Paul de Mayo

(Post doctoral mentor)

Paul de Mayo was born in London, England on August 8, 1924. He received his formal education at Exeter College (University of London), earning his B.Sc. degree at the age of 20. He joined the research group of Sir. D. H. R. Barton at Birbeck College (University of London) and obtained his M.Sc in 1952 and the Ph.D. degree in 1954. He maintained his association with Professor Barton, moving with him as a Lecturer, first to the University of Glasgow and then to Imperial College (University of London). He joined the faculty at the University of Western Ontario as Professor in 1959 and thus began a distinguished career at Western which has lasted more than 30 years.

When he first joined the faculty, the University was just beginning to offer a graduate program. Paul played a major role in the development of the Department. It was largely his initiative that led to the founding of the Photochemistry Unit there in 1969. The Unit brought together several faculty members with a wide range of interest in the areas of photochemistry and photophysics, and has made the University of Western Ontario a center for research in this subject.

His early research interests in the area of natural product chemistry gradually shifted to the study of photochemistry and in particular to an examination of enone photocycloaddition reactions. His work on the mechanism and synthetic applications of this reaction during the sixties and early seventies firmly established the synthetic utility of this reaction, and also established his international reputation as a photochemist. The importance of his contribution in this area is evident by the fact that the enone photocycloaddition is now generally known as the de Mayo reaction.

During the early 1970's de Mayo found new challenges in the examination of the photochemistry of thiocarbonyl compounds, which until that time had not been systematically examined. It is through his work that we now know and understand the remarkable differences between the photochemical behavior of carbonyl and thiocarbonyl compounds. His research demonstrated, that in contrast to ketones and aldehydes, the second singlet excited state of the thio-analogues is sufficiently long-lived to undergo reaction. He was able to establish that this anomalous behavior results from the large energy gap between the first excited singlet state and the upper excited states. This behavior provided one of the first examples of a system which did not obey Kasha's rules.

In the 1980's de Mayo once again shifted his research interests to an examination of the photochemistry of organic molecules in nonhomogeneous media. His initial efforts in this area focused on studies of the modification of photochemical reactivity upon inclusion in micelles. In a number of cases significant deviations from solution reactivity were observed. This work in organized media was soon extended to the study of molecules adsorbed on dry surface itself, and led to predictions of how these effects might be exploited. His research on surface photochemistry led to de Mayo's most recent research interest in semiconductor-mediated electron transfer reactions.

During his career de Mayo has made many contributions to the development of organic photochemistry. He has published almost 250 papers. His achievements have been recognized: he is a member of the Royal Societies of both London and Canada, he is the recipient of the Chemical Institute of Canada Medal and the first E. W. R. Steacie Award in Photochemistry. He has directed the research of 40 graduate students and 80 postdoctoral fellows. In addition he has served on the editorial boards of several major journals, has published several monographs and has edited the very useful series "Rearrangements in Ground and Excited States."

L. J. Johnston and **D. R. Arnold**

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