

Commemoration Csaba Horváth

Csaba Horváth was a man known to this community as regular contributor to this journal, as a marquee player at HPLC Symposia, as a Godfather in the “Hungarian mafia”, as a particularly colorful lecturer, as a fount of knowledge about chromatography and in many, many other ways. Csaba was one of the giants who made HPLC what it is. His fingerprints and tool marks are all over both the technology, the conference that he first dubbed HPLC’84 and this journal. He is intensely missed and will be long remembered.

In this commemoration paper, I will cover a few of the ways that we remember Csaba: as engineer, scientist and mentor. The three labels do not cover the full breadth of all that Csaba was or meant, but they will serve for a personal view of the impact that Csaba has had on a great many of us.

Engineer. As an undergraduate at Yale, it seemed there was a universe of possibilities for specialization—I leaned toward an English major, or something else that would be impractical and confound my parents—although I had a definite idea of what I did not want to do: I did not want to be an engineer. Despite this, I somehow took a Transport Phenomena class Csaba taught, and through it became intrigued by the possibilities offered by engineering. As Csaba taught the class, what became clear was that engineering is not just proficiency with an oversized calculator, or the grim pursuit of tedium, but rather it supported the convincing understanding of how the world works. Csaba dazzled me with the possibilities of engineering. That summer, I went to work for Csaba in his laboratory, and so began the long discussions over our work, about what was happening in chromatography and engineering, the history of these fields, about the wider world and about how best to live. That summer, I got hooked and became an engineer, I wanted to be like Csaba.

Scientist. What are the attributes of Csaba as engineer and scientist? I will focus on four. The first is what every chemical engineer starts by learning: that even complex processes can be broken down into simpler unit operations and boundary conditions, and that accurately assembling and describing these pieces of the puzzle make for accurate description of what is happening in a process. Think of the solvophobic theory: we all can grasp the simple processes involved in calculating the energetics of cavity-formation, solute insertions,

etc., but how many of us would have been able to look at how reversed-phase liquid chromatography is run and had the insight into what molecular-level steps are involved?

The second is depth and breadth of experience or knowledge, so that he could understand something new based on what had come before. It seemed that Csaba never forgot anything, and he was well-educated enough, well-connected enough, gregarious enough and interested in so many things that he had a wealth of tools to draw on to solve any problem. Csaba liked to say that each new generation forgot what came before, so if you re-did what was done twenty years ago, everyone would think it was new. But that was just Csaba, the reality is it *was* new except to those like Csaba who realized the links to what came before, or could establish the links across disciplines that led to breakthroughs.

The third thing is intuition. Csaba had insights that seemed to come out of nowhere. Typical was to bring him a result, tell him the experiment did not work and just as you were about to tell him that it was time to give up and move on to some other project that had a potential to go somewhere, he would tell you why it had not worked and what to do next. Csaba would talk about people who had a “nose” for results, and he had as good a nose as anyone I have met.

The fourth thing is that if Csaba was skilled at understanding how things work, he was equally skilled at letting others share in that understanding. He embodied the fact that science only has value in a community, and only if the results are appreciated in that community. Csaba knew this was no easy task, and it seemed he put at least as much time and energy into helping others understand as he did into generating the insights that he wanted to convey. We all know about the colored slides that Csaba used to great effect in the pre-Powerpoint era when they were hard to create. The quality of Csaba’s writing also attests to the care and multiple revisions that went into every manuscript that he put his name to.

Mentor. Despite his achievements, this is the role many of us value most in Csaba. Keep in mind that he created the first HPLC system. HPLC has had an enormous impact on mankind—the pharmaceutical and biotechnology industries would not be what they are without HPLC and so it has at least indirectly touched and improved many millions of lives.

Csaba's lectures and writings have directly affected the work of thousands of students and researchers. Clearly the enormous impact that Csaba had on society explains the long list of honors that he got, including election to the elite group of engineers he received at the end of his life. Why he did not get the Nobel Prize no one can explain, but the point is that Csaba had an outsized impact on the whole world.

Yet for some of us, it is his impact as a mentor—and exemplifying what it means to be a mentor—that is his most enduring legacy. Not just his students but colleagues of every stripe—including competitors—attest to the experience and knowledge (and Csaba's readiness to share that experience and knowledge) that distinguished him. Csaba had a very full appetite for life, both the scientific and technical parts as well as the finer parts of life. He did not enjoy things in moderation, but that love of excess meant that Csaba always had something to share: whether it was a meal, a story, an insight, a trip to the airport, a new research project.

Csaba knew how to act, as he would put it, meaning he always treated others with courtesy, respect and generosity.

As a mentor he modeled how to act, embodied a life lived well and helped many others lead better lives. To take just my example, without Csaba I would not be an engineer, I would not be at Genentech, I would not have met my wife, I never would have lived in Paris and I would not have the honor of writing this—not to mention that I would not think the way I do and value the things that I do. The profound influence that he had on me is by no means unusual—he touched many of your lives even more deeply. He will be missed but he lives on in us.

Engineer, Scientist, Mentor. Csaba was these and much, much more. I am profoundly grateful for the nearly chance encounter that brought my life into contact with his. I'm also grateful to the editors of this volume for this chance to remember and share what Csaba meant for us all, and for the influence he had on chromatography and each one of us.

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