



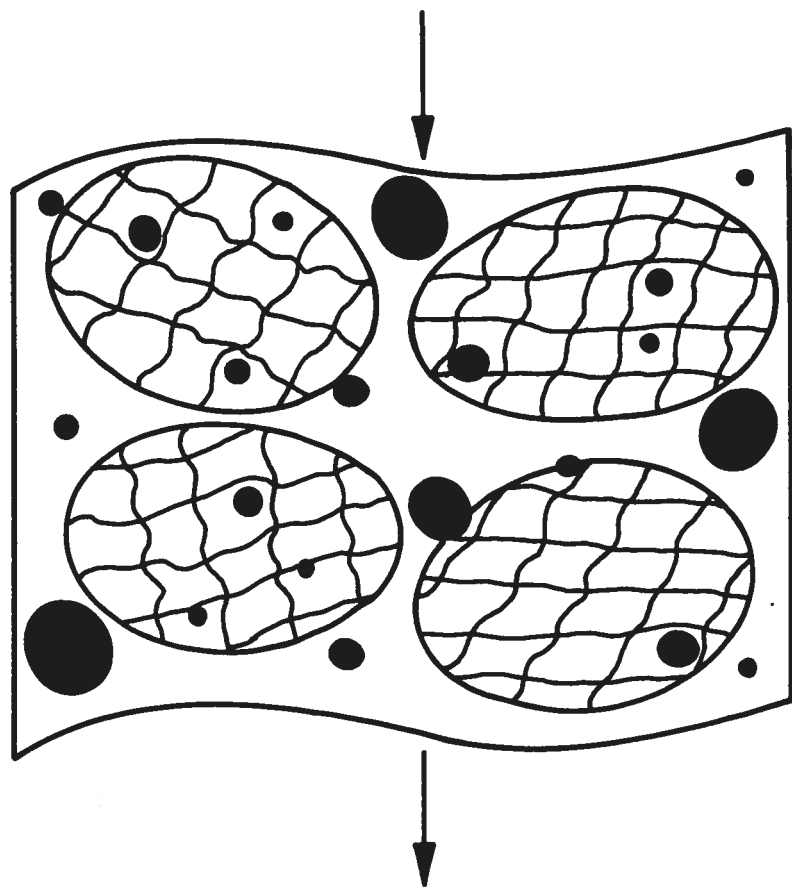
THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY

VOL. XXXI

NOVEMBER, 1975

NUMBER 8



YOUR COUNCILOR'S REPORT

Colleagues and Constituents: This column represents an effort to facilitate better communication between your Councilors and the members of the Maryland Section.

The Council met in plenary session in Chicago on August 27 from 8:30 a.m. to 5:00 p.m. and took action on some 12 items up for vote. In addition, a good portion of the morning session was devoted to the report of the Task Force on consideration of the Arthur D. Little Report. The following is a brief summary of my voting record on the items up for Council Action. Details of these items will appear soon in *C & E News*.

Motion	My Vote	Council Action
I. Responsive Member-Council-Board Relations	Recommit	Recommit
II. Ballot Counting Procedures	Yes	Yes
III. Nomination and Election Conditions	Yes	Yes
IV. Procedure for Amending Constitution and By-Laws	Yes	Yes
V. Change in Date for Submission of Annual Reports	Yes	Yes
VI. Funds Allotment to Local Sections - Constitution	Yes	Yes
VII. Section Request for Funds Allotment - By-Law Amendment to Above	Yes No	Yes Yes
VIII. National Affiliate	Yes	Yes
IX. Manner of Election: Deletion of "Competitive"	Yes Yes	Yes Yes
X. Referenda on Council Actions	No	No
XI. Approval or Rejection of Original Petitions	Recommit	Recommit
XII. Record Vote in Council	Recommit	Recommit

I considered items VIII and IX to be the most controversial and to be among the most important items facing the council.

Item VIII dealt with the question of establishing a new form of membership called a "National Affiliate". The previous provision in the constitution provided for Student, Local Section, Division or Corporation Affiliates. I believe that this new option will help the Society accommodate more people who are interested in chemical affairs but who are not eligible for full membership. This might also generate new revenues for both the National and the Local Sections. If you know of any people who have desired to become affiliated with the ACS but have not met the membership requirements, please ask them to contact the National Office for more details.

Cont'd on p. 6 ...



THE CHESAPEAKE CHEMIST

VOL. XXXI

NOVEMBER, 1975

NUMBER 8

EDITORIAL STAFF

Howard J. Cohen.....Editor
 Jo Lannon.....Editorial Assistant
 Glidden-Durkee, Div. of SCM
 3901 Hawkins Point Road
 Baltimore, Maryland 21226
 Phone: 633-6400
 Eli Freedman.....Associate Editor
 Ruth Larkin.....Editorial Assistant
 Ballistic Research Laboratories
 Aberdeen Proving Ground, MD 21005
 Phone: 484-0632 after 7:00 pm
 Linda M. Sweeting...Associate Editor
 Department of Chemistry
 Towson State College
 Baltimore, Maryland 21204

SECTION OFFICERS

A. Allen Bednarczyk.....Chairman
 Naarden, Incorporated
 10 Painters Mill Road
 Owings Mills, MD 21117
 John L. Kolbe.....Chairman-Elect
 Martin-Marietta Laboratories
 1450 S. Rolling Road
 Baltimore, Maryland 21227
 James Leslie.....Secretary
 University of Maryland
 636 W. Lombard Street
 Baltimore, Maryland 21201
 Ernest F. Silversmith.....Treasurer
 Chemistry Department
 Morgan State College
 Baltimore, Maryland 21212

COUNCILLORS

F. Timothy Parr (to 1977)
 Donald E. Jones (alternate)

COMMITTEE CHAIRPEOPLE - 1975

Awards and National Nominations
Joyce J. Kaufman
 The Johns Hopkins University
 366-3300
 Chemical Education.....Melvin Miller
 Loyola College
 323-1010
 Program.....John Kolbe
 Martin-Marietta Res. Labs.
 247-0700
 House.....T. Berenthien
 Edgewood Arsenal
 671-3296
Ronald Kassel
 Edgewood Arsenal
 671-2761
 Member Assistance....Joseph Cogliano
 W. R. Grace & Co.
 531-5711
 Public Relations.....Carl Minnier
 Essex Community College
 682-6000, x 316
 Membership.....Frances Hummel
 Alcolac, Inc.
 355-2600
 Publicity.....Dave Roswell
Norbert Zaczek
 Loyola College
 323-1010
 Remsen Award.....Brown Murr
 The Johns Hopkins University
 366-3300
 MARM-1978.....William Galetto
 McCormick & Co.
 667-7481
 Finance.....William Stahl
 McCormick & Co.
 667-7474

COVER:

Porous Chromatographic Column
 Particles and Dissolved
 Polymer Molecules.
 (Courtesy Dupont)

BUSINESS MANAGER

Kent Zeller
 McCormick & Co., Inc.
 Hunt Valley, Maryland 21031
 Phone: 667-7432

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to Howard J. Cohen, Glidden-Durkee, Div. of SCM Corp., 3901 Hawkins Point Road, Baltimore, Md. 21226. Phone 633-6400. Address advertising inquiries and copy to Kent R. Zeller, McCormick & Co., Inc., 204 Wight Ave., Hunt Valley, Md. 21031.

DONALD BLY

Donald D. Bly received the B.A. degree in 1958 from Kenyon College, Gambier, Ohio. From Kenyon he went to Purdue University where he was awarded an M.S. degree in 1961 and a Ph.D. in analytical chemistry in 1962. He served as an Eli Lilly postdoctoral fellow in 1962-1963 at Purdue.

Dr. Bly was employed by the Carothers Laboratory of Dupont in 1963; in 1967 he was appointed section supervisor in the physical and analytical division of the Central Research and Development (CR&D) Department. He has been active in polymer characterization at Dupont and has published several articles on gel permeation chromatography including a review in *Science*, (1970) and a chapter in *Physical Methods of Macromolecular Research* (1972).

He has recently transferred to the spectroscopy division of CR&D where he is supervisor in mass spectroscopy as well as gel permeation chromatography and gas chromatography.

HIGH PERFORMANCE GEL PERMEATION CHROMATOGRAPHY

In the 1960's gel permeation chromatography revolutionized the characterization of polymers for molecular weight (MW), molecular weight distribution (MWD), and composition distribution. The technique reduced analysis times from weeks to hours. For several years further development of GPC was at a low level but in the last two years a great new resurgence has begun. Now analysis times are being reduced to 20 minutes and less.

The present state of the art and the potential of GPC can best be seen from a total-system overview. As predicted by theory, performance has been substantially improved by the development of rigid, small-particle supports which can be packed to give very efficient columns. On the equipment side new high pressure, low volume, well damped, constant volume pumps are needed and are being developed. More accurate and simplified MW calibration procedures have been developed as well as automated, computerized data acquisition systems.

Dr. Bly will discuss these developments incorporating many findings from his own laboratories where high performance GPC is in operation.

ROBERT B. GREEN

Robert B. Green is a National Research Council postdoctoral research associate in the Special Analytical Instrumentation Section of the Analytical Chemistry Division at the National Bureau of Standards. He received his B.S. from Oklahoma State University in 1966 and his Ph.D. in Analytical Chemistry in 1974 from Ohio University. In the years between 1966 and 1970 he was a chemist with Monsanto Company in Texas City, Texas, and Jefferson Chemical Co., Inc., in Austin, Texas. Dr. Green's research interests involve the application of lasers to the solution of problems in analytical chemistry. He is a member of the American Chemical Society, Phi Lambda Upsilon, and Sigma Xi.

TUNABLE LASERS IN ANALYTICAL CHEMISTRY

Initially lasers were viewed by many as a "solution in search of a problem." Since that time many interesting and innovative experiments have been performed in all disciplines of chemistry and physics which exploit this unique light source. Laser technology is now struggling to keep pace with the experimentalists' mandate.

Tunable dye lasers can now generate coherent radiation from 1000 to 230nm and have gained wide acceptance as high intensity, narrow linewidth, coherent sources. The properties and principles of these lasers will be examined as well as the instrumentation involved. The application of tunable lasers to problems in analytical chemistry will be discussed with particular emphasis on the use of a tunable dye laser as an excitation source for atomic fluorescence, the enhanced detection of species within a dye laser resonant cavity, laser fluorimetry, and isotope separation.

NOVEMBER MEETING

DATE:

Wednesday, November 19, 1975

PLACE:

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

SPEAKERS AND TOPICS:

5:30 PM
Dr. Donald Bly
E. I. Dupont de Nemours & Co., Inc.
"Recent Developments in High
Performance Gel Permeation"

8:30 PM
Dr. Robert Green
National Bureau of Standards
"Chemistry with Tunable
Dye Lasers"

SOCIAL HOUR:

There will be a social hour
after the meeting. Refresh-
ments will be served.



DR. ROBERT GREEN

COCKTAILS AND DINNER:

Eudowood Gardens Dining Room
Cocktails 6:30-7:15 courtesy of
Dupont Instruments Div
Hot buffet dinner (7:15) \$5.50
per person. Retired chemists,
students and their spouses may
attend the dinner at \$3.50 each.
Reservations are necessary for
the dinner and should be made
with

ACS RESERVATIONS
c/o Martin-Marietta Laboratories

USE THE CONVENIENT FORM THAT
APPEARS ELSEWHERE IN THIS ISSUE

(Or phone: 247-0700, x283 or 261.)

It is not necessary to be a
member of the American Chemical
Society to attend the dinner or
the talks, and the talks may be
attended without attending the
dinner. You are invited to
bring your wife and friends to
both the dinner and the meeting.



DR. DONALD BLY

PROGRAM HIGHLIGHTS, 1975-76

Date	Theme	Location
Dec 17	Maryland Chemist Award	Notre Dame
Jan 21	Industrial Chemistry	Eudowood
Feb 18	Medicinal Chemistry	Eudowood
Mar 17	Organic Synthesis	Eudowood
Apr 21	Chemical Education	Notre Dame
May 19(?)	Remsen Award	JHU

ELECTION NOTICE

Prior to the talk at 8:30pm, the election will be held for officers, councilors, and members-at-large of the Executive Committee to serve the Maryland Section in 1975. The Nominating Committee, consisting of Tom Simmons, Carl Minnier, Brown Murr, Robert Schneider, and Yale Caplan (Chairman), has presented the following slate of candidates. Additional nominations may be received from the floor with the understanding that any nominee must have previously given his or her consent.

<i>Chairman-Elect.</i> . . . Ernest Silversmith		<i>Members-at-large:</i>
<i>Secretary</i> James Leslie		Clara Adams
<i>Treasurer</i> Howard Cohen		Robert Schneider
<i>Councilors</i> Donald Jones	76-78	Luther Turner
	David Roswell	Elwin Penski
		Richard Smith
<i>Alternate</i> Thomas Simmons	76-78	
<i>Councilors</i>	Patrick Callery	76-78
	Alvin Bober	76-77*

*To fill out a vacated term

...Cont'd from p. 2

Item IX dealt with changes in the Constitution with respect to the selection of Councilors. This generated quite a bit of discussion on the floor. An amendment was proposed to delete the phrase "in a competitive election". I spoke in favor of this deletion basing my argument on the observation that Federal, State, and Local election procedures do not require an election to be competitive. If they did, then it would not be possible to run unopposed. I also do not feel that the National Office should dictate to the Local Sections the manner in which the election of the Councilors should take place. Different circumstances prevail in different Sections.

Finally, I will be wearing a yellow "Councilor" ribbon (if I don't forget) at our Local Section meetings if you wish to express your opinions on ACS affairs. Also, please feel free to communicate with me by mail or phone:

Dr. Carl E. Minnier
Department of Chemistry
Essex Community College
Baltimore County, Maryland 21237
682-6000, Ext. 513

ACS AND PHOTOCOPYING

As a chemist and as a publisher, as a member of the Ad Hoc Committee on Copyright Problems of the ACS, and as a member of the working group of the United States Copyright Office to Resolve Reproduction Rights, I would like to comment on the editorial which appeared in the September issue.

The concept of publishing is based on the idea that the user should pay his fair share for the material that he uses. It is only through mass production of manuscripts through the printing process that the unit cost can be placed anywhere near the reach of the average chemist. The cost of individual scribes would be astronomical. There is, however, a start-up cost, mainly the translation of the original manuscript into a form that can be mass produced. Whether this be photographic plates or set composition, this cost cannot be avoided. Further, there are additional costs such as paper and delivery to a specified address.

Certainly it is less expensive to obtain an automobile by paying the parking charges for someone else's car and driving off with it than it is to pay the retail price at a dealer. This is the comparison that is made in the editorial. The photocopy price merely reproduces the work that has already been delivered, edited, and mass produced somewhere else at an enormous expense. Who profits from this? Obviously the producers of the photocopy machines and their lessees. What ACS and indeed all publishers are asking is that some of this profit be shared with the people who had the initial cost of producing the material. If some of this money were returned to the publishers, the subscription prices would be stabilized.

The librarians who are in charge of these machines have adamantly stated that they refuse to be collection agencies for the publishers because it would require too much paper work. Under the auspices of the United States Copyright Office, a number of mechanized plans requiring virtually no paper work on the part of the libraries but requiring them to pay a portion of their rental for photocopy machines to the publishers through a central clearing house have been developed. As a matter of fact, efforts are now under way to run the system experimentally to see if it is as feasible as the publishers believe it to be and to work out any bugs inherent in the system. If, as most of us believe, this system can work then chemists will be free to reproduce legally--and, if they feel, cheaply--any article in any technical journal or book to their hearts' content. Furthermore, it will probably result in the stabilization of text prices as well as journal prices. The foot dragging attributed to the publishers has picked the wrong foot. It has been the library community that has played "catch me if you can" to the disservice of their users, the publishers, and their reputation as ethical people. In conclusion, if the American Chemical Society or anyone involved in compiling, editing, or distributing technical information is forced into the position where they spend more money than they can retrieve, they will simply cease that operation. The net result is that we will have little use for librarians and chemists will retreat to the eighteenth century when they worked in splendid isolation.

--Albert L. Batik
Director of Publication Operations
American Society for Testing and
Materials
Philadelphia

MARYLAND SECTION NEWS

MORGAN STATE UNIVERSITY

Professor Clara I. Adams, an At-Large Member of the Executive Committee of the Maryland Section, and a former Chairperson of the Department of Chemistry, is now Dean of the Graduate School at MSU. She is the third department member to attain a deanship in the last eight years. (Prof Harold Delaney and Prof Horace A. Judson were the others). Prof John P. Brown is the Acting Chairperson of the Department.

MSU is proud to note that Roosevelt Shaw, an alumnus of the department, recently received the degree of Doctor of Philosophy from the Johns Hopkins University; Prof Brown Murr was his thesis adviser. Dr. Shaw is now on the teaching staff of Coppin State College.

INDUSTRIAL CHEMICALS WANTED

We solicit your offerings of surplus, obsolete, and off-specification industrial chemicals, solvents, plastics, packaging, equipment, consumer goods of a chemical nature, and waste chemical streams.

Memo Trading Co., Inc.
1300 Taylors Lane

Cinnaminson, N.J. 08077

215-743-4600 M. Coppersmith
609-829-5353 R. Bernstein

NOMINATIONS WANTED FOR ACS AWARDS IN HIGH SCHOOL CHEMISTRY TEACHING

The ACS has announced the start of the annual campaign for its 1976 Regional Awards in High School Chemistry Teaching. Recipients of the 1976 awards become candidates for the 1977 James Bryant Conant Award in high school chemistry teaching.

Candidates for ACS Regional Awards can be nominated only by local sections. All members of the Maryland Section are urged to seek out good candidates for this award. Nominations should be forwarded to the Chairperson of the Awards Committee, Dr. Joyce Kaufman, Department of Chemistry, The Johns Hopkins University, Baltimore, MD 21218.

When Did YOU _____
Last Attend An _____
ACS Meeting?

ORGANIC MICROANALYSES

GALBRAITH LABORATORIES, INC.

P. O. Box 4187
Knoxville, Tenn. 37921

(615) 546-1335

HARRY W. GALBRAITH, Ph.D.



The Tenth Middle Atlantic Regional Meeting in Philadelphia

10th MARM

16-19 February, 1976

THE MARRIOTT MOTOR HOTEL
City Line Avenue and Monument Road

General Chairman.....J. F. Gall, Philadelphia College of Textiles and Science
Program Chairman.....J. R. Williams, Temple University
Exposition Chairman.....W. C. Pfefferle, Englehard Minerals & Chemical Corp.

Contributed papers are welcome in the following divisions:

Analytical Chemistry	R. L. Grob, Villanova University
Chemical Education	J. S. Schmuckler and F. X. Sutman, Temple University
Catalysis	To be announced
Chemical Marketing and Economics	To be announced
Chemical Documentation	H. Skolnik, Hercules, Inc.
Chemical Technicians	D. Wonchoba, DuPont
Computers in Chemistry	D. Pensak, DuPont
Fiber Chemistry	To be announced
Fluorine Chemistry	To be announced
Inorganic Chemistry	T. Brill, University of Delaware
Medicinal Chemistry	G. L. Dunn, SKF Laboratories
Organic Chemistry	G. R. Krow, Temple University
Physical Chemistry	E. R. Nixon and R. Hochstrasser, University of Pennsylvania
Polymer Chemistry	Melvin D. Hurwitz, Rohm & Haas Co.
Undergraduate Research	John R. Williams, Temple University

Deadline for Abstracts is November 1, 1975

Address:

10th MARM
236 Spruce Street Wing
Department of Chemistry
University of Pennsylvania
Philadelphia, Pa. 19174

SPONSORING LOCAL SECTIONS

Central Pennsylvania	Monmouth County	Susquehanna Valley
Delaware	Philadelphia	Trenton
Lehigh Valley	Princeton	Washington
Maryland	Southeastern Pennsylvania	Western Maryland
	South Jersey	

----- TEAR-OUT DINNER RESERVATION FORM -----

Enclosed is \$ _____ (\$5.50 per person)* for dinner reservations at Eudowood Caterers, Eudowood Plaza, for the following persons**.

NAME	(Please print or type)	AFFILIATION
_____	_____	_____
_____	_____	_____

*Please make check payable to Maryland Section, ACS, and mail together with reservation form to Dr. John Kolbe, c/o Martin-Marietta Laboratories, 1450 S. Rolling Road, Baltimore, MD 21227. Or phone 247-0700, ext. 283 or 261. ASK FOR ACS RESERVATIONS.

**Return by Friday preceding next meeting.

NICK NACKS

by Alan C. Nixon

SCIENTISTS AND ENGINEERS OF AMERICA, UNITE

The Committee of Scientific Society Presidents and the Association for Cooperation in Engineering held their second joint meeting in Chicago in early August. Our joint sessions included an after-luncheon talk by Ed David, former Presidential Advisor, and a discussion session with Glenn Schlede, Associate Director of the Domestic Council. In both cases the chief topic of discussion was national policy for science and technology advice and management in the White House and the government generally. A lot of the discussion was focused on the two bills now before the House Committee on Science and Technology--the original Teague/Mosher Bill, HR 4461, and the Committee's adaptation of the Administration bill brought down by Vice President Rockefeller, HR 9058. The original committee bill, 4461, called for not only a five member Council on Science and Technology, but also a department that would bring together most of the agencies with a heavy science and technology component, such as ERDA, the old AEC, NSF, Bureau of Standards, and NOAA, as well as calling for a public corporation on science and technology information. In constructing the new bill, 9058, they started with the sketchy outline that the Administration supplied and expanded it considerably. It calls for an Office of Science and Technology Policy headed by an executive director, who may have up to four assistant directors. The director is not specifically given the title of science advisor but he is defined as "the President's chief policy advisor and assistant with respect to scientific and technological matters." The duties (and pay) of the director and the office are spelled out in considerable detail. In order to get some of the other things that were in 4461, the House committee included Title III that provides for a "federal science and technology survey committee" consisting of between 5 and 12 people "exceptionally qualified and distinguished in science, engineering, or closely related fields or in public administration on affairs", who would prepare, at the end of fifteen months, a report after the committee had carried out its duty to "survey, examine, and analyze the total context of the federal science and technology effort including missions, goals, personnel funding organizations, facilities and activities in general." In both 4461 and 9058, the committee had inserted a section, Title I, National Science Policy, in which they spell out the findings, principles, and means of implementation of science policy as determined by the committee as a result of a series of hearings stretching over about two years. A very good statement.

Mr. Schlede strongly favored passage of 9058 and urged that the members and the organizations support the passage of this bill but David was rather skeptical. He pointed out that by the time a bill had gotten through Congress, it probably would be in '76 at the earliest that a director of the office could be appointed and, in view of the political realities for next year, it would be difficult to get somebody of sufficient stature to take the office and to get it operating with any degree of efficiency before the political process overran it. He tended to favor the committee's bill, 4461. He said he had been persuaded to favor the department approach by arguments that I had made in favor of it in 1973 while he was still serving as science advisor. In view of the time element, it would seem that the best thing that could be done would be for Congress to examine the matter in depth and to appoint their own study group of experts to examine the matters of whether a Department of Science and Technology should be set up and whether a federal corporation on science and technology information should be implemented. If such a study group could be appointed in the near future, it should be possible for them to have their recommendations ready early in 1977 so that the new Congress and Administration could put together a bill which would be adequate to serve the country's needs.

LIFE GOES ON FROM 30

This could be either good or bad news. A recent University of California study points out that the belief that old age ushers in massive psychological decline and drastic changes in life-style doesn't square with the facts. It points out that the more realistic way to tell how a person will be at 70 is they take a look at the way they were at 30. The study is reported in a new book, *From Thirty to Seventy*, by H. F. Maas and J. A. Kuypers (Jossey-Bass, inc., S. F.). While this was a fairly narrow study, including only 142 mostly middle class residents of S. F. Bay area over a forty year span, they concluded "old age merely continued what earlier years had launched."

While they drew various other conclusions in their study, one of the main messages that comes through is the necessity for not treating elderly people as a uniform group. Programs, plans, and procedures for dealing with our mature citizens should have flexibility with maximum opportunities for the people involved to do their own thing. Even in their small group they found 10 diverse life-styles and seven contrasting personality types. Also, they said sex at 70 is still significant.

INTERESTING ITEMS

"Capsule Calendar" of the Tenth Intersociety Energy Conference noted that Dr. Dixy Lee Ray, Assistant Secretary of State, was to be its featured speaker. This, of course, was set up before Dr. Ray departed, all guns firing, from her landlocked lagoon in a backwater of the Kissinger kompond. In the printing of the calendar, the word "Featured" was set up on the same line in the next column to the word "departure" (indicating the breakup of the conference on the next day) so that when one glanced at the page one caught the message "Featured Departure"! The printer must have ESP.

**AT
MACALASTER BICKNELL
YOU CAN SPECIFY
"BRAND NAMES"
OF THE INDUSTRY
... Laboratory and Scientific
--- that is**

"Consider Our Warehouse Stock Your Personal Inventory"



MACALASTER BICKNELL CO. OF N. J., INC.

NORTH AND DEPOT STREETS, MILLVILLE, N. J. 08332
TOLL FREE TELEPHONE 1-800-257-8405

The Chesapeake Chemist
University of Maryland
636 W. Lombard Street
Baltimore, Maryland 21201

Dr. Yale Howard Caplan
8100 Tapscott Court
Pikesville, Md. 21203

Nonprofit Org.
U. S. Postage
PAID
Baltimore, Md.
Permit No. 2917

PLEASE DO NOT DELAY — DATED NOTICE INSIDE



P.O. BOX 3536, WILM., DE 19807 (302) 999-9133, (302) 999-0927

SPECIALISTS IN MICROSTRUCTURAL ANALYSIS

**MICRON, INC.
ANNOUNCES A NEW SERVICE!**

“ESCA”

Electron Spectroscopy For Chemical Analysis

- Analysis of surface layers 20-50A thick
 - Detection of all elements except hydrogen
 - Chemical bonding information
 - In depth analysis via ion etching

OTHER IN-HOUSE ANALYTICAL SERVICES INCLUDE:

Scanning electron microscopy

Quantitative image analysis

Electron probe analysis

Optical microscopy

Transmission electron microscopy

X-ray diffraction