American Mineralogist, Volume 87, pages 788–789, 2002

Presentation of the Roebling Medal of the Mineralogical Society of America for 2001 to Peter John Wyllie

ART MONTANA*

Professor and Chair Emeritus, Earth & Space Sciences, University of California Los Angeles, California 90095, U.S.A.

I greatly appreciate this opportunity to publicly acknowledge the indebtedness of our Society and of our profession to the good works of Peter Wyllie. He is an honorable person and deserves honoring. Speaking for myself, I can never adequately express my gratitude to him for anything worthwhile through my own efforts.

The career of Peter John Wyllie has been so impact full, so far-reaching, and so diverse that any attempt to encapsulate it in these woefully few paragraphs would be futile. Let me, therefore, highlight those areas that may not appear in other biographical material.

Peter was born in London, England in 1930. He received a B.Sc. in Physics and in Geology in 1952, First Class Honors in Geology three years later, and a Ph.D. three years after that—all from the University of St. Andrews in his ancestral Scotland.

Peter developed his talents as an experimentalist while a graduate student at St. Andrews, working as a Research Assistant with Frank Tuttle at Penn State, following which Penn State kept him there as an Assistant Professor. He returned to England for awhile as a Research Fellow and Lecturer at Leeds University before going back to Penn State as an Associate Professors in 1961—the year that I arrived there as a new graduate student.

At that time, the Earth-science group at Penn State comprised a truly remarkable collection of talent. Collectively, they had received or would receive seven Roebling Medals and five Mineralogical Society of America Awards. It was a conjunction of talent that wouldn't occur again until John Wooden's basketball teams at UCLA won ten national championships in twelve years.

Within this galaxy of talent in the 1960s, Peter Wyllie was an obvious up-and-coming star, and these were heady times in petrology, in no small part because of Peter's output. For example, he had recently published in the *American Journal of Science* (v. 258, p. 498–517) the first in a series of papers dealing with experimental investigations of silicate systems containing two volatile components, which must rank as one of the most important papers ever published in theoretical petrology—all petrologists should read or reread it.

Earlier this year when I was at UCLA, I needed my copy of this paper and discovered it atop the desk of Craig Manning, who was using it to write a proposal to NSF. Most of us would be pleased beyond words to discover that a paper that we had written more than 40 years ago was still a valued commodity.

Also at this time, Wyllie and Tuttle had just published "The system CaO-CO_2-H_2O and the origin of carbonatites," the first paper to appear in the *Journal of Petrology*—page 1 of volume 1. This seminal work laid the basis for decades of research into the origin of carbonatitic magmas by Peter and his numerous students and postdocs, as well by other research groups.

In 1965, Peter left Penn State for Chicago, joining a powerful group there that included two future Roebling Medalists and two Mineralogical Society of America Awardees and a future Awardee. Again, this was a propitious move for me, as I was close to finishing my graduate work, and Peter offered me a postdotoral position there—some of the most exciting years of my career. We were joined by two of Peter's graduate students from Penn State—Alf Piwinskii and Chris Scarfe, both of whom accomplished much but failed to live to middle age.

Peter served as Chairman at Chicago, and then, always the glutton for punishment, moved on to assume the Chairmanship at Cal Tech—akin to jumping into the La Brea Tar Pits twice—headfirst.

Peter has fostered a stable of dedicated and productive graduate students and post docs. They are too numerous to recount here, but the names of many are familiar to you as established scientists in their own right.

Although I have known Peter for 40 years, I remain astonished at the quality and quantity of his output—prodigious is the word that comes to mind. Yet, he is humble as these things go. You could know him for a long time and never learn that he joined the RAF at age 18 and won its amateur heavyweight boxing championship in Scotland in 1949. Nor might you realize that he continued his boxing career at St. Andrews, fractured two vertebrae in a rugby match, and yet was President of the Athletic Union at St. Andrews during his senior year.

We think of Peter as an experimentalist, but he certainly earned his merit badge in field geology as a member of several research expeditions to northern Greenland—one of which lasted several years, for which he was awarded the Polar Medal by Queen Elizabeth. During this period, Peter was mushing dog teams and preparing papers in glaciology and geomorphology.

Any rundown of Peter's career would be wanting if it failed to mention his contributions as a teacher—in and out of the classroom. For example, the University of Chicago awarded

* Current Address: 26508 Grinsell Lane, Hillsboro, WI 54634. E-mail: amontana@aol.com

0003-004X/02/0506–788$05.00

him the Quantrell Award for excellence in undergraduate teaching. Also, his book "How the Earth Works" has good-naturedly guided numerous undergraduate students through the rigors of modern geology, as well as serving as a spirited and lucid channel to the science for the general community, including my neuropsychologist wife Asenath La Rue. Now that he has officially retired, Peter is revamping this book, for which all of us can be grateful. As Garrison Keillor said of duct tape, "It's almost all you ever need—sometime."

Any of us who have been so fortunate as to publish with Peter will attest his insistence that papers bearing his name be didactic and expositive—written as teaching tools as well as sources of data.

Starting with $CaO\text{-}CO_2\text{-}H_2O$ over forty years ago and continuing to the present in much more complex systems, he has demonstrated in several score papers that carbonate solid solutions and carbonate liquids can indeed exist with mantle peridotite at high pressures. This is irrefutable evidence that anything worth doing—is worth overdoing.

His more than 300 research papers bear on the origins of a gamut of magma types, including granitic, andesitic, carbonatitic, and kimberlitic. In no small part through Peter's efforts, we have learned more about the processes leading to the origin of these magmas than we did in all of the foregoing years. How easy it is to forget that when Peter was a student, many leading petrologists argued vehemently against the concept of granitic magmas, and continental drift and global tectonics were intolerable notions in this country and elsewhere. It has been exciting to witness Peter's career and the maturation of petrology as they go hand-in-hand.