



Photo by Ryan

About half of those attending the Rheology Society meeting were available for this early morning group photograph, which was taken on the Library steps at Lehigh University. Hour glass symbol reproduced below is Society's emblem.



Rheology

comes of age

*a report on the 30th anniversary
meeting of the Society of Rheology*

By Raymond R. Myers

MATURITY is frequently decided arbitrarily in terms of a given number of years. In the elevation of rheology to prominent stature as a science, the difficult process of growing up has required the better part of three decades; the result, which was apparent on November 4, 1959, is an organization on the threshold of maturity, with plenty of enthusiasm to ensure continued growth and yet with sufficient purpose to know where it is headed.

Raymond R. Myers, the Society of Rheology's anniversary chairman, is research associate professor in the Department of Chemistry at Lehigh University, Bethlehem, Pa.

These facts were apparent to Frank Dexter, president of the Society of Rheology during the period of rapid growth which followed her 25th year, who conceived of the Lehigh Valley as the appropriate location of the first really official anniversary celebration. The Society had been started by Eugene Bingham at Lafayette College, where the Lehigh River meets the Delaware, in 1929; now 30 years later, the site of rheological activity had shifted fifteen miles upstream to Lehigh University, which offered to become the host of the anniversary convention. The suggestion received the enthusiastic support of Dexter's successor, John Dillon,

The Bingham Medal Award

Egon Orowan, Bingham Medalist for 1959, is shown at right as he received the Society of Rheology's annual award from J. H. Dillon, president of the organization for 1958-59. On the left is C. Richard Soderberg, dean of engineering at the Massachusetts Institute of Technology, who presented the citation. Dean Soderberg's presentation address, together with the technical papers given during the Society's 30th Anniversary Meeting at Lehigh University (November 4-6, 1959), will appear in Volume 4 of the *Transactions of the Society of Rheology*.

Dr. Orowan, who is George Westinghouse Professor of Mechanical Engineering at MIT, was cited for "his creative imagination in discovering many secrets of the solid state of matter and particularly his contribution to the understanding of the phenomena of plastic flow and fracture". Born in Budapest, he received his doctorate in applied physics from the Technical University of Berlin. He went to England in 1937 as a research associate in the Physics Department of the University of Birmingham, and from 1939 until 1950 was in charge of the metal physics group in the Cavendish Laboratory at Cambridge University. In 1950 he accepted an appointment at MIT and was named George Westinghouse Professor there in the following year.



The Bingham Medal was established in memory of the late Eugene Cook Bingham, professor of chemistry at Lafayette College, who played an instrumental role in the original formation of the Society of Rheology. The first presentation of the medal was made in 1948.

The Anniversary Meeting was also the occasion for a change in the officers of the Society of Rheology. The following have been elected to serve for the next two years: president, John H. Elliott (Hercules Research Center); vice president, John D. Ferry (University of Wisconsin); editor, Erastus Henry Lee (Brown University); and secretary-treasurer, William R. Willets (Titanium Pigment Corp., 99 Hudson Street, New York 13, N. Y.).

who obtained the approval of the Society's executive committee to conduct a special celebration of this milestone of our progress.

The three-day meeting was attended by nearly 200 individuals—about a third of the Society's membership. Emphasis was placed on the technical program, chaired by James Bergen, which listed 36 papers by the time Rodney Andrews, our editor, froze the copy for the last *Bulletin*. Two symposia were presented, one on the mechanics of continua and one on adhesion; and the general papers ran the gamut from the solid state to polymers to the flow of liquids. Sessions ran remarkably well on schedule.

The meeting was also a festive occasion. Because of the tight schedule, the noon meals and coffee breaks were served, captive style, in a room adjoining the conference hall. No complaints were heard after the first morning, either because of the efficient service, or else in tribute to the quality of the food in the new University Center; at any rate, meal attendance exceeded 150 on the third day. As part of the program, conferees were able to relax over the coffee cups while listening successively to the three charter members of the Society: they heard reminiscences of the Society's first thirty years by Markus Reiner, a plea for world peace by Melvin Mooney, and comments on the etymology of the word "rheology" by Miss R. M. Karapetoff Cobb. The social part of the program included a cocktail party, a buffet dinner, and a smoker on Wednesday night at the Hotel Bethlehem; the next night festivities returned to the campus when nearly 200 guests filled the faculty dining room for a Pennsylvania Dutch banquet of *kesel rashd*, *groutsalawdt*, *grumbiera*, *shoo flega boy*, and other

unpronouncables. Dr. Egon Orowan was awarded the Bingham Medal at the banquet.

The chronology of events followed a standard pattern. The executive committee met on Tuesday night (Nov. 3) and decided to adopt a more rigorous policy on matters involving future meeting places and the publication of the *Transactions*. The next day the program got underway promptly on schedule with an official welcome by Harvey Neville, Lehigh's vice president and provost, who brandished one of his own publications in rheology to prove that the problems of an administrator may actually be easier than the ones he had to solve along the way. The welcome was followed by papers on rotational viscometers, an inclined plane, and rheology in Europe, the last by John Ferry whose recent return from Brussels was capped by election to chairmanship of the University of Wisconsin Chemistry Department, election to the vice presidency of the Society of Rheology, and announcement of the impending receipt of a high award by the American Chemical Society.

The Wednesday afternoon session covered general papers on the flow of shear-sensitive materials, including asphalt, silicones, gels, and dental materials. Edward Collins was chairman.

On Thursday morning the special buses which shuttled between the hotel and the campus took early risers to a demonstration of the destruction of a laminated wooden beam on the five-million-pound Universal Testing Machine by William Eney, head of Lehigh's Civil Engineering Department and director of the laboratory in which the instrument is housed. A group photograph followed on the library steps; but because of the early

hour, only half of the conferees were represented. The morning session was chaired by Frederick Gaskins; the afternoon symposium on the mechanics of continua was chaired by Hershel Markovitz. The annual business meeting was held at the close of the technical program, at which time Perennial Secretary-Treasurer William Willets announced that the Society will begin the first year of its majority with an adequate inheritance of both finances and talent.

Early on Friday morning some of the more ambitious members and guests visited the shock tube laboratory in Raymond Emrich's Physics Department, with Cassius Curtis as host; others visited the author's rheology laboratory in the Chemistry Department and witnessed Ray Hoffman's work on tack. Carl Knauss demonstrated ultrasonic equipment.

The morning technical session under Henry Lee was devoted to papers on the rheology of polymers and dispersions. The afternoon session was devoted to adhesion. At the close of the symposium, John Elliott, incoming president of the Society, announced that next year's meeting will be held at the Mellon Institute.

A few simple facts attest to the virility of rheology and of the society devoted to the pursuit of knowledge in that borderline discipline between physics and chemistry. The *Transactions* are now in their fourth year and are outgrowing their page allotments. Symposia at annual meetings, introduced last year on a trial basis, have been successful. The Executive Committee has steadfastly refused to hold divided meetings or split



John H. Dillon (left), Society of Rheology president for 1958-59, discusses registration statistics with anniversary chairman Raymond R. Myers, author of the present report.

Photo by Allentown Call-Chronicle

sessions. A high percentage of the membership attends the meetings; and the ones who attend come early and stay to the end. The increase in membership has attained a steady annual rate.

All of these evidences of strong leadership and active membership lead to but one conclusion: rheology has grown up in the past three decades. It has finally come of age.



The Society of Rheology's executive committee and program organizers met at the author's home before the meeting. Seated, left to right: W. Willets, R. Rivlin, R. Andrews, and J. Bergen. Standing: E. Lee, J. Miller, R. Marvin, F. Dexter, J. Dillon, J. Elliott, and R. Myers.

Photo by Schwoyer