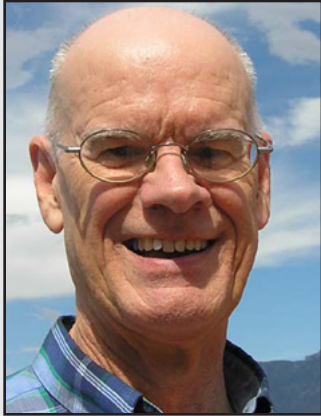


## 2009 MEDALS & AWARDS

### MARY C. RABBITT HISTORY OF GEOLOGY AWARD

Presented to Davis A. Young



Davis A. Young  
Calvin College (emeritus)

#### Citation by Sally Newcomb

Dave Young has had a most interesting trajectory in his career. Along the way he has written and published extensively for general and specialized readers in a number of areas. He has been, and is, an effective spokesman and liaison for the science of geology as well as having a long and varied teaching career. He has published cutting edge technical works and highly regarded history of geology, but has also published a number of books, reviews, and papers that speak to a community that many of us frequently are not able to address, and is an intelligent and thoughtful communicator between the two worlds.

Dave was educated in the public schools of Abington Township, Pennsylvania, the son of a professor of the Old Testament. He earned a B.S. in engineering with honors in geological engineering from Princeton University in 1962. He earned his M.S. in mineralogy and geochemistry from Pennsylvania State University in 1965, and his doctorate in geological sciences from Brown University in 1969. He has since been assistant professor of geology at New York University, associate professor at the University of North Carolina at Wilmington, and associate, full professor, and department chair of the Dept. of Geology, Geography, and Environmental Studies at Calvin College in Grand Rapids, Michigan. He has been

emeritus since 2004. During his time at Calvin he was for a year a Fellow at the Calvin Center for Christian Scholarship. He is a member of GSA, the Mineralogical Society of America, the American Scientific Affiliation, the Affiliation of Christian Geologists, of which he has been president, and the International Commission on the History of the Geological Sciences.

In his long teaching career, I'm sure Dave has steered many a young person to geology, and his department has just instituted a student Summer Research Fellowship in his name. He co-led a course on Hawaiian geology in the best of places, Hawaii itself. Reading the program for that, I envy the students who were able to take part in it. With student help, he has also assisted with the curating of Calvin College's rock and mineral collection.

Dave's publication record is remarkable. I first became aware of his work in the MSA publication of 1998 titled *N.L. Bowen and Crystallization-Differentiation: The Evolution of a Theory*. This is a thorough and lucid history of Bowen's pioneering work in the diversification of igneous rocks via magma development, one of the true milestones in geology. The book was informed by the close cooperation and advice of our late colleague, Hatten Yoder. Dave has also published technical articles in the *GSA Bulletin*, the *Journal of Petrology*, the *Proceedings of the Fourth Lunar Scientific Conference*, the *Encyclopedia of Mineralogy*, *Earth Sciences History*, *Northeastern Geology*, *Lithos*, *Canadian Mineralogist*, and a GSA Special Paper, as well as two major papers in two Geological Society of London Special Publications. A real landmark was his publication in 2003 of *Mind over Magma: The Story of Igneous Petrology*. This was a part of the history of geology that had had no coherent explication to that point, and his careful and fascinating story is a valuable reference as well as being a treat to read. He is currently working on the fourth and final article for ESH about the inception of the CIPW system for quantitative classification of igneous rocks originated by four American petrologists, a system first reviled and later appreciated by budding petrologists. It is a true intellectual history, and has all the elements of a gripping story, friendships, travel, difficulties, and even death, as well as insight into the thoughts of excellent minds grappling with an almost insurmountable problem. Dave's expertise has also been brought to bear in numerous book reviews.

But there is more. As he is credited to be in several web sites, he is a noted conservative evangelical Christian who is also a geologist—and is a fine example of both. As such, he has access to venues that few of us can address, and is a spokesman for our science with a unique authority. His reviews of important books in the history of geology speak to a wider audience than many of us can reach. Dave will tell us more of his journey. The Rabbitt Award is most fitting recognition of Davis Young.

#### Response by Davis A. Young

My profoundest gratitude to the History of Geology Division for bestowing this honor on me. To have my name on a list with previous Rabbitt award honorees, such as Rudwick, Oldroyd, Marvin, Albritton, Bork, and Torrens, leads me to believe that I accidentally awoke in a parallel universe this morning.

At the age of twelve, I was introduced to a modest collection of apophyllite, prehnite, and zeolite specimens from the lava flows of northern New Jersey at a friend's home. The beauty of the crystals produced in me the determination to spend my life working with minerals. My newfound passion was further stimulated by collecting staurolite, almandine, and kyanite crystals from nearby outcrops of Wissahickon Schist in Philadelphia. In college and graduate school my interests matured to include petrology and geochemistry, which I learned from Dick Holland, Arthur Buddington, Dick Jahns, Peter Wyllie, Don Eckelmann, and Dick Yund. My doctoral dissertation focused on the granulite facies orthogneisses and paragneisses in the New Jersey Highlands. In 1968 my teaching career began at New York University and the University of North Carolina at Wilmington where I taught hard rock geology.

Concurrent with my enthusiasm for geology was another passion. My father was a professor of Old Testament. One of his professional interests was the Genesis creation story. I became ever more curious about the relationship of geology and the biblical creation account. Realizing in graduate school that young-Earth creationism was spreading throughout the Christian community, I set out to explain the fallacies of young-Earth creationism and flood geology to church and college audiences in articles, books, and talks. I spent the final 26 years of my 36-year teaching career in Grand Rapids at Calvin College, a Christian

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liberal arts college operated by the Christian Reformed Church. Calvin takes it for granted that its faculty members will integrate history, philosophy, and theology into their specific disciplines. That was the ideal environment for me.

In writing on the relationship between Christianity and geology, the important role of religion in the historical development of our science was driven home to me. I also learned that young-Earth creationists often made inaccurate comments about the history of geology. My writing increasingly incorporated historical aspects of the relation between Christianity and geology. Because of my uncompromising stance against a 6000-year-old Earth and against flood geology, my books became controversial in some Christian circles. During the late 1980s, I and two other colleagues at Calvin College became the targets of vocal constituents within our denomination. Calvin strongly defended the three of us, but that didn't make me any more popular with the advocates of young-Earth creationism.

In 1995, I published *The Biblical Flood*, a book on the history of ecclesiastical interpretation of the flood story. There was plenty of history of geology in that book. Around that time, I needed a breather from the controversy that often swirled about my writing. Increasingly intrigued by the history of geology, and aware that the only history of igneous petrology, by then woefully out-of-date and a scant 85 pages, was originally written in Russian by Loewinson-Lessing in 1936 and translated into English in 1954, I decided, just for fun and no doubt naively, to write a history of igneous petrology. Along

the way, I received much encouragement and insight from numerous petrologists and geochemists. Hatten Yoder, Julian Goldsmith, Peter Wyllie, Tony Morse, Alexander McBirney, and many others were enormously helpful. Given the critical role of N. L. Bowen (of reaction series fame) in the development of experimental petrology, I planned to devote an entire chapter to his achievements. That chapter quickly evolved into a separate book, *N. L. Bowen and Crystallization-Differentiation: the Evolution of a Theory*. In 2003, the more extensive history, *Mind over Magma*, my magma opus, as my colleagues at Calvin liked to call it, was published. The appreciative response was incredibly gratifying. No controversy, no one overly annoyed with me. Just thanks expressed for undertaking and accomplishing the task. Writing that book, however, made me conscious that so much work remains for historians of igneous petrology. We need critical biographies of igneous petrologists as well as investigations of the history of ideas about specific rock types, classification schemes, magmatic emplacement, the generation of magmas, and solar system petrology.

More recently Joseph P. Iddings, arguably America's greatest igneous petrologist prior to Bowen, has occupied my attention. I am currently writing a series of articles on the origin of the remarkable quantitative igneous rock classification system devised by Cross, Iddings, Pirsson, and Washington and published in 1902.

Martin Rudwick, David Oldroyd, Ronald Numbers, and David Livingstone have served as my role models in writing history

of geology and history of science. Carl-Henry Geschwind and John Servos wisely counseled me to tone down my excessive adulation for some of the petrologists about whom I wrote, particularly Bowen. After all, I am a petrologist who took up writing about the history of geology as a hobby. As an internalist, my admiration for the externalists knows no bounds. I possess neither the knowledge nor skill to evaluate in a meaningful way the social factors that influenced the development of scientific theory and practice. I will leave that to others.

Since retiring from Calvin College in 2004, I have resumed writing for Christian audiences, because various forms of pseudo-science doggedly persist within large segments of the church. My most recent book, *The Bible, Rocks and Time*, co-authored with my paleontologist colleague at Calvin College, Ralph Stearley, was specifically targeted at the "geology" of young-Earth creationism. We determined to root it out once and for all, but, of course, that is an unrealistic dream. Still, we have received many responses from individuals indicating that their eyes have been opened. The first five chapters of this book summarize in popular form the development of ideas, mostly geological, about the age of the earth. Although I have returned to addressing science-religion issues, history of geology has irrevocably become an important component of my intellectual life.

I am humbled, delighted, and most grateful for the award. My profound thanks to GSA's History of Geology Division for bestowing this incredible honor on me.