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Preface

John Ferry was one of the founding fathers of Polymer Science as we know it today. His was a preeminent long-lived scientific career, and he will be long remembered for the widespread impact of his many written contributions, both original and tutorial, his teaching abilities, the breadth and depth of his scientific intuition, and his unique ability to take significant scientific advances using a well selected battery of experimental techniques that he applied to the problem at hand. It has been a pleasure to gather the contributions for this volume because, during the course of collecting them, we encountered many cooperative and informative people who greatly expanded upon what we already knew about this extraordinary man. We were unable to contact many of his former colleagues and associates, especially those whose careers dated back to his times at Harvard Medical School. Many of these are retired, deceased, or were otherwise unavailable. We nevertheless obtained notable contributions and tributes from leading figures in the field like Ignacio Tinoco, Laszlo Lorand, Leo Mandelkern, Harold Scheraga, Elemer Mihalyi, and Birger Blombäck. Many contributions were from colleagues, students, and associates who knew and interacted with him during his years in the Chemistry Department at The University of Wisconsin, including one wistful would-be student (John Finlayson). There were contributions from scientists who were familiar with his work but did not know him personally, or from those like us (MWM, EDC) who met him at about the time or even after he had retired from the Department of Chemistry. For us, there didn't seem to be any differences in his ability or desire to interact scientifically, to digest and skillfully analyze complicated subject matter, and to continue to teach us along the way. As a testimony to his scientific stature and uniqueness, and to the legacy he leaves among us, we attach a letter where he comments on the effect of chloride on the structure of fibrin clots discovered in 1998, some 50 years after his seminal work (see the contribution from Enrico Di Stasio in this issue). He immediately understood the importance of an effect that hardly anyone else in the field seems to have recognized even to this day.

John D. Ferry was admired by a great number of people who appreciated his prodigious scientific abilities, and who also valued him as a colleague, a friend or a mentor, and very likely, all of the above. As the Editors of this Special Issue, we thank all contributors for their efforts with this important endeavor. John Ferry's impact on the field of Polymer Science will endure for a very long time, and we offer this Festschrift as a modest tribute to a great Maestro.

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June 2, 1999

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Dear Professor Di Cera:

Since I regrettably have not kept up with current literature, I was not aware until very recently of your convincing evidence of the specific effects of anions, especially chloride, in controlling the structure of fibrin clots. It is somewhat sobering that a plausible but incorrect interpretation can persist for fifty years. It did not occur to us to suspect any variable other than ionic strength. I am impressed by your detailed analysis of chloride binding and its consequences in the pH dependence of fiber thickness, the importance of two ionizable groups, and the role of fibrinopeptide B release.

Simultaneously with our first work on fibrin clots during the War, I was spending part time on another wartime project on antifouling shipbottom paint. Oddly enough, this also involved a chloride ion dependence. The Navy was protecting against fouling by coating with a heavy suspension of cuprous oxide in a plastic binder, providing a controlled release of toxic copper. In addition to measuring the solubility of cuprous oxide in [oxygen-free] sea water as a function of pH, we studied the rate of dissolution of copper from the toxic coating in "simplified sea water" (sodium chloride solutions) as a function of several variables including chloride ion concentration. When we kept the ionic strength constant by adding sodium nitrate, the solution rate was a linear function of, and nearly proportional to, the square of $[Cl^-]$, as expected if the first product in solution is the well-known complex $CuCl_2^-$. [Subsequently, the copper oxidizes to cupric and is precipitated.] The effect of ionic strength was also qualitatively assessed. But I did not think of chloride as such an active player in fibrinogrn clotting.

Sincerely yours,

John D. Ferry

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