PRESENTATION OF THE HAWLEY MEDALS FOR 1987 TO STEPHEN J. GUGGENHEIM AND RICHARD A. EGGLETON

Ladies and Gentlemen,

The Hawley Award is presented to the authors of the best paper of the year published in *The Canadian Mineralogist*. Most you will know the international scope of *The Canadian Mineralogist,* with only 43 percent of the accepted manuscripts authored by Canadian scientists. Of the other 57 percent, 23 were written by authors from the United States and 34 percent from outside North America. The editorial standards are uncompromising, as I can personally attest. This year there are two coauthors of the winning paper, but we shall only have the pleasure of personally awarding a medal to one of them, as one of the authors works in Canberra, at the Australian National University.

The prize-winning research is entitled "Structural Modulations in Iron-Rich and Magnesium-Rich Minnesotaite" (*Can. Mineral.* **24,** 479-497), by Stephen J. Guggenheim of the University of Illinois at Chicago and Tony Eggleton of the Australian National University at Canberra, Australia. Dr. Eggleton cannot be here today and send his regrets, asking Dr. Guggenheim to accept on his behalf. His letter of acceptance has a delightful sentence complimenting the Mineralogical Association of Canada for innovative recruiting practices. It seems he was just pondering his reply to an invitation to become a member of M.A.C. when he received a telegram telling him of the Hawley award! While we encourage you all to compete for the best paper, please realize that not every invitation to join is followed by a medal!

Dr. R.A. Eggleton, cowinner of the medal, received the Bachelor's degree from the University of Adelaide, with first-class honors in 1960, and in 1965 received the Ph.D. degree from the University of Wisconsin, Madison, where his thesis was entitled "The Crystal Structure of Stilpnomelane". In 1966 he moved to Canberra and has remained since then, continuing to work on layer minerals and the weathering reactions in which they participate.

Dr. Stephen Guggenheim, who is with us today to receive the medal on behalf of both authors, received the B.S. degree from Marietta College, in geology, followed by the M.S. degree from S.U.N.Y. at Stony Brook for research entitled "X-ray Diffraction Study of Heat-Treated Lunar Pigeonites". Following the M.S. studies at Stony Brook, Stephen studied at the University of Wisconsin, Madison, where he presented a thesis entitled "Cation Ordering in Sub-Group Symmetry in the Micas". Since 1976, he has been on the faculty at the University of Illinois at Chicago, where he continues his interest in layer minerals, with a special emphasis on the relationships between crystal structure, crystal chemistry, and stability.

Steve, your paper with Tony Eggleton on structural modulations in the tricky layer structures is a first-class piece of work that easily captured the attention of the review committee, who were unanimous in their recommendation.

Ladies and Gentlemen, I have the pleasure to introduce to you our 1987 Hawley Medalist, Dr. Stephen Guggenheim.

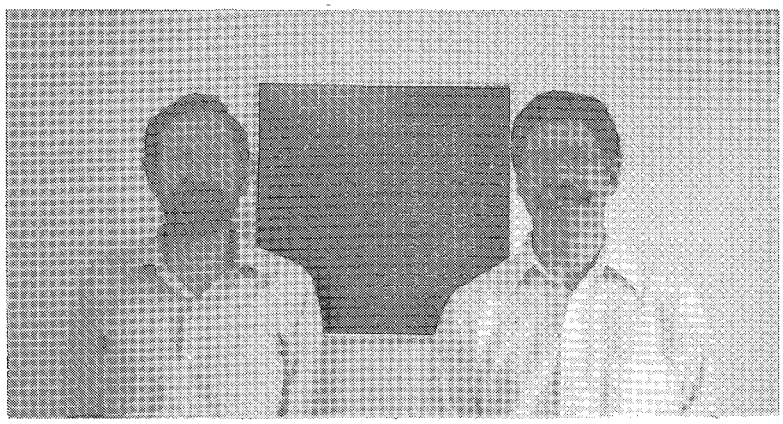
Citation by Hugh J. Greenwood
President, Mineralogical Association of Canada

Mr. President, Ladies and Gentlemen:

It is an honor to be acknowledged with Tony Eggleton as the 1987 recipients of the Hawley Medal. I thank the Mineralogical Association of Canada for choosing our paper on minnesotaite to be recognized in this way.

I thought that it might be of interest to place our work in historical perspective. As you know, the Hawley Award was named in tribute to James E. Hawley (1897-1965), an eminent Canadian mineralogist. Like both Tony and myself, James Hawley received his doctorate at the University of Wisconsin at Madison. His doctoral thesis, in part, involved the inorganic formation of greenalite and its relationship to organic-like forms in Archean iron formations. This work was published (Hawley 1926). At Queen's University, Hawley and E.L. Bruce were Fred Jolliffe's major professors; in 1935, Jolliffe published his thesis on greenalite and "mineral X", to be named "minnesotaite" by Gruner (1944). My initial work on modulated layer silicates started in 1974 with greenalite and resulted in a *Canadian Mineralogist* paper (Guggenheim *et al.* 1982) with coauthors S.W. Bailey, R.A. Eggleton, and P. Wilkes. Our parallel study on minnesotaite, of course, came to fruition just recently. Although perhaps coincidence, it seems appropriate in hindsight that our work can reflect on Hawley's contribution of over one-half century ago.

The mineralogical problems relating to minnesotaite that were recognized about fifty years ago came to my attention around 1975, but much of the present paper was the result of a sabbatical taken at Australian National University in 1983. A sabbat-



RICHARD A. EGGLETON AND STEPHEN J. GUGGENHEIM

ical is a wonderful concept in itself, but the success of this sabbatical in particular required the confluence of several factors involving both individuals and institutions. Perhaps the most important individuals have been my wife, Linda, and my two young children, Lauren and David, who showed strong support, love and encouragement and who were all willing to participate in an adventure with me to the other side of the world. I thank also my host and coworker, Tony Eggleton, and those in the Department of Geology and the Research School of Chemistry at ANU for making us feel at home and by providing the conditions suitable to develop not only the minnesotaite research but also research on the entire group of modulated 2:1 layer-silicate structures. I thank also the University of Illinois at Chicago for still believing that sabbaticals are important and certainly important enough to pay half salary, the National Science Foundation for recognizing the worth of the project and in providing the remainder of support, and the Australian National University for the facilities and desire to accommodate visitors, with friendliness and style.

There are three additional people who are at least indirectly responsible for this research, as they were key people in my professional development. Dwayne D. ("Stony") Stone at Marietta College showed me that the hobby of mineral collecting could be turned into a professional career, or perhaps more importantly, that my hobby could be my career. Jim Papike at Stony Brook, now at the South Dakota School of Mines, introduced me to the principles of crystal chemistry in a way that fostered critical analysis. Finally, S.W. ("Bull") Bailey continued that development and specifically introduced me to the intellectual excitement of layer silicate mineralogy. Of course, other people have had an impact on my professsional development, but I think that these three were particularly influential.

We, of course, feel great satisfaction in being recognized by our peers. At the same time, the Hawley Medal should serve to remind us that colleagues need occasional acknowledgement also for fine work. Clearly, there are not enough Hawley medals available for all the fine scientific achievements deserving recognition. Nonetheless, recognition remains important in the development of scientific ideas and careers. Unheralded labor should not be the rule, especially for exceptional work. I accept this award with gratitude and pride, but I suggest also that we all be reminded to acknowledge excellence by our peers in scientific achievement, not only by formal recognition through such awards as this, but also by a simple statement of acknowledgement and encouragement to an appropriate colleague: for example, by saying, ". . . that was a nice paper with some good ideas . . ."

In conclusion, it is with great appreciation that I accept the Hawley Medal for 1987 and, because Tony is unable to attend this ceremony owing to budgetary constraints, I accept the award also on his behalf. We both thank the Association for honoring our work in this way.

Stephen Guggenheim

REFERENCES

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Ladies and gentlemen,

I was delighted and overwhelmed to find I am to be co-recipient of the Hawley Medal for 1987. This pleasure is not only for myself, but at the recognition this International Award gives to science "down under". Steve Guggenheim and I worked here together on modulated layer-silicates for what was a most productive and exciting year. I believe Steve has insights and enthusiasm which inevitably bring out the best; your decision amply confirms that view.

Over twenty years ago, when, as a student of Bull Bailey, I first saw precession photographs of minnesotaite, I was excited by its strange extra reflections, and surmised an affinity with stilpnomelane, the subject of my dissertation. In fact, with the confidence of a Grad student, I *knew* that the structure would turn out to have stilpnomelane-like islands of silica tetrahedra. While it is salutary to have had that "knowledge" shaken into triple and quadruple chains, it is also a relief to have helped straighten out the matter. It will not come as a surprise to the Association that this award should have its roots in Bailey's laboratory. The brilliance of Bull's teaching and research have always been matched by the clarity of his writing. I am delighted that two of his students appear to have learnt so well.

I apologize for not being able to attend the GAC meeting to receive this award. May is in the middle of our teaching year, and I am not able to get away. I thank the Association for the great honor of the award of the Hawley Medal.

R.A. (Tony) Eggleton