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In Memoriam: Professor Gaetano F. D'Alelio

I have not in the past taken public note of the passing of scientific colleagues. This in no way discounts the strong feelings of personal loss I have felt on numerous occasions at the passing of friends and colleagues in the field. My attitude has undoubtedly been fortified by the fact that in recent years society (including scientists) has assumed a degree of sameness and homogeneity, making it increasingly difficult to distinguish unique contributions and characteristics of individuals. In the case of Professor G. F. D'Alelio, the remarkable uniqueness and individuality of the man makes it most desirable to mark his passing.

Professor D'Alelio was born and reared in Boston in the early part of this century. He took his advanced training in organic chemistry under E. Emmett Reed, another strong individualist, at Johns Hopkins University during the 1930s.

After the completion of his academic training, Professor D'Alelio worked for a series of American companies where he made major contributions to the fledgling polymer industry. At General Electric, for example, Frank D'Alelio played an important early role in the development of the sulfonated ion-exchange resins and obtained basic patents on these compositions.

D'Alelio's next focus of attention was the Prophylactic Brush Co. in New York City, where he became Vice President of Research and contributed to the early manufacture and use of nylon 6 monofilament in consumer applications.

D'Alelio next became Director of Research of Industrial Rayon Co. where he obtained important patents on acrylonitrile copolymers and spinning solvents.

Shortly thereafter, D'Alelio joined the Koppers Co. as Director of Research. At that time General Brehan Somerville was Chairman of the Board. During D'Alelio's stay at Koppers, the company was active in several new fields of activity, including foamed polystyrene, polyolefins, including polypropylene, and Ziegler-Natta catalysis.

About 1950, D'Alelio left the Koppers Co. and joined the University of Notre Dame at South Bend as Chairman and Professor of the Department of Chemistry. At Notre Dame D'Alelio made a major impact through the early exposure of students to the stimulation and challenge of polymer chemistry. Many of his students became important contributors to polymers at numerous industrial firms. D'Alelio was an active consultant to the American polymer industry throughout his years at Notre Dame. At the same time, he initiated and supervised important academic and government research programs in the polymer field, many of them aimed at national defense needs, including aerospace.

The field of thermally stable polymers was a major focus of this activity. While at Notre Dame, D'Alelio supervised and actively participated in research on the synthesis of thermally stable polymers, including polyimides, polymeric Schiff's bases, and other polymeric condensed ring systems. He was especially intrigued with the problem of postcuring cyclic ring systems of controlled molecular weight to higher molecular weight thermally stable polymeric systems.

In addition, during this period, D'Alelio recognized the growing importance of radiation-cured polymer systems. He embarked on a study of polymerizable monomers containing latent double bonds, which could be cured at a later stage under different conditions. These studies included, for example, the acetylenic acrylates and methacrylates which could be polymerized by anionic mechanisms and postcured by light or radiation.

After turning to academic pursuits, D'Alelio maintained a strong interest in industrial chemistry and continued to apply for and obtain U.S. patents on polymers and their applications. By the 1960s he had obtained over 400 U.S. patents, which made him undoubtedly the leader, as far as issuance of patents on polymeric systems, in the United States. This intense patent activity, starting early in his industrial career, led to the consternation and, in some cases, ire of certain industrial chemists who, on applying for patents in their specialties, found that D'Alelio had gotten there first. Moreover, his patents often contained numerous disclosures, not directly related to issued patent claims, so that would-be patentees found themselves confronted with early disclosure of related subject matter. The result was failure to obtain patents in some cases.

Nevertheless, D'Alelio pointed the way for new polymer developments. An examination of his early patents will find many present commercial activities anticipated.

Frank D'Alelio possessed a remarkably brilliant and perceptive mind. This fact, coupled with the personality of a marked extrovert, led to an impact on associates and acquaintances which can only be described as unique. The presence of these two aspects in the same individual made for an unforgettable personality, resulting in a remarkable influence on those around him. Undoubtedly, some people were unaccustomed to his ready affability and hail-fellow-well-met qualities, but few could resist the charm and power of his personality.

The field of polymer science and chemistry will not be the same without Frank D'Alelio. His enthusiasm was contagious. To be exposed to his brilliant mind was a rare treat and continuing delight. He was a man of remarkable memory who could dredge up in great detail experiences dating back 40 and 50 years. The breadth and depth of his talents were truly exceptional. We shall never forget our friend, Frank D'Alelio.

If I should have the good fortune someday to find myself confronting St. Peter before the Pearly Gates, I can only say that I hope Frank D'Alelio will be standing there, his arm around St. Peter, gesticulating wildly, sponsoring my cause. Certainly, no one could have a better advocate than Frank D'Alelio.

George E. Ham