

Host: When he was a young lecturer at the University of Birmingham in England, Larry Kricka and his wife would pack their bags during the winter break and make their way to the seaside town of Sidmouth.

Once a tiny and forgotten fishing village, Sidmouth was transformed during the 18<sup>th</sup> and 19<sup>th</sup> centuries into a fashionable resort, and its sprawling esplanade still teems with summer tourists, but for Kricka, Sidmouth's charm was best revealed in the off-season.

Years later, he would express his affection for the town in an ode. Measuring 25 lines and 116 words, each beginning with an S, the ode begins by describing the natural beauty of the place. Its *"storm swept sandstone," "seagull shrieked sky,"* and *"sea splashed stanchions."* As the poem goes on, Sidmouth becomes an almost human presence, *"Somber sun scarred streets seek solace/Silt soiled steps stand steadfast."*

Larry Kricka loves Sidmouth. He loves alliteration too. He tends to focus his alliterative attention on subjects he feels deeply about, drawn from his professional life as a clinical chemist as well as from his personal experience.

Over the past few years, he has published verses about DNA and microchips, but there is something especially revealing about the ode to Sidmouth. Taken singly, its lines and phrases are evocative pearls that cast a mood.

Strung together, they have a cumulative effect that is dazzling, almost dizzying, an exhaustive compendium of almost every word that could be applied to Sidmouth, arranged in the best possible order. As one reads it from beginning to end, the ode appears to be a puzzle as much as a poem.

Kricka, who is currently a Professor of Pathology and Laboratory Medicine at the University of Pennsylvania Medical Center, says as much when asked what so attracts him to alliteration.

Larry Kricka: I think it's the challenge of finding words that all begin with the same letter that you string together into sentences that make sense.

Host: What makes the enterprise even more challenging is that no word can be used more than once. Kricka is currently working to complete an alphabet's worth of such constructions.

Larry Kricka: My goal is to try and write a complete A to Z of alliterative verses. There may be a limit of course to what is possible.

Try X for example. There is really not a lot to be said that is meaningful for a xenophobic xylophone.

Host: If it can be done, one gets the sense that Kricka will be the one to do it. Genteel and elegant, almost aristocratic and bearing, he is widely regarded as one of the most competitive and accomplished clinical chemists of his generation. He has tackled some of the field's most challenging questions, opening up entirely new areas of study in the process.

Peter Wilding: He has not tended to embark on research in areas that other people have already trodden extensively.

Host: That's Peter Wilding, Professor Emeritus in the Department of Pathology and Laboratory Medicine at the University of Pennsylvania Medical Center. In the 1970's, when Kricka set out on his career, clinical assays commonly used radioisotope labels, which were notoriously hazardous.

Peter Wilding: Everyone wanted to get rid of the isotopes. This was really like a holy grail for quite a while.

Host: A handful of researchers were exploring the use of light-emitting chemical tags, but the chemiluminescent labels were often too pale to see. Kricka and his colleagues had the idea to pair one of the chemicals, luminol, with an enhancer. They spent years developing the approach, submitting it to exhaustive analysis, testing it on a broad array of biological targets, and finally, patenting it.

Kricka would repeat this sequence—creative thinking followed by meticulous analysis leading to patent—over and over, and not just in the burgeoning field of luminescence.

In the 1980s, working with Wilding in what would become an extraordinarily productive and almost iconic partnership. He extended his hallmark thoroughness to the then unpopular field of microchips. Together, the pair would earn 17 patents.

Paolo Fortina: Larry gets to the heart of the question very quickly. He is able to pinpoint what needs to be done, and he always has a contingency plan. He is always a little bit ahead of the others. You do the experiment, you expect a certain result, he is already thinking, what will be the next thing to be done?

Host: That's Paolo Fortina, Professor of Cancer Biology at Jefferson University. Kricka makes no bones about being competitive. He freely admits to playing his scientific cards very close to his chest, a habit he developed early in his career. As part of a more general credo, he calls "patent or perish."

Larry Kricka: If you really want to protect your invention, you've got to do this. You mustn't reveal it to anyone. You mustn't publish it and you mustn't talk about it. You've got to wait until the patent process is finished, because industry is not going to invest a large amount of money in a technology if they think a competitor is doing the same thing at the same time.

Host: Kricka appears happy to share his philosophy with colleagues and remains one of the most well-liked people in his field. He is enormously energetic and outgoing.

Paolo Fortina: He makes you feel extremely comfortable when you're with him.

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Host: Fortina also noted that there is also the British charm, although the total package is probably closer to Sydney than Sidmouth.

Paolo Fortina: Have you been to Sydney? It's a vibrant city just like New York City, but at the same time it has that British culture and education.

Host: England was actually Kricka's second home. He was born in 1947 in Czechoslovakia, in the spa town of Karlovy Vary, sometimes called Carlsbad, to a Czech father and British mother. The couple, who met during World War II, decided to flee to England with their six-month old son Larry as the Russians gained power.

The family, which grew to include a younger brother, Pavel, settled into a semidetached house in a quiet suburb of Birmingham. Kricka's father, who had owned his own bakery in Czechoslovakia, began working in other people's shops.

Larry Kricka: I used to visit him where he worked. I could eat any cakes I wanted to.

Host: Although his upbringing was in many respects, typically English, he played wing forward on his local rugby team, Kricka displayed, at a relatively young age, an unusual passion for chemistry. Like many future chemists, he collected compounds and scientific equipment, neither of which remained idle.

Larry Kricka: I think if you asked every child who had a chemistry set and made things as a child, all of them would tell you about how they made gunpowder and nitrogen triiodide.

Host: His hands-on approach would be encouraged by his teachers. As a boy, Kricka attended Lordswood Technical

School, which was built in the 1950s as a prototype of a new, more applied and multidisciplinary approach to education, and offered courses in technical drawing and metal and woodworking, in addition to the sciences.

In 1965, he entered what was then a very young and dynamic chemistry department at York University. With its medieval walls and Elizabethan buildings, York would be a kind of Shangri-la for the Birmingham-raised Kricka. He stayed on to embark on his graduate work, for a PhD in organic chemistry with John Vernon.

One summer evening, while eating in the dining hall, he met a young history major named Barbara, who was studying to be a teacher at a nearby college. They were married a year later and soon after moved to Liverpool, where Kricka took up postdoctoral work with Tony Ledwith. The couple bought their first house and had their first child, Simon.

Ledwith encouraged Kricka's interest in the biological applications of chemistry and opened his eyes to the world of patents. A year-and-a-half later, Kricka was offered a faculty position at the Wolfson Research Laboratory at the University of Birmingham. Again, Peter Wilding:

Peter Wilding: Quite frankly, immediately there was a sense of energy that Larry has always exhibited.

Host: Wilding was on the selection committee along with the late Tom Whitehead. Kricka was a perfect fit for the Wolfson, which was emerging as one of the most dynamic and multidisciplinary centers in all of Britain. It was there that Kricka embarked on his groundbreaking work on luminescence, which would eventually earn him a Queen's Award, as well as numerous patents.

Kricka stayed at the Wolfson from 1973 through 1987, with a one-year break in 1981, for a fellowship at the University of California, San Diego.

His family, which had grown to include a daughter Anna, and another son Thomas, enjoyed the outdoor life and the nearby beach. Kricka was excited by American science.

Peter Wilding: We always knew that our future plans might include permanently relocating to the United States.

Host: In 1987, Wilding, who by then had moved to the University of Pennsylvania, invited him to visit.

Larry Kricka: I was made an offer, I've never regretted it.

Host: He has held the post of Director of General Chemistry at the Hospital of the University of Pennsylvania since his arrival. In 2009, he was also appointed Director of the Critical Care Laboratory.

Kricka's only regret is that he does not live closer to his office. He rises at 5:26 am and leaves his elegantly furnished home in the leafy suburb of Devon to catch the 6 am train into Philadelphia. By 7 am, he is in his office, where after catching up with the nighttime clinical staff, he has breakfast.

Larry Kricka: No one calls me at that hour.

Host: Although Kricka hates the local commute, he loves traveling with Barbara to see Simon, Anna, and Thomas, who are now grown and live in Boulder, Austin, and Toulouse, France, respectively.

Kricka loves good food and wine, and he is a connoisseur of both, and he applies his knowledge even when traveling professionally.

Paolo Fortina: No matter where you go, in any place in the world, he will know where to eat.

Host: Back in Philadelphia, he and Barbara are members along with Wilding and his wife and about eight other couples of the Screw Top Wine Club, which has been meeting eight to ten times a year for the past 22 years.

Peter Wilding: Hosts have complete carte blanche. They determine what the wine is going to be. They produce a written description of the wines that will be served.

Host: And Wilding has a record of every description. One evening in 2005, it was Kricka's turn to host.

Peter Wilding: First he presented Champagne Brute, which was bubbly, brazen, boisterous, and beautiful. Next, he presented a Burgundy and Bordeaux Blanc, which was brittle, bashful and balanced, and bold and buxom; and finally, a Burgundy and Beaujolais, which was a bountiful, beguiling, and benevolent beverage.

Host: The effect was vintage Kricka.

Total Duration: 10 Minutes