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Plastics: 1942-1992—A Personal Overview of the Past Half Century

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INTRODUCTION

The year is 1942. I had been involved with plastics for three years. My mentor was an energetic Professor of Geology at Franklin & Marshall College who, at 84, needed a student assistant. In 1939, I had been awarded a two-year undergraduate teaching fellowship and the post of Assistant Curator of the College Museum. Dr. H. Justin Roddy introduced me to many things including Synthetic Latices. He also sent me out to learn new methods of preservation of specimens and in this respect I learned about Acrylics which had been invented in Germany in 1936 and which E. I. du Pont de Nemours & Company, Inc. had just acquired a license to produce under the trade name "Lucite." I first saw amethystine crystals suspended in this clear glass-like plastics material and began to learn about it. To embed in those days was slow and costly but I knew that there had to be a cost effective answer. The more I learned, the more I became enamoured with plastics and eventually gave up museum work in favor of them.

That we are now celebrating the 50th Anniversary of the Society of Plastics Engineers, Inc. (SPE) is an important milestone in the history of American Plastics. This paper is my personal overview of these years. I say "personal" as I was involved with many of the developments that occurred. Always in the research and development of the field, I have had many privileged opportunities to learn about new products and processes

often long before they reached the public. I have also known many of the men who have helped grow our industry—and I have worked worldwide as a consultant.

This paper contains only a smattering of what has occurred during these past fifty formative years. Because so many new materials, inventions and products were being introduced in SPE's early years, I will cover the first four decades on a yearly basis, then group the last years together.

At the beginning of each year—or group of years—I will relate my participation, where appropriate. Many of these data have not previously been made public. Following will be the important developments of the year by materials introduced, inventions or processes, products—and finally, what SPE accomplished of significance.

Hopefully, in time, all of these data—and many more—can be expanded into a more complete document, possibly in book form.

1942: In 1942, the beginning of this 50-year overview, a small group of men led by the late Fred O. Conley was busy in Detroit forming a society called the Society of Plastics Sales Engineers, later shortened to Society of Plastics Engineers. Like many, I knew nothing of this. I was busy in the war effort.

In 1942, Unsaturated Polyesters were introduced—but not immediately to the public. The Army came first. Many times in combat, soldiers had to deactivate unexploded bombs. Sometimes they were lucky; other times not. Polyesters were soon used as they could be poured catalyzed around a bomb's fuse mechanism and, when cured, would lock the triggers rendering them harmless. A friend in the Manhattan Project described a post-war automobile made of reinforced Polyester so strong that if, at 70 mph, it would hit a tree, the occupants would probably be killed—we did not have seat belts or air bags in those days—the tree would be demolished but the car would bounce off with little or no real damage.

*The information used in this paper was obtained from the following sources: the personal archives of the author and George M. Beylerian (Beylerian Ltd.), Harold Koeln (Ritepoint, Inc.), Wesley S. Larson (DeBell & Richardson, Inc.); information supplied by SPE, SPI and SAMPE; books and articles by the author and Scott Bader, C. Jackson Craven, City of St. Louis, John M. DeBell, J. Harry DuBois, *Display World Magazine*, Robert Freidel, Dan J. Forrestal, Walter E. Gloor, William C. Goggin, M. Kaufman, George Lubin, Raymond W. Meyer, *Modern Plastics Magazine and Encyclopedia*, Thelma R. Newman, *Plastics Design and Forum Magazine*, D. V. Rosato, SPE, Smithsonian Institution and the USIA.

A complete and detailed Bibliography can be furnished on request.