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Commemoration

Some personal words on the career of Stellan Hjerten

It is a pleasure to write a few personal words on the career of Professor Stellan Hjerten of Uppsala as part of this special issue of *Journal of Chromatography A*. It is fitting to honor Stellan in this way as his contributions to the field of separation science, both in electrophoresis and chromatography, have been extraordinary. I urge all to read the chapter Stellan wrote about his contributions and personal reflections for the book *A Century of Separation Science*, edited by Haleem Issaq. It is amazing how many key contributions to the advancement of the fields of analytical and preparative separation have come from his laboratory.

I remember well the work of his Ph.D. thesis (under Arne Tiselius, a Nobel Laureate) that was written up in 1967. Here, the field of free zone electrophoresis and the use of open tubular columns was detailed. Interestingly, since the detectors at that time were not sufficiently sensitive, Stellan had to use 3 mm I.D. tubing. In order to prevent gravitational effects in the horizontal column, he rotated the column to achieve, at that time, high efficiency. [Unfortunately, man had not yet walked on the moon (1969), so NASA was unavailable.] He even noted that much narrower column tubing would be preferred, but the instrumentation was not yet developed to handle such columns. His other contributions to the field of electrophoresis have included the introduction of polyacrylamide gels, (separately Raymond and Ornstein introduced these as well), agarose gels for non-sieving electrophoresis and then, of course derivatized agarose gels for molecular sieving.

I should also note that Stellan played a most significant role in the development of packing materials for size-exclusion chromatography. He developed cross-linked polyacrylamide gels and agarose and even rigid agarose gels for HPLC. Many of these materials were commercialized and have had a major impact on protein chromatography for many years.

Stellan and I knew each other from the literature and first began to meet in the 1980s when I was focusing on the HPLC of proteins. Since the mid-1980s, Stellan and I have been in phase with one another. I remember, for example, in 1988, we were the only two scientists who both presented lectures at the HPLC meeting in Washington, DC, and then traveled to Copenhagen for the Electrophoresis meeting.

Stellan has been a leader in capillary electrophoresis for many years. He was the first to introduce a neutral coated capillary for CE that became widely used. He also introduced capillary isoelectric focusing, a tool that is of high significance today in the proteomic world. Finally, he has been a leader in developing the principles of capillary electrophoresis to bring it to the position it is today as a major separation tool.

For over 40 years, Stellan has been a dedicated scientist in the field of bioseparations. After all this time, he still has the curiosity and enthusiasm of a young man. It is always a joy to have scientific discussions with him. His love for research and discovery knows no bounds.

In 1996, when he retired from his chair at Uppsala University, I was chairman of the HPCE conference in Orlando, FL. As a part of that meeting, I scheduled a special session honoring Stellan. Stellan had prepared a research lecture but when he came to the meeting, he understood that his lecture should be

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much more visionary. I'll never forget that he began his lecture by saying that he wanted to help guide young scientists for their future careers. He then spent the time of his lecture quoting scientists and others concerning discoveries, career goals, etc. It is fitting to include two quotes that I asked him to provide me for these lines.

> *''We cannot adjust the wind but we can adjust the sails''*

and

> *''Do not follow where the path may lead . . . go instead where there is no path and leave a track''.*

If I may, I would like to add one that describes Stellan well:

> *''There is no limit to what can be accomplished if it doesn't matter who gets the credit''.*

While he was forced to retire from his Chair because of university rules in Sweden, he has certainly not retired from his research or lost his infectious enthusiasm.

I want to wish Stellan and his lovely wife, many years of health and happiness. It has been and continues to be a joy to interact with him. The field of separation science would have been much diminished without his contributions.

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