

MEMORIAL RESOLUTION
PAUL WALTER BERG
(1925 - 1990)

Paul Walter Berg died on June 11, 1990 of cancer at the home of his son, Jeremy, in Baltimore Maryland. He was 65 and had spent more than 35 years on the faculty at Stanford. He is survived by his two sons, David, of Hershey, PA., and Jeremy, of Baltimore, MD.; his friend Pat Maslow, of Palo Alto; three grandchildren, and a sister.

Paul was born March 18, 1925 in New York. He graduated Phi Beta Kappa from New York University in 1947, and received his Ph.D. in Mathematics there in 1953. He served as a Research Assistant at New York University from 1947 to 1951, and an Instructor at Stevens Institute of Technology in 1951. He was a specialist in partial differential equations and applied mathematics, which was reflected in both his teaching and research activities.

Paul came to Stanford in 1953 on a National Research Council Fellowship, and never left, although he spent several sabbaticals elsewhere. He was an Assistant Professor of Mathematics from 1954 to 1958, an Associate Professor from 1958 to 1967, when he was promoted to the rank of Professor. He served as Vice-Chairman of the Mathematics Department for 13 years, *i.e.*, 1967 to 1980, in which position he was particularly active in the department's curriculum development.

Always interested in teaching at all levels, Paul directed a General Electric program for high school teachers of mathematics in the summers of 1957 and 1958, and in the summers of 1964, 1965, and 1970, he directed the National Science Foundation program for high school teachers of mathematics. He served as a consultant to the School Mathematics Study Group in the 1950's. During the last few years Paul had been working with Professor Patrick Suppes on a National Science Foundation project on the use of computers to teach calculus in

the high schools. Now that mathematics and science education is high on the national priority list, it can be said that Paul W. Berg was way ahead of his time.

Paul was a popular and very successful teacher. His classes included both undergraduate and graduate courses in ordinary and partial differential equations, theory of functions of real and complex variables, linear algebra, calculus of variations, methods of mathematical physics, and many other subjects. Also, he was one of the mainstays of the Mathematics Department's program in freshman and sophomore calculus, frequently teaching the honors sections. He was particularly concerned with the course needs of students in physics and engineering. Indeed, he cared very much for students, in general. He was an advisor to nearly all of the undergraduate majors and graduate students in the Mathematics Department during a fifteen year span.

Paul Berg was a principal organizer in 1971-72 of the highly successful interdisciplinary Program in the Mathematical Sciences (now called the Program in the Mathematical and Computational Sciences) leading to the Bachelor of Sciences degree which involved the Departments of Computer Science, Mathematics, Operations Research, and Statistics. He was responsible for much of the curriculum development for this Program in the Mathematics Department, including the creation of new applied courses in Matrix Theory and in applied Modern Algebra. As an outgrowth of this interest, during the last few years he had developed lecture notes for the applied matrix theory course, which he planned to publish as a textbook under the title "Linear Algebra and Applied Matrix Theory." Paul served as the first chair of the Committee which administered the Program, and served as a member until the present time. The Program continues to satisfy the needs of a large number of undergraduate students.

Paul Berg's career as a mathematician and scholar was influenced much by his graduate studies at New York University, where he met and learned from a unique assemblage of researchers, and acquired direction and perspective by outstanding representatives (Courant, Friedrichs, Bers, Magnus, John) of European traditions. These individuals brought sophisticated and precise analysis to bear on suitably formulated problems of physical or technical interest, and helped to establish an applied mathematical discipline in this country. Such an inspiration motivated Paul to write a classic textbook, in collaboration with another late colleague of the Stanford Mathematics Department, James McGregor, on "Elementary Partial Differential Equations." Their book served, for more than two decades as an introduction to a most important and continuously

active topic, and was used by mathematics and engineering students at Stanford and elsewhere.

At Stanford, Paul was also well known outside of the Mathematics Department. He was repeatedly elected to the Faculty Senate (serving in 14 of the first 22 Senates) and was appointed to numerous Senate and University committees. His colleagues could always count on his ever ready smile, good humor, wise counsel, and cooperation.

A memorial service for Paul Berg was held in Cubberly Auditorium on October 10, 1990. Tributes were delivered by Peter Lax, a longtime friend from New York University, his friends and colleagues Harold Bacon and Jerry Lieberman, and his son, Jeremy. Robert Hamerton-Kelly, former Dean of the Chapel, presided. Paul left wishes that memorial contributions be sent to the Exploratorium, or to the Sempervirens Fund.

Outside of mathematics, Paul had many interests. Among those that he enjoyed most were classical music, the ballet, and the theater, museums, and Stanford football. Most of all he enjoyed being inquisitive, and this impacted heavily on his everyday life. His friends and colleagues will sorely miss this kind, warm, sensitive man. His legacy not only includes his teaching, book writing, and research, but the gratitude of the students, both undergraduate and graduate, who were taught and befriended by Paul Walter Berg.

Gerald J. Lieberman, Chair
Harold Levine
Halsey Royden