Acceptance of the Mineralogical Society of America Award for 2006

DANIEL J. FROST

Bayerisches Geoinstitut, Bayreuth, Germany

Mr. President, Members of the society, and guests:

I am exceedingly grateful to the MSA for this award and to Dave for thinking up such kind things to say about me. Reading through the list of previous awardees, one is struck not only by their exceptional caliber but also by the enormous challenge of finding something original to say in an acceptance speech. It's also a great honor to become a life member of the MSA. I never received a life membership before and I will work hard to utilize this benefit for as long as possible.

I don't think that I have really exerted much control over my career to date. I became an experimental petrologist quite by chance but certainly without knowing what it really involved and all further opportunities were so obviously placed in front of me that I could hardly have missed them. I am, therefore, really indebted to all those who have helped me along the way and who have given valuable support and guidance.

I studied geology and chemistry as an undergraduate at the Royal Holloway College of the University of London. This was probably the only considered decision I ever made because I thought that studying geology would be interesting, fun, and with the occasional stroll in the outdoors, while at least I could then get a job in chemistry. Of all the courses I took, however, I found those that had some dealing with the Earth's mantle were the most engaging for me. There seemed to be a great challenge in piecing together the diverse lines of evidence we have for the nature of this seemingly abstract but major domain of the Earth, but I had the nagging feeling that there must be more to it than just radiogenic isotopes, which was the major bias in my undergraduate classes.

I would certainly not be receiving this award if I had not by chance decided to do a Ph.D. with Bernie Wood in Bristol. The low number of job vacancies in the U.K. chemicals industry at the time was a major motivating factor in this. It was a great experience to work in Bristol and I learned a lot from Bernie concerning his attitude towards science and life in general. I am very grateful to him for introducing me to high-pressure experimental petrology and for his continued support and advice since leaving Bristol. I think the freethinking egalitarian environment that still permeates the department in Bristol is a major benefit to studying there. There is this almost subversive attitude where it is a matter of principle to challenge what seems to be becoming accepted. From Bristol I inherited that prickly feeling that you get sometimes from reading the lines "its now generally accepted that..." in the introduction of a paper. There were an outstanding group of students and post docs working in Bristol while I was there who produced a motivating and fun atmosphere. I am grateful to them all and in particular Simon Kohn, Jon Blundy,



Alison Pawley, Andrew Robinson, and John Brodholt. I am also indebted to George Helffrich for, among other things, pointing me accurately in the direction of the Geophysical Lab and giving me a good push as the end of my time in Bristol neared.

I spent almost two years working at the Geophysical Lab of the Carnegie Institute of Washington. The research environment there was superb and it was a great pleasure to work with Yingwei Fei and Charlie Prewitt from whom I learnt so much. Fei is a master of all the tricks you need to do high-pressure experiments and he passes them on so generously. I made so many good friends there and I am so pleased that most of them now have positions in some very pleasant locations all over Europe.

For quite a few years now I have been employed at the Bayerisches Geoinstitut in Bayreuth, Germany, and I have great difficulty trying to imagine a better or more agreeable working environment. The institute remains a vibrant and exciting place, which is largely due to the through flux of visitors and post docs. Most of what we get the credit for would not be possible without our fantastic technical staff. Entropy and its agents, who visit our lab on occasion, can reduce high-pressure equipment to a heap of broken junk in a relatively short time scale and it takes hard work, hard funds, and excellent technical support to keep this process in reverse. Although my main interests lie in

understanding the Earth's mantle and its evolution, the privilege of working in high-pressure research, particularly in Bayreuth, is that you become exposed to a diverse range of fields across science. European translational funding programs ensure a steady stream of scientists from a multitude of backgrounds through our lab, which means we are always faced with new problems and new chemical systems. With the many in situ facilities now available for high-pressure research the future looks exciting and challenging, and it is a somewhat daunting task to ensure that we take enough advantage of all these opportunities. Over the last years it has been a real pleasure to be involved in such an exciting range of projects. I have particularly enjoyed working with Brent Poe, Ross Angel, Falko Langenhorst, Steve Jacobsen, and Catherine McCammon and have also learnt a great deal from our many visitors such as Reidar Trønnes, Jiba Ganguly, Joe Smyth, and Tom Shankland. In particular, however, I have benefited from the support and encouragement of Dave Rubie.

I was in my office when I received the phone call from Bob Hazen last year telling me that I had got the MSA award, and it crossed my mind that he may have had the telephone number wrong because Tiziana Boffa Ballaran was receiving the MSA award for that year (2005) and she has the office next to mine with a telephone number only one digit different. It became obvious, however, that Bob was talking about the prize for the following year and then I realized that the MSA award was moving down the corridor of the Bayerisches Geoinstitut. The logical explanation for this, if there is one, must be that the Geoinstitut provides such an excellent nurturing environment for young scientists. And if there is a single individual who can be credited for developing this environment it must be our farsighted founding director Fritz Seifert (MSA awardee, 1976) who retired in 2006.

Finally I would like to thank my wife Barbara who puts up with my hours of work and who gave up a large chunk of her own career to look after our children. I wish I could tell her every day how much I appreciate that—but most days it slips my mind. I would like to again express my deep gratitude to the MSA for this medal and for all the hard work they put into making our society the eminent, affable, and international organization that it remains.