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Foreword

The pioneering experiments of Professor Stellan Hjertén in the early- to mid-1960s were summarized in a 1967 publication in *Chromatographic Reviews* that, still to this day, remains a much cited paper in the capillary and microchip electrophoresis fields. This behemoth of a paper described the electrophoretic ‘free zone’ separation of a variety of analytes in a rotating, millimeter-scale tube, including the separation of analytes ranging in size from small molecules to macromolecular complexes. It is noteworthy that this work was done at a time when the main focus in separation science was the development of useful phases for HPLC – 35 years later, we clearly see this as visionary for its day and time. The eloquent commentary by Pier Giorgio Righetti (the first piece to follow this foreword) provides an entertaining, firsthand perspective on the inner workings of the Swedish scientist (both pre- and post-Ph.D.) who was clearly fixed on bringing about sweeping changes in the field of separation science. Perhaps more importantly, Righetti’s commentary sculpts for us the outline of a Professor Hjertén who had the vision to further the findings of his illustrious predecessors within a framework of multi-faceted research interests. While this has born itself out in many ways over the last 35 years, easily retrievable evidence can be obtained by key-stroking “Hjerten S” into the NIH’s literature search engine for the National Library of Medicine (<http://www.ncbi.nlm.nih.gov/PubMed/>). This site, which houses all literature of direct or indirect relevance to medicine, biomedicine and biotechnology, provides one metric with which to gauge the contribution of a separation scientist to the field of bioanalytical chemistry. From the 125+ papers by his group since 1965, one cannot help but conclude that Stellan was, indeed, doing research in the ‘biomedical arena’ long before bioanalytical chemistry was trendy. This proclivity for travelling ‘off the beaten path’ seems to be inherent in the character of Stellan – and if

you are doubtful of this, the Righetti commentary will certainly convince. Is this surprising with someone who was electrophoretically separating amino acids, corticosteroids, nucleosides, human serum proteins, DNA, viruses, subcellular particles and even blood cell without sieving matrices at a time when the future seemed to so comfortably rest on the shoulders of polymeric matrices? – not at all. It is also not surprising that Stellan encourages those that he trains, and even those with whom he may interact only briefly, to boldly go forward into areas that may not necessarily offer the lowest hanging fruit. My first discussion with Stellan was at the 1995 HPCE meeting in Würzburg where Tim Weir (a Hjertén disciple) introduced us due to my interest in moving CE into biomedicine. The riveting 45-min discussion that took place on ‘how CE could impact biomedicine and clinical laboratory medicine’ was astounding – not only because of the substance of the discussion, but because Stellan was willing to have this discussion with an ‘unknown’ and one of the multitude of CE novices attending the meeting. This is testimony to his inherent ability to encourage those interested in electrophoretic separation science to move in directions that might not be popular and or obvious. So it is fitting that we honor Professor Hjertén with this special issue focused on capillary electrophoresis and its progeny modes and platforms. Many things are certain. It is likely that his early work will be viewed as a keystone in the development of miniaturized electrophoretic systems, and it is certain that his continued research (which shows no sign of tapering off) will continue to advance the field. But what is uncertain, is whether the overall impact of Stellan’s early work will ever be calculable.

Charlottesville, VA, USA

James P. Landers