



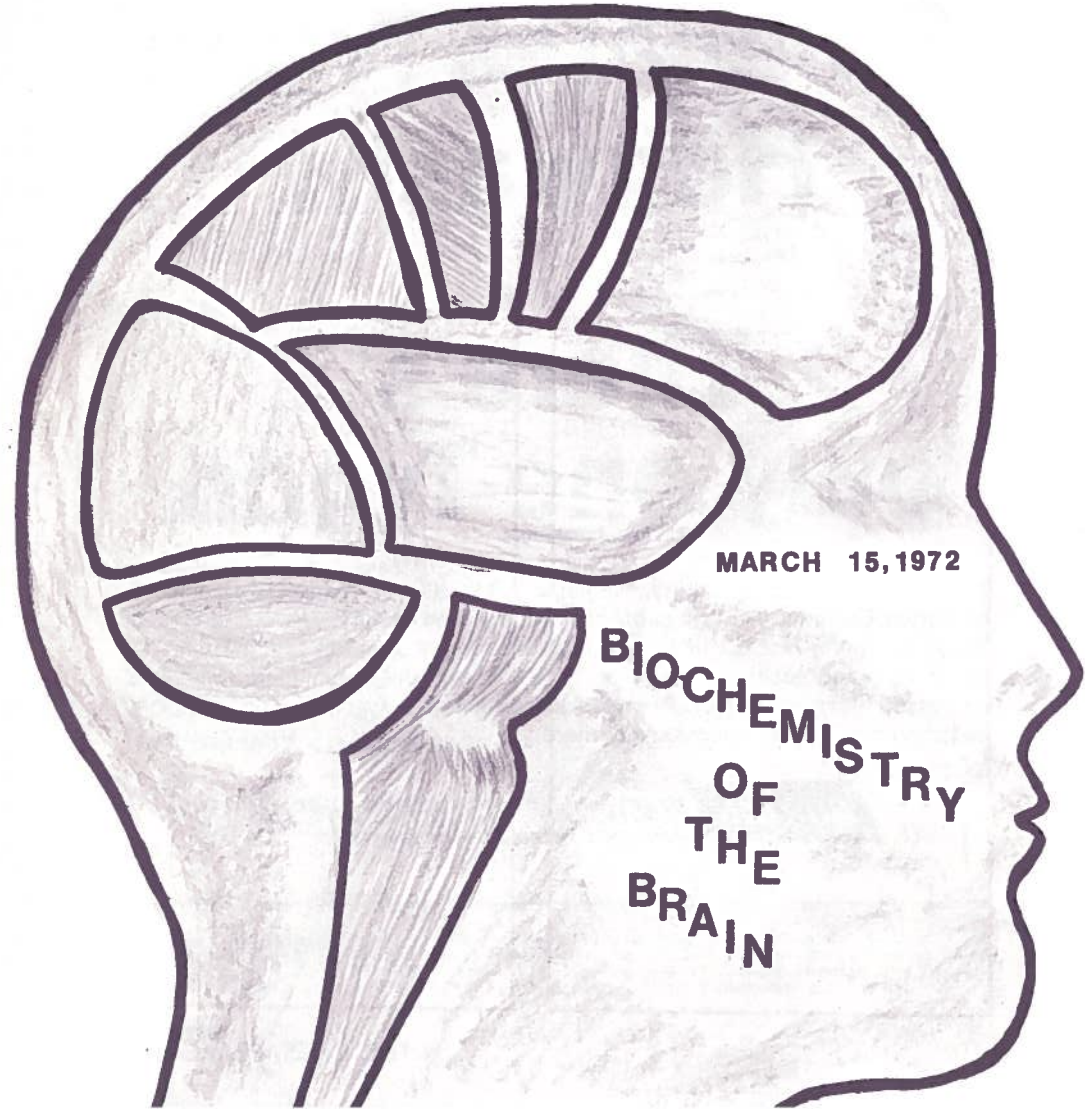
THE **CHESAPEAKE  
CHEMIST**

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XXVIII

MARCH, 1972

NUMBER 3



MARCH 15, 1972

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OF  
THE  
BRAIN

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# THE CHESAPEAKE CHEMIST

VOL. XXVIII

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NUMBER 3

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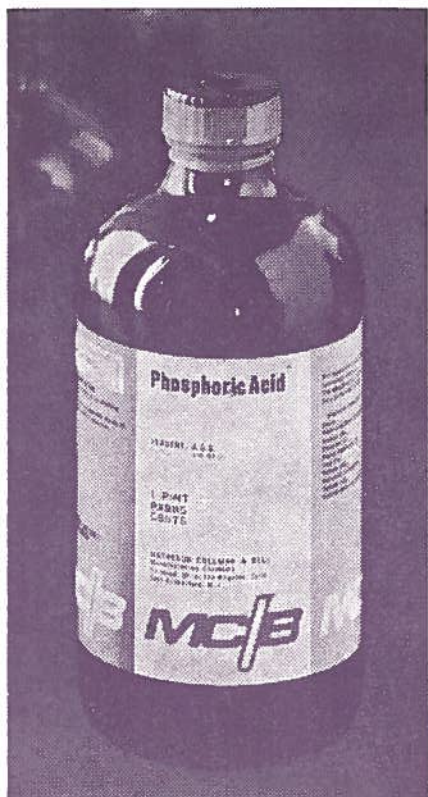
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## MARCH MEETING

### BIOCHEMISTRY OF THE BRAIN



DR. JULIUS AXELROD

#### DATE:

WEDNESDAY, MARCH 15, 1972

#### SPEAKERS AND TOPICS:

5:30 P.M.

Dr. Richard Wyatt, N.I.H.

"Recent Biochemical Studies of Schizophrenia and the Indolamines."

8:30 P.M.

Dr. Julius Axelrod, N.I.H.

"Biochemistry of Catecholamines."

#### PLACE:

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

#### COCKTAILS AND DINNER:

Eudowood Gardens. Price is \$5.25 per person for cocktails (6:30-7:15, unlimited quantity) and hot buffet dinner (7:15). Retired members, students and their spouses may attend the dinner for \$3.00. Reservations are necessary for the dinner, and should be made with Mr. Allen Bednarczyk, McCormick and Co., Inc., 204 Wight Avenue, Hunt Valley, Md. 21031, phone 666-3155, by Friday preceeding meeting. It is not necessary to be a member of the American Chemical Society to attend the dinner and/or the talks.

#### SOCIAL HOUR:

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

When Did YOU

Last Attend An

ACS Meeting?



## EXECUTIVE COMMITTEE MINUTES

Minutes of the Executive Committee Meeting of the Maryland Section of the American Chemical Society held on January 8, 1972, at Loyola College.

The meeting was called to order by the Chairman, Dr. J. Kaufman. Present were: H. Aaron, P.W. Bachman, A. Bednarczyk, T.C. Berenthien, Y.H. Caplan, J. Cogliano, W.G. Galetto, P. Johnson, R.J. Kassel, J.J. Kaufman, B.J. Kokes, M.P. Miller, T. Parr, D.F. Roswell, E.F. Silversmith, T.C. Simmons, L. Weber, and K.R. Zeller.

The minutes of the meeting held November 8, 1971 were read by Dr. H. Aaron. They were approved as read.

Mr. T. Berenthien gave the Treasurer's Report. He reported that our special scholarship fund has a current balance of \$1,079.15. Therefore another \$1000 will be needed from the Maryland Section to support one student for another half year and the other student for another 1½ years. This is about as originally planned. The estimated income for 1972 is approximately equal to the estimated expenses. Mr. Berenthien's report was approved.

Dr. Miller is planning a program for the Education Committee. Mr. Bednarczyk suggested that short courses be given. Dr. Miller stated that there was poor response to the recent poll on short courses but that he may try again.

Dr. Kaufman announced the appointment of a new Government Advisory Liaison Committee. Dr. George Braude will be the chairman. This committee will provide liaison between the Section and Government officials on matters such as jobs, pollution, etc.

A new Professional Relations Committee under Dr. Paul Bachman was suggested. Dr. Bachman outlined his ideas as to the function of such a committee. After some discussion, Dr. Kokes moved that "a Professional Relations Committee be created in order to provide liaison with research management and to enter into meaningful dialogue with them." Dr. Kokes'

motion was approved unanimously. Drs. Kaufman and Cogliano suggested that we also have a Member Assistance Committee. Dr. Kokes moved the creation of this committee which would "provide information on opportunities for chemists in the Section environs and possibly supply contacts and provide professional assistance as required." This motion also passed unanimously.

Dr. Kaufman announced that Drs. Ciapetta, Zaczek, Leninger and Klein are currently working with Dr. Robert Parr on the Remsen Award Committee.

Dr. Caplan reported that the Chesapeake Chemist will operate at a deficit of approximately \$100 per issue for the next five issues.

Dr. Simmons is looking into the matter of sites for our monthly meetings. No decision on this was reached. The meeting was adjourned.

Respectfully submitted  
Ernest F. Silversmith  
Secretary

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

APRIL MEETING  
TOUR OF U. M. B. C.  
APRIL 19, 1972

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THE CHESAPEAKE CHEMIST

## JULIUS AXELROD

Julius Axelrod was born on May 30, 1912 in New York City. In 1933, he received his B.S. degree from City College of New York, in 1941, his M. A. from New York University and his Ph.D. from George Washington University in 1955.

In 1933, Dr. Axelrod began working as a Laboratory Assistant in the Department of Bacteriology at the New York University Medical School. Two years later, he accepted a position as Chemist at the Laboratory of Industrial Hygiene, leaving in 1946 to become Research Associate, third New York University Research Division, Goldwater Memorial Hospital.

In 1949, Dr. Axelrod began his career at the National Institutes of Health, National Heart Institute and in 1953, he was promoted to Senior Chemist. In 1955, Dr. Axelrod assumed the position he presently holds as Chief, Section of Pharmacology, Laboratory of Clinical Science, National Institute of Mental Health, Health Services and Mental Health Administration, Department of Health, Education and Welfare.

Dr. Axelrod has received honorary degrees from the University of Chicago (1966), George Washington University (1971), the Medical College of Wisconsin (1971), and New York University (1971). Among his many other honors and awards are included the Otto Loewi Memorial Lecture (New York University, 1964), the Distinguished Research Award (Association for Research on Nervous and Mental Diseases 1965), the Gairdner Foundation Award (1967), Superior Service Award (Dept. of Health, Education and Welfare, 1968), Albert Einstein Achievement Award (Yeshiva University, 1971), and the Arnold D. Welch Lecturer (Yale University 1971). Most notable among Dr. Axelrod's many achievements was his being awarded the 1970 Nobel Prize for Physiology or Medicine.

Among Dr. Axelrod's Professional Society memberships are included the American Chemical Society, the Amer-

MARCH, 1972

ican Society of Biological Chemists, the American Association for the Advancement of Science and the National Academy of Sciences. Dr. Axelrod has also served or is presently serving on the Editorial Boards of numerous publications including Journal of Medicinal Chemistry, Journal of Neurobiology, Pharmacological Research Communications, Journal of Neurochemistry and the Journal of Neurovisceral Relations.

## BIOCHEMISTRY OF CATECHOLAMINES

Catecholamines are synthesized as follows: tyrosine ---> dopa ---> dopamine ---> noradrenaline ---> adrenaline. The first three steps take place within the sympathetic neurone and adrenal medulla and the final step occurs almost exclusively in the adrenal medulla. The biosynthesis of noradrenaline is controlled by a variety of mechanisms involving nerve impulses and hormones. Noradrenaline serves as a neurotransmitter for peripheral and central sympathetic neurones. It is stored in dense core vesicles in nerve terminals. Upon depolarization of the nerve, noradrenaline is released by a process of exocytosis in which it is discharged from the neurone together with the soluble contents of the vesicle. The release process requires  $Ca^{++}$  as well as neurotubules and microfilaments. Noradrenaline is inactivated by a variety of processes including physical removal by the circulation, enzymatic O-methylation by catechol-O-methyl transferase, deamination by monoamine oxidase and reuptake into the sympathetic neurone. The latter process is the most important mechanism for the rapid termination of the actions of the neurotransmitter. Understanding the fate of the neurotransmitter noradrenaline has made it possible to explain the actions of many adrenergic drugs and disease states.

## COPY DEADLINE

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

## RICHARD WYATT

Richard Wyatt was born in Los Angeles, California in 1939. He graduated from Johns Hopkins University Medical School in 1964 and served his internship in pediatrics at Western Reserve University. Dr. Wyatt's residency in psychiatry was served at Harvard University. He is a Board Certified Psychiatrist.

Dr. Wyatt has been with the National Institutes of Health since 1968 where he presently holds the position of Chief, Section of Clinical Studies, Laboratory of Clinical Psychopharmacology.

## RECENT BIOCHEMICAL STUDIES OF SCHIZOPHRENIA AND THE INDOLAMINES

Since 1952, the indolamines, particularly serotonin and N,N-dimethyl tryptamine (DMT) have been implicated in schizophrenia. No evidence has been accrued which clearly identifies an indolamine abnormality, but we are carefully reviewing the possibility. Evidence derived from both sleep studies and the finding that serotonin counters the psychotomimetic effects of LSD and DMT suggested that a therapeutic trial of the serotonin precursor 5-HTP was indicated. Such a trial is currently taking place and results indicate that 5-HTP when compared to placebo has some possible effects.

## EDITORIAL

The Maryland Section is indebted to Dr. Wyatt for accepting the speaker's role on such short notice due to the death of the scheduled speaker Dr. D. H. Efron. W.G.G.

COVER DESIGN  
BY  
JANICE WESTON

## MEMBERSHIP CHANGES

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 Appelbaum, Velvet Ridge Road, Owings Mills, Md.  
Paul S. Bachorik, Jr., J.H.U., Baltimore, Md.  
Winston Nicholson Brundige, Woodshole Road, Baltimore, Md.  
Virgilio T. Bulanagui, Bayner Road, Baltimore, Md.  
Gary Jim Calton, U. of Md. Hosp., Baltimore, Md.  
Dr. David R. Cross, West. Md. Coll., Westminster, Md.  
Paul H. Dan, Rolling Bend Road, Baltimore, Md.

(Continued on Page 9)

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## MEMBERSHIP CHANGES

(Continued from Page 8)

Dr. George D. Duda, Albeth Road, Marriottsville, Md.  
Daniel Edward Gilbert, Lido Drive, Annapolis, Md.  
John William Hayes, Jr., E. Belvedere Ave., Baltimore, Md.  
Gary Lee Henriksen, Crofton Parkway, Crofton, Md.  
Br. Richard C. Incontro CFX, Edmondson Ave., Baltimore, Md.  
George Franklin Johnson, Johns Hopkins Hosp., Baltimore, Md.  
Leroy V. Jones, Rugby Road, Arnold, Md.  
Rodney William Kingirski, Porsey Run Road, Jessup, Md.  
Dr. Ved Parkash Kukreja, N. Market St., Frederick, Md.  
Sterling F. Lewis, New Market, Md.  
John Joseph Martin, Edgewood, Md.  
Mrs. Joyce S. Myers, E. Linkwood Rd., Baltimore, Md.  
John Nakoneczny, Colmar Gardens Dr., Baltimore, Md.  
Thomas Edward Nowlin, Monticello Ct., Edgewood, Md.  
George Bret Oglesby, U.S.N.A., Annapolis, Md.  
Neil Leslie Sass, Edgewood Arsenal, Edgewood Arsenal, Md.  
Miss Jeanette E. Schneider, J.H.U., Baltimore, Md.  
Dr. Arnold M. Seligman, Sinai Hosp., Baltimore, Md.  
Dr. Walter M. Shackelford, Jacob St., Edgewood, Md.  
Charles E. Sheets, Lafayette St., Havre de Grace, Md.  
Dr. Harkishan Singh, Municipal Bldg., Baltimore, Md.  
Dr. E. E. Stahly, Deerfield Drive, Ellicott City, Md.  
Terry Vernon Zenser, Ins. of Infectious Diseases, Frederick, Md.

IF YOU CHANGE YOUR ADDRESS . . . Please do not notify the Editor of the *Chesapeake Chemist*, but send your new and old addresses to: The American Chemical Society, 1155 Sixteenth Street, N. W., Washington, D. C. 20036. The Maryland Section will then be notified.

## EDUCATION COMMITTEE ANNOUNCEMENT

Last spring, the Maryland Section conducted a poll to determine whether there was sufficient interest to justify the presentation of a special lecture series. The result of printing a questionnaire in the *Chesapeake Chemist* and distributing the same questionnaire at one of the monthly meetings was twenty responses.

Even though nineteen of the responses were in favor of such a series, and only one opposed, this was not regarded as sufficient interest to justify undertaking the venture at the present time. In all probability, the Section will survey the situation again in the near future. In the meantime, the Education Committee is seeking ways in which it can be of service to members of the Section. If you have any suggestions, please let us hear from you.

Please contact:  
Melvin P. Miller  
Chairman, Education Committee  
Loyola College  
Baltimore, Maryland 21210

## ACS SHORT COURSES

**April 8-9. Techniques of Creative Problem Solving;** Lewis E. Lloyd. Boston, Mass.

**April 21-22. Electroorganic Synthesis;** Norman L. Weinberg. Rochester, N.Y.

**April 21-22. Modern Liquid Chromatography;** Lloyd R. Snyder and J. J. Kirkland. Charleston, W.Va.

**April 28-29. Communication Skills for Chemists and Chemical Engineers;** Frederick G. Sawyer. Seattle, Wash.

**May 6-7. Modern Liquid Chromatography;** Lloyd R. Snyder and J. J. Kirkland. Pittsburgh, Pa.

**June 2-3. Maintaining and Trouble Shooting Chromatographic Systems;** John Q. Walker and Minor T. Jackson. Chicago, Ill.

For complete information and registration forms, write to Education Department, ACS, 1155-16th St., N.W., Washington, D.C. 20036, and specify course and location. To register by phone, call (202) 737-3337, ext. 258.



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## MARYLAND SECTION NEWS

### BALTIMORE PAINT AND CHEMICAL CORP.

The National Paint and Coatings Association announced on November 10th the appointment of Dr. Leroy W. Shuger to the Board of Directors for a three year term. Dr. Shuger is a Vice President and Chairman of the Executive Committee of Baltimore Paint and Chemical Corporation.

JHU

Professor Jerome H. Perlstein has received an American Chemistry Society-Petroleum Research Fund Grant entitled "Electron Transport in Mixed Valence Complexes: Models for High-Temperature Superconductors" in the amount of \$28,500.

### U.S. NAVAL ACADEMY

Prof. Ed. Koubek of the U.S. Naval Academy will take a sabbatical next term (Spring 1972) and work with Prof. Henry Taube at Stanford University.

### McCORMICK & CO.

Mr. Earl Merwin has joined the R&D staff with the title of Senior Scientist-Flavor Chemistry.

### MORGAN STATE

A \$90,887 grant from the National Science Foundation has been awarded Morgan State College to conduct its annual summer institute for secondary school science and mathematics teachers.

Prof. Sam Massie of the U.S. Naval Academy has been recently honored as the recipient of the Washington Pigskin Club's Award for Human and Community Relations. An additional honor was added when he was selected by the Anacostia Museum of the Smithsonian Institution as one of the seven contemporary scientists whose biographies are featured in the pamphlet "They Were Determined."

High school teachers enrolled in the 16th Summer Institute for Secondary School Teachers in Science will study ecology, environmental assessments, the population explosion and the nation's power needs and its impact on the environment.

John G. Zimmerman has been promoted to Full Professor as of September 1, 1972.

-----Tear-Out Dinner Reservation Form-----

There is enclosed \$.....(\$5.25 per person)\* for cocktails and dinner at Eudowood Caterers, Eudowood Plaza, for the following persons.\*\*

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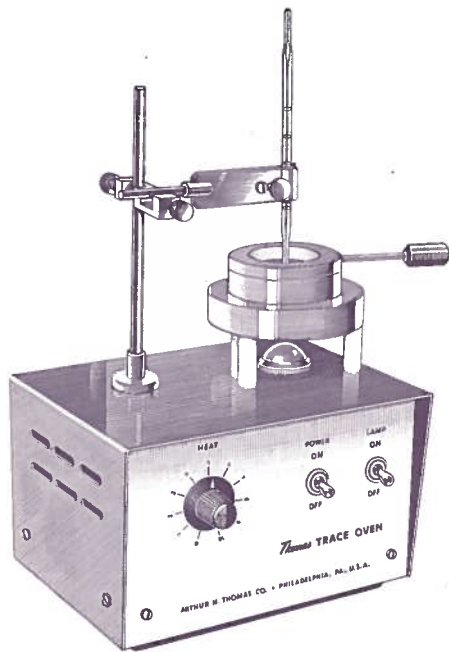
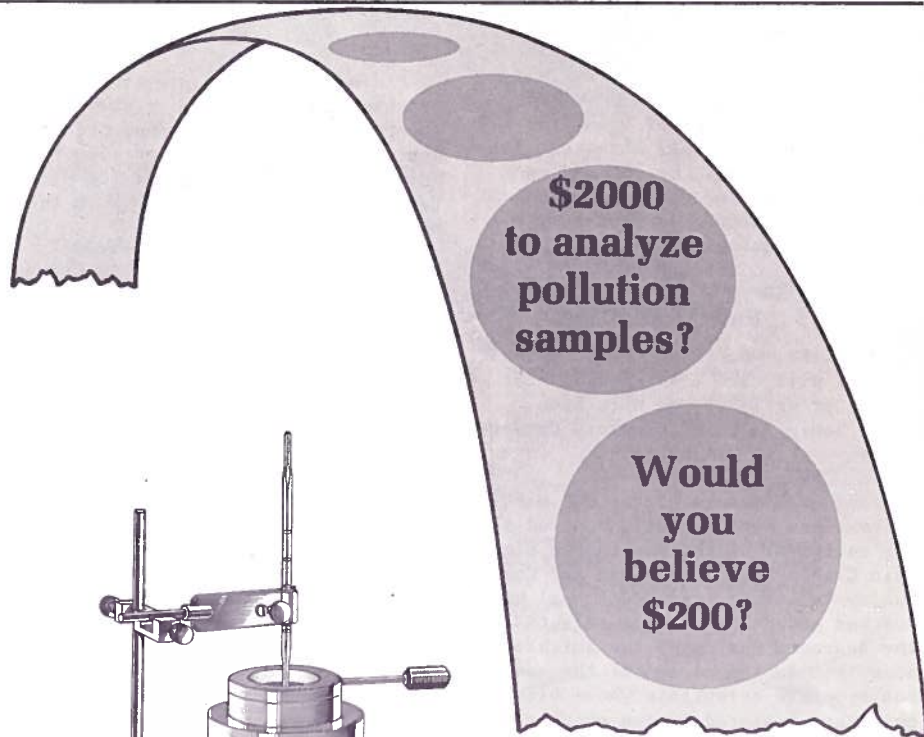
\*Please make checks payable to Maryland Section, ACS and mail together with reservation form to Mr. Allen Bednarczyk, McCormick and Co., Inc., 204 Wight Ave., Hunt Valley, Md. 21031, or phone 666-3155.

\*\*Return by Friday preceeding next meeting.

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