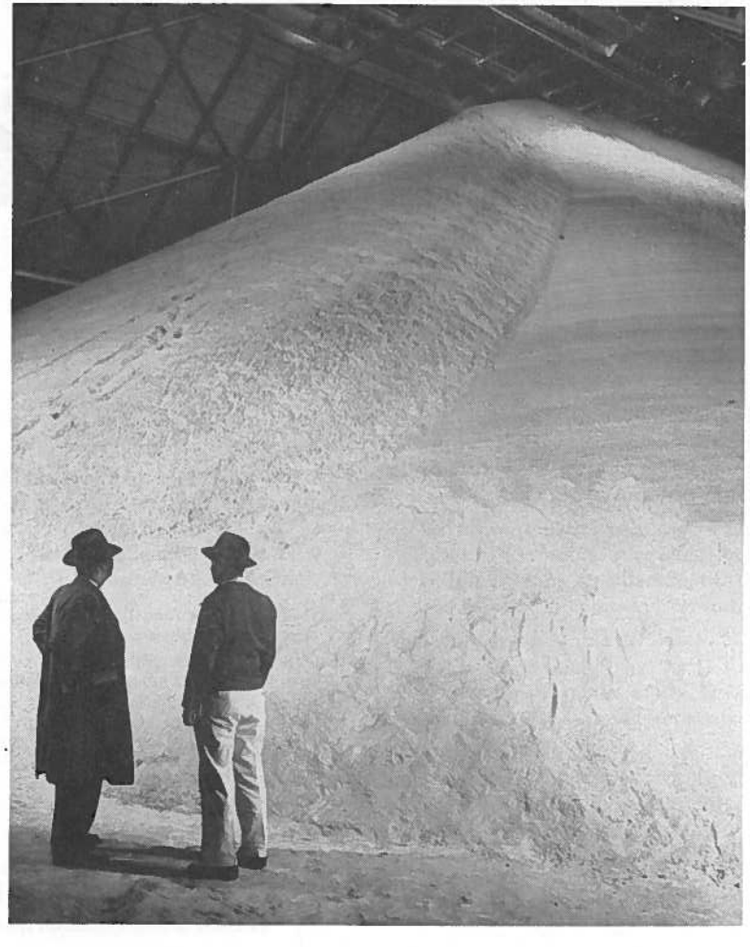
THE CHESAPEAKE CHEMIST

MARYLAND SECTION
AMERICAN CHEMICAL SOCIETY



September, 1957

THE CHESAPEAKE CHEMIST

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The Chesapeake Chemist is published each month from September through May by the Maryland Section of the American Chemical Society.

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COVER—Tons of raw sugar in storage ready for the refining process at the New Orleans plant of American Sugar Refining Company.

THE SEPTEMBER MEETING

Date:
Friday, September 27, 8:30 P.M.

Place:
Johns Hopkins University
Remsen Hall, Room 101

Speaker:
Dr. Henry B. Hass, President
Sugar Research Foundation

Subject:
Sucrochemistry and the World Food Problem

Sucrochemistry is the synthetic industrial organic chemistry based upon sucrose and its byproducts. Each year the world population increases about 45 millions and demographers are predicting a gradual extension of the areas where malnutrition is widespread. Already over half the people of the world experience a great deal of hunger and some starvation.

Sugarcane in the tropics and sugar beets in the temperate zone produce more food energy per acre per year than any other plants which are grown commercially. Enough energy to support an active man for a year requires only 0.06 acre (average figure for Hawaii).

Experimental animals have been fed over the entire life span on a diet consisting of 80-85% of refined sugar and were normal in every way. In view of these facts it is surprising that sugar is so largely neglected in the regions where starvation is most prevalent. The reason for this is that the protein shortage in the world is even more acute than the deficiency of calories.

Sugar Research Foundation therefore concerns itself with the problem of converting sucrose and its byproducts into protein. This may be done by (1) raising Torula yeast on molasses and ammonia and feeding the yeast to humans or to lower animals. Ruminants may be fed (2) molasses-urea mixtures (3) ammoniated molasses (4) ammoniated beet pulp (5) ammoniated bagasse or (6) black liquor from the ammonia pulping of bagasse to make paper. Research is actively under way on all of these and Sugar Research Foundation and its members are actively working in all of these. Several of these processes seem applicable even to American conditions where food surpluses are common.

The synthesis of detergents, emulsifying agents, plastics, pesticides and synthetic fibers from sucrose and its byproducts will be described.

Dr. Henry B. Hass was born in Ohio and graduated from Ohio Wesleyan. He pursued his doctoral work at Ohio State University in carbohydrate chemistry under William Lloyd Evans. He holds honorary doctor's degrees from Ohio Wesleyan and the University of Chattanooga.

After three years in industrial research, Dr. Hass joined Purdue University as Assistant Professor in 1928. In 1937 he was made Head of the Chemistry Department. He left Purdue after 21 years to become Manager of Research and Development of General Aniline and Film Corporation. In 1952 he became President of Sugar Research Foundation, Inc.

Dr. Hass is a contributor to The Encyclopedia Britannica, The Science of Petroleum, and the Encyclopedia of Chemical Technology. He belongs to sixteen honorary, professional, and scientific organizations, and is President of the American Institute of Chemists.

His researches have been chiefly on aliphatic nitrations, chlorinations, and fluorinations, and on sucrochemistry.

Dinner: **Johns Hopkins Club** **6:30 P.M.**

Reservations should be made by Monday, September 23, with Dr. Edward A. Metcalf, 906 Wellington Road, Baltimore 12, telephone VA. 3-9577. The price is $2.50 and preferably is paid in advance.

MEETING OF THE EXECUTIVE COMMITTEE

The Executive Committee of the Maryland Section met on April 23rd in one of the seminar rooms of the Psychiatric Institute of the University of Maryland. Those present were Dr. Raymond Burgison, Chairman, Dr. Cooke, Dr. Corrsin, Mr. Costa, Mr. Crippen, Dr. Goldheim, and Dr. Kelley.

Dr. Burgison reported that forty-two reservations had been received for the trip to the Esso Refinery on April 26th but only twenty-one reservations for the dinner in Levering Hall. Since a special dinner could not be served for so small a group, it was decided to cancel the arrangements for the dinner and to suggest that those who wished to do so dine at the cafeteria in Levering Hall.

Dr. Burgison read an invitation from Dr. Elinor Ware for the Maryland Section to hold a meeting at Hood College in the near future. The Executive Committee voted to accept the invitation.

A Meeting-in-Miniature is tentatively scheduled for April, 1958. Mr. Costa pointed out that it will be important to have plans for this meeting initiated at an early date.

Dr. Cooke brought up the matter of storage of the records of the Maryland Section. As considerable material has accumulated, it would seem advisable to have someone responsible for it and also to have an appropriate storage place.

Mr. Costa suggested that each issue of The Chesapeake Chemist contain not only news of the meeting of the Maryland Section of the American Chemical Society but also announcements of other scientific meetings to be held in Baltimore.

Dr. Burgison announced that he will appoint a third member to the Committee on Publications and also a chairman for the Committee on Manpower.

Chemists in industry have occasionally taken over certain high school classes in chemistry, thus freeing the regular teachers for attendance at professional meetings. Both Mr. Costa and Mr. Crippen have participated in this educational project.

The question was raised as to whether a news item regarding a chemist who is not a member of the American Chemical Society or an associate of the Maryland Section should be printed in The Chesapeake Chemist. The Executive Committee decided that such an item should be printed in the magazine and that an effort would be made later to have the chemist concerned join the Society.

The Secretary mentioned a letter from Dr. Harold Perrine, Chairman of the Committee on Local Sectional Activities, containing the suggestion that members of the American Chemical Society be reminded of the advantages of membership in one or more of the divisions of the Society. This has been in previous issues of The Chesapeake Chemist and will be referred to again.

The Executive Committee agreed that liaison should be maintained between the Maryland Section and the persons in charge of the science fairs held in connection with some of the schools.

In response to a letter from the New York Section of the American Chemical Society it was decided to nominate a member of the Maryland Section for the William H. Nichols Medal Award for 1958.

Louise Kelley

Secretary

MEETING-IN-MINIATURE

The Maryland Section will hold a meeting-in-miniature at Johns Hopkins University, Homewood Campus, in April 1958. Dr. Raymond M. Burgison, University of Maryland, School of Medicine, Baltimore 1, is General Chairman and will be assisted by the following division chairmen:

Divisions	Chairmen
Physical and Inorganic Chemistry,	Dr. Dean Robinson, Department of Chemistry Johns Hopkins University
Biological and Medicinal Chemistry,	Dr. Eugene C. Weinbach, N. I. H., Lab of Tropical Diseases, Bethesda, Md.
Analytical Chemistry and Chemical Spectroscopy,	Dr. Leopold May, Department of Psychiatry University of Maryland
Organic Chemistry,	Dr. Stanley P. Kramer, Department of Surgery, Sinai Hospital, Baltimore 5
Chemical Education,	Dr. Belle Otto, Goucher College, Towson 4
Industrial and Engineering Chemistry,	To be announced.

Members of the Section having papers for presentation should communicate with the proper division chairman as soon as possible or the General Chairman.

NEW CHROMATOGRAPHY CABINET

Arthur H. Thomas Company, Philadelphia, Pa., announces a new corrosion-resistant *Chromatography Cabinet*, for preparing two-dimensional paper chromatograms by descending or ascending techniques.

Also for use in paper chromatography and now carried in stock by the Thomas Company is the *John Chromatographic Spray* Bottle.

Detailed descriptive bulletins will be sent upon request.

COSTA MOVES TO CLEVELAND

Raymond L. Costa, of Mutual Chemical Division, Allied Chemical & Dye Corporation, has moved to Cleveland, Ohio. Ray is well known for the work he has performed for the Maryland Section of the ACS. During the past year, he was assistant Business Manager of the Chesapeake Chemist, a job to which he gave conscientious and commendable attention. He was also an alternate counselor and Chairman of the Public Relations Committee.

Ray is a graduate of Cooper Union Institute of Technology, 1941, B.S. He went to work for Mutual in 1942. At the time of his departure from Mutual Ray was in charge of new product development. He received his M.S. from Johns Hopkins University in 1956. This past June, Ray joined the McGean Chemical Company, Cleveland, Ohio, to organize new product development.

KERCHNER MADE ASSISTANT BUSINESS MANAGER

John A. Kerchner, Vice President of C. O. Monk of Maryland, printing and lithographic ink specialists, has been appointed Assistant Business Manager of The Chesapeake Chemist to succeed Raymond L. Costa who has taken a position in Cleveland.

John will be responsible for the advertising which appears in The Chesapeake Chemist from month to month. He attended Clemson A and M College and received a Bachelor of Science degree in chemistry from Loyola College, Baltimore. In addition to the American Chemical Society he is a member of the Baltimore Club of Printing House Craftsmen, Litho Club of Baltimore and Baltimore Chemical Club. During World War II, John served in the U. S. Army in the European theater of operations.

UNIVERSITY OF MARYLAND BALTIMORE SCHOOLS

The following courses of interest to chemists will be offered at night during 1957-1958 at the Baltimore Schools, University of Maryland.

General Chemistry, at the School of Pharmacy, Dr. Dorenbus.

Advanced Organic Chemistry, at the School of Pharmacy, Dr. Miller.

Principles of Chemotherapy, a course for chemists, biochemists and pharmacologists, at the School of Medicine, Dr. Burgison.

MARYLAND SECTION NEWS

GOVERNMENT

FORT DETRICK

William A. Galligan who has served at the U. S. Army Biological Warfare Laboratories, Fort Detrick, Maryland, since July 1955, separated from the service in May 1957 to accept a position as a Research Engineer in the Department of Metallurgical Research, Kaiser Aluminum and Chemical Corporation, Spokane, Washington.

Wayne E. Fritz has joined the Research & Development Division of Olin Chemical Company, subsidiary of Olin Mathieson Chemical Corp., Niagara Falls, New York.

Dr. **Ralph F. Wachter** has been named branch Chief in the Biological Warfare Laboratories.

Dr. Ralph W. Hufferd has retired as Chief, Planning and Evaluation Office, Biological Warfare Laboratories. He plans to devote part of his time to consulting. **Mr. Jack Keene** has been named to take over the duties of Dr. Hufferd. Mr. Keene represented the Office of Director of Development at the recent ACS Meeting in Miami.

Dr. **R. J. Allgeier** has been invited to become a Charter Fellow in the American Academy of Microbiology.

Glenwood B. Achorn has been named Director, Biological Operations, U. S. Army Chemical Arsenal, Pine Bluff Arsenal, Arkansas. Mr. Achorn was first assigned to Fort Detrick as an enlisted man in 1943. After separation from the Army, he accepted a civilian position at Fort Detrick. He advanced rapidly and in 1952, he was made a division chief and has held this position until his present appointment to Pine Bluff Arsenal.

Robert J. Peterson has accepted a position in the Research Department of Archer, Daniels, Midland Co., Minneapolis, Minn.

Lt. Ray Cartier, Chemical Engineer, Brooklyn Polytechnic Institute, arrived on Post 3 June 1957.

ARMY CHEMICAL CENTER

William E. Rinehart of the Toxicology Division, Chemical Warfare Laboratories has been granted an Atomic Energy Commission Fellowship for graduate studies in industrial hygiene. He has entered the Graduate School of Public Health at the University of Pittsburgh.

INDUSTRIAL

BALTIMORE AND OHIO RAILROAD COMPANY

H. D. Plumly, Chief Chemist, recently presented a paper entitled "Journal Box Lubrication" to the Baltimore section of the American Society of Lubrication Engineers.

Herman A. Bode, Spectrographer, was present at the "Pittsburgh Conference" on Analytical Chemistry and Applied Spectroscopy.

James W. Cole, Chemist, attended the "2nd Annual Nuclear Congress" in Philadelphia and the "Colloquim on Effects of Radiation on Materials" at the Johns Hopkins University in March.

H. D. Plumly, C. T. McKenney, Roland N. Fracalossi, M. C. Clark and **Carl Webster** attended a "Course in Practical Lubrication" sponsored by the Baltimore chapter of the American Society of Lubrication Engineers.

The annual report for the Research Department, recently released by **Russell W. Seniff,** showed a savings of over $1,000,000 for year 1956.

ARCRODS CORPORATION

Peter J. Prevas has been named to the post of assistant plant superintendent of Arcrods Corporation, Sparrows Point, Maryland.

CRIPPEN & ERLICH LABS., INC.

Crippen & Erlich Labs., Inc., announce the acquisition of a low range tensile testing machine for testing such materials as rubber, plastics, paper, textiles, cords, twines, wire, thin metal sheeting, and other similar materials. This unit will augment their expanding physical testing department.

WESTINGHOUSE AIR ARM DIVISION

Andrew T. Hawthorn, a chemical engineer in Materials and Process, attended a meeting in New York City in June, of the Aircraft Industries Association Committee on high temperature hook-up wire. Andy represented Westinghouse Air Arm Division at this meeting which is held semi-annually in order to establish standards of performance of hook-up wire on an industry-wide basis.

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WILL CORPORATION

New general manager of the Baltimore laboratory supply and service center, Will Corporation of Md., is **Charles T. Peterson.** He succeeds **George H. Weisskopf** who becomes special project manager at the Rochester headquarters.

ACADEMIC

GOUCHER COLLEGE

Dr. H. Huntley Lloyd, Professor of Chemistry at Goucher College, received a Gold Award at the stamp exhibit held under the title BALPEX 1957 at the Maryland Institute on March 15-17, 1957. Seventy-three philatelists, both local and national, submitted displays for the exhibition. Dr. Lloyd's exhibit presented a specialized study of the stamps of Korea during the period (1895-1905) when it functioned as an independent monarchy.

A revision of the Hill and Kelley Organic Chemistry has been completed by **Dr. Louise Kelley,** Professor of Chemistry at Goucher College. Copies of the new edition, which is being published by the McGraw-Hill Book Company, became available on the 1st of June.

JOHNS HOPKINS UNIVERSITY

Dr. William Mansfield Clark, professor emeritus of Physiological Chemistry at the Johns Hopkins Medical School who is currently with the Chemistry Department received the Passano Foundation Award for 1957 from the American Medical Association. The award was given in recognition of his stature as a teacher and a research scientist.

Dr. Donald H. Andrews, professor of Chemistry, has received an honorary appointment to the B. N. Baker Chair of Chemistry. Professor Andrews is the Chairman of the Committee on Arrangements for the annual Calorimetry Conference to be held in Portsmouth, New Hampshire on September 12. He is also Chairman-Elect of the Conference for 1957-1958.

Dr. J. D. H. Donnay, professor of Crystallography and Mineralogy in the Chemistry and Geology Departments was a member of the U. S. delegation to the Fourth General Assembly and Congress of the International Union of Crystallography which was held at Montreal last July.

Dr. Harold E. Hoelscher of the Chemical Engineering Department was promoted to full professor. **Dr. Jerome Davis,** assistant professor of Chemical Engineering, received a 11,400 dollar grant from the National Science Foundation in support of his work on the dynamical properties of fluid jets. **Dr. Ralph K. Witt,** associate profesor of Chemical Engineering, went to Switzerland last July to attend an International Standards Organization meeting. Two new assistant professors of Chemical Engineering joined the department: **Dr. Sheldon K. Friedlander** from Columbia and **Dr. Wallard Bastian** from Princeton.

NOTRE DAME COLLEGE

The students at Notre Dame College are one of several groups planning for the meeting in miniature to be held at Morgan State College this year. Last spring, they took an active part in the Science Conference held at Georgetown University.

Several lectures were heard by the chemistry majors last spring. One of these, presented by **Dr. Albert Tiedeman,** was entitled *The Graduating Student's Place in Research and Quality Control,* and was of special interest to the students in the upper levels.

Recent Meetings

The March Meeting

The March meeting of the Maryland Section of the American Chemical Society was held at Army Chemical Center, Maryland, March 29, 1957. The section was privileged to have as the speaker Dr. Roger J. Williams, President of the American Chemical Society.

Dr. Williams addressed the Section on the subject of "Chemical Anthropology", a new science that supplements physical and social anthropology. Some of the basic findings in human biochemistry and anatomy upon which the development of chemical anthropology depend were presented and biochemical individuality was discussed.

A reception and dinner in honor of Dr. Williams were held at the Officers' Club prior to the speech. General Marshall Stubbs, Commanding Officer of the Post, and Mrs. Stubbs were guests of honor.

Eighty-eight people attended the dinner and reception and 102 people attended the meeting.

April Meeting

For the first time in several years, a plant tour was conducted for the Maryland Section, April 26, 1957. Esso Standard Oil Company was host for a tour of their Baltimore refinery. This tour covered some of the extensive refining facilities and the laboratories, which are primarily for quality control of raw materials and products. Because of the plant trip no special dinner was held.

In the evening Dr. William J. Sparks, Scientific Advisor of Esso Research and Engineering Company, gave an interesting talk on the chemical and physical properties of Butyl Rubber. The talk was illustrated with both slides and motion pictures. The lecture was held in Remsen Hall, Johns Hopkins University and was followed with the usual social hour and refreshments. Forty-four people made the plant tour and 27 attended the lecture.

Remsen Lecture

The annual Remsen Memorial Lecture was held at the Johns Hopkins University June 3, 1957. The Remsen Lecture is the highlight of the year's activities for the Maryland Section. The recipient of the award this year was Dr. Melvin Calvin, Professor of Chemistry and Director Bio-Organic Group, Radiation Laboratory, University of California.

The Lecture was preceeded by a reception and dinner in honor of Dr. Calvin at the Johns Hopkins Club and was attended by Officials of the Johns Hopkins University, the American Chemical Society, members of the Maryland Section and alumni of the Johns Hopkins University.

The Lecture was held in Shriver Hall, The Johns Hopkins University, and Mr. Stewart Macaulay, Provost of the University, welcomed Dr. Calvin on behalf of the University. Dr. Albert L. Lehninger, Professor of Physiological Chemistry and Director of the Department, School of Medicine, Johns Hopkins University introduced Dr. Calvin.

The subject of Dr. Calvin's lecture was "Following the Trail of Light". The overall problem is that of determining the mechanism employed by autotrophic organisms in converting solar energy into chemical potential in the form usually of carbohydrate and oxygen. The use of carbon-14 combined with the techniques of physical chemistry and organic chemistry enabled the sequence of reactions involving carbon to be devised. Some very new developments have shed light on a possible mechanism of the behavior of the oxygen atoms.

The lecture was followed by a social hour in the upstairs foyer. Fifty-five people attended the dinner and reception and 226 people attended the lecture.

NOMINATING COMMITTEE

In accordance with Bylaw VI, Sec. 4, of Maryland Section Bylaws, Chairman Burgison has appointed the Nominating Committee for 1958 section officers. Dr. Henry C. Freimuth, Office of Chief Medical Examiner, 700 Fleet Street, Baltimore 2, is Chairman of this committee. All members who wish to suggest nominations are urged to communicate with Dr. Freimuth.

The Chesapeake Chemist
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