THE PAST PRESIDENTS' MEDAL FOR 1985 TO DENIS M. SHAW

Mr. President, ladies and gentlemen,

It is with great pleasure that I present to you today Professor Denis M. Shaw, winner of this year's Past Presidents' Medal.

Denis Shaw is one of the most distinguished scientists in the geological community in Canada and is widely known and admired in the world at large. He is, indeed, among the best known, and most widely quoted Canadian scientists in the international literature of geochemistry.

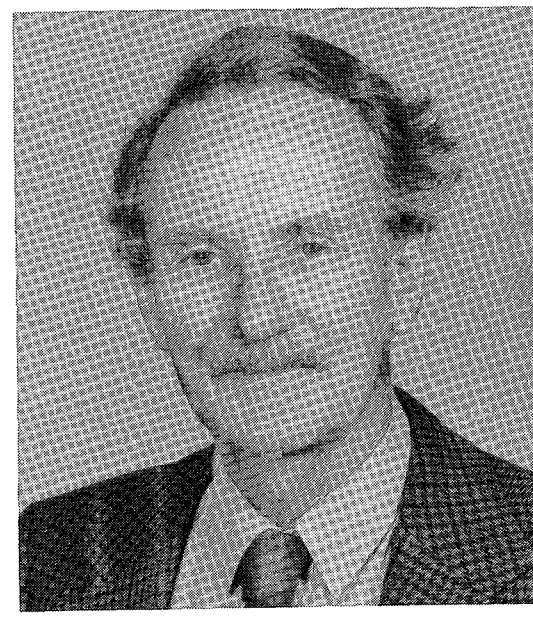
Dr. Shaw's major accomplishments have been in the field of inorganic geochemistry. He began his career with the measurement of the abundance of trace elements in rocks, when the subject was not as popular as it has become in the last decade. His work was and continues to be considered the standard of reference for the abundances of many minor elements in crustal and mantle rocks. In his pursuit of these data he established a world-reknowned laboratory for chemical analysis of rocks and minerals at McMaster, and has eagerly pursued new and better methods of analysis, beginning with emission spectroscopy, and most recently turning to neutron-activation analysis.

But Dr. Shaw's interest in element distributions did not end with obtaining better data. He has published widely on the interpretation of element distributions in rocks, and is well known for his mathematical development of the theory of fractionation of trace elements during anatexis, and for models for the generation of the crust. Currently he is breaking new ground in the investigation of boron and lithium in the mantle and crust, using prompt-gamma analysis.

In recognition of his extensive accomplishments in geochemistry, he has served as Editor-in-Chief of *Geochimica et Cosmochimica Acta* and has been active in the Geochemical Society. His critical abilities and judgement on matters broadly relating to the earth sciences are widely recognized and sought.

In consequence of these accomplishments, Mr. President, the Past Presidents' Medal Committee concluded that Dr. Shaw is the ideal candidate for this year's medal. We feel that the choice is particularly apposite since amongst his many contributions to Canadian Earth Science, he is a founding member and a past president of our Association.

Citation prepared by A.J. Naldrett
Chairman, Past Presidents' Medal Committee



DENIS M. SHAW

Monsieur le Président, chers amis, je tiens à commencer à répondre en suivant la bonne formule canadienne, qui exige que je prononce du moins quelques mots dans la langue que j'aime presqu'autant que l'anglais. Je veux donc exprimer mon très grand plaisir d'avoir reçu cette médaille.

The Mineralogical Association has a warm place in my heart; I have seen it grow, flourish and diversify in many ways, from an informal meeting which took place in the early 1950s in the Mines Branch in Ottawa one hot August day, when a group of about 20 people, myself included, met to decide what to do to continue the publication tradition initiated by the *Contributions to Mineralogy* some years before by M.A. Peacock. That meeting led to the founding of the Association shortly thereafter, and the beginning of our journal.

Some time later I occupied the office of President, immediately after Wilson Moorhouse, who left a hard act to follow by delivering a President's address couched entirely in verse of entertaining cadence but dubious poetic quality. My own Presidential address, in stark contrast, reflected on some of the philosophical aspects of our trade. In retrospect, it says much for the virility of our Association that it managed

to survive two such addresses, which a group of lesser mortals would have been hard pressed to overcome. I was much concerned with the problem of causality at the time, and was both heartened and yet dismayed to see causality dramatically displayed by the conviction displayed soon afterward by many of our members that Presidential addresses should never henceforth be given.

But now, Mr. President, custom demands on occasions such as this that the recipient recline metaphorically on the psychiatric couch and make an *apologia pro vita sua,* or in other words display himself in public.

I have been fortunate in the people who have influenced and helped me in the mineral sciences. First among these chronologically I put Bob Nockolds and C.E. Tilley when I was a sort-of undergraduate at Cambridge (I say "sort-of" because in fact I was technically a graduate by virtue of a couple of years' work in hard science early during the second world war). These two masters, in very different ways, developed in me an inexplicable fondness for unusual mineral assemblages together with providing the technical means to study them, *i.e.,* the petrographic microscope.

From Cambridge I followed Frank Beales, who had been offered a post in McMaster the previous year, and who had created a sufficiently adequate impression that another junior staff member was sought from the same institution. It became evident, however, that a Cambridge undergraduate degree provided only a part of the qualifications for teaching in Canada, so I embarked on graduate work at the University of Chicago, an enterprise facilitated by the Dean at McMaster, Herb Armstrong, who had himself taken his Ph.D. there in economic geology.

I arrived in Chicago at a particularly opportune time, which can best be described in the words of F.J. Pettijohn: "The situation at Chicago, fortuitous though it was, provided the climate for a major expansion in teaching and research in geochemistry unrivaled anywhere else at the time" (1984, p.201). Among the distinguished faculty members whom he goes on to mention, and who influenced me personally, there were H.C. Urey (in whose laboratory I worked briefly), Harrison Brown, Hans Ramberg, Tom F.W. Barth and my supervisor-to-be, Kalervo Rankama. I might add to that list one name which he did not include, which was Pettijohn himself. The graduate students whom I came to know are geochemists and cosmochemists whose names and idiosyncrasies are now familiar to many: Wasserberg, Craig, Patterson, Epstein. It was an exhilarating time, and I managed to reach the Ph.D. without taking a single graduate course, although I managed to lose my supervisor along the way somewhere, when he decided to return to the land of Sibelius from which he had come.

The McMaster department to which I returned, and which has been my base ever since, grew over the years. I had marvellous help and stimulating relationships with Herb Armstrong and with colleagues who joined us one after another, chief among whom have been Gerry Middleton, Henry Schwarcz and, of course, in the isotope field, Harry Thode. The work that I have been able to do has benefitted more than they may realize from my continuing association from these men, from more recent colleagues, and above all from the students and post-docs who kept me from the more obvious symptoms of mental atrophy and physical degeneration, at least until recently.

Perhaps I may be permitted to say a few words about how I have tried to work. It may be surprising to many to learn that I have tried firmly to keep the rocks always in mind, for they cannot be reduced to analytical measurements. It is desirable, especially in a department like McMaster, which is heavily committed to instrumental techniques (sometimes perhaps too much so!) to remember always that the rocks are where the problems are found and the rocks must provide the tests for theories and hypotheses, or as Pettijohn wrote somewhere else, in a quotation which I used on the title page of a book long ago (and for which I have lost the source!), "there is nothing so sobering as an outcrop".

Secondly, I have tried to keep in mind the principle enunciated once by O.F. Tuttle, that "minerals are the archives for the rocks" *i.e.,* they store up valuable historical information concerning the processes and events to which rocks have been subjected. This is perennially true and provided for me some of the motivation for looking again at the scapolites, which were rather neglected among the rock-forming minerals when I first started working with them. But that all changed, and it was said later that everyone at McMaster was expected to write at least one paper on scapolite.

Lastly, it is necessary to choose one's research targets carefully, and to try to choose some problems of narrow intensive interest and others which contribute to broader views of the earth-science landscape: one keeps thereby a better sense of perspective as to what is important and what is trivial. In brief, I have tried to keep filing my finger nails while waving my arms.

At this point I think that my homily has continued long enough. The patience of a captive audience should not be overestimated, as we are reminded by the story of the Presbyterian minister who took his friend, a Catholic priest, along to divine service to explain the significance of the liturgical fine points: when the officiating minister went to the pulpit to deliver the sermon, and solemnly took his watch from his pocket and laid it on the lectern, the priest asked "And what does this signify, reverend col-

league?", to which he received the reply "Not a damned thing, Father".

In conclusion I should express my thanks to the University which I serve, and which has provided me with much support and encouragement over the years, as well as the facilities to indulge my taste for racquet sports. It would be remiss of me to omit my thanks also to two people whose support has helped me find the time to do a little science. The first is Helen Elliott Roberts who, for seventeen years, carried much of my editing load before her untimely death three months ago. The second of course is my wife Susan, who tells me regularly every night that it is time to stop the geochemistry and go to bed.

Un grand merci à vous tous, pour l'honneur que vous m'avez offert en m'attribuant cette médaille.

REFERENCE

PETTIJOHN, F.J. (1984): *Memoirs of an Unrepentant Field Geologist*. University of Chicago Press, Chicago, Ill.