

**THE PAST PRESIDENTS' MEDAL FOR 1995
TO
HUGH J. GREENWOOD**

The Past Presidents' Medal is awarded annually for excellence in research to a scientist who has made outstanding contributions to the mineralogical sciences in Canada. It gives me great pleasure to present Hugh Greenwood as the 1995 recipient of the Past Presidents' Medal of the Mineralogical Association of Canada. Hugh Greenwood is one of those rare geologists who has been able to make significant contributions in each of the areas of experimental, theoretical and field studies. His early experiments at Princeton University and the Geophysical Laboratory on the role of volatiles in metamorphic equilibria (1962) and his very basic experiments on the properties of mixed gases, CO₂ and H₂O (1962, 1969, 1973), emphasized the important role that volatiles play in metamorphic reactions and the complexity of these reactions. Hugh realized that graphical techniques did not do justice to the complexity of metamorphic reactions. He developed mathematical methods (1967, 1968) and, with his colleagues (1986), developed computer models to deal with these complex equilibria. He never lost sight of the fact that the rocks are where the real questions should be posed and answered. As he stated in 1979, "I would like to strike once more on my favourite drum that theory or experiment without reference to the rocks is like Gauguin without reference to colour."

A special issue of *The Canadian Mineralogist* was published in 1991 to honour Hugh Greenwood, and the comments of his colleagues and former students in that volume eloquently show why he is so deserving of the Past Presidents' Medal. J.B. Thompson stated that Hugh's early forays into linear algebra inspired Jim to begin the trend of thought that led to the paper on Modal Space. Jim also stated that Hugh was "always ready to listen to the unconventional (or even outrageous)". Greg Anderson and C. Cermignani thanked Hugh for showing petrologists how to combine experimental work, field work and thermodynamics to answer significant geological questions and for doing so "with matchless elegance". Dugald Carmichael stated that "Every one of his papers has made a difference to the way we do things" and Hugh's "1962 paper changed the course of my career". Rob Berman, one of his former students at the University of British Columbia, thanked Hugh "for years of generous assistance and support, and often times inspiration", and another former student, Urs Mäder, thanked Hugh for support and advice and for ensuring completion of the Ph.D. "on time by setting sail and venturing into new dimensions".

These new dimensions include his sailboat and his beloved guitar. However, I am honoured and happy to bring Hugh back to earth and the more mundane concerns of The Mineralogical Association of Canada, and present him with the 1995 Past Presidents' Medal.

Peter L. Roeder, Past President

Thank you, Pete, for those embarrassingly kind words. I looked back through several years of *The Canadian Mineralogist*, and am deeply honoured to be included among those to whom this award has been made. It was a wonderful, almost unbelievable, surprise to get your phone call telling me about it.

It is usual for recipients of awards and honours to publicly thank some of those who, in some way, contributed to their standing where I stand today. Of course, the first in my list must be the committee of Past Presidents of MAC, who have included me in the list of Medal winners. I shall try to thank many others too, although it is impossible to credit all those beneficial influences.

Most of us who have had some success had some outstanding teachers; first among these, I must credit Ken McTaggart, teacher, mentor, friend, and colleague. Ken introduced me to his habit of taking petrological problems seriously while not taking oneself too seriously. Forty years of watching Ken ask his gentle, penetrating questions of himself and all those around him has been a profound education. Another influential teacher was Dick Holland, then of Princeton University, who, without really meaning to, always made one feel that perhaps some key and obvious feature had been overlooked. This occasionally gave people problems at times such as final oral examinations! However, if one can cultivate this attitude to one's own work, one can be driven to go over it again and again, looking for flaws. In my experience, I was never able to catch them all, but it's good for the soul (and for the reader) to give it a serious try. And, of course, there was the great Arthur Buddington, who would slap his thigh, roar with laughter, and say, "Greenwood, you can't be serious! You should read some of these papers." Upon which he would produce a huge list of reading that would make a petrology course in itself.



HUGH J. GREENWOOD

Perhaps my best teachers have been my students. Thirty grad students and hundreds of undergraduates have formed both the foreground and background of my last thirty years. Scrambling to stay ahead of keen, younger minds unencumbered with pre-judgment or irrelevant "facts" has been a salutary experience.

I must also mention my parents, who combined encouragement with the insistence that the only effort

worth making is one's best effort. And my wife, Sylvia, should also be getting a medal. A medal for sticking with me for forty years, a masochistic feat if there ever was one, for raising our three excellent children to be reasonable and energetic adults, a medal for teaching me how to enjoy life and people while still making some professional progress.

Most of us don't stand where I stand today very often. For me, it is unique, and it seems certain that I shall not stand in such a place again. Knowing that I can soon make my escape from the podium, and knowing that at the moment you cannot escape, I shall take the liberty of delivering some simple homilies to the younger scientists in the room, as a sort of recipe for success.

Choose your problems carefully. Make sure they have some fundamental content, which, when you are done with them, will continue to be useful even in loosely related fields. Squeeze every drop of juice from them. Look for the geological or mineralogical application in what you do. Bring it to the attention of the reader. If you cannot see an application, perhaps there is none. Perhaps you should study another problem.

Write so as to inform rather than to impress. Nobody has the time to wade through vague or redundant accounts of dubious studies. Felix Chayes once referred to this as "hacking one's way through thickets of dense verbiage." Our language is wonderfully powerful and capable of exactitude. Don't waste it. You will find in the attempt to write clearly that you know less about your subject than you thought. The pressure to write clearly will force clear thought.

Good Luck! Have fun! I always have.

And finally, my deep thanks to those who have been so kind as to place me here at this time, allowing me into the company of predecessors who have my greatest respect.

Hugh J. Greenwood
