

Editorial Inspiring Nobel Lectures

Many of OPRD readers will know that I am a keen hill walker and like to spend as much time as possible in the Lake District, in one of England's best national parks. So whilst I see lots of pictures of my favorite hills and lakes in my walking magazines, I was surprised to find one in a recent issue of *Angewandte Chemie International Edition* (ACIE). The picture was a scene of a graphite mine with the Nobel Prize winner Kostya Novoselov in the foreground, the relevance being that the Nobel Prize for Physics last year was awarded for research on graphene, the two-dimensional carbon structure with exciting new properties. ACIE publishes the Nobel Lectures each year, and the first part of each is an interesting biographical sketch, tracing the Laureate's family history and schooling, and is often a lesson in how to overcome adversity. I recommend you to read the Nobel Lectures in Physics by Andre Geim (*Angew. Chem., Int. Ed.* **2011**, *50*, 6967–6985) and Kostya Novoselov (*ibid* pp 6986–7002), both of whom are now based at the University of Manchester in the UK.

Even more interesting for organic chemists are the Nobel reviews from the chemistry prize winners. Professor Akira Suzuki (*Angew. Chem., Int. Ed.* **2011**, *50*, 6723–6737) tells the story of how, one Saturday afternoon in a bookshop in Sapporo, he purchased a copy of H. C. Brown's "Hydroboration" and stayed up all night to read it. He was so inspired that the following year he went to Purdue and studied with Professor Brown as a postdoctoral fellow and followed Brown's advice "do research that will be in the textbooks". Professor Suzuki has certainly done that.

He also recounts the role of serendipity in his research. Some of his results could not be reproduced in Professor Brown's laboratories in West Lafayette, and it was found that traces of oxygen in the nitrogen supply were necessary for the reaction to occur. Suzuki discusses serendipity in research with the comment "in order to make the most of such opportunities, a researcher must have the humility to see nature directly, an attentiveness that does not let even the dimmest spark escape, and an insatiable appetite for research". The same could be said of process chemistry, where the attention to detail is so important.

In the following Nobel lecture, by Ei-ichi Negishi, who was born in China in 1935 but as a Japanese citizen, another tale of the importance of overcoming adversity is delivered (*ibid* pp 6738–6764). Negishi was not always a diligent student, often preferring to spend time on extracurricular activities, such as listening to Western classical music, but that did give him the opportunity to meet his future wife, the daughter of his music teacher. This lack of diligence, and some health problems, caused him to have to repeat a year at school, but this major setback was, he says, a blessing in disguise and set him on the path towards fame. Again an inspirational period as a postdoctoral fellow in H. C. Brown's group led to Negishi being appointed Assistant in Brown's laboratory, so 6 years in the Brown group had an important influence on him, too.

Of course, H. C. Brown was also a Nobel Laureate in 1979, and it is interesting how his inspiration of others has resulted in more

Nobel Prizes for his associates. The resultant research from Suzuki, Negishi and others on cross-coupling reactions has had a profound effect on industry, both in discovery research and in process chemistry, but it is the detailed understanding of the scope and mechanisms of these reactions, outlined in the Nobel lectures, that process chemists will value the most.

As an undergraduate in London in the 1960s I remember being inspired by the teaching of Nobel Laureates Derek Barton and Geoffrey Wilkinson, who always taught the first year's intake of students in those days, presumably so that they could influence the next generation of scientists. That enthusiasm for chemistry has remained with me ever since. I hope the next generation of chemists will have the opportunity to hear and be inspired by recent Nobel Prize winners in their time at university.

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