



MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

THE CHESAPEAKE CHEMIST

VOL. XXIV

MARCH, 1968

NUMBER 3



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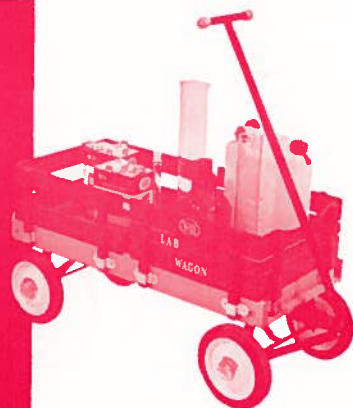


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THE CHESAPEAKE CHEMIST

VOL. XXIV

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MARCH MEETING



DR. JOHN M. LEONARD



DR. NICHOLAS J. TURRO

DATE:

Wednesday, March 20, 1968

PLACE:

Eudowood Gardens Lecture Room,
 Eudowood Plaza, Joppa Road near
 Goucher Blvd.

SPEAKERS AND TOPICS:

5:30 P.M. Dr. John M. Leonard, Naval
 Research Labs. Biochemistry of the
 Briny Deep. (see page 17).

8:30 P.M. Dr. Nicholas J. Turro,
 Columbia University. Nature and Be-
 havior of Molecules Excited by Light.
 (see page 15).

COCKTAILS AND DINNER:

Eudowood Gardens Dining Room.
 Price is \$3.50 per person for cocktails
 (6:30-7:15 P.M.) and dinner (7:15

P.M.) Free parking. Reservations
 must be received no later than March
 19. Use reservation form on page 13.
 We encourage you to bring your wife
 and friends to both the dinner and
 the meeting.

SOCIAL HOUR:

There will be a social hour after
 the meeting. Refreshments will be
 served. All are welcome.

COVER

In order to guarantee equal ab-
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MARYLAND SECTION NEWS

Are you doing (or have done recently) anything of interest to your colleagues in the Maryland Section, and would like them to know about it? Have you recently changed jobs? Been promoted? Presented a paper? Awarded a patent? Received a citation for outstanding service? If you have, please let the other members know by sending the information, in any form, to the Editor, James Leslie, University of Maryland, 636 W. Lombard Street, Baltimore, Md. 21201.



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Dr. Richard J. Kokes spoke January 19 at the University of Dayton, Dayton, Ohio on "Catalytic Hydrogenation over Palladium." He also spoke January 29 at Sun Oil Co., Marcus Hook, Pa. on "Some Aspects of Catalytic Hydrogenation."

Dr. Dwaine O. Cowan, Dr. John P. Doering and Dr. Harris J. Silverstone were promoted to Associate Professors.

Dr. Brown L. Murr, Jr. spoke on February 21 at the Department of Chemistry, State University of New York at Buffalo on "Carbonium Ion Asymmetry and Conformational Changes."

Dr. Alex Nikon has been selected to serve on the Postdoctoral Panel of the National Research Council. The panel evaluates applications for appointments as Postdoctoral Research Associates within nineteen Federal agencies.

Dr. Walter S. Koski was a visiting lecturer at the University of South Florida, Tampa, Florida, during the week of March 4. He presented a series of lectures on his research in ion-molecule reactions.

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

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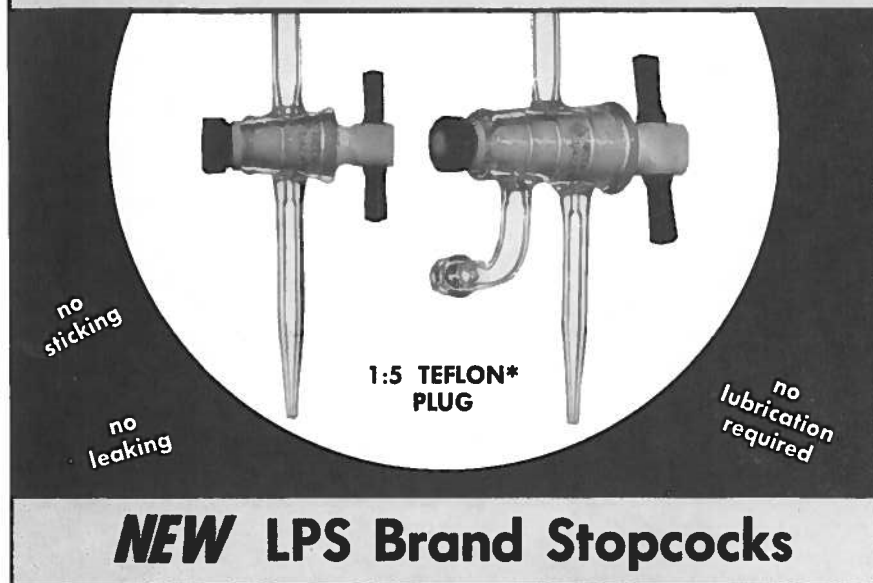
Dr. Gunther K. Hunger, Research Director at the Laurel Research Laboratory of West Virginia Pulp and Paper Co., presented a paper titled "The Fine Structure of Uncoated Papers and the Effects of Surface Sizing, Coating and Calendering Theron" at the 54th annual meeting of the Canadian Pulp and Paper Association at Montreal on January 24th.



GENERAL

Dr. Francis M. Miller was a chairman of the Division of Medicinal and Biochemistry at the Third Middle Atlantic Regional Meeting on February 1st and 2nd in Philadelphia. Participants from this section at the meeting were: Nicholas M. Karayannis, Alstoph H. Corwin, Earl W. Baker, Ernst Klesper and Joseph A. Walter ("Hyperpressure Gas Chromatography. A Novel Technique for the Gas Chromatography of Compounds of Low Volatility"); Norman A. Gregson, Walter X. Balcavage and Herbert H. Winkler ("Lubrol Membranes: A Phosphorylating Submitochondrial System"); Lester P. Kuhn and J. Omar Doali ("Gas Phase Reaction between Acetone and Diborane").

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THE CHESAPEAKE CHEMIST

JAMES BRYANT CONANT AWARD

THE JAMES BRYANT CONANT AWARD IN HIGH SCHOOL CHEMISTRY TEACHING

The James Bryant Conant Award in High School Chemistry Teaching recognizes, encourages and stimulates outstanding teachers of high school chemistry in the United States, its possessions or territories.

The award was established in 1965 by E. I. du Pont de Nemours & Company Incorporated. Six awards will be made annually, one in each of the six geographic districts, provided qualified teachers are identified. Each award consists of \$1,000 and a certificate. Expenses incidental to traveling to the meeting at which the award will be presented are paid.

Each local section of the American Chemical Society may nominate one candidate for this award. A nominee must be actively engaged in the teaching of chemistry in a high school (grades 9 through 12) either in the territory of the local section making the nomination or in adjacent territory within the district that is not assigned to any local section.

For the purpose of equitable distribution of awards, six geographic districts have been established, each having approximately the same number of teachers of chemistry. Each district is composed of the territory covered by the local sections with headquarters within the listed states as well as that territory within these states not now within the boundaries of local sections. The Maryland Section is in District 2, along with Delaware, District of Columbia, Ohio, New Jersey, Pennsylvania, and West Virginia.

James Bryant Conant is a former professor of chemistry at Harvard who later became president of the University. He was asked to lend his name to the award because of his well-known interest in secondary education.

Nominations are made only by local sections of the American Chemical

Society. The chairman or secretary of the section must sign and transmit the nomination, but a committee may be appointed to solicit names of candidates from section members and screen such candidates for final selection.

The nomination must include a biographical sketch of the nominee with date of birth, a list of publications if any, and a statement and evaluation of the nominee's achievements as a high school teacher of chemistry. The document should clearly demonstrate as many of the following attributes as possible: (1) the quality of the candidate's teaching (unusually effective methods of presentation should be emphasized); (2) ability to inspire students to enter the field of chemistry (the number of the candidate's former students majoring in chemistry or related fields in college might be one criterion); (3) extra-curricular work in chemistry by the candidate, including science fairs, science clubs, and activities that stimulate the interest of young people in chemistry and related sciences; (4) willingness to keep up-to-date in the field, as evidenced by pursuit of a higher degree in chemistry and other means of self-improvement.

Seconding letters are not essential; as many as five, however, may be included with each nomination. Only those which contain factual information about the candidate not provided in the nominating letter will be transmitted to the selection committee. Such letters may include careful evaluations of the teacher's effectiveness by his supervisor or principal, by his associates, or by local section members who have visited his classes. Letters from high school students are not acceptable.

Any member interested in submitting a name for consideration should contact any member of the Executive Committee.

MARCH, 1968

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CHEMICAL SAFETY NEWSLETTER

HIGH SCHOOL SAFETY SYMPOSIA — 1967

Since the first ACS sponsored symposium on *Safety in the High School Chemistry Laboratory* was organized in 1965 by the Central New Mexico Section, other local sections have been enthusiastically involving themselves in similar undertakings in their own districts. Participating ACS members have found an appreciative audience of students, teachers, and administrators as well as much personal satisfaction in sharing some of their own special knowledge, training and experience with the next generation of scientists and their instructors.

The need for providing our public schools with this type of service is beyond question. To suggest "let the schools themselves worry about chemical safety in the classroom" overlooks the almost unbelievable fact that the majority of public school students are being taught chemistry by teachers whose formal preparation in their subject often is lacking. For example, a recent survey made in Ohio showed that 18% of high school chemistry teachers and only 8% of the physics teachers had majored in the subjects they were teaching. Consequently, given the opportunity to discuss problems of chemical safety with "real, live practicing chemists," the enthusiastic response of the secondary school teachers to these symposia has been such as to indicate that a long unfulfilled need is now beginning to be satisfied. When it is further recognized that a new "crop" of students enter a chemistry laboratory for the first time in their lives each September, it is clear that even if the teachers were ever to become saturated with safety considerations, the job of indoctrinating students with proper attitudes toward laboratory work from the very start will be a never ending one. And finally one cannot dismiss the intangi-

ble encouragements to choosing a career in chemistry extended young people by these intimate contacts between themselves and professional chemists.

On October 14th in Santa Fe, New Mexico the Third Annual Symposium on Safety in the High School Chemistry Laboratory was held. It was sponsored by the Central New Mexico Section of the American Chemical Society in cooperation with the United States Atomic Energy Commission, Sandia Corporation, State Department of Education, College of Santa Fe, and the Santa Fe Public Schools. An interesting innovation introduced at the Santa Fe Symposium was the division of the afternoon program into the usual laboratory demonstrations for the students, and an optional panel discussion for the teachers. Teachers present for the first time tended to visit the laboratories with their students. The others found much new material of interest at the panel discussion; in particular this was found to be a convenient way of discussing some of the special hazards faced by chemistry teachers such as those arising from poorly ventilated laboratories, improper grounding of electrical equipment, etc. The discussion also covered such general topics as the advantages of designing safety into a chemical laboratory rather than correcting hazardous conditions afterwards. It was also pointed out that many safety problems arise in connection with the teachers' involvement as advisors to students on science fair projects.

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IMPORTANT LETTER

12 February 1968

SUBJECT: Maryland Section Award, 1968

THRU: Editor, Chesapeake Chemist

TO: All Members, Maryland Section, ACS

1. The Maryland Section Award was established in 1962 to recognize and honor, each year, a member of the Maryland Section for outstanding achievement in the field of chemistry. The achievement may be in pure or applied chemistry, chemical engineering or chemical education.

Recipients to date have included:

1962 Dr. E. Emmet Reid
1963 Dr. W. Mansfield Clark
1964 Dr. Alsoph H. Corwin
1965 Dr. John C. Krantz, Jr.
1966 Dr. Belle Otto Talbot
1967 Dr. Walter S. Koski

2. The Awards Committee would like to invite each member of the Section to participate in choosing the Maryland Chemist to receive this signal honor from his professional associates. We are asking each member to nominate a worthy candidate or possibly more than one for consideration. In making its selection, the Committee will consider nominations made in previous years as well as those received this year. Your active support is necessary in order to insure that all qualified candidates are brought to the attention of the Awards Committee.

3. Nominations may be submitted in any format but must include, in addition to the name and present position of the nominee, your specific reasons as to why this Section Member should be so honored.

4. Nominations should be submitted to the undersigned not later than 10 May 1968.

GEORGE M. STEINBERG
Chairman, Awards Committee
3111 Hatton Road
Baltimore, Maryland 21208

Tear-Out Dinner Reservation Form

There is enclosed \$_____ (\$3.50 per person)* for cocktails and dinner at Eudowood Caterers, Eudowood Plaza, on Wednesday, March 20, 1968 for the following persons.**

Name (Please Print or Typewrite.) Affiliation

*Please make checks payable to Maryland Section, ACS and mail together with reservation form to Mr. Allen Bednarczyk, McCormick and Co., Inc., 204 Wight Ave., Cockeysville, Md. 21030, or phone 666-3155, 666-3156.

**Return by March 19, 1968.

MEMBERSHIP CHANGES

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.

Kamal M. Abdo, Biochemistry Research, W. R. Grace and Co., Clarksville.
James L. Bernardi, 78 Broadway, Bel Air.

Maurice J. Bessman, Department of Biology, Johns Hopkins University, Baltimore.

Malcolm W. Cass, Department of Chemistry, Remsen Hall, Johns Hopkins University, Baltimore.

Donald A. Furey, Box 832, Edgewood.
Robert L. Furey, POB 106, Edgewood.
Frederick H. Gaskins, Box 26, Edgewood.

Stanley Philip Gulin, 100 Sherwood Ave., Baltimore.

Anne Marie Heider, Hilltop Rd., Rt. 7, Frederick.

Warren W. Hillstrom, Ballistic Res. Lab., Aberdeen Proving Ground.

Eugene M. Johnson, Jr., 2420 Bridgehampton Dr., Baltimore.

Joann E. Luecke, Box 124, RD 1, Havre de Grace.

Mary E. Manella, 1324 Burleigh Rd., Lutherville.

Mark M. Mueller, 1300 Crownfield Court, Baltimore.

Joseph Pitha, Johns Hopkins Univ., 615 N. Wolfe St., Baltimore.

Alan Arthur Schneider, 2713 Hanson Ave., Apt. 1C, Baltimore.

Richard Alan Wies, 629 Sussex Rd., Towson.

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DR. NICHOLAS J. TURRO

Dr. Nicholas J. Turro is Associate Professor of Chemistry at Columbia University. He received his B.A. from Wesleyan University in 1960 and his Ph.D. from California Institute of Technology in 1963. He then spent a year as a National Science Foundation post-doctoral fellow at Harvard University before becoming an Instructor at Columbia in 1964. Dr. Turro is presently a fellow of the Alfred P. Sloan Foundation.

In addition to over a score of research papers on various aspects of photochemical reactions, Dr. Turro has authored a book on the subject entitled "Molecular Photochemistry." His research interests include photochemistry, electronic spectroscopy, mass spectrometry, cycloaddition reactions, thermal rearrangements, small ring compounds, cyclopropanones, and energy transfer.

Dr. Turro is a consultant for the Organic Chemicals Division of the E. I. duPont de Nemours Company and is an editor and consultant for the W. A. Benjamin Publishing Company.

THE NATURE AND BEHAVIOR OF ORGANIC MOLECULES EXCITED BY LIGHT: PHOTOCHEMISTRY OF THE n, π^* STATES OF SIMPLE KETONES

In order to understand the photochemistry of organic molecules in solution, the chemical and physical properties of electronically excited states must be elucidated. The nature and behavior of the lowest excited states of organic molecules will be discussed in simple, workable terms. Then, employing these concepts, some selected photoreactions of the n, π^* states of simple ketones will be examined in detail.

PHOTOGRAPHER WANTED

The Maryland Section needs a volunteer to act as Section photographer for occasions such as the Remsen Award and the Maryland Chemist Award, and at other functions sponsored by the Section. Anyone interested in serving the Section in this way should contact Ann Morgan Cascorbi for further information, phone 825-3933.

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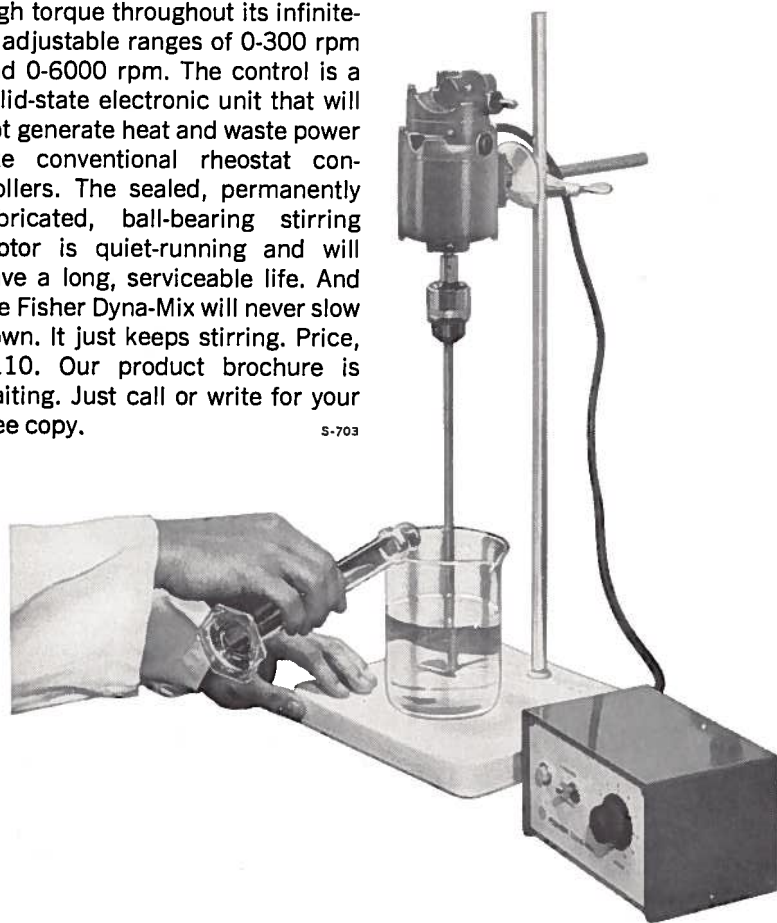
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APRIL MEETING

The featured speakers at the April Meeting of the Maryland Section are Dr. Roger Bates of the National Bureau of Standards who will discuss *Acid-Base Interactions in Alcohol-Water Media* at 5:30 P.M., and Dr. Herman F. Mark of the Polytechnic Institute of Brooklyn, who will talk on *New Polymers-New Uses* at 8:30 P.M. Further details of the meeting and dinner arrangements will be published in the April issue of the *Chesapeake Chemist*.

DR. JOHN M. LEONARD

Dr. John M. Leonard was born in Bradford, Pennsylvania. He received his Ph.D. at the Catholic University of America in Washington, D. C. in 1941. During the years 1942 to 1966 he worked in the Organic and Biological Chemistry branch of the Chemistry Division of the Naval Research Laboratory. Since 1966 Dr. Leonard has served as head of the Marine Biology and Biochemistry Branch of the Ocean Sciences Division of the Naval Research Laboratory.

BIOCHEMISTRY AND THE BRINY DEEP

The ocean is an interesting place, and not just because it is our ancestral home and the mirror of our present-day, personal biochemistry. Its microplankton deserve study as biochemical entities in their own right, and as the first stages of the whole food and energy chain of the sea. Planktonic growths can be involved both as causes and as effects in changes of the seawater environment. Though the ocean is relatively homogeneous, it is the small variations that make the big differences; chemical changes are not infrequently in the parts-per-billion range. This suggests the sensitivity of the organisms and the analytical difficulties that beset the oceanographer.

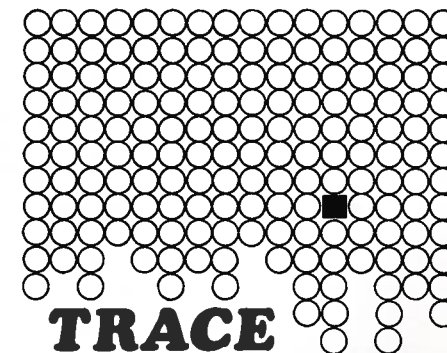
SYMPOSIUM ON THERMOPHYSICAL PROPERTIES

Representatives of ten nations will take an active part in the 4th Symposium on Thermophysical Properties to be held April 1-4, 1968, at the University of Maryland.

Fifty-one papers drawn from private industry, the academic world, and governmental entities are scheduled for presentation at the meeting, sponsored

by The American Society of Mechanical Engineers. U.S. engineers and scientists will give a total of 24 papers, with the Soviet Union and the United Kingdom to be represented by 10 and 7, respectively. In addition, representatives from Australia, Germany, Japan, Italy, Switzerland, Canada and India will contribute to the program. The four day symposium will cover a wide range of thermophysical areas.

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1968 MICROCHEMICAL WORKSHOP

The American Microchemical Society will conduct a Microchemical Workshop August 22 to 24 at The Pennsylvania State University.

The program will consist of morning lectures on a number of topics that are of current interest to the chemist, followed by afternoon sessions devoted to demonstrations of equipment and techniques, laboratory work sessions including instruction in the use of thermal microscopy, and discussion groups. The afternoon laboratory sessions will be in charge of the same lecturers who presented the theoretical aspects in the morning sessions.

Topics will include *The Theory and Application of Ion Specific Electrodes*, *Determination of Purity by Thermal Methods*, *Thermal Microscopy in the Pharmaceutical Industry*, and *Current Status and New Ideas in Fluorine Determination*. One day will also be devoted to the general topic of *Current Ideas and Practice in the Operation of Microchemical Laboratories*.

The facilities of Penn State will be utilized, including those of the College of Science, in addition to housing and food services. The total fee for the three-day session will be \$35.

In order to insure that each participant will receive full benefit of attendance and in view of the limited laboratory space available for the personalized work sessions, it will be necessary to limit attendance. Interested persons are urged to register early to insure their participation.

For further information regarding registration and housing write to:

Mr. David R. Schuckers
J. Orvis Keller Conference Center
The Pennsylvania State University
University Park, Pa. 16802.

For further information regarding the program write to:

Mr. Howard J. Francis, Jr.
Pennsalt Chemicals Corporation
900 First Avenue
King of Prussia, Pa. 19406.

MEETING-IN-MINIATURE

Members are asked to keep the afternoon of Friday, May 3, 1968 free so that they can attend the Meeting-in-Miniature at College Park, Maryland. The meeting is sponsored by the Maryland and Washington Sections of the American Chemical Society. Information on this meeting may be obtained from Howard J. Cohen, phone 335-8400, ext. 360.

1968 EASTERN ANALYTICAL SYMPOSIUM

The 1968 Eastern Analytical Symposium will be held November 13, 14 and 15 at the Statler Hilton Hotel, New York City. The program will consist of invited papers, an exposition of the latest instruments in the fields of analytical chemistry and spectroscopy, and a technical film program. There will also be an employment bureau available.

Further details will appear in a future issue of the *Chesapeake Chemist*.

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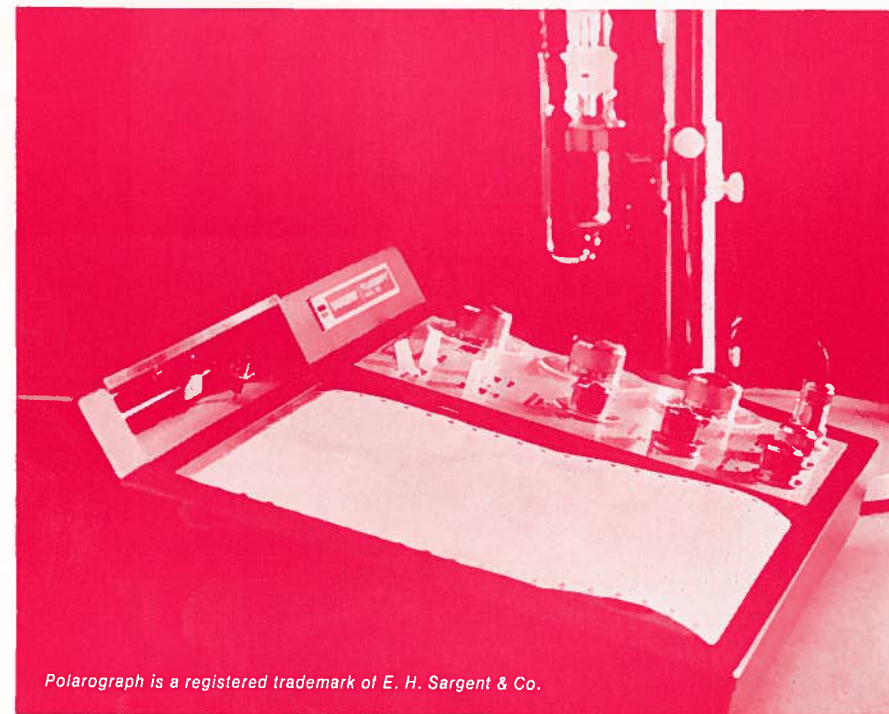
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