

his presentation that my 20 years as series editor of *Reviews in Mineralogy* was a (the?) significant reason for the award, but what he was kind enough not to say was that my name has appeared on the front cover of nearly 140,000 volumes and that I put it there. Most who read this will understand that academic bean counters love that sort of thing, and that promotion and its attendant rewards depend to a large degree on name-recognition. So I have enjoyed both, far beyond my real contribution to the science

of mineralogy. More than 40 editors and authors of monographs, and nearly 350 authors did most of the work for the *Reviews*, and I thank them for making the series so successful.

I am grateful to the Society and its members for this singular recognition, all the more enjoyable because it comes from a place that has meant so much to me and my wife over these past 35 years. Thank you all!

1995 Max Hey Medal

Presentation, by the President, Professor Ian Parsons, to Dr S. C. Kohn, 5 January 1996, at the University of Bristol

The Max Hey medal is awarded to young mineralogists, less than 35 years old at the time of the award, who are showing every sign of becoming of becoming outstanding contributors to our science as their careers unfold. It is slightly disquieting that this year's winner, Simon Kohn, currently a NERC Advanced Research Fellow here in Bristol, was born in 1961, when I was already one year into my Ph.D. programme. Like others of my generation, as I got round to publishing my Ph.D. work, and for many years subsequently, when I sent it to Max Hey as editor of *Min. Mag.*, I would receive charming,

hyphening, 'the Lloyd George-Bonar Law squabble', which according to Max could properly only be interpreted as involving three people. Sadly, today's editors, under pressure to publish themselves and grudgingly permitted to give their time to journals which do not figure in their institution's balance sheets, have little time to explain the subtleties of language, even to the young. It is however, highly appropriate that the Mineralogical Society's young scientist medal should commemorate Max Hey, who put in so much effort on their behalf.

Simon graduated in Chemistry at Oxford in 1983, doing a project in his final year on magnesia-chromite refractories. This must have fired an interest in *compounds of mineralogical interest* because he then moved to Manchester to do a Ph.D. involving high-pressure synthesis work, and electron and ion-probe analysis, on trace element partitioning in igneous systems. This work showed that melt composition plays a major role in trace element partitioning, and much of his subsequent work has been concerned with melt and glass structure. He stayed in Manchester as a post-doctoral Fellow to develop the EXAFS technique to study the atomic environment of trace elements, using the Daresbury Synchrotron Source, and developed an intense collaboration with workers at Warwick, studying the dissolution mechanisms of H₂O, CO₂ and F in silicate glasses using magic-angle-spinning NMR. After three years at Manchester he moved to the Department of Physics at Warwick, but maintained his links with Manchester as an honorary research fellow. His NMR work on volatiles in glasses continued, and he developed *in situ* high-temperature MAS NMR for work on mineralogical problems such as displacive phase transformations in framework silicates. He has been a Fellow here in Bristol since



Simon Kohn (*right*) receiving the Max Hey medal from Ian Parsons.

lengthy, laboriously hand-written editorial comments, putting me right, for example, on the abuse of 'non-qualifying adjectival clauses' and the proper use of hyphens. The letter I have before me, dated 1967, cites as 'the classic example' of illegal

1993, working on the extremely fundamental and important question of water incorporation in mantle minerals at high pressure, while continuing his work on glasses and CO₂ speciation on magmas.

Simon has already produced nearly 30 papers in Earth and Materials Science journals. He has inhabited departments of Chemistry, Physics and Geology, effortlessly, it seems, occupying the ground between these disciplines. That is true of Mineralogy itself; it is an Earth Science, yet it constantly uses sophisticated physical and chemical techniques, often pushing them to their limits and leading to new

developments. We can all, I am sure, appreciate the excitement of applying the modern physical methods that Simon has mastered to vital questions such as the properties of the minerals of the deep mantle, the convective motions of which drive the unending changes which make our planet's surface so diverse and challenging.

Simon Kohn, I am delighted to be able to present you with the Max Hey medal. I am sure we will read your works frequently in the future, and I look forward to seeing solutions to the very important problems you are attacking.

Acceptance by Simon C. Kohn

Thank you, Ian, for your very kind introduction. I am rather lost for words, as I am so unused to hearing myself described in such glowing terms. In fact, I am still recovering from the shock of having received your letter; I had always assumed that these awards were won by other people, more brilliant than myself. It's also a pleasant surprise to find that I am still (just) eligible for a medal for 'young scientists', although some of my younger colleagues here in Bristol might disagree with this definition. So my first thank you is to the Mineralogical Society for bestowing this great honour upon me. The first two years of the Max Hey medal have set such a high standard of recipient, I feel an enormous pressure to avoid 1995 being remembered as the year things started to go downhill. Hopefully this award will have the effect of keeping me on my toes rather than making me complacent.

Acceptance speeches are usually full of humble protestations of surprise and gratitude to mentors and I have sometimes wondered if they are always entirely sincere. However, I now find that this is exactly how I feel at this moment. I would like to stress that although I am here to accept this award today, it is really in recognition of work in which I have been part of a team; my many collaborators deserve equal credit.

I read Chemistry as an undergraduate at Oxford University, but the highlights of the course for me were a 2nd year option in Mineralogy and my 4th year research project (which was performed in the Department of Geology and Mineralogy, as it was then known), supervised by Barry Butler. I enjoyed that final year project immensely, and Barry was a model supervisor. I was becoming hooked on research and I decided to carry on to do a Ph.D. My move to Manchester was a good one, as I went to work with Dave Hamilton and Mike Henderson on the effects of water on trace element partitioning in igneous systems. They introduced me to experimental petrology and allowed me to explore a

number of different directions within my project. This helped enormously in the development of ideas for postdoctoral research.

Towards the end of my Ph.D. studies I put together an application for a NERC fellowship. I was by now interested in silicate melts, and in particular the structural role of trace elements and volatile components. The main thrust of the project was to involve X-ray absorption work at Daresbury, with complementary EPR at Manchester. However, I wanted to add a third technique to strengthen my proposal. I knew something about NMR from my Chemistry undergraduate days and thought that this might be the extra technique I needed. By a lucky chance I got to meet Ray Dupree, a physicist at Warwick University, and asked him about the possibilities of working together on the effects of magmatic volatiles on glass structure. This turned out to be enormously good fortune; I soon discovered that Ray was an internationally respected figure in solid state NMR who had published several ground-breaking papers on the application of NMR to glass structure. I was also lucky in being able to work with other outstanding scientists in Ray's group; in particular Ian Farnan and Mark Smith, who have both gone on to great things, were very influential in our work on the dissolution mechanisms of water in silicate melts.

Through this period I was still based in Manchester and developed further collaborations with Mike Henderson. I would like to make a particular point of thanking Mike, who has been without doubt my greatest academic supporter and a continual influence on my work. Even though he has the busiest of schedules, he always finds time to talk when I call and start pestering him about matters momentous or trivial. I still call him frequently with requests for advice on everything from crystal chemistry to the preparation of this speech. (His advice, incidentally, was "keep it brief!").

The NMR studies had been the most successful component of my fellowship research, so I moved to

Warwick to strengthen the collaboration with Ray Dupree. I spent the next 3½ years, learning more about NMR and applying it to a wider range of geochemical and mineralogical problems. We performed ambient and high temperature studies of framework silicates and developed our studies of volatiles in glasses. The latter included collaborative work with Richard Brooker on the dissolution mechanisms of CO₂ in glasses. Without Richard's enthusiasm and long hours in the lab at ASU this work would never have got off the ground.

I have spent the last 2½ years in the vibrant environment of the Geology Department here in Bristol. This has been a most enjoyable period and I thank all my friends and colleagues here for stimulating discussions in the lab, over cups of tea and in the pub (though not necessarily in that order). I would also like to acknowledge my colleagues in the international communities of scientists working on

silicate melts and glasses and on the application of NMR to earth science problems. Discussions with them at many meetings over the years have, for me, been one of the most enjoyable aspects of this way of life.

I would like to thank my parents for a wonderful start in life. My father had very strong views on the value of working hard at one's education, and I know he would have been very proud to see me receive this award. Finally, I thank my wife Tracy, and young sons Daniel and Alex for their invaluable support and understanding. Thank you especially, Tracy, for putting up with the uncertainties and nomadic lifestyle of a permanent post-doc.

So, to conclude, I would like to again express my gratitude to the Society for this great honour. I hope I can live up to expectations as a recipient of the Max Hey medal. I will do my best to do so.