cutting back, and that the total number of pages may have to be cut if future advertising revenues should decrease. He requested the suggestion of any new companies that might be interested in advertising in *The Chesapeake Chemist*.

The meeting was adjourned at 10:30 p.m.

Respectfully submitted,
Herbert S. Aaron,
Secretary

These minutes are uncorrected, and are published for informational purposes only pending their acceptance at the next meeting of the Executive Committee.

NEW MEMBERS

(Continued from Page 13)

- Dr. Peter L. Pederson, Reverdy Road, Baltimore.
Dr. Nimmagadda V. Rao, Univ. Maryland Sch. Med., Baltimore.
Dr. Selby Millmore Skinner, Indian Head Road, Baltimore.
Charles E. Tidd, Jr., Old Trail, Baltimore.
Gene Vernon Tracy, Beechwood Drive, Ellicott City.
Constantine Zervos, Univ. Maryland Sch. Med., Baltimore.

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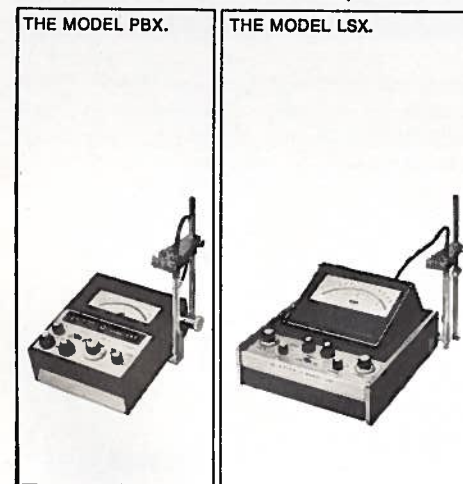
Karl Fischer titrations and to external recording.

The Model PBX is a portable meter, battery (or line) operated. Ideal therefore for on-site measurements. Such as determining specific-ion pollutants in streams and waterways. Or wherever you want to use it. The Model PBX's price with combination electrode and solutions is \$375.

And the Model LSX is the meter we call laboratory standard. It has the edge in accuracy: ± 0.0025 pH in the 0.7 pH full-scale measurement on its large (7½ inch) scale. It offers maximum stability and sensitivity. Its price with combination electrode and solutions: \$425.

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